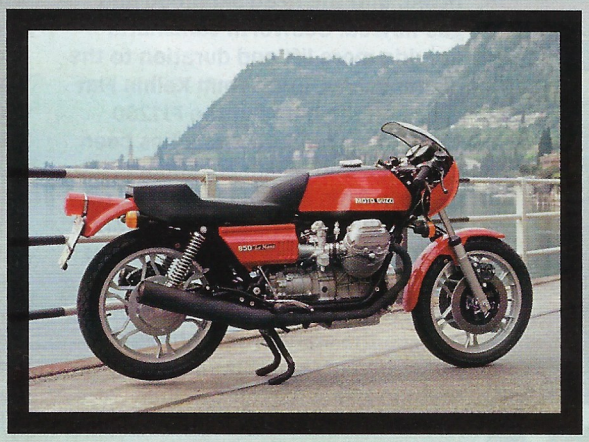
SOUL MATES

Moto Guzzi has been making shaft-drive V-twins for half a century. John Nutting wondered how a modern V7 II retains the soul of the original Le Mans 850.



WORDS: **JOHN NUTTING** PICS: **GARY 'D' CHAPMAN**

Yes, I know that the Moto Guzzi featured on these pages is one of the latest models and that fans of the classic Italian bikes might be puzzled, but there is logic behind it.

The factory, now part of the Piaggio Group, makes much of its heritage and not only remains faithful to the air-cooled V-twin layout all through its range, it still manufactures the bikes at its Mandello Del Lario factory on the shores of Lake Como. For some years now Moto Guzzi has been using the V7 model name for its entry-level machines, which, as fans will know, was used for the first of a series of new machines aimed at reviving its fortunes in the 1960s.

It's now 40 years since I tested what many regard as the best bike from Guzzi in the modern era, the 850cc Le Mans launched in 1976, which was derived from the original V7 Sport. Riding the Le Mans then was an epic experience and showed that the Italians could produce a machine that went as fast as it looked. So what better than to ride one of the latest V7 models to find out if the soul of Moto Guzzi lives on after four decades of development? Not the 'big-block' 1200 Griso SE that is the alpha sport bike in the 2016 range, you will note, but the V7 II Special. This is derived from the later V50 series and is, I feel, more faithful to the lineage.

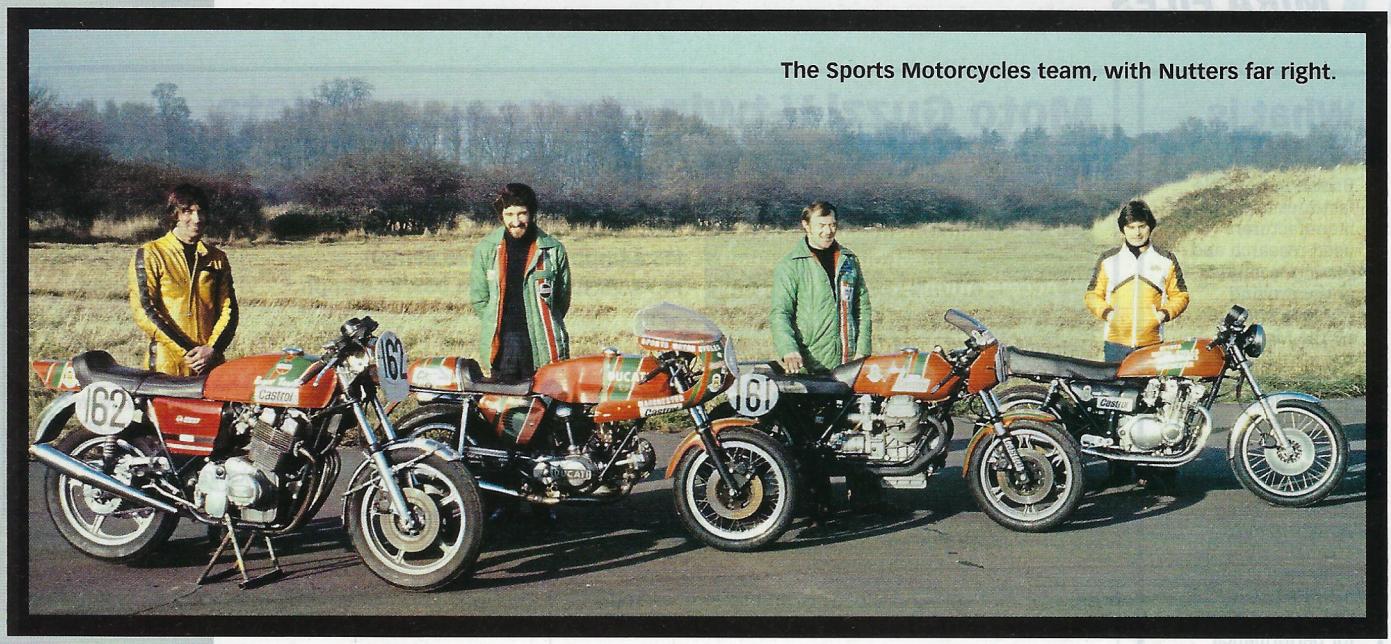
The V7 II Special shares the line with the matt-finished Stone, red-framed Racer and limited edition off-road-styled Stornello with upswept pipes. The V7 is the latest in a series of 'retro' 744cc machines that have, in fact, been produced since 1991 when the then UK importer Three Cross Motorcycles commissioned a short run of the 750-T, a classically-styled precursor of the latest V7.

At first glance the V7 II Special looks simply like a wire-wheeled version of the 750-T, but it takes ➔

SPECIFICATION

	Moto Guzzi Le Mans 850 (1976)	Moto Guzzi V7 II Special (2016)
Engine:	Air-cooled 90-degree V-twin	Air-cooled 90-degree V-twin
Capacity:	844cc (83 x 78mm)	744cc (80 x 74mm)
Valve operation:	Pushrod ohv	Pushrod ohv
Compression ratio:	10.2 to 1	10.4 to 1
Lubrication:	Wet sump	Wet sump
Ignition:	Coils & contact breakers	Electronic
Carburation:	Two 36mm Dellorto PHF	Marelli fuel injection, 38mm
Peak power:	80bhp @ 7400rpm	48bhp @ 6250rpm
Peak torque:	na	56.9Nm at 3000rpm
Primary drive:	Gears 21/17 (1.235)	Gears 23/18 (1.278)
Clutch:	Dry two-plate	Dry single-plate
Gearbox:	Five-speed	Six-speed
Internal ratios:	2.00; 1.388; 1.047; 0.869; 0.750	2.64, 1.777, 1.333, 1.083, 0.96, 0.888
Final drive:	Shaft and spiral bevel gears	Shaft and spiral bevel gears
Final drive ratio:	4.714 (33/7)	4.125 (33/8)
Overall ratios:	11.65; 8.08; 6.10, 5.06, 4.37 to 1.	13.9, 9.36, 7.03, 5.71, 5.06, 4.68 to 1
Frame:	Duplex tubular steel type	Duplex tubular steel type
Front suspension:	Telescopic fork	Telescopic fork
Rear suspension:	Pivoted rear fork, twin shocks with 5-pos spring preload adjustment	Cast-alloy pivoted rear fork, twin shocks with spring preload adjustment
Front wheel:	Cast aluminium alloy	Wire spoke, light-alloy rim, 2.5 x 18
Rear wheel:	Cast aluminium alloy	Wire spoke, light-alloy rim, 3.5 x 17
Front tyre:	Pirelli Gordon 3.25V18 tubeless	Pirelli Sport Demon, 100/90 H18
Rear tyre:	Pirelli Gordon 4.10V18 tubeless	Pirelli Sport Demon, 130/80 H17
Front brake:	Dual 300mm Brembo cast-iron discs	Brembo 320mm disc, 4-piston caliper, ABS
Rear brake:	240mm Brembo disc, linked to front, with load limiter.	Brembo 260mm disc, 2-piston caliper, ABS
Electrical system:	280-watt alternator, 45/40-watt headlamp, starter motor.	Alternator, starter motor 60/55W halogen headlamp, running lights
Battery:	12V 32Ah	12V 14Ah
Fuel tank:	24 litres (5.3 gal)	21 litres (4.6 gal)
Wheelbase:	1,500mm (59.0in)	1,449mm (57.1in)
Seat height:	750mm (29.5in)	790mm (31.1in)
Castor angle:	29.0-degree	27.5-degree

There's an honest simplicity to the V7's lines.



The Sports Motorcycles team, with Nutters far right.

the theme further by featuring a large-capacity fuel tank that looks like it's made from the same pressings as the Le Mans.

Fact is, the V7 range for 2016 is almost completely new, while sharing the same basic dimensions as the previous 'small-block' models. Although the 744cc (80 x 74mm) engines share the same internal dimensions and drive through a dry clutch, the gearbox now has six speeds connecting to the cardan drive shaft. Fuel mixing now uses a Marelli injection system with a single throttle body. Injectors are in the heads, which retain their novel flat-faced 'Heron' arrangement with the pushrod operated intake and exhaust valves side-by-side in line with the cylinder bores and the combustion chamber in the piston crowns. This year the range has also been expanded with a pair of cruiser V9 models with the biggest-yet version of the 'small-block' at 853cc (84 x 77mm), showing how much potential it had way back in 1979 when the V35 first appeared.

Sit astride the V7 and the bike feels compact, manageable and unintimidating, as is the intention. This is a machine aimed at first-time riders, which is why peak power is a modest 48bhp at 6250rpm, enabling it to be used by A2 licence holders in the UK. Ahead it's clear that the development testers understand what a relaxed riding position should be, with a low seat and uncluttered controls. The instruments have clear dials and the usual warning lamps. An addition is a warning lamp for the anti-lock brakes.

Gone are the interconnected discs of yore, in which the foot pedal operated one of the front discs, and the rear through a balancer. Stab the starter button and it's unmistakably a Moto Guzzi, as the car-type motor engages the flywheel and the bike reacts with a sideways kick as the engine fires up: likewise when you blip the throttle. Unlike Honda's CX500 there's no contra-rotating clutch to compensate for the torque reaction. Another feature of the V7's uncomplicated 90-degree V-twin layout is that there is a balance to be struck between using a heavy crankshaft flywheel to smooth the power delivery for relaxed riding and a lighter one to make gearchanges more crisp. On the latest V7, however, the extra sixth cog enables the gearbox ratios to be closer, making what I'd regard as the optimum flywheel weight easier to accommodate. This is key to the latest V7 because response is strong from low revs, with peak torque said to be at a lowly 3000rpm. Open it up and the bike gathered itself quickly through the gears, enough to make it fun around the Northamptonshire lanes I was riding on.

The riding position is nigh-on perfect for spirited riding because the tank was sculpted just right to tuck in my knees and the foot-pegs are back behind the nose of the cushy seat, though the foot levers could be less intrusive. The slightly-raised handlebar was fine for speeds up to 80mph, a speed at which the engine is almost perfectly smooth, with its only vice being when you open up hard at lower revs and the power pulses through the chassis.

In keeping with its target rider profile, the V7's handling is soft and forgiving. It's slow to roll into bends and the low budget suspension, adjustable

Classic-looking with modern touches.

Modern-style reflector headlight.

What is MIRA?

British motorcycle factories and tyre manufacturers used research and testing facilities at the proving grounds operated by the Motor Industry Research Association (MIRA) in the Midlands from the 1950s.

The high-speed circuit, with its 34-degree banking enabled testing speeds of over 100mph, while the 1000-yard straights provided electronic timing equipment for performance testing, a facility that was also used by magazines.

Built on the site of RAF Lindley, near Nuneaton, in Warwickshire in 1949, MIRA continues to take a leading role in the development of vehicles of all kinds.

Moto Guzzi V-twin performance data

Model:	750-S3	850 Le Mans	Sports MC 850
Date of test:	Dec 3, 1975	July 6, 1976	Oct 1977
Maximum speed (mean):	114.21mph	123.39mph	132.07mph
Best one-way speed:	115.84mph	125.89mph	132.64mph
Acceleration, st 1/4 mile (mean):	14.7s/93.10mph	14.05s/99.09mph	11.8s/112.22mph
Speedo accuracy:			
(actual mph at indicated) 30	23.8	21.6	
50	39.5	39.2	
70	56.2	56.4	
90	74.0	76.6	
Test weight (1gal fuel):	504lb	485lb	
Overall test mpg:	48	39.6	

All figures compiled at Motor Industry Research Association's proving ground, Nuneaton, Warwickshire.

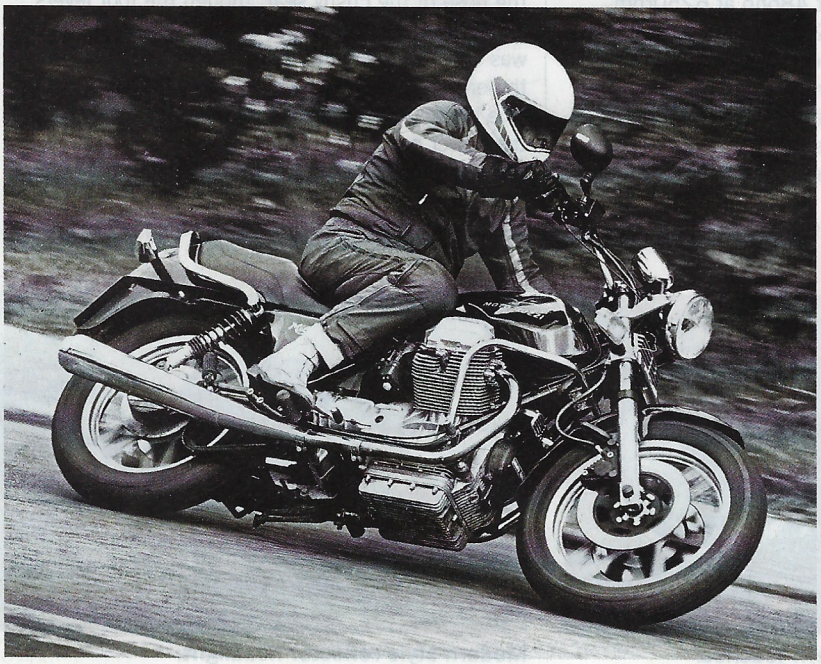
only for rear spring preload, is fine so long as you don't hurry it. On dry roads, it was difficult to provoke the anti-lock into action but the additional novelty in the package, traction control would you believe, was easy to call up on a gravel surface. Open up enough to think you'll get the rear wheel spinning and the engine baulks and coughs.

Geared to reach about 105mph flat out, the V7 II Special is not a ball of fire, but that's not the point: the bike's fun to ride and looks stylish. Me? I reckon that like any Guzzi it's a good basis for a special.

Wind the clock back 40 years to a scorching day in early July 1976 and I'm preparing to put the first Moto Guzzi Le Mans through its paces at the MIRA proving ground. The thermometer on the side of the control tower indicated 80 degrees F and there was a light 10mph westerly breeze wafting along the timing straight, where Motor Cycle's Midlands editor Bob Currie was ready to help record the speed figures.

The Le Mans was a heady mix, an 844cc V-twin tuned up using experience gained in endurance racing with high-compression pistons running in chrome-plated light-alloy cylinders, and heads with bigger valves fed by huge 40mm unfiltered Dellorto carbs. Peak power claimed was 80bhp at 7400rpm, right up with the best at the time.

BELOW: A 1989 Mille 1000GT.



It was also demanding, with the best response to the twistgrip flooding at about 4000rpm accompanied by a roar from the intakes and upswept exhausts. Long and low, finished in red and with a bikini fairing, the Le Mans was one of the most exotic machines you could buy that year. The low centre of gravity and fine steering offered great handling for the period, providing a combination of low speed agility and supreme stability at speed. Typically for the big twin and its hefty flywheel, as with BMW twins, gearchanges needed to be carefully performed to avoid clashing the cogs.

With the clip-on handlebars encouraging high speeds, the Le Mans could thunder along and easily show 130mph on the speedo. But something didn't seem right: cruising along at just over the legal limit at 70mph, other motorway traffic would be rushing off into the distance. Could the speedo be optimistic? The first part of the MIRA testing procedure was to calibrate the speedo using the timing equipment. Sure enough, at an indicated 70mph the Le Mans was trundling along at a lazy 56.5mph, making the speedo 24% optimistic. At 120mph it would be showing 149mph. Could the performance claims for the Le Mans be a myth?

The bike proved to be a flyer, clocking a best one-way top speed of 125.89mph and a mean in both directions of 123.39mph. That tallied with the bike's top gear ratio of 4.37 to 1, which gave a true 120mph at the peak power revs of 7400rpm. If others claim top speeds in excess of 130mph, it would more than likely be a one-way speed with a tailwind. The calibration of the speedo also revealed that odometer was optimistic by 15%.

Although the Le Mans was dramatically quick through the upper gears, it wasn't such a good sprinter off the mark, with the high bottom gear ratio making quick quarter mile times a challenge. The rear suspension would wind up enough to lose traction as the clutch bit. The best 14.0sec quarter mile time I could average belied the real intent of the Le Mans. At the time it was still one of the fastest bikes on the road. Kawasaki's Z1 had clocked more than 131mph in 1973, but the subsequent Z900 had been down to 125.7mph. The top bike was Laverda's 981cc 3C-E, with a maximum speed at MIRA of 133.3mph.

The Moto Guzzi could be made faster though. For use in production racing and long distance events a whole range of tuning parts were available.

In 1977 I helped set up the Roadrunner production machine series in the UK backed by ➲

What's the history of the Moto Guzzi V7?

The Moto Guzzi V7 name dates back to late 1965 when the Italian factory displayed the touring model at the Milan Show. It was based on a police bike that had been under development since a government tender had been announced in 1963 to replace the 500cc single-cylinder Falcone.

Engineers Giulio Carcano, famous for his Moto Guzzi racers including the vee-eight in the 1950s, and Umberto Todero partnered in the project, which called for a machine with a 100,000km service life. Guzzi had long been a supplier of police and military vehicles, and Carcano opted for a V-twin, a version of which he had experimented with in his Fiat car a few years earlier.

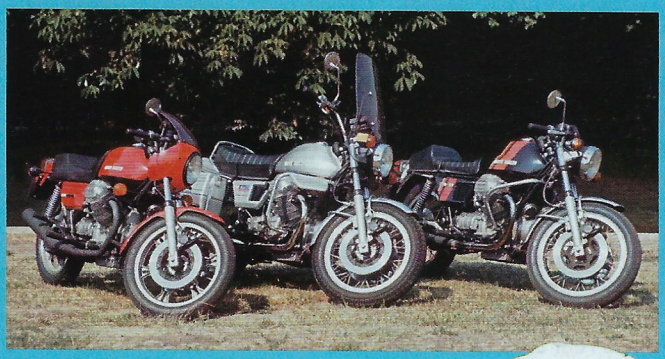
While the configuration of an across-the-frame V-twin was not new – Lambretta had used it for a 250cc racer in 1952 while, in Japan from 1959 to 1964, Murusho produced the Lilac in sizes up to 332cc in several thousands – the use of a car-type single-plate clutch, four-speed gearbox and electric starter, along with shaft drive to the rear wheel, was a new departure. Also unusual was the use of a one-piece crankshaft with shell bearings that could be changed without removing the engine from the frame. Capacity was 703cc.

Sales of motorcycles in Italy were in decline though and Moto Guzzi went into receivership in 1966, but in 1967 a new company, SEIMM (Societa Esercizio Industrie Moto Meccaniche) was formed, with as manager Bianchi's Romolo De Stefani, who brought with him engineer Lino Tonti. To establish a sporting image, the factory set up a programme of speed record attempts and endurance racing, but this served to expose the inadequacies of the V7's frame.

Tonti designed a new lower frame and it appeared at the 1971 Milan Show in the V7 Sport with its lime green tank and side panels. The V7 Sport's style was a game-changer for Guzzi and continued with the 750-S3 in 1974 and, in due course, the 850 Le Mans in 1976.

The current V7 series is derived from the more compact series of V-twins designed by Tonti for launched in 1977 with the V50. Versions in 350cc, 650cc and, in 1991, as a 750cc model were developed (by then the Le Mans was offered as a 'classic' 1000 model). Both sports and touring options have been offered over the years. In 2016, the factory's 95th of continuous production, the 750cc V7 series has been redesigned to maintain the original and classic V7 style and might even get bigger if the new 850cc V9 engine, currently powering cruisers, is used.

There's more about the history of Moto Guzzi in 'The Moto Guzzi Sport and Le Mans Bible' written by Ian Falloon, from Veloce Publishing Ltd, £29.99.



The 1976 Moto Guzzi range.

Avon Tyres. Steve Wynn, who the following year would be famed for supplying Mike Hailwood with his TT-winning 900 Ducati, had set up a Sports Motor Cycles team with Castrol backing. The machines were a 900SS Ducati, a Laverda Jota, a Suzuki GS750 and a Moto Guzzi Le Mans, ridden respectively by Wynn, Roger Cope, Bill Pilling and John Sear. Roy Armstrong, who worked with Wynn at the time with brother Ian, recalls that Sear was tipped to win the championship at the final round at Snetterton. But he fluffed the start in the rain, fell off and the race and series was won by Pete Davies on a Slater Brothers Laverda Jota.

The series rules allowed a number of tuning mods to be made to the bikes and Sear's bike had higher 10.5 to 1 compression pistons and a factory camshaft, one of a number of parts that would enable revs as high as 9500 or more to be held with reliability. After the final round, Wynn suggested that I test the team bikes at MIRA to settle rumours about the bikes and satisfy his own curiosity. The Wynn Guzzi was a rocket.

While I had struggled a year earlier to get the standard Le Mans off the line cleanly in the quarter mile acceleration tests, and couldn't break 14sec, the Wynn Guzzi jumped off the line and flew through the 440-yards in 11.8sec with a terminal speed of 112.22mph.

The top speed was no less stunning and revving to just over 8500rpm the bike clocked a mean two-way average of 132.07mph, making it the fastest of all the machines in the team. And this was on low gearing for the tight Carnaby circuit in Yorkshire! With the normal gearing it was very likely that much more could be achievable. So what was one of the best-looking bikes of the late seventies could also be one of the fastest.

Does it live on in the V7 II Special? Certainly the soul hasn't dimmed. But if you want to create your own fire breathing Guzzi there's no shortage of experts to help you. *cmm*

How to keep an early Moto Guzzi running well

Ian O'Reilly provides specialist Moto Guzzi sales and servicing from his independent Muzzi Moto shop near Stafford, and he knows what is necessary to keep the twin-shock V-twins from the Seventies to the early Nineties running healthily in the modern world.

He reckons it's a pretty easy task to keep the big-block engines going well, as they tend to respond much better to regular use and higher mileages due to their under-stressed mechanical components. Ian goes into the details: "Whilst a Le Mans will run fine on the original ignition points, any electronic set-up will improve running and the general engine pick-up; Silent Hektik being the best/most modern – but it is slightly more expensive than some other options. Swapping the Dellorto carb tops from 'side-pull' type to 'flat-tops' will result in a twistgrip that is much lighter and more useable for most people.

Suspension is typically over-sprung, so rear shocks that have softer spring rates than standard will make a big difference; running longer shocks from a later Tonti-framed model (such as the Le Mans 5) will help an earlier Le Mans to turn. Guzzi front forks are pretty awful no matter what you do, some progressive springs and decent fork oil will help, but that's it.

A newer-type Brembo front brake master cylinder and stainless brake hose will remove much of the 1970s 'wooden' brake feel, especially with modern softer pad materials. When in good condition these original P8 Brembo brake calipers work really well, even in modern traffic, but we find that most riders would be better off with the linked brakes disconnected. Picking a modern set of tyres such as the Bridgestone BT45 or Conti Go is a good move, especially in a section narrower than standard, this will speed up the (incredibly slow) steering slightly with no loss of grip. Despite the Guzzi folklore, on the road no noticeable benefit really is gained from 40mm carburettors, open exhausts, performance air-filters, 950cc kits, high-lifts cams, unleaded conversions, twin-plug heads, four-pot callipers and floating discs etc. How do we know? Well, I have been spending my cash on this stuff on and off since the early 1980s."

They can run well and look good.

More information from www.motoguzzisales.co.uk Tel: 01785 224444. Mobile: 07718 230289.

"The V7 II Special is fun to ride and looks stylish. Does the soul of the Le Mans live on in this machine? Certainly the soul hasn't dimmed."