Which anchor is best?

Anchor design has undergone a revolution recently and bold claims have been made about better holding in a greater variety of seabeds. But how good are they? To find out, Daniel Allisy tested seven new steel designs and two lightweight aluminium ones against two of the most popular and trusted anchors in the world: the CQR and the Britany.
The results are remarkable and the lessons learned invaluable


BRITANY


KOBRA 2

DELTA


BUGEL


MANSON SUPREME


BRAKE 16


SPADE S 80


XYZ


FORTRESS 10.6


CQR


SPADE A 80

Left: *It takes a pull of 1,500kg on the cable of the excellent Kobra anchor to make it break out of hard sand, equivalent to the pull of a 12m (40ft) yacht anchored in 50 knots of wind – Storm Force 10*

ALL UNDERWATER PHOTOS: PIERRE MARTIN-RAZI

ALL OTHER PHOTOS: XAVIER RICARDOU

Lewmar Delta: this new-generation anchor is fitted as standard by many boatbuilders, but tends to plough the seabed without digging in deeply

Nobody wants to experiment when it comes to bower anchors. Many of us trust our yachts to tried-and-tested anchors which been proven over generations. Even then, one anchor drag is enough to shatter your faith and leave you wondering what's actually happening out of sight on the seabed. In this test, we set out to discover exactly what goes on under the waves.

In a previous anchor test, carried out by *Voiles et Voiliers* magazine in 2003, it was proved that some of the new generation of anchor designs were worthy rivals to the tried-and-tested traditional designs. The test also showed that anchors with ballasted tips set faster and more readily than those without, and that an anchor whose profile resembles a flat or concave spade, rather than a plough, will bury itself more effectively. Plough-type anchors have a tendency to do what their name suggests – plough a furrow along the bottom.

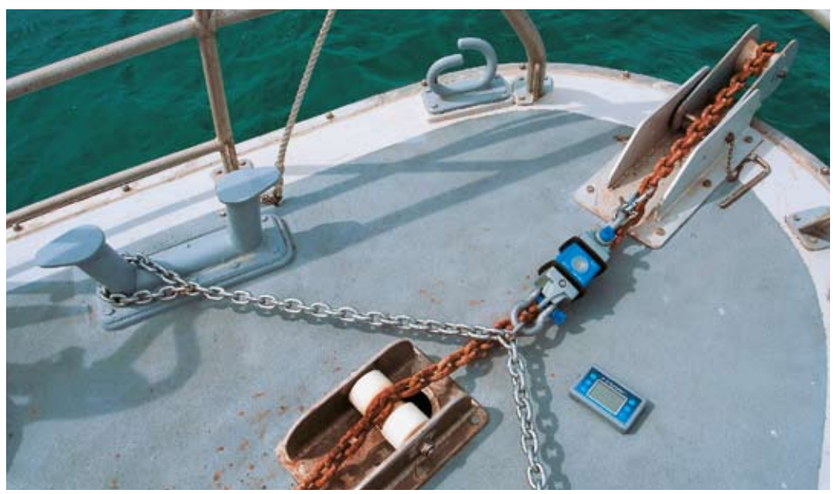
Since 2003, new anchor designs have come on the market so *Voiles et Voiliers* decided to conduct another test. The last test proved that some types of anchor are ineffective – mostly cheap, copies or 'clones' of well-known models – and we felt it wasn't worth re-testing these. We assembled a group of seven new-generation anchors to go head-to-head with the two most popular traditional anchors (CQR and Britany): the Spade, Brake and Delta, tested in 2003, along with the Bugel, Kobra 2 (a refinement of Plastimo's Kobra anchor), and the Manson Supreme from New Zealand, plus a rather alien-looking new model, the XYZ, from America.

To represent lightweight aluminium anchors, we also included the famous Fortress and the aluminium version of the Spade, which was the best-performing lightweight anchor in our last test. In total, we tested eleven anchors.

For the new test, we decided to repeat the methodology of our 2003 test, so the results could be directly compared, to validate – or debunk – our findings. Six of the anchors featured in both tests, which were carried out in similar conditions. We were reassured by how closely our new results mirrored the old ones – until the anchor that won our last test produced very disappointing results. Read on to find out more.

Methodology

All the anchors we tested were of a size deemed suitable for a 12m (40ft) yacht. All the steel anchors were a similar weight (15-17kg) and we chose aluminium anchors of a similar size to the steel ones. To test them, we used a French SNSM lifeboat. We had to use 12mm-gauge chain instead of the 10mm chain that would normally be specified for the anchors on test, which wouldn't have fitted the lifeboat's windlass.



The lifeboat's bulletproof bow roller enabled us to exert more than three tonnes of force on the anchor cable, and measure the cable loads accurately with the dynamometer

The elaborate test rig enabled the team to see live data from the dynamometer while they watched anchors setting and breaking out

To measure the loads on the cable, we spoke to a company called Tractel. They sent us an engineer, Claude Castagnoli, and a dynamometer capable of measuring the load on the cable every 1/100th of a second. This enabled us to draw graphs with smooth, accurate curves showing the forces exerted on each anchor throughout the test. These curves speak volumes about the anchors' behaviour and performance.

During the test, Pierre Martin-Razi, a keen ocean sailor and editor of *Subaqua* magazine, was stationed on the seabed to watch each anchor setting and breaking out. His mission was to take photographs but never to interfere with the anchors, nor to change the angle at which they lay on the seabed.

A camera fixed to his diving mask sent footage back via a cable to a laptop computer in the lifeboat's wheelhouse. However, the cable was only 40m long, so we couldn't make the scope of the anchor cable as long as we would have liked. We therefore ran the test in depths of 3.5m, using a scope of 21m – five times the depth of water.

Because the loads we were putting on the cable were equivalent to 60 knots of wind (see fact box, right), it would have been interesting to test the anchors with a much longer scope, as you would if you had to ride out a violent storm at anchor.

We picked a test site, La Ciotat Bay, near Marseille, in the Mediterranean, where tidal range and currents are virtually non-existent. We hadn't counted on it blowing a Mistral so we had to conduct the tests in almost gale-force winds. Luckily, we had chosen the right sort of sandy seabed, one that wasn't churned up by the waves. The underwater visibility, so crucial for our test, remained excellent throughout.

The wind also restricted us to shallow water, so it proved impossible to test the anchors on the gravel bottom that we had planned to use, off Ile Verte. We therefore conducted the entire test in La Ciotat Bay, on a seabed of hard sand for the first day and a softer substrate of sand and mud on the second day.

Analysis

We recorded the anchors' maximum holding power just before they began to break out, as we did in our 2003 test. But this time, we also conducted the lateral pull tests (only on hard sand). After pulling the anchor in line with its normal axis, we tried again at 70° and then 180° to quantify what happens when the boat swings around her anchor to lie at a different angle. With a near-gale blowing the lifeboat had so much windage that we had to go very fast astern (undoubtedly with too much power) as soon as the boat was lined up at the right angle. This rough treatment caused a fair bit of collateral damage to some of the anchors. You could say we 'crash-tested' them. We thought it best not to draw any firm conclusions from the anchors' behaviour during the lateral pull tests, which was a shame, as it would have been useful to see how quickly and readily they re-set themselves.

We decided to publish the

A camera mounted on the diver's helmet sent the video feed back to the lifeboat

FORCES ACTING ON AN ANCHOR

Yacht LOA	Anchor load (wind 15 knots)	Anchor load (wind 30 knots)	Anchor load (wind 42 knots)	Anchor load (wind 60 knots)	Anchor load (wind 120 knots)
4.50m	25kg	100kg	220kg	450kg	1,800kg
6.00m	40kg	160kg	320kg	650kg	2,600kg
7.50m	55kg	220kg	440kg	880kg	3,550kg
9.00m	80kg	300kg	620kg	1260kg	5,080kg
10.50m	100kg	400kg	800kg	1630kg	6,540kg
12.00m	130kg	540kg	1000kg	2180kg	8,720kg
15.00m	180kg	710kg	1450kg	2900kg	11,620kg
18.00m	220kg	900kg	1800kg	3620kg	14,530kg
21.00m	300kg	1200kg	2450kg	4850kg	19,620kg

Strictly speaking, it's not the length but the beam of a yacht, more than any other factor, that determines the windage of her hull and therefore the load on the anchor cable. Two other factors come into play: the windage of her rig and, of course, the wind speed, which, as it increases, makes the forces on the anchor cable increase exponentially.

The figures in this table represent the static load that a boat with normal windage, bows-to the wind, will exert on its anchor cable for a given wind strength. When the boat lies at 30° to the wind – which happens regularly, when the yacht is 'sailing' around her anchor – these figures can be doubled. And when the cable is stretched tight during a gust, the kinetic energy developed by a yacht in motion can generate colossal snatch loads on the anchor, triple the static force.

The anchors we tested were all of a similar size, but with a wide variety of shapes and surface area

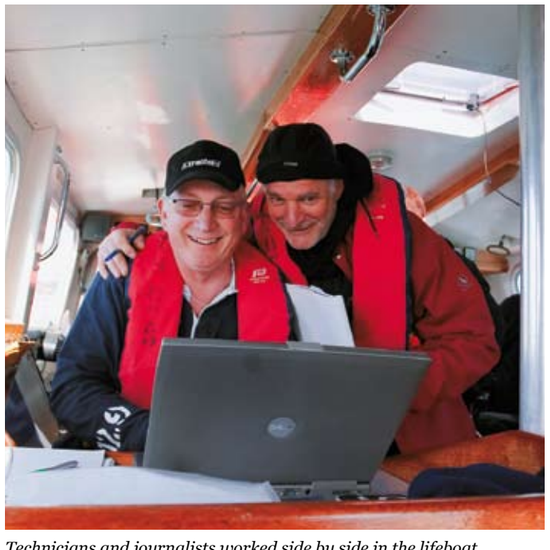
The dynamometer recorded the force on the cable every hundredth of a second

figures anyway – not just because they gave us three measurements of anchor holding power, rather than just one, but because our analysis of the results pointed to some interesting findings.

We discovered that the anchors fell into two distinct categories: those whose holding power increased when the angle of pull changed, meaning they dug in deeper, and those that couldn't muster as much power straight away when the angle changed. We can at least report which anchor had better holding power against a lateral pull (see table at end of this article.)

The figures published in the table represent the average load that caused each anchor to break out when embedded in hard sand, which is pretty much analogous to their maximum holding power. And we've noted each anchor's ability to remain set as the boat swings by interpolating the figures for pulls at 70° and 180°.

It's important to look beyond the figures – they don't tell the whole story. Our analyses of the cable-load curves and video footage are illuminating, too – even if they're less easily quantifiable. These are described in the individual reports on each anchor.



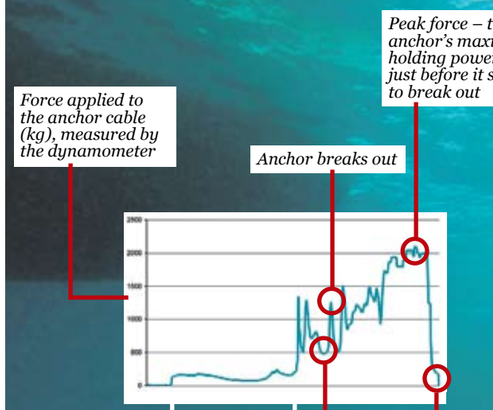
Technicians and journalists worked side by side in the lifeboat wheelhouse to analyse the raw data

THE TEST BOAT

The SNSM (French lifeboat) crew at La Ciotat played a pivotal role in the running of this test. They lent us their all-weather launch, *Bec de l'Aigle II*, for two days – 18m LOA, two 800hp engines and a bulletproof bow roller! Not only was their whole team passionate about the subject of anchors, their good humour contributed greatly to the success of the project. Many thanks to all the lifeboat men who took part: Jacques Dagnac, Serge Peirone, Philippe Peyrusse, Max Joly, Gérard Rivoire, André Mercurio, Patrice Galera and Mickael Avier.

Results

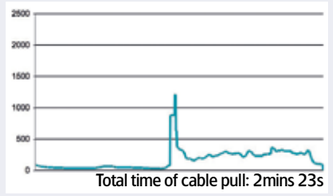
How to read the graphs



Britany

The headline figures seem reassuring until you see what's actually happening on the seabed. As soon as there's any significant load on the cable, the Britany invariably flops onto its side, leaving one fluke sticking up out of the sand – not a reassuring sight! However, its sharp points help it to set very quickly and enable it to slice through wads of seaweed to reach the seabed beneath – a well-known benefit of 'flat' anchors, but one we couldn't test without committing a small act of environmental vandalism. In conclusion, the Britany is a mid-range performer and a good choice for a kedge.

Average holding power in hard sand = 590kg
Holding power in muddy sand = 446kg

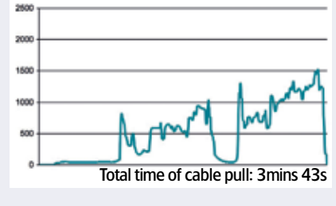


Total time of cable pull: 2mins 23s

Kobra 2

The original Kobra anchor impressed us with its performance when we tested it, six years ago. We were also impressed that it could be folded without dismantling the stock. Handy for stowage, but the flexible joint turned out to be a potential structural weak point. The new Kobra 2 can still be disassembled, but now there's the extra effort of unscrewing a single bolt. Our underwater footage proves the excellence of the design – the Kobra was the second-best anchor on test – and its behaviour in use was reassuringly predictable. It never failed to set, always digging in rapidly and burying itself well. It's assuredly the winner of this test. Taking into account the modest price tag, it's excellent value-for-money. If you buy one as a kedge, you'd have to dismantle it to stow it.

Average holding power in hard sand = 1,263kg
Holding power in muddy sand = 1,058kg

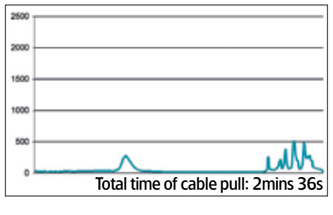


Total time of cable pull: 3mins 43s

Lewmar Delta

This is the most commercially successful new-generation anchor on the market, insofar as many boatbuilders now fit it as standard. Picking up the principle of the ballasted tip from where the CQR anchor left off, Lewmar's Delta was destined to become a modern – and cheaper – alternative to the CQR, a classic design for which Lewmar now holds the manufacturing rights. Unfortunately, while it wasn't awful, the Delta's performance in our test didn't completely win us over. Like the CQR, it labours the ground without digging in deeply and disappearing, like some of the other anchors we tested (the Spade, Bugel and Manson). If you already have one on board, there's no need for a hasty upgrade – it does the job.

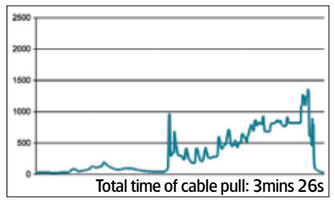
Average holding power in hard sand = 450kg
Holding power in muddy sand = 662kg



Total time of cable pull: 2mins 36s

Bugel

Average holding power in hard sand = 1,138kg
Holding power in muddy sand = 999kg

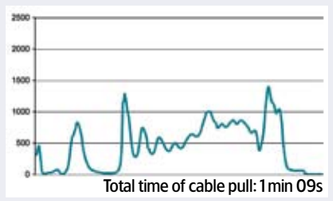


Total time of cable pull: 3mins 26s

You see a lot of German-flagged yachts in the Med with Bugels on their bow rollers. This anchor's shape looks deceptively simple: a flat, triangular spade welded to a straight stock and crowned with a chunky, semi-circular anti-roll bar, which also serves as a useful hand-hold for lifting the anchor on and off the bow roller. Designed and manufactured in northern Germany, the Bugel is not protected by international patent and the market is cluttered with copies. We tested a genuine Bugel, supplied by Swiss Tech, which imports galvanised and stainless steel versions, but only the stainless model was available for testing. The Bugel turned in the third-best set of results in our test. Its main drawback – at least for the stainless version – is the prohibitively high price. Don't assume that a cheap, knock-off copy will be anywhere near as good as the real McCoy.

Manson Supreme

Average holding power in hard sand = 1,076kg
Holding power in muddy sand = 631kg

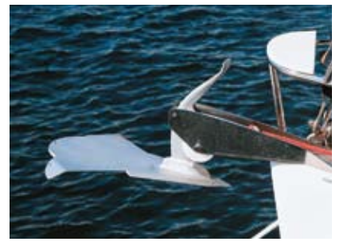


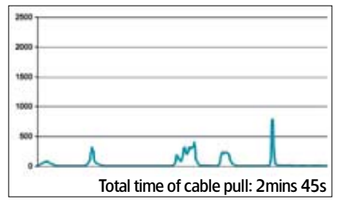
Total time of cable pull: 1min 09s

This anchor, from New Zealand, looks rather similar to the Bugel, with the same sort of anti-roll bar, but its 'spade' is concave and the stand-out feature is a slot running the full length of the stock, which allows the chain connector to slide fore-and-aft along its length. This is meant to do away with the need for a tripping-line, as the chain slides to the head of the anchor when the direction of pull is reversed – not a good idea in tidal waters, nor anywhere the wind is likely to veer through 180°. Just as well that there's also a normal, fixed attachment point. The Manson performed very well in our lateral pull tests, burying itself deeper into the sand each time we changed the direction of pull. The Manson's tip isn't ballasted, which means it can have a sharper point than the other concave-shaped anchor on test, the Spade. Its performance in sand is remarkable – a very good anchor.

XYZ

Average holding power in hard sand = 407kg
Holding power in muddy sand = 205kg



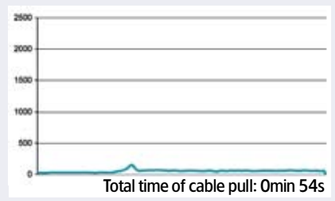


Total time of cable pull: 2mins 45s

This American anchor has no distributor – the manufacturer sells it direct, via the Internet. The shape is radical, rather like a manta ray, and its surface area is impressive, but in our tests it never managed to set correctly. The maximum holding power we recorded – 790kg – should be taken with a pinch of salt because the XYZ took a very long time to set. Worse, it was nigh-on impossible for it to re-bed in the same spot when the boat swung round on her cable. Another problem is that it won't sit snugly on a traditional-style bow roller The young inventor, highly embarrassed, admitted that it hadn't worked as it was designed to, and assures us that the new version, the XYZ Extreme, was producing much better results. We'll reserve judgement until we test it.

CQR

Average holding power in hard sand = 206kg
Holding power in muddy sand = 363kg

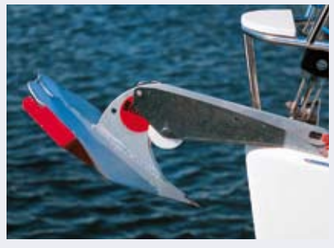


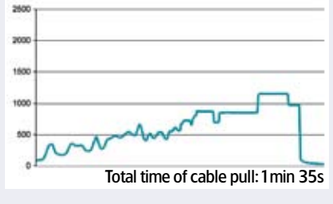
Total time of cable pull: 0min 54s

The dowager duchess of anchors – 70 years old! – the CQR is widely accepted to be the best anchor design in the world, trusted by generations of sailors. Tests of CQR 'clones', sold under various names, have shown that they're nowhere near as good as the original. So imagine our surprise when we found that the genuine CQR performed no better than the copies, contradicting our 2003 test results, which proclaimed it the winner. So what happened? We noticed that only the stock and central body of the anchor are forged, the flukes being welded on afterwards. Lewmar says that the construction method hasn't changed at all since our 2003 tests. While we wait for other tests to salvage the CQR's reputation – perhaps our test anchor had a manufacturing fault? – we can only reserve judgement.

Brake

Average holding power in hard sand = 853kg
Holding power in muddy sand = 268kg



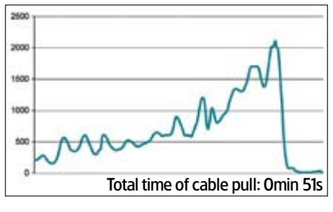


Total time of cable pull: 1min 35s

The Brake anchor turned in a good set of results, confirming our favourable verdict in 2003. It did struggle a bit to dig in, sliding along the seabed on its side before burying itself. Its huge surface area held well, at least, until you exert too strong a pull on it: the stock of our test anchor bent a little during the 70° lateral pull test, when it attained its maximum holding power. Fortunately, the maker had also brought us a prototype with a slightly beefier stock. But the 2mm of extra thickness altered its balance. When we tested the prototype, on the second day – albeit on a slightly different type of seabed – it couldn't come close to matching the holding power of the original. More proof that the precise balance of an anchor has a great effect on its performance. The Brake is still a good anchor, and the steel stock will be strengthened to increase its holding power. It is, however, a cumbersome piece of kit.

Spade S80

Average holding power in hard sand = 1,905kg
Holding in muddy sand = more than 570kg*



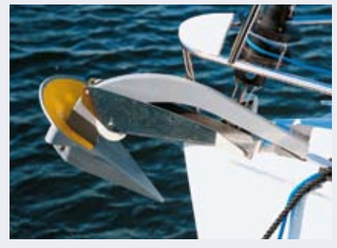
Total time of cable pull: 0min 51s

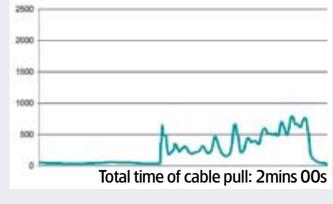
This was the star of the test, according to Pierre Martin-Razi, our underwater photographer. After watching its behaviour on the seabed during our 2003 test, he was so impressed that he rushed out and bought one for his Jeanneau SunFizz. He's still delighted with its performance, despite some problems with the galvanising, which were resolved to his satisfaction three years ago. This anchor is actually the opposite of a plough: instead of gently pushing aside the substrate as it digs in, it lifts it little by little, its concave shape helping to bury it deeper and deeper as the load on the cable increases. In the underwater video footage, it was fascinating to watch the stock cleaving through the sand with the body of the anchor completely invisible under the sand. The Spade has by far the best holding in sand, but its ballasted tip – blunter than some of its rivals' – is less effective on very hard or weedy bottoms.

**At this point the test rig broke*

Spade A 80

Average holding power in hard sand = 1,052kg*
Holding in muddy sand = 798kg (12kg anchor)





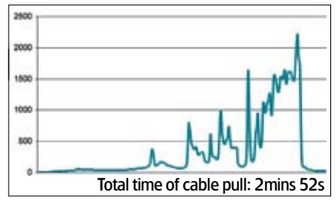
Total time of cable pull: 2mins 00s

The aluminium A80 looks identical to its steel sister and shares the same geometry (58% ballast in the tip), hollow stock. Half the weight and with better holding power than most of the other anchors on test. But like all aluminium anchors is can't withstand as high a load as a steel one. After our first test, when we put a tonne of load onto the cable, the stock was completely deformed. During our 2003 tests, we found that it had trouble setting in harder types of bottom with an unballasted tip. For our second test run we used a larger model with a surface area comparable to the Fortress, and the results were encouraging. If you want an aluminium anchor, make sure that it's substantially oversized.

**During the first test run with the 7kg anchor, the stock was severely twisted*

Fortress 10.6

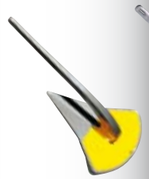
Holding power in hard sand = 3,281kg*
Holding power in muddy sand = 959kg



Total time of cable pull: 2mins 52s

This anchor sets instantly, thanks to its long, thin, sharp-pointed flukes. The 82cm-wide transverse bar ensures it never turns on its side – unlike the other 'flat' anchor on test, the Britany. We were astonished by its holding power of more than 3 tonnes, equivalent to the cable load of a 12m (40ft) yacht in a hurricane. Proof that once an anchor is properly set, the two main factors determining its holding power are its surface area and the depth of seabed above it. However, the Fortress's huge surface area becomes a liability on deck. This model cannot be easily stowed without disassembling it. The fact that it bent when subjected to a load of more than three tonnes is not surprising, especially for an aluminium anchor.

**Only one test run because the flukes got badly bent*

	BRITANY	KOBRA 2	DELTA	BUGEL	MANSON SUPREME	BRAKE 16	SPADE S80	XYZ	CQR	SPADE A80	SPADE A100	FORTRESS FX37
Anchor												
Verdict in a nutshell	Very popular due to its low cost. Easy to stow because of its flat shape, but its holding power can't compete with newer anchors. A good choice for a kedge	The best value-for-money on test. The design of the original is simplified (no more moving parts) and it had the second-best holding power	The most popular 'new-generation' anchor, marketed as a cheaper, modern alternative to the CQR, with ballasted tip. Performance was far from best on test	This odd-looking anchor looks deceptively simple. Third-highest holding power on test. Beware copies	Similar to the Bugel (same anti-roll bar) but its 'spade' is concave. The slotted stock is meant to do away with the need for a tripping line. A very good anchor	The best in our 2003 test, the Brake is still in the running, with respectable results. The steel stock will be redesigned to make it stronger	Unbeatable holding power in sand. The ballast in the tip makes it set quicker in sand, but without a sharp point it's less effective on hard or weedy bottoms	The performance of this American anchor was disappointing. It has been replaced by a new version, the XYZ Extreme	The CQR's results in this test were so astonishingly poor that we wondered if they'd sent us a faulty one. It's the most expensive anchor tested	The aluminium Spade is the same size as its steel sister. The weakness of its stock under high loads is all that prevents us from recommending it as a bower anchor	After testing the Spade A80 to destruction, we carried on with this higher-spec model, more comparable to the Fortress 10.6. We haven't given it a separate rating	Its holding power was absolutely astonishing for an aluminium anchor. Cumbersome, but worth considering if you find a way of stowing it
Price	£119.37	£109.92	£148	About £651.53	£289.95	About £340.69	£537.42	£423 (new model)	£649.99	£561.46	£739.35	£464.99
Shape	Flat	Spade	Plough	Flat spade	Concave spade	Winged spade	Concave spade	Flat spade	Plough	Concave spade	Concave spade	Flat
Recommended LOA/ displacement	10.5-12.5m/4.4-8t	12.5-16m/8-12t	10-14m	4-8t	12-13m/8-10t	6-8t	12.5m/6t	15m	10-14m	10.5m/4.5t	16m/12t	14-15.5m/8-10t
Ballasted tip?	No	36%	28%	No	No	28%	58%	No	Yes	50%	50%	No
Dimensions (length x width x height)	84 x 38 x 15cm	83 x 37 x 38cm	82 x 36 x 35cm	79 x 34 x 45cm	81 x 39 x 37cm	81 x 37 x 35cm	78 x 33 x 40cm	67 x 51 x 40cm	101 x 32 x 30cm	78 x 33 x 40cm	92 x 38 x 43cm	106 x 82 x 23cm
Surface area	800cm²	900cm²	950cm²	700cm²	900cm²	1,100cm²	800cm²	1,500cm²	800cm²	800cm²	1,000cm²	1,100cm²
Weight (verified by test team)	16.5kg	16.5kg	15.5kg	12kg	15kg	17kg (18kg prototype)	15kg	13.5kg	16.5kg	7kg	12kg	10.5kg
Construction method	Mechanically welded	Cast & welded	Mechanically welded	Mechanically welded	Welded & bolted	Mechanically welded	Mechanically welded	Bolted	Forged & welded	Mechanically welded	Mechanically welded	Extruded
Material	Galvanised steel	Galvanised steel	Galvanised steel	Stainless steel	Galvanised steel	Galvanised steel	Galvanised steel	Galvanised steel	Galvanised steel	Aluminium	Aluminium	Aluminium
Other models available?	No	No	Stainless steel	Various steel copies	No	Stainless steel	Aluminium, stainless	Stainless steel	No	Galvanised, stainless	Galvanised, stainless	No
Made in	China	China	China	Germany	New Zealand	France	Tunisia	USA	Scotland	Tunisia	Tunisia	USA
Holding power in hard sand at 0°	745kg	1,530kg	740kg	1,365kg	816kg	830kg	1,705kg	790kg	402kg	1,052kg	-	3,281kg
Holding power in hard sand at 70°	575kg	966kg	262kg	782kg	1,008kg	1,150kg	2,117kg	24kg	115kg	-	-	-
Holding power in hard sand at 180°	446kg	1,294kg	361kg	1,267kg	1,406kg	580kg	-	-	61kg	-	-	-
Average holding in hard sand	590kg	1,263kg	450kg	1,138kg	1,076kg	853kg	1,905kg	407kg	206kg	1,052kg	-	3,281kg
Holding power in muddy sand	446kg	1,058kg	662kg	999kg	631kg	268kg (prototype)	570kg (test rig broke)	205kg	363kg	-	798kg	959kg
Average holding, 2 types of seabed	518kg	1,160kg	556kg	1,068kg	853kg	560kg	1,237kg	300kg	285kg	1,052kg	798kg	2,220kg
Test rating (max performance)	7th	2nd	6th	3rd	4th	5th	1st	8th	9th	2nd	-	1st
Test rating (average performance)	7th	2nd	8th	4th	3rd	5th	1st	6th	9th	2nd	-	1st
Holding ability when boat swings	Moderate	Good	Mediocre	Good	Very good	Moderate	Very good	Poor	Mediocre	Good	Good	Poor
Strong points	Easy to stow below decks. Good holding in mud, cheap	Excellent design, sets rapidly, best value-for-money	Cheap, solid build quality	Snug stowage on the bow roller, bar provides useful hand-hold	Digs in well. Bar provides useful hand-hold	Fair performance and reasonable price	By far the best holding power in sand	Original design	A good reputation – until now. Very high build quality	Exceptional performance in sand, light weight	-	Awesome holding power, speed of setting
Weak points	Mediocre performance	None	Did not dig in deeply	Very high price for the stainless version	Rather high price	Cumbersome to handle on deck and to stow on the bow	Blunt point less effective on hard bottoms. High price	Hard to set. Not self-righting. Cumbersome on bow	Price. Risk of catching your fingers	Stock can bend under load. Not great on hard seabed	-	Price. Tricky to stow unless disassembled
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Conclusions

Our findings show that, contrary to appearances, an anchor is a very complex piece of kit with a balance so delicate that the smallest change in shape or weight distribution can render it completely ineffective. Frankly, we had no idea that a slightly bent fluke (less than a centimetre out of true in the case of the Britany) can be such a major handicap. Leaving aside the folded flukes of the Fortress, bent when they were subjected to an unreasonable amount of force, and the broken stock of the aluminium Spade, the lightly deformed Britany and Brake anchors never performed properly after being slightly bent.

We've shown that aluminium anchors are very nearly as effective as their steel counterparts – as long as they're oversized. Aluminium is more likely to bend out of shape. You'd be unwise to choose one as your only anchor.

The most important conclusion from this test is the answer to the question we asked at the outset: yes, some of the new-generation anchors on the market perform demonstrably better than their illustrious forebears, with double – even triple – the holding power.

Bearing in mind the inherent weakness of this sort of test (the seabed is never going to be of a uniform composition or density) it would be presumptuous for us to declare that one anchor is the best. The Spade, Kobra 2, Manson and Bugel are all excellent anchors that can be relied on to give better holding in sand than any traditional design. But before you unshackle that trusty old hook and heave it over the gunwale, remember that you are better off having at least two different types of anchor on board. If this article has shaken your faith in your old anchor and persuaded you to buy a new one, keep the old one as a kedge.