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## MOTORCYCLE TRAVEL AND INFORMATION

### *The Motorcycle Safety Foundation After 40 Years*

by Evans Brasfield

**M**OST RIDERS THINK THEY know what the Motorcycle Safety Foundation (MSF) does, but the organization has more going on than you may think. The MSF has grown an amazing amount since its birth 40 years ago. From its first beginning rider course in 1974, the MSF expanded to offer 23 different courses for both riders and the general public alike. Despite the organization training almost seven million motorcyclists, the percentage of riders who have received formal training still hovers at 50 percent. While that number is much better than in the past, the changing riding climate, in which drivers (and riders) are ever more distracted in increasingly densely populated

areas, means that the MSF must continue to expand its educational offerings. Since all of its educational resources are based on research, the MSF must constantly update the pool of information from which it draws. To that end, the MSF has invested 2.4 million dollars on research studies since 2010. The primary thrust of the MSF's offerings is that riding is more than learning what to do with your hands and your feet. Instead, the key components of motorcycle safety are the eyes and the mind—helping riders and drivers perceive the hazards around them and

make the right choices for navigating them.

To keep up with changing times, the MSF delivers its message via the internet and emerging media, as well as in the classroom and on the riding range. Many riders know of the MSF's website ([msf-usa.org](http://msf-usa.org)), which caters to motorcyclists, potential motorcyclists, and family members. The MSF also runs a website ([forcardrivers.com](http://forcardrivers.com)) to educate car drivers about motorcycling and how to safely interact with motorcycles on the road. An online e-course has been added to reach more prospective riders. New media is another avenue that the MSF utilizes to reach the public. This spring, the MSF released an iBook version of *Intersection*, a book designed to educate drivers “that all motor-



*Does this situation look familiar? It's one of the oldest problems for motorcyclists—a car turning left across the rider's path. Ty van Hooydonk, Director of Communications at Motorcycle Industry Council, demonstrates crash avoidance techniques at an MSF-sponsored event for the main-stream media at the famous Rose Bowl in Pasadena, California. Hopefully the non-motorcycling media start spreading the word about how dangerous motorists are to riders. No motorcyclists were harmed during the staging of this event.*

ists, regardless of their driving experience or the type of vehicle they drive, need to be aware of motorcyclists sharing the road with them.” iPad owners can download the iBook from the iTunes/iBooks store and share it with friends and family. This social and sharing aspect to education is the goal of the second MSF iBook, *Rider Choices*. This multi-media filled book was designed not just to educate new/potential riders, but also to spur discussion with the new rider's friends and family. The book even contains the MSF Contract For Safety which “outlines all of the requirements of safe and responsible riding.”

All of the MSF's courses start with a foundation of research. For many years, the focus was on the physical skills required to ride a motorcycle. If the rider didn't know how to properly operate the controls, he/she couldn't avoid situations that caused an accident. However, as the program has moved forward and the theory behind teaching advanced, the focus of the curriculum has also grown. An updated Basic *RiderCourse*<sup>SM</sup> (BRC) is being rolled out this year with an increased focus on executive-level thinking. According to Tim Buche, President and CEO of the MSF, the new approach stresses that safe riding is "more than the skills. It's the judgement." Consequently, when Dr. Ray Ochs, Director of Training Systems for the MSF, designed the new BRC, the course increased by approximately 40% the information about rider perception and escape routes—the software to interface with the physical skills. Since all learning is reinforced by repetition, the previous iterations of the BRC focused more on building the muscle memory for how to properly operate a two-wheeled vehicle. Now, they are concentrating on the neural pathways, strengthening the ability to process the information and act on it correctly in traffic. Says Buche, "You...have to have the eyes and mind; and be aware and prepare—to know that you've got the skill, but know when to call on it."

If MSF training is research-based, where exactly is the information coming from? From its inception, the BRC's curriculum was based on accident reconstruction studies (like the famed Hurt Report) that sought to forensically discover the causes of motorcycle accidents and figure what skills were lacking in the riders that kept them from avoiding the accident. Since these studies took place after the fact, they relied on measurable data and (less reliable) interviews with witnesses and participants. To address this shortcoming, the Virginia Tech Transportation Institute (VTTI) developed a means of studying drivers in the daily use of their vehicles, and while it is in use worldwide to study all manner of roadway users, it had yet

to be applied to motorcycles. So, the MSF provided the initial \$1.6 million in funding to start a "naturalistic study" of motorcyclist behavior (think viewing riders in the wild). In Arizona, California, Florida, and Virginia, VTTI outfitted 100 motorcycles with sensors to record a rider's daily behavior for up to a year. Cameras record the view front and rear, the rider's face, and both grips. A radar system on the front of the bike tracks the location and speeds of objects in front of the motorcycle. Strain meters monitor brake application. Internal sensors track GPS location, lean angle, acceleration, and other vital information. All of this happens every

time the rider turns on the ignition. The information is stored on a hard drive in a protective metal enclosure mounted on the bike. The length of the study should make it less likely that the rider's knowledge that she is being observed will affect her behavior as familiarity with the study's equipment makes



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**Photo 1** Look closely, and you'll see two cameras—one directed at the rider's face to track where attention is focused during the ride; and the other, just behind the first, focuses on the clutch lever.



**Photo 2** The data collected by all of the bike's sensors gets recorded to a hard disk inside this sturdy case. If it fills up prior to the completion of the year's testing, a new disk can be swapped in. Note the rear view camera on the bottom.



**Photo 3** The forward facing unit carries a camera and a sophisticated radar unit that can simultaneously track multiple objects in the motorcycle's path of travel.

it become just another part of the motorcycle. To make sure that all segments of the street riding public are covered, representatives of cruiser, sport, and touring motorcycles were outfitted with the data acquisition system.

At the time of this writing, 26 members of the MSF 100 have completed their year, and 74 are actively on the road. That totals over 30,000 individual trips and 300,000 recorded miles. In those miles, at total of six crashes have been recorded. By the end of the study, they hope to have over 800,000 miles recorded. Regardless of what the final tally will be, the information will comprise the largest data set ever recorded for motorcyclists. Just as the participants of the Hurt Report couldn't know how far-reaching their study would

be, the true outcome of the MSF 100 won't be known for years. The beauty of this kind of study is that it can move beyond the traditional reconstruction of accidents into areas where accidents *didn't* happen to analyze what experienced riders are doing correctly. Also, behavioral trends could be tracked on the same road prior to an accident or near-miss to see if contributing factors can be found. The possibilities for gaining knowledge that can then be applied to motorcycle training seem endless, which is the reason the MSF is involved in this study. Initial results will be announced in October at the international motorcycle safety conference that the MSF is sponsoring in Orlando. Full results should be available a year or so later.

So, the MSF hasn't been standing still over the last 40 years. Quite the opposite, the last few years show the organization ramping up its activities, embracing new technologies, and employing state-of-the-art teaching as a means of making entry into the sport of motorcycling as safe and as enjoyable as possible. Buche sums the MSF's philosophy up by saying, "The MSF Basic *RiderCourse* is the best first ride." **FZ**