

# Life-Saving Helmet Design That You Can't Buy

**K**ENNETH PHILLIPS OF Pinner, Middlesex, England has been given a £100,000 grant for prototype development of his radical new motorcycle helmet design, which he claims will reduce injuries to riders by 60% over current designs.

It is 15 years since Dr. Ken Phillip's son, a writer for a motorcycle magazine, told him that safety helmets worn by motorcyclists didn't provide enough protection. "What are you going to do about it?" Phillips junior asked his dad, a doctor and psychotherapist.

Dad dutifully set off to answer his son's request. He found an answer, inventing a new type of helmet that mimics the human head's own protective structure, a design that could save more than 3,000 lives and millions in healthcare costs every year, in Europe alone.

Ken was living and practicing in South Africa when he first confronted the problem. "There are two kinds of forces in head injuries," he explains, "linear and rotational." Existing helmets, with hard outer shells, he found, have limited protection against the rotational forces that cause the brain tissue to tear, and rip blood vessels and membranes loose.

Ken turned to the head itself in his search for a better model. "The human head is remarkably resilient. So I thought, why not apply its protective system and put the head inside a head, so to speak."

All that remained was to turn the idea into a



workable design that could be tested, marketed and sold. Ken set about developing his invention in 1993, after he returned to the UK. He designed a helmet with a spongy outer layer like the scalp, and a hard shell. For a variety of reasons, it is not currently possible to incorporate a fluid layer.

His idea quickly won support from Brian Chinn at the Transport Research Laboratory (TRL) who agreed to do some initial testing on a rough model. The tests found Ken's design provided 20% better protection from linear impact and 60% more from rotational forces. "I immediately thought, yes, this works. It's going to save thousands of lives," says Ken.

For the next seven years Ken approached every manufacturer of motorcycle helmets in the world. Many of them told him it was a won-

derful idea...then did nothing. He travelled to trade fairs and inventors' exhibitions. His idea won awards, was featured on the BBC's "Tomorrow's World" and written about in magazines. But no one would pay to make it.

Still Ken persevered. After all, this was the first major improvement in helmet design in 40 years.

In 1999, Ken wrote to the Prime Minister looking for money, and was referred to SMART, which awarded him £30,000. It paid for the next stage, computer modeling at TRL.

Then he won the NESTA award, money that's paid for TRL to test a vast number of materials, to find the most suitable ones for each layer of the helmet. "The thing is, this is not just another helmet, it's a head protection system," he says. "The critical thing is that [I get it] out there, saving lives."

Last year, the Transport Research Laboratory (TRL) tested a prototype of the helmet as part of its New Helmet Appraisal Programme. The research has proven beyond doubt that the Phillips design is the market leader in terms of reducing the rotational forces imparted to the head, which occur on impact in a crash situation. The rotational forces are associated clinically with brain damage following accidents.

And still, he can find no one willing to manufacture and distribute it.

Is anyone out there listening?

For more information see: [www.nesta.org](http://www.nesta.org)

ota, which are pursuing similar conflicts.

**Harley-Davidson** is seeking to increase sales and export to China. The Motor Company has only one dealer in Hong Kong and none in Mainland China due to extremely high import duties.

Harley-Davidson, currently exporting to 60+ countries, promises it is not looking to build motorcycles in China but is looking for a partner to help The Motor Company enter local markets and deal with policies. In return, Harley says it would share technology and marketing expertise.

The H-D employee's union, representing 3000 Harley-Davidson workers, opposes any manufacturing relationship in China.

Union President Tom Buffenbarger said, "If they take this bike over there (China)... it's only a matter of time before they start bringing them back here."

The infamous Meritt International **Pollution-Free Alternative Fuel Motor Conversion Kit** sold on E-bay for \$30,300 to California investor Bernd Jablonka. The kit promises to convert any motor to run on anything, including water, with little or no pollution. Meritt International's website has video of a working prototype, curiously attached to a motorcycle helmet. This is done to prove that the wearer of the helmet can safely breathe the exhaust for extended lengths of time.

While the technology hasn't been perfected yet, the auction was for the design, research, all intellectual property rights and a working prototype. Jablonka is looking for investors to help make the technology into a marketable product. See it yourself at [www.merittinternational.com/pollutionfree](http://www.merittinternational.com/pollutionfree).

The American Motorcyclist Association (AMA) has announced that **Davey Coombs** has resigned from the AMA Board of Directors. A successor has not yet been named. Coombs had been a corporate member of the AMA Board since 2001.

The **MCN/Kawasaki KLR650 Project Bike** that was ridden around the world in 2002 by Dr. Gregory Frazier has had some additional changes. To test our modifications, the KLR will soon be "on the road again" and in Alaska July 16-30. One of the tests will be in the Deadhorse Endurance Rally. Does anyone out there want to join Doc Frazier in the adventure? If so, contact off the list at [deadhorserrally@yahoo.com](mailto:deadhorserrally@yahoo.com). It's an "all-comers" ride to Prudhoe Bay, slated for July 26. Any brand is invited.

**MCN Technical Editor Tony Foale**, would like our readers to know that his next technical seminar will be a two day event, covering Tires, Balance and Steering, Suspension Kinematics and Suspension Dynamics. It is being hosted by the AMA museum July 19-20, in Pickerington, Ohio. (This is in the week between the AHRMA and AMA Superbike events at Mid-Ohio in Lexington, about 45 minutes north). Contact [info@tonyfoale.com](mailto:info@tonyfoale.com) or [Peter.Furkey@mts.com](mailto:Peter.Furkey@mts.com) for details.

A one day seminar, covering Tires, Balance and Steering is being setup by the SMSA on August 23, in Charlotte, North Carolina, the day after the annual SMSA conference. Tony will also be talking at their conference. Contact Ruth Wilson at [smsabusinessmgr@hotmail.com](mailto:smsabusinessmgr@hotmail.com).

**Here's one for the books:** During the Labor Day weekend, on I-5 just a mile or two from the MCN offices, a freak motorcycle accident took place. Two Orange County Sheriff's Officers, riding their bikes

## Latest Recalls

### Big Dog

Models: **Boxer, Bulldog, Chopper, Mastiff, Pitbull, Ridgeback**

Year: 2004

Number Potentially Involved: 2,098

Dates of Manufacture: Aug. 2003-Mar. 2004

Defect: On certain motorcycles, a screw may become loose in the handlebar control due to lack of a lock washer and loctite. This could cause the throttle or front brake control to bind, which could result in a crash.

Remedy: Dealers will install a washer and loctite.

NHTSA Recall No. 04V164

### Honda

Models: **CBR1000RR**

Year: 2004

Number Potentially Involved: 8,189

Manufactured: N/A

Defect: On certain motorcycles, some digital speedometers may experience a computer program error, causing the speedometer to indicate approximately 25% less than the actual vehicle speed. This condition can result in the vehicle being driven at an illegal or unsafe speed, which could increase the risk of a crash.

Remedy: Dealers will install an updated speedometer and associated components.

NHTSA Recall No. 04V254000

### Triumph

Models: **Daytona 955, Daytona T595, Speed Triple, Speed Four, Sprint RS, Sprint ST, Tiger, TT600, Daytona 600**

Years: 1997-2004

Number Potentially Involved: 18,998

Dates of Manufacture: June 1996 - September 2003

Defect: On certain motorcycles, the fuel connector linking each of the feed and return hoses to the fuel pump mounting plate may fracture following in-service handling. Fuel could escape from the fractured body of the connector onto the engine or side of bike. Fuel leakage in the presence of an ignition source could result in a fire.

Remedy: Dealers will replace the connector.

NHTSA Recall No. 04V156

### Victory

Models: **Vegas, Arlen Ness Signature Series Vegas, Kingpin**

Year: 2003 - 2004

Number Potentially Involved: 3,230

Manufactured: May 2003 - April 2004

Defect: On certain motorcycles, the hose that connects the rear brake fluid reservoir to the rear brake master cylinder may have become damaged during shipment and may leak brake fluid, which can cause a loss of rear braking capability, increasing the risk of a crash.

Remedy: Dealers will inspect the rear brake reservoir hose and, if the hose is damaged, replace it.

NHTSA Recall No. 04V187

### Yamaha

Models: **Road Star, Road Star Silverado, Road Star Limited Edition, Midnight Star**

Year: 2001- 2003

Number Potentially Involved: N/A

Manufactured: N/A

Defect: On certain motorcycles, transmission components may not meet Yamaha quality-control standards, which could allow abnormal wear that eventually results in a broken retaining circlip. If the circlip breaks the transmission could lock up, which would also cause the rear wheel to lock up. This could result in loss of control and a vehicle crash with injury or death.

Remedy: Dealers will replace certain transmission components with new ones.

NHTSA Recall No. 03V309000

side-by-side in the HOV lane, were suddenly overtaken from the rear by another motorcycle, reportedly going in excess of 100 mph. Without slowing, the speeding bike struck the rear of the police bike on the right. The officer was thrown off his bike, forward and to the right by the impact, and landed on the back of his partner's bike. At the same time, the speeder was thrown forward off his bike, and landed spread-eagled on the just-vacated seat of the police bike, where he managed to grab the handlebars and keep the bike upright, riding away as the two police officers, who had also remained upright, gave chase on the other police bike.

The chase lasted less than a mile before the speeder dropped the cop bike, and the officer who had jumped bikes also fell off—thankfully, uninjured but for bruises.

As you might have expected, a breathalyzer test showed the speeding motorcyclist to be very, very drunk.

**Yamaha's Motorsports Group president Jim Gentz** plans to retire after 37 years with the company. As president, Gentz increased business and sales in Yamaha's motorcycle, ATV, snowmobile, generator and accessories divisions. Gentz is planning on becoming an active "Yamaha test rider" with his newfound spare time.

In South Dakota, recently released convict and former politician **Bill Janklow made the news again**. South Dakota's highest court recently unsealed documents stating Janklow pardoned his son-in-law, William Gordon Haugen II, in 2002 for two drunk driving convictions and a marijuana possession conviction.

In 2002 Janklow illegally sealed the pardons for convictions in 1983, 1997 and 1993 respectively. Janklow told the Associated Press he didn't know pardons could

not be legally sealed. The pardons were granted by Janklow to help his "cleaned up" son-in-law get into law school.

**Honda Motor Company** of Japan is suing Chinese mega-company **Lifan Group**. Honda is arguing the "SOR" logo used by Lifan is too similar to Honda's "SCR" logo, which is a legally registered trademark.

Lifan is China's largest motorcycle manufacturer. According to a report from the Xinhua News Agency, Lifan denies copying Honda's logo. The logo in question is located in the same place on similar motor scooters manufactured by both companies.

Another case between the two companies regarding Lifan's use of the name "Hongda" on its motorcycles is still pending. These cases can set precedence for other companies, including GM and Toy-