ANY QUESTION ANSWERED

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

Send your questions to: advice@motorcyclenews.com or 01733-468002

Q My Street Triple let me down on the track

A couple of weeks ago I was riding my 2009 Triumph Street Triple R at a trackday. Halfway through the day the heat exchanger failed and forced oil into the coolant system and then out of a breather pipe and over my back wheel so that I went down as I tipped into a right-hand bend.

I was shocked to learn that Triumph are well aware of this issue with heat exchanger failure on the 675 Triumph engine. Surely this should have been subject to a recall as this clearly is a dangerous problem? Triumph market the bike on its performance so shouldn't it be capable of completing a trackday without problems?

Mark Edwards, email

A Answered by Chris Dabbs, MCN

The 675 mill is a remarkable engine, capable of cruising around all day at 4000rpm, or spinning up rapidly to its 14,000 redline. The oil pump is driven off the back of the clutch and has an oil pressure release valve that rarely opens in road use.

But when you took it onto the track that release valve was opening and closing repeatedly which sent pulses around the oil system and made the heat exchanger core flex until it fractured.

As far as I am aware there has never been a failure during road use, so Triumph wouldn't see the need for a recall as the Street Triple is homologated as a road bike. While this engine is used in race bikes, racers are highly likely to change their heat exchangers each season.

If you are taking a bike on the track, it's your responsibility to make sure it's 'fit for service', whether that's doing some online research or just ensuring the breather pipes are routed away from the tyres...

Use the full potential of the 675 engine on track, and you could have oily problems

Q Is RSV1000R misfire a costly issue to fix?

My mate and I both have second generation 2009 Aprilia RSV1000Rs, but his started to misfire on our last ride-out. He turned it off for a while and managed to get it going long enough to get home. The battery is testing ok, is it just a reg/rec replacement that's needed?

Simon Davies, email

A Answered by Griff Wooley, Aprilia Performance

I hope that's all it is, but it could be a more serious problem with the 500W stator. The standard reg/rec can't get rid of the excess energy and it needs a series type reg/rec that effectively open circuits to the coils but we can only get them rated to 8000rpm, not the necessary 11,000rpm. We've also tried to get the stators rewound, but they aren't reliable and an OE replacement costs £790 plus labour!

Misfire could be an expensive problem

Q My GSX-R1000 is leaving me in a such bad mode...

I've got an GSX-R1000 L6, but it keeps switching from Race to Wet modes for no apparent reason.

Les Whittaker, email

A Answered by Steve Scully, GT Motorcycles

This is an example of poor switchgear design. The mode button on the back of the switchgear goes from Race to Wet in a circular cycle and it's easy to catch it when you pull the clutch in, so it goes from Race to Wet. We datalogged a customer's bike and found it coincided with the clutch pull. The switchgear has been changed on the latest model.

Improved position of mode button prevents unintentional switching

KIT CHOOSER

Q Which are the best phone holders for bikes?

I have a Honda NC750 and would like to put a phone holder case on it for my iPhone 6 so that I can use it as a satnav. What are the best options?

Danie Cooper, London

A Answered by Keith Roissetter, Infinity Motorcycles

You're in luck, the iPhone 6 has more bespoke cases to use on a bike than pretty much anything else on the market. The new Oxford Dryphone Pro will clamp on to your bars and is touchscreen compatible. SW-Motech do a hard case which is compatible with their GPS mounts (from £44.27). The Active and Connected case has a charging adaptor plate and is designed to fit the Ram mount system, which means you'll also need a mount and an arm which will add £45 or so to the price. You can also use the universal Ram mount X-grip which will hold it well, but lacks weatherproofing.

Oxford Dryphone Pro | SW-Motech hard case | Ram mount X-grip

MCN LAW
Your legal questions

Q Can I claim for a child damaging my parked bike?

I parked my motorcycle on my front patio, but while I was out, a young child, around 10-years-old, came onto my property and climbed on the bike and then pushed it over, causing £1600 of damage. I contacted the police but they won't prosecute the child for criminal damage.

My insurance is Third Party, Fire and Theft – so I cannot claim against that. Is there any way I can recover the cost of damage from the parent?

Anthony Fyson, email

> **'The child came on my property, climbed on the bike, then pushed it over – causing £1600 of damage'**

A The Criminal Damage Act 1971 classifies criminal damage as: 'A person who, without lawful excuse, destroys or damages any property belonging to another, intending to destroy or damage any such property, or being reckless as to whether any such property would be destroyed or damaged.'

The damage must be more than minimal. In cases like yours where the damage is less than £5000, the maximum sentence for criminal damage is six months imprisonment.

The child is likely to be too young to be prosecuted for the offence of causing criminal damage. The parent is unlikely to be held liable for the action of the child but it may be that the parents have house contents insurance. If so, this often covers legal liability to others for acts caused by members of the household. Ask the parents for their insurance details and get in touch with them to resolve it.

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

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EXPERT'S GUIDE TO...

TWIST-AND-GO

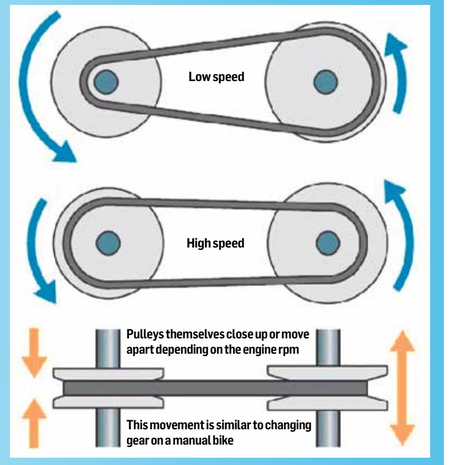
This is how the magic happens inside the transmission of almost every scooter

THE EXPERT

Geno Melici is a Director of Morecambe-based scooter specialists PM Tuning and has been involved in the family business since he was two. "Although that was mainly putting screwdrivers up the exhausts then..."

Twist-and-go Continuously Variable Transmission (CVT) predominates in the scooter class, but how does it work?

A typical motorcycle CVT consists of a toothed belt with a V-shaped cross-section that runs between two conical pulleys; an input pulley at the engine which is attached to a variator and an output pulley at the rear wheel. A variator is designed to allow the engine to run at peak power constantly as the road speed increases by making the pulleys themselves close up or move apart depending on the engine rpm. This movement is similar to manually changing gear, but CVT provides an infinite number of gear ratios as the V-belt moves up and down between the front and rear pulley cones and the ratios continuously change in relation to each other. When you open the throttle the revs jump to peak power and stay there as road speed increases.



Toothed drive belt connects output and drive pulleys

THINGS YOU NEED TO KNOW...

What's a variator?

The variator takes the drive from the engine crankshaft to the input pulley. There's a backplate mounted on the crankshaft with rollers on ramps that move through centrifugal force as the revs increase, pushing the input pulley cones closer together. The rate the rollers move at is like gear change speed, rollers that are too heavy for the engine's power effectively make the bike 'short-shift' before you've got to the redline. So getting the weight of these rollers matched to the engine power and delivery is essential. The more power an engine produces, the heavier the rollers will be, otherwise they'll be flung to the outside of the variator too soon and it'll be like sticking a much bigger front sprocket on, or trying to pull away in third gear. Increasing the variator diameter with a matching belt boosts performance too.

Rear Assembly

This consists of a centrifugal clutch, torque driver and primary drive. The clutch has radially-mounted spring-loaded friction pads or shoes that engage on the inside of its housing rim, like a drum brake in reverse. It usually has three small springs that can be adjustable as part of a tuning package. A nut and bolt goes through the spring so you can preload the spring which allows the engine to rev higher before it engages, so it can pull higher gearing.

The torque driver is attached to one half of the pulley and has angled slots with pins, as the revs increase the torque driver will twist and the angle change means the effort needed to change the pulley alters, which feels like the seamless transmission 'changes gear'.

Toothed belt is the equivalent of a final drive chain on most bikes

Rollers, like the belts, are a service item

Lastly, there is the primary drive in the rear hub which is essentially two sprockets – like a front and rear sprocket on a manual transmission bike – and can be altered to match any performance tuning you carry out.

Servicing

The drive belts and rollers are service items. Rollers used to be mounted in grease, but run dry these days. If there's a build-up of dust they can wear flat faces like a 50p piece. Standard drive belts are made of rubber and need changing at the same mileage intervals as the rollers, high-performance belts will have Kevlar threads woven into them to resist stretching and cope with increased heat.

Next week
Final drive gearing with sprocket sizes