

'MARQUEZ DID NOTHING WRONG'

Jerez MotoGP: Riders back hard-charging rookie

MCN

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NORTON

TT PLANS REVEALED

**FOUR-PAGE
SPECIAL REPORT**

- *The Bikes*
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- *The Riders*



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**SCHWANTZ
COMEBACK**
See full details, page 81



THE WEEK

First look at the machine Norton will race at the Senior and Superbike TT next month

Everything you need to know from seven days in biking

ISLE OF MAN TT

Norton's TT bike is a quantum leap

The return of Norton to our roads has, at times, been a difficult one. The return of Norton to the roads of the Isle of Man has, arguably, been harder still. But the manful groans of lust-laden appreciation that reverberated around the offices of MCN this week as we first clapped eyes on the new Norton TT race bike suggest that they've certainly succeeded in making it look the part. If noise alone could get you a trophy on the island, then the aural assault from the unsilenced 200bhp motor would doubtless result in some silverware, too. But the reality is that this bike is unlikely to propel Norton CEO Stuart Garner's dreams to a podium result. So what are its chances?

> Read the exclusive on the team and bike – p8



WORLD FIRST SHOTS

MCN READER OFFER

£10 off Donington WSB tickets!

Donington Park is offering MCN readers a red hot deal on 2013 WSB tickets. Order your weekend or Sunday, May 26 tickets online using the offer code MCNDP13 where prompted and you'll not only receive £10 off each ticket ordered but you'll also get a Friday ticket for the all-new Donington Classic Motorcycle Festival on August 9 TOTALLY FREE! Weekend adult tickets are normally £52, Sunday tickets £42,

and entry to the Friday of the Classic would be a tenner.

■ To take advantage of this incredible ticket offer go to www.donington-park.co.uk or phone 0844 8737343.



MOVE TO AUSTRIA

Husqvarna closes Varese factory

Three months after being sold by BMW it has been reported that Husqvarna's factory in Varese, Italy, is to be closed with all production moving to Austria.

The shock move comes weeks after its new owners visited the plant and follows assurances that the facility would remain open.

The closure was confirmed by former press officer Martino Bianchi and comes after the firm was sold to Pierer



Industries AG, a company owned by KTM boss Stefan Pierer (above right). It's believed production will resume at one of KTM's Austrian plants.

Husqvarna, originally from Sweden,



had been based in Varese since being bought by Cagiva in 1986. The firm was sold to BMW in 2007 with the German firm reported to have spent millions revamping the Italian tank.

BIKES IN THE NEWS THIS WEEK



Crew cut

Belgian builders, First Notion stripped their Yamaha SR250 to create this cafe racer. The tank was replaced with a Yamaha RD50 item, a custom exhaust was fitted along with Brembo brakes.

Win your money back

KTM will be refunding the cash price of one bike to a UK rider this month. Book a test ride during May and go on to purchase a KTM and you could be a winner.



Two brothers go racing

Two brothers from a small Spanish village customised this 1977 Kawasaki KZ750 to meet an off-road challenge. They produced the bodywork from cast aluminium, designing the fenders, side covers and tank themselves.

Grab a Burger-van...

The new 2013 Burgman 650 ABS Executive is now in dealers. The £8799 maxi-scooter boasts heated rider and pillion seats, over 50 litres of storage, three drive modes, heated grips, electronically adjustable screen and fold-in mirrors.



Tai fusion

A Taiwanese industrial design student based this concept on the trellis structure of old seaplanes using a Honda Super Cub 90. In case you're wondering, the middle bit is the fuel tank.



Norton's IOM TT History

Norton boasts Isle of Man TT history dating back to 1907 and including the legendary 1992 win in the hands of Steve Hislop but the newly reborn and British-owned firm returned to the famous 37.73-mile course in 2009 with the 588cc rotary NRV with Irish road racing star Michael Dunlop. The bike was hardly changed from the old bikes that were racing years previously and it was dogged by reliability issues with Dunlop unable to complete a single lap. The bike never raced that year.

Norton vowed to return when it was ready with a more reliable bike. It took another two years but last year the British team returned with the Aprilia-engined SG1 which had a Spondon frame and was ridden by Ian Mackman. Niggling issues prevented the bike getting enough test time and the bike was put together at the last minute. It still managed a 115mph average speed on its fastest lap. The Senior race was cancelled because of bad weather. The bike completed a parade lap – but everyone has high hopes for 2013.

02.05.2013 **WORLD EXCLUSIVE**

NORTON'S TT BIKE REVEALED

The Norton V4 that will tackle the Senior and Superbike Isle of Man TT races is virtually new from the ground up

By Andy Downes

Norton is putting the finishing touches to the first of two V4 racers that will contest the 2013 Isle of Man TT in just three weeks, with virtually every part of the bikes being new for this year.

The team hope the two unsilenced 200bhp monsters will be good enough to bring credible results for the team, after a difficult 2012 campaign where the bike's planned race debut was scuppered by the cancellation of the Senior race. The V4s will be ridden by Ian Mackman, who rode the bike last year, and new recruit Dan Hegarty.

This year will be the second time the iconic British brand has competed with a bike powered by a 1000cc V4 that's essentially an Aprilia RSV4 superbike engine. Last year's event was a test and data gathering process, but Norton are looking to make progress this year.

The new SG2 model has a host of modifications over the first-generation SG1, with all changes gleaned from the huge learning curve the team experienced during last year's event.

The bike has an all-new chassis with redesigned swingarm and Öhlins suspension that can run in passive, semi-active or even fully active modes. Norton has also worked to improve aerodynamics, increase fuel capacity and have introduced an F1-derived electronics control system for the engine.

Norton boss Stuart Garner and head of design Simon Skinner gave MCN an exclusive look at the bike as it was put together with a fairing for the first time last week. They explained why they were back for more at the TT, the changes they have made to the bike and what they are expecting from the 2013 TT.

Garner said: "As we were heading back from the TT last year we all

WHAT'S THE STORY?

■ Norton was brought back into British hands in 2009. After two previous attempts, Norton is back at the TT in just a few weeks with two almost completely new 1000cc V4 bikes, two riders and a bundle of determination to make this the start of a new racing era for the firm.



Ian Mackman's hopes of a 2012 TT replica were thwarted by the rain

real in three weeks' time.

Boss Garner is adamant the TT is vital to Norton – not just to honour the marque's heritage but to secure the future development of the firm.

He added: "We took some stick last year because people weren't happy that we were using an Aprilia engine and a Spondon chassis. But we always said it was a learning year and there was no way I was going to spend a lot of money for what we knew was just a chance for us to see what it was all about.

"That's one of the things about Norton that people don't seem to understand. We don't spend money on things we don't need. I spend the money like it's my own for a very good reason... it bloody well is!"

Norton's not going to win, so why race?

Norton knows full well it's not going to win the race this year but that's not the point of making another go of it. Garner explained: "The foremost reason is that we are all bikers and we love it. There wouldn't be any way of going to the TT, with all of the work and time that has to go into it, otherwise. The second is the chance to try out new engineering things that will be of use to Norton as the brand continues to expand and develop into the future.

"The TT and racing in general is a fantastic proving ground and there are advantages in taking part for that reason. The active/semi-active suspension we are developing and the new ISR brakes are a good example of this.

"The third reason to go is commercial. The TT allows us to have a huge amount of global exposure and it allows us to get some money back from selling merchandise. I have always said racing can only happen if it costs nothing to the factory. I'm not going to bankrupt the factory by going racing, now or ever. We have three title sponsors for this year, which is a nice place to be."

Continued over

THE TEAM

1. Name: Simon Marshall
Job: Mechanic

2. Name: Aaron Astbury
Job: Mechanic

3. Name: Jez Tyson
Job: Mechanic

4. Name: Stuart Garner
Job: Norton owner

5. Name: Joe Adams
Job: Overseas sales

6. Name: Ian Morgan
Job: Mechanic and test rider

7. Name: Dom Murfin
Job: Mechanic

8. Name: Simon Skinner
Job: Head of design

9. Name: Paul Raven
Job: Mechanic

10. Name: Johnny Cusack
Job: Mechanic

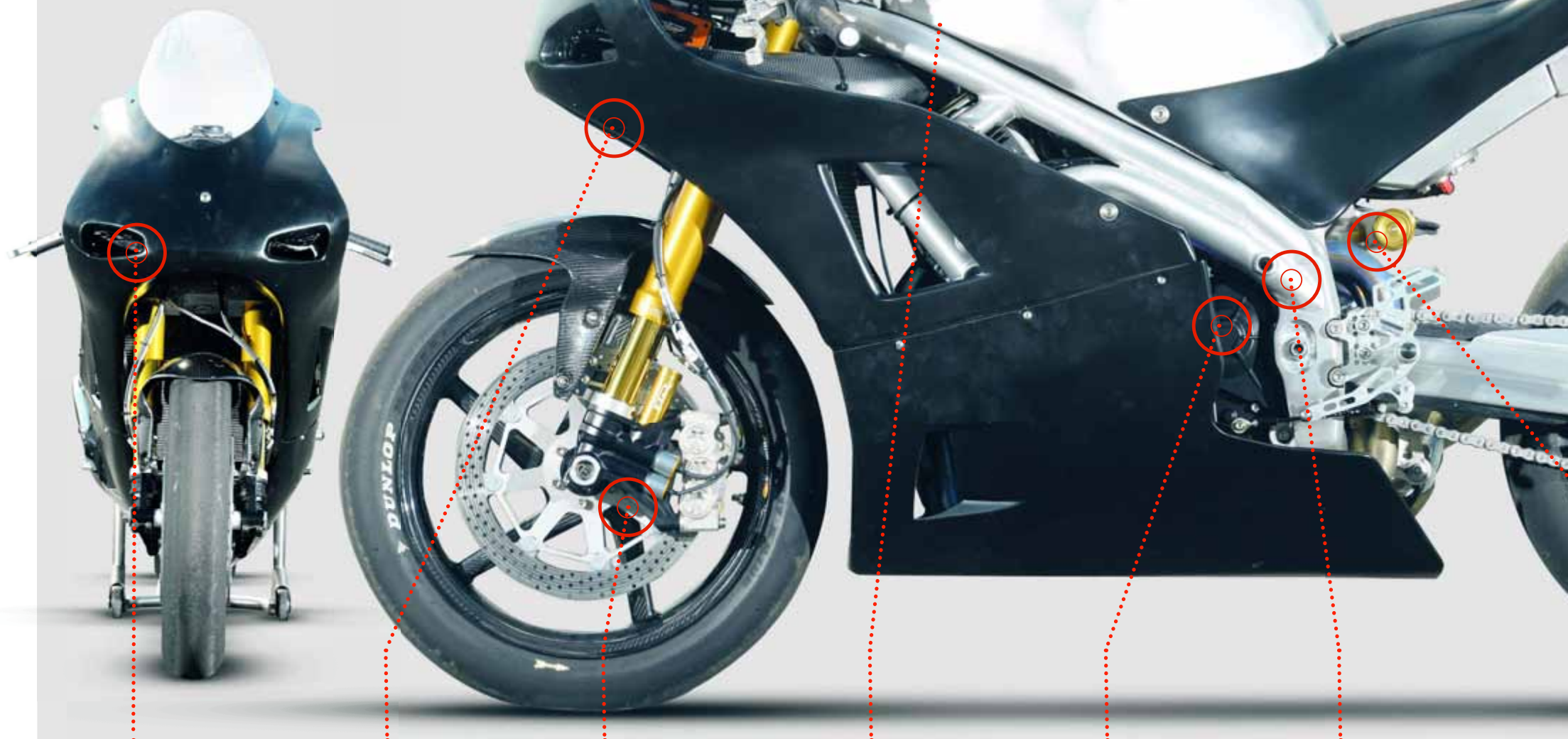
11. Name: Arthur Reeves
Job: Mechanic

12. Name: Sean Kynnersley
Job: Mechanic

13. Name: Darren Sharpston
Job: Mechanic

14. Name: Mark Butler
Job: Mechanic

Tech analysis: Norton V4 spec sheet highlights



RAM-AIRSCOOPS

Redesigned from last year with new twin ram-air scoops mounted either side of the front of the fairing. While they're not as good as one large central duct, they are a lot more efficient at getting air into the airbox than last year's bike, which had one central scoop and two additional ones on the top of the fairing cowl. Note the enormous screen bubble.

AERODYNAMICS

A lot of work has been done on the fairing to improve aerodynamics, engine cooling and also to provide more wind protection for the riders. Last year, Ian Mackman was having to slow down so he could see where he was going because the fairing wasn't big or tall enough, and he was being battered and exhausted by the wind-blast.

BRAKES

New for the 2013 bike are Swedish-made ISR brakes, which have enormously powerful six-piston calipers at the front with a pair of 320mm discs. These replace the Brembos used on the bike last year. At the back is a 260mm disc with a four-piston caliper. The range of adjustability in the ISR units is wide (see detail picture 3, right).

ELECTRONICS

Cosworth developed this dashboard for F1 but it has been tailored for bike applications. It uses bespoke Norton electronics that control everything from the ride-by-wire throttle to the fuelling, ignition and overall mapping. The system has the capability for fully integrated traction control software. It's not going to be used yet – but it does make the system more future proof.

ENGINE

Essentially this is an Aprilia RSV4 999cc V4 superbike engine making around 200bhp, but Norton has modified and changed an undisclosed number of internals as it seeks to carry on development of its own V4 for the future. Norton is not releasing any details of the internal changes to the engine, which is managed by their own electronics package.

CHASSIS

Completely redesigned tubular alloy chassis designed and built with the primary aim of making the bike more adjustable so it can be tweaked to suit the ultra-demanding TT course. The range of adjustments include including fork offset and ride height.

'What we learnt last year created this bike'

Last year's steep learning curve has shaped the 2013 Norton TT machine

Norton design boss Simon Skinner and his small team of engineers, designers and mechanics sat down the week after the 2012 TT and sifted through notes and reams of computer data to work out what a bike would need for the 2013 TT.

The results, seen here for the

first time in an MCN world exclusive, are an almost completely new bike that has been created as a result of what the team and rider Ian Mackman learnt. Norton has designed a new tubular alloy chassis that's built by Norton-owned company Spondon. The bike has a longer swingarm, a bigger hand-built fuel tank and Öhlins

suspension that can run as traditional passive suspension, semi or even fully active mode where it links with a GPS unit to adjust the suspension as the bike travels around the TT course.

The aerodynamics have been changed with a new fairing feeding air to a modified Aprilia RSV4 999cc V4 superbike engine. For 2013 the team

has been working on the internals as Norton learns lessons it can use in its own V4 engine project, which is still underway.

Skinner said: "This has always been a three or four-year plan for us and the first year was nothing more than a learning time. This second attempt allows us to go with all that we have



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Days left before first
qualifying session of the
Senior TT**SUSPENSION**

Stonkingly expensive Öhlins FGR forks and shock have electronically controlled valves and hydraulics to operate the active/semi-active suspension. These are essentially the same as those used on MotoGP bikes. They allow three modes of use, being able to deliver simple old fashioned suspension, semi-active control, or fully active, predictive, damping.

SWINGARM

Last year the swingarm wasn't long enough and the team still hadn't found a completely stable setting for the bike in terms of overall wheelbase. This year they've added flexibility to the old 580mm swingarm, and now boast a dragbike-rivalling swingarm that gives an extra 50 to 60mm of wheelbase if needed.



1. F1-derived dashboard developed by Cosworth
2. Notice the lack of silencer? You will when it starts up
3. Swedish-made ISR brakes are works of art
4. Tubular alloy frame made by Norton-owned Spondon

RIDER VIEWS**What do the riders think?**

'This year's bike appears to be more stable, even without a steering damper'

Ian Mackman

'At this time last year the bike was a real handful, especially over the bumps. This year I have not even noticed them. It's a massive relief that there has been a big step forward. The bike feels like a motorcycle that needs setting up rather than a complete make-over. Every change we make is improving the bike and it appears to be much more stable overall and we haven't even got a steering damper fitted yet. It's a bit lazy in the steering but I would rather that than it being unstable. Making a stable bike turn faster is a lot easier than making a fast-turning bike stable.'



'Last year's bike was an animal. This one is not like that at all'

Dan Hegarty

'It's been a great test so far. We have a nice general bike to start with and we have been concentrating on setting up the electronics, working on the damping and it all seems to be going in the right direction. I heard last year's bike was an animal to ride; this one is not like that at all. It's nice to be associated with the Norton brand and I am excited about the TT. We need to sort some fuelling issues, which can be fixed on the dyno. Right now we are concentrating on getting the chassis right.'

**Team mechanic
Ian Morgan
puts the Norton
through its paces**



learned and we have also built the bike around that knowledge and data. What we learnt last year created this bike and that will take us forward for the next couple of years at least.

"There were some big lessons for the team last year and the biggest was working on the geometry of the bike to make it more stable. It's hard to explain how tough the TT is on a bike in terms of the bumps and the speeds – and we ran out of time to be able to tackle them at the event. We learnt the speed of many of the TT sections were amplifying minor instability issues and

making the rider slower. Hopefully these have been addressed."

The biggest technical leap this year is the introduction of full active suspension. It uses Cosworth F1-derived electronics, a GPS satellite receiver and Öhlins FGR forks and shock to change the suspension as the bike travels around the course, and also to react to bumps. This system can also run in semi-active mode so the damping is changed according to the way the bike is being ridden, or traditionally passive where it just soaks up bumps with a spring and damper unit.

'The chassis and swingarm have been designed to make the bike as stable as possible on the fastest sections of the course'

NORTON DESIGNER SIMON SKINNER

Skinner told MCN: "We are not going to run the suspension in active mode until we are confident everything works with the bike in normal mode.

Riding at the TT is all about the riders having faith and trust in the bike to do what they want it to do. We need them to know it'll do exactly what they expect.

"The chassis and swingarm have been designed to make the bike as stable as possible on the fastest sections of the course and the swingarm length is already 580mm, which was the maximum we were able to go to last year. This year we have another 50mm to 60mm of extra wheelbase available if needed."

Norton owner Stuart Garner already

owned 50% of the frame-building firm Spondon, but earlier this year he completed the takeover of the firm. Using Norton's designs the experienced Spondon workers are able to build and ship a new swingarm or chassis component within two days.

Skinner added: "One of the challenges this year is explaining to riders how much adjustability there is. Everything can be changed and that will be a shock for the guys. We will have to be careful to avoid confusion."