



## Banning Rock and Roll at Anchor

It's the perfect end to a perfect day. Your boat is anchored in a quiet anchorage. The gentle motion of a slight incoming swell provides a soothing, rhythmic motion. The sunset was spectacular. As you and your party settle down to dinner and drinks, the tranquillity of the evening is broken as the boat suddenly rolls violently due to wash from some boats that are passing too fast and too close. Unsecured items roll about, food and drink is spilled.

Tempers flare, insults are hurled and fists are waved at the perpetrators, who have already past beyond the range of retribution. The spirit of the moment is irretrievably lost.

Most boats are reasonably stable and safe when underway. The inherent stability of the craft, provided by design and the inertia of forward motion, is augmented by good seamanship and sometimes by technology, such as hydraulic or passive stabilizers. However once stopped, most boats become annoyingly unstable platforms, especially when affected by the short-period, square-faced waves produced by motorboats passing abeam. Ocean-going motorboats and trawlers, with their full or semi-displacement hulls, are particularly susceptible. The same design elements that provide a gentle rolling motion while underway and that permit stabilizers to work effectively produce considerable, "rock and roll" when at anchor.

AKAMA, our Kadey-Krogen Whaleback is no different from the rest. She has a relatively long-period and gentle roll while we are at sea, which is moderated by our hydraulic stabilizers. While at anchor, she moves gently when confronted by most long-period waves, such as ocean swells and waves from passing freighters. However, when set into motion by passing sport fishermen and semi-displacement motor yachts passing abeam, she will sometimes roll violently. The hydraulic stabilizers, of course, are useless in this instance.

### Finding a Solution

After suffering for years, we finally had enough and resolved to do something about it, but what? We did not know what we wanted, but we did know that whatever it was, we wanted something that would stow within the bounds of the existing structure of railings and strakes, deploy easily and safely, work effectively and retrieve without damaging the boat.

Walking the docks of our marina and talking to the other boat owners turned up nothing much, other than sympathy and lots of tales of how their boats were similarly affected. A few boats had bilge keels, a possible solution. They could be engineered around the fin stabilizers, ala the Cape Horn motor yachts, but at a huge cost. Also, they permanently add to the wetted surface of the hull, adding to the drag. In some implementations they reportedly come out of the water on a roll and slap on the way back in, producing not just noise, but a jerky motion. This was not for us.

One of the Grand Banks boat owners we talked to was quite enthusiastic about using a steadying sail. However, by most reports the typical trawler yacht already has considerable top hamper, insufficient

ballast, and too small a mast and boom to permit adding much sail area aloft. The thoughts of a sail snapping and a halyard slapping in the wind did not appeal to us, and the cost of adding sail and rigging was significant. Pardon the pun, but no sale.

### Exploring Roll Stoppers

A sailboat owner at our marina had custom-built, metal-drum roll stoppers that he deployed off the end of the boom, which is hung out over the side of the boat. These are about the diameter of a 45-gallon drum and about 18-inches high. The bottom is a heavy mesh, over which there are flap valves. As the “fish” sink on a roll, the flaps open allowing easy descent; when the boat rolls back, they are pulled upwards and the flaps snap shut, resisting upward travel. Something similar is described in some detail in Robert Bebe’s book “Voyaging Under Power”, complete with photo. The problem with these devices, we were told, is that they are heavy, do not stow well and they can be noisy. Close, but not quite what we were looking for.

Looking through the chandleries and mail-order magazines, we found two products that purportedly would ameliorate the problem, Davis Rocker Stoppers, sometimes called Mexican hats, and Magma Rock N’ Roll Stabilizers. The Davis units store easily and are simply one-piece, durable plastic cones. The Magma Roll Stopper is a hinged stainless plate and a telescopic boom. Unfortunately, we could find nobody in our area that had any experience using either. Fortunately, emails to Internet groups such as the Krogen Owners’ List and the Trawler World List turned up some opinion and even a little experience. The general opinion is that these devices are generally best for boats smaller than about 35-feet. However, we felt that by using a sizable outrigger pole the stabilizing effect could be multiplied through leverage, making them suitable for bigger craft.

### The Custom Rig

Most people with whom we communicated preferred the Magma units; so we decided to develop our own roll stopper solution, using the Magma stabilizers, but not their outriggers. Because our installation would use their product, but in a way not intended by the manufacturer, we emailed Magma, asking for details about how to proceed; they did not answer. Nevertheless, we ordered two Magma model R10-702 stabilizers from the local West Marine associate, at a cost of about \$150 each.

The Magma stabilizer model we bought is polished stainless plate, 36-inches long and 21-inches wide, with two hinges on the centre of the long dimension. A 4-point bridle suspends the unit from a single point of balance. Water pressure forces the plate to fold on descent and to open on ascent. They weigh only about 18-pounds and fold to half-size for storage in supplied bags.

Our outriggers, one port and one starboard, were custom-manufactured to our specifications by a local stainless fabricator. They are telescopic—8-feet long in the closed position and 14-feet in the extended position. At the outboard end of the outrigger there are four eyes to which the control lines are attached:

Topping lift (to the mast)

Forward guy (to a forward cleat)

After guy (to a quarter cleat)

Depth line (to the stabilizer)

Installation and Deployment

The depth line was cut short enough that it is impossible for the stabilizer to swing inboard and hit the side of the boat, either in use or during retrieval. This puts the stabilizer about 18-inches below the keel, which is about 7-1/2 feet below the surface. We have found that this is ample and the stabilizer has never pulled out of the water.

Retrieval is fast; we can bring both stabilizers aboard in less than a minute. We have no fear that they would be in the way should we need to suddenly bug out of a lee shore situation. With adrenaline pumping through our systems we could probably retrieve in less than 30-seconds.

### The Result

The resultant system works better than we could have imagined. AKAMA is now the talk of the dock. With two outriggers deployed she barely rolls on incoming wakes, having been transformed from one of the rolliest boats in the marina to one of the most stable. Our testing reveals that a single stabilizer removes almost three quarters of the roll. The second stabilizer takes out about half the remaining roll, making us about eighty percent more stable.

Why do they work so well on wakes but not as well on swell? Our theory is that these devices are similar to shock absorbers on a car or truck. They damp the initial bump but do not eliminate it and they rapidly damp any further oscillations.

### Tips for Replicating the Setup

The difference between having one outrigger and two is not great; start with one.

Don't forget to drill drain holes at the base of the outer tube.

Be sure to mount the outrigger base in a solid area on the hull.

Reinforce the Magma roll stoppers at the point where the bridle is connected to the stainless ring using heavy duty cable ties.

### Sources

- Magma
- Davis
- Comfort Afloat "Roll Control" 619-477-7338