

## Your Anchor – will it keep you safe?

By Mike Shearman (Shrimper 815 Triplet) 2015

Along with many, no doubt, I never gave much thought to my anchor. It came with the boat, and it seemed to work, so that was that. But when I nearly lost my Shrimper on a rocky lee shore due to a failing in this very piece of kit, I took a somewhat keener interest. Soon after that incident, Practical Boat Owner published an article in the August 2011 edition by Professor John Knox. He had also experienced a loss of confidence in the two anchors which he carried on board (CQR and Bruce) and decided to do a comparative test of six commonly used types. He designed a test rig with a winch and tension gauge which could simulate the conditions under which an anchor would operate at sea. He then set up the rig and tested the anchors under water in some tidal pools in the Firth of Forth. His main criteria were holding capacity, rapid embedment, roll stability, and mechanical strength.

His article is on seven closely packed A4 pages, so I will make a very abridged summary of his findings - listing galvanised steel versions of the anchors in order of comparative performance with approximate prices (at the time of writing in February 2015) and at weights suitable for general use on a Shrimper. Stated ultimate holding capacities (UHC) are as measured by Professor Knox. I have also added in some useful comments from Keith Thatcher.

### 1. Spade



At £211.13 (Gael Force) this may be the most expensive anchor after the CQR, but it is also light at 5.1 kg, and has the greatest holding capacity (120kgf). It embedded rapidly and did not break out. If you want the most efficient anchor suitable for a Shrimper this is the one to go for.

### 2. Rocna 5kg and 6kg



For some reason Professor Knox did not test the 6kg Rocna, (£189.99 at Piplers) but the 5kg was found to have good holding capacity at 85kgf and it embedded rapidly and did not break out. I currently have a 6kg Rocna and have found it to be excellent. On one occasion it held 6 rafted up Shrimpers (in sand – not eel grass) in Studland Bay. In 2010-2011 there were some problems with the steel used for Rocna anchors, but we hear that these have been resolved – consult your chandler before buying.

### 3. Manson Supreme 7kg



The Manson Supreme is similar to the Rocna, but it has an elongated slot for the shackle onto the anchor chain. This is intended to assist with releasing the anchor if it gets stuck under something. The 7kg version costs £161.99 at Gael Force and has a holding capacity of 90 kgf. It was found to embed immediately and did not break out.

### 4. Delta 6kg



With a holding capacity of 76 kgf (against 120 kgf for the Spade) this is still a good anchor, and at £89.95 (Force 4) it represents good value for money. My 6kg Delta saved the day when the CQR started bouncing along over the sand. Professor Knox commented as follows: May engage reluctantly on harder sea beds. Ploughs in straight line. General rating –good.

Keith says that it was developed to overcome inherent stability problems in the CQR and may prove difficult to bed on hard surfaces, but it is the current anchor carried by all RNLI lifeboats.

## 5. CQR 7kg



Many people will have one of these simply because it came with the boat. Holding capacity was found to be 44 kgf. A Lewmar CQR currently costs £299.95 at Force 4, but other versions may be less expensive. Professor Knox commented as follows: Difficult to engage on hard sea beds. Breaks out with serpentine track under load. General rating – poor. Keith says that it was designed to anchor fishing boats in very soft muddy bottoms and was never intended for use in sand, especially hard sand.

## 6. Bruce Atlantic 5kg and 7.5kg



These anchors are not expensive - £44.95 at Force 4 for the 7.5 kg. They work well on a muddy bottom but in Professor Knox's tests the 5kg came up with a holding capacity of 43kgf. He commented as follows: Difficult to engage on hard sea beds. General rating – poor. Keith says that the original Bruce was designed in 1973 as a rig anchor for the North Sea which is predominantly soft sand and mud and that it worked very well in that situation. It is probably best to go for a genuine Bruce rather than a copy. He uses a 5kg Bruce and it has never let him down.

So there we have it – so far as I can tell, most of us are using anchors which are rated ‘poor’ and have just over one third of the holding capacity of the Spade S40

Professor Knox did not test any swivel fluke anchors such as the Danforth or Fortress, but I did notice that he used a Fortress to hold his test rig in the sand.

### **Further reading**

There is also an article in Sailing Today November 2009 which looks at various anchors and tabulates results from three tests – the French VetV, the American WM and the Australian NMSC. Here the Sarca Excel and Rocna come out on top with the Manson close behind, then the Spade and Fortress then the CQR just ahead of the Delta at the bottom.

Peter Smith has tabulated results from a number of tests including the one by Professor Knox. These may be found on <http://www.petersmith.net.nz/boat-anchors/independent-performance-testing.php> and <http://www.petersmith.net.nz/boat-anchors/old-generation-anchors.php>. It should be noted that Peter Smith was involved with the design of the Rocna. The links at the bottom of his pages can take you on to even more pages of useful data.

The most recent article I have come across is “How five anchors performed in a Force 7” from Yachting monthly February 2015. This is not really a proper test as it just shows some underwater shots of the anchors before and after the blow. They all had different scopes and were in different parts of the bay. The CQR lay on its side, the Delta dug in, as did the claw type, and the Manson and Rocna dug right in. This is not a very conclusive effort, but seems to be consistent with other findings.

If you “Google” the various anchor types you may come across some quite graphic Youtube items showing various anchors being dragged across the bottom – interesting but not very scientific. You may also find some useful data and test reports on manufacturers’ websites.

My general impression is that the Spade will go on digging in the more you pull it, the Rocna and Manson do the same to a lesser extent, the Delta digs in quite well, then drags in straight line, and the CQR and Delta work well in some situations, but not in hard sand. The Fortress is a different sort of anchor altogether, but does well on the whole. The Mantus and Sarca look interesting but so far, I have not seen either on sale in the UK.

As I have mentioned, I am quite pleased with my Rocna and I have a Fortress as a spare as it folds flat and rests quite neatly against the side of the boat in the space alongside my cooker. If I was starting from scratch I would probably go for the Spade, as it is light and very effective, does not have a roll bar, and is not that much more expensive than the Rocna and Manson.

Whenever I think about the cost of an anchor, I remind myself about the cost of a new boat.

A description of my own near-miss can be found on the SOA website under Logs/England/Almost on the Rocks.