

A REVIEW ON FOLDABEL HELMET

1-Shubham Sharma 2-Shivender Pratap singh
3- Shivam Choudhary 4-Gourav Dhiman

DEPARTMENT OF MECHANICAL ENGGINEERING
SHOBHIT INSTITUTE OF ENGINEERING & TECHNOLOGY
GANGOH (247341)

ABSTRACT: People ride bike for leisure, sport, and commuting purposes; therefore it is important to ensure rider safety in all areas. Bike helmets are important for rider protection, though they do have some inherent drawbacks. Storage of the helmet, when it is not in use, is one of the reasons why some riders choose not to wear head protection. A lightweight, collapsible helmet would assist in eliminating this market gap, allowing the user to store it in a bag, briefcase, or satchel. The goal of this project is to design a helmet that provides protection against head injury and is easier to store than current rigid helmets.

1-Introduction

Folding a helmet can make it easier to carry, so users of folding motor bikes have always found them appealing. Users of

shared bicycle programs would like a collapsible helmet they could tuck into a purse or briefcase and pull out when they

use one of the shared bikes.

Although a helmet may fold, it still requires the same volume of impact foam. To manage the energy of an impact, the foam must be thick enough to give the head room to stop in a controlled deceleration. So the helmet materials can fold, but the volume of material will be the same. In addition, the helmet has to maintain its structural integrity in an impact, requiring some engineering skill to design and probably more expensive materials to construct.

The first **bicycle folding helmet** we know of that met the US CPSC standard was the Motorika Snapit, introduced in 1997. It was a clamshell design with one half folding inside the other. We did not like the ridge left from back to front when it was unfolded in use, and the 16 oz. (454 grams) weight discouraged some buyers. It disappeared from the market soon after the turn of the century.

In 2014 we were notified by Closca that their folder now has been certified to the CPSC standard, and is for sale in the US. The design consists of three concentric rings that fold down inside each other. Unfortunately it has a cloth cover rather than plastic. It retails on their web site for 62 euros.

There is at least one folding helmet on the European market now, and two more have been announced in France and Italy. The current design by Bilogic has two sides that fold into the center. It does not meet the CPSC standard, so it is not available in the US market, but it meets the CEN standard and is sold in Europe.

Carrera introduced for 2013 an "Accordion" model made of strips joined by an elastic frame that opens to provide vents between the strips and folds into a solid piece to reduce the width for storage.

Closca of Spain produced its first folder model in 2013. It was CEN-certified at that time, and they have since obtained

certification to the US CPSC standard. It collapses from the top into a compact ring for carrying.

Overade has a folding hard shell helmet with a complex folding mechanism. It meets the CEN helmet standard, and the Small/Medium version meets the US CPSC standard as well. It is available on the European market at about \$135.

Morpher began raising funds on November 1, 2013 through Indiegogo to launch a new line of folding helmets that fold flat. They will be testing first to the European CE standard, but intend to produce a CPSC model later. A true flat-folding helmet would be very useful for briefcase storage. Put A LID on It is developing a folding helmet designed for shared bicycle programs. In mid-2015 they are crowd funding.

Folded or not, a helmet is another item for a pedestrian to carry unless planning in advance to use a shared rental bicycle. That may not be a problem for backpack users, but those with purses or

briefcases have to carry the helmet elsewhere. We are glad to see some models emerging that meet the US standard.



Fig :- Foldable helmet

Needs Of Foldable Helmet

Studies have shown that wearing a bicycle helmet can reduce the risk of head and brain injury by approximately 85%. With an increasing population of cyclists in motor vehicle trafficked areas it is becoming more important to protect riders from possible injury or death. In addition to complying with legislation that requires the use of helmets, it is also important for a helmet to appeal to the user's wants. Helmets can be bulky and as a result can discourage use because they cannot be easily stored in a backpack or desk drawer. A foldable solution could expand

the market for helmets to users who are looking for a low profile storage option, and would improve the percentage of helmet-wearing cyclists on the road.

Design Objectives

The goal of this project is to design a helmet that provides protection against head injury and is easier to store than current rigid helmets. Such a design would fill the market gap for some rider who are reluctant to wear helmets due to storage constraints.



Foldable Helmet



CONCLUSION

Thus the helmet we have made will reduce the cases of accidents.

This helmet will help to save many of life. Due to this foldable helmet people how will wear helmet without not having the problem of storage of helmet after its operation.

This only a model which provide a concept to us the how we can make foldable helmet of motor bike.

In future there are many of chances that it will get more improve and will be more suitable for the people although it is the first invention in the case of motor bike's foldable helmet in the whole world.

<http://www.answers.com/topic/polycarbonate>

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