



ISSUE 27

SEPTEMBER 16, 2000

The Quarterly Newsletter of the Snell Memorial Foundation

This is the twenty-seventh of the Foundation's quarterly newsletters to the helmet manufacturing industry. The twenty-sixth was sent out last May. Comments and items for inclusion in subsequent issues are invited.

In This Issue

1. [M2000/SA2000](#)
2. [New M2000 Brochure](#)
3. [HANS[®] Restraint System](#)
4. [Snell Test Results By E-Mail](#)
5. [DOT Revisions Update](#)
6. [Pre Test Information Forms](#)
7. [MEP Testing](#)
8. [SMSA Meeting](#)
9. [McCarty At The Races](#)

Who To Contact

M2000/SA2000

M2000 and SA2000 Standard booklets are available on request. The [M2000](#) and [SA2000](#) Standards along with most other Snell Standards are also available on the web site www.smf.org

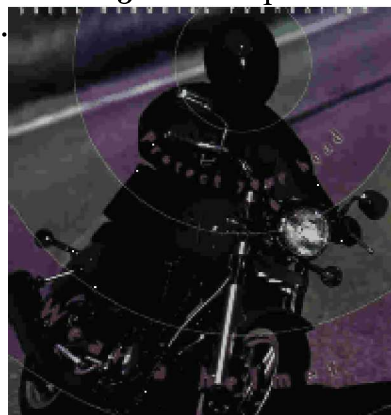
The Foundation began shipping M2000 and SA2000 certification labels on June 30, 2000. However, the manufacturers have pledged not to distribute Snell 2000 headgear for sale before October 1, 2000.

Shipments of M-95 and SA-95 certification labels will stop at the end of September. Manufacturers who wish, may continue M-95 and SA-95 labeled production until the end of March, 2001.

New M2000 Brochure

The Safety Education Center has prepared a new informational brochure explaining the benefits and workings of motorcycle helmets. The brochures are intended for use in Motorcycle Safety courses and as point of sales materials at motorcycle accessory outlets.

The brochure consists of four color pages on quality stock about 8.25 inches square. It may be ordered through the websites www.smf.org [online order form](#).



HANS[®] System

Dr. Robert Hubbard and his colleagues have been developing and refining a device intended to reduce neck stresses in auto racing crashes. This device essentially tethers the helmet to the wearer's upper body. The intent is that inertial loading of the helmet in crash decelerations are born by the tethers rather than the driver's neck.

Dr. Hubbard and his colleagues have performed crash testing involving helmeted anthropometric dummies with and without the HANS[®] system. The results suggest benefits for the tested crash configurations.

The Foundation has been asked to consider the effects of the modifications this system requires for the headgear. HANS[®] requires two slots be cut into the helmet shell to anchor the helmet tethers. These slots are located well away from area of the headgear subject to Snell certification test impacts. However it is still possible that adding these slots might cause a model to be rejected for certification. Manufacturers of Snell SA certified headgear who wish to add these slots to existing helmet configurations should contact this office. We will review each model

in order to determine what additional testing, if any, may be necessary to extend the Snell certification to include the slotted configuration.

Snell Test Results by e-mail

Although our test reports generally go out by regular mail, Gib Brown, the lab manager here at the Foundations' California laboratory, often provides advance copies to those unwilling to wait for the postman. The preferred means of transmission is e-mail. These e-mail test reports consist of a short message with an attached file containing the test reports in PDF format. Adobe® software, available from www.adobe.com will allow recipients to open, review and print out the test forms. This method provides such an accurate reproduction that the printed output is almost indistinguishable from the signed reports we send by regular mail.

The files are password protected in order to prevent unauthorized access or modification. In the interests of security, manufacturers are invited to select their own passwords and to change them as frequently as they consider necessary. Please notify us of your selections by telephone or FAX.



DOT Revision

The long awaited "Notice of Proposed Rule Making" introducing revisions to Federal Motor Vehicle Safety Standard 218 is still expected sometime this year. FMVSS 218, also known as the DOT motorcycle helmet standard, has set the minimum adequate requirements for US street motorcycle helmets since the early 1970's. Except for a few procedural refinements, this standard is essentially the same as it was when it was first adapted from its ANSI Z90.1-1971 predecessor.

We will attempt to monitor developments in this matter through notices posted on the DOT, Federal Record and Commerce Business Daily web sites.

Pretest Information Forms

When submitting helmet samples for testing, it is essential that a properly filled in '[pretest information form](#)' accompany them. We receive a lot of helmets from a lot of manufacturers. Without some guidance, we may not know model name, size, manufacturer or the type of testing necessary.

Samples that arrive without documentation are likely to sit unprocessed. A telephone call in advance of shipping is welcome but please do not rely on the fragile memories of our office staff. The surest way to obtain proper and timely test results is to provide paperwork with all the necessary information with the shipment. When the samples arrive with the proper documents, proper receiving, logging, labeling scheduling and testing is virtually assured.

Blank forms and instructions for filling them out are available by contacting our office, or at this site in PDF ([Go There](#)). Manufacturers are invited to modify and adapt them as necessary. The only essential is that we have sufficient information to perform and document the requested testing.

In particular, please double check the spelling of the model name, include all the sizes for which the helmet structure is intended, indicate the standard and test type and, finally the disposition of the tested samples. Although we recommend that manufacturers examine all failed samples in order to determine how best to improve their headgear, unless there is a specific request to return failed samples, they are routinely destroyed.

MEP Testing

Modular Elastomer Programmers (MEP's) have traditionally been used to obtain repeatable shock impulses for testing. They look like thick, resilient rubber pads but they are made of special, highly stable materials so that they will keep the same mechanical properties indefinitely. We use them here to perform daily confidence checks on our impact test equipment.

Our impact tests require dropping a helmeted headform onto a rigid anvil. To perform the confidence check, we substitute a spherically faced impactor for the helmet and headform and an MEP for the anvil. Whenever the impactor is dropped onto the resilient MEP with a given impact severity, our system will measure virtually the same shock pulse. If the shock pulse we measure today differs from the pulse seen yesterday, or last week, or six months ago, or on one of our other test rigs, we need to find out why before we can continue testing.

However, these MEP's also can be useful for inter-laboratory comparisons. MEP testing at two different laboratories will quickly identify any differences in accelerometer systems, impact velocity measurements and even pinpoint mechanical problems in the equipment itself.

The Foundation maintains several MEP pads in addition to the one used for daily confidence checks. These are available for loan to interested labs along with Snell MEP test data for comparison. We do ask for a copy of the MEP results in order to perform our own comparisons. The Foundation also welcomes the opportunity to borrow MEP's maintained by other laboratories.

SMSA Meeting

I attended the recent meeting of the State Motorcycle Safety Administrators in Indiana last month. These are the people who organize and conduct motorcycle ridership courses throughout the United States. Many of the attendees are course instructors. Quite a few of these teach motorcycling for little more reward than the pleasure of sharing a sport they love.

The word at the meeting is that motorcycling is booming and that many of the newest motorcyclists are couples who have finally achieved the leisure time and disposable income to really enjoy the sport. Once their last child is off to college, they purchase motorcycles and take to the open road. But before they do, they join the crush of applicants seeking ridership training.

The value of rider training is undeniable. New riders seem to get the equivalent of a six months' jump in experience from these courses without the attendant hard knocks that the road hands untrained neophytes. The jump is worthwhile because the first six months on a motorcycle are usually the riskiest period in a rider's career. Programs like those promoted by SMSA can

concentrate that first six months into a few hours of field and classroom training and filter out most of the hard knocks at the same time.

Currently, many of these programs have extensive waiting lists. They all need additional instructors and facilities to handle the demand. I urge all facets of the industry and Snell certified helmet manufacturers in particular to look into the SMSA, they're on the internet at www.smsa.org , and to support the efforts of this fine organization.

McCarty at the Races

Mr. Randy McCarty, the Foundation's Senior Helmet Test Technician, was tapped to perform on-site helmet inspections at two CART events this summer. The purpose of the exercise was to see how headgear is being used in the field and whether there were measures we might take to improve our service to the racing community or to facilitate the introduction of worthwhile innovations.

Although McCarty's long experience with helmets and helmet testing by itself would place him high on anyone's list of candidates for this task, his background as driver, crew member and safety inspector for one of the local racing associations here in California made him by far the best choice.

For both events, McCarty arrived at the track midweek before the Sunday races at about the same time as the CART crews. CART graciously accommodated inspection of the drivers' helmets which consisted of a weight measurement and a visual check. There were no surprises. The helmets are identical to the units tested and certified here and to the ones being worn in amateur racing events all across the country. However, this was only part of the mission.

We also want know where racing is taking headgear and how best to keep our programs from interfering with worthwhile developments. Racing helmets have always been platforms for useful equipment like eye shades and visors and, nowadays they're frequently equipped with in-helmet communications, forced air ventilation, heads-up data displays and the HANS[®] system described earlier in this newsletter. All these features contribute to the helmet's effectiveness as racing equipment and an effective helmet is much more likely to be worn. So long as an innovation does not degrade a helmet's function as safety gear, we will do everything we can to welcome it.

So whenever Randy was not examining headgear, he spent his time at the track making himself useful. There is an unimaginable amount of work necessary to bring off a CART event. Much of it is performed by people who pay their own expenses to be there and who are motivated only by their love of racing. Randy had the privilege of working with them through race day for both events.

The payoff was that Randy was able to do work that he loved among good people similarly disposed and he was able to pick up a sense of how headgear is viewed and used in the field and where racing helmets may be going. All of us here at the Foundation are grateful to all at CART for all the courtesy and kindness shown our colleague and hope we can continue the practice next season.

Who to Contact at Snell

Snell Memorial Foundation, Inc.

3628 Madison Avenue, Suite 11

North Highlands, CA 95660

Phone: 916-331-5073; Fax: 916-331-0359;

Email: ----- General Information - info@smf.org

Internet: ---- Steve Johnson ----- sdj@smf.org

Testing: ---- Gib Brown ----- gib@smf.org

Randy McCarty -- randy@smf.org

James Barnes ---- jim@smf.org

Edward Hunter --- ehunter@smf.org

Decals: ---- Bonnie Adams ----- bonnie@smf.org

Education: -- Hong Zhang ----- hong@smf.org

Admin: ----- Steve Johnson ----- sdj@smf.org

All Other: --- Ed Becker ----- ed@smf.org

Editor: Edward Becker, Executive Director

