



Kirby Morgan Dive Systems, Inc.®

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Safety Notice #1 of 1992 April 1992

Prepared by Bev Morgan

Subject Equipment: SuperLite-27 Commercial Diving Helmet

Subject Problem: A potential problem has been brought to our attention by an end user of the SuperLite-27. The external chin strap is tightened and secured by Velcro. On the subject helmet, the velcro on the chin strap was worn from use and was not holding properly. The chin strap was completely loosened by water surge in the splash zone and the helmet was nearly removed from a diver with a small sized head.

The following information was sent to us and is quoted verbatim:

1. "The first indication we had of a potential problem was when the diver concerned was in a diving basket being recovered through the splash zone in weather and sea conditions that were approaching marginal. The hat rose up his head to the point that the complete oral nasal was above his nose. If at this point the thin latex neck dam had ruptured, at best the helmet would have flooded, at worst the helmet would have come off. The diver was using both hands to hold himself in the basket."

2. "When the neck dam is dry it is very difficult to remove the helmet except in the correct manner. When the neck dam is wet - as will inevitably happen during a long dive or if there is the slightest (perfectly normal) leakage - it is much easier to remove the hat assembly complete. This situation would be aggravated if the neck dam was worn. (stretched, not ruptured)."

END QUOTE

DSI Investigation: With the adjustable neck pad in the most open position, the neck dam ring in place with a neck dam installed, and the chin strap removed, not one of our personnel could remove the helmet from their head. We have ergonomically correct manikin heads on hand. The large size head could not be removed from the 27 with the neck pad adjusted fully open and no chin strap. The medium sized head, which represents 90 percent of the head sizes in the U.S. Navy, could not be removed from the helmet when the adjustable neck pad was fully open.

To test the worse case, the neck dam and neck ring was completely removed. A small head could be removed from the helmet with the neck pad fully open. With the neck pad fully closed it appears that it is possible for the helmet to be removed from a small head with a great deal of force.

Summary: It may be possible for the SuperLite-27 to be accidentally removed from a very small diver's head if the original chin strap is not in place or is loose.

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Recommendation: A replacement chin strap, (assembly #545-100) has been designed and tested. The new chin strap uses a buckle to replace the velcro for fastening. As a safety back up, the buckle is attached to the strap so it cannot be removed. The strap is limited in opening and cannot be loosened in a manner that will allow the helmet to be accidentally removed.

All original chin straps (part numbers 545-090/545-086) on the SuperLite-27 helmets, must be replaced immediately. The owners of all SuperLite-27 helmets are being notified directly and will be supplied with replacement chin straps.

The chin strap on the SuperLite-27 should now be considered part of the equipment system. It should be inspected prior to each dive and replaced whenever the binding threads show the possibility of loosening.

END Diving Systems International Safety Notice 1/92 Bev Morgan