



The Newsletter of the Snell Foundation

<b>HeadsUp</b> In this issue...	
Changes Proposed for M2020 .....	1
Rotational Testing .....	1
Snell Brand/Model Names .....	2
Contacting Snell .....	2
Snell Educational Outreach .....	2

This is the 71<sup>st</sup> of the Foundation's newsletters to the helmet manufacturing industry. The 70<sup>th</sup> went out in early May of this year. Comments and items for inclusion in subsequent issues are invited.

**Changes Proposed for M2020**

The fourth draft of the M2020 standard went out three weeks ago to motorcycle helmet makers and other interested parties along with an explanatory cover letter. Although a final version had been intended by this time, this fourth draft includes a revision on which we seek your comments, criticisms and advice. This revision proposes to allow two different impact test options: one based on the current M2015 standard and called M2020D for its demonstrated DOT compatibility; and the other taken from the recent third draft and called M2020R for its intended Regulation 22 (ECE 22-05) compatibility.

For clarity's sake, Snell will issue M2020D and M2020R labels to distinguish between these options. However Snell will recommend helmets certified to either with equal confidence.

Comparable helmets built to M2020D and M2020R are expected to have similar weight and bulk. However, M2020D calls for more impact energy management while M2020R is structured to demand the softer liners implied in European requirements. Some helmet experts will favor M2020D's greater energy management capability while others will prefer M2020R's softer liners but

any real difference in protective capability will be slight and could go either way. Both these options demand much more protective capability than that required by DOT or ECE 22-05.

A more technical discussion of these impact test options and the basis for them is included in the draft standard and the accompanying explanatory cover. If you would like copies of these, please contact Ed Becker, ed@smf.org.

**Rotational Testing**

Impact induced rotations have been a brain injury concern since crash helmets were first developed. Lately, quite a few helmets with anti-rotational features have been introduced but there remains much uncertainty about how to test these features or how to evaluate the results. Opinions are divided whether to set limits on rotational velocity or rotational acceleration or what those limits should be.

Recently, though, FIM, the European motorcycle racing competition authority based in Switzerland, has proposed a rotational test method and performance criteria for it. The tests involve a newly developed instrumentation package which fits inside a standard test head form and which will capture the complete dynamic response in all six degrees of freedom. The advantage of this device is that it stores the data on board for download after the test is complete. There are no cables necessary to connect it to power sources and data processing during the test. And there is no concern that connecting cables might interfere with the head form motion or that the head form motion might damage the cables.

Snell has been following these developments with great interest and recently set out to purchase one

of the new instrumentation packages. Although the directors are still uncertain about test severities and procedures as well as rotational injury criteria; we look forward to employing this device in order to compare test methods as well as to see whether any of the currently promoted anti-rotational features makes a significant difference in impact response.

No one here is quite ready to propose rotational impact test methods or criteria for inclusion in Snell standards. And there remains much uncertainty even about the level of hazard rotation injuries pose to riders. However, we will have a device capable of investigating impact induced rotations as well as helmet features promoted to mitigate rotations.

**Snell Brand/Model Names**

There are many motorcyclists who look for Snell certification when they shop for helmets. In order to appeal to these motorcyclists, helmet makers design and build helmets which meet Snell standard requirements and submit them for Snell certification testing. Once these helmets pass, they are granted Snell certification and the helmet maker is granted the right to use the Snell name and logo to market these certified helmets.

Snell and the public refer to Snell certified helmets by brand and model names but these brand and model names themselves are not descriptive, they could refer to anything. Frequently, it is only the copyrights on brand and model designations and the rectitude of the owners of those designations that link particular brand and model names to particular Snell certified helmets.

In most cases, the linkage is pretty good. Someone can see a brand and model name on our certified helmets lists, find a helmet with that same designation and get a headgear identical to the ones we actually tested. But there are many instances where the linkage fails. If we're unaware of the brand and model names assigned to a particular certified helmet, it won't be on our lists. A shopper will see ads, but won't find the names on our lists. There may be a few lost sales if the shopper can't wait or if he decides to look for a helmet which we already list.

Worse yet, some helmet makers will distribute non-Snell models under the same brand and model names applied to Snell certified units. The justification may be that the Snell certified units are sold in North America but may not be eligible for

street use in Europe. So separate, non-Snell certified units, homologated to ECE 22-05 are distributed there instead. Even so, customers feel cheated when they find the helmet they purchased is, in fact, not Snell certified and more so if they want to compete in events for which Snell certified helmets are required.

We want to improve this designation/headgear linkage. Whenever a helmet is promoted as Snell certified, the brand and model name ought to appear on our lists. And whenever a brand and model name appears on our lists, all the units distributed under that name ought to be Snell certified. The helmet maker may distribute his certified helmets under as many of his own brand and model names as he wishes but we must be advised of each designation and the particular Snell certified helmet configuration to which it applies so that we can list them correctly. Then that helmet maker and, by extension, his retailers are permitted the use of the Snell name and logo to promote these brand and model designations.

**Snell Educational Outreach**

Ms. Hong Zhang supervises Snell's public outreach. She schedules and conducts tours of Snell's lab facilities, provides materials and generally assists writers preparing articles on Snell. Ms. Zhang also makes presentations at shows and gatherings wherever riders and drivers congregate in order to spread the word about proper head protection. Anyone interested in scheduling a tour, organizing a presentation, obtaining useful materials promoting helmet use or preparing an article about Snell and crash helmets is welcome to contact Ms. Zhang at the addresses below. Please look for her Snell page on Facebook at [www.facebook.com/snellorg](http://www.facebook.com/snellorg).

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