

Hawk's Experience with a "Next Generation/Roll Bar" anchor  
(Preliminary findings)

Conclusions

Our new "Next generation/Roll Bar" anchor sets and holds extremely well in deep sand and mud bottoms, and is superior to the prior plows and Bruce anchors in these bottoms. It has trouble setting in rocky or corally bottoms and is not as good a multi-bottom/difficult bottom anchor as a big Bruce. My net recommendation is that this anchor would be a good choice if you want to get a 'normal' size anchor because of its superior penetration/holding but if you want to get an 'oversized' anchor I think a big Bruce type would be a better choice because of better performance in difficult bottoms.

Background

During 2002-2003 we anchored in 58 anchorages along the Chilean channels using a 50kg Bruce. It set & held first time down in 57 of them (98%). In the 58<sup>th</sup> it did not set the first try but set & held on the 2<sup>nd</sup> try.

When we arrived in Chile in 2007 we sent the Bruce in to be regalvanized. When it came back it had deep cracks right around where the shank joined the blade. A welder looked at it and said he could weld it but would not trust that there were not more hidden cracks. We tried to get an anchor shipped to Puerto Montt but could not figure out a way to do it in our required timeframe for a reasonable cost. We wanted to try one of the new 'Roll Bar/Next Generation' anchors that perform so well in the anchor tests. So we got a Chilean machine shop copy of a 40kg Manson Supreme. Anchor copy's are always suspect but this one seems quite faithful to the original.

The roll bar is set about 1" further toward the tip on the copy, but otherwise it is a very close copy, with the important "shank to blade" angle identical.

Original Anchor



Chilean Copy





We always carried a ‘genuine’ Bruce and have not been big fans of anchor ‘copies’. We have in fact ordered and paid for a ‘genuine’ ROCNA but it has not yet been delivered. So, in this case we needed an anchor and could not get an ‘original’, thus the Chilean copy was our only real option. My business experience suggests the roll bar anchor manufacturers may have a very difficult time with copies. The Bruce and CQR were cast and forged and difficult for a small machine shop/welder to copy exactly, however the roll bar anchors are all very simple fabrications of flat plate that any welder can copy exactly. Our Chilean anchor cost \$500 while the ‘original’ retailed (in the US) for \$1350 (without shipping). These “Next Generation roll bar” anchors are in fact collected features copied from various previous designs (the self-launching shank from the Delta, the Roll bar from the Bugel and the concave plow from the Spade & Bruce) and thus can only expect only minimal brand/design specific intellectual property protection.

“Roll Bar/Next Gen” Anchor Performance Summary

During our current 2007/2008 cruise down the Chilean channels, this new anchor performed perfectly (set and held first time down) in seven (58%) of our first twelve anchorages. In two it dragged a ways before setting. In three we could not get a set even after several tries. In one it set but then later dragged in 35kts. After the 12th anchorage we went to muddier/less rocky harbors (the holding is typically better in the southern Chilean anchorages in any case) and used shore lines more frequently. In total, we anchored in 26 harbors from Puerto Montt to Puerto Williams, and we had some trouble in 8 (31%).

<u>Anchorage</u>	<u>Anchor Performance</u>	<u>Bottom Notes</u>
1.Castro	Good	Mud 3:1scope
2.Pailad	Good	Mud 3:1 scope
3.TicToc	Good	Steep slope
4.Filamona	Never set – 3 tries	Rocky (chain rumble), 3:1 scope
5.Delfin	Good	Mud 4:1scope
6.Sucupira	Never set - 2 tries	Rocky, 2.8:1scope
“ with shorelines*	Good	6:1 scope
7.Ideal	Did not set - 2 tries	Rocky, steep slope (2.5:1 scope)
“ at flatter/shallower location	Set 2nd try but dragged in 35kts	Flat rocky bottom, 5:1 scope
8.Point Lay with shorelines	Good	Mud & gavel, 7:1scope
9.Lucas	Good	Fine sand, 4:1scope
10.Apala	Good	Silt & Sand, no wind
11.Rachel	Dragged 50’ before dodgy set	Sand on rock 4:1 scope
12.Amalia	Dragged 30’ before good hard set	Mud on rock 5:1 scope
“ return from glacier trip	Good	Spot with deeper mud
13.Bueno with shorelines	Good	Mud, 5:1 Scope
14. Mayne	Good	Mud & Kelp, 3:1 scope
15.Bernard with shorelines	Good	Mud & Kelp, 7:1 scope
16.Mist with shorelines	Dragged 15’, 25kt gusts on the beam	Rock & gravel, 5:1
17.Mallet	Good	Mud & Kelp, 4:1 scope

18.Darde	Good	Mud & Kelp, 3:1 scope
19.Teokita with shorelines	Good	Mud, 10:1 Scope
20.Parda	Good	Mud, 4:1 scope
21.Mussel	Never set – 2 tries	Rock, gravel, kelp, 3:1 scope
“ alternate cove	Good	Mud, 4:1 scope
22.Hidden with shorelines	Good	Mud, 7:1 scope
23. Brecknock with shorelines	Good, 65kt gusts	Mud & Kelp, 10:1 scope
24. Frog	Good	Mud, 4:1 Scope
25.Julia with bow & stern lines	Good	Mud, 10:1 Scope
26.Olla with sternlines	Good with 35kts gusts on the beam	Mud, 10:1 Scope

\* Note: Anchoring “with Shorelines” is a technique commonly used in Chile. It’s very like ‘med mooring’ to two trees. You back (upwind) into a small cove, dropping your bow anchor along the way and then take two stern lines to trees at the back of the cove. This technique puts most of the wind load on the shore lines and (done properly) places lower demand on anchor performance as the only work the anchor does is to make sure the boat does not drift back into the cove. The technique works well if the cove is tight enough or the winds predicable enough that you can ensure you will not end up with winds on the beam. However, if winds on the beam do develop it can be a nightmare as there will be extremely high loads on the anchor and shore lines.

The problem anchorages all had rocky bottoms (gravel to football size rocks) with a hard rock under-strata. In all the troublesome anchorages, we could hear the chain rumble over the rocks as we straightened the chain out. We painted the anchor blade, international orange to increase boat visibility, but it also tells a clear story about the anchor behavior. The first 8” of the tip has been scoured to shiny metal while behind that the paint is barely scratched. That suggests that in these problem bottoms the tip is skating along the rock under-strata (thru the surface gravel and rocks) and not engaging the full blade surface area. Note: in good mud bottoms the entire blade comes up covered in mud and is obviously fully buried. We have noticed a similar tip wear pattern on a friend’s ROCNA.



An obvious question is whether this problem with rocky bottoms is particular to this anchor or common to the ‘roll bar/next generation’ designs. This question is why I have marked this report still preliminary. Our feeling right now is that the problem is probably common to the general design but we have mixed data points. A boat we buddy cruised with in Baja had a similar experience with their ROCNA in coral/rocky bottoms. I dove to look at their anchor a couple times and each time the tip had dug a trench through the thin sand/coral rubble while skating over the harder/smooth coral/rock substrata. However, in the one anchorage in Chile where our new anchor dragged, there was a 47’ trawler with a 50kg WASI (Bugel) which did not drag. They however, were in a shallower and muddier part of the harbor which may account for the better holding. We will have a better feeling for this issue when we get some experience with the

'genuine' ROCNA we have ordered (not yet delivered) and I have also been trying to buy a 'genuine Supreme' from the Manson folks, who hopefully will figure out how to deliver an anchor to Puerto Williams, Chile.

In sand and mud these anchors work to the same principle (eg the tip digs in, the blade buries, and the surface area holds) as the Bruce, but bury and hold much better. In rock & coral bottoms they appear to work fundamentally differently. The 'next gen' anchors have sharp/thin points (one of the reasons they dig in so well in sand/mud) that skates thru rocks & coral. They do not have enough tip surface area to scoop/pile up gravel and coral in front of the blade and the tip has to hit a crack exactly right to jam in. The Bruce has a much wider blade engagement with the bottom and both scoops/piles up loose rock/coral in front of the anchor, which will hold it down, and has a much easier time engaging with and jamming into the larger rocks with it's three point grapnel edge shape.

In mud & sand bottoms this "Next Gen" anchor sets easily with just a little reverse tug, buries the full blade about 6" deep, and holds extremely well. The anchor does need to be actively set with reverse tug. If unset, it will just sit on the bottom surface and does not 'soak' into the bottom and 'self-set' like the Bruce.