More than 40,000 protectors are made every year at the factory in New Barnet

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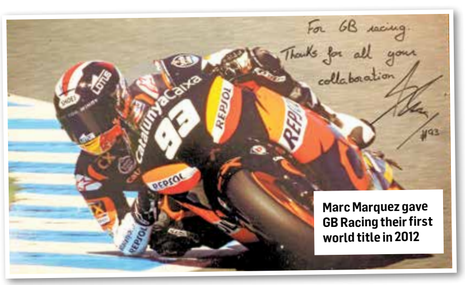
GB RACING PROTECTION

The British company protecting our race, trackday and road machines from crash damage

Graham Banks knew he could improve the way people were protecting their bikes on track

Protectors roll off at the rate of one every 90 seconds

Spark erosion is used on the mould to give GB Racing's sliders a unique outer finish



Marc Marquez gave GB Racing their first world title in 2012

Here is a statistic for you: Of the 34 bikes on the Moto2 grid, only two teams don't use GB Racing engine case covers. And that's alongside roughly 80% of the BSB grid and countless domestic racers, trackday riders and road riders.

"Our family business stretches back to 1916," says GB Racing's founder and MD Graham Banks, whose initials form the company's name. "But we were stampers, specialising in forming raw metal using presses. The business was aligned to electric motors, which traditionally used Bakelite. While able to resist high temperatures, it was fragile and so in the mid-1980s I had to find a replacement composite material able to deal with a 10lb hammer blow. We sourced a product called Verton, but to be honest my heart was more into motorcycles than electric motors."

A keen road and trackday rider who, by his own admission, wasn't afraid to throw a bike up a track now and then, it wasn't long until Graham's knowledge of composite materials was put to far better use.

"I became frustrated at just how much oil the crashed bikes were leaving on track," explains Graham. "The engine case protectors at the time were a carbon/Kevlar laminate and simply weren't up to the job."

After speaking to Tony Scott from T3 Racing, Graham designed a set of engine case protectors for the Triumph Daytona 675 using Verton to demonstrate that a composite would offer better protection than laminates. Word got around the race paddocks and demand was so high Graham formed GB Racing in 2007.

"We were the first product to be bolted onto the bike as a secondary engine casing, not glued," explains Graham, "and riders didn't have to replace their engine cases or disturb the gaskets as only every other mounting bolt is changed to hold it in place. I also used my knowledge to create LGFN6.6, a composite that is designed for motorcycle applications and uses 14mm long glass fibres with special impact modifying additives."

Nowadays GB Racing produces over 40,000 products a year. Engine protectors remain the firm's best selling items. And every single one is made in their factory in New Barnet.

"We are only a small family-run business," says Graham, "but you don't have to be a large company to make a big impact – you just need to design and build a good product."

NEXT TIME IT'S...

Biker Tidy kit racks

We take you inside the factory at the kings of the invaluable riding kit organiser – Biker Tidy.

GB RACING'S MILESTONES

Lewis Banks & Sons Engineers Ltd formed in 1916. Graham's dad Brian joins the firm in 1952.

MOVE INTO BIKES

Graham Banks designs his own composite lower chain guard, or toe guard, which he sells to Crescent Suzuki in 2006. The firm are so impressed they use it on their GSX-R600 and GSX-R1000 race bikes.

GB RACING BORN

After convincing Tony Scott from T3 racing to try one of their composite engine protectors instead of a carbon/Kevlar laminate one on their Daytona 675 race bikes, GB Racing are born in 2007 and Graham develops the unique composite LGFN6.6.

FIM APPROVAL

Just four years after the company are formed, GB Racing gain FIM approval for their kit to be used in MotoGP and WSB racing.

THE INSIDE STORY

1 Scanning for perfect accuracy
GB Racing use a portable 3D scanner to scan every new sportsbike's engine. "We also scan the fairing and any hoses, brackets etc to ensure the protector fits perfectly," says Graham.

2 3D model
Data from the scan is used to create a 3D model of the cover and the fairing that surrounds it in a CAD program.

3 Prototyping
A prototype is 3D printed. Any corrections are marked on the alongside the length of the new bolts required.

4 Creating the mould
Hardened steel is CNC machined by GB Racing to create the two halves of the mould. It takes over 52-hours to machine a mould and each one can weigh up to 400kg!

5 Moulding
An Arburg injection-moulding machine creates the protector from LGFN6.6 at the rate of one every 90 seconds.

6 Finishing touches
Stainless steel bushes are added by hand alongside the firm's logo ready for despatch.