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The Quarterly Newsletter of the Snell Memorial Foundation

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

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Manufacturers' Meeting

The next manufacturers meeting will be Friday morning, February 16, 2001, in downtown Indianapolis, Indiana. This is the Friday before the PowerSports Expo. Interested Snell certified manufacturers should contact this office for the location and more information.

Dr. Fenner, Randy McCarty and Ed Becker will represent Snell at the meeting and at the PowerSports Expo later that weekend.

Flip-Up Motorcycle Helmets

The Foundation has received a barrage of questions concerning a particular style of motorcycle helmet. This configuration looks like a standard full face helmet but the front of the helmet is hinged to 'flip-up' and away from the wearer's face. Everyone, including our own staff, is impressed with the convenience of a full face helmet that facilitates drinking a cup of coffee, smoking a cigarette and conducting normal conversation all without removing one's hat. The flip-up style is especially convenient for anyone who wears glasses.

So how come none of these flip-up helmets are Snell certified? The short answer is that none of the flip-up helmets are certified because none of their manufacturers has submitted them for testing. The Foundation is ready to accept submissions of flip-up style helmets and will hold them to all the same test requirements set for traditional full face headgear. The chin bar will be tested for rigidity, the face shield must withstand the pellet penetration tests and, of course, the helmet must provide all the impact protection we demand of every full face and open face motorcycle helmet. Drinking coffee and cleaning eyeglasses without removing a helmet is very appealing but the Foundation is not ready to give up any protective capability for the convenience.

How well will these flip-up helmets do in Snell testing? We won't know until we test them. My best guess is that the chin bar rigidity tests and the face shield penetrations tests will not represent any particular problems. Since most of the current flip-up headgear use standard chin straps and buckles and can be removed without lifting the face piece, I do not anticipate any retention test problems either. Impact testing may pose unique difficulties for this flip-up configuration but Snell impact testing poses difficulties for all motorcycle helmet configurations. In any case, the Foundation is not ready, now or ever, to trade off impact protection for convenience.

The Foundation urges helmet manufacturers to design and build flip-up helmets to meet the M2000 standard and to submit samples for Snell certification. We hope that interested motorcyclists everywhere will contact helmet dealers and distributors with the same encouragement.

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. Helmets certified to the new standards began appearing for sale in early October.

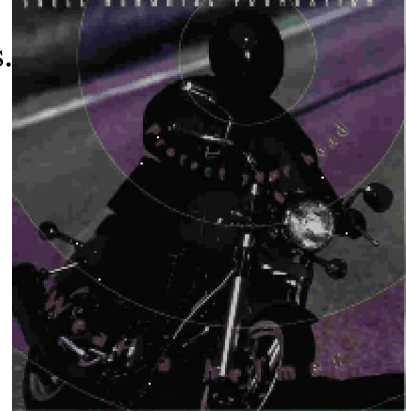
Shipments of M-95 and SA-95 certification labels stopped at the end of September but some M-95 and SA-95 labeled production may continue until the end of March, 2001.

Even though helmets certified to the new standards are now available, current M-95 and SA-95 helmets did not turn into pumpkins at midnight September 30. If anyone owns a good Snell '95 helmet that fits well and comfortably, there is no reason to run out helmet shopping right now. Some manufacturers are still in the process of certifying helmets to the new standards.

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 sale 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 website 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 that the helmet shell be modified to anchor the helmet tethers. Previously, the system anchored the tethers in slots cut into the shell but the current methods use two metal 'J' hooks fixed to the shell with rivets. Both methods involve modifications located well away from area of the headgear subject to Snell certification test impacts. However it is still possible that the modifications might cause a model to be rejected for certification. Manufacturers of Snell SA certified headgear who wish to produce HANS[®] compatible configurations of currently certified models 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 new 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 may still happen but no one is sure when. 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.

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.

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.

Randy McCarty, our Senior Test technician, advises that cooperation in this matter of pre-test info has improved dramatically since this item was first run. Thank you all very much. However, this makes it that much more likely that samples arriving without documentation will sit ignored and unprocessed. The bar has been raised.

Blank forms and instructions for filling them out are available. 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 desired 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.

SMSA Meeting

I attended a meeting of the State Motorcycle Safety Administrators in Indiana last August. 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 ridership training is undeniable. New riders seem to get the equivalent of a six months' jump in experience from these courses without some of the attendant hard knocks that often befall neophytes. The jump is worthwhile because the first six months on a motorcycle are usually the riskiest period in a rider's career.

Currently, many of these programs have extensive waiting lists. They all need additional instructors and facilities to handle the demand. Since many operate on shoestring budgets I am sure that loans or outright gifts of gear and accessories would be welcomed. 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.

Who to Contact at Snell

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