

Could you fit a **rope cutter?**

A fouled propeller can lead to all kinds of trouble and expense. **Peter Caplen** shows how this simple job can give you peace of mind and greatly reduce the risks

There are several types of rope cutter available to protect propellers from being fouled by rope, line, plastic bags, bits of discarded fishing net and the rest of the detritus lying just below the surface. All use a rotating blade to do the cutting, but there are differences in the way they cut with some using a scissor blade action between the rotating blades on the shaft and a fixed blade on the 'P' bracket or deadwood. Others simply rely on a very sharp blade to cut the obstruction as the propeller blades wind it on to the propeller shaft.

All these devices have one thing in common, it's impossible to tell whether they are working until they don't! For many years I relied on one of the scissor action types and never suffered any problems with rope etc, until the day I ran over a 20ft by 10ft discarded net that stopped my 300hp engine dead. Luckily we were running at displacement speed and suffered no damage and I beached the boat on Margate sands.

This particular net would have overwhelmed every type of rope cutter, so I was in no way surprised or disappointed with this one's failure to keep

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me mobile. Unfortunately the combination of the size of net and power of the engine tore the fixed blade of the cutter out of its mounting on the deadwood and, although I could have obtained a



The ProProtector has no moving parts to service or fail; its easy to sharpen and has a five year guarantee. Models are also available for under water fitting, using self-locking fastenings.

replacement, I decided to opt for a different, less expensive, type. The second reason for deciding to change was the size of my propeller's hub.

The shaft is a small diameter high strength alloy, which means the propeller's hub is larger than normal in proportion to the shaft diameter. This meant that the blades of the scissor-type cutter were partially obscured behind the propeller hub and therefore had their potential cutting area greatly reduced.

After looking at the various types available, I finally opted for a ProProtector, because, in addition to the standard range, they offer extra large cutters to accommodate small shafts and large propeller hubs. The model

I chose had a 6in diameter blade that provided a good margin of blade beyond the propeller hub and was available to suit propeller shafts from 1½in to 2½in diameter, in imperial sizes, and 45mm to 60mm in metric. Since it was much less expensive than the scissor action types, I was dubious about the quality, but, having received the unit, I was impressed with the high standard of engineering and the overall weight. I also developed a healthy respect for the sharpness of the blade itself. A particularly useful attribute of the ProProtector is that it can be installed with the boat afloat, because the only engineering involved is drilling a shallow indentation into the propeller

shaft for the locking grub screw and this can be performed with a hand drill. Self-locking bolts are available as an option, mainly for those wishing to install the unit with the vessel afloat, because you can't use the thread locking compound under water. They may of course also be used for any installation where the self-locking bolts are preferred to thread locking compound.

CHECK YOUR SIZES

Before ordering any make of cutter it is important to ensure there's sufficient room to fit the unit between the 'P' bracket or deadwood and the front face of the propeller hub. An additional space must be allowed for forward movement of the propeller shaft

SAILING TODAY

Time taken

1 hour

Skill level

Basic

Tools

Electric drill and bits, Allen Keys (supplied with kit).

Cost

ProProtector prices start at **£88** depending on size and parts.



under propeller thrust and to allow water into the tube to lubricate rubber cutless bearings. The ProProtector is offered in two types. The slide-on version has a width of only 12mm and is designed to be used where the gap between propeller and bracket is small, but it means removing the propeller for fitting. The clamp-on type comes in various widths, depending on shaft and blade

size, but can be fitted with the propeller *in situ*. The other point to note before ordering one is whether the propeller shaft is metric or imperial, because, for example, a 2in cutter won't fit a 50mm shaft and vice versa.

FITTING THE CUTTER

Before starting the job, remember that the blade is extremely sharp and the unit is fairly heavy, so

if you drop it on your toe it could cause instant amputation. The unit comes supplied with a reinforced slip-on cover that should remain in place until the fitting is complete.

The ProProtector is supplied as a complete kit including two Allen keys for tightening the securing bolts and grub screws, a tube of thread locking compound and easy to follow instructions –

which means you have everything you need. The unit itself is made in two halves that are clamped together around the propeller shaft with two clamp bolts and further secured to the shaft with a grub screw that prevents it turning on the shaft.

The cutting action of the blade avoids the vibrations and shocks commonly associated with 'chopping' style cutters.

>> Step by step guide fitting your own rope cutter



1: The PropProtector is manufactured from high grade (316) Stainless Steel and comes in a standard package with Allen keys and thread-locking compound.



2: If you're fitting the unit underwater, the thread-locking compound won't cure, so an optional set of self-locking fastenings is available.



3: First, offer up the half of the blade underwater, the thread-locking compound won't cure, so an optional set of self-locking fastenings is available.



4: Remove the sharp blade, taking care not to cut yourself, and drill a shallow indent into the shaft where you marked the hole, in readiness for the locking grub screw.



5: Carefully apply the thread-locking compound to the two clamp bolts. When both are screwed tight, this will help to keep them in place over time.



6: Assemble both halves of the unit round the shaft and align the locking grub screw with the drilled indent on the propeller shaft. Now firmly tighten both clamp bolts.



7: Firmly tighten the locking grub screw with one of the Allen keys and finally re-check the tightness of the two clamp bolts – that completes the installation work.



8: Following a tangle-free year since installing the ProProtector, I removed the unit for cleaning with wire wool and re-fitted it with fresh thread-locking compound.

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The ProProtector is a simple, shaft-driven rope and debris cutter, which rotates with the shaft and instantly cuts any rope, weed or debris picked up by the propeller. After a year in a mud berth on the River Medway, the unit was removed for cleaning as part of routine maintenance. Along with the rest of the boat's bottom, it was covered in a thin, varnish-like film. However, even with the film in place, the blade had lost none of its keenness and a quick clean with some fine wire wool restored the original lustre with no sign of any corrosion.