

ANY QUESTION

ANSWERED

If we don't know the answer, we'll find the person who does



Tuono 1100s from 2016-17 are being recalled

Are my Aprilia's brakes about to fail?

I was wondering if MCN have heard anything regarding the recent recall in America regarding possible Brembo brake failure on certain 2016-onwards Aprilia and Ducati models? I own a 2016 Aprilia Tuono V4 1100 Factory, which I believe is in the recall category and I am rather reluctant to take it out for a ride

right now if there is a possibility of front brake failure.

Ian Cameron, Forres, Scotland

Answered by Ian Edwards, Mode Performance

For the last two years, the pistons in Brembo front radial master cylinders with 15mm and 16mm

diameters have been made of plastic. There have been some reports in the US that these pistons can 'crack and eventually lead to a failure of the front brake'. The bikes that are potentially affected include the 2016 and 2017 Aprilia RSV4 RF and Tuono 1100. Brembo have notified all the manufacturers

and owners are being contacted to have the part replaced at the nearest dealership. The recall does not affect other manufacturers nor other master cylinders, or master cylinders sold as aftermarket kits through the Brembo distribution network. Aprilia have begun a recall, so you should be contacted soon.

KIT CHOOSER

Are there any over-trousers with protection?

Can you recommend some lightweight, 100% waterproof trousers that offer a bit of protection and don't cost the earth? Is there any such thing?

Alan Ford, Worthing

Answered by Keith Roissetter, Infinity Motorcycles

The ability to be very lightweight and protective is almost mission impossible. Any sort of armour would compromise the pack down ability, so none offer it.

The Spada Aqua unlined nylon so should offer a bit more durability than most. Ripstop is also a claimed feature in the DPM trousers, which seem to only come in camouflage. The twill nylon Weise Waterford pants look to be better made, but their quilted lining does increase their bulk. The Rev'it Acid H2O carry a Ride Recommended triangle and from what I've read they seem to be a level above most of the cheap offerings.



£24.99

Spada Aqua



£24.99

DPM trousers



£39.99

Weise Waterford



£34.99

Rev'it Acid H2O



My son has lost his bike keys. What can he do?

My son has lost his one and only ignition key for his Suzuki GSX-R1000. What can he do that is not going to cost thousands of pounds?

Michael Vernon, email

Answered by Chris Dabbs, MCN

I spoke to Express Keys and Lock Services in Orpington and your son has still got several options. If he made a note of the key number, which starts 'A6000' he can send that through to a decent locksmiths and they'll be able to cut new keys. If you don't have that the existing locks can be stripped down and keys made up from them. As the ignition block has got more tumblers than the fuel cap or saddle lock, they can strip one of the simpler locks down first, use that tumbler set-up as a start point, then match the last few tumblers in the ignition switch by trial and error. It's easier if the bike is vanned down to them, but if you are hundreds of miles away you can send all the locks down to them. However, this all assumes the bike does not have an immobiliser. If it has one fitted, the ECU will need to be reset along with various chips and that will cost a few hundred pounds if it can be done.



My 696 Ducati has a monster of a starting problem. What's up?

I have a problem starting my Ducati Monster 696. It's began to take two to three tries, with the dash going blank and a strange sound coming from the engine, rather like an car that doesn't want to go.

Alan Davies, email

Answered by John Burrows, Ducati Coventry

We've seen a few 696s with starter motor problems as the bushes start to fail. When you press the start button, it drags so much voltage out of the system that the dash cuts out as you describe. You can get the Denso starter motor unit repaired or replace it.

MCN LAW

Your legal questions

Can I keep my 'written-off' bike?

Following an off my insurer appointed an engineer to examine my bike. He reported back to my insurer that the bike is a write-off and the insurer will not let me have the bike back. They say they will pay me and that the bike belongs to them. Is there any way I can have the bike back as I am sure I could use some parts and fix it myself?

Will Francis, London

A A write-off usually means that the vehicle will be retained by the insurance company instead of being repaired, with the owner receiving a cash payment of the value. Write-off means 'beyond economical repair'. Insurance assessors use categories of write-off to rank the seriousness of accident damage. Two categories

'Category C & D write-offs can legally be returned to the road'

represent very serious damage, but two other categories are for economic write-offs; where damage is expensive but not necessarily dangerous. Category A: Scrap only. For vehicles so badly damaged, there are few or no salvageable parts. This should never re-appear on road. Category B: Signifies extensive damage, although some parts are salvageable. This should also never re-appear on road. Category C: A vehicle is repairable but the costs exceed the vehicle's value. Can re-appear on road. Category D: the vehicle is repairable but repair costs are significant compared to the vehicle value. These can also re-appear on the road. You therefore need to find out which category your bike is in.

Andrew Campbell

Solicitor and author of the MCN Law column for the last five years

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Bikelawyer

Motorcycle Accident Solicitors

EXPERT'S GUIDE TO...

FUEL INJECTION

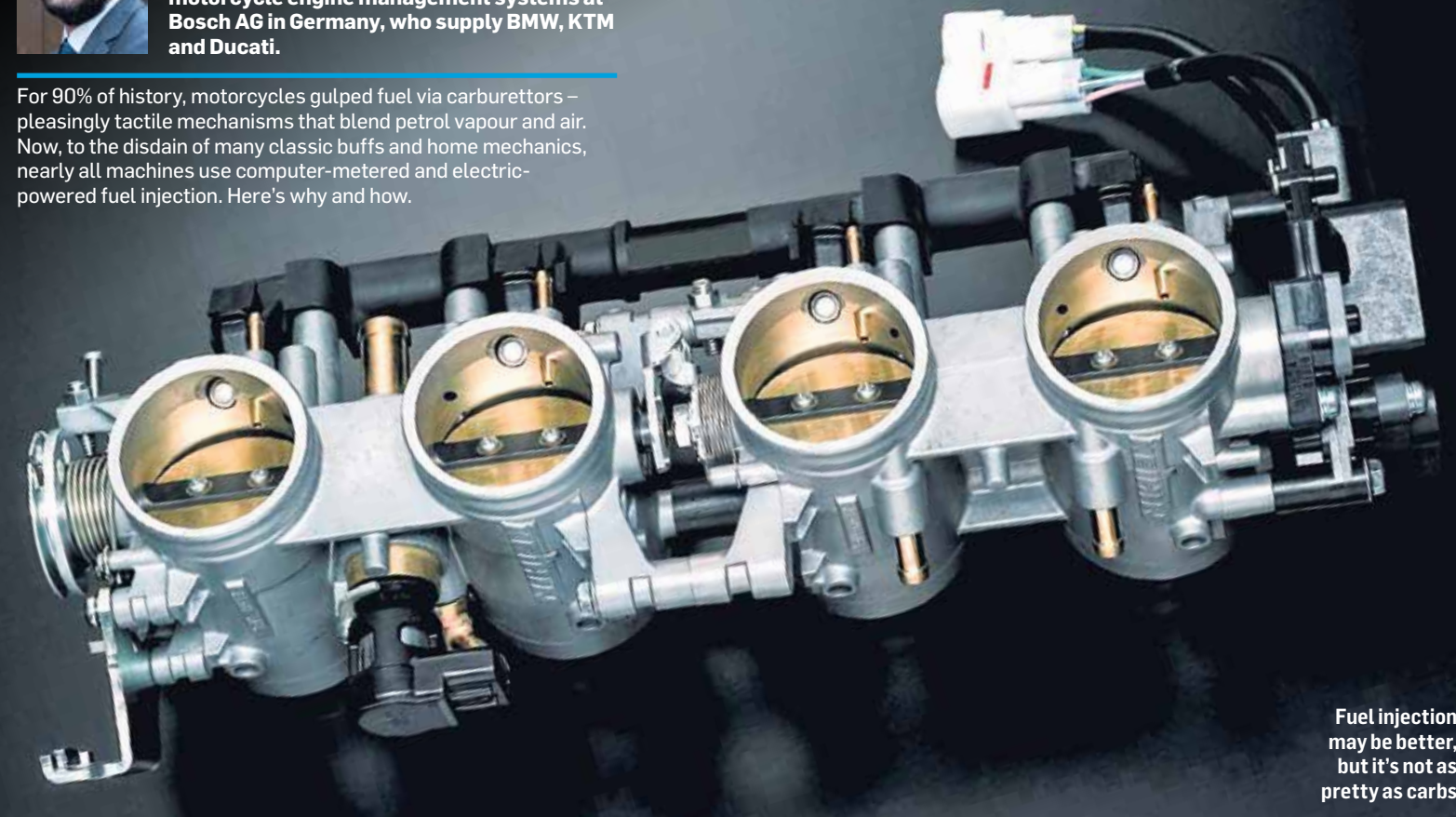
Bikes used to have carbs but now they're all fuel-injected - why?



THE EXPERT

Henning Helkes is a Project Manager responsible for motorcycle engine management systems at Bosch AG in Germany, who supply BMW, KTM and Ducati.

For 90% of history, motorcycles gulped fuel via carburettors - pleasingly tactile mechanisms that blend petrol vapour and air. Now, to the disdain of many classic buffs and home mechanics, nearly all machines use computer-metered and electric-powered fuel injection. Here's why and how.



Fuel injection may be better, but it's not as pretty as carbs

6 THINGS YOU NEED TO KNOW

1 Why did injection takeover?

There were two main drivers - legislation and features. As fuel injection enables more accurate control of the air/fuel ratio, it can significantly reduce nasty emissions, which became necessary with increasing emissions regulations.

First there was the step from Euro2 to 3 in 2005 to 2006, which saw big changes to the likes of the Yamaha YZF-R6, Suzuki GSX-R600 and so on. Then, at the beginning of 2016, Euro4 (which forced even bigger changes) and in the future there will be Euro5.

The other reason are features. Cold-starting old carburettor bikes with a manual choke was tricky. But with fuel injection and accurate engine management you can have much better drivability and 'start-ability'.

2 What are the basics?

An engine runs on a mixture of air and fuel. With fuel injection, this is done by injecting a specific quantity of fuel into the intake, which is sucking air through a throttle body controlled by a butterfly valve. The Engine Management System ensures that for the amount of air going into the engine (as chosen by the rider twisting the throttle) the right amount

of fuel is added. Afterwards, via a 'lambda sensor' in the exhaust (which measures the unburnt oxygen content) it calculates how to fine-tune the mixture. The system also sets the ignition angle and more to optimise fuel consumption and drivability according to conditions.

3 What's an ECU?

The Electronic Control Unit is the brain of the system - a microprocessor which interprets data from sensors via preset 'maps' and adjusts the injection system and other actuators.

When you turn the key the ECU switches on the fuel pump - you can hear it. Then, when you hit the button and the engine cranks, the ECU measures engine speed, throttle actuation and so on and calculates its first injection of fuel to make the bike start.



The throttle body regulates air flow via a butterfly valve

4 Why did early EFI feel sluggish?

Old carburettor bikes ran a rich mixture, which was good for throttle response and drivability but poor for emissions. Early EFI systems were simple and criticised for poor throttle response. Avoiding that is a question of intelligence within the ECU because it's not only how much fuel you inject, it's how fast it responds to changes.

5 How has it improved?

In many ways. By adding multiple injectors within one working cycle (called Sequential Fuel Injection), plus the introduction of electronic throttle control



Ride-by-wire has revolutionised throttles

(ride-by-wire) which gives the ECU control over the air going into the engine, it allows manufacturers to better shape the torque and lets us add features like traction or cruise control.

6 And the future?

There are several areas. One is better emissions; another onboard diagnostics and there will always be new features based on improved connectivity. We'll see the control systems get ever-more accurate as emissions regulations become tighter in the future.

Next week Petrol explained

