

# EXPERTS' FORUM

## PROPELLER PROTECTION

# A SAFETY PROPOSAL

Andy Sims, Managing Director at AJS Technical Services, and Paul Martin, Director at BHG Marine, look at the discussion surrounding the use of propeller guards.



**ANDY SIMS:** Over the last few years there have been many truths, untruths and even lies surrounding the issue of propeller protection. Most, I would argue, being down to a lack of understanding of what is trying to be achieved or the design and manufacturing innovation that has taken place.

Prop protection can be in the form of simple Propeller Rings or more complicated Prop Deflectors and Prop

Guards. They are available in plastic or steel and be custom or multi fit. Prop guards can alter characteristics of a vessel or have little or no effect; it all depends on the circumstances of use and operation.

Factors to take into account when choosing the type of equipment to fit include location, operating speeds, type of craft and propellers being used. Each situation is different and worthy of an open conversation with the suppliers of the products.

I would argue that prop protection should be viewed in the first instance as an additional tool helping with the protection in operation of the craft.

It can obviously help protect the propeller and gear box from striking a fixed object (saving damage or even the craft being knocked out of service) or to protect an object in the water coming into contact with a moving propeller.

In either of the cases, prop protection is helping keep the craft serviceable when in other circumstances it may not have been.

The final decision is one that should be made only after you have considered and appraised all of the issues surrounding the safe operation of your craft. Kill cords, safety briefs and correct equipment worn and carried on board all form part of the

process of assessment. Do your homework and speak to those people who have used the products.

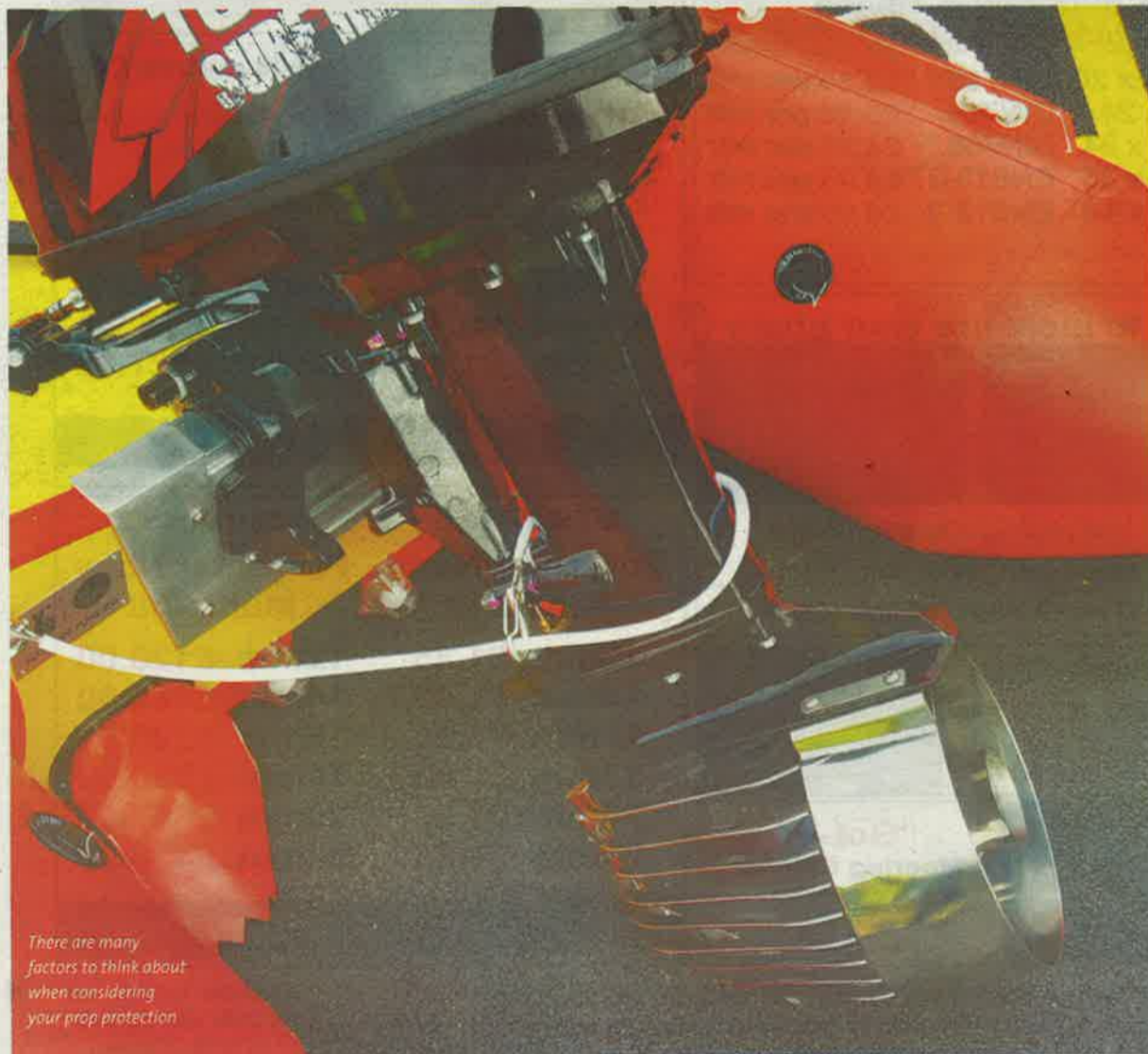
After a lifetime in engineering, one reason I became involved in propeller protection was seeing an outboard running and considering what the Health and Safety implications would be if it was turned 180 degrees and sat in a workshop. Because it sits in the water and generally can not be seen, we seem to ignore the thought.

My opinion is to view the product as a way of preventing damage - keeping a craft running. Any other by-product of fitting is a bonus.

Prop protection offers no substitute or excuse for the non-safe operation of craft. It should, however, form part of your full view of craft operation. It is best to first think that if you elect to fit a device, it should be seen as nothing more than a 'last resort' in case all other measures have failed. They do, however, offer a preventative measure against what you can not see or account for.

It is down to you to make an informed decision, not an ill-informed out-of-date one. Just do not regret doing nothing.

[www.ajs-t-s.com](http://www.ajs-t-s.com)



There are many factors to think about when considering your prop protection

Each month, All at Sea invites a leading marine industry expert to share their opinion together with their top tips to help you get the most from your boating.



Paul Martin

**PAUL MARTIN:** It seems odd that all over the world if you buy a fan, it has a guard. All modern machinery is now legislated to have guards and protection. They even put a small plastic tape around planes when you disembark a propped plane, just in case, and it is not even spinning.

**So understanding the above, the question is - why are boat propellers unprotected?**

There is the argument that a propeller spinning in open water presents no danger, and in most cases this is true. However, in some instances, there are serious safety concerns with an unguarded propeller, and incidents have happened, people have been hurt and sadly lives have been lost.

Consideration must also be made to sea life such as whales and especially manatees, like those in Florida, which consistently suffer horrific injuries.

**So, taking the above in consideration, what can be done?**

Historically, propeller guards have always been available but they have been bulky welded metal cages that provided safety but have severe implications on performance, speed and handling. They were also very expensive.

Lightweight and affordable moulded plastic PropGuards became available 15 years ago, and from this there are now new

generations of performance stainless protection that offer minimal performance loss.

In fact, today there are several options readily available on the market that vastly improve safety such as PropGuard and Prop Deflector.

**With protection readily available and affordable, is there any legislation or recommendations from recognised organisations?**

There are none, except for commercial Solas craft where it is mandatory. The RNLI Beach Rescue Service always use them and the Sea Cadets make it a required item for all their safety boats.

However, the RYA tested a selection of propeller guards nearly 15 years ago and were initially advising that they were dangerous but only recently, after a culmination of incidents, have taken a more neutral stance, stating that each club or organisation should risk assess their operation.



Various options are available including the PropGuard



Some manatees have suffered horrific injuries from propellers

Do you use propeller protection? Let us know your thoughts on this topic at [editor@allatsea.co.uk](mailto:editor@allatsea.co.uk)

Is there a subject you would like to see featured in the Experts' Forum? Get in touch.

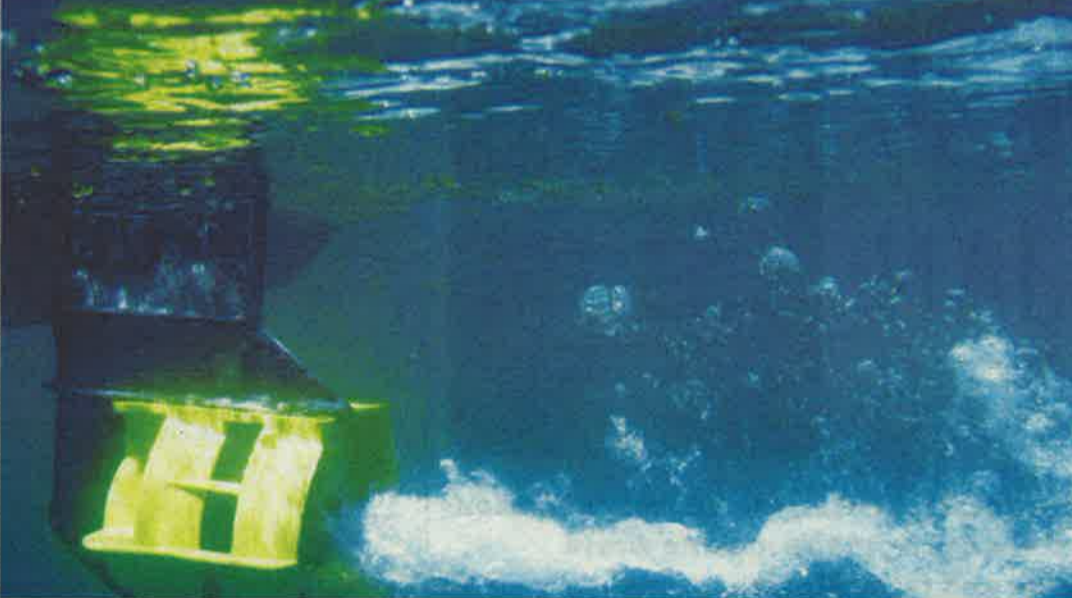
The RYA argue that correct training will assist in reducing the risk of prop related incidents. However accidents happen. We are trained to drive our car, but still have to wear a seat belt.

It is also odd that most of the accidents resulting in propeller injuries are often recorded as kill cord incidents.



Consider the advantages and disadvantages of fitting prop protection

A PropGuard in action



**If I fit a propeller guard to my engine, what are the benefits and disadvantages?**

Quite simply you will see a huge increase in safety - you from your propeller and your propeller from anything. On displacement hulls you should also notice an improvement on certain performance factors. The main disadvantage, mainly on

faster planning hulls, will be the drag factor and the resultant loss in speed. However some of the guards are designed to give less safety and improved speed, but these tend to cost more.

In certain cases, propeller protection should be compulsory. Anywhere where children are in the water, the safety boat should be as it states,

safe. Incidents happen all the time and there is a web site that passionately records these - [www.propellersafety.com](http://www.propellersafety.com). Unfortunately, it will take another incident, where life is lost or maimed, before the necessary powers listen to common sense and recommend propeller protection where it is needed.

[www.bhg-marine.co.uk](http://www.bhg-marine.co.uk)

Richard Falk, RYA Training Manager and Chief Examiner, had the following to say: "Prop guards are an emotive subject, and like any piece of safety equipment have the potential to do a great deal of good if used in the right context and their limitations are clearly understood. Unfortunately, as is often the case with safety equipment, some people view prop guards as a 'cure all', a panacea that will prevent injury. They are another piece of kit that in certain circumstances may assist in reducing the risk of prop related injury.

"It is important that boaters make a proper assessment of the activities they will be undertaking before deciding if a prop guard is right for them. For a boat that operates in shallower waters or is used in and around swimming areas or watersports activities a prop guard may well be a sensible addition.

"However, for a boat that requires rapid acceleration, good manoeuvrability or where its operation is predominantly offshore a prop guard makes less sense. The other factor to consider is whether you are trying to protect a) people from injury or b) your prop from damage, as this will determine the type of prop guard you may wish to look at.

"Most importantly, if you do choose to use a prop guard you should be very aware that it is not a cure all. It is one of several pieces of equipment that when used properly together should assist in minimizing the risk to you, your passengers and those in the water. The most valuable piece of safety equipment will always be your brain - which will hopefully assist you in making good, sound and sensible decisions about how you operate your boat."

[www.rya.org.uk](http://www.rya.org.uk)

