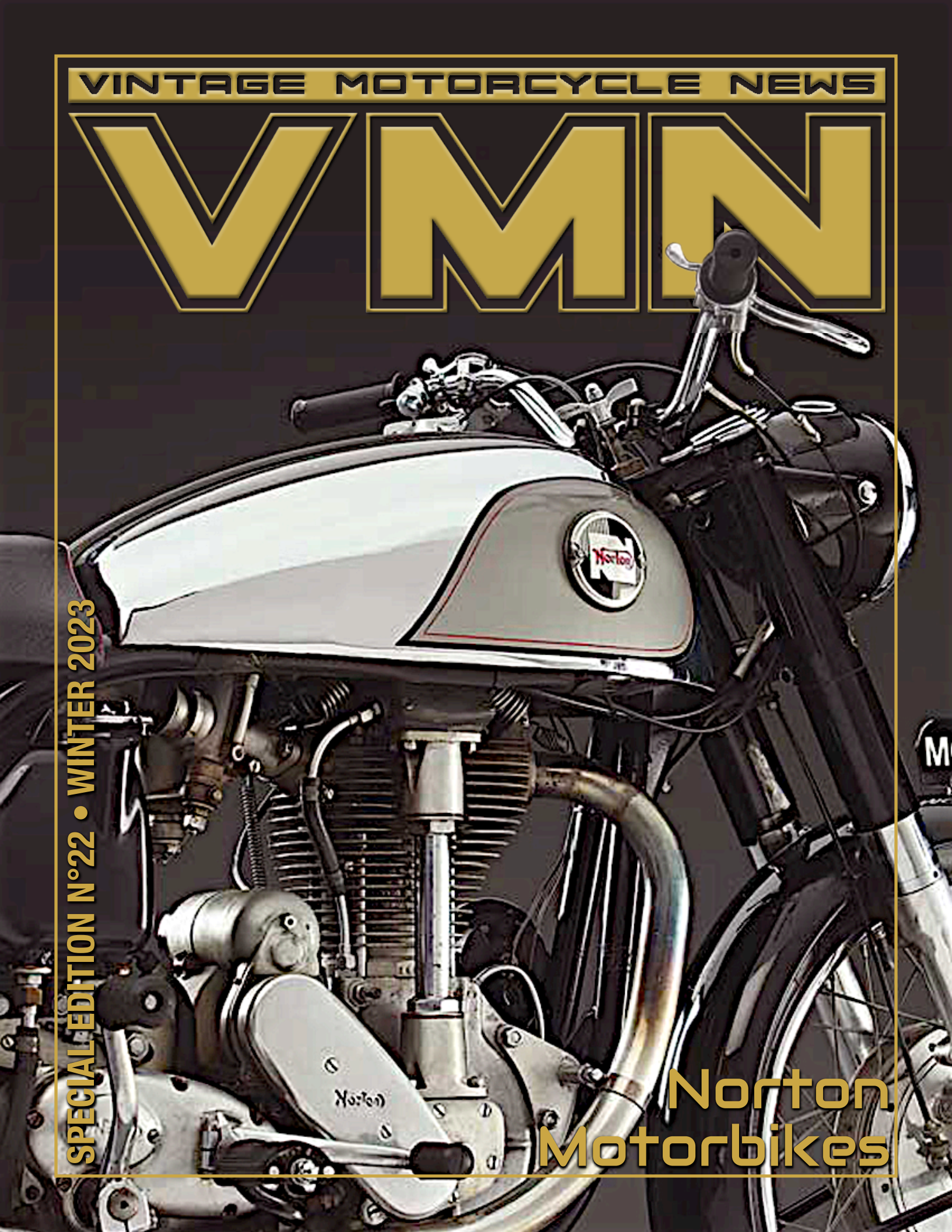
VINTAGE MOTORCYCLE NEWS

VMN



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Norton Motorbikes

VINTAGE MOTORCYCLE NEWS
VMN

A motorcycle publication for the vintage enthusiast.

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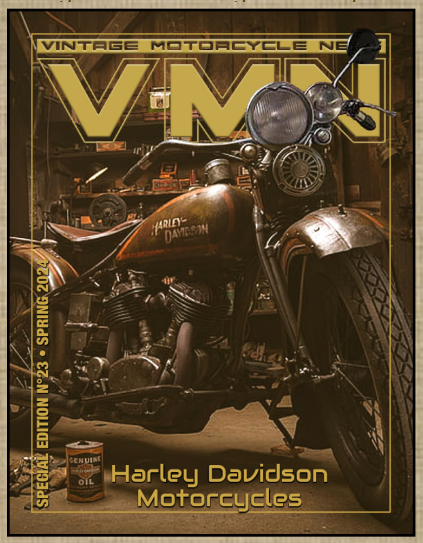
COVER PAGE
1957 Norton International
Model 30

Next Edition

Founded in 1903, the company has survived many ownership, poor economic health & product quality, and intense global competition to become one of the world's largest motorcycle manufacturers and an iconic brand widely known for its loyal following.



FROM THE EDITOR'S DESK

Many of my friends had Norton and we had fantastic rides in the countryside. We were young and were not bothered by the heat or the cold. Our gears were not sophisticated as today. It was quite basic, but it worked for us.

Time went by, we were growing up and had jobs. First thing we did was : going to England to buy the best clothing because it was a lot cheaper than the motorcycle gears in France.

Not such a thing as Goretex jacket and pants, if you wanted to be well protected, the must was to own a Barbour. These garnments did not come either in color. Your only choice of color was black in those days. The good thing about the Barbour, it was totally waterproof as long as you would maintain it and reapply the wax regularly.

So we got the all package from Bates, they made us a good deal and we came back home fully dressed, including boots and gloves. Some of us even went for the Cromwell headwear and the Climax goggles, not that we did not have good stuff in France but when you are a purist, if your ride is British, the rest must also be British...

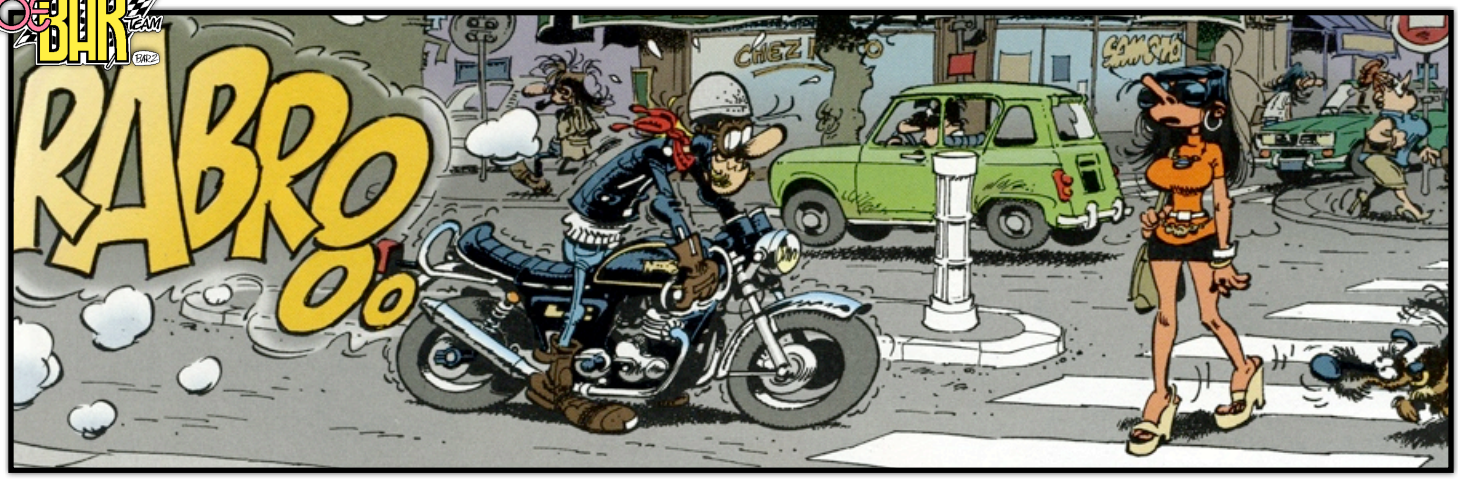
Did I mentionned that we were banned from passing my front door by my mother... On the way back the weather was not too clement and we rode many hours before reaching home. I invited my friends for a hot cup of coco and Paul happened to lean on the kitchen wall. Well, it did not take long for mother to realize that our Barbours had collected dust along the ride and Paul's barbour had left a bad stain of wax mixed with dust on the kitchen wall. Pretty sure you can imagine the scene which happened next...

As for my father, he did not take our side because first of all, he considered motorbikes as a dangerous way of transportation but also because he did not appreciate at all the oil leaks coming from the bikes, so all the motorcycles coming to our home had to park across the street, not in our driveway.

Those were the rules of the days...

Till next year... Ed.

Pat Castel is known for his involvement with the MOA organization as well as his Editor position in many past and present club newsletters. He began riding five decades ago and spent his youth surrounded by BMW, Moto Guzzi, BSA, Motobecane and Peugeot motorbikes and remains as much in love with motorcycles as when he got his first 49cc Mobylette.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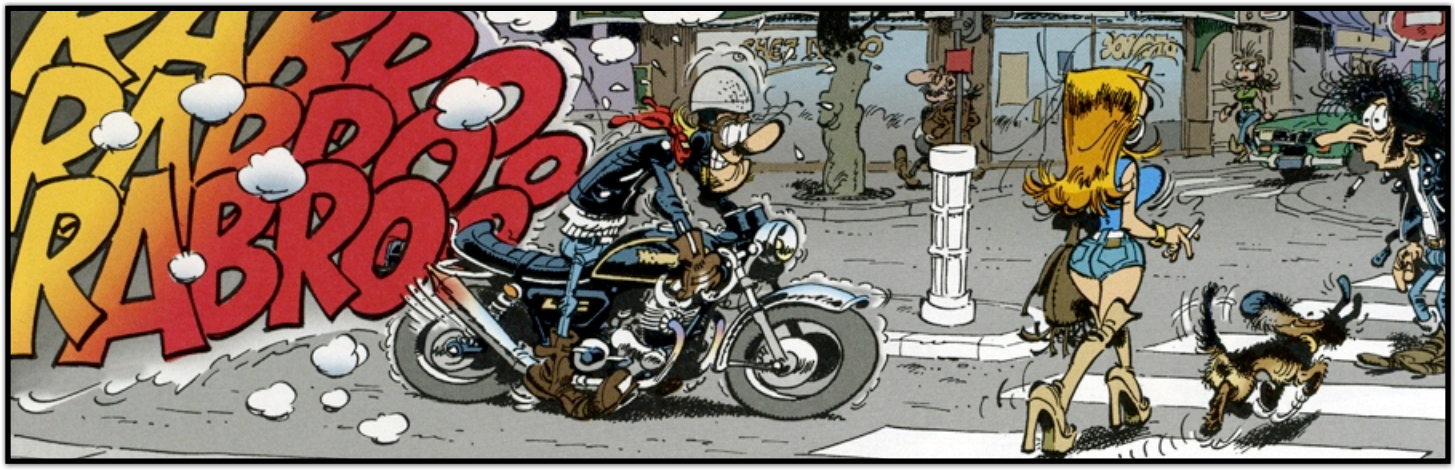
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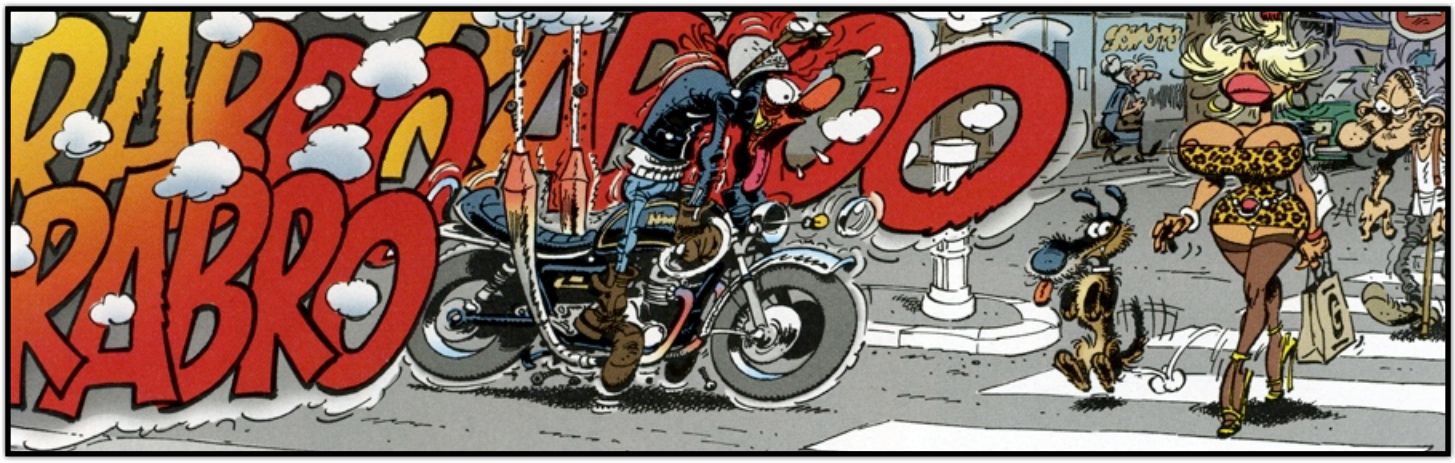
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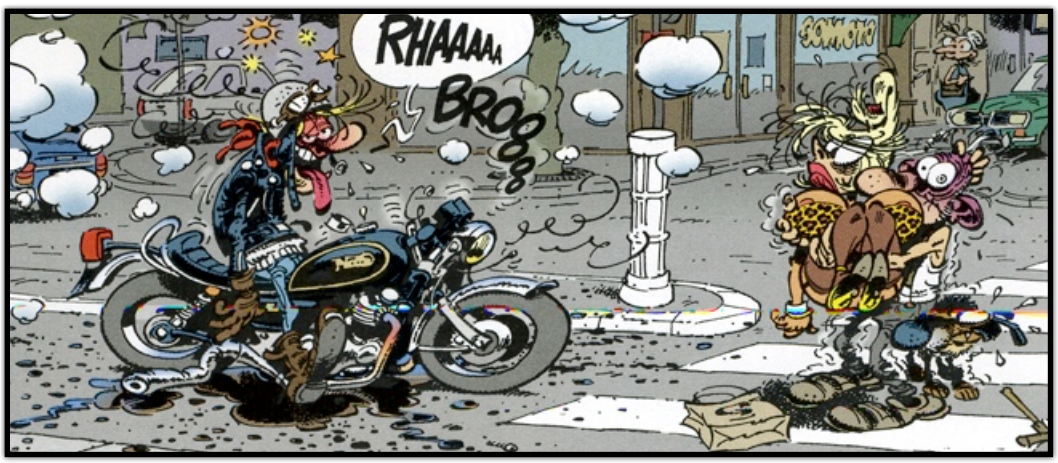
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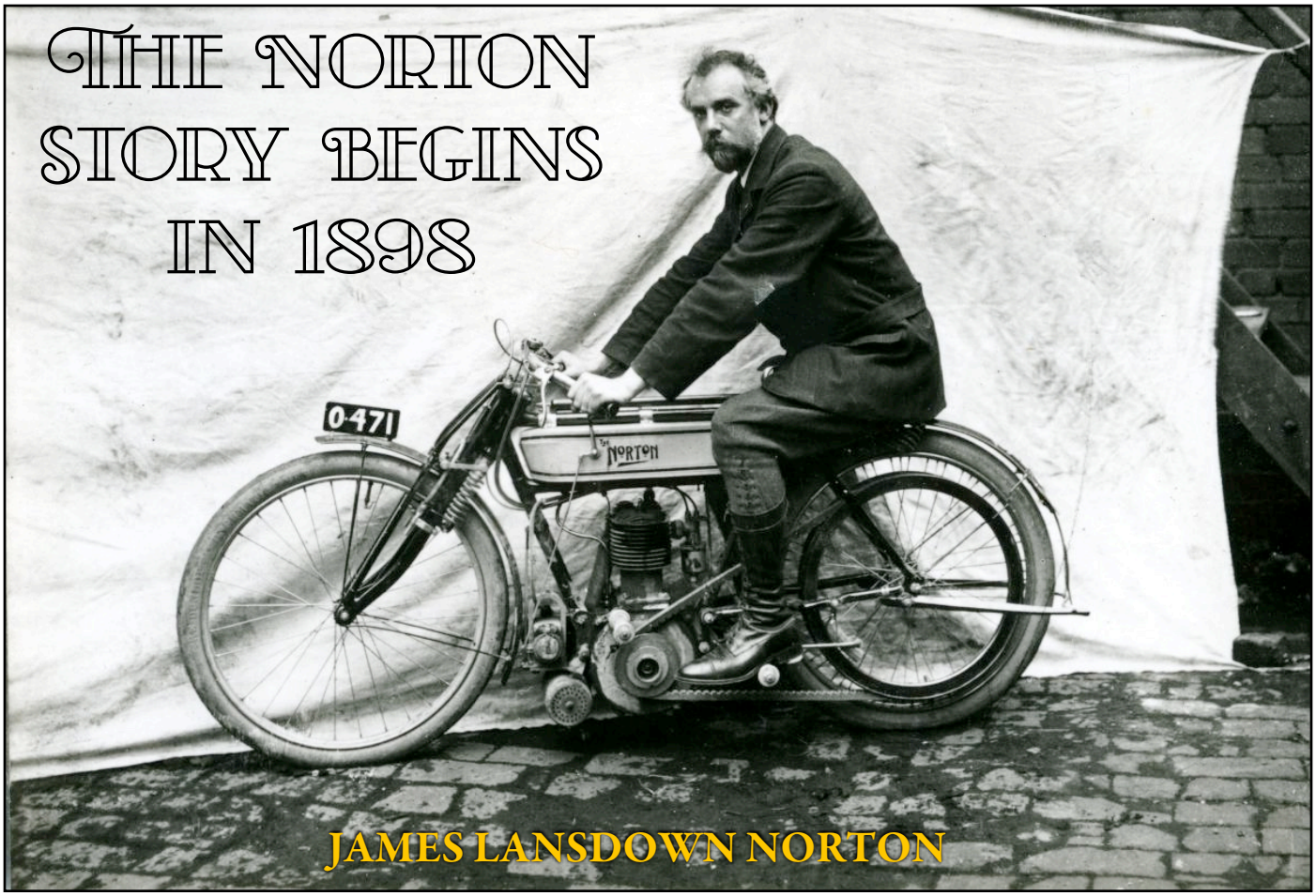
THE NORTON STORY BEGINS IN 1898



JAMES LANSDOWN NORTON

James Lansdowne Norton, affectionately known as 'Pa', founded Norton in 1898 as a manufacturer of fittings and parts for the two-wheel trade. Little did he know what that simple business would go on to become.

Over the next 100 years, Norton Motorcycles would experience a series of highs and lows that would lead the name to its unique place in history, as well as thousands of hearts around the world.

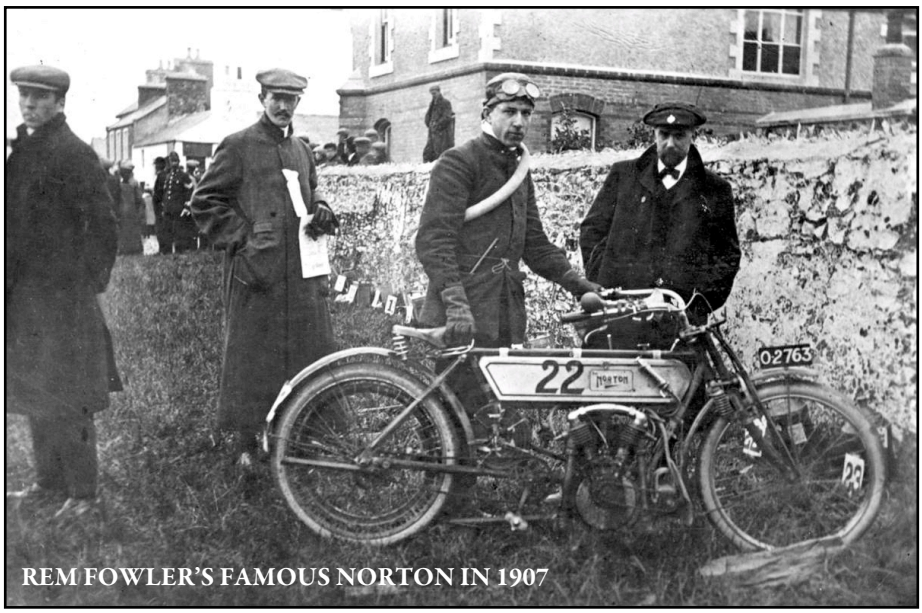
THE EARLY 1900s. OUR RACING TRADITION IS FORGED

In 1902, the very first Norton Motorcycle, the Energette, was produced – powered by a 143cc, single-cylinder Clement engine.

Just a few years later in 1907, our enviable racing tradition began. Rem Fowler cemented his position as one of the country's most notable motorcycle racers by riding a 5hp Peugeot-engine Norton to victory at the inaugural Isle of Man TT.

1908 saw the first Norton powered by a single cylinder side-valve unit (the now legendary big 4), and by the following year you could, quite literally, walk into Harrods and buy a brand-new Norton.

From inception to high street in little under 10 years, the nation's love for Norton Motorcycles was growing strong.



REM FOWLER'S FAMOUS NORTON IN 1907

1910-1930
THE ICONIC LOGO TAKES ITS PLACE

By 1913, amid pre-war financial uncertainty, Norton brought in Bob Shelley and his brother-in-law Dan O'Donovan to help stabilise the business. The latter of whom developed Norton's very first production racer, the BS 490.

And then came the famous Norton logo. Originally designed by Pa and his daughter Ethel, it appeared on the front of the 1914 catalogue and on every Norton tank from 1916 onwards. But just as the business was gathering momentum, Pa Norton sadly passed away in 1925 at just 56 years old. He had set his dreams in motion with a brand that would live long into the 20th century and beyond.

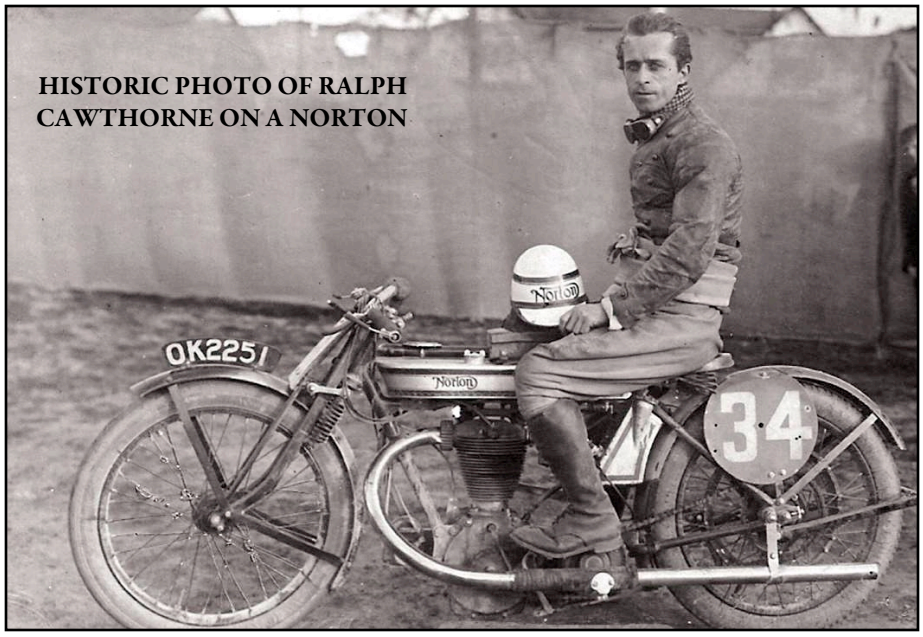
Next up came the CS1. A concept originally designed as a TT racer but also later sold as a replica road bike. Alex Bennett rode the CS1 in its first ever TT race in 1927, and won. This was prior to the development of a new overhead cam engine designed by Arthur Carroll in 1930, going on to form the basis of all OHC and DOHC Norton single-cylinder engines.

1930-1950
A FORCE TO BE RECKONED WITH

From the early thirties onwards, it was clear that Norton bikes were fast becoming the best in the business.

Norton won 78 out of 92 Grand Prix races between 1930 and 1937. And of the nine Isle of Man TTs between 1931 and 1939, Norton won seven. It was these moments that helped spark the brand's popularity.

Then the war hit.



HISTORIC PHOTO OF RALPH CAWTHORNE ON A NORTON

FREDDIE FRITH PILOTING HIS NORTON IN 1937

Geoff Duke (Norton), 1950 Senior TT

Norton withdrew from racing and turned its attention to the war effort. Between 1937 and 1945, Norton manufactured nearly 100,000 motorcycles to support Allied troops.

When the war ended, Norton was able to finish what it started by completing production of the Manx in 1946, followed by the Norton Dominator in 1949.

1950-1960 ARISE, SIR GEOFF DUKE

In 1950 the introduction of the featherbed frame gave the Manx a new lease of life, going on to record a double hat-trick at the Isle of Man TT, courtesy of John Surtees and Geoff Duke.

Just two years later at the end of the 1952 season, Geoff Duke (riding for Norton) became world champion in both the 350cc and 500cc classes and was awarded the OBE. In 1958 Norton launched the 250cc Jubilee –– a bike for learners featuring the smallest Norton engine ever made.

Overnight, this created an entirely new market. It was soon stretched to 350cc giving birth to the Norton 350 Navigator in 1960.

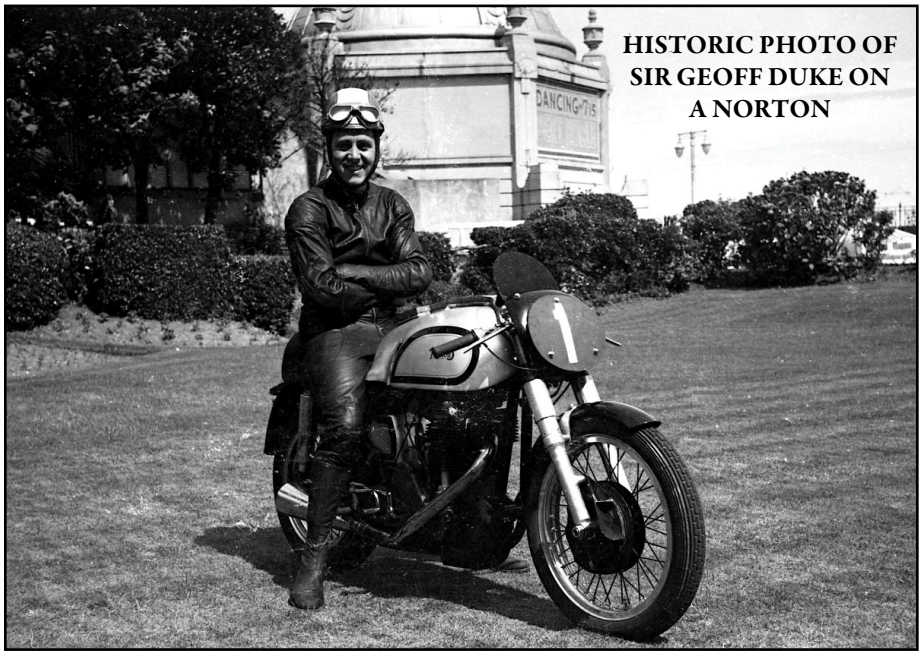
1960-1980 INTRODUCING THE WORLD'S FIRST PRODUCTION SUPERBIKE

There are moments in history that can reshape a brand. Ours came during the sixties.

In 1960, the first 650 twin was produced and named the Manxman. They were exported largely to the US but also went to Australia, Sweden and even one going to the Falklands. The Atlas 750 started production in 1962 and initially was an export model for the US market.

An increase in rpm immediately led to vibratory problems. However, further refinement lead to the introduction of 'isolastic suspension' and insulation of the engine unit from the frame for a smoother, vibration-free ride.

It wasn't until 1967 at the Earls Court Motor Show that the public had its first glimpse of the world's first production superbike – The Norton Commando. Perhaps the most famous bike to bear the Norton name.



HISTORIC PHOTO OF SIR GEOFF DUKE ON A NORTON

In the next decade over 55,000 were sold, with Commando named Motor Cycle News' Machine of the Year for five successive years.

As Japanese bikes became increasingly more popular, many great British marques were driven to the brink of extinction. The last Commando was produced in 1977.

1980-2000 HISTORY IS MADE AGAIN

Another big name in Norton's history was Norton guru Brian Crighton, the man who built the first Norton rotary race bike in 1987.

Although Crighton worked at Norton, he built the RCW588 race bike without factory support, basing it on the Norton 588cc Interpol model used by UK police forces. When it took third place in its club race debut at Darley Moor, the factory knew Crighton had built something special.

In 1988 the bike started winning national races with Steve Spray at the helm. JPS became the title sponsor for the 1989 season – the year Steve Spray won the British Formula One Championship and the 750cc Supercup Champion on the JPS-sponsored RCW588.

Success continued into the early nineties when Steve Hislop went above and beyond on his Abus Norton to defeat Carl Fogarty on his Yamaha and win the 1992 Isle of Man Senior TT – the first victory for a British bike in almost 30 years. It's regarded as one of the greatest ever senior races to this day.

Not long after in 1994, Ian Simpson matched Steve Spray's

British Superbike triumph on the Duckham's-sponsored Norton completing two decades of success.

2000-2020 THE FASTEST BRITISH BIKE AT THE TT

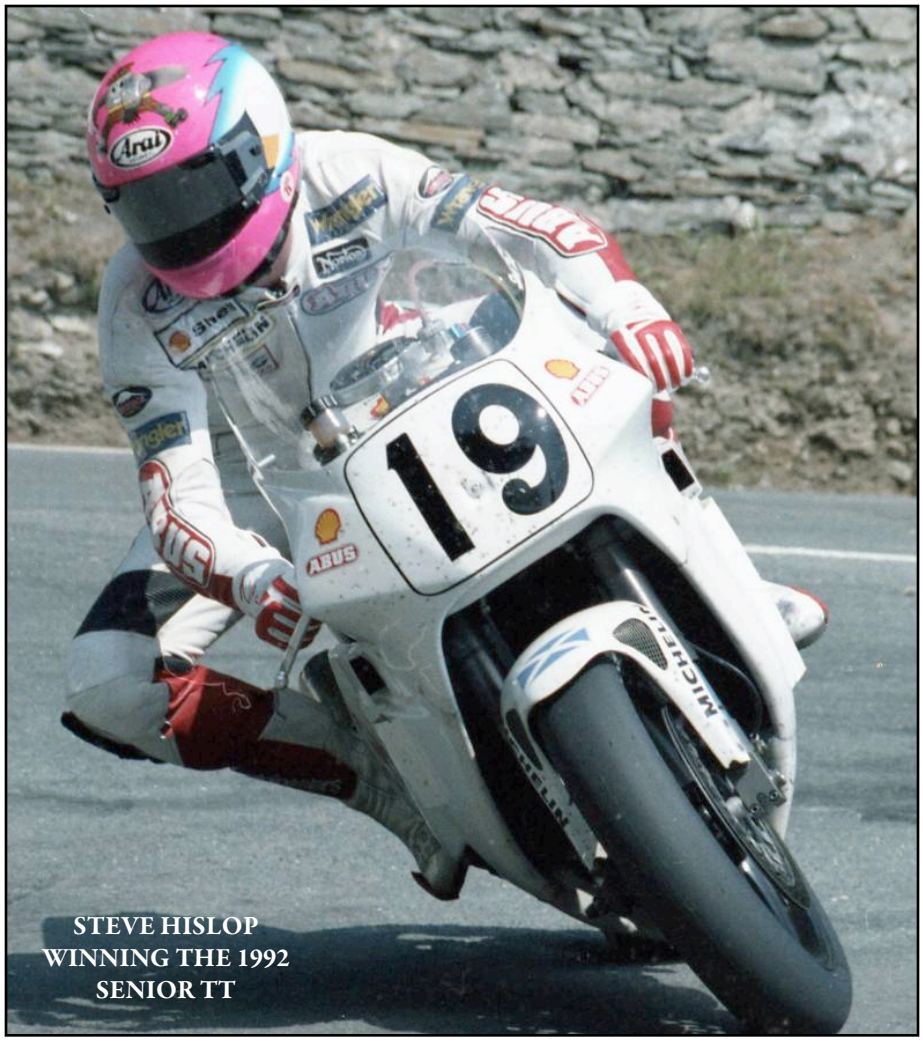
Norton returned in 2012 and raced year-on-year to 2019, capitalising on each of the previous years' efforts. And it showed. The years of development soon paid off for Norton in 2018 as Josh Brookes took the title of the fastest British bike on the SG7 at the Isle of Man TT. A remarkable achievement.

In the year that followed, Norton entered the lightweight category and raced the Norton Superlight, coming away with an 8th place finish with TT lap record holder, Peter Hickman, at the helm.

2020-PRESENT A NEW ERA BEGINS

Change is on the horizon. In April 2020, TVS Motor Company acquired Norton Motorcycles, igniting the start of an exciting new era for the brand and its loyal followers and fans. A partnership destined to breathe life into this truly iconic British marque.
And now to today.
2021 marks the beginning of the Norton renaissance. Drawing on inspiration from the past to build our legacy for the future. And it all starts with a move to new state-of-the-art facilities, alongside the eagerly anticipated launch of new models.

These bikes will be the future of Norton, shaped by innovation and design. They will position Norton where it truly belongs – as one of the most iconic and influential motorcycle brands the world has ever seen.
Norton is back up to speed. And better than ever.



STEVE HISLOP WINNING THE 1992 SENIOR TT

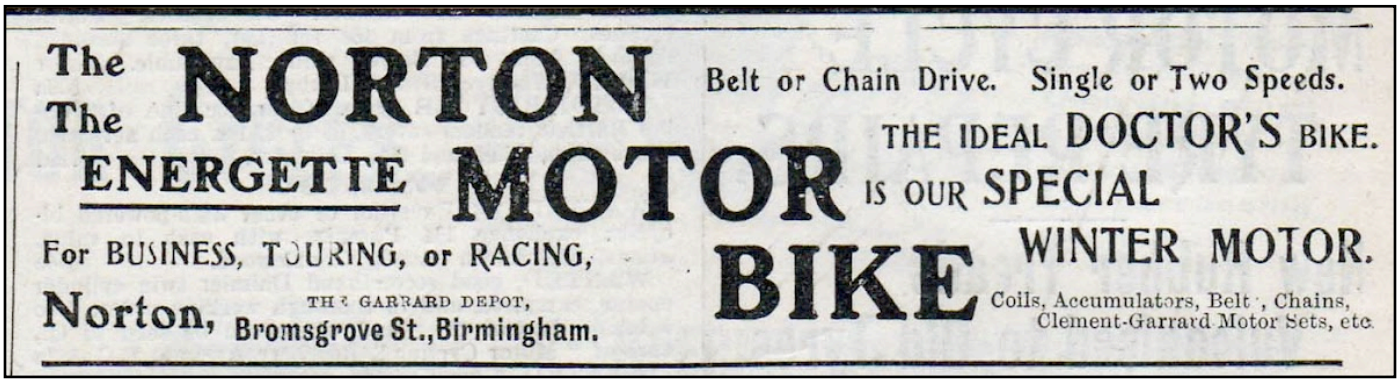
JOSH BROOKES ON HIS WAY TO CLAIMING 5TH PLACE AT THE 2018 SENIOR TT

The oldest Norton in the World

Posted by: Trent Reker | Source: bikermetric.com

On Bromsgrove Street in Birmingham, England, James Lansdowne started his own business in 1898. The Norton Manufacturing Company specialized in making chains and other parts for the bicycle industry.

In 1902 a man named Charles Garrard began to import French 143cc Clement engines to fit a standard bicycle. They were sold as the "Clement-Garrard." The motors were four-strokes with an overhead valve, a small crankcase, and large external flywheel. "Beefed-up" frames were made by Norton Mfg. Co. and a 160cc Clement engine was used for the first Norton motorcycle, called The Energette, pictured above.



The first advertisement for the Energette appeared on the 19th November, 1902, in Motor Cycling magazine, where the bike was touted as "the ideal doctor's bike."

"Surely you can't be serious," you may think if you didn't read the whole ad, but I am serious. Norton marketed their first motorcycle to doctors. And don't call me Shirley.

The machine weighed about 70lb (32kg) and the one pictured here has a two-speed gearbox of unknown manufacture.

1902 ENERGETTE

The Norton Energette marked the beginning of Norton's foray into the world of motorcycles. Before this, the company primarily dealt with parts and servicing. The Energette was effectively a combination of James Norton's own design of bicycle frame with a Clément engine and was equipped with a two-speed Sturmey Archer gearbox; this pioneering machine could reach a top speed of nearly 30 miles per hour. Terrifying when you consider the front brake was just a rubber block pressing on the tyre, although the rear brake was no better – the brake shoe jammed against a second rim inside the wheel but the brake lever was behind the rider next to the spinning drivebelt. Best hope riders tucked their trousers in.

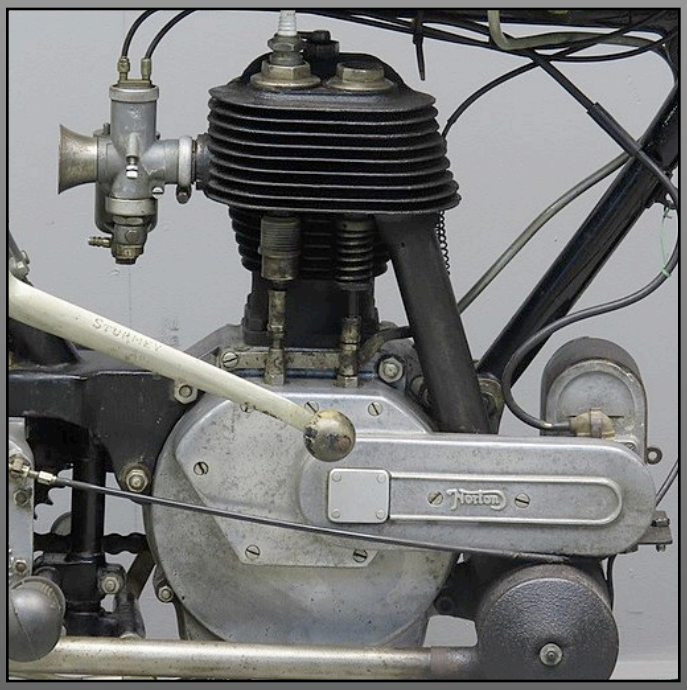
Operating the Energette was no easy feat. To get it going, you had to start pedalling, then shift into gear using the lever on the right side of the tank to bump-start the engine. This bump started the engine (no clutch remember) and off you went. The levers on the left side of the tank operated the throttle and spark advance. To make matters more complex, there was no oil pump, so you had to manually pump oil into the engine every few minutes. Despite its quirks, it was marketed at the time as being 'good for doctors.'

Production years – 1902-1906
Engine – 142cc single-cylinder
Power – 1.75bhp
Weight – 32kg

1921 MODEL 1 (BIG FOUR)

The Model 1, commonly known as the Big Four, was a significant milestone for Norton as it featured their own engine design, a departure from their earlier use of Clement and Peugeot motors.

The 633cc engine was one of the largest and most powerful side-valve engines of its time and the largest in Norton's range during its production. Interestingly, the "Big Four" name was derived from the bike's tax classification, being rated at four tax horsepower.



Over its long production span, the Model 1 received several updates, including a chain final drive in 1915, an automatic dry sump lubrication system in 1931, and an optional four-speed transmission.

Notably, found favour as the engine in a sidecar outfit and James Norton was a particular fan, riding one through Africa as a proof of its reliability. Even during World War II, the aging design found favour as a vehicle for the British army, with almost 5000 units produced for the war effort.

Production years – 1907-1954
Engine – 633cc side valve single
Power – 14bhp
Weight – 170kg

1921 Norton

Model 1 633cc Big4


Norton
OH 4830

CELEBRATING BEATRICE SHILLING

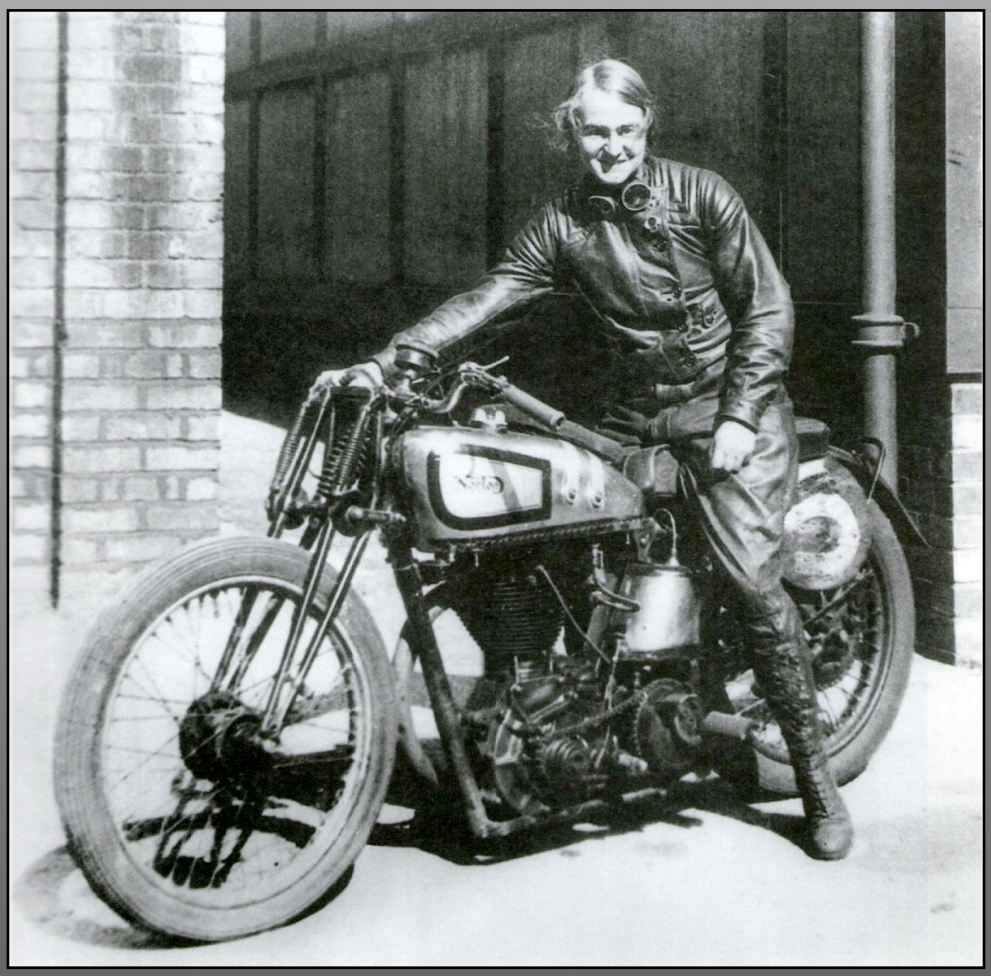
Beatrice Shilling was born in 1909, just one year after the seeds of International Women's Day were planted, and six years after the British suffragette movement. At a time when women demanded gender equality, Shilling made history in both motorcycle racing and the field of STEM (Science, Technology, Engineering, Mathematics).

She bought her first motorcycle at just 14-years-old and learnt to strip and rebuild the engine to take her bike to its ultimate limits. And in 1936, Shilling became one of only three women to ever win the Gold Star at the Brooklands circuit, completing a lap with an average speed of 106mph on her Norton M30 500cc. The fastest it had ever been achieved in her time.

Unafraid to follow her dreams in a male-dominated industry, Shilling studied electrical engineering at The University of Manchester in 1929. She then landed a job within the publications department of the Royal Aircraft Establishment in 1936, writing manuals for aeroplane engines. Soon, she began working on the aircraft engines herself, and was promoted to technical officer in 1939, the year Britain entered the Second World War.

This is when Shilling became an essential element in Britain's defence against invasion… The Rolls-Royce Merlin engine of the famous RAF fighter planes, the Spitfire and Hurricane, had one fatal flaw. When the pilots needed to make a steep dive, fuel would flood the carburettor, making it splutter or cut out, and giving the German aircrafts the advantage in the attack.

Shilling designed the R.A.E. restrictor, a washer that could be fitted into the fuel pipe of the plane's engine, to reduce the flow of fuel when the pilot made a steep dive. Drawing on the knowledge she gained from manipulating the fuel pipes of her Norton engine, Shilling's innovation was ground-breaking.



The Royal Aircraft Establishment and pilots alike put all their faith in Shilling's invention, nicknaming it "Miss Shilling's orifice."

Beatrice Shilling was awarded the OBE in 1947 for her work during World War II, and worked at the Royal Aircraft Establishment until her retirement in 1969.

1956 INTERNATIONAL

The Norton International was initially conceived as a factory-built racing bike that was accessible to everyday riders for racing or leisure. During the 1930s, it could be ordered from the factory with custom race specifications, and it enjoyed immense success, winning 10 out of 12 Senior TTs during its reign, right up until it was phased out in favour of the Manx.

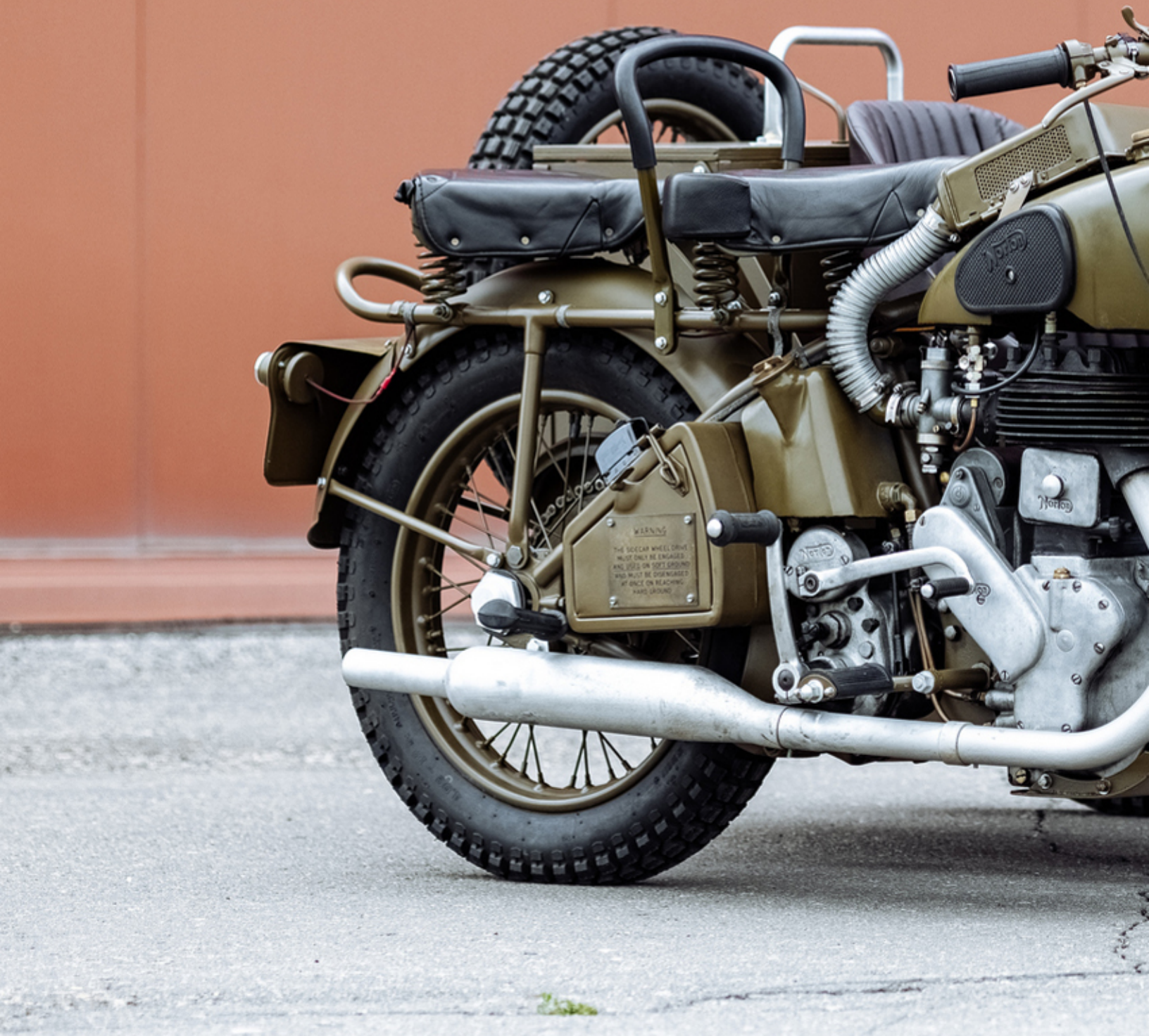
As time passed, the International underwent steady updates, including the introduction of plunger rear suspension and Roadholder telescopic forks. The gearbox was swapped out but then remained largely unchanged for over 30 years, and there were some steady updates to the engine. However, the most significant transformation came in 1953 when the old plunger frame was replaced by the new featherbed frame. This innovation, partly in honour of the bike's history and partly due to the dominance of the Manx, was only available for special order during the last few years of the International's production before it was discontinued altogether.

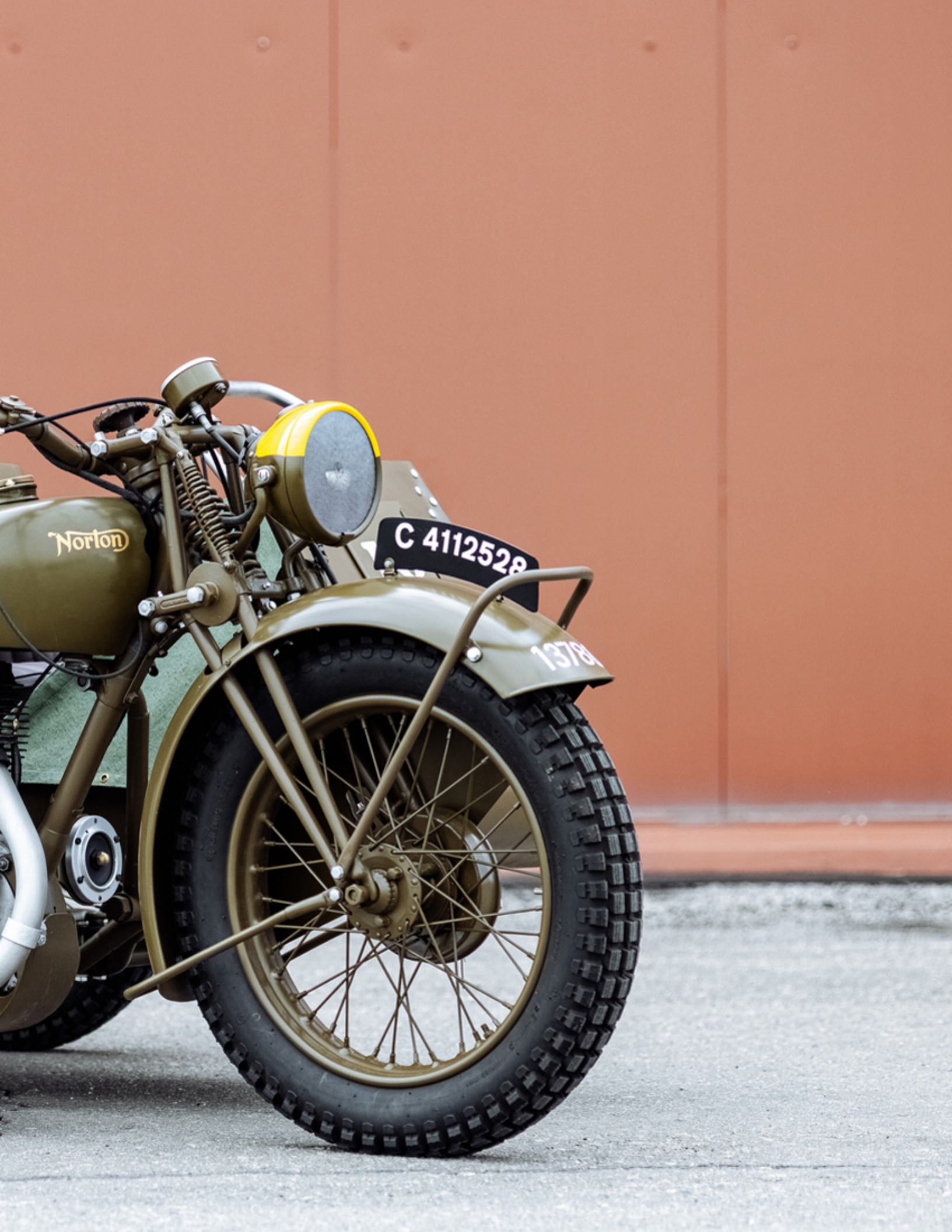
Production years – 1931-1958
Engine – 490cc OHC single
Power – 29bhp
Weight – 176kg

1939 Norton

Sidecar wheel drive

633cc SV WD Big4




Norton
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HISTORY OF THE MILITARY NORTON

By Rob van den Brink

"Never in the field of human conflict was so much owed by so many to so few" (Churchill, August 20th, 1940). A tribute to RAF pilots during the Battle of Britain. A statement that attracted much more attention of authors than the military motorcycles of WW II.

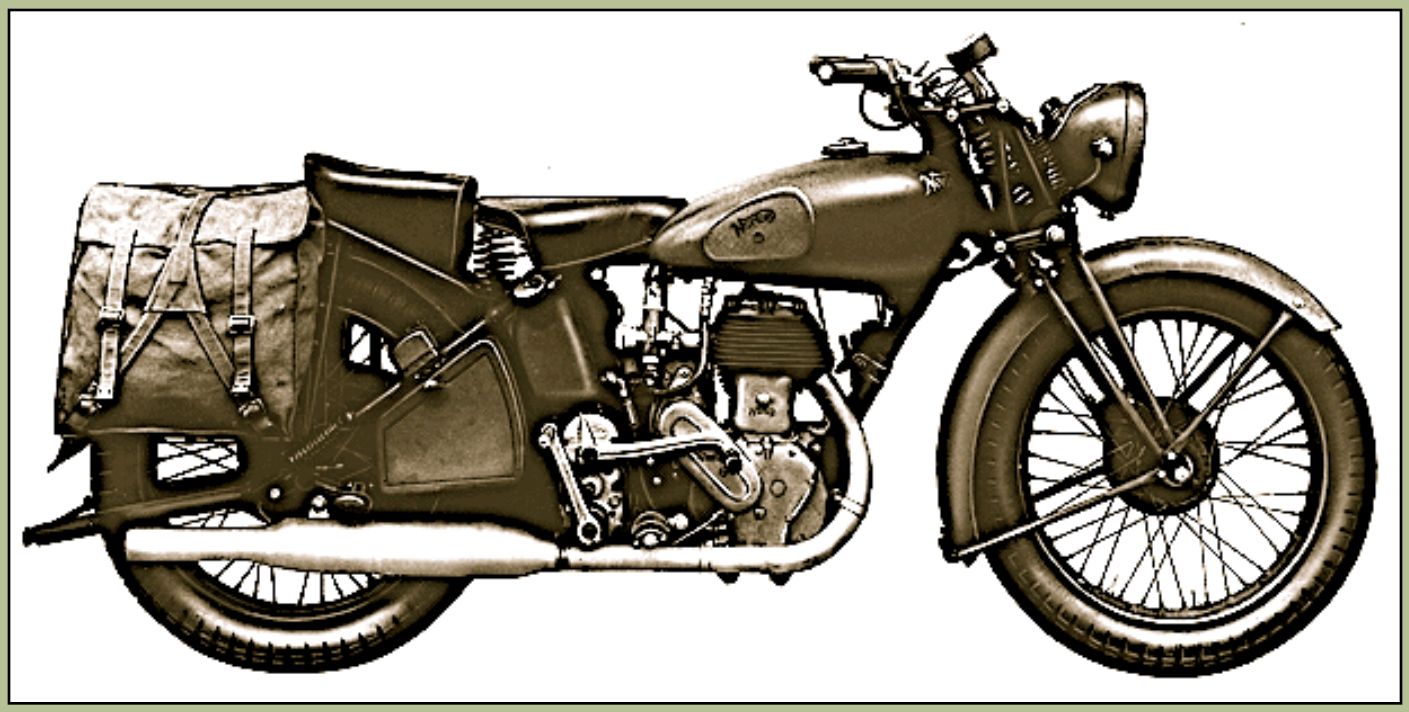
Tracing the history of the military Nortons has proven to be rather difficult, firstly because the overwhelming amount of books are about racing Nortons and secondly what little has been written about military Nortons is not always correct or complete. The demise of the Norton company in the 70's was unfortunately just before the interest in military motorcycles flaired up in the late 70's/early 80's and much valuable information was lost when the administration & production information was dumped in the bin. Thanks to an ex Norton employee and motorcycle enthusiast, part of it was retrieved from the bin but unfortunately most of the wartime military production info was lost forever. Sometimes conflicting information in the available Norton and military administration leaves us with a rough indication of numbers and dates making this an indicative article.

The remaining Norton administration is all hand written and sometimes difficult to decipher showing double entries for frame and engine numbers as well as inconsistencies between engine and assembly books. The actual number of machines built is therefore not always fully clear but values given further are based on the remaining original Norton and Central Ordnance Depot Chilwell administration.

Military motorcycles were first introduced in WW I, mostly Triumph and Douglas machines. Norton made a "large" batch of Big 4 machines ordered by the Ministry of Munitions destined for the Russian military, they were built but it is unknown if they were actually delivered and their final whereabouts remain unknown.

In 1932 several models were loaned to the military for evaluation, one each of 16H (490cc SV), Model 18 (490cc OHV) and Model 19 (596cc OHV) but no results are known. In 1935 the British army wanted to have a useful replacement for the disappointing heavy and underpowered twin cylinder BSA's which they purchased initially to replace the WW I era Douglas and Triumph machines.

A comparative evaluation programme was set up by the Mechanisation Experimental Establishment (M.E.E.) with machines sent in from various manufacturers with the existing BSA twin as a reference. In the end, 8 machines were tested; Ariel,



BSA, Triumph, Royal Enfield, New Imperial, Matchless and Norton (a mix of 350 and 500cc engines). All machines were better than the original BSA but in the end, the Norton performed far better and was the preferred model. (B.18/30, Experimental report on comparative performance trials of eight motorcycles, Dec 1935).

Early in 1936 the Directorate of Army Contracts (DAC) had finalized its specification which called for 5.75 inches ground clearance, trails type footrests, long propstand, stronger fork springs and WD green paint finish.
One, in my opinion uncertain item, is the application of stronger fork and fork (rebound) springs for the military machines as there is no proof whatsoever to be found in the spare parts lists. Spare part numbers for front fork and springs for civilian and military machines were identical and remained unaltered between 1935 and 1945.

The differences between the civilian and military machines were: higher ground clearance frame, trails type footrest hangers (i.e. shorter), longer rear brake pedal to suit, adjustable trails type handlebars (in lieu of the rubber mounted civilian versions), AMAL twist grips, rubber bump stops on the front fork, side stand, additional front exhaust pipe clamp, 18T engine sprocket and 43T rear wheel sprocket, flat bottom tank with recess for sparkplug, auxilliary rear mudguard stays. All varnished parts in Deep Bronze Green No. 24 BS 381C and plated parts in matt chrome.

The first contract for 311 machines according to the initial 1936 specification were delivered with 3 brush dynamo with the manual charging option switch and Lead-Acid battery, 3.25-19 sports rear tire and std WD front tire.
A further ca 630 similar machines were delivered with a tubular Vokes Protectomotor air cleaner mounted near the rear wheel at the right hand side protected from dust by a shield covering the top half of the wheel. The last series delivered in 1936 of ca 100 machines were provided with the Constant Voltage Control (CVC) electrical system, Nickel-Cadmium type "Lucas Nife" batteries and a centrally mounted Non-Trip speedometer. This last 1936 series became "known" as the "1937 specification" WD16H.

In 1937 the political situation in Europe was deteriorating, leading to re-armament and modernisation of the British fighting forces, hence new contracts for Norton motorcycles. Approx 2000 were made for the British Army, 6 were ordered for the New Zealand army (with additional narrow crankcase shield), several for various Crown Agents in Asia and Africa. Another large customer was the "India Office" which ordered a couple of hundred slightly modified machines with a wide crankcase shield, front mudguard lifting handle, pillion seat and footrests, an extended rear carrier and tank top Air Cleaners (a Norton development mostly known as the "Vokes" Aircleaner) . Six identical I.O. MC's were delivered to the Nizam (of Hyderabad) forces.
A covert customer was the Spanish Republican Army which received

DOMINION TROOPS TRAIN ON NORTONS.
Officers and N.C.O.'s from Canada, Australia and N.Zealand are now training "Somewhere in England" to rough ride. The rough rider steers his Norton on difficult country.

around 270 Model 18 MC's, in civilian disguise but with the wide crankcase shield mounted. A fair number of them with sidecars. The arms sales boycot (during the Spanish civil war) was circumvented through the use of the French Norton dealer/importer Psalty. What's new ?

In 1938 there were repeat orders for approx. 1100 machines for the British army with minor changes to toolbox, gear change lever, rear mudguard end piece and number plate mounting. The India Office however received 1300 new MC's derived from the civilian 1938 model with respect to modified saddle mounts, enclosed valves engines and a special upturned exhaust additional to the wide crankcase shield and lifting handle.

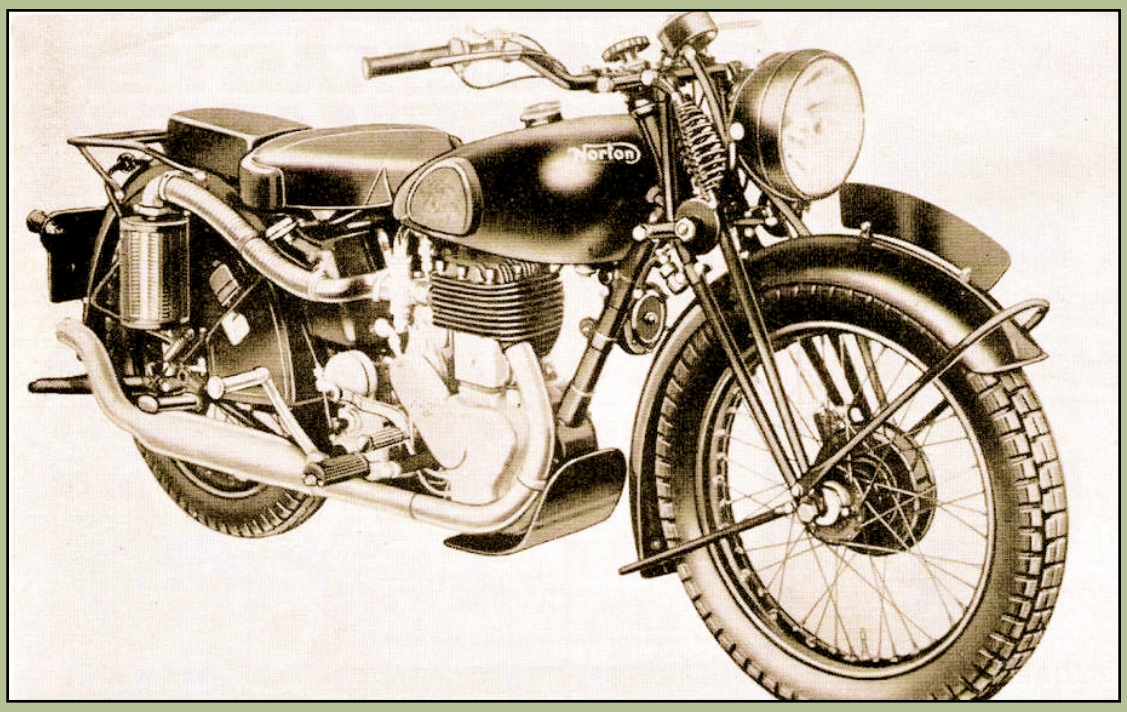
1938 was also the year of the birth of the Sidecar wheel drive 633cc SV WD Big4 combinations, serial production of which started in 1939. The sidecar wheel was actuated through a dog clutch to the rear wheel. Useful in muddy conditions but quite dangerous on the road as it made cornering almost impossible. They were provided with either a passenger sidecar sometimes with a mounted Bren gun or an AA type box sidecar.

1939 saw a change in colour to Khaki Green KG3 and later in the year the introduction of Lead-Acid batteries replacing the "Lucas Nife" battery and the use of Terry saddles beside the standard Lycett Aero Elastics. It was also the year that the RAF started to buy the WD16H, with and without sidecars (Swallow/Model G or AA box), initially in RAF blue/grey.
180 machines were built for the Australian Army according to the Britsh Army specs.

The number of machines made in 1939 is rather unclear due to partly missing Norton administration and production runs which continued into the next year but is believed to be in excess of 2000 WD16H (138 for India Office) and 400 WDBig4 combinations. The start of the WWII in September of 1939 made it more murky as a fair number of civilian machines were impressed and approximately 80 Model 18's were manufactured using frames designated for a standard WD16H contract.

Up to October 7th 1939 frame and engine numbers did not match. From that date onwards frame and engine numbers were idetical and the WD16H received a "W" prefix and the WD Big4 an "S" prefix. Spare engines were prefixed with "AS" for both diplacement types. (Prior to this spare engines and frames were numbered in sequence of the contract.) Both ranges started at W1000 and S1000 respec- tively.

During 1939 the Norton management, seeing a dark future coming, decided to stop racing development and to install a serial production line of wooden carts to seriously increase production capacity for the WD16H.



The 1940 production boomed as the "phoney war" became hot in April and inspite of heavy fighting, the British Expeditionary Force (BEF) was driven from the continent leaving behind a very large amount of vehicles, including over 20.500 motorcycles. An unknown number of those were "recruited" by the German military or mysteriously dissappeared in barns and hay stacks to re-appear after the war (as they sometimes still do!).

Norton (as other MC manufacturers) received its biggest order ever for 17.000 WD16H machines on top of running orders for both WD16H and WDBig 4. By this time, the production rate of the WD16H had increased from approx. 350 p/w in 1939 to approx. 550 p/w in 1940. The WD Big4 machines were still individually made in the workshop part previously reserved for the racing department at a average rate of approx. 20/w.

Part of the 1940 production WD16H MC's were provided with 2 "pannier" toolboxes either side of the rear wheel but these were not continued for long. The later part of this largest production run was provided with pillion equipment, not applied to the earlier machines except for the India Office.

At the end of 1941 pillion equipment was standardised and from now on, a crankcase shield was applied (the narrow version). Additionally to that a new Norton design pannier rack with bags was introduced. First half of 1942 the colour changed to SCC no.2 Brown for all MC's including RAF. 1942 saw the end of the production of the WD Big4 combinations resulting from the introduction of the Jeep, which was much easier to handle and required less training. Total production ca 4950 combinations. With the loss of rubber sources to the Japanese, foot rest rubbers and handlebar grips were replaced by steel tubular versions and canvas handlebar grips.

1943 and 1944 also saw the manufacture of 350 machines for the Royal Navy. Early 1944, the colour changed to SCC no.15 Olive Drab in line with the American equipment, the steering damper was removed and the final change came late 44/early 1945 when the 1" handlebar was replaced by the "Universal" 7/8" handlebar with partly BSA type controls.

In all, approximately 400.000 military motorcycles were built in wartime of which roughly a quarter were made by Norton.

Although the Norton military production is often stated to have stopped in 1945 there were 2 more military orders fulfilled. In 1946 India Office received another 80, 1938 specification military machines. Final military production was of the same type as when it all began in 1917, nearly 500 rigid frame Big 4 motorcycles (without sidecars!) were built for the Egyptian military in 1950.

Missing in this article are a number of special machines built or tested for evaluation purposes. Much information thereon can be found in the Bible for British military motorcycles by Orchard & Madden, "British Forces Motorcycles 1925 - 1945".

More information on the military MC's can be found on
www.wdnorton.nl

Ian Taylor's
1931 Norton Model 20


Norton

A bike with a Special Meaning!

by Ian Taylor

The first time we laid eyes on the 31 Norton was in 1983 at a local Motorcycle show. Held in Belleville, Ontario

Ron Hadley the owner invited our newly formed Section of the Canadian Vintage Motorcycle Group to put on a display.

It was there that Dave Merrett wheeled the Norton in, a genuine barn find it was, and one everyone including my good friend Dave Lacombe fell in love with.

With plenty of nice vintage bikes on display, the Norton stole the show.

After the show, Dave L phoned and asked if I could get the phone number of the owner. I made the call and the gentleman who brought the bike refused to give it. I'm waiting for the old man to die was his reply.

Every week or so friend would call me to ask if I could phone the gent again. I did this for several weeks until Dave Merret got mad at me for the frequent phone calls, I persisted and he reluctantly gave me the phone number.

Once my buddy Dave had the number the call was made and soon we were off to Trenton to view the bike, 20 minutes later we arrived.

The Norton sat in a run-down wooden barn, the gent's son told us we could take the bike now for free as it was nothing but junk but since it belonged to his dad we had better talk to him.

Mr., John Bewley was sitting at his desk full of papers stacked 12" high. He shook badly telling us he had Parkinson's disease.

John told us he bought the bike in Toronto (120 miles west of Trenton) His friend gave him a lift on his Indian Motorcycle, taking several hours to get there. No 401 highway in those days.

On the way home his friend had to lead the way as the Norton had no lights. The original owner stripped the lights, generator. Plugged off the left exhaust port then competed with the Norton.

Mr., Bewley also competed locally with the bike up to 1950 when it was parked.

As Dave and Mr. Bewley talked you could see how much he loved this Norton. Dave asked how much he was asking, he replied "a lot" how about $500 then. Dave then reached into his pocket and pulled out the cash and counted $500.

John was pleased Dave showed the same love for that old Norton as he did, the deal was done!

Dave promised him he would bring it back once he had it running.

Once the Norton was home, Dave started to tear it apart, not wanting a restoration but tidied up, our friend Mike Duncan checked the motor over, new crank bearings installed and reassembled. Sadly the cut-off original front fender was accidentally thrown out by his brother so a 50's Triumph fender was substituted.

The original magneto was set aside as the magnet just wouldn't hold a charge and a newer style was located at the CVMG National Rally.

Dave finished the bike around 1986 or so. There were still some issues to be sorted but the bike ran.

The first owner cut off the hand change bracket to use a jockey shift, like other racers of that period

This bracket that supported the hand change mechanism broke while Mr. Bewley owned the bike. John made a crude foot-shift that shifted from 1st to 3rd. Heck who needs 2nd anyway.

Dave was ready to show Mr. Bewley his old bike but Sadly John had passed away in Jan 1984.

Over the years Dave would take the Norton to rallies and let people he never met take the bike for a ride. Many who have never been on a vintage bike before always came back smiling. When he was asked why he was doing this. He replied because that is what Mr. Bewley would want!

In 2014 I finished my 31 Ariel VF and in 2015 at the Belleville Norm Carr ½ mile dirt track event, we were to put on a fun race to see who would win

The idea was to jockey back and forth and on the last lap we would play it up, right to the finish line. This never happened as Dave flew past me on the back straight away, past turn 3 & 4 crossing the finish line victoriously.

See he said Norton's are faster than Ariel's, that's the guy Dave was, always having fun on the Norton.

At shows, visitors would ask if they could have a photo taken of them sitting on the Norton, sure thing was his response. It surprised me how many young ladies wanted to sit on the bike, Dave was in his glory!

September 2017 while at the Old Bastards Vintage Motorcycle Rally held in Delta Ont, and with good friend Jim standing near, Dave offered the Norton to me. Do you want to buy it he asked? I didn't know what to say after all this was his pride & joy!

We agreed on a price and the next weekend he delivered the 31 Norton to me.

Over the next several weeks I started to tear the Norton down, I had removed most of the paint from the gas tank when Dave dropped by for a visit.

He looked down in disbelief at the tank, you're not going to have this chromed, are you?

I am indeed.
WHY, was his reply?
Because it left the factory chromed, I answered.
And lights too, Dave asked.
Yes.

At this point, Dave looked a little disappointed, he then said, but this won't be what Mr. Bewley rode.

What made Dave happy was that I re-purposed some of the previous owner's parts they put on. After all they are part of this bikes history.

Jumping forward to March 2019, Dave dropped by to see the progress on the Norton.

I showed him the Chrome gas & oil tank that was getting ready to be delivered to the painter. Dave couldn't believe these were the same tanks that came off his old Norton.

That November while out paying us a visit, Dave eyed the Norton on the lift. Beautiful he said and then he asked, When your done can I buy it back. I replied you sure can Dave.

On Jan 8, 2020 I receive a call, my child hood friend; my best friend had passed away.

The Norton was finished that November and my first ride was up the back road.

I was impressed and I think Dave was looking down with a smile on his face.

In the spring of 2021 the Model 20 was licensed & insured for the road.

A few small bugs were sorted out over the first few rides.

On Saturday mornings I ride the Norton over to the village of Madoc located 16 miles away. Here I meet up with other Vintage enthusiast at the local bakery for coffee & chat.

The longest ride so far was 60 miles on the "Girder Fork Ride" that took us on some great old country back roads. The 31 CS1 gearbox installed by the first owners still shifts smoothly today as the day it was installed.
To me this will always be Dave's Norton and every time I'm out enjoying a Saturday morning tour I know he is along for the ride.

Dedicated to the preservation, restoration and sharing of technical knowledge for all Norton motorcycles, fellowship of all our members and families – and of course riding Norton's!

Ontario Norton Owners hold a rally every year. We also meet up for rides and events during the year at various locations throughout Ontario.

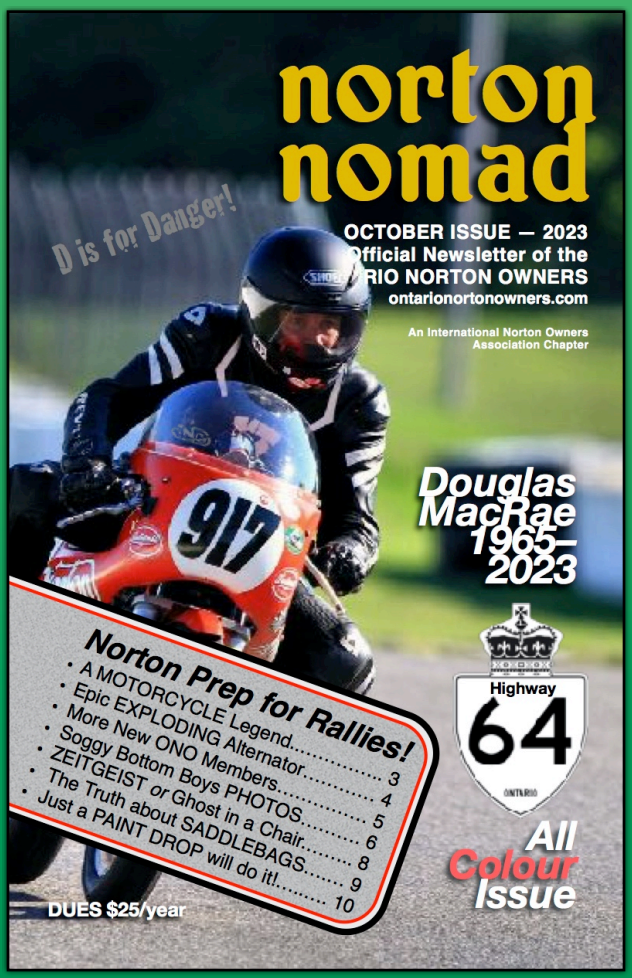
Together we share a common believe that a classic Norton is the ultimate motorcycle.

We are a group of like-minded nomads who are always on the move covering vast distances, sometimes well past the borders of our native Ontario.

The Norton Nomad showcases these stories of adventure, break downs and all, riding vintage as far as we can go! Yes, "Oh no" is the best way to describe ONo!

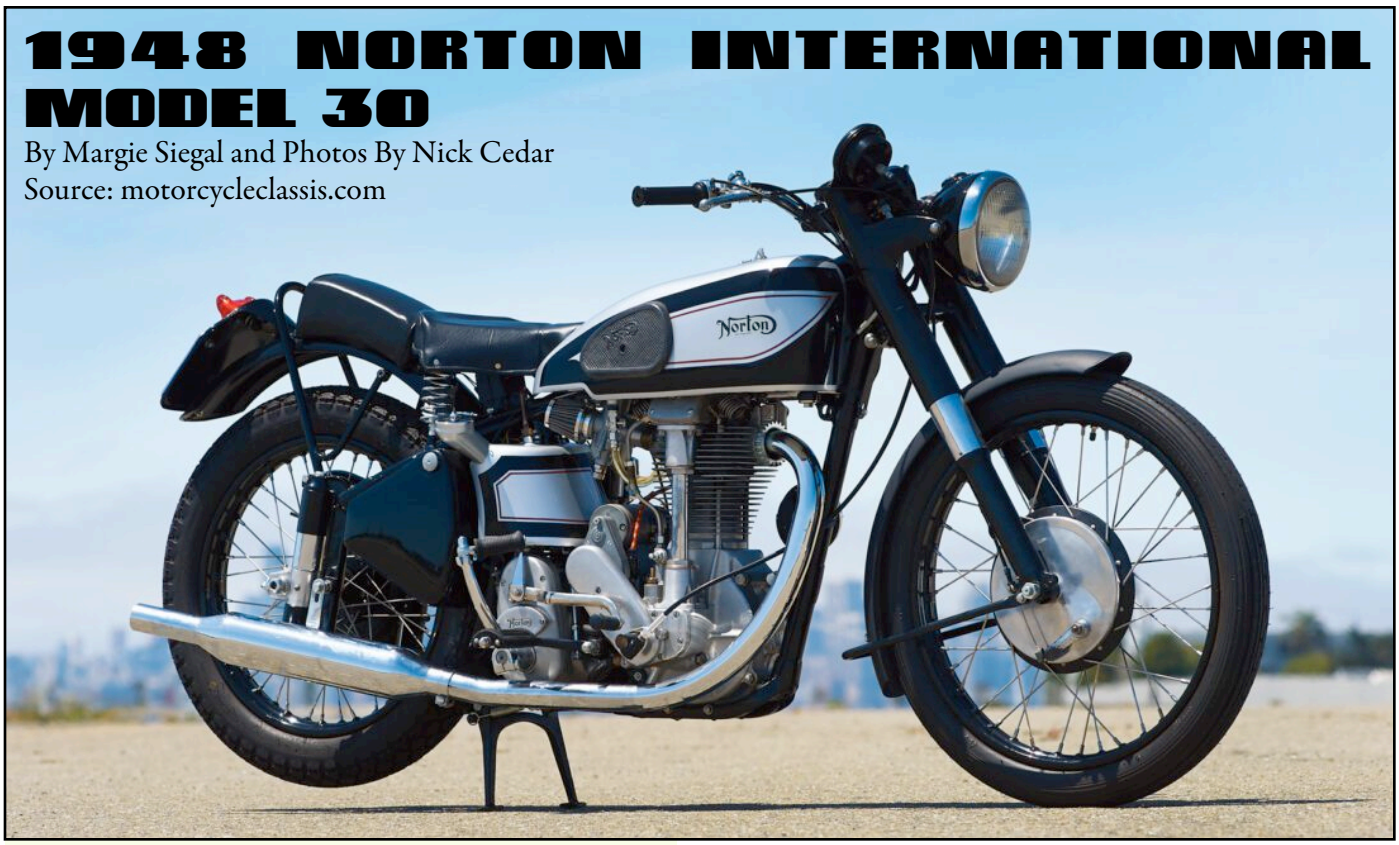
Join us in 2024… for a great time

ontarionortonowners.com/contact



1948 NORTON INTERNATIONAL MODEL 30

By Margie Siegal and Photos By Nick Cedar
Source: motorcycleclassis.com



- Engine: 490cc air-cooled 4-stroke single, 79mm x 100mm bore and stroke, 7.12:1 (for English "pool" petrol) 9.3:1 (set up for American premium) compression ratio, 29.5hp @ 5,500rpm
- Top speed: 97mph (period test)
- Carburetion: Amal TT 36 type, 1-5/32in bore (stock) Amal Monobloc (on bike)
- Electrics: Lucas magdyno
- Transmission: 4-speed, foot shift, chain final drive
- Frame/wheelbase: "Garden gate" full cradle frame/ 75in (1,391mm)
- Suspension: Roadholder telescopic front forks, plunger suspension rear
- Tires: 3 x 21in front, 3.25 x 20in rear (stock), 3.25 x 19in rear (on bike)
- Brakes: 7in (178mm) SLS drum front (stock), 8in (203mm) SLS from 1953 International (on bike), 7in (178mm) SLS drum rear
- Weight: 390lb (177kg)
- Seat height: 5in (724mm)
- Fuel capacity: 5gal U.S. (17ltr)
- Price now: $10,000-$25,000

Getting through the pandemic, with the accompanying isolation and worry, was difficult for many people.

Mike Rettie managed through fly fishing, gardening and finishing the restoration of this 1948 Norton International, a very fast bike for its era and an unusual find in the United States. Mike's International is not only fast, but therapeutic. *"It got me through Covid and transitioning to retirement,"* he says.

Norton Internationals come from an era where the English Norton company was a top road racing contender and built technologically advanced machinery. In the 1940s, Norton riders were on the podium in most international events. While most 1940s motorcycles made do with a sidevalve or overhead valve engine, the Manx factory racers had dual overhead cams. The postwar production racers had telescopic forks and, from 1951, the Featherbed frame, which set new standards in fast handling. Although production racers had a single overhead cam, racers with a good resume might be allowed to buy a DOHC Manx from the factory.

Power to the people

If you wanted something that was street legal, but looked and performed like a Manx, you bought an International, basically a detuned Manx with lights. It came in both 500 and 350 versions, and was aimed at amateur riders who wanted to contest the Clubman's TT race on the Isle of Man. One of the benefits of organized road racing in postwar Britain was access to gasoline.

Although the war was over, Britons were still dealing with the aftermath. England had huge war debts, and

manufacturers were ordered to export as much as possible. Many items were rationed, but gas in particular was in short supply. Many motorcycle club members rode bicycles to meetings. The demand to export meant that many new motorcycle models were not available in the Home Countries. Frustrated English riders read about the wonderful new machines that were being shipped to South America, South Africa and especially to the United States, and gritted their teeth. A bright spot was the resumption of racing in 1946 with the Manx Grand Prix (an amateur event on production machinery) in 1946, and the iconic Isle of Man TT races in 1947.

Nortons in the U.S.

On the other side of the pond, imports of Nortons and other British two wheelers were ramping up fast. American GIs had become acquainted with lightweight, good handling British machinery during World War II. They liked what they saw, and English motorcycles became popular quickly. Gilbert Smith, the managing director of Norton, spent seven weeks traveling through the U.S. in September 1947, and wrote about his experiences in The Motor Cycle, a weekly British magazine. Although there had only been a small handful of prewar U.S. Britbike dealers, by 1947 there were 60 shops selling Triumphs, BSAs and Nortons in the U.S. Some 10,000 British motorcycles had been imported to the U.S. as of September of that year.

Unlike a British rider, who had to pull strings and hope to get a top of the line bike, an American rider just had to reach deep in the wallet. At the time, a Norton International cost $1,071.98. Although that sounds like a bargain, average U.S. family income at the time was $3,200 a year.

Imports of Nortons and several other makes were also promoted by the turmoil at Indian, then one of the two

Rare find: a genuine Al Fergoda license plate holder.

major American motorcycle companies. The new owner of Indian, Ralph Rogers, had bet the farm on a new line of lightweight singles that did not sell. As a condition of a $1.5 million loan from a British firm, Indian dealers were asked to carry several British makes, including Norton.

The Norton Internationals that were displayed in postwar American dealerships were a descendant of the factory race bikes of the late 1920s. After Velocette pioneered overhead cam engines on motorcycles, Norton followed with its own design a couple of years later. Norton factory racing success was followed by production racers for sale. First offered to the general public with a need for speed in 1932, these overhead cam singles had a 4-speed foot shift transmission. Valve spring steel in the 1930s was prone to break, and one cure tried was "hairpin" valve springs, horizontal springs whose ends bear on the rockers. Norton started using these in 1935. Hairpins are bulky and difficult to enclose, and, when better valve spring steel became available in the 1950s, they went swiftly out of fashion. Other prewar upgrades to the International were optional alloy heads and cylinders, and a plunger frame. In the late 1930s, Norton's overhead cam race bikes

were renamed Manx. The International name was reserved for the top of the line overhead cam street single.

After the war

England went to war in 1939, and civilian motorcycle production was suspended for the duration. When both the 350 and the 500cc Internationals reappeared in 1947, the cast iron engine was standard, although the alloy top end (from the Manx production racer) was available at an extra charge. The single overhead cam ran on a bevel drive shaft driven from the lower end. Ignition was provided by a Lucas magdyno, a combination magneto and generator which may have been the inspiration for several Lucas jokes. The carburetor was an Amal TT (a racing carburetor), but the muffler was the same as used on several other Norton models of the time. The gearbox had a low first gear to assist with kickstarting, with the top three gears closely spaced.

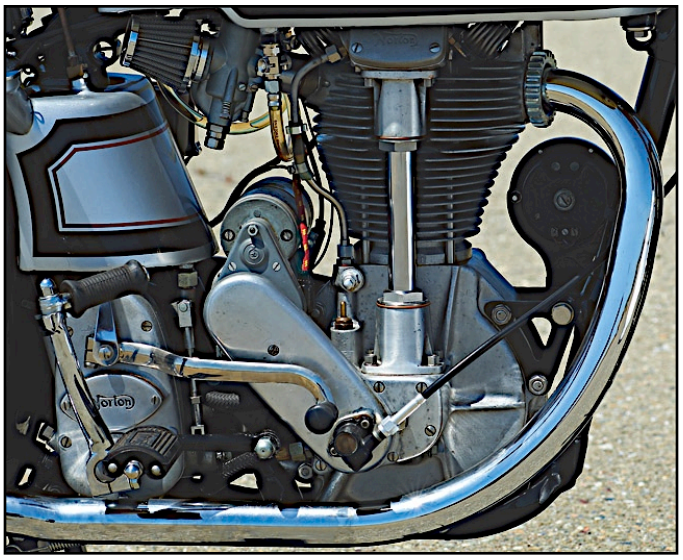
The Garden Gate plunger frame was one of the first sprung frames (the Vincent frame was another) that was proven to handle at speed. Front end suspension was upgraded from the prewar girders to Roadholder telescopic forks with rudimentary hydraulic damping. Both the gas tank and oil tank were large, and finished with chrome plating and black and red pinstriping. The stock muffler choked the engine, and one of the first things an owner would do would be to get rid of it and either race with a straight pipe or, if the bike was going to used on the road, bolt on an aftermarket replacement. In 1947, both major English motorcycle magazines had a chance to test a 500cc International with a Brooklands exhaust (a nonrestrictive but relatively quiet muffler). The Motor Cycle wrung 97mph out of the OHC single, despite the fact that the only gasoline available was so awful that the postwar International had only a 7.12:1 compression ratio in order to cope.

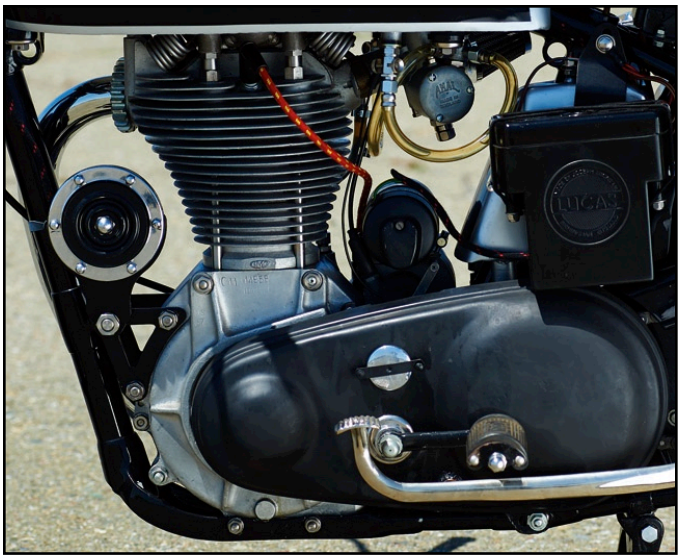
Tuned up and with a jockey aboard who knew how to ride this bike, the International won races. Geoff Duke won the Senior Clubman's race on an International in 1949, Phil Carter won on another one the next year and Ivor Arber won on a third in 1951. In the United States, most races were off road or flat track, and the only real road race was held at Daytona. During the 1940s and early-1950s, Manx Nortons were regularly on the Daytona podium. Dick Klamfoth and Billy Matthews won Daytona on Manxes on such a regular basis that overhead cam machines were banned from American competition for the 1953 season. Bob McKeever raced an International at Daytona, and is the only person known to do so.

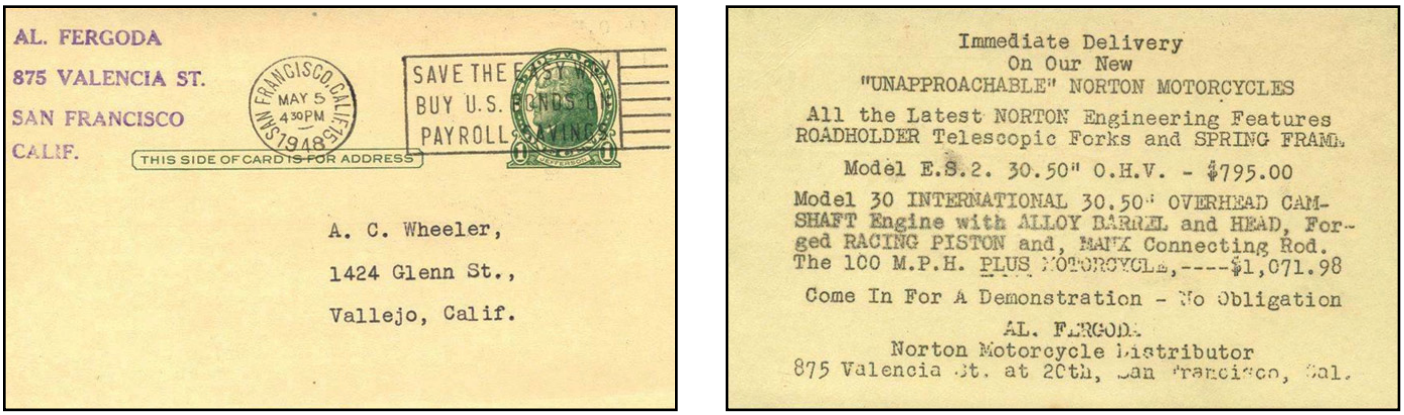
Some assembly required

Most people who bought Internationals in the U.S. apparently just wanted to go fast on public roads. On the West Coast, San Francisco Norton dealer Al Fergoda sent postcards to his customers in 1948, advertising a 500cc (Model 30) International for sale with the Manx alloy barrel and head, Manx higher compression piston and Manx connecting rod. The Norton Owners Club in England has the factory records, and was able to confirm that the engine in Mike Rettie's International was from one of the bikes shipped to Fergoda. The chassis is from a different 1948 International, making the machine a "mongrel."

Mike has been working on this machine on and off for years. "A close friend began collecting bits for this bike in San Francisco in the early 1980s," Rettie explains. "He made good progress to the point of assembling a







A postcard announcing Internationals at Fergoda's.

roller in an ES2 chassis but ran out of enthusiasm at some point and gave the project to me.

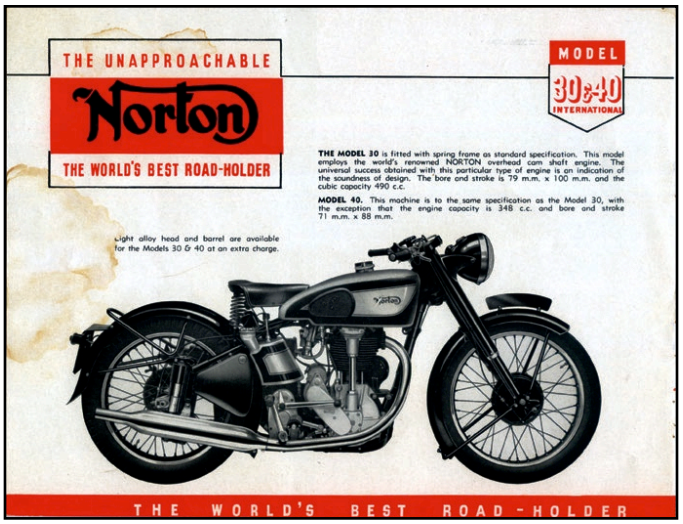
"The first thing I noticed was that the rockers were not properly centered on the valves. As I dug into the engine, I found other problems which led me to tearing down the engine and eventually the whole bike. One thing led to another and I decided to try to find all proper Inter parts to assemble this machine. There must be major parts from at least half a dozen defunct Inters that found themselves reborn in this incarnation."

Mike was then working as a machinist in a shop that specializes in high end sports automobiles, and knows how to assemble an engine. "The cylinder head is bimetallic — bronze and aluminum. It was tricky to repair — I had to have the valve seats in the bronze "skull" braised up to revive them and then re-cut the seats."

When he started looking for parts, overhead cam Norton enthusiasts came out of the woodwork to help. The frame was found in rural Oregon, the gas tank was bought from an eBay merchant on the East Coast, and a friend parted with an oil tank in his stash. Different members of the Norton Owners Club donated parts, including the larger front hub and brake. "I collected parts from all over. Paul Norman and Ian Bennett in the U.K. and Ken MacIntosh from New Zealand were standouts," Mike says. "A friend in Germany came up with the alloy head and barrel. The engine was supplied with a Manx connecting rod, the same as when originally built. A new oversize Manx piston was also located in Germany."

A lot of parts are unique to the International, including the rear brake pedal, and are scarce on the ground. When Mike couldn't find something, he made it,

The bike as delivered. "Rust Never Sleeps."



including the valves and valve guides. The special tools needed in International assembly have disappeared in the mists of time, so Mike made them as well. With all machining completed and all parts in house and Mike newly retired from his long-term job, work on the International sped up. "It was tricky to put this bike together. There is a lot of careful shimming to do and in the proper order to get the cam drive backlash correct. The cam box is not part of the head, and there were a lot of old, worn parts. The timing cam lobes are infinitely timeable. The oil pump is an interference fit in the crankcase."

Besides general engine and machining knowledge absorbed from years working with engines, Mike had a special guide, Garden Gate Manx, The Book About My Bike, C11M14566 by Niels Schoen, a Dutch CAD engineer. Schoen inherited a 1947 Manx from his Uncle Ko, somehow managed to get it into his fourth story walk-up in Rotterdam, Holland, took it apart, reassembled it, and documented the process on the SolidWorks program. The book (self-published and available from the author) contains a digital rendering of all the assemblies on the motorcycle, with factory part numbers and helpful advice.

Back Together

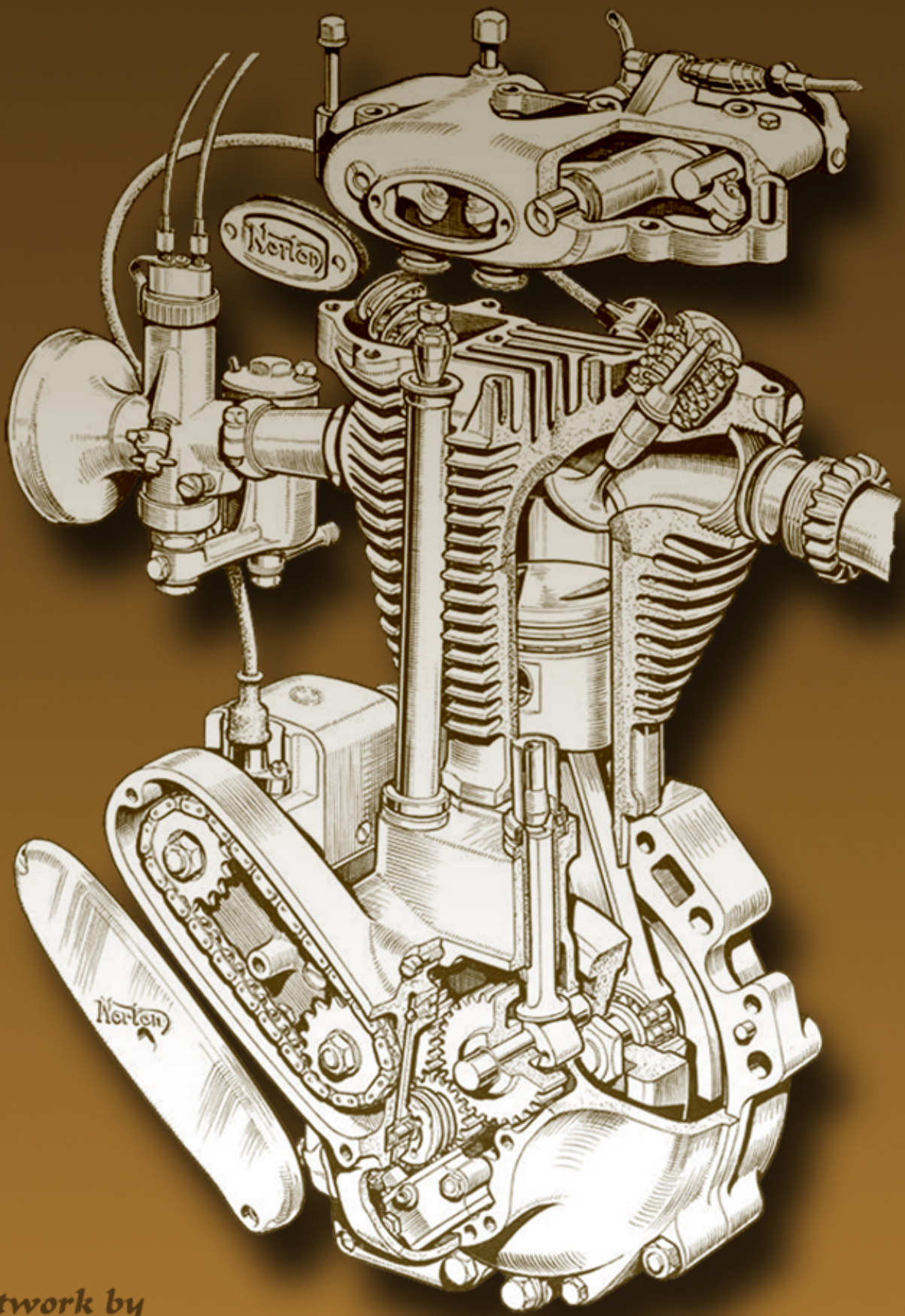
Eventually, the International was back in one piece, with the engine as it would have been shipped to San Francisco, including a 9.3:1 compression ratio to suit the gasoline available in the U.S. It also has some internal improvements and a few external ones. Ian Bennett supplied roller rockers, which are quieter, reduce cam wear and require much less oil. Commando fork internals are a vast improvement on the 1948 version of Roadholder telescopics, which had a minimum of fork damping. Stainless steel spokes don't rust. An AMC clutch fits nicely in the cases and doesn't drag.

Mike also substituted a Monobloc Amal carburetor for the stock Amal TT mixer in order to simplify the initial start-up and break-in. Monoblocs are meant for the road, have an air cleaner, and have provision for a good idle. The tail light is also not standard. The stock unit is the size of a fifty cent piece and probably not safe for today's traffic. The one on the bike is there because Mike liked the Buck Rogers look. The 8-inch front brake is from a later version of the International, replacing the stock 7-incher.

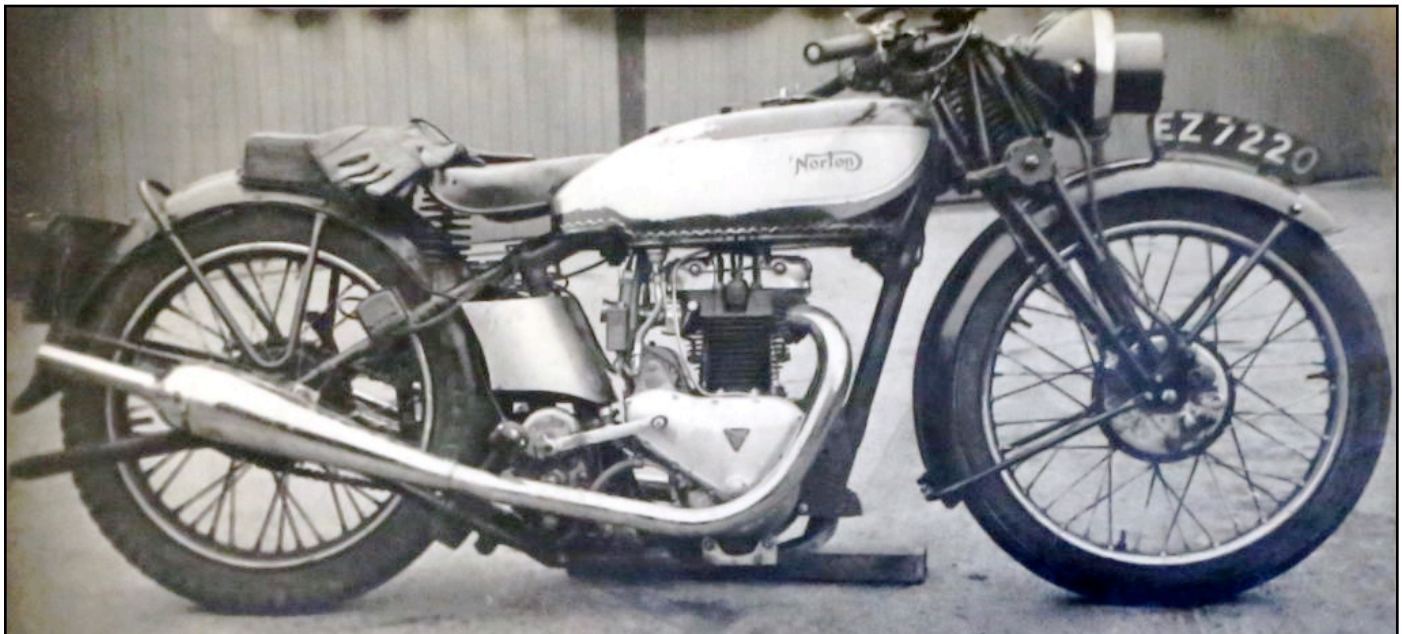
"It started in December 2020 on the fourth kick. It has a manual advance, and once I backed off the advance a little it started right up." Unfortunately, what also started up was oil leaks. "It's difficult to make an International oil tight. The rockers are not entirely enclosed." Mike worked on the leaks and started taking the bike on longer rides. He now thinks the leaks are fixed — for now. One item that is not fixed is the wet sump problem. Internationals tend to "wet sump," meaning oil drains from the tank to the bottom of the engine as the bike sits, often leaking onto the floor and making the bike hard to start. It is possible to put a turnoff valve in the oil feed line, but many owners of bikes with turnoff valves forget to turn the oil feed back on, with disastrous results.

Although big singles are often difficult to get running, Mike says that this International is a "piece of cake to start, with a quick carb tickle, the proper spark advance, and the judicious use of the compression release." Once underway, "It shifts slowly and deliberately, but revs freely and briskly accelerates. The new clutch does not drag. It's so old, I am surprised how quick it is. The handling is not bad over 50mph, but the rear springs are stiff, and the ride is pretty harsh for my old bones. It takes getting used to. The bike also stops reasonably well, but riding through traffic is no fun. In order to really enjoy this bike, you have to adjust your expectations and get out to the countryside."

"The best thing about the whole project was all the people I met trying to run down parts and services. When I was working, I worked on Ferraris, Maseratis, Alfas and some pretty obscure machinery. I used all the things I learned and tried to do as much myself as possible. Without the help of my friends and workmates, the old beast would still be a heap of parts hiding out in the depths of my basement."



Artwork by
S. E. Porter



The world's first Triton, built by Rex McCandless during WW2 – a racing Triumph Tiger 100 motor in a Norton International racing chassis. Note headlamp mask – required during wartime blackouts. (photo courtesy Dennis Quinlan, via VMCC Library)

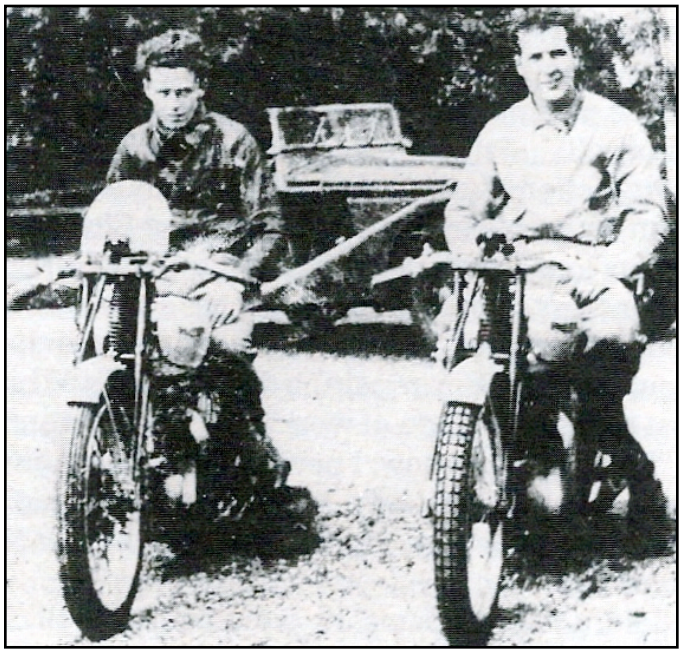
THE FIRST 'TRITON' - A PREWAR CAFE RACER

by Paul d'Orléans

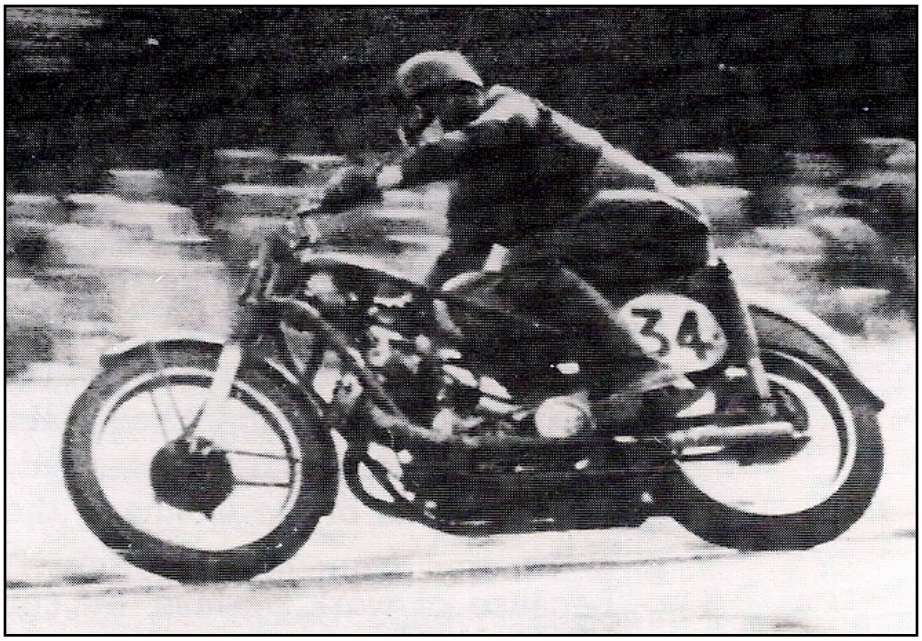
Back in 2008, I wrote about the McCandless brothers' invention of the first modern swingarm motorcycle frame in 1944. Norton race chief Joe Craig took note of this radical new chassis, leading Norton to purchase the rights to the McCandless design in 1949. Geoff Duke debuted the McCandless-framed Norton in 1950 housing a factory Grand Prix racer, and sweet-handling design became known as the 'Featherbed'.

Rex McCandless and his brother Cromie were an interesting pair, devoted to motorcycle engineering and racing, and changed the motorcycle industry forever without the need for an engineering degree. Rex famously wrote, *"I never had any formal training. I came to believe that it stops people from thinking for themselves. I read many books on technical subjects, but always regarded that as second-hand knowledge. I did my best working in my own way."* It slipped my attention then, but it seems the McCandless brothers also seem to have invented the most iconic custom motorcycle of the cafe racer era–the Triton, a Norton Triumph hybrid.

Rex McCandless (left) and Artie Bell, both on racing Triumph Tiger 100s in 1940. Note swanky race transport behind them!



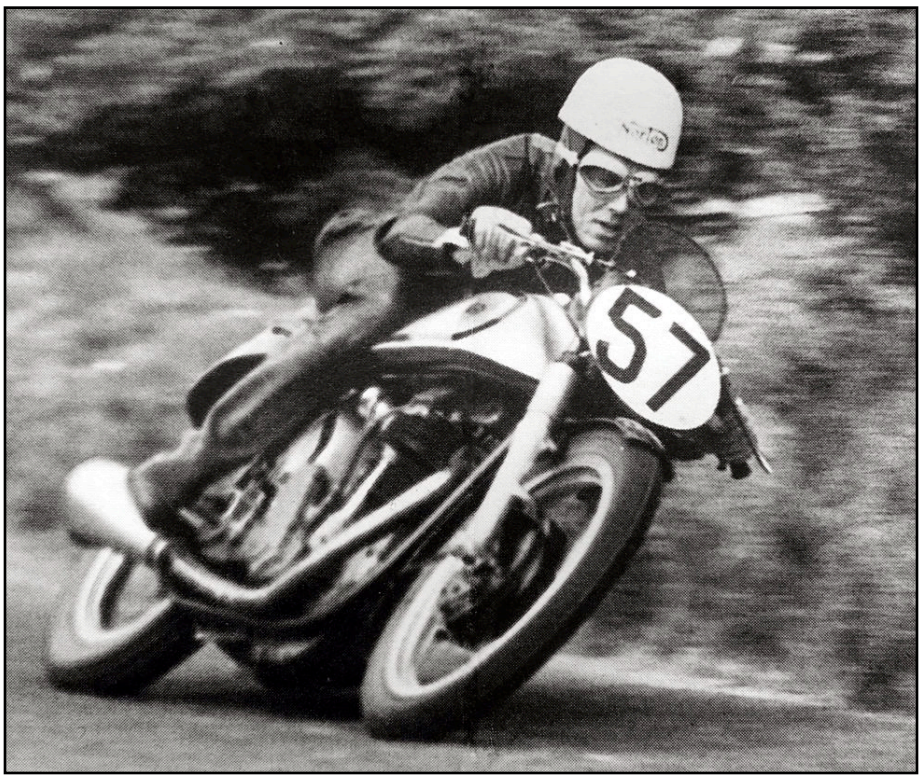
Rex McCandless tuned and raced his own motorcycles before WW2, first turning his attention to a new twin-cylinder Triumph Tiger 100 in 1940. His home-tuned Tiger was was faster than the factory-tuned bronze-head Tiger 100 of his friend, Artie Bell (future Norton Works racer), and Rex won the Irish 500cc Road Race and Hillclimb championships that year. While the motor was fast, the Triumph chassis made 'unreasonable demands of its rider'. The story goes that McCandless began experimenting with weight distribution on the Triumph, and eventually designed his own frame,



The 'Benial', McCandless' first chassis of his own design, a full cradle, double-loop, all-welded swingarm frame, with vertical rear dampers from a Citroen car

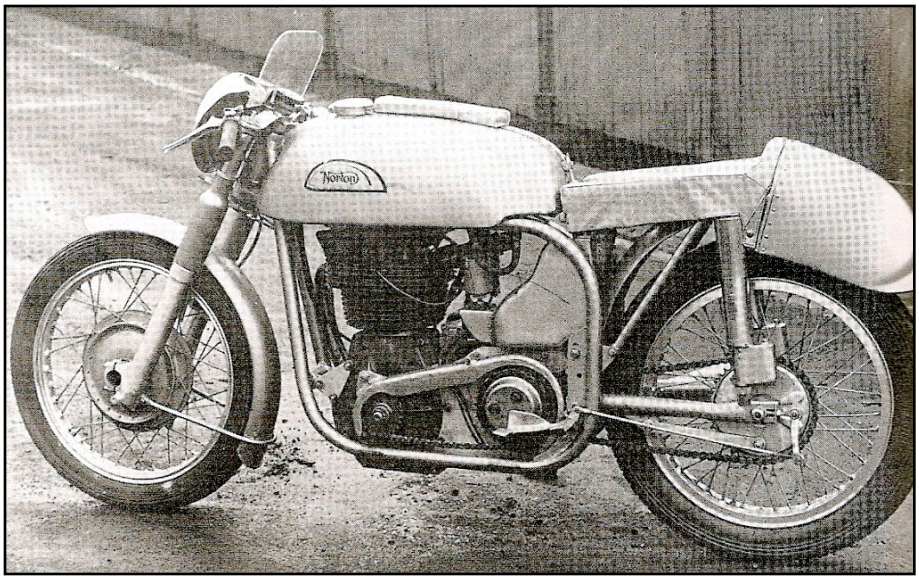
which became the Featherbed. But it seems he tried a known better-handling chassis first for his Triumph motor, and installed the Tiger engine in a racing Norton International chassis. He'd already proven his T100 engine faster than a racing Norton, but their chassis was the gold standard for handling. Thus the first Triton was born during WW2, as evidenced by photos in the VMCC Library, passed along to me by Dennis Quinlan.

Geoff Duke winning the first of many races on the Norton 'Featherbed' factory Manx racer, in 1950, on a frame hand-built by Rex McCandless. [Photo from 'In Pursuit of Perfection', Geoff Duke's wonderful moto-biography!]



Thankfully for us, the Norton also didn't live up to McCandless' idea of what a frame could be! He carried on experimenting; "I had noticed that when I removed weight in the shape of a heavy steel mudguard and a headlight, that the bike steered a lot better. It made me think about things which swiveled when steering. I was in an area about which I knew nothing, but set-to to find out. It seemed obvious to me that the rigidity of the frame was of paramount importance. That the wheels would stay in line, in the direction the rider pointed the bicycle, regardless of whether it was cranked over for a corner, and to resist the bumps on the road attempting to deflect it. Of equal importance was that the wheels would stay in contact with the road. That may seem obvious, but fast motor cycles then bounced all over the place. I decided that soft springing, properly and consistently damped, was required."

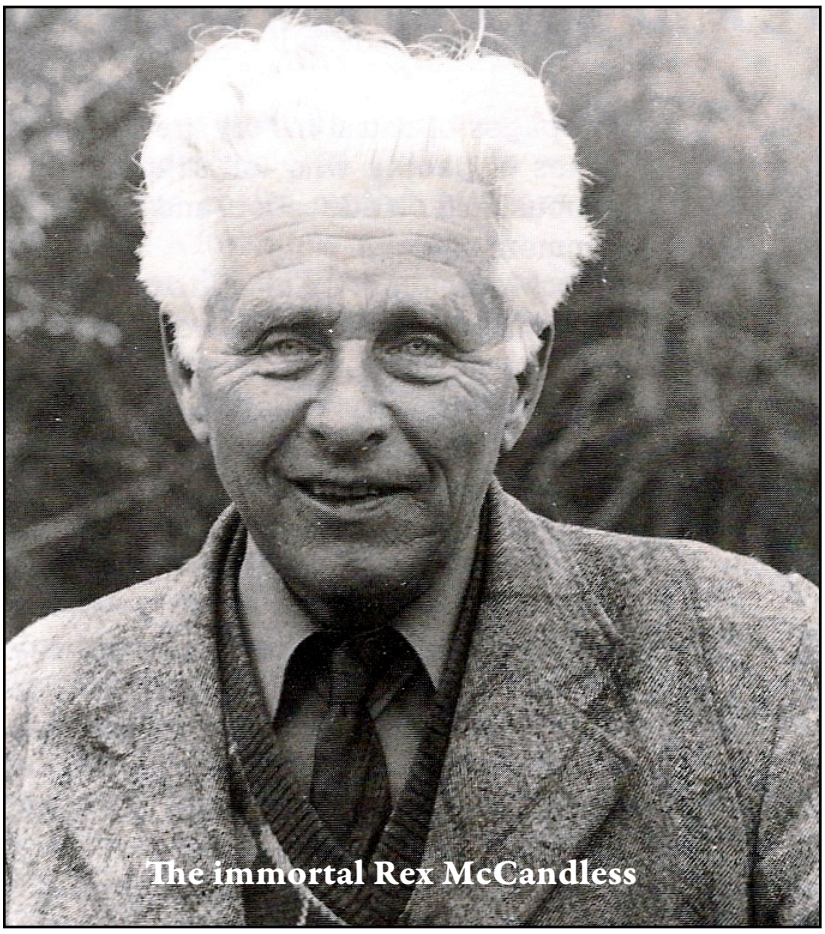
The first test-bed for Rex's ideas, built in 1944, was named the 'Benial' (Irish for 'beast'). It looked much like the double-loop, lugless frame used on the Gilera-Rondine watercooled dohc 4-cyl racer of the 1930's, but it had a proper swingarm at the back with vertical hydraulic shock absorbers (from a Citroen car). "The Benial was the best-handling bicycle I ever made." Using the ideas garnered from his experiments, McCandless first designed a bolt-on rear suspension kit for rigid-frame motorcycles, which was tested publicly by the Irish grass-track racing team at Brands Hatch in 1946. Prior to the race, other riders looked askance at the rear suspension kits, but after the race, they clamored for them. Rex had no ambition to go into manufacturing, and sold the rights



The prototype Featherbed Manx, built in late 1949, still with vertical rear shocks, likely sourced from an automobile

to the kit to Feridax, a well-known accessory maker.

McCandless knew his Benial had the best-handling frame in the industry, and approached Norton with a challenge, and the intention to sell his design. Norton's 'plunger' Garden Gate frame had a tendency to break, and handled like a camel. Joe Craig made the frames heavier, to stop the breakages, but in McCandless' view, this showed an insufficient understanding of the stresses involved on the chassis, "...all they did was to fix together bits of tube and some lugs.." In 1949, he told Gilbert Smith, the Managing Director of Norton, "You are not Unapproachable, and you are not the World's Best Roadholder. I have a bicycle which is miles better!" The Norton brass set up a test on the Isle of Man, where a relative of Cromie McCandless' wife was Chief of Police. They closed the roads, "Artie Bell was on my bike, ultimately christened the Featherbed by Harold Daniell. Geoff Duke was on a Garden Gate and both had Works engines. Gilbert Smith, Joe Craig and I stood on the outside of the corner at Kate's Cottage. We could hear them coming from about the 33rd [milestone]. When Geoff came through Kate's he was needing all the road. Artie rode around the outside of him on full bore, miles an hour faster, and in total control. That night Gilbert Smith and I had a good skinful."

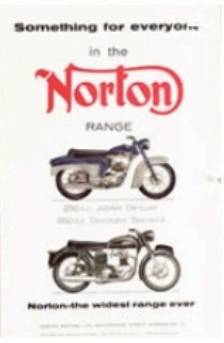


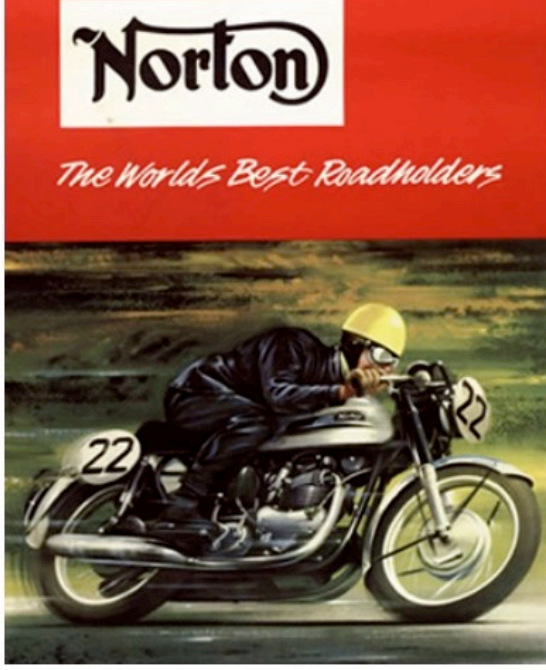
The immortal Rex McCandless

Further testing took place at Montlhery, with four riders (Artie Bell, Geoff Duke, Harold Daniell, and Johnny Lockett) going flat-out for two days. "We went through two engines, then the snow came on. The frame hadn't broken so we all went home." The debut of the new frame came at Blandford Camp, Dorset, in April 1950, with Geoff Duke aboard (below, winning that race). The string of successes which followed gave a new lease on life to a 20-year-old engine design, and Norton won 1-2-3 in the Senior and Junior TT's that year. Norton didn't have the facility to produce the Featherbed frame themselves, nor could Reynolds (the tubing manufacturer), so Rex brought his own jigs over from Ireland, and personally built the Works Norton frames from 1950-53. The original jigs still exist – what a historic piece of scrap iron!


Norton
Dominator


Norton
WINNER OF 24 T.T. RACES
1951
Dominator


Something for everyone
in the
Norton
RANGE
Norton-the widest range ever


Norton
The Worlds Best Roadholders
22

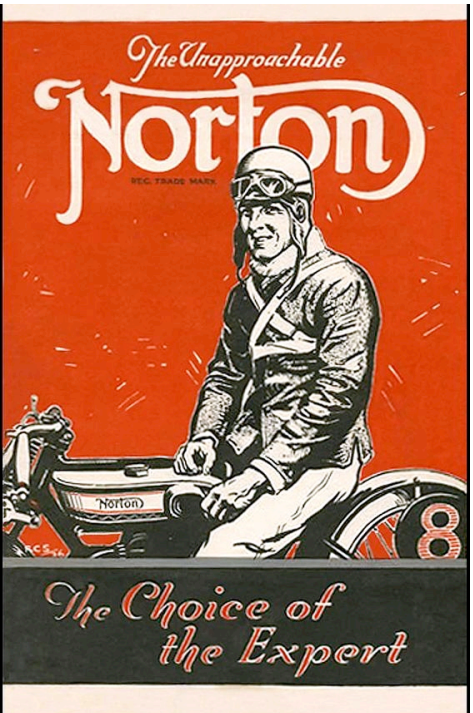

THE UNAPPROACHABLE
Norton

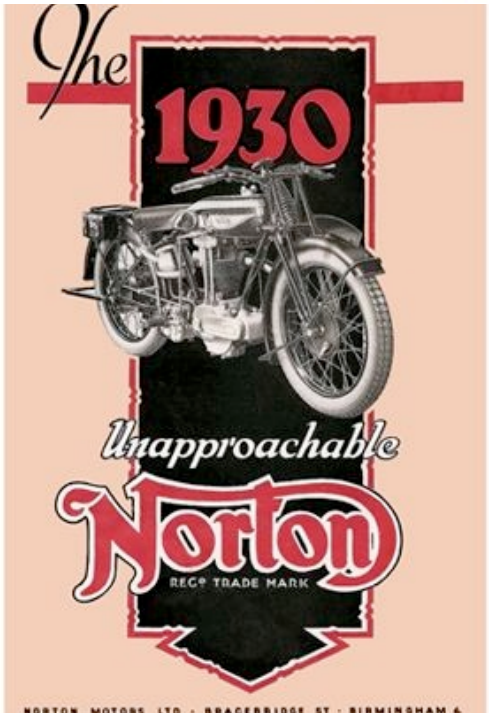

The Unapproachable
Norton
of 1930

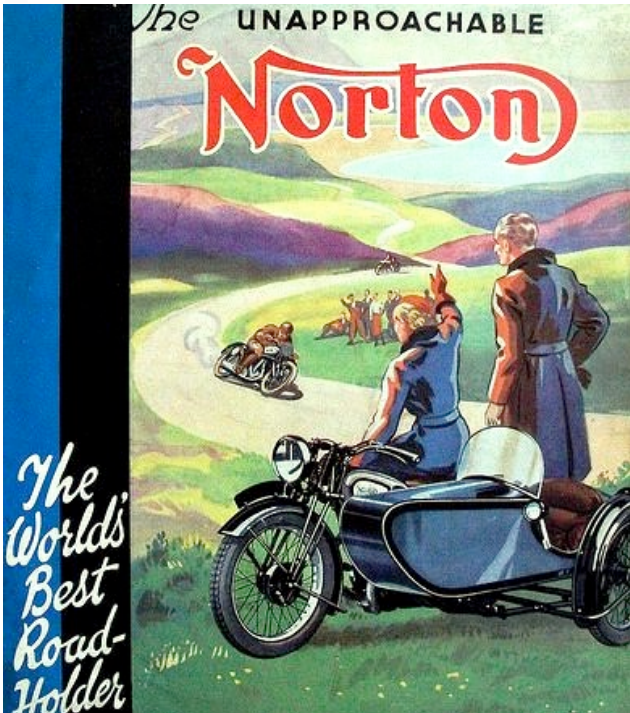

Norton
2
NORTON MANX 30M


Norton
The World's Best Road Holder
1951
Norton
WINNER OF
24
T.T. RACES


1957
Manx
30/40
Manx


The Unapproachable
Norton
REG. TRADE MARK
Norton
The Choice of the Expert


The
1930
Unapproachable
Norton
REG. TRADE MARK


The UNAPPROACHABLE
Norton
The World's Best Road-Holder


THE
The Worl

Advert.

1951

Advert.

THE 1957 NORTON INTERNATIONAL MODEL 30

By Greg Williams | Photos by Jeff Barger | SOURCE: MOTORCYCLECLASSICS.COM

As early as 1908, Norton had adopted the famous "Unapproachable" tag line to describes its motorcycles; the slogan took on renewed meaning in 1927, when Norton's Walter Moore designed a new overhead camshaft engine called the CS1 — for Camshaft Model One.

Based on the bottom half of Norton's Model 18 overhead valve 500cc single, an engine first seen in 1922, the rest of the CS1 was completely different, with a vertical bevel-shaft drive to an overhead camshaft. The bevel tunnel and the paddle-shaped timing chest and cover on the right side of the crankcase gave the appearance of a cricket bat, a reference used by British enthusiasts to this day.

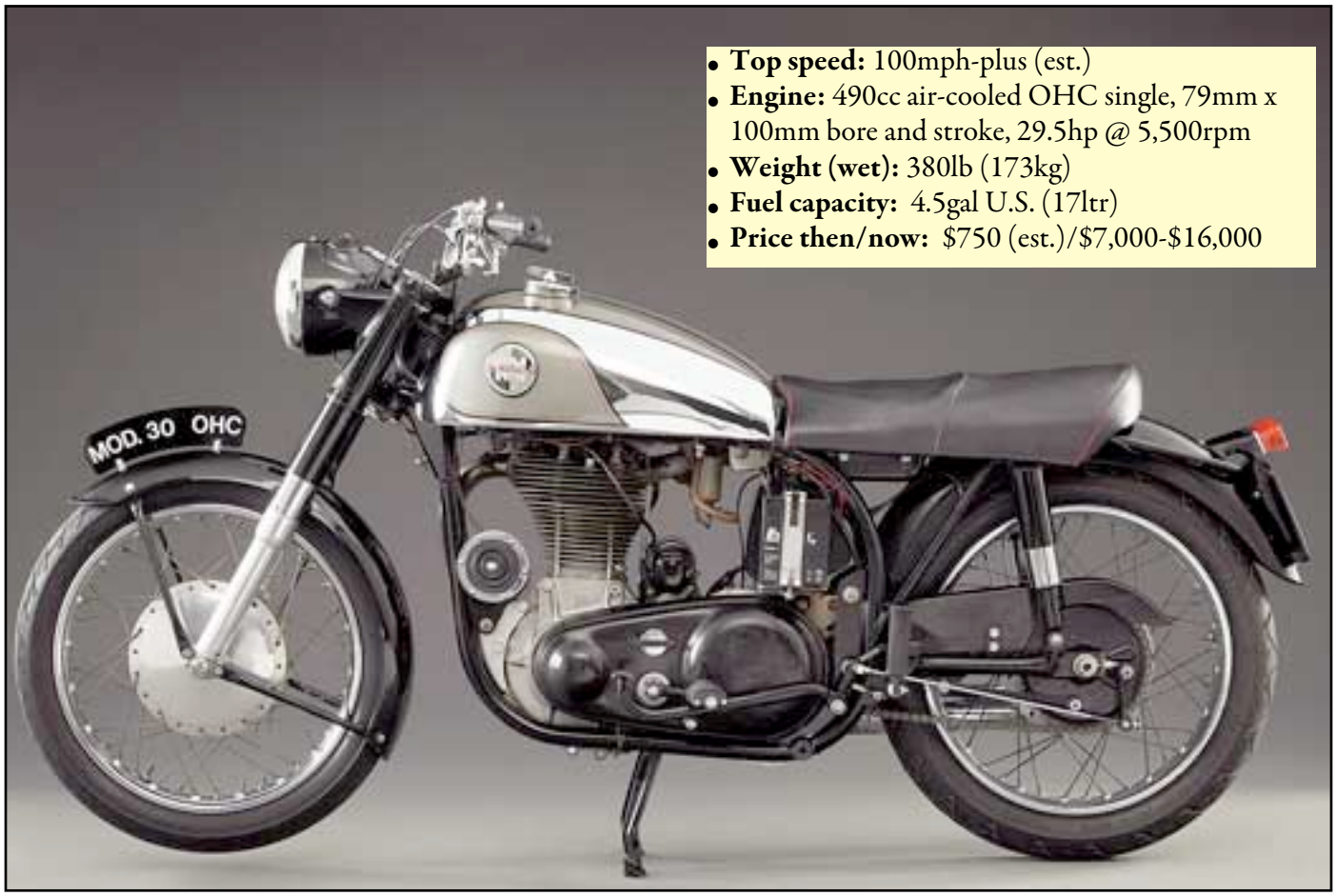
Placed in a new frame complete with a Webb girder fork, a purposeful-looking gas tank and 8-inch drum brakes front and rear, the CS1 looked and acted the business of racing. And while the engine wasn't entirely without faults, the machine performed admirably. Alec Bennett took a new CS1 to victory in the 1927 Isle of Man Senior TT, ensuring the importance of the overhead cam engine in Norton's racing program.

In 1929, Moore — who owned the rights to the overhead cam engine — left Norton to pursue a career at German-based NSU. Because of this move, Norton was prompted to redesign the overhead cam engine. Chief designer Arthur Carroll led the work, together with assistant Edgar Franks and development engineer Joe Craig.

Gone was the cricket bat-shaped tower drive, but Carroll retained the CS1's 79mm bore by 100mm stroke, and these dimensions remained the same for every 500cc single Norton made until 1963.

The International

All of this is a long-winded way of introducing the Norton International, which first appeared in 1932 as the 500cc Model 30 and 350cc Model 40.These were Norton's top-of-the-range sporting motorcycles, and were based on developments first tried in their works racing machines. In Norton's catalog, the CS1 became a touring model, while the International was intended for track use or fast roadwork. The International could be ordered with any number of Norton's factory race goodies to make it a competitive mount for amateur, or "clubmans," racing, but it could also be bought with lights and a kickstarter to make life easier for use on the road.



- **Top speed:** 100mph-plus (est.)
- **Engine:** 490cc air-cooled OHC single, 79mm x 100mm bore and stroke, 29.5hp @ 5,500rpm
- **Weight (wet):** 380lb (173kg)
- **Fuel capacity:** 4.5gal U.S. (17ltr)
- **Price then/now:** $750 (est.)/$7,000-$16,000

In 1936, Norton introduced the Manx Grand Prix version of the International. Built solely for racing, the Manx Grand Prix featured magnesium crankcases and cambox and, by 1938, undamped telescopic forks. With a magneto to provide spark, there was no need for a generator to supply power for lights, as there were none.

Production of both the Manx and International models halted in 1939. By that time, the standard International incorporated a 4-speed footshift gearbox running in Norton's "garden gate" plunger-suspension rear frame with girder front fork — it hadn't yet been upgraded to the telescopic forks of the Manx Grand Prix.

Sparking desire

According to motorcycle enthusiast Joe Block of Chicago, Illinois, early Norton International single-cylinder motorcycles are some of the most desirable machines anywhere. "The Norton International is a gorgeous motorcycle, in my opinion, and epitomizes British machines," Joe says.

Joe is also a fan of Norton's famous Featherbed frame, which was developed post-World War II by Irish brothers Rex and Cromie McCandless. In the early 1940s, the McCandless brothers were working to improve the handling of their own Triumph motorcycle, building a new swingarm frame to make their T100 Tiger more competitive. It wasn't long before the brothers' work came to Norton's attention, and they were persuaded to create a prototype frame for the company — a duplex-tube chassis with swingarm rear suspension. It was designed to lower the bike's center of gravity by moving the fuel tank farther back from the steering head and helped centralize weight for better handling.

First raced at England's Blandford circuit in 1950, where it won with a record speed and record lap, the new frame brought Norton a 1-2-3 win in both the

Junior and Senior Isle of Man TT races. It was clear the Featherbed frame was a game-changer, and the first road-going Norton with a Featherbed frame was the 1951 Model 88 Dominator, equipped with the company's new 499cc parallel twin engine.

But getting back to the International, the 500cc Model 30 and 350cc Model 40 returned in 1947, updated with Norton's Roadholder forks but still using the garden gate plunger frame. The last real significant update occurred in 1953, when Norton placed its Model 30 and Model 40 single-cylinder engines in the Featherbed frame. "After World War II and into the early 1950s, these single-cylinder Nortons were becoming less competitive," Joe says. "When Norton decided to use the Featherbed frame for its International, they breathed a little life back into the model, but sales were starting to dip. They were expensive to produce, and performance-wise they were being eclipsed by machines that cost less to buy. Plus, by the mid-1950s the engine was getting a little dated for the majority of the general public."

By 1955, the International was no longer listed in Norton's sales catalog. A Model 30 International, with its all-alloy 79mm bore by 100mm stroke single-cylinder engine could, however, still be special ordered until 1958. Compression was 8.1:1, and according to Barry Stickland, writing for the Norton Owners Club (NOC) U.K., a new style of muffler was introduced to help the engine, which was rated at 29.5 horsepower, deliver a bit more power. The wheel hubs were full-width cast iron. Roadholder forks absorbed bumps at the front, and distinctive bolt-on chrome panels adorned the gas tank. Very few 500cc Internationals were made in these later years. According to figures Joe has found, only 70 500cc Model 30 and 10 350cc Model 40 Internationals were built in 1957.

Joe Block's International

With Joe's affinity for the Featherbed frame, when he found this 1957 Norton International Model 30 for sale, he didn't hesitate to buy it. Joe also has a twin-cylinder 1961 Norton Manxman 650 with a Featherbed frame, and the single-cylinder International with the Featherbed simply adds to his Norton riding experience.

Joe's stable of machines also includes a 1953 Ariel Square Four, a 250cc single-cylinder 1937 Velocette MOV, a 1950 Vincent Rapide and a modern 2014 KTM. Joe likes to ride. He is the third owner of this 1957 Norton International, and it's a very original machine. That's just the way Joe likes to find them — showing timeworn scars of active duty.

According to its known history, this Norton left the factory on Feb. 8, 1957, and was sold to Woody Kimes, a Norton dealer in Mansfield, Ohio. During the first year or two of his ownership, Kimes somehow damaged the gas tank. He ordered a replacement from Norton, and was sent one meant to fit a 1956 model; it doesn't have the bolt-on chrome panels that a '57 or '58 International tank would have featured.

Kimes kept the Norton until 1973, when Jerry Ficklin of Sheridan, Indiana, bought it. Jerry operates a small British-bike shop called Vintage Motorcycle Supply. As purchased, the top end of the engine was off of the Norton, and the entire machine was dusty and dirty from sitting since the early 1960s. "I took the engine apart," Jerry says. "The bottom end was tight and the

bearings were good. I put in new rings and cleaned the valves. I also put on new chains and tires, and apart from a good clean, that was about it."

Jerry rode the bike occasionally, putting some miles on it, but by 2014 the International was surplus to his personal collection. "I had it for 40-some years. It's fun to ride in the mountains and play boy racer, but it's not the best bike to take out for Thursday night bike get-togethers," Jerry says. "I just wasn't riding it as much and it was time to sell." That's when Joe heard about the Norton. He bought it with 25,668 miles on the original Smiths speedometer; in a year, he's added some 600 miles to that figure.

Joe obtained Norton factory records from the Norton Owners Club, and the documents show that his International has all of the correct numbers — including engine and engine case mating numbers, frame, gearbox and forks — that the machine had when it left the works. Nonstandard extras were taller American handlebars and the black finish. The standard home market finish was Norton polychromatic grey, and that's how most of the last Internationals were delivered. Joe maintains that a black late-model International, from the factory, is a very rare machine.

During his ownership, Joe's done nothing to the Norton but sort out some wiring. The hot lead to the horn shorted out and slightly damaged a few wires. With the electrical loom fixed and a sealed 6-volt battery in place, the Lucas 6-volt generator keeps everything topped up and all of the lights work.

Joe likes the simplicity and the running characteristics of single-cylinder engines, but admits there is a technique to starting them. "Jerry gave me a lesson on how to start the International, and now I think I've got the procedure down to two or three kicks."

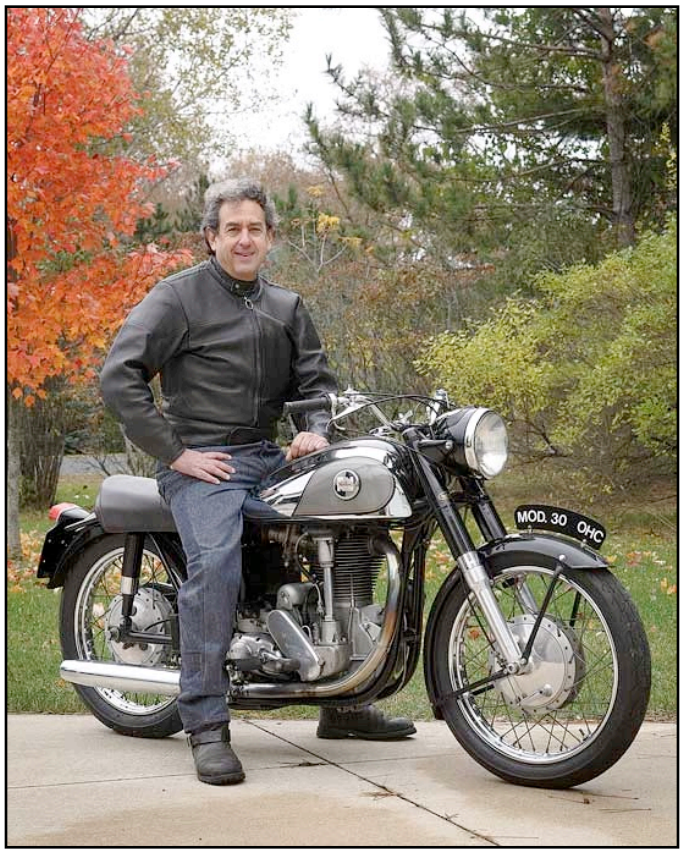
The routine begins by thumbing the choke lever on the right hand handlebar closed, followed by a "tickle" of the float on the 1-5/32-inch Amal TT carburetor. Thumbing the lever on the left handlebar, Joe retards the timing on the manual advance Lucas magneto. Then, using the kickstarter, he brings the piston up to compression, just before top dead center. Next, he pulls the small decompression lever, just below the clutch lever, and nudges the piston past compression. Without disturbing the piston, he brings the kickstarter back to the top of its travel. Finally, with a good, solid kick, the International should fire. The ignition can be advanced and the choke slowly opened as the engine warms. "It is easier to start once it's been running for a bit," Joe explains. "The magneto does still seem to be quite strong, although it's never been rebuilt."

Addressing his classic motorcycle maintenance philosophy, Joe says, "I prefer to consider myself more of a rider and a caretaker than a collector, and I'm not a fastidious cleaner. None of my bikes are garage queens, and the Norton certainly gets ridden." Joe keeps the International at a second home near the Driftless Area in southwest Wisconsin, a region known for its carved river valleys. He says the roads around his house offer plenty of curves, as they rise and drop through a diverse topography that includes forested hillsides, prairie grasslands and expansive wetlands. "I can sometimes ride 40 or 50 miles without seeing any other traffic," Joe says of the experience. "It's something of a motorcycle mecca.

"The Norton, with its rather tall gearing, is ideally suited for this kind of riding. It's not an easy bike to ride in the city, because there's such a gap between first and second gears. But second, third and fourth are all close together, and once up to speed, it's a distinct pleasure."

And for Joe, that's as close to an unapproachable experience as there could be on a finely fettled Norton.

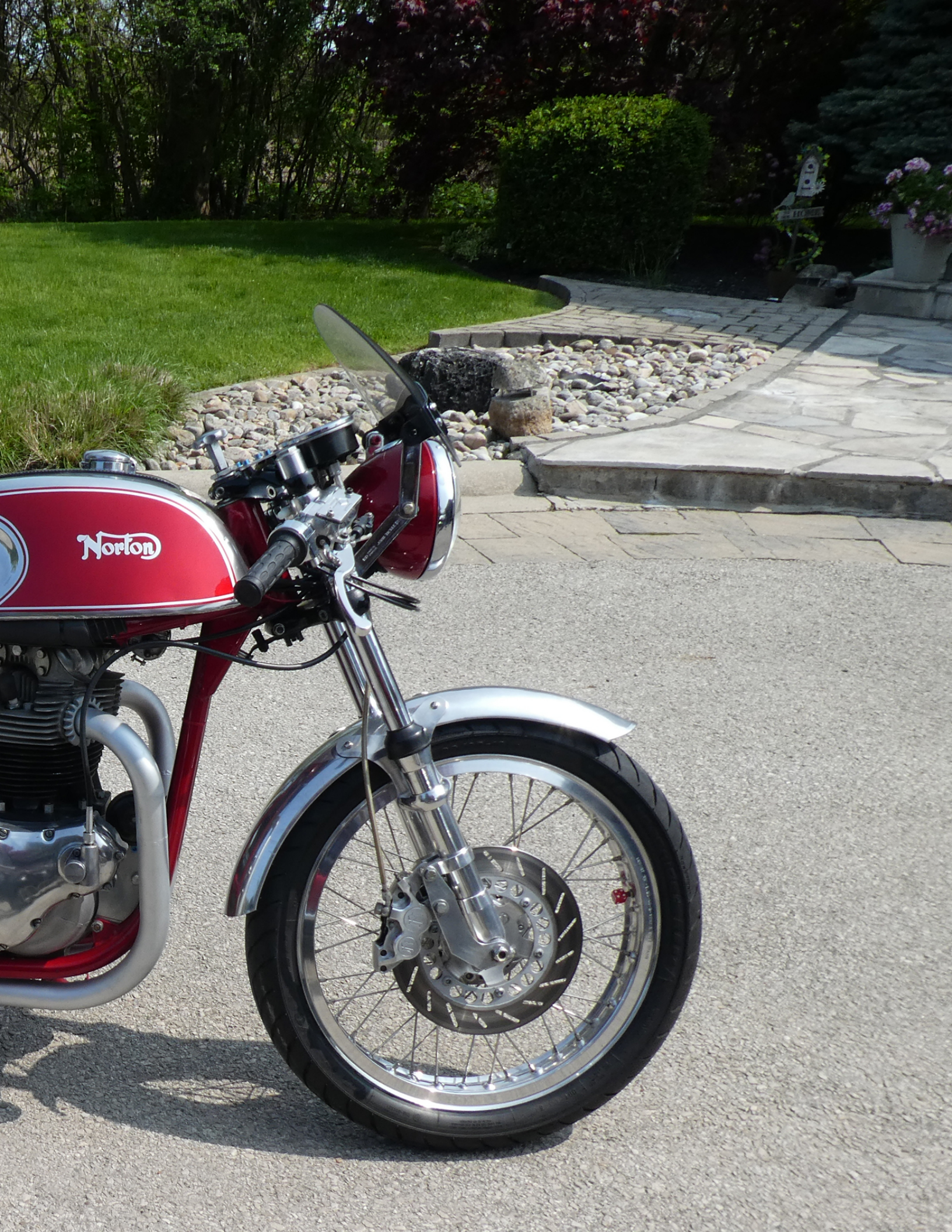
Owner Joe Block with his Norton International.




BOB MATTHEWS
LINGFIELD
ENGLAND
1959 Norton 99 Dominator 600cc
Tax in
Post
AVON


DOM 99
AVON


PETER
MCKENNA
Georgetown Ontario Canada
1962 Norton Café Racer


Norton

Peter McKenna's 1962 Norton Café Racer

This machine was constructed over a period of 3 years and completed in 2000.
I started compiling the pieces needed for the project in 1988.

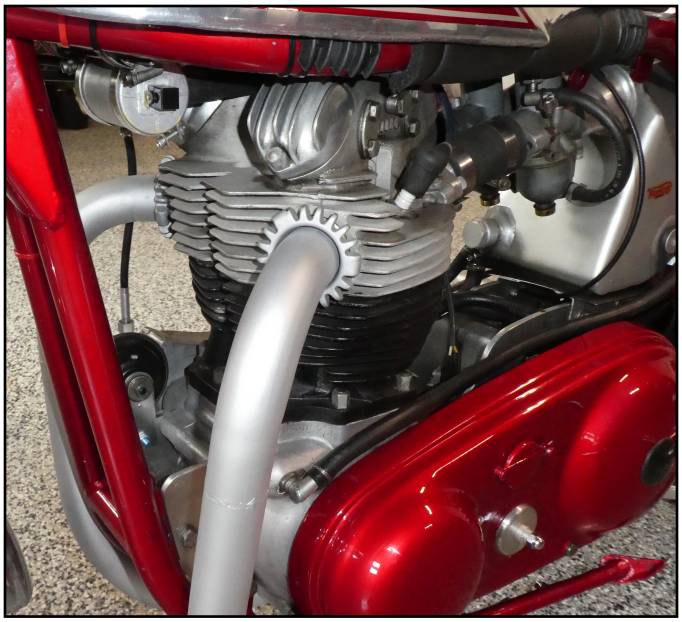
- The frame is a 1962 Norton 650 SS Slim Line Featherbed.
- The engine cased are from a 1968 P11-A, serial number 20 125184 P, with Commando barrels and head. All other engine components are Commando. Except for the crank shaft, all internal components were new at build and the engine was balanced and blueprinted. Valve covers are Paul Dunstall.
- The transmission, serial number 116 129, and primary system are from a 1966 Atlas with new Commando gearing.
- Drive line mounting plates are custom made aluminium alloy.
- All mechanical and machine work was carried out by American Historic Racing Motorcycle Association (AMHRA) Norton Guru Herb Becker.
- Carburetors are Amal 932 with 4 inch intake manifolds set for strong mid-range operation. The exhaust system was custom made and tuned to match the intake manifolds and mid-range operation as set via Dynamometer tuning. The exhaust system is ceramic coated in alloy silver.
- Ignition is Boyer electronic fitted into original distributer housing.
- The front end is a 1967 Ceriani with Ohlin's internals as built by Ohlin's race technician Jonathan Cornwall. The front end includes the original Ceriani steering dampener.
- Rear suspension units are new old stock 1967 Koni shock absorbers.
- Rear swing arm is a box section JMC with vernier adjustable rear axle machined to fit the featherbed frame.
- Rear wheel is Commando. The front wheel is Commando laced in Rudge offset with custom made brake rotor.
- The front brake is a Performance Machine 4 puck caliper with Performance Machine master cylinder. The caliper was a gift from Rob Muzzy of Muzzy Kawasaki.
- Wheels are Akront 19 inch X 2 inch front and Akront 18 inch X 3 inch rear. Tires are Avon Road Runners 12 years old. Spokes are stainless steel Buchanan.
- Frame paint is Matchless Candy Apple Red done as original with fine silver metal flake base finished with 8 coats of red clear.
- Mudd guards are aluminium alloy. Seat was sourced from Fair Spares. Rear light housing is a Triumph/BSA unit. Oil Tank with Monza filling cap is aluminium sourced from Fair Spares. Oil tank lines have mechanical anti-sump valve fitted. Baby bottle oil pressure reservoir is new stock from the granddaughter's supper inventory.
- There is a Commando Oil Filter fitted. Battery is a new BS Lithium unit fitted behind the transmission under the swing arm pivot in a custom made mount.
- Head light is Lucas and headlight mounts are new old stock John Tickle units. Instruments are new old stock 1968 Commando units. Throttle is Barnet twin pull cable unit. Handle bar electric switch unit is new old stock from a 1968 Commando.
- Rear set foot controls are custom made. Kick start crank is recut 1971 Honda.
- Clip on bars are new old stock 1968 Tommaselli cast alloy, clutch control, and lever also new old stock Tommaselli.
- Fuel tank is hand made by local expert with Monza filling cap. Holding strap also custom made. There is a small dent on the front left of the fuel tank.
- Tank Paint is by Black Widow Art. The Norton Logo and pin stripe are hand painted not a decal.
- Mileage of 714 miles is original.

For Sale by Owner

Contact Info

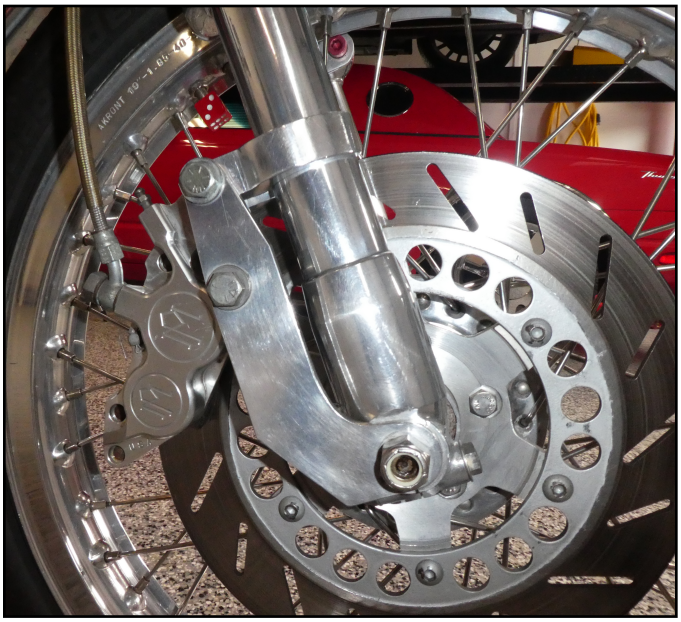
peter@pcmckenna.com


AMPS
MPH
RPM×1000




Norton


Norton




KONI

Field Find: 1963 Norton Electra ES400

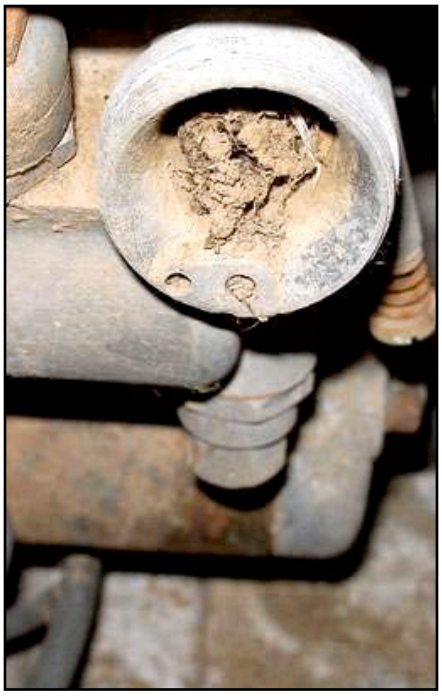
Article by Ian Easton | Photos by Craig Easton | Source: motorcycleclassics.com

1963 Norton Electra ES400

- **Engine: 383cc air-cooled OHV parallel twin, 66mm x 56mm bore and stroke, 7.9:1 compression ratio, 25hp @ 6,800rpm (claimed)**
- **Top speed: 90mph (est.)**
- **Carburetion: Single 7/8in Amal monobloc**
- **Transmission: 4-speed, chain final drive**
- **Electrics: 12v (two 6v in series), coil and breaker points ignition**
- **Frame/wheelbase: Pressed steel with tubular side frames/51.5in (1,308mm)**
- **Suspension: Telescopic forks front, dual shocks w/ adjustable preload rear**
- **Brakes: 8in (203mm) SLS drum front, 7in (178mm) SLS drum rear**
- **Tires: 3 x 19in front, 3.25 x 18in rear**
- **Weight (wet): 350lb (159kg)**
- **Seat height: 32in (813mm)**
- **Fuel capacity/MPG: 3.5gal (13.2ltr)/50mpg (est.)**
- **Price then/now: $789 (1964)/$1,500-$7,000**

My son, Craig, negotiated a deal with the owner and brought it home, where we set to work on it. Decades of exposure to the elements had not been kind to the bike, and had it not been for its relative rarity it would probably have been destined for the scrap pile. Its fate, however, turned when we decided it was worth restoring, even though we knew there was an enormous task ahead of us.

After completing the Yamaha we turned to the Norton. The first thing I discovered about the Electra is that in the sphere of Norton owners and classic bike enthusiasts, when asked about it, the Electra



As it looked just after unloading the bike. Black widow spiders hid throughout, and the carburetor was full of mud.

was almost always met with much derision. Why is that?

Comments are always about the bike being unreliable, both electrically and mechanically, leaking terribly, vibrating too much, and using a built-up frame not typical of a Norton. That does not leave much left to be good about the bike. Its only redeeming value it seemed was that it was fitted with Norton's reputable Roadholder forks and the full-size drum brakes from the bigger models. I was even told at one point to keep the forks and throw the rest away.

These comments didn't typically come from riders with firsthand experience of the Electra, and it made me think that these myths were just being passed down through generations of motorcyclists. To find sympathetic and knowledgeable owners, I looked to the members of the U.K. Norton Owners Club. The Lightweight section of the club's online forum was full of help, guidance and encouragement for the Electra.

Electra development

From 1958 to 1965 Norton produced what became known as its Lightweights, starting with the Jubilee, a 250cc 4-stroke twin. The Jubilee was released to celebrate Norton's 60th anniversary — its diamond jubilee. The plan was to encourage new riders into the Norton fold, who would then step up to the bigger models as they gained experience. It was also meant to capture a share of the affordable get-to-work transportation sector being capitalized on by rival companies such as Triumph and BSA.

1960 saw the introduction of the Navigator, a 350cc version of the same basic engine design as the Jubilee. Handling was improved thanks to the incorporation of Norton's own Roadholder forks and braking was improved with larger, full-width brakes. The frame also saw the addition of two steel reinforcing plates behind the steering head. It could reach 90mph (almost).

At the insistence of the U.S. Norton importer Joe Berliner, the Electra debuted in 1963. The bore was bumped up from the Navigator's 63mm to 66mm and the stroke stretched out from 56mm to 58mm, though the final production version settled for the 56mm stroke. The capacity was now 383cc, which Norton conveniently rounded off to be designated as a 400. This was Norton's first electric start motorcycle, hence the ES designation — and their last until 1975. Electra production ran until August 1965.

The Electra

The Electra's electrics are the first point of interest. It was common for small-capacity bikes of this period to have a 6-volt electrical system, but as some additional juice was needed to cope with the Lucas M3 starter motor and handlebar mounted turn signals a 12-volt positive-ground system was used, but provided by two 6-volt batteries wired in series. One battery sits in a frame-mounted

bracket under the seat, while the second is on the left side of the frame behind the toolbox cover.

By today's standards the electric start system is big, heavy and cumbersome, but it all works. A push of the button on the left handlebar sends power to a car-type solenoid located within the vertical frame channel behind the carburetor. This kicks in and gets the Lucas M3 starter spinning, which turns a single row chain linked to a three-pronged sprag clutch affixed to the left end of the crankshaft, outside of the alternator. The bracketry and mechanisms give the left side cover of the engine its unique shape, making the engine appear to bulge out when viewed from the front.

The Wipac-supplied handlebar switchgear for the left side is a combined high/low beam with a red starter button on top and a black horn button below. The right side has the turn signal switch located next to the choke operating arm. Today's ergonomics would dictate reversing the switches, as you must remove your hand from the throttle to reach the turn signal switch. A 6-inch Wipac headlight attempts to light the way for night riding. Hella turn signals are another unusual feature on the Electra. There are only two, mounted on stalks within the handlebar ends, making them vulnerable to damage. We didn't fit them to our Electra.

Ignition comes from two coils mounted under the gas tank, triggered by two sets of points mounted high on the right side crankcase. They are on separate plates, independently adjustable so that timing can be accurately set for each cylinder.

Even though the Electra engine was based on its smaller predecessors, it shares few common parts. The engine is oversquare, having a 66mm x 56mm bore and stroke. The connecting rods run in plain bearings, with a thin, 7-inch diameter flywheel between the cylinders. You can tell this engine was designed to rev. A pinion gear connected to the crankshaft on the right hand side drives a geared oil pump. Two camshafts are set high in the crankcase, lifting 3-inch-long pushrods to activate the valves. Valve adjustment is by an eccentric cam. Separate cast-iron barrels extend quite far into the crankcase, leaving a relatively short cylinder with five cooling fins. Here's where both of the three-ringed aluminum pistons do all the hard work.

The claimed 25 horsepower finds its way to the rear wheel from the crankshaft driving an eight-plate clutch connected by a single-row chain to the 4-speed gearbox. The right-side foot shifter operates a one-up, three-down gear configuration. Fuel delivery comes from a single 7/8-inch Amal Monobloc carburetor, and the exhaust passes through two single-wall exhaust pipes that are a push fit into the dual aluminum heads.

Holding all this in place is the much-talked-about frame, and after

The frame is assembled from six different parts. From top, the central spine, front with steering head, two reinforcement plates, and the left and right sides.

Power comes from two 6-volt batteries.

disassembling the bike I could understand what all the fuss is about. It is assembled from six different parts: a left and right side; a central spine located behind the engine; a pressed steel front "downtube" incorporating the steering head; plus two reinforcement plates. Five bolts hold it all together. Engine removal required the frame to be loosened up and the bottom bolts removed so that the frame could pivot open, allowing the engine to drop free. There is a lot of room for misalignment and flex.

Due to increased weight in comparison to the Jubilee and Navigator, Norton felt the Electra's wheels and brakes needed to be larger, so it used the setup from the larger Dominator. Up front is an 8-inch single-leading-shoe brake laced to a 19-inch rim, while the back uses a 7-inch single leading shoe brake on an 18-inch rim. The shapely fenders are heavy steel items, chrome-plated for the U.S. market, but painted black for the eventual U.K. market bikes, with chrome being an option.

Our Electra

Our Electra, with matching engine and frame number EL/364, left the factory and was sent to the U.S. around May 1963, making it one of the earliest ones built.

We have no idea what kind of life it had before we got it in February 2013, but we do know that the previous owner left it outside for about 40 years.

The odometer, which looks to be original, reads more than 21,000 miles, so the bike had seen some action before being parked and forgotten. The engine was seized, it was missing the seat, the left exhaust pipe, the inner styling panels, and (coincidentally) it had a Yamaha YR2C front fender — oh, and it was all rusty. It was also a haven for black widow spiders.

After a wash and a photo session, notes were made and a list of needed parts created. Now it was time for disassembly. Surprisingly, despite its outside appearance the tank had only minor rust inside, so we filled it with white vinegar and let it sit for a few days while we worked on the rest of it.

As much of the engine as possible was removed before extracting it from the frame. After removing the head we could see that the left cylinder was badly corroded. The piston wouldn't budge, but after lots of heat and hammering on a steel bar on top of the piston we finally got it loose, but at the price of a cracked cylinder liner. New-old-stock standard size pistons were obtained from the Norton Owners Club and new liners fitted by LA Sleeve.

Everything else in the engine looked remarkably good, except for a small piece of alloy chipped off where the clutch actuating

mechanism sits and holds a large diameter C-clip. Every part was cleaned and inspected. The clutch plates and springs all measured up as new. The gears were all in perfect condition, as was the starter sprag clutch, the primary chain and the starter motor chain. The internals seemed to belie the mileage on the odometer.

New bearings and seals were fitted to the crankcase. A specially ground bearing, unique to the Electra, is required for the timing side. Failure to fit this bearing will result in lubrication problems and premature wear on the crankshaft. New bearing shells were fitted to the connecting rods, as well as new pistons and rings. Despite the cylinders being one casting, the cylinder head is two separate pieces. The left exhaust valve, which had sat open exposing the cylinder internals, had to be replaced. All the joint surfaces, especially the heads, had to be surfaced, and for this we ground them over oiled wet/dry sandpaper on a flat surface. It would have leaked terribly if we hadn't done this. The carburetor, which was full of mud, cleaned up well, and for peace of mind we installed a new set of jets.

The frame was probably the hardest thing to get apart, as some of the bolts had rusted inside the steel spacer tubes under the seat. A replacement seat was found and a new cover and foam fitted after repairing the base, which had split and buckled. A hard-to-find front fender was located and sent with all the other chrome bits to El Monte Plating in El Monte, California, to bring back their former luster. A new rim was found for the front wheel, and the spokes were all tin/zinc plated at home.

Assembly was easy, but the procedure was a little different than that for a "normal" framed bike. On the Electra, the frame is bolted piece by piece to the engine, with the advantage that you don't have to lift a heavy engine into the frame. The forks were rebuilt with new stanchions, again supplied from NOC. We managed to save most of the original wiring harness, as it had been tucked away and protected all those years. The original high handlebars were discarded in favor of the lower U.K. type.

As he did with the Yamaha, Craig painted the bodywork. We picked a shade of silver (the bike was originally red) we thought close enough to Norton's original silver, topped by four coats of two-pack clear coat. We are very happy with the results.

And the verdict is?

Well, having spent so much time on this bike and having looked at it from every possible angle, I've come to the conclusion that it's quite an attractive bike. It's very compact and looks well balanced. The engine cases have fine curves to them that seem to just flow together. Like all

bikes, it has its quirks, but overall it's really nice to look at.

Time to try it out: Turn on the fuel, tickle the carb until you see fuel seep past the button, turn the headlamp mounted ignition key on, see the ammeter flicker, then give the kickstarter more of a push through rather than a kick. One or two prods and it burbles into life. The exhaust note gives the impression that it's a much bigger engine than it is. Sitting astride the comfortable seat the controls are a bit of a stretch. Pulling the clutch lever in takes a bit of effort while the right side foot lever has to be lifted a long way before a satisfying click is heard as first gear is engaged. As you pull away you can tell the bike wants to rev, but it also has plenty of low-down torque, so low speeds in upper gears are manageable without any snatching from the clutch.

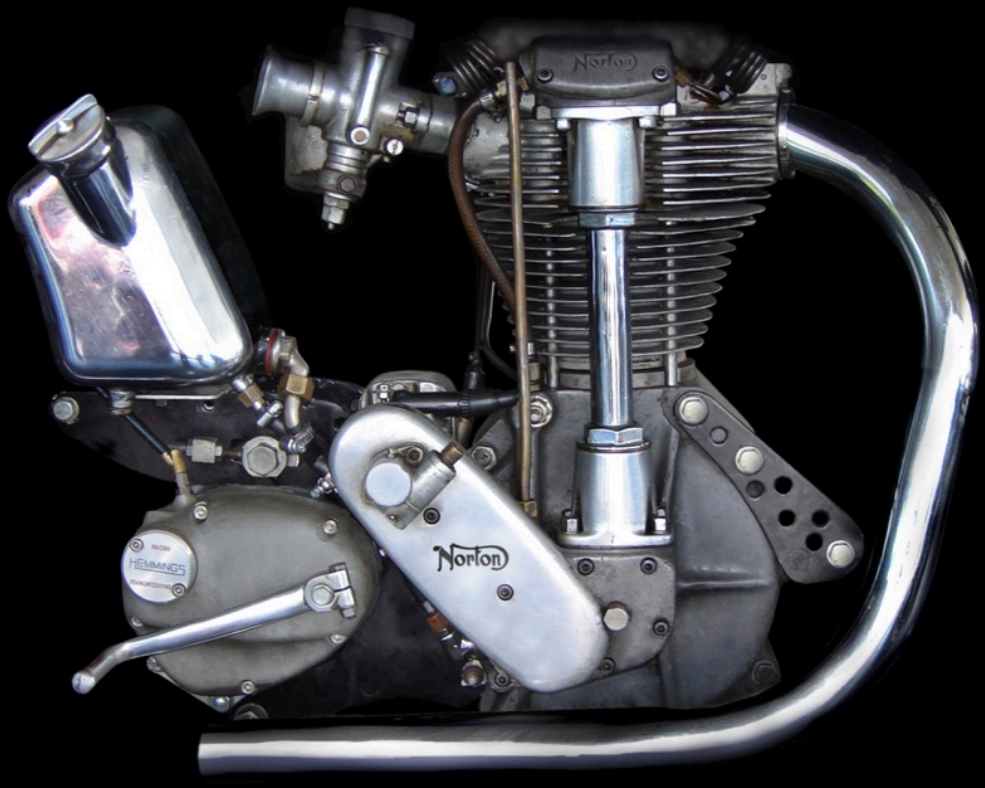
Gearshifts are smooth, and riding at an indicated 50mph brings a slight buzz to the handlebars. Acceleration isn't fast, but it is good enough to stay up with city traffic. Handling is surprisingly good. It seems to carry its weight down low and feels quite planted in the curves. Rolling from side to side doesn't take much effort at all. As for the brakes, I know they should be good, but for the moment I think they need some bedding in and more adjustment as they are brand new and a little weak.

As for oil leaks, there's a little bit of misting from the valve covers and there's a minor drip from the filter cover. But this is a newly built engine so some retorquing needs to be done. Despite the naysayers, Craig and I have found the Electra to be good looking. It handles well, runs well, sounds great and generates lots of interest. As for reliability, only time will tell, but I think that will come down to a regular maintenance regimen.

The biggest thrill of all though was the day Craig and I had the Norton and the Yamaha out on the road side by side. It was a bit emotional thinking of the past they had both shared, and now here they were again doing what they were designed to do — being out on the road. We accelerated past each other over and over, enjoying the sounds of an old 2-stroke and an old 4-stroke. We looked at each other and smiled. It's been a long journey, but certainly worth the trip.

Artwork by Gordon Calder

https://www.flickr.com/photos/gordoncalder

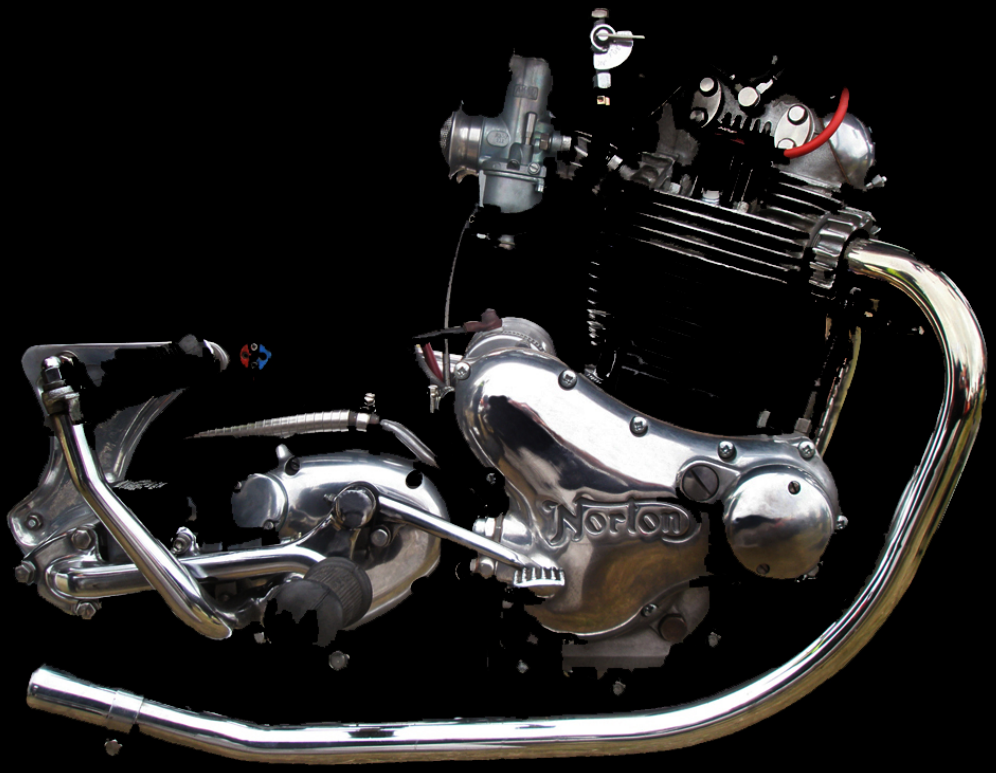


CLASSIC NORTON INTERNATIONAL MOTORCYCLE ENGINE

CLASSIC NORTON DOMINATOR MOTORCYCLE ENGINE

Artwork by Gordon Calder

https://www.flickr.com/photos/gordoncalder



CLASSIC NORTON COMMANDO 850 MOTORCYCLE

PROTOTYPE NORTON P800 (DOHC 800cc) ENGINE - 1965

A BRIEF HISTORY OF THE NORTON P11, P11A, AND RANGER EVERYTHING YOU NEED TO KNOW

By Jon Branch | Picture Credits: Norton Villiers, Mecum Auctions | Source: silodrome.com

The idea for the motorcycle that would become the Norton P11 began in 1966 with Southern California Norton distributor Bob Blair who reasoned that if you took a Matchless G85 CS (Competition Scrambles) frame and squeezed a Norton Atlas 750cc parallel twin engine into it then you might just have a **"desert sled"** type of bike that would be able to beat the seemingly unbeatable BSA Hornet and Triumph TR6C.

The Matchless G85 CS frame was made using Reynolds 531 tubing, a manganese–molybdenum, medium-carbon steel alloy, which was the class leader for use in racing cars, motorcycles, and competition bicycles as well as having uses in aircraft construction.

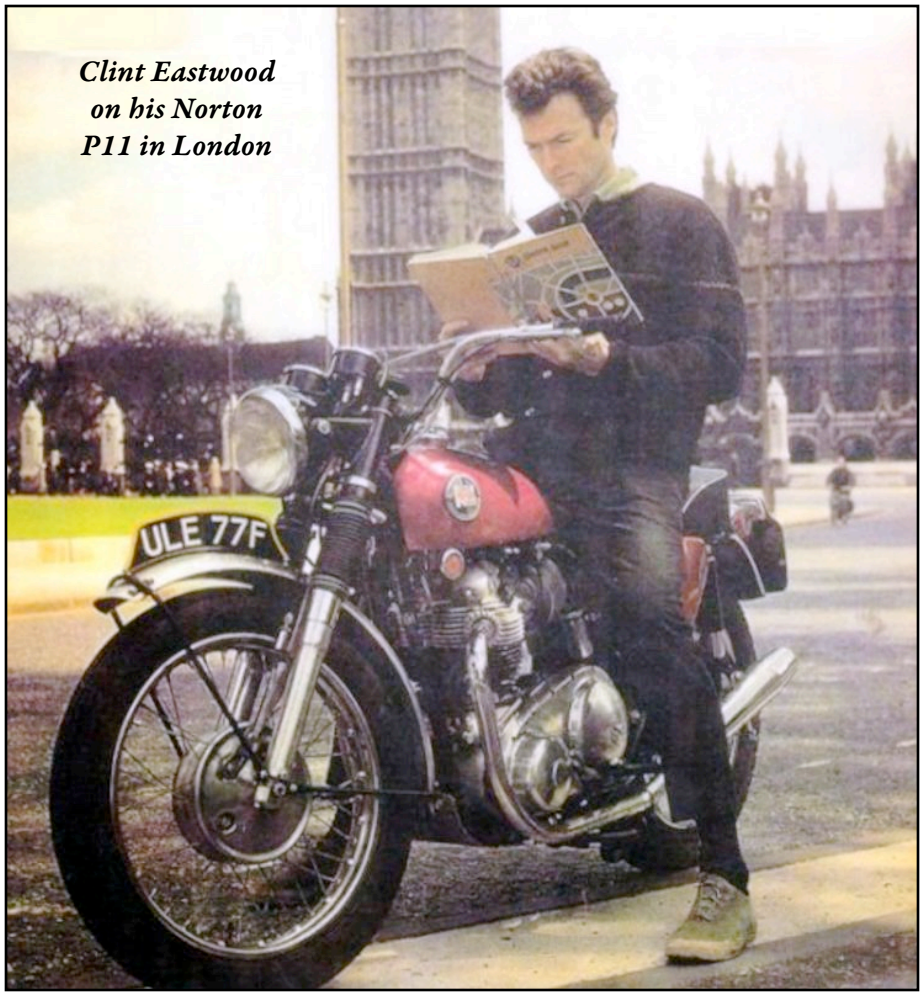
Bob Blair was the proprietor of ZDS Motors, Glendale, California, who were a US West Coast distributor for the motorcycle lines of Berliner Motor Corporation. Bob suggested his idea to Joseph Berliner, whose Berliner Motor Company had become the sole distributor for Norton in 1961.

Joe was not impressed, he did not think it could be done and he wasn't willing to give it a try, he just didn't think it was worth it, but he said that if Bob wanted to build one he could go ahead and build a prototype himself.

Bob Blair still believed it was worth it and so he discussed this with ZDS Motors fabricator Steve Zabaro. Steve Zabaro was enthusiastic, so enthusiastic that he donated his own slightly crashed Matchless G85 CS as the base bike. Steve Blair extracted the engine from a new still in the crate Norton N15 and the two put in the workshop time to make the project happen.

Joe Berliner had been right in his assertion that the project would require a lot of effort, Bob and Steve understood that when they took the task on. They had to fabricate an alloy adapter plate to join the 750cc engine with the AMC four speed gearbox.

To ensure correct chain alignment for the final drive a system of frame spacers/distance pieces was created. The magnesium rear hub of the G85 CS was retained as were the front Teledraulic forks, wheels, handlebars and seat. A custom fabricated oil tank was made, as was a custom high mounted exhaust system.



Clint Eastwood on his Norton P11 in London

The completed custom bike had taken three weeks to create and it showed great promise in test riding: but the next step was to get the bike into the hands of a seasoned desert racer and see if he thought the bike was a viable competition, and perhaps commercial concern.

Bob Blair put the prototype bike into the hands of Mike Patrick, and he with friend Tom "Tiny" Maxwell took the bike out into the desert to, in Mike's own words *"run the crap out of it"*.

Mike was nursing a sore shoulder from a crash and although he tried to race it for a while the pain barrier turned out not to be one he would push through. But Mike was very impressed with the bike and when he returned it to Bob Blair he told him to make sure the guys in England did not change anything, it was good to go just as it was.

THE "CHEETAH" BECOMES THE NORTON P11

Not knowing if the folks at AMC (Associated Motor Cycles) would even be willing to build the motorcycle he wanted Bob Blair sent the prototype across the pond to England to see if they would indeed put the model into production.

He and Seattle ZDS distributor Bob Budschat and the son of Joe Berliner, Mike Berliner displayed the prototype "Project 11" at the London, Earls Court, trade show of 1966 where it was seen by the new owner of Norton Villiers, Mr. Dennis Poore. The result was that the decision was taken to get the bike into production for 1967.

Bob Blair suggested to the AMC boys that nothing should be changed but, boys will be boys, and the boys at Norton in Britain could not resist making a few subtle improvements. Oftentimes when people do that it turns out for the worse, but in this case the improvements were really improvements.

The magneto ignition of the prototype was replaced with a twin coil capacitor system, the monobloc carburetor of the prototype was replaced with twin Amal Concentric carburetors, an alloy sump guard was added to ensure that the vulnerable bottom of the engine and transmission had some protection against destructive encounters of the rock kind, and

both a tachometer and speedometer were added so that the Americans would really know just how fast they were going. Happily the nice English people at Norton were happy to put the bike into production and the bikes made their way to the United States to do battle with their arch rival "desert sleds", the BSA Hornet and Triumph TR6C.

The British had initially intended to call the new bike the "Cheetah 45" but its in-house project name had been "Project 11", and ultimately this was simply shortened to "P11". At Norton in Woolwich, London, the P11's were manufactured as parts bin specials with the intention that Norton could convert some of its inventory of spare parts into nice crisp banknotes.

Once it had been studied by Norton Villiers the prototype bike was returned to ZDS in the United States and was subsequently acquired by motorcycle parts business Domi Racer, of Cincinnati, Ohio, when ZDS went out of business.

They in turn sold it to a gentleman who resides near London in Britain, and the bike is thought to be still in his care.

THE P11 PROVES TO BE AN "ARSE KICKER"

It was in 1967 that the first of the production P11 bikes (Number 121013) arrived at ZDS and was taken by Mike Patrick who modified it according to his tastes and took it racing for the 1968 competition year.

Customers initially did not pour into Bob Blair's ZDS Motors to exchange nice crisp US dollar banknotes for Norton P11's however. The P11 was quite expensive priced at USD$1,339.00, and Norton was a less well-known brand in the world of off-road racing.

The P11 would need to establish a reputation for itself before sales could be expected to boom.

Mike Patrick was the guy whose Norton P11 was hoped to establish that "street cred" and indeed he won the Heavyweight Championship in 1968. The competition successes of the P11 served to boost sales but that was however to be the last victory on the P11 because by the following year lightweight two stroke

machines would come to dominate and the days of the Norton P11's dominance were swiftly brought to an end.

Mike won the Lightweight Championships in 1969 and 1970 on a Yamaha 250cc.

Mike was riding against some of the greats of desert racing of that period including the likes of Bud and Dave Ekins, and a guy with the unlikely name of "Harvey Mushman", who in reality was Steve McQueen but he had to race under a pseudonym as his Hollywood studio had forbidden him from motorcycle racing.

For Steve McQueen the word "forbidden" simply meant being discreet about his desert racing hobby.

Mike Patrick had fallen in love with the P11 however and said of it "Nothing is, or ever will be, a match for the big Norton sailing across the desert."

THE NORTON P11A AND THE NORTON RANGER

In 1968 the P11 was superseded by the Norton P11A, a bike with a somewhat different set of qualities. The P11A was made as a road going motorcycle having a more comfortable seat. This bike was heavier, and had low mounted tapered street type exhaust pipes fitted with removable end-caps and baffles.

The Norton P11A Ranger appeared in 1969 and this was even more a street bike, and was also made as a "parts bin special" which resulted in the specification changing during production to use up the parts that remained in the bin.

This meant that the model was made with no less than four different styles of oil tank, two of which were alloy and two of steel. Fuel tanks were either 3.6 gallon or 2.2 gallon. Forks, frames and handlebars progressively changed as did the ignition systems, with two different types being fitted.

By the time the last of the P11A Rangers were being produced the Norton Commando was in production and so late model Rangers were fitted with cylinder heads made with Commando castings.

The final iteration of the P11A Ranger was the Norton Ranger 750 which featured strengthened side stand mounting brackets, and a brake light operated by the front brake. This model had a "Ranger 750" decal on the oil tank and battery cover.

The P11A Ranger was no slouch in the performance department as evidenced by the 1970 performance of Leo Goff who set a number of drag racing records including an 11.58 second quarter mile with a finishing speed of 118mph.

CONCLUSION

The Norton P11 was a star that shone all too briefly. It established itself as a desert sled that was enormously enjoyable to ride, and as a bike with a truckload of British Norton personality.

Nowadays the original bikes are collector's items but if someone wants to obtain an original it is necessary to check the bike's providence thoroughly, and this is not a particularly easy thing to do as there is some debate over frame numbers and other parts fitted to the original machines.

Not only that but given that the original P11 was built as a competition machine it is to be expected that they will have been modified, or that people have constructed their own version based on whatever happened to be available in their own personal parts bin.

But if you are looking for a bike that delivers the riding experience of which Mike Patrick tells us "Nothing is, or ever will be, a match for the big Norton sailing across the desert." then a P11, either original or reconstructed, is likely to be the bike for you.

NORTON P11, P11A, AND RANGER SPECIFICATIONS

- Engine: 745cc Atlas OHV vertical twin cylinder air cooled. Compression ratio 7.5:1. Carburetors, Twin 1⅛" Amal Monobloc. Ignition, Lucas K2F magneto. Power 54hp @ 6,400rpm.
- Fuel tank: 2.7 US gallons
- Transmission: Four speed AMC with chain final drive.
- Frame: Modified Matchless G85 CS dual down-tube Reynolds 531 alloy steel tubing cradle frame.
- Suspension: Front forks, dual Teledraulic. Rear, dual Girling shocks with adjustable pre-load.
- Wheels: Front, Akront WM2-19″ with 7″ SLS drum brake with fins removed. Rear, WM3-18″ steel rim with 8″ SLS G50 magnesium hub.
- Tires: Front, 3.5×19″. Rear, 4×18″.
- Seat height: 32.75″
- Weight (dry): 345lb

1962
NORTON MANX


Norton
McINTOSH
RIDING.CO.NZ
AVON
5

Colin Kelly's 1967 Norton 750 Atlas.

The Final Featherbed: 1967 Norton Atlas

Article and photos by Robert Smith | Source: motorcycleclassics.com

1967 Norton Atlas

- Claimed power: 49hp @ 6,800rpm
- Top speed: 110mph
- Engine: 745cc air-cooled OHV parallel twin, 73mm x 89mm bore and stroke, 7.6:1 compression ratio
- Weight (dry): 395lb (180kg)
- Fuel capacity: 3.2gal (12ltr)
- Price then/now: $1,050(est.) / $4,000-$12,000

Not many production motorcycles are notable for the frames they use.

Apart from Norton's famous double-cradle frame from 1950, I can think of only Lino Tonti's long-running design for Moto Guzzi and Miguel Angel Galluzzi's trellis frame for the Ducati Monster as defining each model. (Though Philip Vincent's Series B, which had no frame at all, certainly warrants a mention!) But perhaps only the Featherbed has achieved legendary status.

The Featherbed

It's a well-known story, but it bears repeating. During World War II, Cromie McCandless and his brother Rex owned an engineering company in Belfast, Northern Ireland. Rex was also one of the best known and most successful motorcycle racers in Ireland, but was dissatisfied with the lack of suspension in the rigid-rear frames fitted to most motorcycles at the time. Thinking that motorcycle frame design had been left behind by the increases in engine power, McCandless designed a rear subframe that incorporated a swingarm and spring/damper units from a Citroen car. He fitted it to his race bike, and it worked. Before long, competitors started inquiring about his rear frame. After partnering with fellow racer Artie Bell, McCandless began offering conversion kits and modifying frames for other riders.

In the early postwar years, reports of the McCandless conversion and its racing successes reached the mainland, eventually attracting the attention of Norton's managing director, Bill Mansell. Working under contract to Norton, McCandless was able to devote his time to developing a new frame for the Norton Manx to replace the unstable and crack-prone "Garden Gate" plunger frame. What McCandless came up with was an elegant dual-cradle, steel tube frame in which two continuous loops encircled the engine with ample triangulation at the head stock. It was light, rigid and strong, and with McCandless' rear suspension and Norton's own Roadholder fork

fitted, it provided outstanding handling.

Successful testing was carried out at the Montlhery circuit in France and at the Motor Industry Research Association's test track in England. It was at the Silverstone track in 1950 that works racer Harold Daniell made the now famous comment that the new McCandless Manx was like riding on a "feather-bed." The name stuck.

The racing Featherbed frames were rather special, being made up from Reynolds 531 high-tensile tubing that was SIF-bronze welded. When the Featherbed was introduced on production machines it was made from mild steel, with the rear section bolted in place. But the Featherbed frame endured for close to 20 years on numerous Norton models with only two major changes: from the "wideline" design, which used straight tubes for the top frame rails, to the "slimline," in which the top tubes were necked in at the front of the seat for a more comfortable ride; and from the bolted-on rear section to a fully welded frame.

The twins

The first street Norton to get the new frame was the Dominator 88 500cc twin, developed from the plunger-framed Model 7. However, the Featherbed frame, which was always manufactured at Reynolds under the supervision of frame guru Ken Sprayson, was much more expensive to make than the Model 7's, so only export markets (especially the U.S.) got the new frame at first.

The Dominator 88's engine was essentially Bert Hopwood's 1949 overhead valve parallel twin, with a 66mm bore and 72.6mm stroke and modest 6.7:1 compression. Fed

by a single 1-inch Amal carburetor, the 88 produced 29.5 horsepower at 7,000rpm and was good for 92mph. The cylinder block and cylinder head were each single castings in iron. The crankshaft was built up from two separate halves bolted together through a central flywheel and running on a drive-side roller and timing side ball bearings. The light alloy connecting rods had split big-end caps with plain bearings. The single camshaft was located at the front of the engine with chain drive from a half-time gear. The hemi-heads were arranged with parallel intake tracts and widely splayed exhausts for better cooling. Drive to the Norton/Sturmey-Archer 4-speed gearbox was via a single chain and multiplate clutch.

The 88 garnered high praise from testers, especially for its handling, comfort and sharper performance than the Model 7 because of its lighter weight. But that didn't prevent Norton running into financial problems, and in 1952 Associated Motor Cycles bought the company. Initially, not much changed except that Norton no longer fielded a full Grand Prix team. The 88 benefited from a larger 8-inch front brake in 1954, and a light alloy cylinder head and an Amal Monobloc carburetor in 1955, when it was joined by the Dominator 99. This used a 596cc engine with dimensions of 68mm x 82mm. With a 7.4:1 compression ratio and 1-1/16-inch Monobloc carb, the 99 produced 31 horsepower at 5,750rpm and would top 100mph. In 1956, the gearbox of both models was changed to the AMC type and an improved clutch was installed.

1960 saw the introduction of semi-enclosed "de luxe" versions of the 88 and 99 (a fashion of the time, like Triumph's "bathtub" enclosures), while the Featherbed frame was modified to improve ergonomics by bringing the top tubes closer together at the front of the seat (the "slimline").

It was likely the arrival of Triumph's Bonneville 650 in 1959 that prompted Norton's next move. While the 99 had been close to the Tiger 110 in performance, the new T120's 46 horsepower gave it a significant edge. So for 1961

Norton presented super sport "SS" versions of the 88 and 99, with new downdraft-intake cylinder heads, dual Amal Monobloc carbs and higher compression (8.5:1 and 8.25:1, respectively) for 36 horsepower at 7,000rpm and 44 horsepower at 6,750. The 600cc 99SS lasted just one year before it was replaced by a full 650cc sports machine, the 650SS. The extra capacity was obtained by lengthening the stroke to 89mm, a dimension that would remain in all production Norton twins until the last Commando. Fitted with dual 1-1/16 Amal Monoblocs and 8.9:1 compression, the 650SS claimed 49 horsepower at 6,800rpm. Road testing gave top speeds of over 100mph for the 88SS, 108mph for the 99SS and approaching 120mph for the 650SS.

Enter the Atlas

Also new in the 1961 lineup was an even larger version of the twin, using the same 89mm stroke as the 650SS but with the bore enlarged to 73mm for 745cc. The Atlas was intended for the U.S. market, so it was tuned for a broad powerband rather than outright power. Piston crowns were dished to reduce compression to 7.6:1, and with its single 1-1/8 Monobloc carb the Atlas produced 49 horsepower at 6,800rpm, the same as the 650SS, but in a more relaxed manner. Other differences between the 650SS and the export Atlas included a smaller capacity 3.2-gallon (U.S.) gas tank, high handlebars, chrome fenders and fatter tires; 3.25 x 19 inches and 4 x 18 inches on the Atlas instead of 3 and 3.5 x 19 inches on the 650SS.

In 1962, AMC closed Norton's old Bracebridge Street premises in Birmingham, moving production to the Plumstead, London, factory that originally housed Matchless. The Matchless influence manifested itself through the 1960s in a range of hybrid machines using the Atlas engine in AMC running gear — but that's a whole other story. Further rationalization of the large capacity Norton range followed, leaving just the 650SS (voted Machine of the Year by Motor Cycle News readers in 1963 and 1964) and Dominator 88SS in the home market range. The Atlas continued for export only — until 1964.

The U.K. market Atlas was different from the export model, with dual Amal Monobloc carbs, a larger gas tank, and flat handlebars. It was finished in black and chrome like the 650SS. All Atlases now had 12-volt alternator electrics, but retained magneto ignition (though battery-optional capacitive discharge coil ignition was introduced in 1967). Testers at Motor Cycle News enjoyed the relaxed cruising at highway speeds offered by the big twin, but they also noted intrusive vibration above 4,500rpm. The Motor Cycle News' tester liked the top speed of around 110mph, with fuel consumption of close to 40mpg (U.S.), but they also noted vibration around 5,000rpm, although the bike's tall gearing meant this wasn't an issue at cruising speeds.

It wasn't Norton's motorcycles that were making the news in 1966, though. AMC went into receivership and was purchased by Villiers Engineering parent company Manganese-Bronze, the new motorcycle pision operating as Norton-Villiers. It was the end of the James and Francis-Barnett marques, though Matchless- and AJS-badged machines with Norton engines continued into 1968. By that time there were just two Nortons left on sale with the Featherbed frame: the Atlas and a single-carburetor 650cc machine, the Mercury. And there was a new kid on the block, still using what was essentially the Atlas engine, but in a completely new spine frame with rubber engine mounts: the Commando.

Colin Kelly's Atlas

Colin Kelly is a dedicated fan of Norton Featherbed twins. A few years back, he rode a 650 Mercury across Canada from Vancouver to Toronto on his way back to his native England. Now settled back

in British Columbia, Kelly has built a reputation for concours level Commando restorations — but he had never tackled an Atlas. Three years ago, Kelly was able to trade a Commando project bike for a 1967 Atlas that had been parked outside in the Pacific Northwest's wet climate and allowed to deteriorate. On the front fender was a decal, "Port Alberni Toy Run 1993." Kelly remembered taking part in the same ride and seeing the Atlas, which was then in mint condition, with the gas tank painted in British Racing Green. It was "a little different to the sad-looking rusty heap that I now had," Kelly says.

The good news is it was an all matching number bike (frame, engine and gearbox), making it the perfect base for a restoration. Even better, when stripping the engine, Kelly found the original dished low-compression pistons running in cylinders that had never been rebored. The crankshaft journals were also stock size, so Kelly concluded it had relatively low miles. On the downside, the primary chain had let go at some time, making a mess of the case, and the sheet metal parts were in rough shape. But the chassis, fork, wheels and gearbox were in good condition. Kelly decided he could build a concours-winning Atlas from the 1967 model, using donor parts from a basket case 1966 Atlas and a crashed 1968 Mercury. "I find that because of the Atlas' bad reputation (for vibration), very few are built to this standard," Kelly says.

He set to getting parts powder coated and chromed, and degreased the engine and gearbox. After inspection, the cylinder head was bead blasted and the engine and gearbox cases were cleaned with

bronze wool to preserve the sandcast finish.

Kelly was also able to re-use the stock dished pistons after honing the cylinder bores and fitting new piston rings. And he had on the shelf a brand-new set of Jones chrome wheel rims (Dunlop and Jones supplied most of the wheel rims used on British motorcycles up to the 1970s). 1967 was a crossover year for the Atlas, and while Kelly's '67 retained its original Lucas K2F magneto and Amal Monobloc carburetors, Kelly opted to go for the late-1967 model year battery/coil ignition setup, and fitted new Amal Premier Concentric carbs.

"Strictly speaking, the gas tank should be cherry red for 1967," Kelly says. "Black was an option for 1966. l wanted the bike to stand out and be different, so I went for black." The Commando-style twin-leading-shoe front brake was also an option for the 1967 Atlas. "I now had a growing pile of mint Norton parts ready for assembly," Kelly says. "l was very careful with attention to detail with small things, like using brass ferrules instead of screw clips for the rubber oil and gas lines." Among the more difficult parts to find were the 1-5/8 inch exhaust headers. Kelly bought the last stock pair at RGM Norton in Cumbria, U.K. (rgmnorton.co.uk) "I had the bike on its wheels in late January 2017," Kelly says. "Now I had a running machine. The dished pistons were a real plus. The lower compression gives the engine a lazy feel and it pulls strongly from 2,000rpm without laboring. This definitely counters the infamous Atlas vibrations, which are still there as the revs increase, but feel a lot tamer. As far as l know the dished pistons are not available from any parts supplier." Most Atlas restorers are stuck with using the flat-top Commando pistons, which work perfectly but have higher compression — which increases engine vibration.

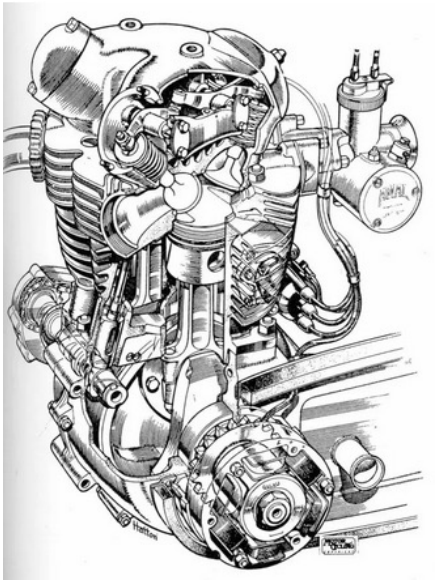
Kelly's Atlas won both Best in Show and Peoples' Choice awards at the Classic & Vintage Motorcycle Show 'n Shine in Cloverdale, B.C., in April 2017, and Kelly plans to show the Atlas at the International Norton Owners Association rally in Washington state in 2018.

Falloon's Favourites: Norton 650 SS

By Ian Falloon | Source: infomoto.com.au

For many enthusiasts, the Norton 650 SS remains the definitive sporting Norton twin. Combining the legendary Featherbed frame with a classic 650cc British parallel twin resulted in a masterpiece...

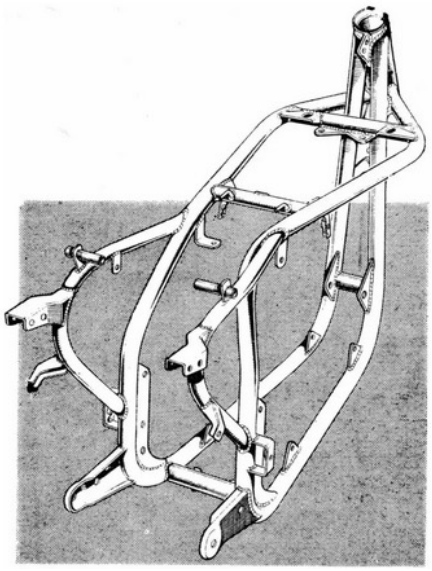
One of the most influential of all motorcycle frame designs was Rex McCandless' "Featherbed" frame.



This double cradle design comprised two complete tubular loops that crossed at the steering head. When it appeared in the works Manx Norton single cylinder racers during 1950 it immediately set a new standard for handling and road holding.

So comfortable was the ride that racer Harold Daniel dubbed it the "Featherbed". With the Featherbed Manx, Norton went on to win several World Championships and TTs, and the Norton name became associated with excellent handling. Soon the Featherbed spawned copies and replicas by other manufacturers, even the Japanese, this lasting well into the 1970s. **But Norton had it first.**

The success of the racing Manx during 1951 saw customers clamouring for a production street twin with the new Featherbed frame. This appeared as the 500cc Model 88 Dominator de-luxe for the 1952 season. By 1956 the range was expanded to include the 600cc Model 99 and for 1961 there was a new 646cc version, listed as the Manxman, primarily for the US market. Then for 1962 Norton released their definitive 650 twin, the sporting 650 SS (super sports or sports special).



Powering the 650 SS was a parallel twin developed from Norton's first Model 7. Designed by Bert Hopwood in 1948 to counter Triumph's now decade old Speed Twin, the 500cc Model 7 was also a 360-degree twin with vertically split crankcases.

Unlike the Triumph, Norton's twin had a single camshaft, positioned in front of the engine, but the two overhead valves per cylinder were still operated by pushrods and rockers. The Model 7 was a long stroke design and as it grew in capacity this characteristic remained. The new 650 retained the 68mm bore of the 597cc Dominator 99, but new crankcases and crankshaft saw the stroke increase from 82 to 89mm.

The crankshaft included a wider flywheel and larger, 44.5mm, diameter crankpins. The 650 SS also featured a downdraft cylinder head with larger inlet tracts, polished ports, and twin 27mm Amal Monobloc carburettors. Providing further performance over the standard 650 was a Manxman camshaft while a Lucas magneto rather than coil ignition provided the spark.

The electrical system was still a weak 6-volt and the AMC gearbox only four-speed. With an 8.9:1 compression ratio the 650 SS put out a claimed 49 horsepower at 6,800 rpm. This was enough for a maximum speed of nearly 190 km/h, if you could survive the rather excessive vibration.

The Featherbed frame used on the production models differed to the racing Manx versions in that it was constructed of mild steel tubing rather than the more exotic Reynolds chrome moly. During 1955 it adopted a welded rear subframe and a braced steering head, and from 1960 was narrowed at the top to allow for a slimmer tank and seat. This was known as the slimline (as opposed to the wideline).

Combined with a firmly damped Norton Roadholder fork and a pair of Girling shock absorbers, the handling for the day was exemplary. The 650 SS rolled on a pair of 19-inch wheels and stopped courtesy of a pair of full width drum brakes.

Compact, low, and functional, Norton finally hit the nail on the head with the 650 SS. Coinciding with the height of the rocker era, at around 180kg the 650 SS weighed little more than a 500 twin. Norton 650 SSs were extremely successful production racers, winning the Thruxton 500-mile production race from 1962 through until 1964. Future World Champion Phil Read teamed with Brian Setchell to win in 1962 and 1963, Setchell winning with Derek Woodman in 1964.

Over the years Norton company changed hands several times. They were absorbed by AMC in 1953 and became Norton-Villiers in 1966. The final gasp for Norton was the merging with Triumph before that also went into receivership in 1975. During this time the 650 twin was continually developed.

The 650 SS gained 12-volt electrics in 1964 and Amal Concentric carburettors in 1966, and in response to American requests the engine was enlarged for the 750cc Atlas that first appeared in 1964. Over the next two years interchanging of components saw Norton Atlas engines in Matchless frames and Matchless singles in Norton frames. None of this could stave off the inevitable collapse and eventually out of AMC's ashes came the Norton Commando. But despite the Commando's success, for many enthusiasts the 650 SS remains the definitive sporting Norton twin.

Jeff Duval the founder of Jets Forever, assembled a team of the world's very best and together they've produced this incredible Norton Commando MkIV-R 900, and it is as beautiful as it is fast.


Norton

1970 NYC Norton's Commando S-type racer

By Chris Hunter | Source: BikeExiff

If there's anything we love more than a classic racebike, it's one with a good story behind it. And this gleaming Commando 'S' Roadster from NYC Norton comes with a very unusual history indeed.

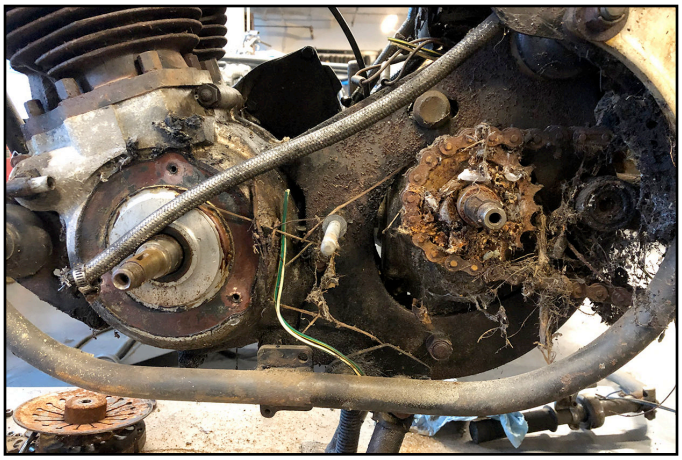
NYC Norton is run by the affable and knowledgeable Kenny Cummings. He knows his way around a racetrack as well as old Brit iron, and he's pretty much seen it all. But the manner in which this S-type arrived in his shop still caused his eyebrows to lift a notch.

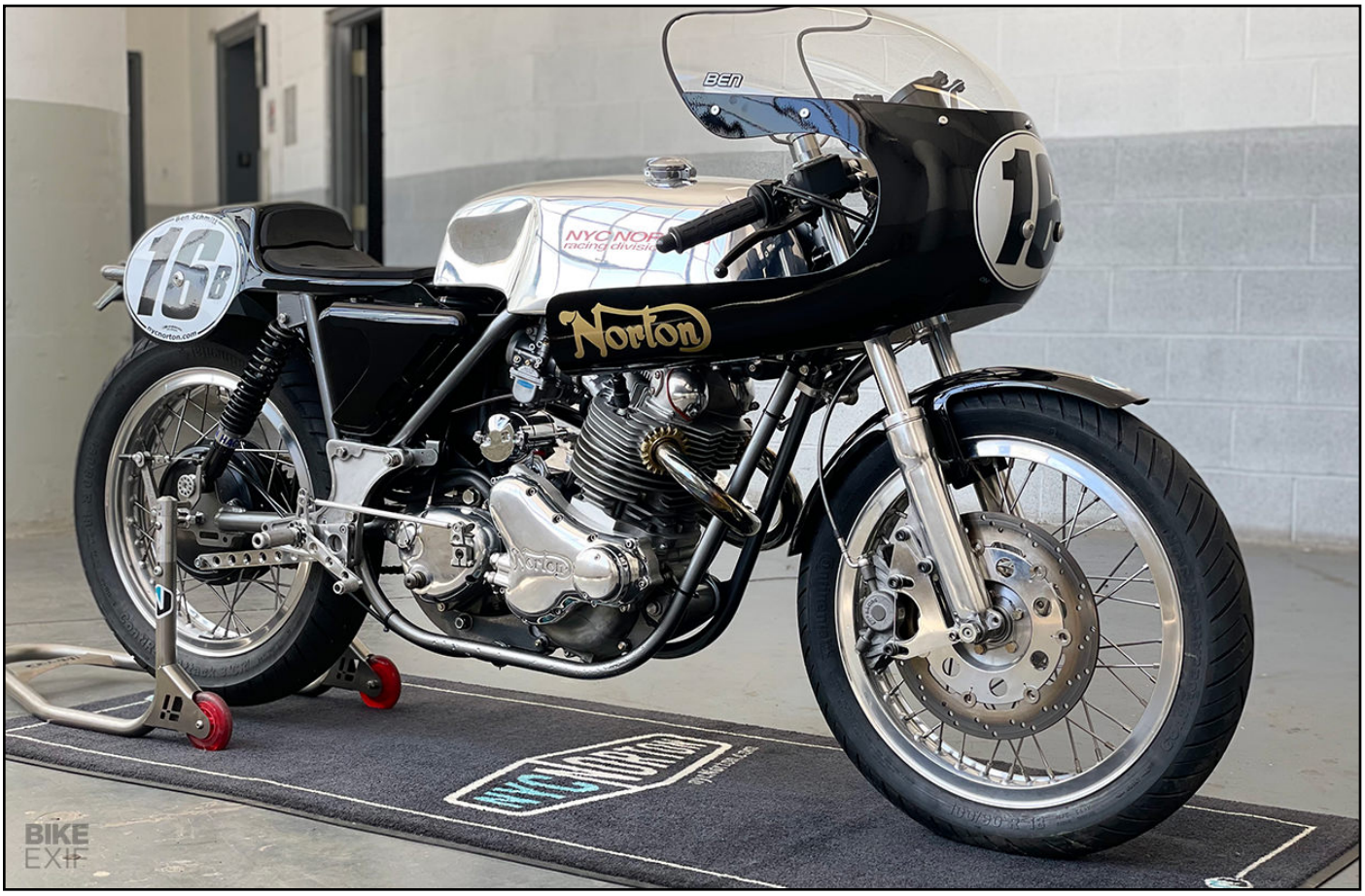
"We often get enquiries from folks with old Nortons who don't know what to do with them," says Kenny. *"Either they had put a bike away, years ago, and forgot about it or they inherited one." - "The first question is always, 'What would it cost to get it running?' The next is, 'What's it worth, as is?'"*

A few years ago, Kenny received an email from a woman who identified herself as 'Tina.' She had a Norton she wanted to sell. *"I asked her to send photos, and I received some pictures from a woman with a different name—which looked as if they'd been taken with a flip phone in 1999. A bit suspect..."*

The bike was intact, as far as Kenny could tell, but was very grubby. It had most likely started life as a 1970 S-Type. Then he got a call from a 'Tina-Lina.'

"This was not a typical shop call. She spoke in whispery, hushed tones, and told me that the bike had belonged to her dear deceased husband. It had been languishing in her New Jersey backyard for many years, but she had the old registration and it seemed legit—albeit not entirely of this earth."





Kenny arranged to meet and when he arrived at the address, the door was opened by a petite woman with big hair, a long sparkly dress, and lace-up sandals. She led Kenny to her backyard, where the bike was lying on its side with weeds growing through it.

"As I walked up to this sad sight, her neighbor came hobbling over, wanting to be part of the action," Kenny recalls. *"Tina revealed that he was looking for cash to help load the bike in the van."* The same neighbor had tried to move the bike a couple of years earlier, by tying it to his pickup truck and dragging it across the yard, breaking off bars and bodywork in the process.

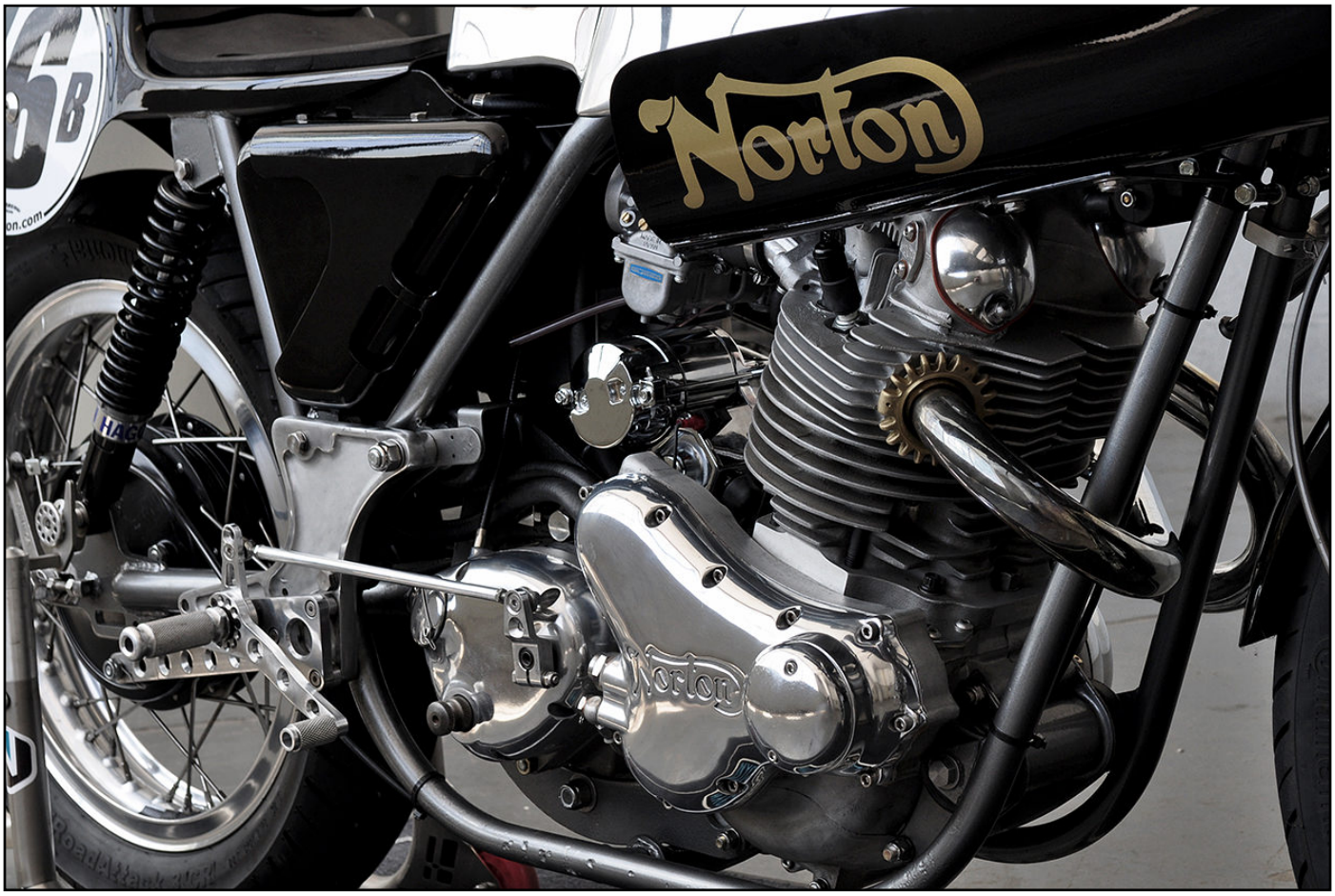
"I started to fear that I wasn't going to get out alive," Kenny says. *"And the bike wasn't moving—the brake shoes were frozen to the drums, rusty water was leaking from the gearbox, and the entire machine was covered in oil, dirt, and bugs."*

Kenny gave Neighbor Man some cash and they dead-lifted the bike into the back of the NYC Norton van. *"I immediately hosed it down with Brakleen to kill as many parasites as possible and not infest the rig."*

Kenny paid Tina cash for the bike, and she was pleased. Spirits were high. But as he was about to leave, she asked why he hadn't asked for her autograph. She explained that she was the most famous Tina Turner impersonator in the world. *"How could I not know? I had her sign the bill of sale and snapped a selfie for proof."*

Back at the workshop, the NYC Norton crew hosed the bike down with even more toxic solvents, to eliminate any remaining living creatures that might still infest the works. Then it made its home in the corner, where it would await its day.

That day came last year, via a call from a Kansas City man named Ben Schmitt. Ben had raced with AHRMA several years earlier, and wanted a clean slate for getting back on the track. He liked the concept of an NYC



Norton bike build and race support, so a plan was hatched.

Initially, Ben wanted to run in AHRMA's Novice Historic Production class—the perfect way to dip one's toe back into racing. But the rules are very strict and wouldn't allow certain upgrades Ben required.

So it needed to be the BEARS (British European American Racing Series) class: not a starter class, but one with skilled riders who would give Ben the necessary space as he gained seat time and confidence.

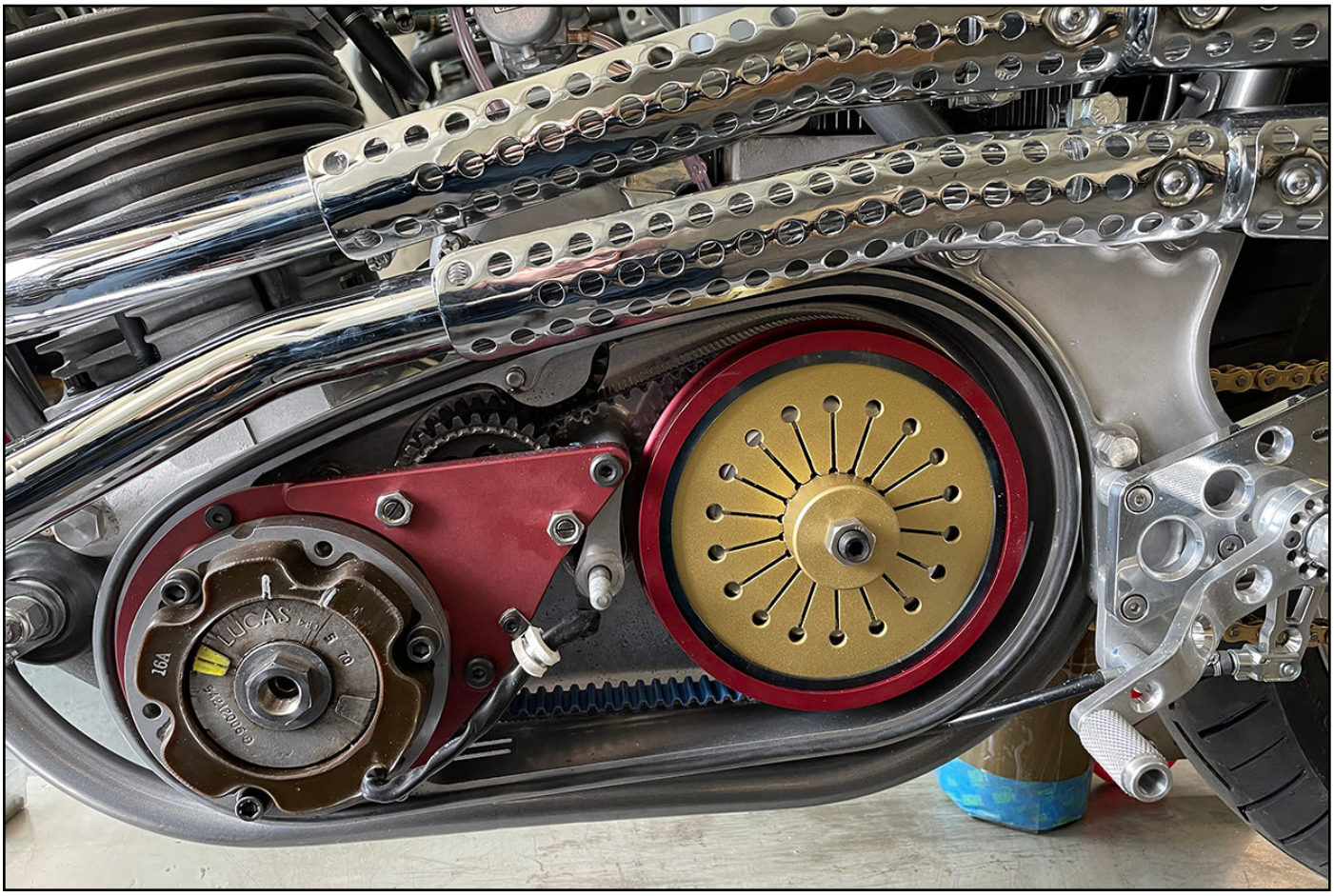
The caveat was that the Norton had to have an electric start, and Ben wanted it to be converted back to street trim if the racing didn't pan out. His eyes wandered across to the mythical old Commando S-type in the corner. The phoenix would rise.

The Norton was completely dismantled and inventoried—which took more effort than usual, because of all the rust and corrosion. And some of the components were too far-gone to be reused.

The gearbox, which had been full of swamp water for years, was locked solid; the brake drums were toast; and the fork tubes were frozen in the yokes. (The rare S-Type yokes now sit in a quiet spot in the shop, waiting for Kenny to unstick the tubes and bring them back to life.)

Still, the frame and swingarm were in great shape, albeit with some mild corrosion on one side. The engine was surprisingly good inside, most likely due to the fact that it was covered in a protective layer of oil and crud. There were some period mods done to the engine —"someone had been in there"—but all in all, it was a very usable base.

During the rebuild, Kenny got a call from a friend who had a Steve Maney cylinder and steel flywheel available. These are incredibly rare finds, so Kenny added them to



the build. Standard-length Carrillo conrods and JE pistons ("our championship winning combo") were also fitted, along with a Webcam 12s (Combat-ish) cam. Fuel is metered by a pair of Mikuni VM34 carbs.

"A squish band relief was also machined in the pistons and the head skimmed, allowing higher compression," says Kenny. *"But we kept the ratio at 10:1, so the bike can be run on hi-octane pump gas—keeping it streetable."*

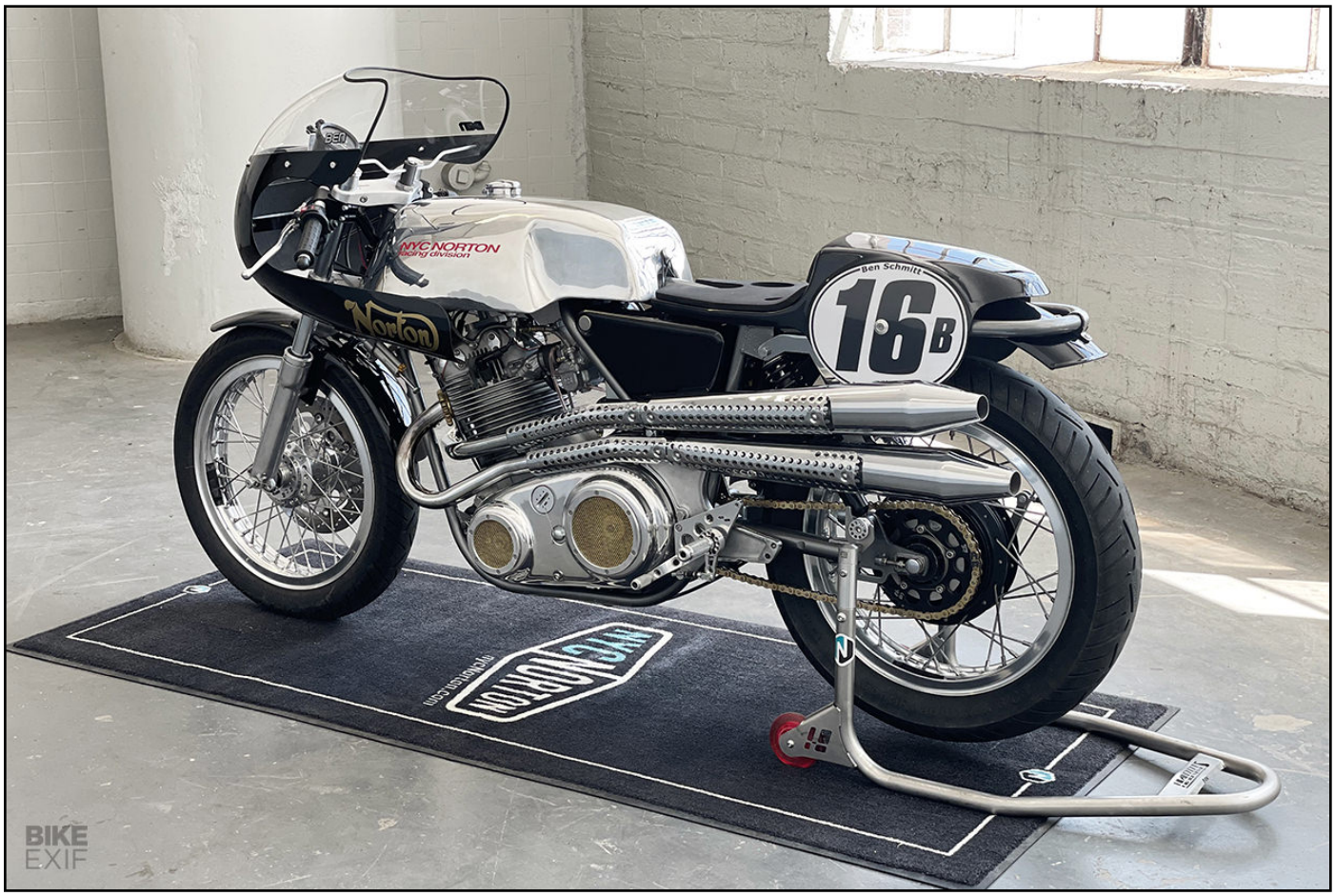
The valve train is stock, with Kibblewhite Black Diamond valves and bronze guides. Revs are measured by a Scitsu inductive tacho, and ignition is via a Pazon Sure-Fire module. One can safely bet that this Commando will be faster in the 0-60 sprint than a factory-fresh bike, which recorded 4.2 seconds in a Cycle World road test.

It was now time to address the chassis, and get it to work with 18-inch wheels to allow for good race rubber. Kenny selected ContiRoadAttack 3 CR racing radials, in 100/90 front and 130/80 rear sizes. Excel flanged alloy rims were laced with Buchanan's spokes.

The rear hub is a Grimeca drum, complete with a cush drive and a complement of 520 sprockets that permit gearing changes for different circuits. The front is a later-model Commando hub running an 11.5-inch disk and an AP racing caliper, pumped by a Brembo master cylinder.

The front suspension is adjustable: NYC Norton have installed parallel-bore pinch-bolt yokes, so the front height can be tweaked for perfect turn-in. Cosentino cartridge internals run inside the forks, along with the Cosentino/NYC Norton Teflon bushings. (*"The front end is a dream and completely tunable to rider's specs,"* says Kenny.) The shocks are Hagon Classics.

The frame tubing is unmodified, but the isolastic rubber bushes have been converted to the later vernier style and set on the tight side. A rod-end headsteady is also



used, since it's necessary to retain solid handling on a rubber-mounted drive train. An NYC Norton rearset kit was bolted straight up to the stock Z-plates.

Because the gearbox internals were unusable, NYC Norton have installed a four-speed close ratio gear cluster, tucked into a modified Heavy Duty AMC-style shell. Barnett friction plates in the 850-style clutch hang off the mainshaft.

"One of Ben's early requests was to add a reliable electric start," says Kenny. *"After a call to our dear friend Matt Rambow, we had our hands on a beautiful Colorado Norton Works electric start kit."*

The CNW starter kits are fitted to almost every NYC Norton street build, and the strong belt drive and well engineered but relatively simple componentry made this an easy choice for the race bike. A 21Ah Shorai battery and updated 180W alternator finish off the kit.

But for every action there is a reaction: fitting a larger battery meant switching out the early Commando center-mount oil tank to a later-model side mount, with a later-style battery tray.

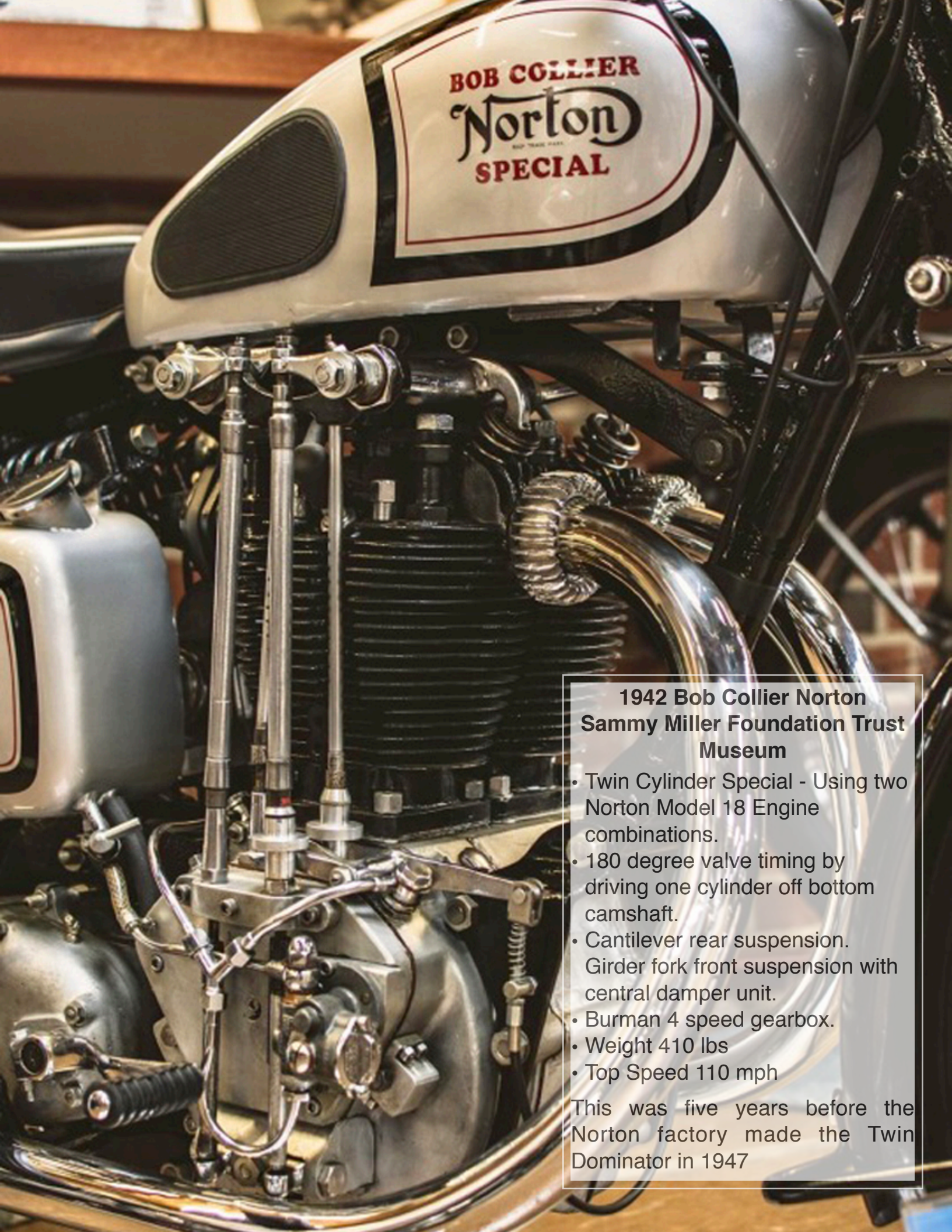
This was a sound decision. *"The side-mount tank has a breather return tapped in a higher location than the older style,"* says Kenny. *"It reduces potential agitation of the engine oil—from positive breathing pulses from the reed breather, whilst running at sustained high rpm."*

For the gas tank, NYC Norton's regular hammer man turned out a Production Racer style aluminum piece. Then came a modified PR seat and slim fairing, trimmed to be low profile but effective.

And finally—because the bike started life as an S-type—Ben requested an S-Type high-level exhaust. *"The dyno shows this exhaust gives fantastic torque without a huge loss up top, which is paramount to a good short-circuit racer such as this,"* says Kenny.

When the bike finally rolled off the lift and Kenny and his crew could get perspective, they knew it was a winner. The Commando made its debut at the Heartland track in Topeka, Kansas last month, and when Ben arrived in the paddock and finally laid eyes on it, he was over the moon.

He took the racing school on Friday, and was out on the track, tearing it up in the BEARS class, on Saturday and Sunday. *"A happy dude, and we were, too,"* says Kenny. *"I'm sure Tina-Lina would be proud."*



1942 Bob Collier Norton
Sammy Miller Foundation Trust Museum

- Twin Cylinder Special - Using two Norton Model 18 Engine combinations.
- 180 degree valve timing by driving one cylinder off bottom camshaft.
- Cantilever rear suspension. Girder fork front suspension with central damper unit.
- Burman 4 speed gearbox.
- Weight 410 lbs
- Top Speed 110 mph

This was five years before the Norton factory made the Twin Dominator in 1947


Norton
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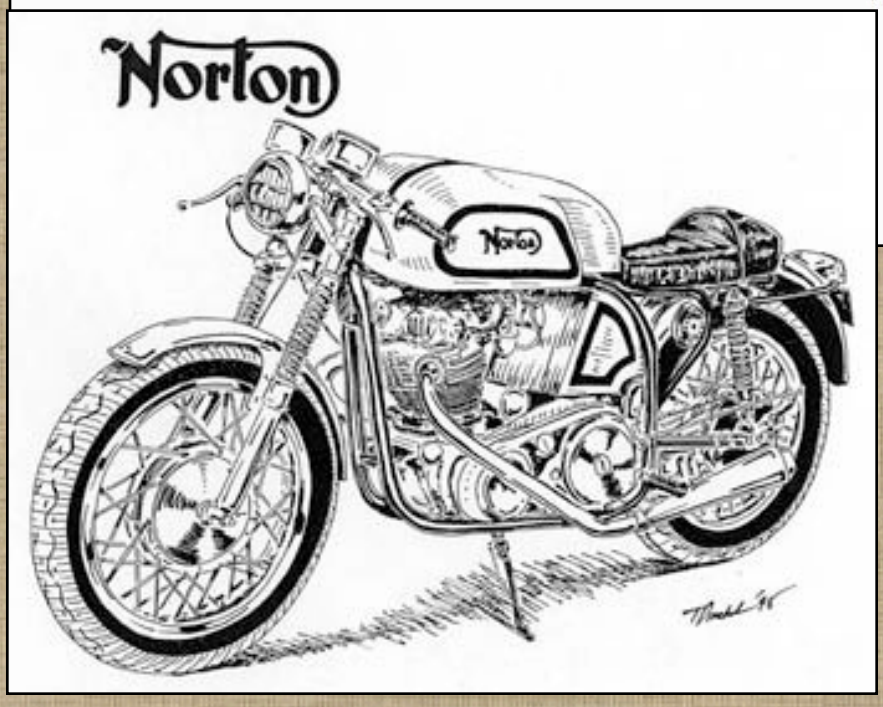
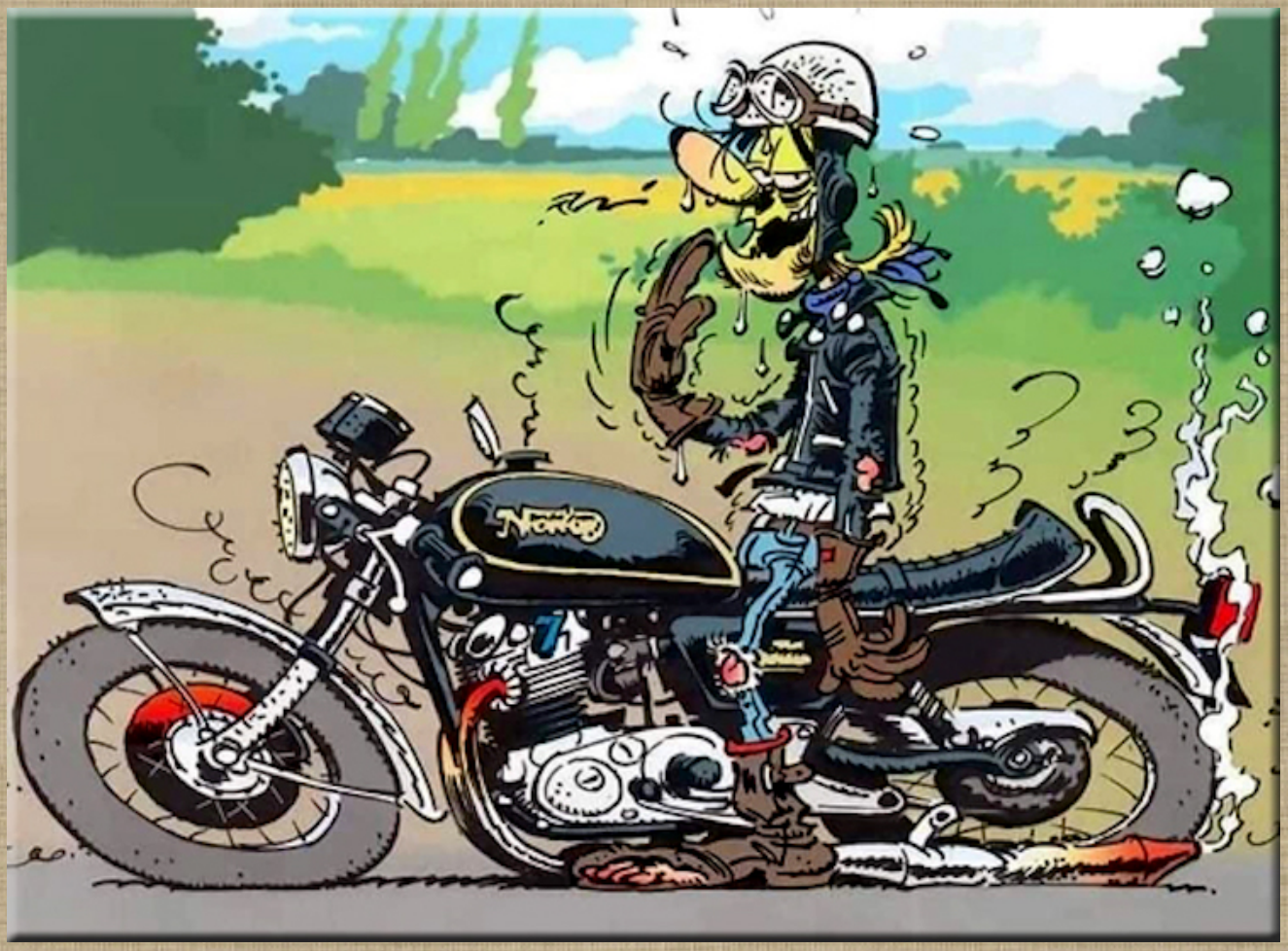
PETER HUTTON 2005


Norton


Norton
British Machines
since
1898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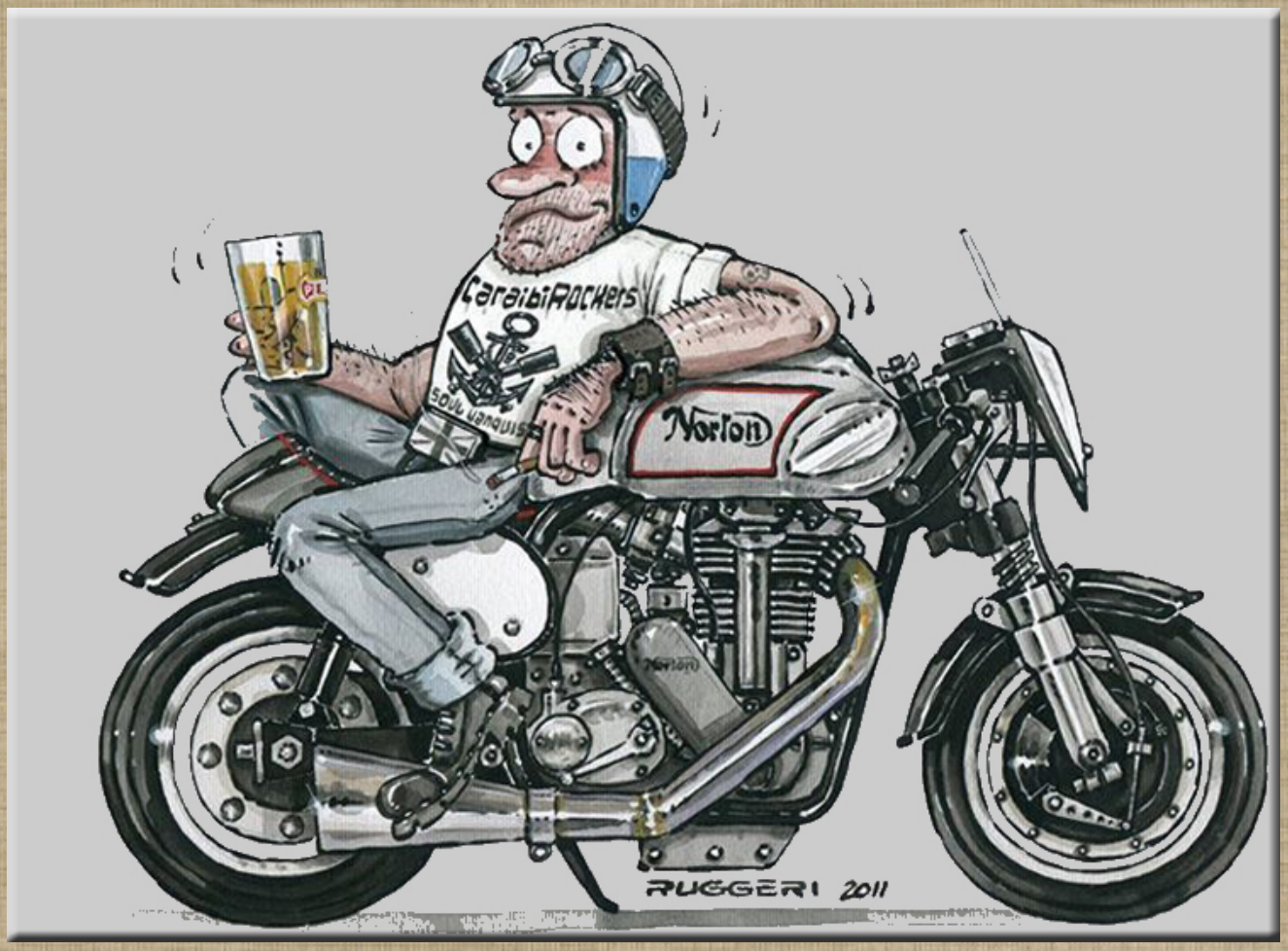

CaraibiRockers
Norton
RUGGERI 2011

The Motorcycle That Inspired My Life

By Phil Dansby

It was while growing up New Mexico in the early 60's that my interest in motorcycles was first kindled. I don't remember any specific event that inspired my lifelong involvement with motorized two-wheeled vehicles, but surely something did. In those days variety was limited: there were Allstates, sold by Sears and Roebuck, some Vespas, a Cushman scooter or two, and occasional old BMW with an even older guy riding it. The police had only one other motorcycle, an iron barrel Sportster ridden by our only police officer, and the officer had to purchase it himself.

While serving in Uncle Sam's Navy in the late 60's I subscribed to the two important industry magazines of the time, Cycle and Cycle World. I feel pretty certain that it was the "Norton Girl" in the Commando ads that first caught my eye, but after that it was the beautiful lines of the motorcycle itself that held my attention. The Superbike of its age, the Norton had at least 100 cc's displacement advantage over the competition as well as a long and storied racing history. For the next four years I hungrily consumed any information that I could find regarding Nortons. However, even after my discharge in 1970, it would be a few more years before I actually got my hands on one.

It was late December 1973 and the first 850cc models were almost sold out, but two remained on the showroom floor at Doc Storm's dealership. I still didn't have the money, but I was certain that I had waited long enough for the motorcycle of my dreams. Soon the deal was done, and I picked up my '73 MKII Roadster just before Christmas which I still have today. Little did I know at the time what a significant role that motorcycle and my association with all things Norton, British and later Italian motorcycles would play in my life.

During the following three decades my job required that I relocate about every two years. No matter where I was sent it wasn't long before I was able to connect with other Norton owners and British bike enthusiasts. I did everything on my Norton in those early years. I rode it to work, toured Colorado and many other states, all the while keeping it mostly stock. During this early period of Norton ownership I was making it a point to go to as many USNOA (what is now the INOA) national rallies as possible. I would eventually attend sixteen nationals spanning the country from California to the mountains of Virginia. Each time I met many memorable people, some of whom are my best friends today. It was while attending the nationals through the years that I began to think about starting a local club. I'd been impressed to find so many people from the Dallas/Ft. Worth area at these events, so I started collecting names and phone numbers. I petitioned the INOA for a chapter membership and in early 1980 and started getting some of these guys together at my home in Irving. The next thing we knew we had a club. We realized that we didn't have enough Nortons to maintain a purely Norton club so we decided to include all British and European marques as well. **The NTNOA (North Texas Norton Owners Club)** was born.

In 1990 I noticed the Norton was burning a little oil out the left cylinder. It was time for a top end job! Of course, as these things usually go, it wasn't long before I was loading up a bare frame and heading to the powder coat shop. It was then that things began to happen. When it was time for the reassembly I started looking around at all the Norton parts I had collected over the previous 17 years of ownership. Lo and behold, I had accumulated some pretty neat parts. During the rebuild I used most of what I had hidden away and later that year finished the highly modified Red and Black bike you see today. Two years later in 1992 I took it to the Norton National in Tennessee along with my freshly completed Silver and Black Commando. The Red Norton took First Place in the modified class well as the "Jim Balliro" award for technical excellence, named after the author of the Commando Technical Digest. The Silver and Black one also took First Place in the café class. Interestingly enough, ten years later at the INOA rally in Utah the same bikes did a repeat, again winning best modified and best café exactly as they had ten years earlier.

Over the years both Nortons have opened many doors and helped me make friends wherever I've gone. They have been featured in Cycle World and Classic Bike magazines, two of the most prominent publications in the field of motorcycles. In addition to my travels throughout the United States, my Norton has inspired me to make two visits to the National Motorcycle Museum in Birmingham, England, and a trip to the Isle of Man in 2007. All this is a direct result of having purchased the bike of my dreams so many years ago.

Time has passed and now my prized Norton is almost 49 years old. I'm that much older as well. Why is it that time passes so quickly, and why can't I get a rebuild and some new parts for myself? But there's no question I am a much richer man for having owned my Nortons! During our years together it has taken me down a road where I've made many friends, and it has enabled me to meet many famous racers, collectors, and enthusiasts who all share a love for Norton's and all things British. Two wives, one daughter and one granddaughter all know about Dad's Nortons. We have shared a lifetime together and because of it I am forever enriched.

Yesterday I went for a ride on one of my Nortons, and the memories of so many good times and places came rushing through my mind. It has been my friend for the last 49 years of my life; a trusted companion as the years and miles roll by.

1974 Norton Commando Hi-rider

Photo by Nick Cedar | Source: motorcycle classics.com

1974 Norton Commando Hi-rider

- Engine: 828cc air-cooled OHV parallel twin, 77mm x 89mm bore and stroke, 8.5:1 compression ratio, 60hp @ 5,900rpm (claimed)
- Top speed: 115mph (modern test)
- Carburetion: Two 32mm Amal Concentrics
- Transmission: 4-speed, chain final drive
- Electrics: 12v, coil and breaker points ignition
- Frame/wheelbase: Dual downtube steel cradle w/Isolastic engine mounts/57.2in (1,453mm)
- Suspension: Norton Roadholder telescopic forks front, twin shocks w/adjustable preload rear
- Brakes: 10.7in (272mm) disc front, 7in (178mm) SLS drum rear
- Tires: 4.10 x 19in front and rear
- Weight (dry): 421lb (191kg)
- Seat height: 31in (787mm)
- Fuel capacity: 2.3gal (9ltr)
- Price then/now: $2,500 (est.)/$3,000-$14,000

"The Hi-rider is an important part of motorcycle and Norton history, whether you like the styling or not." — Chuck Bohn, proud Hi-rider owner

Most motorcycle factories believe in evolution in design. Bringing out something completely different is risky — if the public doesn't like it, management has to explain the flop to angry shareholders. Yet despite the risks, every once in a while something unique and unexpected sees the light of day. The English Norton factory made its name building sport and sport touring bikes, but in 1971 Norton did the unexpected: the company introduced the Hi-rider, a factory custom inspired by the chopper craze and designed to appeal to the American cruiser rider.

According to British journalist and author Mick Duckworth, in the late Sixties Dennis Poore (the controversial owner of Norton, whose Manganese Bronze Holdings company purchased Norton in 1966) took a trip to the United States, where he observed the budding chopper scene. Returning to the Norton factory, he instructed engineer Bob Trigg and the

design team to design a Norton that looked like a chopper. U.S. sales were very important to Norton, and Mr. Poore apparently thought that a Norton that looked like a chopped Harley-Davidson Sportster would help sales. Most observers thought that people who wanted a chopped Sportster were very unlikely to accept a substitute made in England, but they weren't in charge. So the factory staff designed a chopper-style motorcycle around the Norton Commando. The marketing department named it the Hi-rider, and it appeared on salesroom floors in 1971.

At this time, the Norton factory had been building its Commando, with several variations, for three years. The Commando was popular with riders who were interested in sport touring, road racing and fast riding on a twisty road. The bike had first appeared at the London, England, Earls Court show in September 1967. It combined the factory's venerable but powerful 745cc parallel twin engine, tipped forwards in the frame and fed by twin Amal Concentric carburetors, with a new frame designed to both isolate the rider from vibration and provide rock steady handling through any kind of turn. The frame was complemented by Norton's highly regarded Roadholder front fork.

Chuck Bohn, the owner of this bike, describes it as a "Sportster on steroids." Commentators have theorized that the person who designed the bike was indulging in illegal substances, and Cycle magazine described its looks as "hilarious."

Looking back

Although the Hi-rider was the second-most expensive Commando (after the Production Racer), surprisingly, the bike sold. There apparently were quite a few people who liked the idea of a Norton chopper, a lot of whom were in the American Midwest. Writer Ian Falloon says the Hi-rider was so popular in the country's center that Norton sales increased 44 percent west of the Mississippi River. Despite the jeering of the magazines, the Hi-rider sold well enough to make it into the 1972 lineup.

At this point, Norton made a major mistake. In a bid to keep the Commando's aged twin competitive with increasingly powerful multi-cylinder offerings from Japan, compression was raised from 8.9:1 to 10:1 and carburetors enlarged from 30mm to 32mm, raising output to a claimed 65 horsepower at 6,500rpm, up from 56 horsepower at the same revs. The crankcase was strengthened, but the increased power created crankshaft flexing that hammered the main bearings. Making matters worse, the mechanical advance unit on the Combat engine, as it was called, would stick fully advanced, and a poorly designed crankcase breather setup resulted in the oil foaming in the crankcase, starving already stressed main bearings of lubrication.

Predictably, the main bearings on Combat engines failed. That is, unless the pistons came apart first, which happened as well. Norton was hit hard with warranty claims and the company's reputation suffered badly. Financially, it was a double whammy.

Yet the Hi-rider — which never got the Combat engine and as a result never blew up — continued to sell well enough to make it into 1973. All Nortons for that year had an improved engine with Superblend bearings that did not fail, and a better auto ignition advance unit.

At the end of 1973 the poor old vertical twin engine — originally a 500cc when first introduced in 1949, and steadily enlarged because Norton could not afford to replace it — was bored out to 77mm, raising the cubic capacity to 828cc. The compression ratio was lowered, a spin-on oil filter was added and engine breathing was improved. All models got the front disc brake that cured the poor stopping that many testers had repeatedly complained about. **Hi-riders built between 1971 and 1973 have the 750 engine, while later Hi-riders have the larger engine, referred to as the 850.**

Against all odds, the Hi-rider still continued to sell reasonably well and lasted until early 1975. The 1975 Nortons were significantly upgraded, but it was a last gasp. Chronically cash-strapped, Norton was going down the tubes. Unable to afford the retooling to build an engine competitive with the products of its Japanese rivals, the Commando was looking increasingly archaic. In 1975 the Industry Minister recalled a loan for £4 million (almost $9 million U.S.) and refused to renew the company's export credits. That was the last straw, and Norton went into receivership. Commandos were built — sparingly — through 1977, when the factory finally shut down.

Commandos live on

Archaic or not, the Commando continued to be popular. By this time, there were Norton owner's clubs all over the world. Most of the people who continued to be interested in Nortons were the sport folks, and as a result a lot of Hi-riders were bought secondhand, stripped of their chopper bars and seat and turned into Roadsters for the better pursuit of canyon carving

excellence. As a result, Hi-riders in their original garb are seldom seen. Chuck Bohn's is one of the few in stock condition.

Chuck didn't set out to buy a Hi-rider. In 2002, he had a 1971 Commando and was looking for a later model. A friend said his uncle was the second owner of a low-mileage 1974 machine that was parked in his living room. Chuck pursued the deal — and stopped dead in his tracks when he found out it was a Hi-rider. *"I was a lot less excited."* The owner then sent photos of the extras that came with the bike — a Roadster seat and Euro-style bars with nice bar-end mirrors. He also had photos of the bike set up with the low bars and standard seat. Chuck chewed over the deal. *"I thought, 'It doesn't look that bad,' and handed over my cash. I rode the bike set up as a Hi-rider on a club ride shortly after I bought it, and found that people either love it or hate it. People who know Nortons say, 'Oh, it's a Hi-rider.' People who don't say, 'What did you do to that beautiful bike?'"*

The uncle who kept the bike in the living room had ridden it 10 miles once a month. Although he owned it for years, he had put only about 300 miles on it. Despite, or maybe because of, this minimal use, the Hi-rider was in excellent condition, and needed no restoration whatsoever. It had 2,400 miles on it when Chuck bought it and now has 8,000 miles on the odometer.

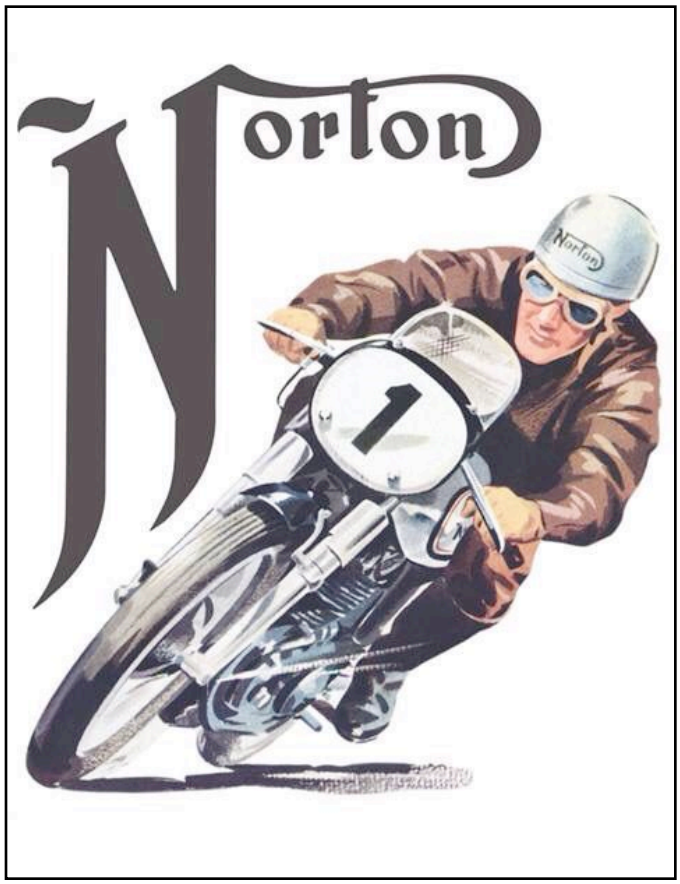
Shortly after Chuck bought the bike, he converted it to a Roadster. (*"Everything but the tank and headlight,"* he says.) He rode it on club rides. Then, in 2008, Chuck bought a 1975 Mark III Commando. The Mark III had significant upgrades, including the vernier Isolastic adjuster, an electric start, and a disc brake on each wheel. It also shifts on the left, like most modern motorcycles, while the pre-1975 Nortons shifted on the right. The Mark III was just too easy to ride, and Chuck was riding the Hi-rider less, so he converted it back to Hi-rider specs. *"It takes about two hours. You have to change the brake line and the clutch cable and bleed the brake. It's not something I want to do that often,"* he says. Soon he started taking it to shows. *"I rode it to one show and lost a point for having oil on the head,"* he said.

A Hi-rider, like any Commando, can be ridden on a regular basis and at normal freeway speeds if the owner keeps up the maintenance. The many active owners clubs are a deep well of knowledge and most parts (with the possible exception of sheet metal) are a phone call away. Parts do vibrate loose, and the air-cooled engine needs frequent oil changes. One source of mysterious problems is the wiring harness, which can develop intermittent shorts with age. Another wear item is the Amal carburetors. If the slides are a sloppy fit in the carburetor bodies, the bike won't idle. Sleeving the carburetors cures that problem.

Many owners convert over to synthetic oil, which keeps operating temperature down and lessens the frequency of oil changes, and add an electronic ignition, which eliminates point setting and condenser replacement.

A Hi-rider has the stock Commando forks and frame. The only difference as far as handling goes are the high bars, which, as Chuck says, take some getting used to. Although a Hi-rider doesn't handle like a Norton Roadster — a bike that will go where you point it under any conditions — *"it's not that bad,"* Chuck says.

"I am proud to own, show and ride my Hi-rider," Chuck says. *"It's another kind of Commando."*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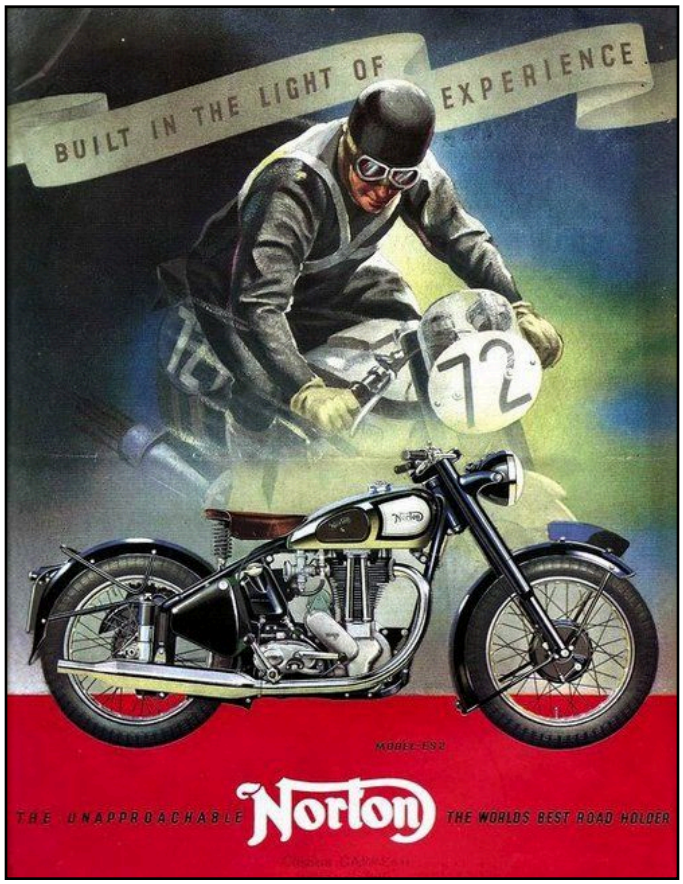
BUILT IN THE LIGHT OF EXPERIENCE
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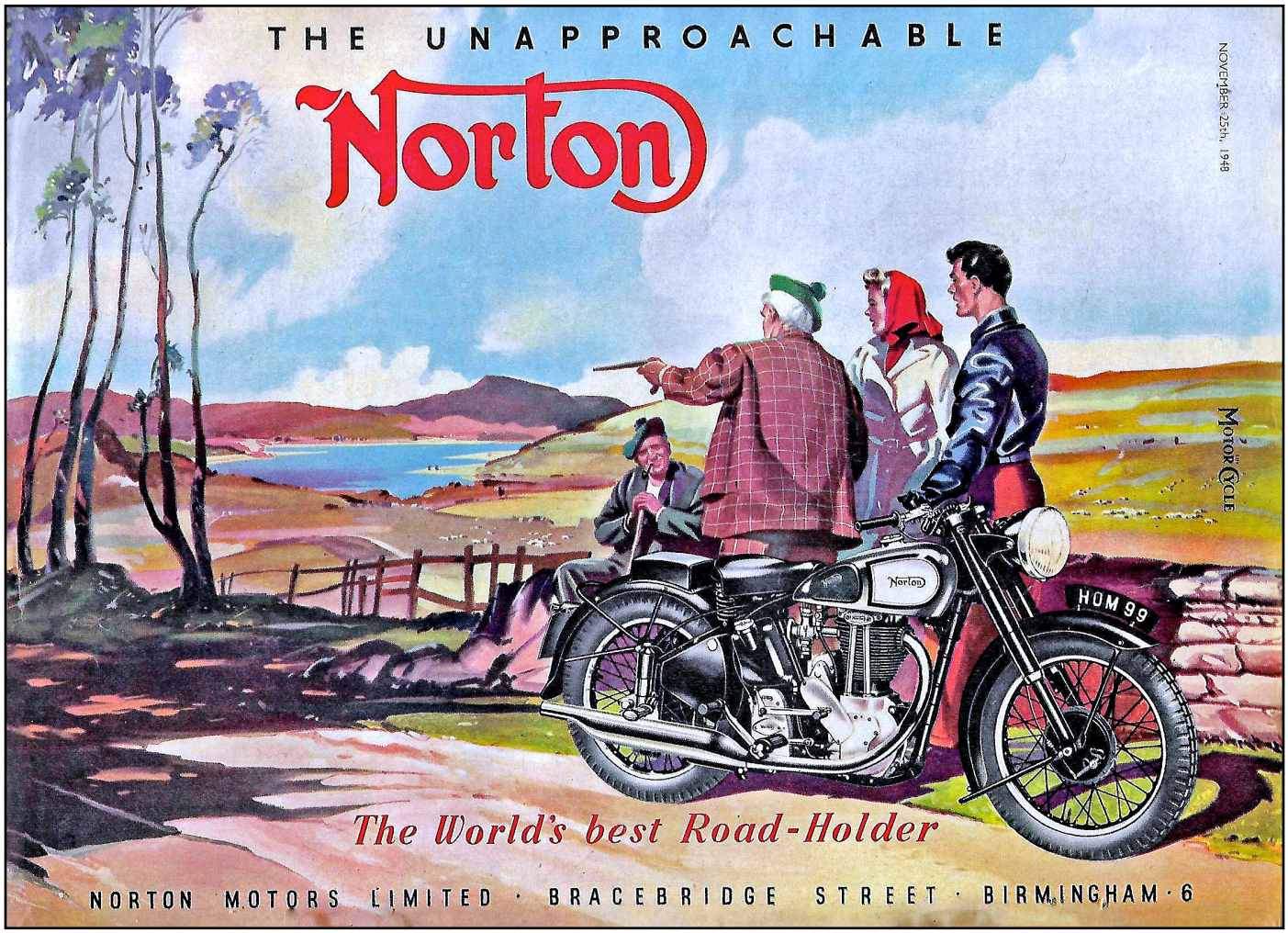
THE UNAPPROACHABLE Norton THE WORLDS BEST ROAD HOLDER


THE UNAPPROACHABLE
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PUNCHING ABOVE ITS WEIGHT: 1007cc Norton Commando

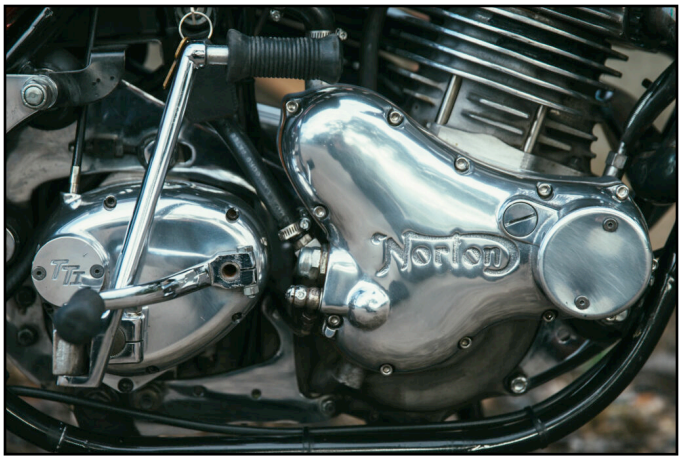
BY SCOTT HOPKINON | PHOTOS BY PETE CAGNACCI | SOURCE: PIPEBURN.COM

Norton have recently announced it will be manufacturing bikes again. They've had a bumpy ride over the last few years, declaring bankruptcy and then being acquired by the giant Indian bike maker TVS. They now have a new multi-million dollar factory in Solihull, UK, and have hired a team of talented designers in the hope of reviving this legendary marque. Back in their heyday, they were the quintessential British motorcycle, and the Commando was their finest achievement. Launched in 1968, it was the fastest superbike in the world at the time and would dominate race tracks for years. This Norton Roadster has been built by Australian-based shed builder, Bruce, and is the perfect marriage between customisation and modification – although maybe not one for the purists amongst us.

The Norton 850 Roadster – or Commando, as it was also more commonly called – produced by Norton from 1967 until 1977. They initially had a 750cc displacement, which was then boosted up to 850cc in 1973, although the actual displacements were 745cc and 828cc respectively, a reflection of the 70s free-spirited attitude. The Commando saw various upgrades and incarnations over its hugely popular lifetime – with the 'Roadster' making its debut in June of 1970.

And so we come back to this particular Roadster – a 1974 model. Bruce had acquired the machine back in 1981, purchasing it off a friend's brother. From the day the bike was picked up, it was destined for finer things, with a hearty dose of customisation and modification spinning in Bruce's head. "I had only ridden the bike for a week before the motor developed some lower end noise, and so we stripped it and then rebuilt it as a 920cc."

The bike would remain somewhat unmolested for a while, with Bruce enjoying its extra bit of chutzpah until 2010, when some custom gears started turning in his head once more. This time the bike would receive an aesthetic injection of work paired with performance



upgrades, making it walk the walk and talk the talk. With plenty of Café Racer builds popping up all over the globe, inspiration was rife. "Wanting to convert the bike into a complete custom café racer, I got to work completely stripping it down so that I could then rebuild it to suit." The engine is a complete Steve Maney 1007 engine: Forge Pistons, Carillo rods, S3 Cam upgrade push rods and head work."

This is where the marriage of customisation and modification shines. Not only did Bruce upgrade the looks of the machine, he also took the performance to the next level with the 1007cc engine, bringing the function in line with the form. "I changed the Carby to a Mikuni flat side 40mm pump action system, modifying the intake manifolds to suit."

The gearbox is a TT extra heavy duty 5-speed, and a primary belt drive which is a 40mm race pulley and belt kit. The front braking system is a Norman White twin disc and A.P. calipers, with front forks being upgraded with improved internals. The faring, seat, and foot peg assembly is a Mick Hemmings kit. "I had the alloy fuel tank handmade in Scotland which really bolsters the British racing vintage that the machine shows off so well."

"The thing I like most about the bike is the exhaust noise, along with the combination of the torque, handling, and braking. It's great fun for an old bike! The Norton is now famous, as I had Giacomo Agostini sign the backseat housing that I have had clear-coated."

This Norton has been tastefully built, leaving the best bits on this almost 50-year-old bike and upgrading the rest to build the ultimate classic café racer. With Norton manufacturing bikes again, the designers could do worse than making a modern version of this stunning Roadster.

Article by Martin Hodgson

SOURCE: PIPEBURN.COM

TURNING JAPANESE

Norton Commando 850 'Asohka' by Mifune Werx.

For the last few years, the only talk about Norton Motorcycles has been about bankruptcy and disgraced former CEO Stuart Garner. But the brand name remains one of the most prestigious in the automotive world and the Commando is still its king. So to customise one, and to do it in a way that the anorak brigade certainly won't approve of, comes with some trepidation. But as it turns out, the only thing that stalled Brent King's progress was Covid-19. Now the Sensei, designer and builder behind the Mifune Werx brand is ready to reveal his 1973 Norton Commando 850, which is packed full of his personality, has plenty of Japanese twists and goes by the name 'Asohka'.

The man from the Midwest is a Landscape Architect by day with his own firm, but bike building came from his need to get his creative ideas out of his head and work with his hands. Something he is clearly very good at because he not only builds bikes but is a martial arts instructor and sword practitioner. This particular bike came to him by way of a friend, who had bought it from small-time bike dealer with a huge personality, Art 'Big Art' Zander. It had sat for years unassembled at Art's and then in his friend's basement for another decade before the two guys decided to piece it back together.

But Brent was rightly worried his mate might fall in love with the finished product and so convinced him to sell the Commando and its collection of parts, so Brent could build it with his singular focus. Showing just 8,759 miles on the clock since new, the project started a few years ago and then stalled when Covid hit. "After picking it up again in November of 2022, and getting invited to the Mama Tried Show in February, I regained the desire to finish her." With the tail hooped already, that was good enough for Brent to not worry about keeping it original and he was off and running.

The frame forms one of the big visual statements, and with his cousin owning a chrome shop in Cleveland, the chassis was the first piece to take a dip. "The tank was in the parts bin with the bike, and I started sketching, thinking, and conceptualising what I wanted. I created an initial drawing, but as I worked the aluminium, the front fairing really designed itself on the wheel too." Brent was allowing the bike to come together organically and also heavily infusing it with his personality as can be in the 'gills' that run along the bike's side and the brass pieces that are used to both add strength in vital areas and act as adornments.

Being the swordsman that he is, this served as inspiration for the design of many of the brass additions. "These pieces were inspired by the menuki located on the katana handle, as well as other decorative fittings seen on samurai armour."

The tail design and the front shield that wraps around the down tubes deliver more of this mix and match of beautifully worked aluminium with intricate brass details. "The oil tank needed to be accessible, but I didn't really want to see it, so I used cooling fins inspired by the 'gills' to create a feature for the rear cowl. I also decided the brake light needed to be asymmetrical, so I created a cone and three bullets to cover that."

The leatherwork is just as impressive and was taken care of by Brent's wife, @jupiter_8_design, an absolute weapon on the sewing machine. The subtle brown leather is beautifully cross stitched with a tan thread and from the tank strap to the knee dent pads and the seat itself, it is all an absolute work of art.

All of this looks incredible, but the functional aspect had to be strong too. Traditional way up GSXR 600 forks do wonders for the handling, as do their accompanying twin disc braking package and the modern adjustable rear shocks.

With the famous Norton engine already having had a going over before the bike was officially Brent's, and found to be in excellent condition, it's the little changes that make a big difference. "I wanted the exhaust to be next level and different. I decided to pull the exhaust through the centre with long simple sweeps, the rear bracket was probably the most difficult part of the exhaust."

It gives the bike a mean look and the long velocity stacks are the perfect period part, while an NYC Norton Reed valve setup solves that period's problem of engines dumping their oil on the floor. Modern electronics from Boyer Bransden and Podtronics and the big twin purrs like a kitten.

"The primary cover design was a result of a 'blink' moment when I walked by the bike and had a flash of the Hokusai Wave move through my mind." Brent sketched out his design onto the primary, but left it for months, unsure if he had the skill to pull off what he envisaged in his mind.

He'd engraved swords and even the brass on the bike, but such an iconic image on such a major part of the bike was another step altogether. So with a spare cover just in case, the engraving was the last part of the build to be completed.

The finished result is as spectacular as the rest of the build, and like the deliberately misspelt name for the bike, it's been done Brent's way, and that happens to be a thing of beauty.

THE NORTON F1 – A ROTARY-POWERED SUPERBIKE THAT WON THE BRITISH SUPERBIKE CHAMPIONSHIP

The Norton F1 was released in 1990 as a road-going version of the Norton RCW588, a superbike that would shock the world by taking a slew of wins including including first place in the 1992 Senior Isle of Man TT race.

It also took popular wins at the Cadwell Park, Mallory Park, and Thruxton, with its most famous successes being winning the 1989 British Formula One (Motorcycle) Championship and the 1994 British Superbike Championship. The reason this was a shock to many is because much of the motorcycling world had written Norton off years earlier. The company had gone bankrupt in the 1970s due to a combination of poor management, a lack of innovation, and increased competition out of Japan.

The 1970s and 1980s had been a hard time for the cash-strapped company however all was not lost, an engineer named Brian Crighton had been working on further developing the Wankel engines developed by David Garside at BSA in the 1970s. Crighton received no backing from Norton factory management and instead had to work on the engine using his own time until the late 1980s.

In 1987 he finally received approval from Norton management and a prototype racing motorcycle was developed, the pace of further development was lightning fast – just

two years later they took their first national racing championship with the aforementioned 1989 British Formula One (Motorcycle) Championship.

In the 1970s and 1980s it looked to many as though the Wankel rotary engine may very well be the way of the future. The incredibly simple design of the Wankel engine with its very few moving parts combined with the fact that the rotors move in a (somewhat) circular motion rather than a reciprocating motion seemed to suggest it was only a matter of time before it became the dominant engine type.

When the Norton F1 was first offered for sale in 1990 it was clear that it had been designed to look a lot like the RCW588 racing motorcycle. It was a largely new design however that used a modified version of the 588cc liquid-cooled, twin-rotor Wankel engine mounted in an aluminium, twin-spar, perimeter frame.

Suspension was state-of-the-art for the era with WP suspension front and rear, up front is a set of upside-down forks with adjustable compression and rebound, and in the rear is a monoshock, also with adjustable compression and rebound. Brakes are discs front and back with twin Brembo four-piston calipers on floating rotors up front and a single rotor in the rear.

The engine was capable of 95 hp at 9,000 rpm (the race version could manage over 140 hp) with 60 ft lbs of torque at 7,500 rpm. Just 140 Norton F1s were made between 1990 and 1992, they were followed by ~70 Norton F1 Sports before production ended in 1994.

1988 NORTON ROTARY

By Ben Branch | Source: silodrome.com

This is the earlier Norton Classic model, it's powered by an air-cooled two-rotor Wankel engine and just 100 were made.

The rotary-engined Norton Commander is a very rare motorcycle, just 300 or so were made before Norton was paid a final visit by its creditors at Midland Bank, and production was shut down. It's a shame as with better funding, the almost turbine smooth twin rotor Wankel could have been a benchmark touring bike for its era.

A Brief History of the Norton Commander

Earlier Norton rotaries were twin-rotor, air-cooled designs but by the time the more highly developed Commander came along liquid cooling was being used – helping to stabilise engine temperatures and reducing mechanical noise.

The Commander is powered by a 588cc twin rotor, liquid-cooled Wankel rotary engine that produces 85 bhp at 9,000. At the time of its release the bike was lauded in period reviews for its power and smooth operation, but its high price and lack of dealership support hampered sales.

Fast Facts – The Norton Commander

- The Norton Commander was released in 1988 and built until 1992. The production run was separated into two lots, the P52 bikes that had a single seat and were for police use, and the P53 which had two seats and was intended for civilian touring use.
- The Commander was the successor to the earlier Norton Interpol 2, unlike the air-cooled Interpol the Commander had a liquid-cooled engine which offered more power and better reliability.
- With its full fairings and built-in pannier cases the Commander was ideal for touring, and many owners used it in this capacity, some still do.
- The twin rotor Wankel engine makes 85 bhp at 9,000 rpm, enough for a top speed of 125 mph and a cruising speed of 100 mph – only on the autobahn of course.

The Great Wankel Gamble

In the early 1970s the British motorcycle industry was starting to realize it was losing out to the Japanese, with their advanced new motorcycle designs and low pricing. Countless research projects were launched to leapfrog

the Japanese designs, one of which was led by an engineer named David Garside at BSA's Umberslade Hall research facility.

Garside had been enthralled by the air-cooled, single-rotor Fichtel & Sachs Wankel rotary engine used in the Hercules W2000 motorcycle, and he realized it could provide the technological leap forward that the British motorcycle industry so deeply needed.

He quickly developed a working BSA prototype based on the Fichtel & Sachs engine to show it to the board of directors. Though it was underpowered it showed great promise, in no small part due to the small size, simplicity, and low weight of the engine.

The next step involved Garside and his team developing a twin-rotor version of the engine, in order to keep costs low he just used two Fichtel & Sachs rotors and built the engine around them. Power essentially doubled and the prototypes were showing much promise.

Ultimately the BSA rotary motorcycle would never see production. The early 1970s were a period of mergers in the British motorcycle world, often in the hopes of staving off bankruptcy or bringing in new financing.

As a result of all this the final version of the Garside engine was first used in a production motorcycle in 1987 – the Norton Classic. Apart from the engine the rest of the motorcycle was relatively standard, with twin shock absorbers in the rear, telescopic forks up front, and a tubular steel frame.

Just 100 examples of the Classic were made, it was succeeded by the Norton Interpol 2 which used a variation of the same engine but was only available to government and commercial buyers – it was targeted mainly at police forces.

After the Interpol 2, the Norton Commander was released. The Commander took many of the lessons learned on the Interpol 2 and the two bikes do look similar, but under the skin the Commander is far more advanced.

When it was released in 1988 the Norton Commander represented almost 20 years of rotary engine development. The earlier air-cooled engines were now replaced with a more advanced liquid-cooled design and thanks to the almost vibration-free operation of the Wankel engine the Commander was almost impossibly smooth even up at higher revs.

With its full fairing and integrated pannier cases Norton was targeting the Commander at both the police and civilian motorcycle touring markets. The P52 had a single seat and was meant for law enforcement and the P53 had a twin seat for civilian use.

Later versions of the P53 were given detachable Krauser K2 panniers, to allow touring motorcyclists to bring them inside with them when camping or staying in hotels/motels for security.

Norton was no longer the industrial juggernaut it had been just a couple of decades earlier, so many parts needed to be bought in from outside suppliers including the wheels, forks, switchgear, clock, and brakes which were all sourced from the Yamaha XJ900.

With a top speed of 125 mph (201 km/h) the Commander was quick by the standards of the time and period reviews of the bike were largely positive. The two biggest issues were the fact that it was priced 25% above the nearest competition – the BMW K100LT – and that Norton had no dealership network, so servicing could only be done at the factory.

Production would end in 1992 with just ~300 made. Surviving examples are now prized by collectors, though they remain largely unknown in the USA as they were never officially exported there.

The Norton Commander

My Norton Story by Scott Windsor

Ottawa, Canada

"It was the best of times, it was the worst of times, it was not the age of wisdom, it was the age of foolishness, it was the epoch of"...well it was 1977, the year I bought my '72 Norton Commando Roadster – Combat version.

I have always admired the Norton marque so it was an easy decision.

The most beautifully crafted and proportioned piece of machinery on two wheels – "a thing of beauty is a joy for ever" – well maybe not in this case?

However, I had little to no experience with engine mechanics apart from changing the oil and wondering why something didn't work very well.

The bike had been ridden hard in her early years and had undergone some not so thoughtful repairs (as I was to discover later) so she was a bit of a brute. Typically hard to start, hard to idle and generally mean tempered – but boy oh boy, on the rare occasions when everything lined up could she fly!

On one trip across the province I had to stop on a regular basis to clean the iron filings out of the points – I think I carried more tools than clothes on that trip. Oh, to be young again without a care or a sensible bone in my body.

So, my first foray into motorcycle maintenance was to replace the self-destructive points with a Boyer Bransden electronic ignition. Turned out that the little bit of effort had a major impact on her performance – now she would start, fairly regularly.

Following a number of attempts to clean up the mess left by the previous owner I managed to keep her on the road till about the mid-80's when the wee one came along and I was obliged to park the bike for a few years.

A few years turned into a couple decades when I rejoined our local Norton Owners Group and embarked on, what I thought was a pretty full restoration of the engine to de-tune the bike from a Combat version to Standard gentleman's version.

With help from our resident whisperers Craig Humphries and Gregg Kricorissian I managed to replace the crank shaft main bearings; con rod bearings; cam shaft (standard version); piston and rings; 'new' used standard head from Colorado Norton Works rebuilt by Jim Comstock; Amal premier carbs; three-phase alternator and regulator; rebuilt gear box (serious whisperer help); changed the gearbox sprocket (combined with the standard head and camshaft essentially de-tuning the Combat engine); rebuilt brake caliper (serious whisperer help); replaced the fork seals; new rear shocks (birthday present from my big sister); tires and other items not to mention a Tri-Spark ignition with single coil converter; CNW/Comstock crank case breather – this works very well – the engine has no leaks; among other bits and bobs.

During my first attempt to reassemble the engine the upper oil pump stud broke free removing a small piece of the timing chest. Fortunately, Gregg was able to recover the thread with a solid steel threaded insert that he fabricated (much like a TimeSert). Gregg did this to preserve as much of the original surface as possible.

The second reassembly went well but I neglected to install the crank case seal. Fortunately for me I only had to remove all the innards from the primary chain case in order to put the seal in place. Having been told that driving-in the crank seal (or any seal ...) can be fraught with risk. I wisely used a special tool to ensure the seal entered the bore straight and square to the crank.

meet me halfway.

Word to the wise – do not run the wires between the head steady and the head steady spacers – the jacket of any unprotected wire will likely be cut through by the back edge of the head steady bracket. But the good news is that once you find the ground fault(s) and repair the wire all is forgiven and you can ride with a degree of confidence.

A second word to the wise – read the torque setting specs properly – don't confuse foot pounds with inch pounds!

At a recent rally with the Ontario Norton Owners, one of the members recommended iridium spark plugs and I must say they work a treat.

On the third attempt to square away the carbs I finally got it right – I followed the Bushman protocol precisely and the bike ran like a top.

Interestingly I'd spent all my Norton career not realizing how important the float adjustment is but now with the Amal Premier carbs the new stainless steel 'tangs' on the float can be easily bent to set the height of the floats.

Gestalt psychologist, Kurt Koffca coined the phrase "The whole is other than the sum of its parts" and people naturally assumed he was referring to the human psyche – however having completed, what is really just a modest rebuild I've come to believe that he was in fact referring to a Norton!

So far so good!

I stripped down a new wiring harness eliminating extraneous wires and successfully wired the bike adding dual Fiamm horns (very loud) and LED signal lights (very bright).

After some fiddling with various flasher relays I got the signals working and although the carbs were not quite right it was time for a test drive. The bike felt pretty good with a bit of hesitation due to the carbs but about ten blocks from my house it stopped dead with a blown main fuse. A new fuse fried the moment I turned on the ignition. Time to push the brute home after soliciting the help of my girlfriend to


Norton

Norton Artwork by
NIGEL LOMAS

Artwork, Prints, T Shirts, Mugs, Caps and more
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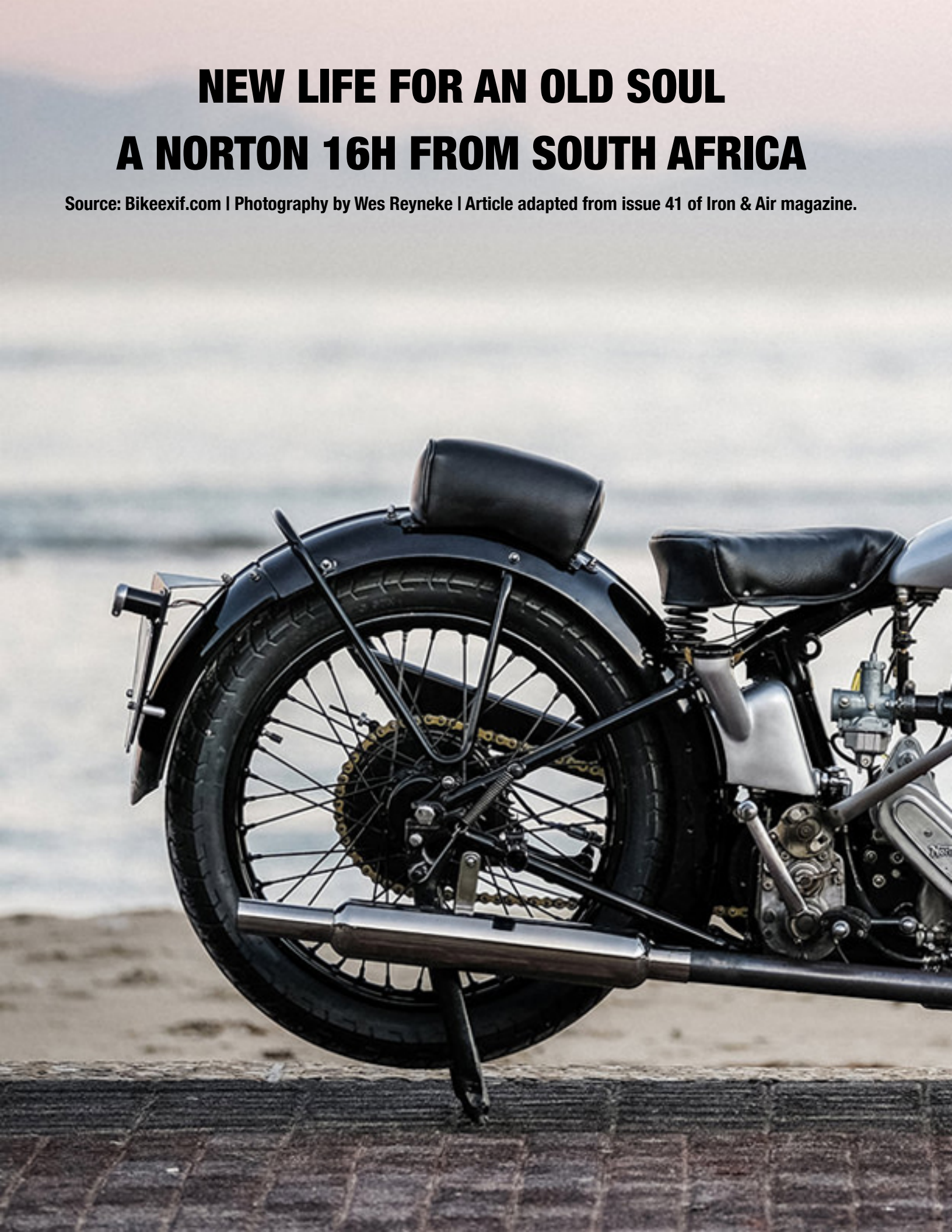
NEW LIFE FOR AN OLD SOUL
A NORTON 16H FROM SOUTH AFRICA

Source: Bikeexif.com | Photography by Wes Reyneke | Article adapted from issue 41 of Iron & Air magazine.



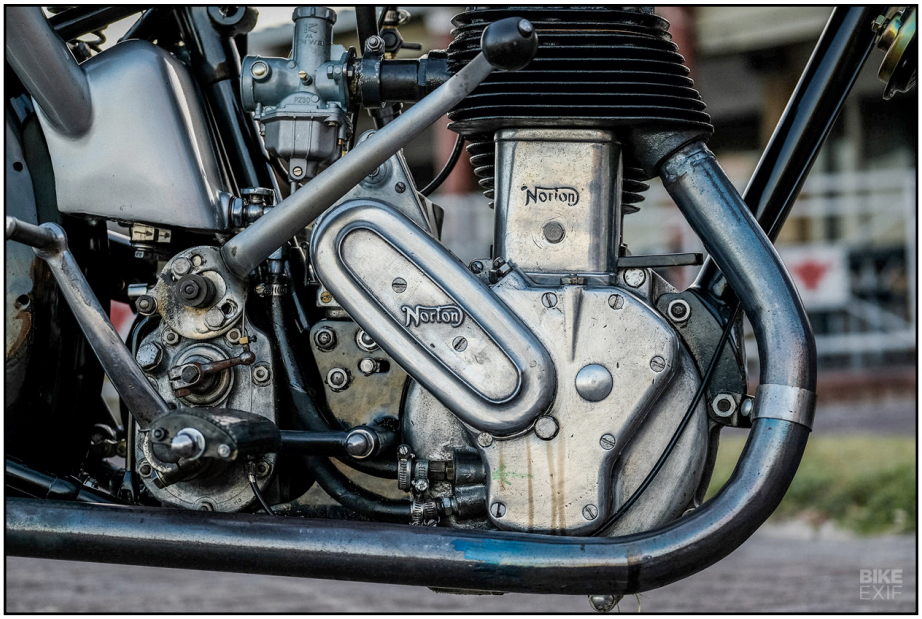

Norton
Norton 16H
1933

IN TODAY'S DIGITALLY saturated world, communication is seamless, relentless and overwhelming. But Vic Matthews is part of a generation that didn't grow up on the internet — his digital footprint is no larger than a seldom-updated Facebook profile.

So I only found out about his painstakingly restored Norton 16H via a succinct text message from my father; *"Vic has just rebuilt this Norton!"* And the instant that message popped up, I knew that Vic had brewed up something killer.

I arrange to meet Vic in Gordon's Bay, a harbor town about 35 miles from Cape Town, where he and his wife, Kathy, have lived for the past six years. Vic, who's now retired, is the most unassuming guy you'll meet. He rides the Norton into the beachfront parking lot wearing track pants, running shoes and bright green socks, later donning Kathy's wooly mittens to keep his hands warm.

As we roll the bike into place, he is as humble about his own work as he is critical, apologizing for the lack of period-correct double pinstripes on the bike.



"*It's not finished yet,"* he says. *"No-one will notice,"* I fire back. *"Those that know, will,"* he replies.

Vic might not have a reputation online, but those who know him, know the quality of his work. He and my pops go all the way back to 1989, when they worked together in Cullinan, a small mining town in the northern part of South Africa. Since I've known Vic, he's had a garage full of classic motorcycles, scooters and automobiles... all in various stages of repair.

Norton 16H was a 490 cc single produced from 1911 to 1954, used by the military and also sold to the general public. Vic quite literally had to bring this 1933 model back from the dead. *"I bought the bike in Pretoria in November 1996,"* he says *"it was on a plot standing out in the open, and was badly rusted and in very poor condition."*

Vic stripped the bike down, had the parts repainted, and sent the oil and petrol tanks to be re-lined due to all the rust. He had the cylinder re-sleeved, and sourced a new piston all the way from Australia. But then he found, and started restoring, a 1972 Porsche 911—so the Norton was relegated to the corner, where it stayed for over two decades.

Vic's interest in the 16H was rekindled earlier this year, when the global pandemic forced South Africa into a strict lockdown, leaving him stuck at home with nothing else to do but tinker. But he had another reason to restore it: he discovered that it was a 1933 model, having originally thought it was from 1938. And that meant it was old enough to enter into a

vintage rally that Vic had been eyeing.

The bike was missing a number of parts, but luckily Vic's amassed a multitude of tools and machines over the years, and can handle most tasks himself. Bits like the foot brake, hand brake lever, front shock tensioner, oil cap, fender mounts, and a bunch of specialized nuts and bolts, all had to be replaced. *"Fortunately I have a lathe, which was a big help,"* he says.

Those parts that could be saved were cleaned, refreshed or restored. Vic had to rebuild the 16H's girder front-end from the ground up, and he machined new spindle bolts for it, because the originals were beyond repair. The seat was treated to new springs and a new cover, and a full set of engine, wheel and steering head bearings were sourced from a local supplier.

Vic also machined down the big end crank pin, which was badly pitted, and installed new rollers. *"I assembled and lined up the crank lobes myself,"* says Vic, *"which is quit a tricky job. Interestingly, no torques are given in the workshop manual to tighten the crank pin nuts—they just suggest you use a substantial spanner with a three foot long pipe to tighten them."*

Vic says that the biggest challenge was working out the valve timing. *"On all the previous engines I have worked on, setting the valve timing is simple, as the gears are pop marked and all you need to do is line up the pop marks to achieve the correct valve timing. With this engine the gears are not marked, and also I was unable to find a workshop manual to show me how to do it."*

"Finally a guy on Facebook from the UK emailed me a workshop manual. The timing is set using a degree

wheel—in other words, how many degrees before and after top dead center the valves must open or close."

Vic rewired the bike too, but needed help overhauling the magneto. So he sent it to an 81-year-old gentleman on South Africa's East coast. "This is a very specialized job," he explains, "as the armature needs 1.6 km of wire wound onto it, and the magnets inside it need to be re-magnetized. He does a brilliant job. If he was not around I would have had to send it to the UK, which would have been very costly—and taken a very long time. Very few people know how to repair them."

Vic has a few more things to tidy up on the Norton; the stripes for one, and a few parts that he wants to get chromed. But he's not exactly sure when he'll get to that. There's a 1946 MG T-type that he needs to finish first, and a Norton Dominator is vying for his attention too.

For now, he seems all to content to just ride his enviable 16H. After a couple of failed kicks, some mumbling and a bump start, the Norton burbles out of the parking lot, and up the winding coastal road out of Gordon's Bay. Kathy follows close behind, just in case Vic breaks down... or runs out of gas.

Built in the light of Experience . . .

THE UNAPPROACHABLE

Norton Dominator

THE WORLD'S BEST ROAD-HOLDER

"Acceleration through the gears when the entire engine performance was used was so zestful as to be almost breathtaking, and again gave the impression that this was an engine over 500 c.c."

—*The Motor Cycle*

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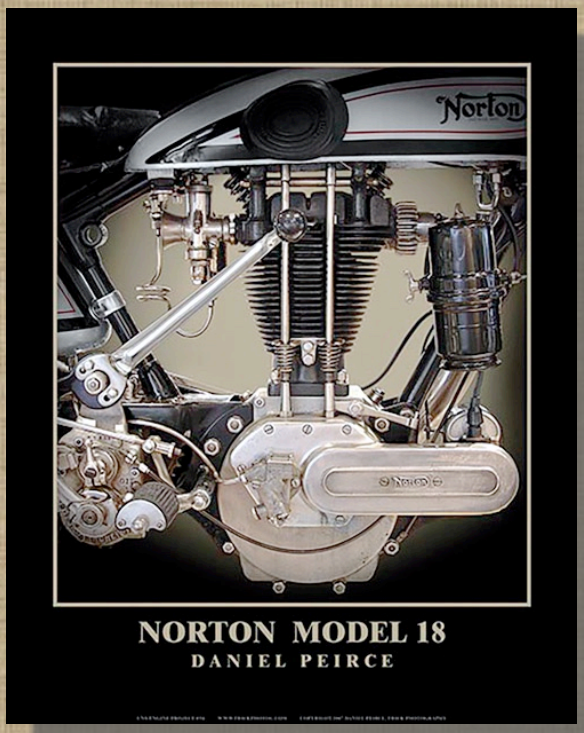
ARTWORK

NORTON MODEL 18 print



This 16" x 20" print-on-demand metallic print was created by professional motorsports photographer Daniel Peirce. Each print is signed and numbered by the author.

What is a Metallic Print? An Endura Metallic print is a unique imaging paper from Eastman Kodak. Photographically printed, the subtle metallic surface produces a depth and color richness unmatched by any other process. A subtle 3D effect is discernible in many of the images. Giclee printing is swell, but for engine pictures, Metallic is the only way to go. Also, print longevity is an impressive 100 years. Metallic prints will not disappoint. Please allow two weeks for delivery.

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MOTORCYCLE CLASSICS T-SHIRT COMMANDO

CLEARANCE ITEM. AVAILABLE ONLY WHILE SUPPLIES LAST!

Newly designed and exclusively available through Motorcycle Classics, these charcoal T-shirts are emblazoned in aged white lettering with the magazine's logo and slogan, "Ride 'Em, Don't Hide 'Em." This design also features a striking image of a custom Norton Commando.

From: Motorcycleclassics.com

Price: $14.95

Ref: 4466

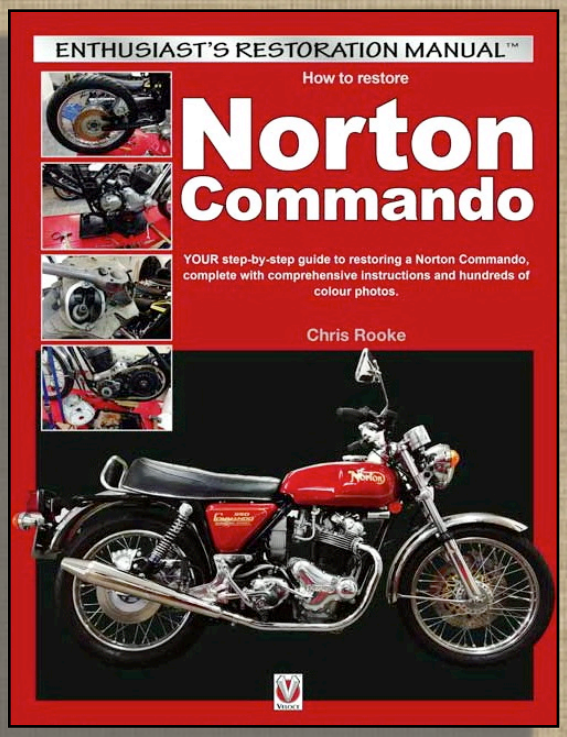
BOOKS

HOW TO RESTORE NORTON COMMANDO

This How to Restore Norton Commando manual is aimed at owners and enthusiasts of the legendary Norton Commando, and covers all areas of restoration from the sourcing of the bike to its completion as a fully restored machine.

Starting with advice on the different models, spares availability and where best to source a bike to restore, the book then covers the complete dismantling and restoration of the bike.

Describing the engine, frame, gearbox, wheels, suspension and forks, brakes, ancillaries, bodywork, and electrics. Plus, the text is illustrated with hundreds of clear color photos.



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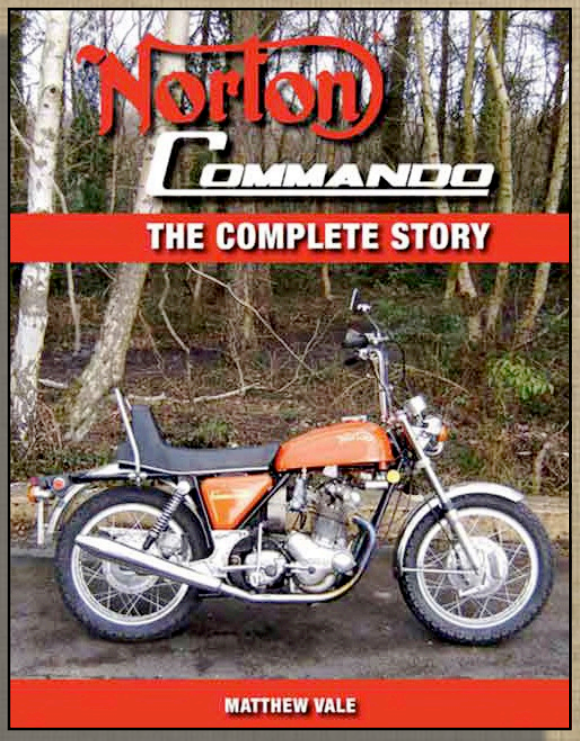
Paperback

NORTON COMMANDO: THE COMPLETE HISTORY

The Commando was the main bike in Norton's range from 1968, and was produced until the demise of Norton Villiers Triumph in 1977. The bike featured the unique 'Isolastic' system that rubber-mounted the engine and protected the rider from the twin-cylinder's vibrations. The model range provided the rider with a choice of touring and sporting models, as well as offering special police machines and off-the-shelf production racers. Commandos feature strongly in today's classic scene, and offer excellent performance and spares availability, as well as a vast range of improvements and updated components.



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Hardcover

NORTON CHRONICLES

By Ian Lawson

My introduction to old motorcycles was in 1989 when a club was formed for pre-1974 motorcycles when I was 24 years old when **The Historic Motorcycle Club** was formed by classic and vintage motorcycle enthusiasts amongst them my cousin and my brother.

Although my family from my grandmother's side were the local BSA agents in Malta, I initially had no interest in these old motorcycles being a Honda man, but I was smitten after my brother invited me to a club run. From this point on my mission in life was to find an old motorcycle which in those days was not an easy task in super small Malta while importing from abroad in those pre European Union days was prohibitive due to customs duties to say the least. After trolling the island for several weeks I did manage to get hold of a **1963 Triumph 3TA** which I restored over a period of 2 years, but that's another story.

Fast forward 26 years to 2015 (doubled in age) I am still a member of the HMC and have formed part of the committee for several years. I still have the old Triumph and after having ridden and owning several Vintage and classic motorcycles I decided that it was time to buy another old motorcycle and from experience I realised that a 1930's model would fit the bill perfectly. Hand gear change was one of the pre requisites when looking for one. After several failed attempts I finally set eyes on a **1930 Norton model 16H** which was at a reasonable price with matching numbers and which was in the VMCC register of the UK.

This was an older restoration probable done in the 70's and which looked pretty complete. The only problem was that it was in Hungary. Long story short, I bought the bike unseen from Peter Imrik of Motomania in Sopron who turned out to be a real gentleman and genuine dealer.

Chas Mortimer was contracted to pick it up while I was on a motorcycle adventure in New Zealand and then deliver to a depot in

Genova, Italy from where it was loaded on a ferry to Malta in time for my return home.

The day finally arrived to pick up the bike and take it home. So I picked it up on a trailer and unloaded it at home and called my wife to come and take a look at my bike of which I was now falling in love with. She looked at it and asked me if I was sure that this is what I wanted? I said yes why? Its because it looks like a hunk of junk and walked away. That really made me feel deflated and wondered if I had made a mistake. So with that I filled the tank with fuel, cleaned out the fuel lines, filled the oil tank and gearbox and dropped a new plug in. First kick no joy. Second kick she fires up and after a few minutes fiddling with the throttle and advance/retard lever, the engine settles to a slow thump thump thump synonymous of a 500 single. Helmet on, and off I go for a 20 mile ride with everything working well but with quite a bit of smoke bellowing out of the exhaust pipe.

This bike has a constant loss lubrication system and by the time I got home the oil tank was mostly empty so something was not quite right. The amount of oil fed to the engine is by a drip method controlled by an oil cock which I discovered was fully open. The way to calculate how much oil is fed to the engine is by counting the number of drips through a site glass. Needless to say with the oil cock fully open the engine was being over fed hence the smoking exhaust. With the feed set to the right amount the smoke disappeared and the bike is now working one hundred percent.

With that sorted out, I put in quite some mileage and since the Norton was now working flawlessly I decided to join some Maltese friends in 2016 on a Rally in Rimini, Italy with the Norton Owners Club of the UK. We were invited by the club rally organiser who previously lived in Malta and who had made contact with the HMC in its early days. All was going fine but on one day when we were on the way to visit a local private vintage motorcycle museum I lost drive in the gearbox and had to be rescued. A van from the museum was dispatched and the Norton was safely delivered to the museum workshop where it was duly repaired within an hour. Now this museum is owned by two people whose day time job are butchers owning their own butcher shop. Since it was lunch time we were taken to a porch where a vintage Moto-Guzzi trike laden with Italian salamis, hams, porchetta and wine was waiting for us. We spent the rest of the afternoon feasting and drinking. The Norton really handled well and

Moto Guzzi Salumeria

Typical Tuscan Vista

The Norton parked outside a restaurant in a sleepy Tuscan village.

flew back to our hotel that evening. "Hic"

Every May in the years BC (before Covid), three friends and myself would trailer 4 vintage bikes to Tuscany for a week to enjoy riding the most beautiful Tuscan roads.
The routes are always designed to take us past a typical village trattoria (restaurant) where we would sample the great Tuscan food and Chianti wines. What more can a man ask for. Great bikes, fantastic company, probably the best motorcycle roads in the world, superb food and tasty wines.

In 2019 BC a group of friends decided to attend the Irish National Vintage Motorcycle assembly based in Killarny.
I had been there before in 1994 when I had borrowed an Ariel Red Hunter from a friend of mine in the UK. This year I would take the Norton. So we loaded 5 motorcycles into a van and 2 of us drove the van all the way to Ireland and for the return journey myself and a friend would drive back. Once in Ireland we enjoyed a good five days of riding and navigation with the obligatory stop for an Irish coffee or a pint of Murphys Irish stout. This is probably one of the best ever organised motorcycle rallies and it is a truly enjoyable event.
Unfortunately it has been organised by the same people for donkeys years and I suspect that besides getting on in years they are also getting tired of it.
The Norton performed really well on the new tires I installed just before the rally. The only problem I had was a broken main stand which was duly braised and repaired by one of the organisers.

Unfortunately the pandemic has put an end to organised events outside of Malta and the Irish rally was the last overseas event I competed in with the Norton. We do have Saturday afternoon runs with the HMC but a group of us, the Irish rally group, meet up every first Friday of the month in the winter months for a run and lunch in an open air restaurant while maintaining social distancing. Its quite a palaver but that's the best we can do in the interim.

The Norton remains my favourite bike and it is an excellent handling machine while quite fast for its age. I will not restore it and just give it the oily rag treatment. The engine

The Norton somewhere in the ring of Kerry, Ireland

runs fine and my motto is let sleeping dogs lie. I have no plans at the moment for overseas rallies with this bike but I will hopefully be competing as a navigator in a Rally next year from London to Lisbon in a 1950 Triumph TR3 car, but that is another story.

Friday afternoon photo shoot after a run and lunch


850
COMMANDO


Norton

A 35,000Km trek

When your taste for adventure brings you to North America

Story by Denis Bourghelle

Introduction by Christian Guislain from Chroniques Moto

Going on a journey of several months in North America, riding a Norton Commando which already displays some 170,000km on the clock, this hardly corresponds to the idea that we traditionally have of a motorcycle trip. Rather, you imagine a big Japanese trail bike covered with stickers from generous sponsors. However, this is what a twenty-six-year-old French man, Denis Bourghelle, undertook between August 1989 and February 1990.

Denis has been riding motorcycles for eight years, and has remained loyal to the English brands. His first motorcycle, a Triumph 750 Tiger, after serving him for over a year, was destroyed in a dramatic accident. It was replaced by the one that took him to the USA and still takes him to work every day, a 1977 Norton 850 Commando MkIII. The kind of machines that some would like to see listed on the stock market... The Norton has known various skins: the John Player set, sufficient for small trips and ideal for showing off, has given way to the Interstate gear, which is much more suitable for long distances. The tank here is a 750 model, with a capacity of twenty-seven liters.

Whilst others are drawn to the sun, Denis feels the pull of the Arctic polar regions. This is how he got his start in Scotland, where he returned four times, enjoying the desolate and deserted roads and landscapes. The weather conditions, often deplorable in this region of Great Britain, did not diminish the appetite of our man, and later on, Denis discovered Scandinavia and the midnight sun beyond the Polar Circle whilst riding his Norton. Already at that time, the project of a great trip to North America was germinating in his mind.

From the start, money was going to be a major problem. The electrician's salary did not allow for big savings, compared to the considerable budget that such a project requires (already 10,000F just to transport pilot and machine to the other side of the Atlantic). The search for sponsors was not very successful, either in terms of parts or photo film. The sale of stickers depicting the trip raised some pocket money, while the restored Triumph when sold, provided the largest possible resource.

The preparation of the bike had started long before. Thus the notoriously insufficient front disc

brake was replaced by a Norvil. The rear disc received an identical caliper, in order to carry only one type of braking pads. The fork was fitted with a Norman Hyde stiffener as well as a steering damper. Denis then turned his attention to the lubrication system, installing an oil cooler with thermostat, thermometer and pressure gauge. But the most impressive modification was the fitting of an Interpol full fairing, the one Norton fitted as standard on Commandos intended for police forces.

Before letting Denis tell his American journey himself, we still have to explain the reason for choosing the motorcycle. As we will see in the story, a trail bike would have been more appropriate than the big English bike for a good part of the way, whether on the tracks of northern Canada or Alaska or the Californian desert. An interesting choice would have been to buy a motorcycle on arrival in the USA and sell it on return. But that's without knowing Denis and the loyalty that binds him to his machine which no longer holds any secrets for him. Since there would be travel, it would have to be done with the Norton, period! This choice would also prove to be a decisive advantage, in the form of the assistance and friendship of the members of the International Norton Owners Club, from whom Denis would find assistance and support on several occasions.

WELCOME TO CANADA

The dream begins on August 15, 1989, when for the first time in my life, I board a plane to Montreal, and set foot on the "New Continent" at 9:45 p.m. local time. I planned to pick up my motorcycle the next day, as it arrived by boat in a container. Stupid mishap, it won't be available to me until five days later. Luckily, I have friends in town who are helping me get over this wait. Disembarking the bike will be without any fuss, without any official looking at it, or asking me for any paperwork.

From the 21st, I set sail for the West because my first goal is Alaska and without wasting time because with the autumn approaching, it is all about timing if I do not want to be caught by the return of winter, very rapid in the arctic regions.
My first stop is Ottawa, a very beautiful city. From there, I take the only road that crosses Canada right through: the Trans-Canada Highway, and enters Ontario. Like Quebec, it is a country of lakes, rivers and pine forests.
In Winnipeg, I meet a member of the local Norton Club who offers me hospitality and a copy of the Club's address book (over 5,000) across North America. It will be of great help to me as I continue on my journey.
The crossing of Saskatchewan and Alberta goes smoothly; the roads are excellent and I travel 4 to 600 km daily, sometimes 900 km.
But as I enter the North West Territories, the strip of asphalt turns into a gravel road, full of potholes.
September 1st, first snowstorm. Fortunately this does not last long, and here I am soon again under the blue sky of this Indian summer. Although I am determined to make a detour of 600km to discover Yellowknife, the capital of the Territories, the prospect of many kilometers Paris-Dakar style makes me take the direct route to Alaska: 1200km of trail like road. I cross a particularly wild place: mooses, caribous, eagles, mosquitoes, pines, birches, rapids and waterfalls are on the program; I am in the land of adventure.
Night is falling and I have to pitch the tent. I find a great place that suits me perfectly. Suddenly in the middle of the night, howls break the silence and come closer. I "unzipped" the tent and see two

wolves. This is not to reassure me. I throw a few branches into the fire and take refuge in the sleeping bag, pocket knife in hand, ready for anything. The next day I woke up like if nothing happened!

I take the trail that never ends, the last gas station is far behind me and my fuel level is at its lowest ... No cars, no homes. I drive economically and very carefully if I want to make it out alive. Finally, after 500km, I find an Indian village where I can fill up with 26 liters in my tank which contains 27! This 1200 km trail ends in Fort Nelson.

I then take the "Alaska Highway, a road built in nine months by the US military and whose surface is not great. On this route, gasoline is scarce, and a tank offering a range of 500 km is essential.

Unexpected encounters make me stop the trip for a few photos: Porcupines, marmots, raccoons cross my path. Suddenly, around a bend, a beautiful brown bear is sitting in the middle of the road; he observes two tourist cars photographing him, but seems more interested in food. I decide to "take his portrait", at a reasonable distance, of course, but while putting my camera in its bag, I raise my eyes to look at him one last time and notice with amazement that he is heading towards me. . I get on my Norton in haste and take off as fast as I can.

ALASKA

Leaving the Northwest Territories, I entered Alaska on September 7th (in the USA for the first time). Shortly before Fairbanks, my engine stops, for no apparent reason, and starts again after three kicks, with a "new noise", small certainly, but which will make me wonder for the next 3000km!

In Fairbanks, 9000kms after Montreal, I change my rear tire, mounting the one I had taken with me. After 3 days of rest, I take the road north, towards the Arctic, but soon after leaving town, the asphalt turns into a horrible muddy path that runs along the pipeline that brings oil from North to South.
I cross the Yukon on an icy wooden bridge worn by the trucks that supply the northern mining fields. These are the only vehicles I see. The Yukon River is the southern edge of the tundra that I suddenly find myself in, as if I went through a wall. Here I am in the Arctic Circle, and my heartbeat quickens. Crossing the same Circle in Norway, and even going as far as the North Cape, I had never left civilization or the good roads so far behind me.

In my solitude, I think of the difficult kilometers I have just covered and almost turn back. But I'm interrupted in my thoughts by a truck driver who stops to relieve his bladder; he is interested in my adventures and we have a nice chat. These few minutes of friendship give me the courage to continue on my way but 50km further, in Wiseman, a barrier closes the road, and only opens for mining vehicles. I will not see the Arctic Ocean. I immediately think of my second goal: the Mount Rushmore.

Shortly before crossing the Arctic Circle again, I crashed with no injury, I cracked the windshield, a

footrest is bent and the brake lever is broken. So I stop for the night, a long, cold, sleepless night. In the morning, after a makeshift repair, I decide to find the southern heat as quickly as possible, but the cold will follow me to California.

THE NORTON IS ON FIRE!

Back in Canada, I stop in Whitehorse for a week to visit this corner of the gold rush. There is a marvelous museum there, which traces the life of the pioneers in this then deserted region. Today, many tourists frequent the area, and some, stricken with gold fever, stay to try their luck. My fever is different: The road is calling.

But my engine worries me; the little noise of 3000kms ago has gained momentum. At the Fort Nelson campground, under the snow, suspecting a problem with the valve or guide, I decided to open the cylinder head. Oh surprise! the right cylinder exhaust rocker ball had detached and slid through the tunnel of the rocker arms to the camshaft lifters. With the ball out, I have two options: wait here for the parts that I order in Vancouver, or rebuild the best I can and continue to Edmonton, 1000kms from here. I choose the second option, but 200 km from destination, what should happen happens: the rocker rod breaks; as the exhaust valve remains closed, the explosion passes through the open intake and ignites the air filter and carburetor. Panic! I turn off the fuel tap, I try to stop the fire with my hands, I blow, but only manage to burn my beard; I lay the motorcycle in the middle of the road. A truck driver stops and extinguishes the fire with his on-board fire extinguisher, saving my bike and my trip. Phew!

I remove the right sparplug, as well as the charred air filter, replace the gas hoses and reach Whitecourt, 50kms away, on a cylinder, much to the displeasure of the clutch which does not appreciate the treatment. With the help of the Tourist Information center and my list of contacts from the Norton Club, I reach out to the closest member, and John Oland from Edmonton picks me up with a trailer.
I will stay with him for three weeks, until the Norton is fixed. I change the carburaters, pistons, rocker rods ... I take the opportunity to visit the city with its shopping center, the West Edmonton Hall, the largest in the world, which has three floors of stores, an amusement park, skating rink, a wave pool and where $10 in your pocket melt like ice. The rest of the time John takes me fishing, or we go on motorbikes, him on a 500 Triumph, me on his 750 Commando that he lends to me.

He's a friend I can barely leave on October 16, and here I am again on the road with a Norton that got a makeover. I have to drive fast (over the speed limit) because I have a meeting with Bob Benisson, the president of the Norton Club in Cranbrook. Thanks to my Interpol fairing, I drive at a good speed and nothing on board moves. Suddenly, a car passes me, flashing the headlight, the red and blue beam of lights comes on, after a well-controlled skid U-turn, Starsky and Hutch approach. That's it, I said to myself, I got caught at 130 instead of 90; but no, it's my yellow headlight that they don't like. No matter how much I explain to them that it is mandatory in France, they don't want to know anything. During this trip, I will have been stopped twice for this headlight. After telling Bob about my adventures, I leave for the USA via Montana.

USA, HERE I COME!

In Whitefish, I stop at Bob's friend house and visit the area (Glacier Park). I continue my journey to Wyoming, passing through Yellowstone Park, famous for its geysers, canyons and bisons. A stop at Cody and a visit to the Buffalo

Bill museum brings me back to my childhood. Then direction the Black Hills; the shorter path takes me through Powder River Pass at an altitude of 3000 meters. The snow is there: it melts on the engine, but freezes instantly on the motorcycle. I have to stop every four kilometers in order to break the ice on the steering damper and on the suspensions; I can't stop the engine for fear of not restarting. This bad weather follows me to Gillette, where I take a hotel room: a hot bath and a good bed are welcome.

The next day, I arrive in South Dakota under a beautiful blue sky. I pass by Sturgis, the site of the gigantic annual Harleys gathering, but without it, it's a dreary town like those in the area elsewhere. I make sure to visit Mount Rushmore, where the busts of the four presidents are carved into the rock. It is very impressive. I am happy to be in this country. It is October 27th and my Norton has 16000kms in the wheels.

When I planned this trip, I set myself three goals: Alaska, the Black Hills and San Francisco. I am now leaving for my third goal. The bad memories of the previous days are faded by the blue sky, but I have to go through Wyoming. When I get to Casper and pitch the tent, the weather is clear, but in the morning, when I wake up, the Norton is under 20cm of snow, and the snow is still falling. The only thing that drops faster than this white stuff is the temperature, the thermometer dropping to -30°! I console myself by thinking that the snow insulates me somewhat from the cold and the blizzard. During the three days that this cold spell lasts, it will be impossible for me to get back on the road; anyway, the bike refuses to start, despite my best efforts.

When I can finally leave this place, it's on an ice-covered road; the wind is blowing very hard and causing the motorcycle to deflect. For a moment, I see death up close: the wind pushes me to the left, towards the ravine, with such force that I no longer control the machine on the icy road. In a fraction of a second, I think I can save my life by putting the bike down, but at that moment, the mountain range rises again and protects me from the wind; I can take my right back. Phew! It was close...

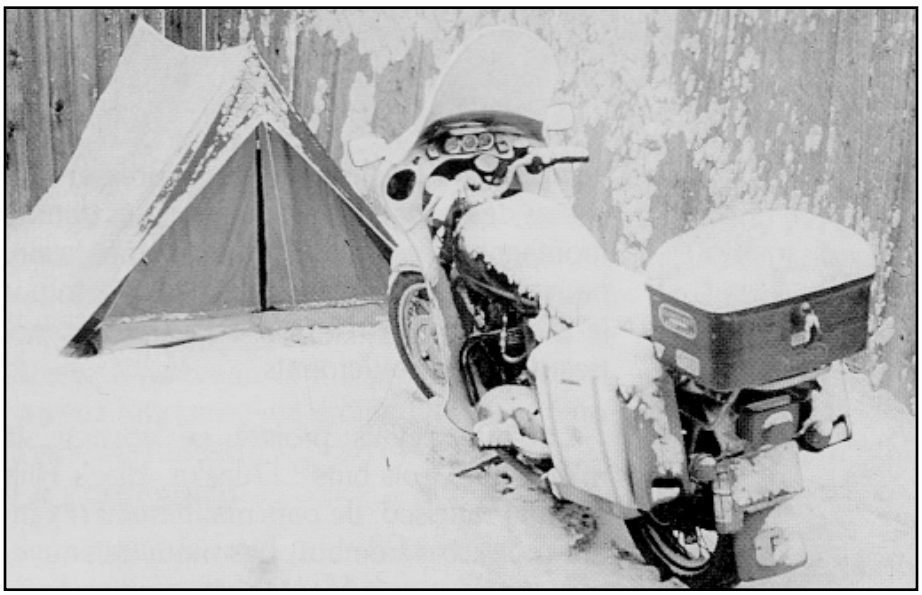
CALIFORNIA

I leave the cold for the West and California, taking Highway 80 to San Francisco. But it wasn't until Salt Lake City that the sun set in, helping me change my rear tire again. After Bonneville (where I don't make a speed record!), I reach the Nevada desert. On the motorway, thanks to my full fairing, I drive in the left lane, I put on the "automatic pilot", direction West. For a year, the speed has been limited to 110 km/h, but although driving at 130, I am sometimes forced to go back to the right lane to make room for huge trucks, Kenworth, Peterbuilt and other Mack, which, even on a hill , do not slow down.

THE PACIFIC COAST

The long straights of the desert bore me, but on November 5th I finally arrive in San Francisco, less than a month after the terrible earthquake that hits the region. I marvel at the 2400m long Golden Gate Bridge. The Bay Bridge is still under repair following the disaster. The "Freeways" are swarming with people; I leave them to appreciate the pretty Californian roads, in particular the Pacific West, which threads along the cliffs. I meet Alan Goldwater, the president of the Norton Club of San Francisco, thanks to whom I find some temporary work to be done, to put my finances back up. On Sundays, I attend the monthly gathering of about two hundred motorcyclists who come to Alice's Restaurant for a Budweiser.

The English stores in the area will be of great help to me, especially Fair Spares and Raber's Parts Mart in San José, which will help me for the remainder of my trip. I change



my wheel bearings and my front tire to take the road to Los Angeles, following the Pacific coast. I don't want to miss the Sequoias National Park, those huge trees over a thousand years old at the foot of which I feel tiny.

On December 9th, I arrive in L.A., where I am met by members of the Norton Club. The next day, with Bruce Graf, a friend who is hosting me, I participate in a Toy Run. Everyone is fascinated by my motorbike and my adventure. I am famous in a way. I visit Hollywood, Beverly Hills, Disneyland. It is a wonderful place, filled with people, lights and dreams. I feel like I'm on vacation, vacation that lasts until after the New Year.

Then the road calls me again. I leave under the snow; I enter the Mojave Desert, the Desert of Death (with its 60° in summer), the sky is very blue there. It is January 4th, 1990. I pass Bad Water, a lake that is 86 meters below sea level. Next is Las Vegas, city of millions of lights, dollars and limousines. There, a sheriff in a Chevrolet Blazer playing John Wayne in "We stop Denis on the Norton"! Alright, I drive fast, but no need to fuss over it! My second speeding ticket! I continue on my way to Arizona.

In Williams, I leave the Freeway to go to the hotel, because the snow prevents me from camping.
In the morning, the thermometer announces -20°. The Norton hardly starts to take me to the Grand Canyon. I am worried when I see the pressure gauge at 0. What is going on? Oil pump? Joints? No, the oil is frozen, the pressure is too strong and the mano doesn't like it. The temperature is now better and the needle returns to its usual location.

The Grand Canyon: this huge place gives me goosebumps, I feel like an ant in front of this setting. I can see the Colorado two thousand meters below, in the snow.
I leave these places to enter the desert of Navajo Reserve: near Kayenta, I visit a ruin at the bottom of the canyon, a village where Indians lived 2000 years ago and which they left without known explanation. I am on the trail that leads to Monument Valley; the decor is different: volcanoes, red powder. In Arizona, the landscape is varied: deserts, pine forests, cactus... The temperature variations are significant.
I go to Phoenix, where the US F1 Grand Prix takes place, it never rains there, all the roads are straight. I stop in Tucson, where I find some work in a motorcycle store.

MEXICO AND TEXAS

Finding myself a hundred kilometers from Mexico, why not, I am tempted. I am advised to be careful, but curiosity wins out. I cross the border at Douglas Agua Pietra. It is a very special country, where the rules of the road are completely ignored. I got lost a bit, then managed to get directions to Chihuahua.
On the way, I find accommodation in the back room of a restaurant where I have been able to change my dollars into pesos. There, people live outside, music blaring. The next day, I refuel; friends advised me to pack additives, but despite that, the engine rattles at full blast, with its 9 to 1 compression. They say they make this mixture with tequila and water!
I finally arrive at my destination and believe I am in Paris at rush hour. Without waiting, I take over the direction of the USA. It's a long drive and I haven't refueled "Nova", no thanks. Hopefully it will go all the way to the border; all along, I only meet poor people; at each stop, children gather around the motorbike and ask me for money.

Here I am in Texas, heading to Houston, which will see the end of my trip. I am expected by a friend who will find me a job to pay for my return. I meet lovely people who help me put the Norton in a crate that will take the boat to Antwerp, Belgium. As for me, I take the plane to London. It's hard to leave, but all good things come to an end.

Denis Bourghelle's
1977 Norton 850 MkIII

I did 35,000 km, from Alaska to Mexico to San Francisco. Fantastic, right? The Norton has now 380,000 km; NO, NO, I didn't put a zero too many! Still running, and will keep running until the end of time. See you on the road. Denis...

Sent from Czech Republic
by Tomáš Tesař

a picture of his black
1973 Norton Commado 850 Roadster
parked next to his friend in the town of Pardubice

Stanley Krohn's 1967 Norton N15CS.
Photo by Robert Smith

Name Games: 1967 Norton/Matchless N15CS

Consolidation in the British motorcycle industry led to the N15CS, a Norton with a Matchless frame.

By Robert Smith | Source: motorcycleclassics.com

1967 Norton/Matchless N15CS

- Engine: Norton Atlas 745cc air-cooled OHV parallel twin, 73mm x 89mm bore and stroke, 7.5:1 compression ratio, 55hp @ 6,800rpm
- Top speed: 100mph (est.)
- Carburetion: Two Amal 389 Monobloc or 30mm Amal 930 Concentric (late models)
- Transmission: 4-speed, chain final drive
- Electrics: 12v, Lucas K2F magneto or coil and breaker points ignition (late models)
- Frame/wheelbase: Matchless mild steel dual downtube double cradle frame/57in (1,448mm) (est.)
- Suspension: Norton Roadholder telescopic forks front, dual shocks rear
- Brakes: 8in (203mm) SLS drum front, 7in (178mm) SLS drum rear
- Tires: 3.25 x 19in front, 4.25 x 18in rear
- Weight (dry): 407lb (185kg)
- Fuel capacity/MPG: 2.5gal (9.45ltr)/40mpg (est.)
- Price then/now: $6,000-$12,000

Putting one maker's engine in another manufacturer's frame became popular in Britain in the Sixties. First choice was usually the very tunable Triumph 500cc or 650cc twin in a Norton Featherbed frame. The result was called a Triton, a blend recognized as almost a model unto itself.

So what do you call a Matchless motorcycle with a Norton engine? A Matchton? A Nortless? Well, according to Associated Motorcycles, the owner of both brands, it was either or both a Matchless and a Norton,

depending on which badge you preferred. Confused? You have a right to be, and there is an explanation — but first, some background.

Consolidation in the British motorcycle industry after World War II saw many brands absorbed into larger companies. When BSA bought Triumph in 1951, it became the biggest motorcycle manufacturer in the world at that time, also owning the Ariel, Sunbeam and New Hudson brands. Associated Motorcycles, the Matchless owners, had absorbed AJS in the 1930s, adding Francis-Barnett (1947), James (1951) and Norton (1952).

But by 1962, AMC was drowning in red ink, hit hard by the boom in imported scooters. To cut costs, they decided to close the crumbling and inefficient Norton plant in Birmingham and consolidate production at their Plumstead, London, factory.

Whether what happened next was planned or happenstance is moot, but it solved a number of issues for the company.

Finding a solution

Feeling the ever-present pressure for "more cubes" from its U.S. distributor, in 1962 AMC had launched a 750cc version of its own parallel twin as the Matchless model G15 (also known as the G15/45). In an attempt to mitigate mechanical issues (mostly crankshaft related), the 750 engine was detuned, yet it still proved unreliable, and the G15 was dropped in 1963.

And while the 750cc Norton Atlas had been selling well in the U.S., AMC realized it was missing out on a growing market for scrambler-oriented bikes because the featherbed frame used in the Atlas proved too fragile for off-highway use. Triumph and BSA had developed off-highway versions of their street bikes for desert racing that were both strong and handled well, the Triumph T120C and the BSA Wasp/Hornet.

But there was a solution. AMC had demonstrated that it had a strong enough frame for offroad use in the 650cc G12CS (CS for Competition/Spring frame) of the early Sixties, unfortunately abandoned because of engine reliability issues. And with Norton production now in-house in Plumstead, AMC had direct access to the reliable and reasonably powerful Atlas engine — even though it had been detuned with a 7.5:1 compression because of excessive vibration.

For 1964, the G15 was relaunched as the Mk2 and fitted with the 745cc Norton Atlas engine, Norton Roadholder fork, and Norton brakes — the first AMC-Norton hybrid. The sportier, café-style G15CSR (R for road) soon arrived with swept-back headers, rear-set footpegs and lower handlebars. It was mainly intended for the home market, though some did make it across the pond.

Alongside the G15 and G15CSR were AJS branded variants, identical but for the badge and paint: the Model 33 and 33CSR were usually finished in polychromatic blue.

Based on the 650cc G12CS, the G15CS Atlas Scrambler, with its AMC frame and Norton Atlas engine, was built specifically for export. For the G15CS, the dual cradle frame and swingarm were modified to accept a 2-inch-over Norton Roadholder fork (fitted with internals from AMC's own Teledraulic unit) with steel tubes covering external springs, and a Norton rear wheel.

The Atlas engine was machined to accept the AMC alloy primary chaincase with drive to the AMC/Norton 4-speed gearbox. Gas and oil tanks and the battery box all came from the G12CS. The resulting bike was sold with a Norton badge as the G15CS/N Atlas Scrambler, and with the Matchless logo as the G15CS/M Matchless 750 Sports Scrambler.

Both were finished in Cardinal Red.

They proved very competitive in desert racing, with Californian Mike Patrick winning the Cross-Country National Championship outright on an Atlas Scrambler in 1964, interrupting Triumph's domination of the Open class.

For 1965, the G15CS was relaunched with a Norton logo as the N15CS, and with the new winged Matchless tank badge as the G15CS. Changes included a revised fork (now with Norton internals), and with gaiters rather than steel tube covers.

Production continued sporadically with numerous "serial" changes into 1967, by which time the N15CS was fitted with coil ignition replacing the magneto, Amal Concentric carburetors replacing the Monoblocs, and a new high-flow "six-start" oil pump. A slimmer seat and restyled fenders were fitted, and both the Norton and Matchless variants were finished in Cardinal Red.

When AMC ran out of money in 1966 and went bust, its assets were purchased from the receiver by Manganese-Bronze Holdings, and the company was re-formed as Norton-Villiers in early 1967.

New owner Dennis Poore had ambitious plans for the company, which included a new Norton to replace the Atlas — the forthcoming Commando. But another opportunity was about to present itself from the U.S.

California connection

The story goes that Joe Berliner of U.S. distributors Berliner Corp. saw an opportunity to create the ultimate British twin desert sled.

AMC's best offroad frame was the light-but-strong Reynolds 531 chromemoly dual downtube item used in the G85CS, the last of the Matchless line of offroad singles. But the 500cc single was down on power compared with the competition, and Berliner proposed an Atlas-powered version. However, AMC told Berliner they would be unable to fit the Atlas engine in the G85 chassis. Whether this was a technical or commercial decision is unclear.

California dealer Bob Blair of ZDS Motors in Glendale and his mechanic Steve Zabaro decided they would try. Blair had a G85CS with a crashed front end, which he fitted with a new fork and an Akront alloy rim laced to a Matchless hub. A new N15CS provided the donor engine. With suitable modifications and with Duralumin engine plates cut to suit, the Atlas engine was a snug fit in the G85 chassis, and became the prototype for the Norton P11 (Motorcycle Classics, September/October 2010).

Berliner sent the complete machine, together with Bob Blair, to the Plumstead factory to debrief what was required, and the first production P11 was built in March 1967. The basic concept, with numerous changes to components, remained in production for the following two years, through the P11A and street-legal P11 Ranger versions. The hybrid line was finally dropped in 1969 so the factory could concentrate on the Commando.

Stanley Krohn's
1967 Norton N15CS

The N15CS was more mix 'n match than just a Matchless with a Norton engine, like the P11. The N15CS featured here has an appropriate history.

It was originally sold by Pat's Top Hat Cycle in Burien, Washington. "Pat" Patereau was the Norton and Ducati dealer for the area, and his son Jim went on to be an accomplished local competitor. Stanley Krohn bought the N15CS as a used bike from Pat's in the late 1960s.

"Somewhere along the line it got kind of choppered out," says Mark Zenor of Zenor's Norton Service in Graham, Washington, who carried out the restoration. As Mark received it, it had the wrong rear fender and taillight. At the front was a different headlight, the forks had been modified 6 inches over, and it was topped off with *"chopper bars that were the chrome twisted squares,"* Zenor says.

Krohn had taken the Norton to a cycle shop that was going to rebuild the cylinder head, but the engine had never been reassembled, and the dismantled motorcycle sat in a shed for 18 years. *"We got it out of that shed four years ago,"* Zenor says *"I finally got it done this fall."*

Zenor could tell there had been some head work, but *"it sat out in the open uncovered for that whole time, so it all had to come back apart."* The cylinder head responded to the valves being re-lapped. Though the cylinder block was reusable, showing scuff marks and some minor scoring, Zenor replaced it after discovering a broken fin. Surprisingly, the bottom end was in good shape. *"They're pretty hard to beat up,"* Zenor says, adding, *"The gearbox wasn't too terrible. A couple of gears had that usual spalling and pitting, which we took care of. The rest of it was really finding the little bits, like the proper fenders, mounts and stays."*

The seat proved especially problematic: *"I don't think that seat's quite proper," Zenor notes. "It's in that in-between year."* N15s are usually shown with a seat without the all-round seam on Krohn's bike. *"I think it should have come with a little bit longer, skinnier, more rounded-looking seat, like you'd see on a Fastback, but I could never find one,"* Zenor adds.

Zenor's biggest challenge was *"figuring out all the right nuts and bolts."* It seems AMC never published a separate illustrated parts book for the N15CS, just a supplemental listing. That made finding the right parts even more difficult. *"Everything's by number and period nomenclature. I'm doubly handicapped here. American English!"* Zenor says. *"It took me awhile to figure out 'pins' were 'bolts.' I worked with Mike Partridge at Walridge Motors. He's got a bit of a sweet spot for these hybrids. He keeps a good stock. We swapped some stuff back and forth, and I ended up getting just about everything down to most of the fasteners."*

Zenor had the frame powder coated by American Powder Coating in Auburn, Washington (253-833-7870), to an *"80 percent shine."* The sandblasting was done by Performance Coatings, and the

painting was done by Moslander's Rod and Custom in Monroe, Washington.

Putting it together revealed some interesting assembly protocol. *"The centerstand and the bash plate. There's nothing that tells you to put them on first. They should really go in place before you load the engine and gearbox in there. I've got them on, but now that I've experienced it, doing it again I'd put it together differently,"* Zenor says.

Part of the problem is that the Norton engine is a pretty tight fit in the Matchless chassis, which makes adjusting the magneto almost impossible. *"It becomes really apparent when you put it side-by-side with an Atlas, and you can see how that gearbox and engine was really spread out for the frame. It's just leaps and bounds easier [the Atlas] to work on."*

The N15CS is a perfect example of how adversity sometimes creates opportunity. If AMC hadn't decided to close Norton's Bracebridge Street, Birmingham, factory and consolidate production of Matchless and Norton motorcycles in Plumstead, it's quite possible no one would have thought of putting a Norton engine in a Matchless frame.

There's no question that the success of the N15CS in the U.S. kept AMC/Norton-Villiers afloat until the Commando came along in 1968, adding another 10 years to the life of the aging Atlas engine. But that's a whole other story...

NORTON OWNERS CLUB FRANCE

the NOCF is:

1. The NOCF (Norton Owners Club France) is the French club of the Norton Owners Club, founded in England in 1959, whose charter is to contribute to the preservation of British motorcycles and particularly those of the Norton brand, to create links between friendship and mutual aid among its members;
2. Outings in France and abroad;
3. more than 300 solidarity members, in France but also in Belgium, Switzerland and elsewhere.
4. a member of the FFVE;
5. VIBRATIONS, the 100% Norton newspaper, with anecdotes, history, tips, and news;
6. Technical documentation;
7. REGALIAS : clothing and accessories bearing the Norton logo.

Club address:
NOCF
3 rue de la Vaure
42290 SORBIERS

Web Site:
https://www.norton-club-fr.org

Mick's Norton-NSU hybrid in the Trev Deeley Museum

BUILDING A NORTON FOUR

by Paul D'Orléans

In the mid 1960s an overhead-camshaft four cylinder motorcycle was the object of fantasy and an ideal of red-blooded motorcyclists everywhere. No fast Fours had been available commercially since 1942, when the last Indian 4 rolled out of Springfield, and only the rare (and ugly) MV Agusta 600 was theoretically available for the street. The MV was prohibitively expensive, and wasn't what riders wanted, which was a roadster version of their all-conquering World Championship racing bikes. Four-cylinder bikes had been around since the first FN Four of 1905, but after WW2, only Nimbus offered a four pot bike, and it was a strictly utilitarian holdover from the 1930s, with exposed rocker gear and a strip-steel frame. Creative motorcyclists responded to this void as they always had – by making their own, lashing together a pair of twin-cylinder engines, or fabricating home-designed 'cammy' fours (from Nougier, Marsh, etc), which cropped up in bike magazines like exotic flowers.

Another route to a 'four' was to stuff a small car engine into a motorcycle frame; that was the route of Friedl Münch, who series produced his 'Mammut' – see our test ride here. The most capacious frame in the 1960s was the Norton Featherbed, which had been in

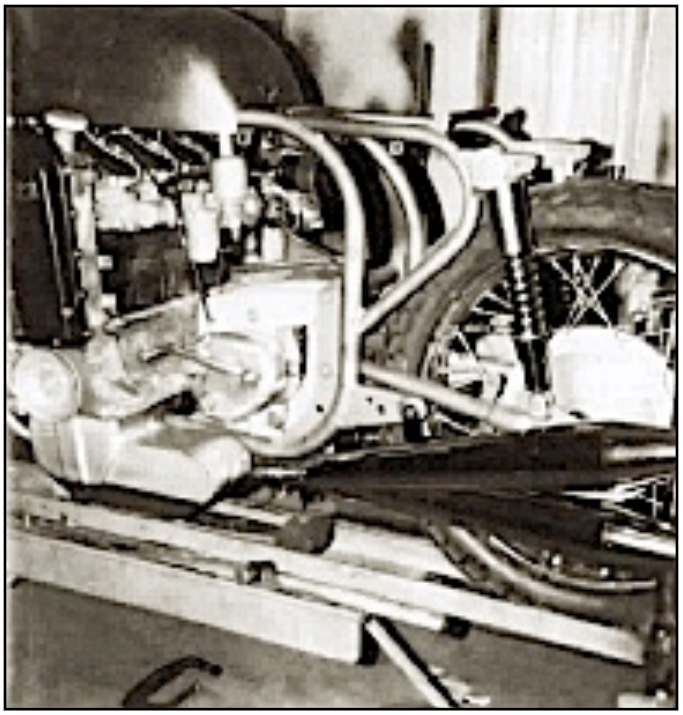
In profile, Mick's special looks like a standard Norton...

production since 1952, meaning plenty of 'loose' frames were available in salvage yards by the 1960s. A four-cylinder car engine with the right 'spec' was hard to find, as most automotive 'fours' were both water-cooled and made of cast iron – guaranteeing a very heavy motorcycle. A few small engines were of more advanced spec, and the two most likely candidates (in Europe at least) had deep motorcycle connections built into their DNA.

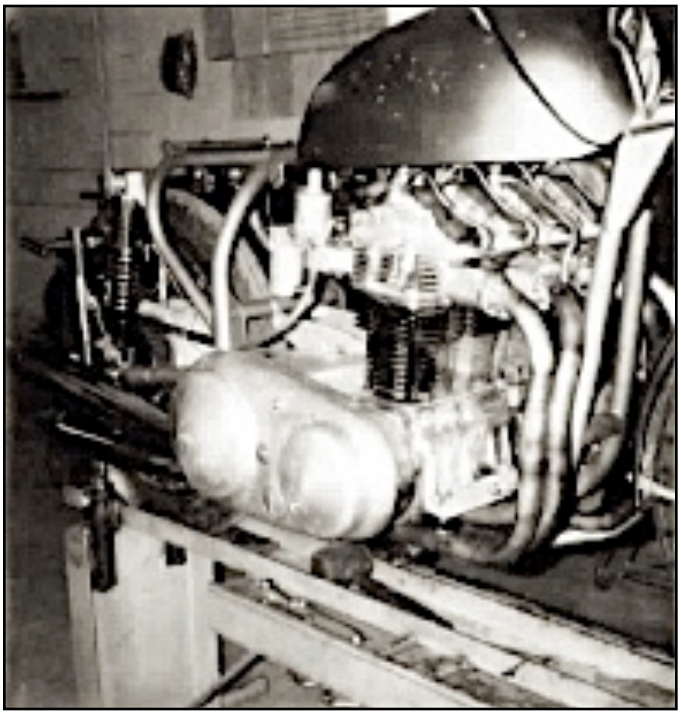
The Hillman 'Imp' had a powerful watercooled engine, designed by the unsung Norton hero Leo Kusmicki, the man who touched the 'Manx' with his magic wand and kept it competitive for 10 years after its 'sell-by' date. Kusmicki worked for the automotive industry after Norton shuttered its race shop, and the overhead-camshaft 'Imp' engine he designed was strong and tunable. Its water cooling dissuaded many solo motorcyclists, although plenty of racing sidecar outfits found the need to carry water a small price to pay, given the cheap power an Imp provided. Who needed the money of Count Agusta when a wrecked Hillman provided a readymade power unit?

Another likely donor came from venerable motorcycle manufacturer NSU. The engine from their 'Prinz' automobile, which served long years as a rally competitor, was tuned over the years to ever sportier iterations, with the '1200 TTS' the ultimate mode. The NSU engine was air-cooled and all-aluminum, with handsome finning, and few awkward casting shapes to spoil its looks. The Prinz engine fit into the Norton frame without cutting metal, although a new bolt-on sump needed to be designed to fit a Norton frame. It looked simple, but the reality of mating the NSU engine with a motorcycle gearbox, plus sorting a primary chain, and clutch, and a functioning oil sump, required skilled fabrication. Everything needed to line up and function smoothly, and only a talented stylist could make the result look like a proper motorcycle.

Mick King, owner of Superformance Motorcycles in Vancouver (one of the first performance/custom bike shops in Western Canada) built an interesting special in the late 1960s, using a Norton Featherbed frame and a salvaged NSU car engine. Mick was kind enough to share his process, in photos, of taking a rustbucket NSU Prinz and a 1967 Norton Atlas chassis, to build a successful hybrid. The photos hint at the measuring, drawing, and fabrication time required to bring the elements together; the magic of a successful job is making it easy! The Italians call this 'Sprezzatura' – making the difficult look effortless; the mark of mastery. Mick's build took long enough that both the Honda 'CB750' and the Norton 'Commando' emerged on the market in the meantime, but as his machine was never meant as a production exercise, the Commando



Looking like a 1940s Gilera mockup, before the job was complete



A 'during' shot, while the engine was mocked up into the frame

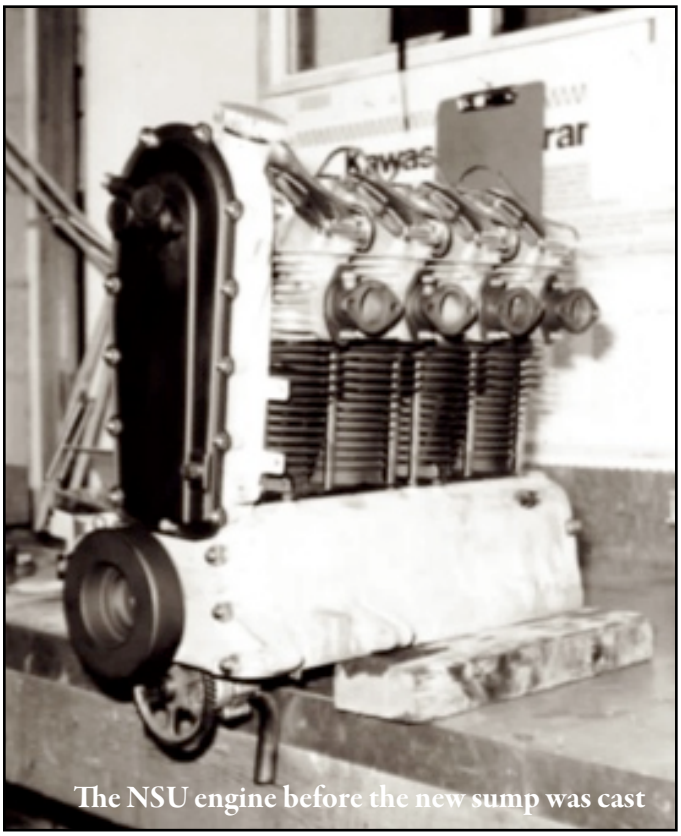
contributed useful bits to his Norton/NSU: the front forks and disc brake, mufflers, seat, and clutch.

"In the 1960s, there were no NSU dealers in Vancouver, and the car owners couldn't get them repaired... I had a motorcycle shop, and would fix a few NSU cars because I had managed an NSU dealership in the UK. They were so simple to work on, it was a good revenue source and sideline to my motorcycle business, which was one of the first on BCs west coast. I took in a trade an NSU 1200 TT car for two hundred bucks; due to rat infestation and rust the car was gutted and the wheels and sundry items sold off. I kept looking at the engine thinking it might look good in one of my Norton Featherbed frames, which owed me nothing... I had a couple gathering dust in the attic!"

"As winter started in, the bike work stopped; I had just brought over an apprentice from the UK, and a new 9-1/2" South Bend lathe for our custom bike division, and decided to see if we could fit the NSU motor into the Norton frame. This gave the new arrival some valuable turning experience. We wanted the engine to fit the existing Norton engine mounts, as I did not want to mess up the frame for the sake of the NSU engine; I had no input or feedback as to how it may perform. When the Münch showed up in Cycle Canada magazine I thought, "Great timing! Maybe I can find some encouragement from the article!" But there was no data -no speed or bhp- as I recollect, the mag people were not allowed to ride it? So we plodded on, and after a few weeks the engine was roughed-in, and we took it for a ride. I could see why there was no data available – it was a gutless wonder, despite major engine work! I considered buying a twin-cam Japanese car engine but they were all snapped up for mini flat track race cars, as they are today!"

"Trying to draw a comparison with the Münch would be a waste of time in my opinion, considering the amount of money he invested, plus his engineering facilities and so on. Nevertheless I think from the get-go the Münch Mammut was doomed, mainly because D.O.H.C. motorcycle engines [such as Kawasaki Z-1] were already making their debut, and strapping an antiquated and gutless S.O.H.C NSU car engine into such an enormous and costly project baffled me and my mechanics from the get go. Then there was the price... ridiculous!"

The two 'big' jobs in translating the engine from car to bike were the sump, which Mick cast in shapely aluminum to fit between the Norton frame rails, and the clutch/transmission interface, which he solved via an extended, demountable coupling between the gearbox and clutch, using a 'simple' steel box attached to the engine plates, which holds an outrigger bearing for the extended clutch shaft. This also meant installing the Norton gearbox backwards! Yes, it works fine both ways, but Mick had to reverse the 'pawl' on the



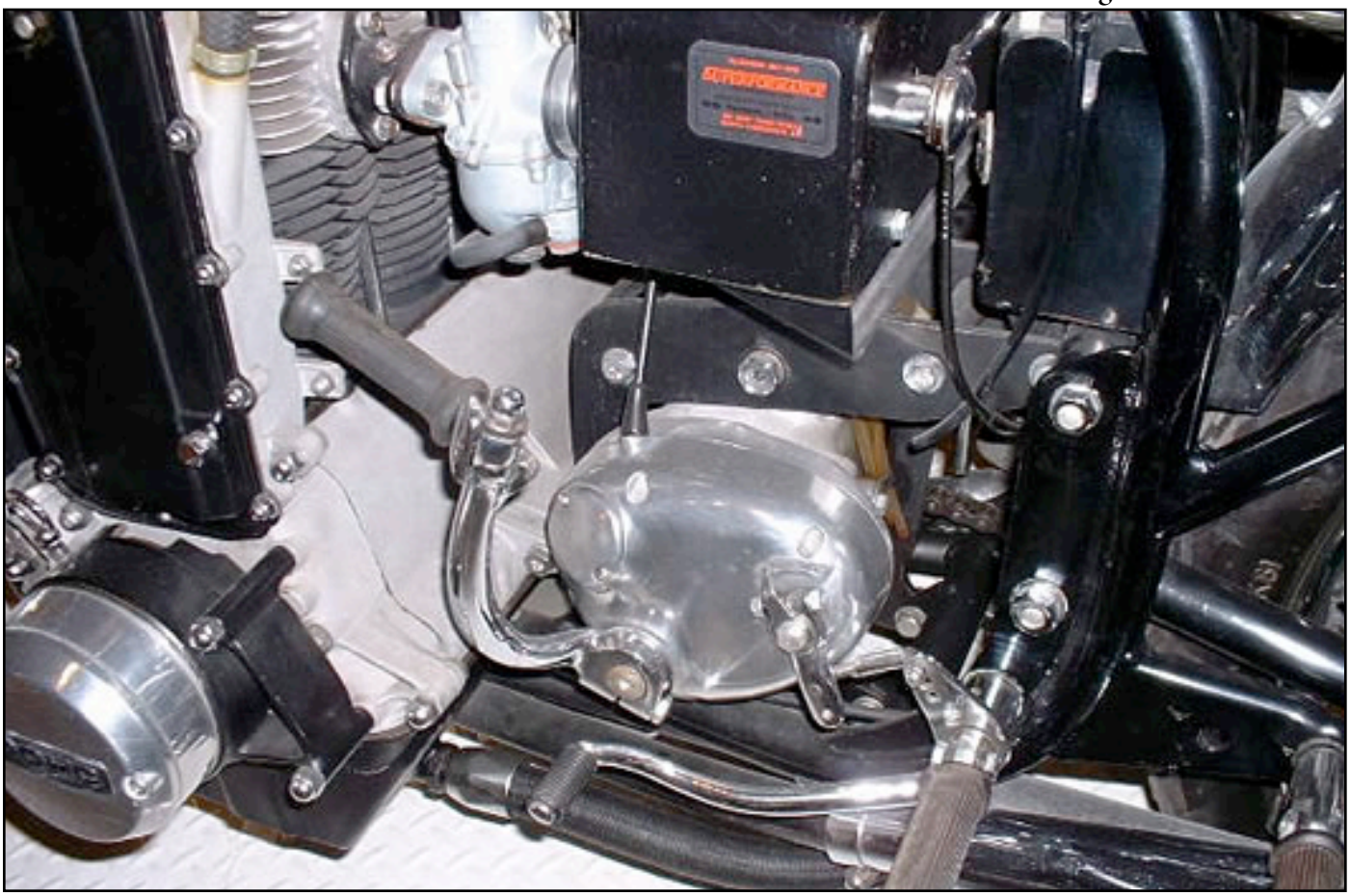
The NSU engine before the new sump was cast

kickstart shaft. The photographs should explain his thinking, which seems sound enough – the clutch no longer runs on the gearbox mainshaft but its own stub shaft, connected to the gearbox via a mated pair of pegged plates, similar to BMW shaft-drive practice. All very clever and relatively simple.

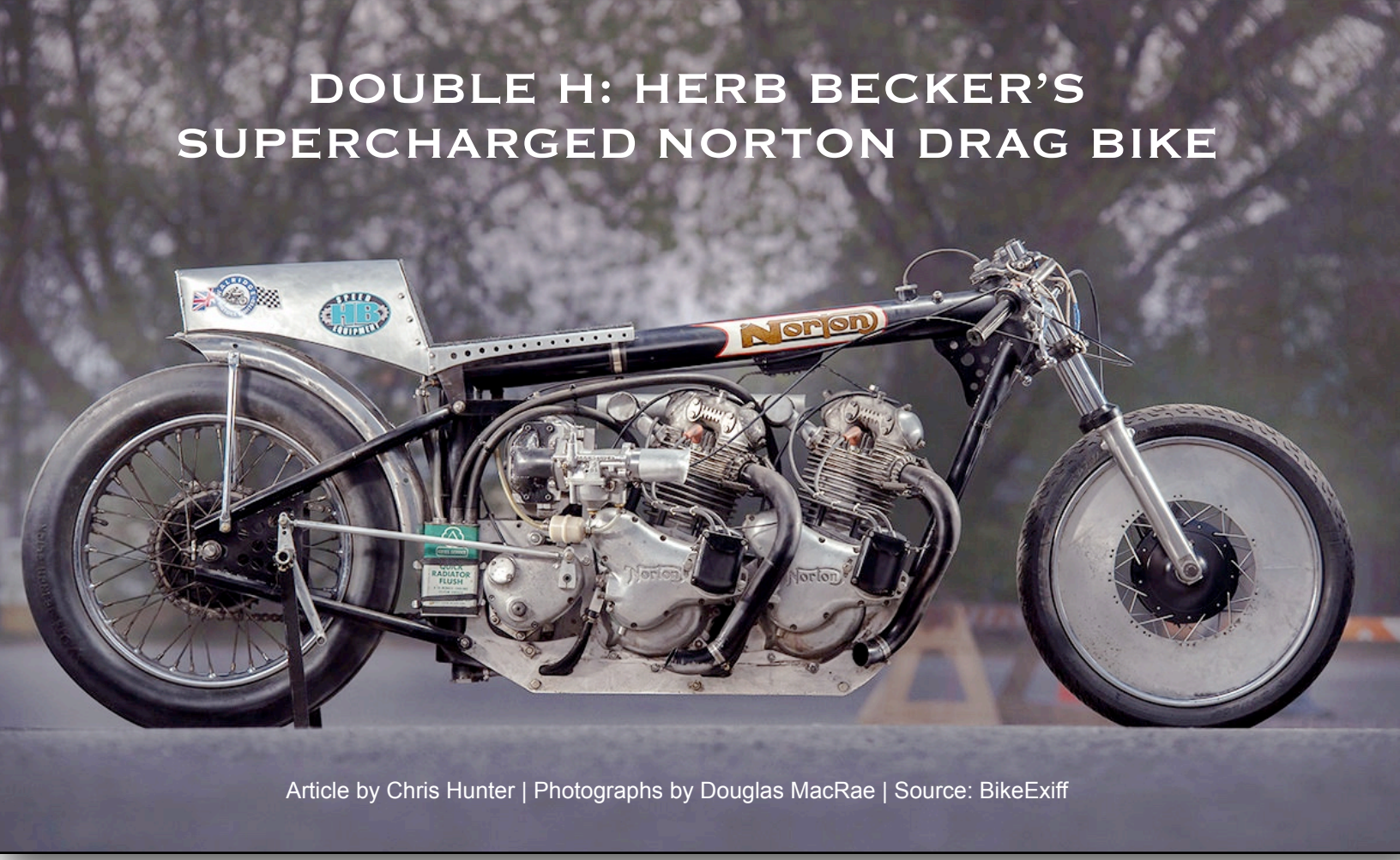
The donor NSU model was the 'Prinz 1000', and had Mick King read the specifications for this model, he might have thought twice about the engine! While an impressive 'spec' the standard Prinz only produced 40hp @ 5500rpm, which is about 10hp less than the Norton Atlas engine which he abandoned to make his 'special'... no wonder then that he was shocked to find his finished hybrid a 'gutless wonder'. If Mick had access to the latest model (1968) NSU TTS, he would have found a 70hp engine, using 10.5:1 compression pistons (not much room for increase there!) and sporting camshaft. But Mick set to work tuning his the motor, and his Norton/NSU was capable of 125mph, so it seems he equaled the NSU factory in hotting up the engine.

The finished machine did well on the 'show bike' circuit in the early 1970s, garnering Mick many 'Best of Show' wins, and that snapshot with the 1973 Penthouse Pet of the Year, Patricia Barrett. Mick's Norton/NSU special now lives in the Trev Deeley Museum in Vancouver, Canada.

The reversed Norton gearbox!



DOUBLE H: HERB BECKER'S SUPERCHARGED NORTON DRAG BIKE



Article by Chris Hunter | Photographs by Douglas MacRae | Source: BikeExiff

HISTORY HAS A strange habit of repeating itself. Exactly ten years ago, give or take a few days, we featured a twin-engined Norton called 'Double Trouble.'

And now we have an even more incredible Norton, following the same format, called 'Double H.' It looks vintage but it's a recent build, and uses mostly Commando rather than Atlas engine parts. It's also supercharged, because nothing succeeds like excess.

'Double H' is the work of Herb Becker, a Norton racebike guru who lives in Ontario. It's a tribute to the legendary Hogslayer drag bike, which beat the Harley-Davidsons to take home four Top Fuel World Championships.

Photographer Douglas MacRae managed to track Herb down and extract a few details about the build. "Double H is not just a mockup, but a full running bike that could make a pass," Doug reports.

Herb is a tool and die maker by trade, which has given him the next-level machining skills and mechanical knowledge required for a build like this.

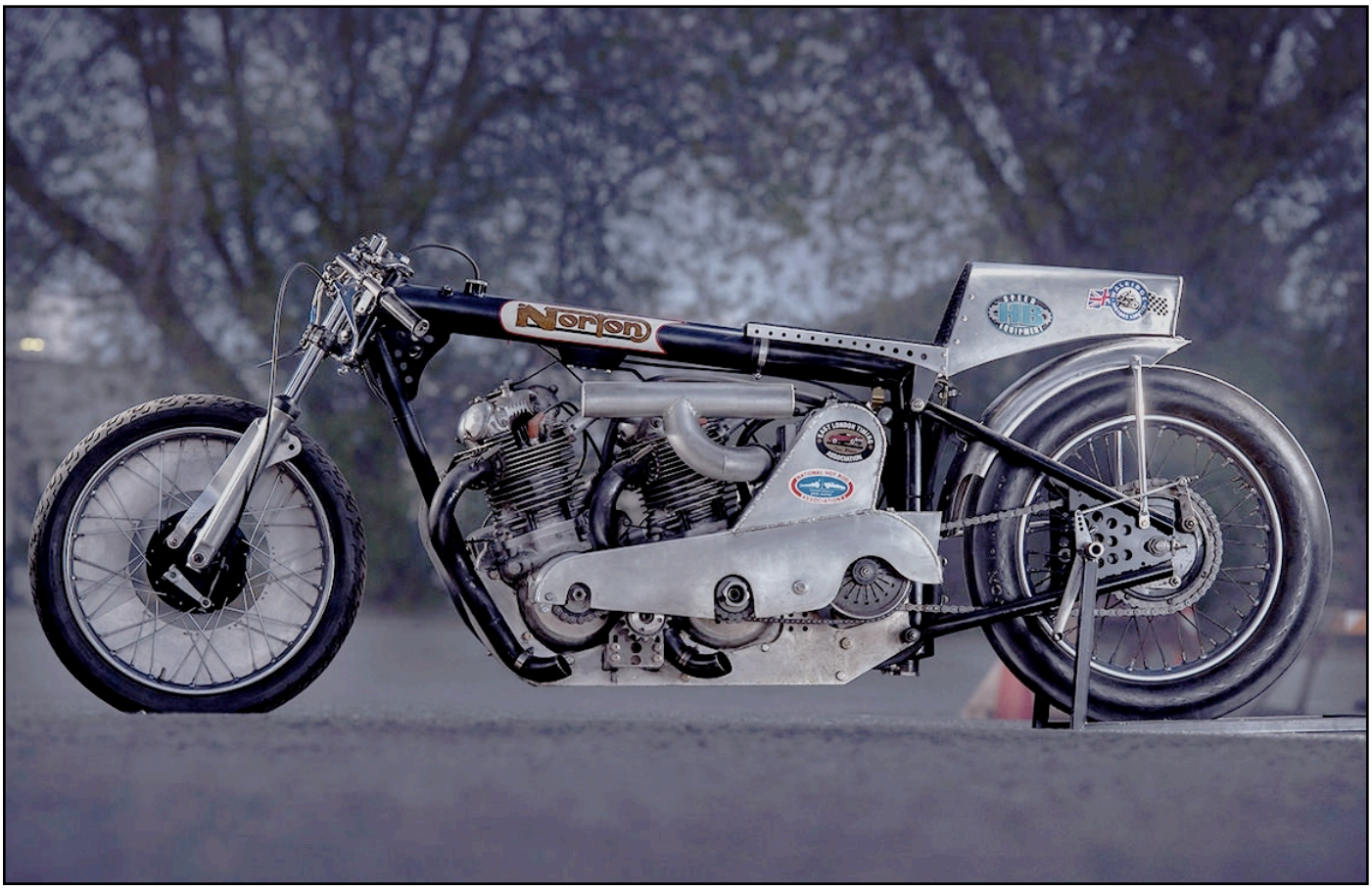
"I was into drag racing cars for many years," he says, "and remember admiring John Gregory's 'Hogslayer' twin engine Norton build. It ruled NHRA top fuel drag racing in the 70s, with T.C. Christiansen riding."

"I never thought that drag racers got the respect they deserved for their builds. Later, I got into building road race Nortons, which won at Daytona several times and took the [1998] AHRMA Sportsman 750 championship."

Herb later restored Norton and Triumph drag race bikes, but really wanted to see a double-engine bike run again—so he decided to build one. "The bike is built from pieces I had in the shop. I didn't have any plans to race it—just to start it up, to make some noise and excite crowds."

Being a Norton man, he used Commando engines, and since he had a supercharger lying around, he added that to the bike. To get the engines to work together and balance properly, he's fabricated custom steel flywheels. "The bike idles quite well," says, "with one engine phased up while the other is down, and running methanol.

"I just finished a custom-made Hilborn fuel injection setup; this seems to work better than the large 5-5 butterfly carb in the pictures. The engines are 765cc



times two; with 15 pounds of boost, running alcohol, they should make 240 horsepower on the dyno."

The blower is an M90 from a 3.8L Pontiac. Herb has built the engines to 7.1:1 compression ratios, to give a bigger margin for detonation, and with Atlas cases and alloy barrels.

"The few Atlas parts I had are not suitable for road racing. So I bought the aluminum barrels from another racer, who had four un-machined castings."

As well as building the engine, Herb constructed the chassis—with a little welding help from local shop Forrest & Forrest Racing. The tail section is purely functional, as you'd find on a battle-hardened drag bike, and shaped from 1/16″ aluminum.

This is not the sort of machine that needs to kill it on the backroad twisties, so the suspension is vestigial. The components are mostly what Herb calls 'flea market purchases.' "The forks are early Honda, and the brakes are Kawasaki," he says. "The rear wheel is from a 1960s Triumph."

'Double H' would be a magnificent career swansong for a man of Herb's accomplishments, but he's not stopping here. "I am currently working on a land speed racer, and am also thinking about making a second twin-engined Norton," he tells us.

Impressive stuff. And if you'd like a print of this machine, head over to Doug MacRae's online store, which is packed with shots of incredible vintage machinery.

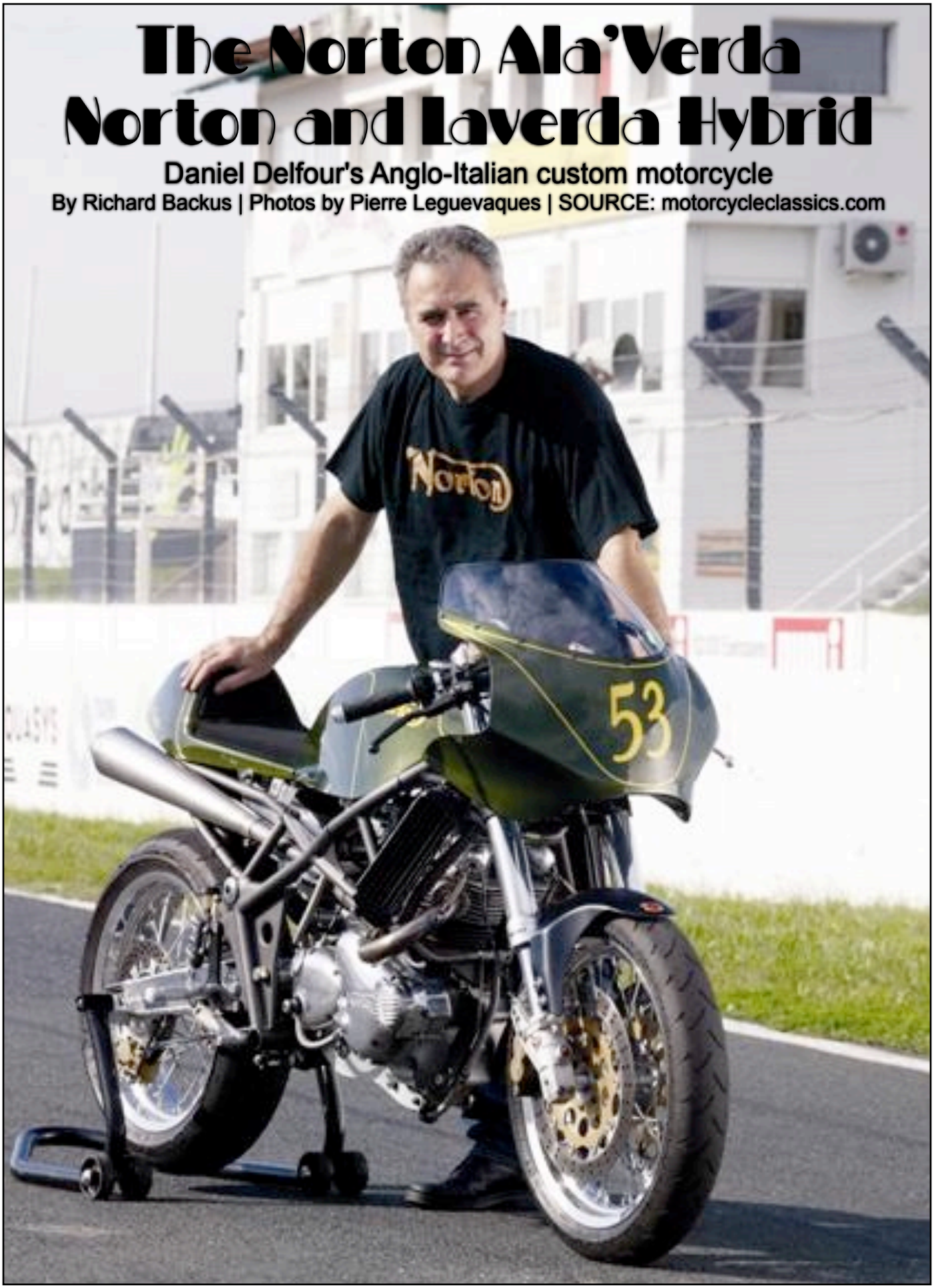
THE HOLY GRAIL
Norvin by Stile Italiano

While no longer a common practice, one Italian workshop has turned the process into an art form, and this might be their very best to date. From the genius of Stile Italiano comes this picture perfect Norvin, the ultimate in motorcycle nirvana.

The Norton Ala'Verda
Norton and Laverda Hybrid

Daniel Delfour's Anglo-Italian custom motorcycle

By Richard Backus | Photos by Pierre Leguevaques | SOURCE: motorcycleclassics.com



Frenchman Daniel Delfour's Norton Ala'Verda - a Norton Commando 850

"I built this for myself. I've been a Norton enthusiast for years, and I discovered track racing about 10 years ago. So I started racing with my road-going Commando, and very quickly I found faults: With its limited suspension and brakes, it's dangerous. So I thought, "well, I must build my own."

Frenchman Daniel Delfour is hardly the first person to have had these sorts of thoughts: I'd wager many of us daydream about building a special custom motorcycle of some kind, combining bits and pieces of favorite bikes into something uniquely our own. Something like Delfour's combination of a Norton and a Laverda that he calls a "Norton Ala'Verda."

But instead of daydreaming, Delfour committed his ideas to reality, creating a machine that came perilously close to stealing the thunder of some 30-odd vintage Norton Manx and Commando racers at this year's Legend of the Motorcycle in Half Moon Bay, Calif., where Norton shared featured marque honors with MV Agusta. Talk about a tough crowd. Yet there were moments when the preserved and restored racers seemed almost painfully ignored, as attendees literally turned their backs on them to pore over Delfour's unique Anglo/Italian hybrid. Delfour looked almost confused by the attention as he tried to answer questions as best he could, his halting English layered with a thick French accent. To hear Delfour tell the story, he didn't really do anything special, he simply built the bike he wanted.

Violins first

A violin maker for 35 years, Delfour has been a lover of motorcycles since childhood. *"The two topics I was interested in when I was a kid were violins and motorcycles. So it seems that nothing has changed for me,"* Delfour says of his dual interests. Over the years, he's restored a few Nortons and Triumphs, and then there's his attraction to the track, which goes a long way toward explaining this build. Displaying a modesty that betrays the stereotype of Frenchmen as extravagant and boisterous, it takes some prodding to discover that Delfour is at the core of a loose-knit group of racers called Coyote Racing, and that for 11 years now he and his posse have organized a classic racing festival at Circuit Paul Armagnac near Nogaro in the south of France. Motorcycles, it becomes clear, run deep in his blood.

With a preference for British twins, his motorcycles of choice are Nortons, more specifically Commando twins from the 1970s. Thanks to previous build experience, Delfour knows how to make the Commando engine stronger and more powerful, so it was a forgone conclusion the classic Norton Commando twin would power any special he built. He started thinking about the idea seriously three years ago, but couldn't decide on a direction. *"I thought, well, I could build a Seeley, a Rickman, but there are so many,"* Delfour recalls. But then, as often seems the case in such matters, the unexpected occurred. *"One day I visited a friend, and I saw this Laverda 650 frame," he says. "It was one of the very early ones [following the relaunch of Laverda in Zane, Italy, in 1993], the first issue of the 650, and only a few were made with this frame."*

Delfour lugged the trellis-framed Laverda to his shop and proceeded to measure it for a Norton engine. *"My*

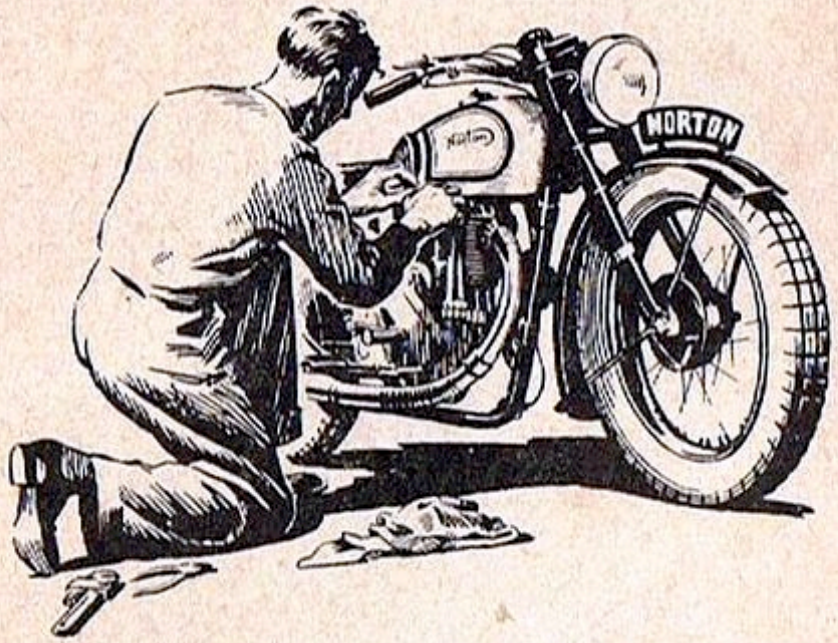
main concern when I started on the project was to destroy nothing of the characteristics of the frame and the chassis, and to try and adapt, so I spent a lot of time designing the engine plates," Delfour says. *"I kept all dimensional aspects of the frame, because I thought I'm not clever enough to design it all over again, so I kept the original rake and trail, and the front end is as it came from the factory."* He even used the factory pickup point for the swingarm, although accommodating the swingarm was one of the harder parts of the build. *"One of the problems in fitting an old engine in a modern frame is that swinging arms in modern frames are quite wide, and the transmission in an old engine is quite narrow, so we had to really push the engine to the left to get it to align, and it's a very, very close fit."* A look at the left exhaust inspection cap shows how close: Delfour had to reshape the cast cap to clear the frame. It fits. Just.

Settling on a late production Commando 850 engine, Delfour gave it a lightened and balanced crank (four pounds less than stock), forged aluminum JE pistons and a Megacycle camshaft. In addition to ignition updates and a free-flowing exhaust, these modifications give 72 very reliable horsepower. Puny by modern standards, but more than ample for the quick sprints Delfour was looking forward to at the Circuit Paul Armagnac on track days.

Delfour had barely completed the Ala'Verda when a friend suggested he submit the bike to appear at Legend of the Motorcycle 2008. *"A collector friend said, 'you know, this bike must be at LOM.' I didn't know what it was, but they were interested, so I thought, why not?"* Delfour recalls. And what a hit it was. Combining new and old school elements with a craftsmen's attention to detail, Delfour has created a singular interpretation of what a Norton — or Laverda — can be.

Post script: Delfour's Norton/Laverda hybrid garnered so much attention at LOM he decided to leave it in the U.S. with classic bike broker Glenn Bator.

The Enthusiast...



We want to help every NORTON enthusiast to obtain the best possible performance from his machine. If we can help, do not fail to get into touch with our Service Department. Any assistance that can be given will be gladly forthcoming.

The Unapproachable

Norton

THE WORLD'S BEST ROAD HOLDER

NORTON MOTORS LIMITED, ASTON, BIRMINGHAM, 6

2020 - PRESENT
A NEW ERA BEGINS

NORTON PRODUCED A LIMITED EDITION RUN OF THE COMMANDO 961 CLASSIC TO SATISFY THE PREVIOUS COMPANY'S CUSTOMER ORDERS

Change is on the horizon. In April 2020, TVS Motor Company acquired Norton Motorcycles, igniting the start of an exciting new era for the brand and its loyal followers and fans. A partnership destined to breathe life into this truly iconic British marque.

And now to today.

2021 marks the beginning of the Norton renaissance. Drawing on inspiration from the past to build our legacy for the future. And it all starts with a move to new state-of-the-art facilities, alongside the eagerly anticipated launch of new models.

These bikes will be the future of Norton, shaped by innovation and design. They will position Norton where it truly belongs – as one of the most iconic and influential motorcycle brands the world has ever seen.

Norton is back up to speed. And better than ever.

Norton's New Headquarters Revealed

We've been keeping our new headquarters a secret, but now we can officially reveal the Norton facility in full scale! Having returned to our roots in the West Midlands, Norton is now positioned to begin executing our ambitious plans for production. Our new 73,000sq ft facility is complete with state-of-the-art equipment...

Our facility was built within just eighteen months of TVS ownership, signalling their clear commitment and investment in Norton. With the creation of many highly-skilled jobs, we have over doubled in size and expanded our leadership team with all departments housed under one roof. We're proud to call it the most advanced facility in our 123-year history, transforming the way we work to produce truly remarkable and iconic motorcycles. From the showroom to the production line, every detail has been carefully considered to represent our vision for the future success of Norton.

More than just a building, our headquarters embodies the essence of Norton with the customer experience at the heart of it all. Our showroom features Norton motorcycles under spotlight surrounded by our heritage bikes and prints of racing icons and famous Norton fans on the walls. Through a viewing window, you can look straight into our servicing area at the team at work, and on the righthand side you can see all the way across the production floor through our inspection light tunnel.

Across production, every specialist room in the factory is complete with viewing windows for total transparency, from the quality lab to the engine build room and through to fabrication. The only thing not visible is our new global design and R&D hub, where work on product definition, 3D CAD and visualisation for future models is ongoing.

Heritage is an important part of our story

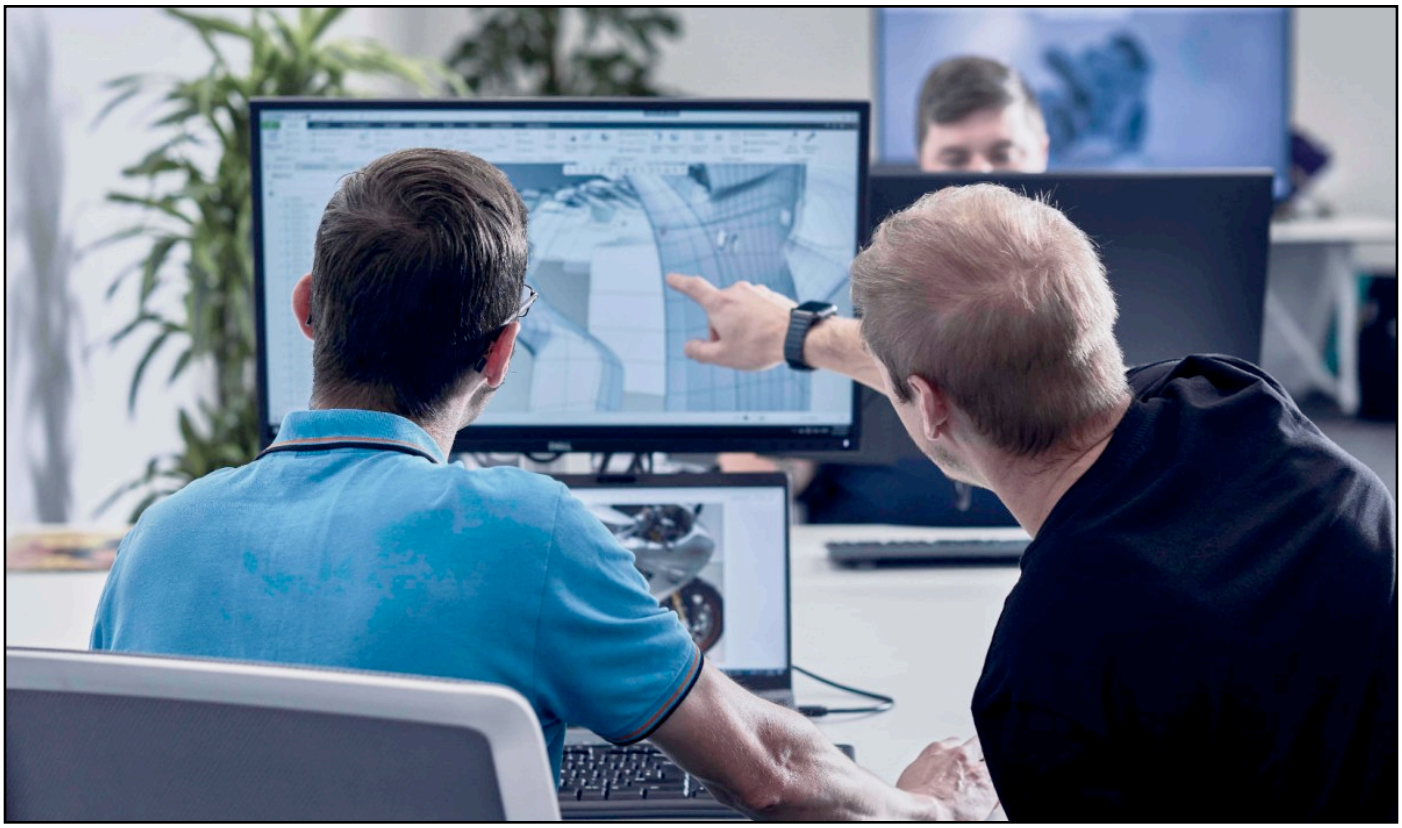
The headquarters unites our staff and this has developed a strong company culture consisting of passionate employees all driven by the same desire: to see beautiful Norton motorcycles on the road again. What's more, the team is empowered to excel because of the processes set up in the factory itself; complete part traceability is captured upon delivery to our stores, before key components are examined with specialist equipment to monitor quality and adherence to specifications – in just six months alone, we have carried out detailed inspection on over 7,500 individual components.

"The new headquarters is the perfect platform to re-energise our business as we lead the Norton brand to onward success. It demonstrates our unwavering commitment to the motorcycles we build, signalling that we will not compromise on quality and we will continue to ensure that our high standards are always met. Norton is now fit for the future, creating an innovative and sustainable business model which will see us producing world-class motorcycles that are true to the unrivalled legacy of Norton."

Norton Motorcycles CEO, Dr. Robert Hentschel

Within the production area, TVS has invested significantly in modern equipment and tooling to improve the production processes for our motorcycles, with every stage designed with quality and consistency in mind. In fabrication, frame tubes are inspected before being polished and then released to be welded inhouse by our expert welders. Finally, frames are then polished by hand to give them their complete finish and shine. Even more exciting, we now have our own in-house non-destructive and destructive testing laboratory where we carefully inspect and test our welding consistency and integrity.

In terms of size and scale, we could store up to 20,000 Norton motorcycles if they were stacked side by side and wheel to wheel – that's 26 miles of Norton! That being said, we've given ourselves ample space to organise ourselves effectively. The layout itself was designed to optimise sustainability and reduce waste, creating a mostly open-plan production floor that gives substantial space for manufacturing and adding additional build stations if we need to. This flexibility allows built engines to feed directly from the engine clean room through to the assembly line where frames, suspension, fuel tanks and body work are fitted. At the end of its journey, every bike goes through a testing cycle on the rolling road, followed by a final examination in our light tunnel and inspection area before being collected or delivered to the customer. All our bikes begin and end with a quality inspection, from parts to end-of-line completion.



We are now reaching the end of our re-engineering phase of the Norton V4SV and finalising our long term product plan... so watch this space! Norton is back and here to stay. We have an indomitable spirit and we're united by a desire to build truly exceptional motorcycles. Norton is unafraid to challenge the status quo, innovating for the future of mobility whilst staying true to our British heritage to deliver unique and inspiring riding experiences.

Norton Motorcycles unveils 125th Anniversary Limited Edition Models

By Martin Hodgson

It is one of the most recognisable motoring brands on the planet, and through highs and lows, Norton Motorcycles has arrived at its 125th anniversary. It has always been a brand with a loyal and fanatical fan base, and to give Norton lovers around the world a way to celebrate this milestone, the Solihull factory has produced a series of machines that pay tribute to four of the company's most celebrated models.

The first bike in the '125 Limited Edition' lineup is the Commando 961 LE 'Energette', which takes its styling cues from the machine that started it all, the 1902 Energette. Utilising Pa Norton's own design of chassis, based on one of his bicycle frames, it was powered by a 142cc Clément engine and a two-speed Sturmey Archer gearbox. Packing a top speed of 30 miles per hour, this was scary quick at a time when the brakes were just a rubber block pressing on the tire. Thankfully, the tribute bike Commando has full Brembo brakes, as well as the Energette's deep yellow paint, brown leather saddle, alloy yokes, natural alloy engine, silver headlight, polished alloy handlebars, and polished Öhlins suspension.

It wouldn't be a celebration of Norton without the legendary Manx, one of the most successful race bikes ever built by a factory outfit. Developed in 1937 and being sold and raced all the way through to 1970, the machine took out 13 Isle of Man TT races and dominated on tracks around the globe. The unmistakable look is transferred onto the Commando 961 LE 'Manx' with that stunning silver and black tank and bodywork looking a million dollars. You also get a black engine, black footrests, black yokes, black Öhlins suspension, carbon fibre chainguard, and carbon fibre flyscreen.

The third machine to be celebrated is another factory racer, and again, the 'Transatlantic' looks are placed onto a Commando 961. But I can hear fans scratching their head; Norton never made a bike with that name. And you'd be right, because in 2023 we can say what the company can't; it's really a tribute to the famed John Player Norton, the Formula 750, which was heavily backed by the cigarette maker. The cancer stick colours of red, white, and blue were made famous by superstars like Phil Read, Tony Rutter, Mick Grant, and John Cooper. And the look of the bike that won a British Championship and an IOM TT, is beautifully splashed across the 2023 tribute bike.

The final machine to be honoured is the innovator's most innovative, the ring-a-ding-ding 588cc rotary-powered racers, in the form of the RC588, RCW588, and NRS588. Just as Mazda wasn't the first car company to use a Wankel engine, but was clearly the best at doing it, Norton was their equal in the motorcycle world, and while the road-going versions like the earlier Classic and the race-derived F1 couldn't save the then-owners of the company from going bust; the bike was terrific on the track. Three British Superbike championships were won in 1989, 90, and 94, and at a time when British racing was suffering, the Norton brought back the crowds.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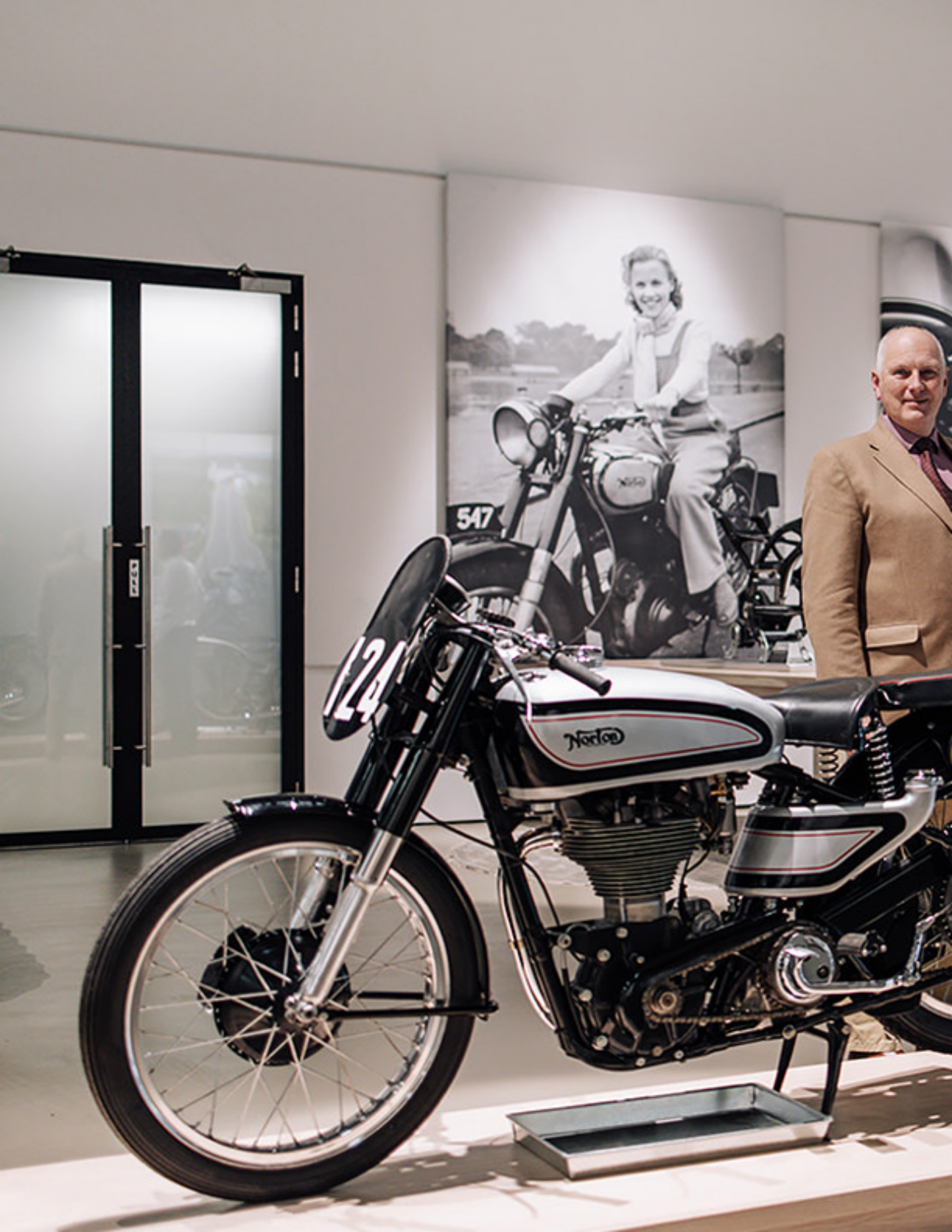
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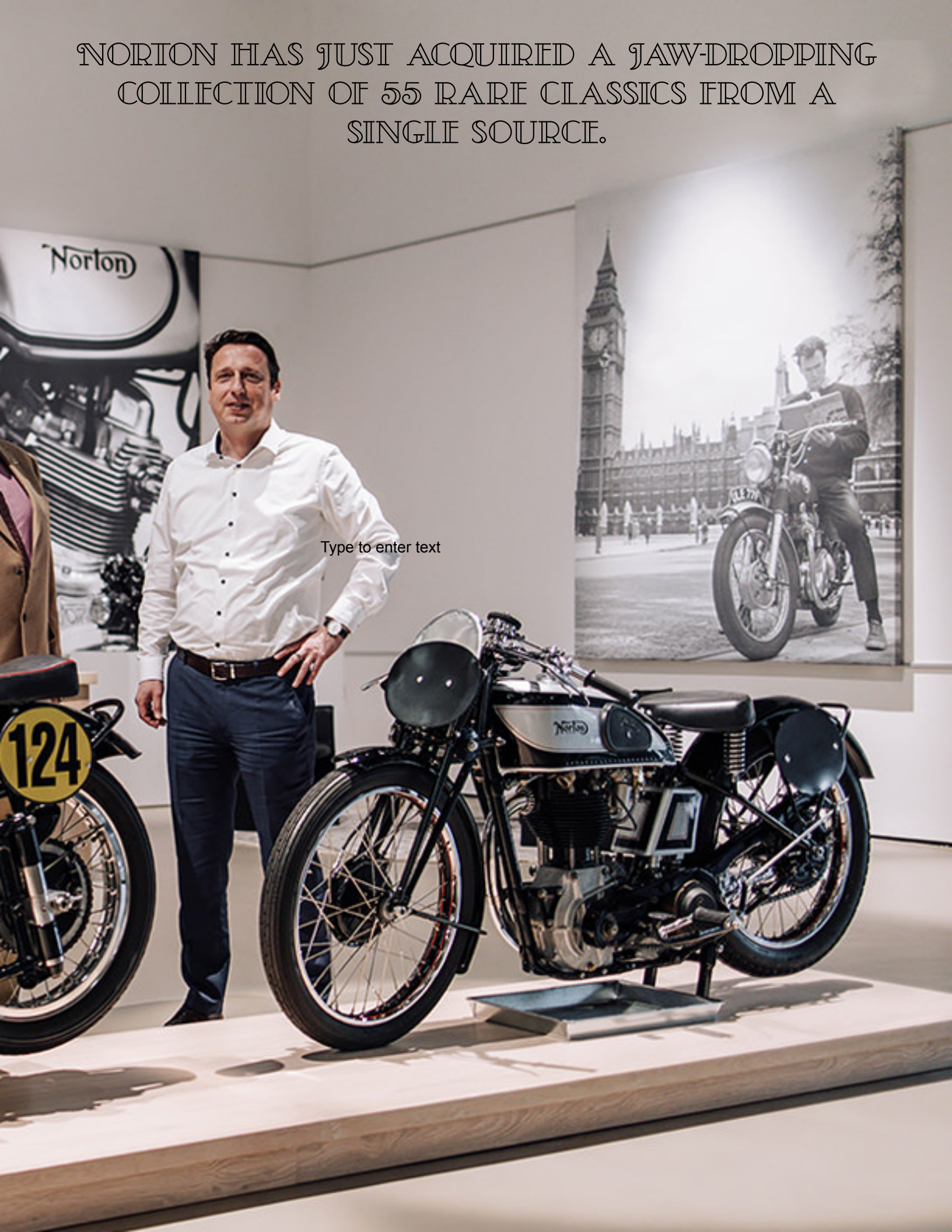
Norton

NORTON HAS JUST ACQUIRED A JAW-DROPPING COLLECTION OF 55 RARE CLASSICS FROM A SINGLE SOURCE.



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NORTON'S HERITAGE COLLECTION

Source: Norton Motorcycles

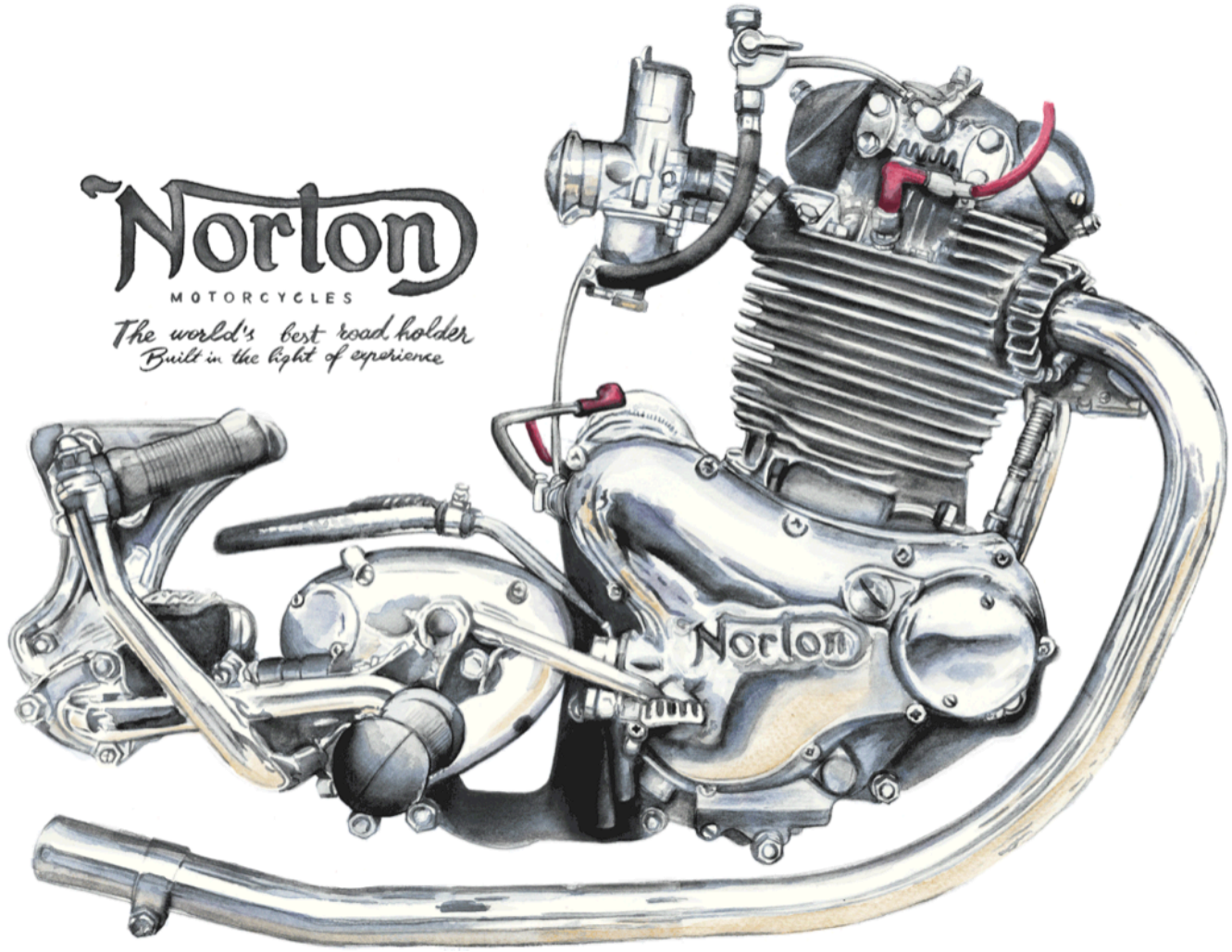
It's only been two years since India's third-largest motorcycle manufacturer, TVS Motor Company, purchased the storied British marque, Norton Motorcycles. But while the future of the brand slowly unfolds, one thing is abundantly clear: its new owners are big on its heritage. They still build Nortons in the UK, and, as if to drive the point home, they've just acquired a collection of 55 classic Norton motorcycles.

Spanning from 1916 to 1992, these bikes are the opening salvo in Norton's heritage collection. Remarkably, they were all purchased from a single collector—his name is Ian Loram, and he's been buying up classic Nortons since the 90s. A true enthusiast, he admits that he would never pass up on the opportunity to buy a rare Norton that's gone on sale.

The collection is not only impressive in size, but it boasts some pretty special bikes too. There's a 1921 Model 1 'Big Four' in the set, which was said to be founder James Norton's favorite bike. (He actually rode a sidecar-equipped Big Four 3,000 miles across Africa to visit his brother in South Africa in 1921.)

Then there's the extremely rare 1930 DT speedway bike, equipped with a 500 cc twin port engine and a three quarter gallon fuel tank. Norton only ever built 53 of these, and loaned this particular one to Oliver Langton to race.

Other notable inclusions include a 1990 Norton F1 Rotary, which was the road-going version of the RCW588 race bike, and the 1929 CJ350, which was designed by Walter Moore.



Plus there's a fully restored 1938 Clubman International, a 1929 JE350 that's one of only six remaining examples, and a race-specced 1950 Norton Manx.

Perhaps the most British of the lot is the 1968 Norton Atlas Police bike. Used for Royal Family escorts, it has ridden alongside the Queen, the Queen Mother and Prince Charles. Some of the bikes will be on show at Norton's new HQ in Solihull, which will be open to the public in the future.

It's a stunning collection that begs for its own museum, but it's also an encouraging sign of where the brand's headed. As their press release puts it: "it's vital that we continue to celebrate the great products of our past, because they will impact and steer our future."

ALTON, The Modern Technology for NORTON

"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!

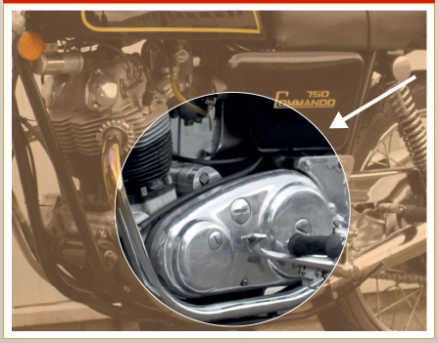
But they are also stubborn, temperamental and demanding... who hasn't found themselves stuck on the pub car park after everyone else has long gone – no lights, or no spark, flooded motor.

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.

E-STARTER CONVERSION KIT FOR NORTON COMMANDO, MKII & MKIIA



In around two hours you can say goodbye to kick-starting your Commando. The Alton eKit fits directly onto the engine via a specially designed inner chain case supplied with starter motor already mounted. Once fitted, replace your existing outer chain case and away to go.

WHAT'S INCLUDED?

With each kit there is a starter motor, drive chain, sprag clutch, shock absorber, AC generator and a specially constructed inner primary chain case plus all the necessary cables and fittings plus detailled instructions with colour illustrations to make fitting the kit as easy as possible.

WILL IT LOOK OUT OF PLACE?

We designed the eKit to be as discrete as possible – we have tried to match the form without sacrificing the function. Because the original outer casing is retained, your bike stays visually authentic. But authenticity doesn't mean inefficient. By incorporating technology that didn't even exist when the Commando was conceived, Alton has built an eKit which offers 150 watts output with an average of 90 to 95 watts at normal cruising speed. Our kit is designed for positive earth systems and is delivered with everything needed to effect the conversion. Just add a high output battery, a Commando engine sprocket puller and and a clutch spring compressor. Technical advice is available through our authorised dealers and we are available by telephone and email to answer any technical questions. With a two year guarantee, what are you waiting for...

Just hit the button and away to go...

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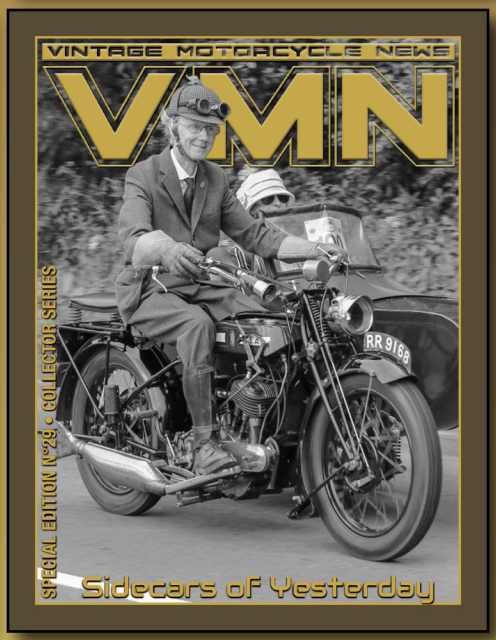
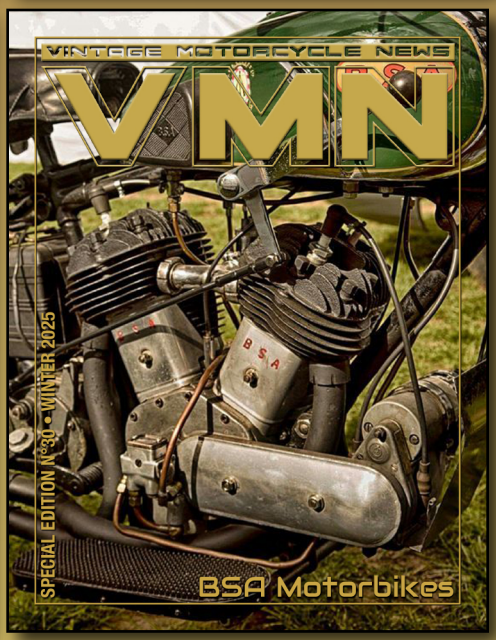
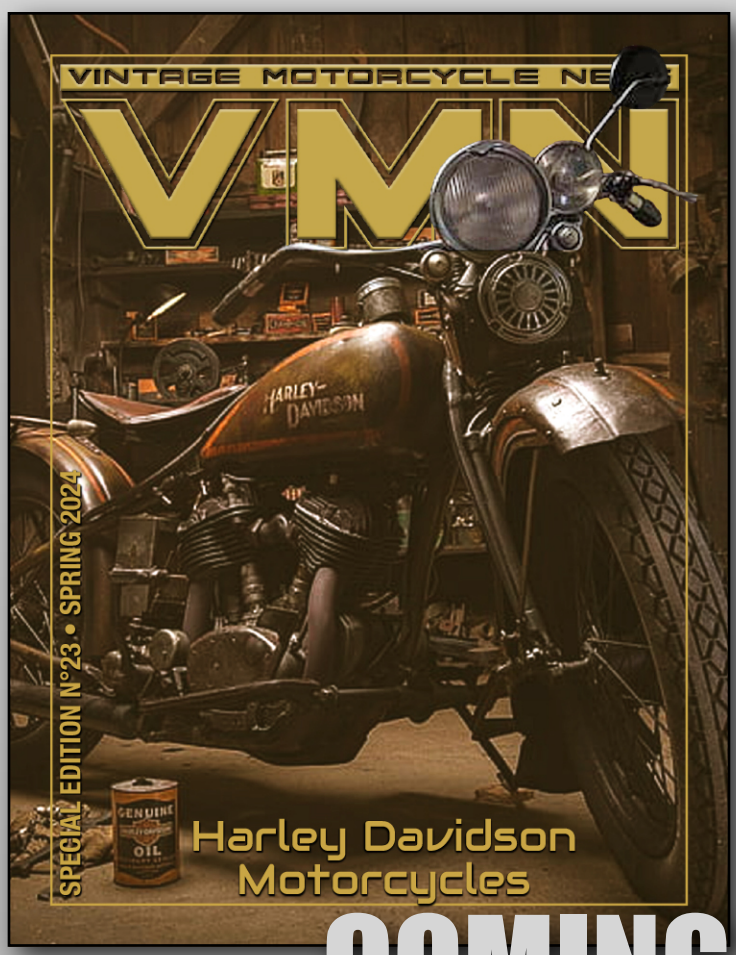
We need your stories, your anecdotes, your photos and your input. Put your bike on the cover page...

We need articles for future editions on the following topics:

Panther, Sunbeam, Nimbus, Excelsior, Excelsior, BSA, old sidecars and more...







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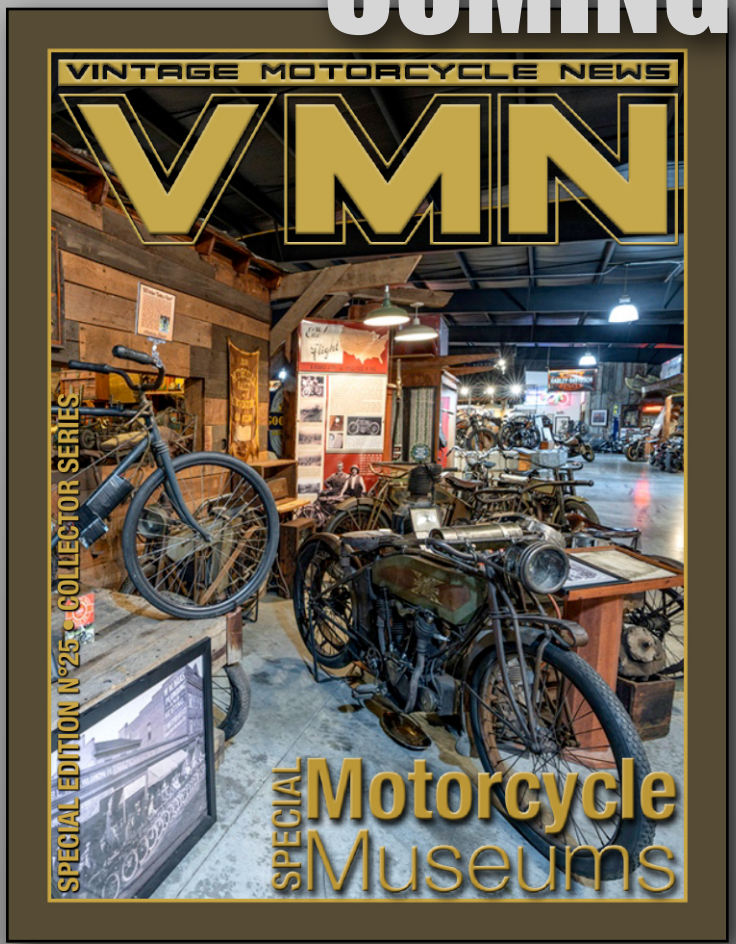

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(all years 1921 - 2015)

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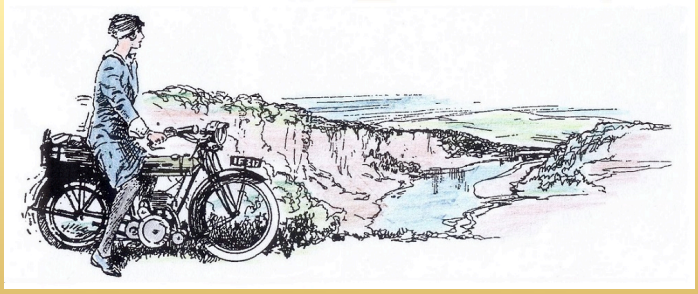
We are the country's leading (and cheapest) supplier of reproduction tax discs for classic vehicles.

We are also the only supplier who will change the issuing stamp to your vehicle's date of original registration and issuing office.



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The Matchless Shop is a company that exists since 1979 and only trades in spare parts for British motorbikes.

We specialize in AJS, Matchless, Norton, BSA, AMAL, Lucas, Smith and Avon Tires.

However we also handle limited spares for Ariel, Royal Enfield (no India) , Triumph and more.

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Crystal Clear
by
Klaus Kaak

It's 5 degrees , at 4 o'clock
The sun is setting soon
Nortons parked , on concrete block
Waiting for the April bloom

Across a white December night
Each home soon filled with candle light
The waxing moon ploughs through the sky
Stars are shining way up high

My KLR , my winter mule
Leaves its stable, well past Yule !
Like Santa soon, she flies along
In polar regions, thumper strong

In 50 days , when nights are DARK
We hope to see , a brighter spark
The same one that the Magi saw
On their way to cribs & straw !

Christmas is a time to cheer
And thank the Lord that we are here
So when we wake on Christmas morn'
Reflect on HIM, that he was born

Helping us to find our call
And be of service for us all !


CYCLE WORLD
Norton
Peace on Earth


2023
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Happy Holidays!


Season's Greetings
VINTAGE MOTORCYCLE NEWS
2023
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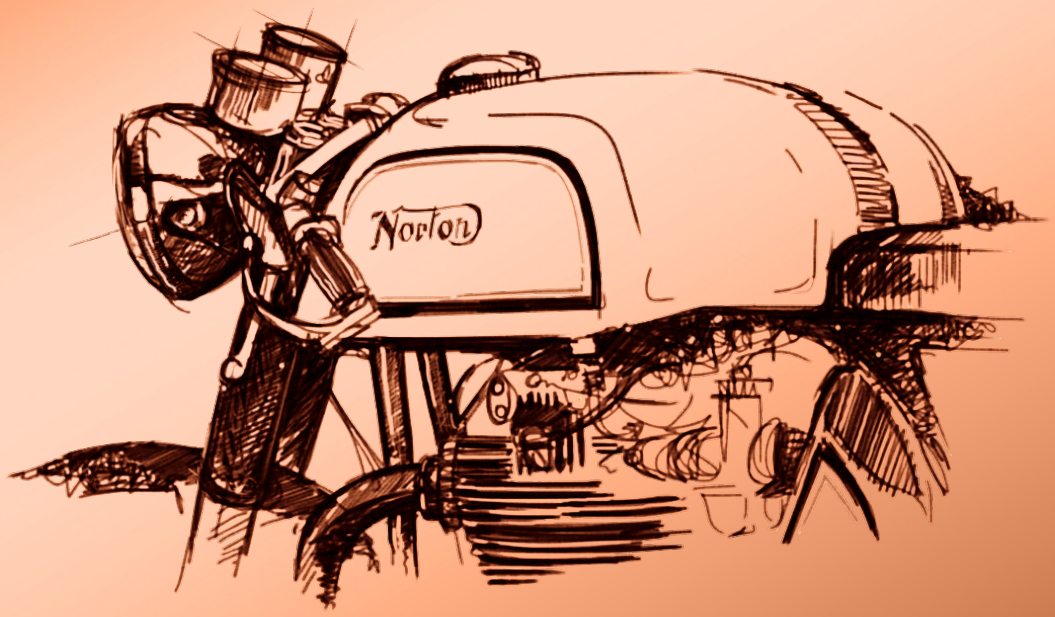

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