

A Matter of Survival



PARA-ANCHORS
AUSTRALIA

www.paraanchors.com.au

*Prisana 11 Indian Ocean
18th July 1996.*



*Airborne delivery system (unpacked).
Insert. Airborne delivery system in pack.*



Read this as if your life depended on it!!!

Mother Nature is unforgiving. For ultimate survival at sea Para-Anchors Australia manufactures a range of sea surface anchors to suit all ocean going vessels.

- Proven Heavy Weather Defence
- Knockdown Protection for Conventional Sailboats
- Capsize Protection for Multihulls and Powerboats
- Damage Control for Disabled Powercraft
- Aid to Search and Rescue
- Many Sizes to Fit all Sea Going Vessels
- High Tensile Strength - All Nylon Fabric
- Easy to Stow, Easy to Deploy, Easy to Retrieve

A parachute sea anchor is the **ONLY** only device available that is capable of holding your bow to the wind, allowing you the safest and most comfortable position to ride out any storm.

A matter of survival !

Survival grasps the seagoers' attention probably more than any other subject to do with marine matters. We all want to live. We're not prepared to give up the uplifting joy and adventure we undertake, but we definitely want to live through it and live through it comfortably, if possible. Most mariners will have life jackets, life rafts, flares, and EPIRBS aboard, - all devices to be used for survival after disaster strikes. Yet not many stow one of the best devices for preventing disaster: - a Parachute Sea Anchor. With most boats having a higher freeboard at the bow and the wind having more effect than current on drift, it is normal for a boat's bow to be blown off the wind, thus presenting the side of the boat to the tempest. Parachute sea anchors are the best-known way of preventing this by offering a high bow to the oncoming waves and wind. Its performance has no equal.

Spend overnight below in mid-ocean

The use of a parachute sea anchor can save lives not just under catastrophic conditions, but in more subtle ways too. For example, how many lives and vessels have been lost due to fatigue alone? For that matter, how many folk have returned to being landlubbers or day sailors because of discomfort of life in the open ocean? Those who have not experienced the performance and dramatic reduction of danger and discomfort through the use of a parachute sea anchor just don't know what they are missing.

Adventurer Hans Tholstrup illustrates the point. On his 6000 km trip from Darwin Australia to Okinawa Japan through pirated seas (in a 5.4m half-cabin open boat, powered by a single 90hp outboard), Hans Tholstrup noted, "conditions were so rough that I decided to sea anchor; not only to preserve fuel but to have a break. I set the Para Anchor, the worlds best product for boats, made right here in Australia. It was not a life-threatening situation, but it meant that I stayed in control." (Modern Boating magazine)

Robin Knox-Johnston, the first man to circumnavigate the world without stopping, wrote in *Cruising World* magazine, "The first point to remember is to never lie across the waves, as a boat's broadside offers the wave the maximum resistance. Apart from the crew's discomfort caused by a heavy rolling boat, a large or vertical wave will sooner or later smash into the side and either roll the boat or cause considerable damage. Laying a boat's beam to a big sea is always a risky business. Heaving to is a suitable tactic for moderate seas, but facing the seas with a proper parachute sea anchor is by far the safest. Boats are designed to take waves on the bow, not from abeam. So give your boat its best chance and give yourself the best in comfort and safety".

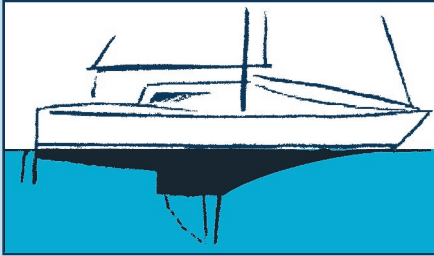
Drift is another major consideration. If you are navigating a course and wish to rest, it's best to stay on course. If you are in distress and waiting help, its best to stay in the position you first reported; so staying put is best. Robin Knox Johnston reports "When a boat is hove to she will always drift downwind, though she may crab a bit sideways as well. The speed of the drift depends on the proportion of a boat's wetted surface, as opposed to the topside proportion that is exposed to the wind. Some boats will drift quickly. I have experienced 72 miles of drift in 24 hours when hove to. If a boat does not drift searchers can pinpoint its position. If it drifts 72 miles, that means it is then somewhere in 5184 square miles of ocean, a needle in a haystack! Parachute sea anchors really do make sense. Rather than drift with the wind, you drift with the current (even upwind subject to current direction) and only at a snails pace around half a knot wind-affected drift".

Stand-off safety overnight

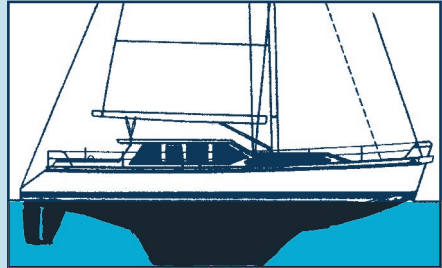
What if you arrive at your destination harbour mouth or reef entrance just after dark? Most stories you've read relay how the crew had to stay up all night, reaching back and forth, standing off until daybreak, rather than risking a dangerous harbour entry in the dark, and this is at the end of a voyage when crew are the most tired. With a parachute sea anchor, the option is to stand off a safe distance and go below for a well deserved rest (maintaining an anchor watch roster is a must). Suddenly, ocean voyaging becomes safer and bearable.

Drift Rates

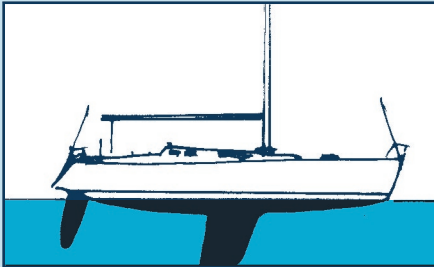
Classification of wetted surface area



1. Centreboard and Multihull
(high drift rate/low drag).



3. Brewer Bight (modified fin keel with skeg mounted rudder). moderates drag.



2. Fin Keel fast drift rate light displacement.



4. Full Keel low drift rate, high drag.

Drift rates

Keelboats with a higher wetted surface area will require a larger parachute sea anchor than a multi-hull yacht of the same overall length. However, keelboats of heavy displacement would require an even larger unit than the first yacht. By this we mean that the parachute sea anchor must have greater resistance in the water than the yacht, the boat must answer to the parachute sea anchor not the reverse. If the reverse is to occur the boat is dragging the parachute sea anchor. When you drag a plow or sand anchor the first reaction is the yacht will lay beam on (not the best position).

All boats being equal in size, the yacht shown as No 1 would require a smaller parachute sea anchor than No 2, and boat No 3 requires a bigger parachute sea anchor and so on to No 4. For example, an 11m moderate displacement keelboat would most likely require a Tasman 15, while an 11m multi-hull would require Force 10 Para Anchor.

The real worth

In general, regardless of the conditions, parachute sea anchors keep the bow to wind, eliminating broaching, capsizing, reducing rolling and generally improving the well being of all on board. In a survival situation it is a certainty that the following conditions will exist: seasickness, cold, hunger, fatigue, tiredness and fear (tiredness and fatigue are two different beasts).

With a parachute sea anchor correctly deployed the yacht will settle and become quiet and stable. We can now rest, eat, sleep and make sound decisions and not be driven by fear. How many people have abandoned a boat, maybe perished in the process, and the boat is still afloat days or months later?

It can be confidently stated that of the 24 boats that sank in the ill-fated 1979 Fastnet Race tragedy (in which 6 sailors perished) and the 48 boats that were rescued by helicopters and trawlers in the 1998 Sydney Hobart Race, many boats would not have sunk nor as many rescues been necessary, had the boats carried and used parachute sea anchors.

The New Zealand Bomb - June 1994

In the 1994 annual casual cruise/race from Auckland to Noumea, the fleet sailed into an out-of-season cyclone. Of the 34 participants, ten boats were abandoned. Twenty-one sailors, some injured, were plucked from the sea by the RNZ Navy and other ships in the area. Three lives were lost. Of the 10 boats abandoned, 2 were sunk the others were found floating or on reefs up to six months later. One was found 600 nautical miles north of Noumea and then lost.

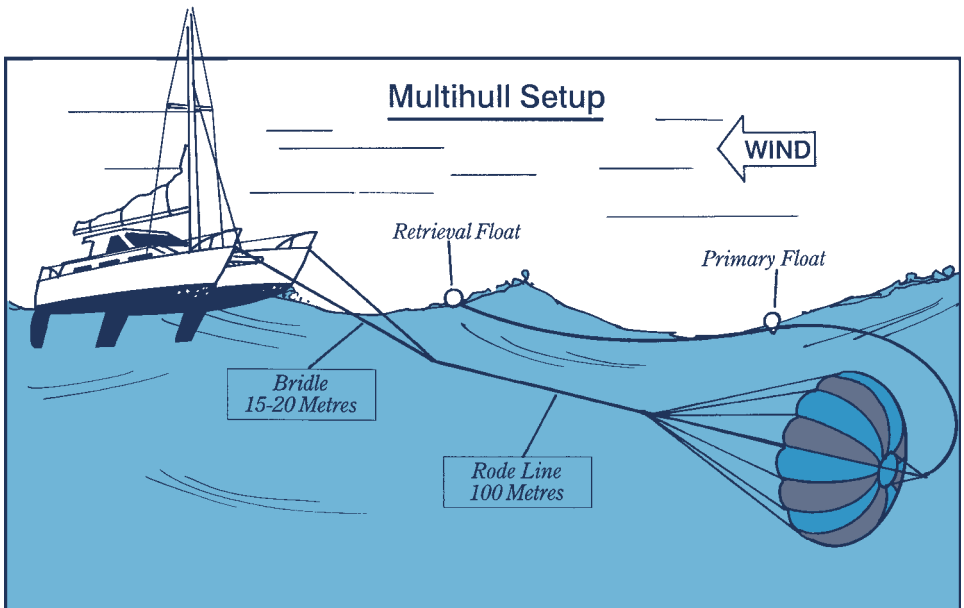
It can be stated without prejudice that when preservation of life comes before winning a race, cruising sailors demonstrate more caution by carrying and using parachute sea anchors.

Cape Horn caper

John & Joan Casanova are known by many as the 'Hiscocks of multi-hulls'. Over 20 years, they've sailed over 200,000 nautical miles trying every heavy weather technique known to seamen. They kept coming back to the parachute sea anchor. Their Horstman designed Tortuga 11 consistently survived ultimate storms including a Cape Horn gust of 100 mph, using the parachute sea anchor.

History of the parachute sea anchor

Military airborne parachutes were used as parachute sea anchors on the Sunderland and Catalina flying boats during World War 2 as a sea anchor on flying boats that had to ditch in the ocean. Naval vessels of Pacific Island nations have used parachute sea anchors to maintain position in the ocean during prolonged periods of radar watch. The use of parachute sea anchors for sailing boats was not taken up until the 1960s when American sailors Joan and John Casanova developed the idea of using a parachute aboard their 39 ft trimaran Tortuga Too. Para-Anchors Australia identified the potential in 1985 and has since developed its full range of parachutes. Through consistent research and development and relentless improvement of product design and manufacturing detail, Para-Anchors Australia has become the World leader in parachute sea anchors.



Straight from the sea-horse's mouth

First hand accounts by some Para-Anchors Australia clients with the authority of experience in storm conditions:

While others sank....

Don and Marilyn Logan were sailing their 40ft centre cockpit cutter Salena back to the Bay of Islands on the North Island of New Zealand from Fiji. When asked about the wave height in the storm (with the barometer showing 992 and winds 50+ knots), Don answered, "we were not able to estimate the wave measurements as we were comfortably resting below most of the time. It was our first time using the Para-Anchor and it took only 10 minutes to deploy in 50 knots of wind. Later in 35 knots, we retrieved and repacked in 10 minutes. There were only two of us. We needed some rest and got it. There were two other boats within about 50 miles of us in the same storm - both eventually sank. One after being rolled three or four times and the crew of three were saved by helicopter, the other damaged by a ship attempting to rescue crew, one of whom was saved and the other being lost. We had absolutely no damage to the boat and were able to search (without success) for the missing person on the way into port. We won't be going offshore without the appropriate parachute sea anchor as it is a very important part of our safety equipment".

Cairns, Australia, to Lautoka, Fiji

Dr Gavin LeSeur was the doctor at Mallacoota in south east Victoria during the time that helicopters were lifting survivors from the 1998 Sydney to Hobart Race. He said, "As I tended the cold and distressed crewmen, I was able to sympathize with them. My wife Catherine and I had been plucked from a life raft in the Tasman Sea ten years earlier. I didn't let on that I had been in their situation as I felt that Catherine and I had been much better prepared for the ultimate disaster. You cannot be too well prepared!"

In mid-June 1999 aboard Magic Happens, Dr Gavin LeSeur and two crew left the Gold Coast Queensland, bound for Fiji. The 12 metre, 7 tonne Hitchhiker Mk 11 Catamaran carried more than the 'recommended safety gear'.

"As we headed towards Fiji" Gavin LeSeur relates, "the wind was gusting 45 knots and the seas were breaking. The depression was stationary and deepening, the crew seasick. I decided to launch the Tasman 15 parachute sea anchor. I had already rigged the sea anchor with rode of 200m nylon braid. The retrieval float was secured to 15m of light braid and attached to the apex of the parachute. On each bow Magic Happens has a bridle that I use for anchoring. This was tied to a rolling hitch and the rode end secured to a bollard.

"The parachute sea anchor in its launch bag was thrown off the port bow and within a few minutes we had pulled around into wind and waves, secure for the night. During the night the wind generators screamed and roared as they stalled, spun and deformed. Wind speed hit 60 knots. The port wind

generator cracked at its base. During the night the catamaran slewed sideways. The bridle had broken. A new one had to be attached". This was finally attached and Gavin continued "When I crawled back into the cabin I stripped off and crawled into the bunk. Wet, cold, exhausted and shaking I needed time out to tune out. Mike and Nigel kept watch, putting out the all ships alert that I wanted repeated every half-hour on the VHF radio. This was a warning that we had no ability to manoeuvre, and were secured to a parachute sea anchor. To our surprise a ship responded requesting our position so as to be able to avoid us. The weather continued to deteriorate. The waves, peaking at 7 or 8 metres, regularly broke over the bridge deck.

"Unbeknown to us at the time a 9m monohull, Puffin, was battling the same gale and eventually succumbed, requiring rescue by the French Helicopter Service out of Noumea. Tracking our movement on the GPS, we were approaching the point where we had been three days earlier, having drifted in a complete circle. Under the parachute we had moved at less than half a knot in the direction of the current".

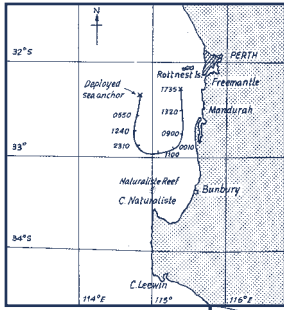
It must be stated here that it is better to move with a current than with the wind. Winds can, and do, blow ashore. Currents keep moving and invariably pass along the coast.

Gavin LeSeur concludes "Forty-six hours after launching the parachute sea anchor, I sent Mick and Nigel to the foredeck trampoline to start hauling in the rode line while I motored full throttle into the thirty knot wind. Within no time, Nigel had the parachute shroud lines in and broke the shape allowing it to be hauled aboard. The parachute sea anchor did the job, was deployed in time and we rode through a severe gale with minimal damage. The VHF warning to all ships may have prevented us from being run down. We made it to Fiji and my family was happy to have the job of sailing home downwind."

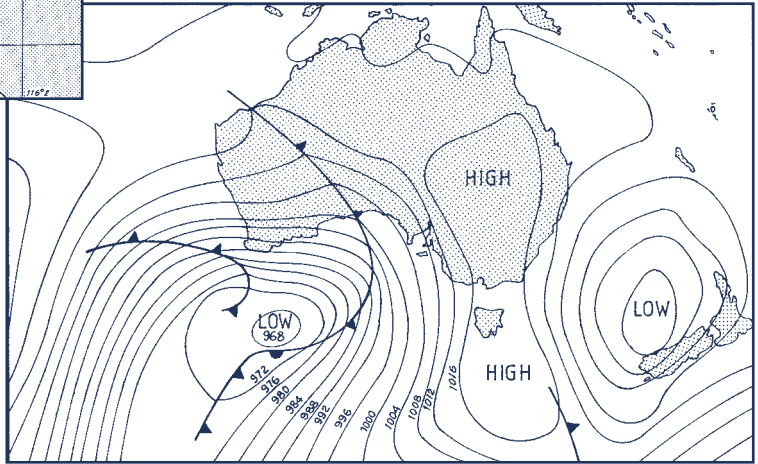
Caught in a tornado

Deborah Schutz was sailing in the Indian Ocean. They had sailed from Adelaide and were abeam Cape Naturaliste on the south west coast of Western Australia. "Sunday 15th July 1996. By nightfall we had a 40-knot NNE. There were no safe anchorages along here in these conditions. Throughout the night, Mother Nature unleashed a storm of unrelenting fury. The NNE blew to 50 knots with large seas, our only choice to head out to sea".

"*Monday:* Perth radio gave a gale force warning. The barometer read 996 and was falling rapidly. As night progressed, squalls reached 60 knots. The ferocity of the storm was intensifying. The needle of our wind indicator went beyond the last notch of 65 knots and the seas were dramatically rising. At about 0500 a huge wall of white water knocked us, the helmsman was standing in chest deep water and our mast touched the ocean surface. We deployed the parachute sea anchor, and then all crew went below and battened the hatches. We were 30 nautical miles off Rottneest Island.



(Inset) Track of Prisana II during storm, July 1996
 (Below) Weather pattern experienced by Prisana II
 -Courtesy Adlard Cole's Heavy Weather Sailing



Tuesday: During the morning I ventured above to the cockpit and was immediately awestruck. The seas were reported to be 11m on top of a 9m swell, the faces of the waves being around 60 feet! We had plenty of sea room and we drifted in a southerly direction on a west wind at 1 knot. The parachute sea anchor held us steady, as the cyclonic wind whirled overhead at 70 knots. For 24 hours we drifted in this direction.

Wednesday: The weather remained unchanged. All day long the winds continued to blow over 70 knots and we were down almost as far as Bunbury. A cargo ship had just lost 30 containers off Cape Leeuwin.

Thursday: Conditions were moderating; winds now down to 50 knots and the barometer slowly began to rise. Seas still large but easing. Late in the afternoon we retrieved the parachute sea anchor. Our 130m rope had stretched an extra 20m. The wind now 30-40 knots felt like a mere breeze as we set course for Rottnest Island.

Friday: Around 1030 we motored into Fremantle Sailing Club, grateful that we had decided to purchase a parachute sea anchor. With it we were able to ride out and survive the conditions, our bow held to the seas. The weather bureau in Perth described the freak weather as a rare winter tornado. It struck the coast at 200km per hour winds."

25-35ft waves, 65 knot winds

John Cadwallader sails Avatar, a 60ft sailing trimaran with 53ft beam out of Port Vila, Vanuatu. She's 18 tons with a draft of 4ft 6in. En-route from Auckland to Brisbane they encountered tropical storm Yianni. A cap shroud rigging screw gave way and they lost their rig. The barometer was reading 994 and 55-60 knot winds hampered their efforts. The 25-35ft seas were 120-150ft long and very uneven. They deployed their 28ft parachute sea anchor (Indian 28) on 150ft rode. In 14 hours they drifted only 3-5 nautical miles.

Pacific drama

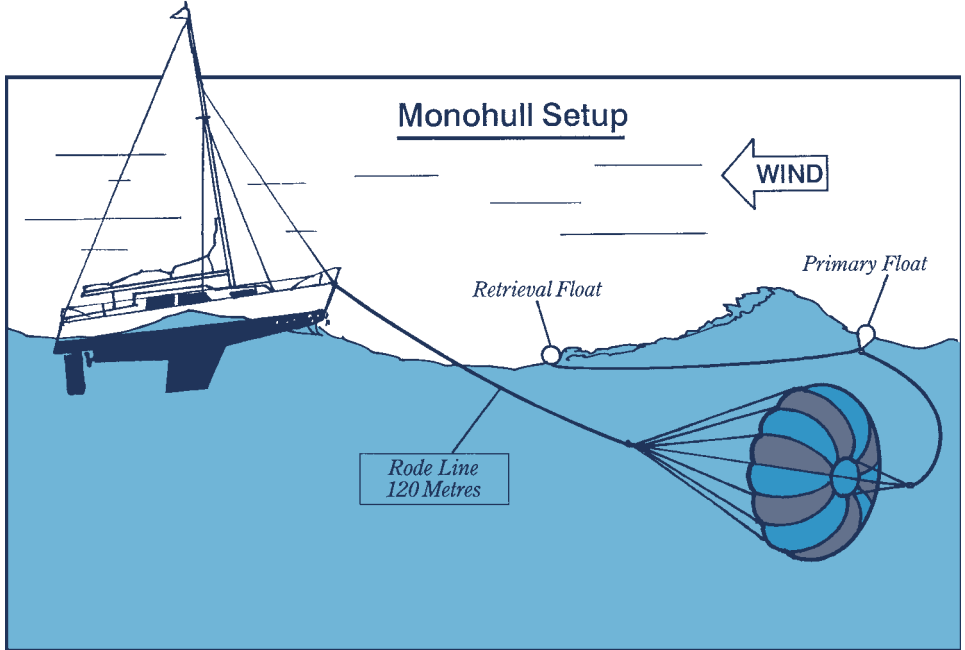
James Bradley sails a 37ft Searer, Hokulele, out of Kailua, Kona, Hawaii. He was on a passage from New Zealand to Rarotonga and deployed his Force 10 Para-Anchor in a gale. The winds ranged from 30-50 knots and the waves built up over 4 days to 20ft in height. The vessel yawed only 5 degrees from side to side and drifted 10 miles into the wind.

James wrote to Para-Anchors Australia "Dear Alby, Thankyou for your very efficient and prompt help in getting our parachute sea anchor to us before we left New Zealand. We were becoming fatigued after 3-4 days of big seas so we decided to deploy our parachute sea anchor just to take a break and it worked very well. We were able to go below and relax, prepare some good meals and get some good sleep. We stayed on anchor for two days until conditions calmed to 20-25 knots then we retrieved the parachute sea anchor easily by motoring up on it and pulling it in. We did not use the trip line or float. It worked great and I won't go offshore without my parachute sea anchor."

"A small yacht, a big ocean and a wild storm"

The late Jack Earl is famous in Australian yachting. His suggestion in the bar of Sydney's Cruising Yacht Club of Australia to "have a little race down to Hobart", was the origin of the now world-renowned summit of ocean racing, the annual Sydney to Hobart Yacht Race. In the Kathleen Gillet now on display at the National Maritime Museum in Sydney, Jack was the first Australian to skipper a cruising yacht around the world. He was a renowned and highly skilled marine artist. A dream of Jack and his wife Kathleen was to sail his later yacht Smoky Cape, a 7.3m yawl, from Tahiti to Australia, but they never achieved their dream.

Steve and Michaela Moss of Queensland Australia bought Smoky Cape and enacted Jack and Kathleen's dream. It was a 4500 nautical mile voyage and they write "We added a vital piece of equipment, the parachute sea anchor by Para-Anchors Australia".



During the trip an unpredicted gale developed. Michaela wrote “We battled the building seas and increasing winds. The swell reached a height of 10 metres with a vicious cross swell racing through the troughs. Howling wind blew the tops of the waves through the spreaders of our little yacht. It was frightening, tiring, wet, uncomfortable and difficult to keep the boat safe. We tried many different storm tactics including running before it with warps, but the cross swell would push us around to a dangerous angle.

“Four days later with fatigue setting in and conditions deteriorating, we decided to deploy the parachute sea anchor. Steve took the Coastal 9 Para-Anchor with line attached, up to the bow, leaving the remaining 100 metre coil of line in the cockpit with me. We had read and re-read the instruction booklet before going to sea and it deployed efficiently. We positioned pieces of hose on the secured line to minimise chafe, checked for wear frequently and stayed on the parachute sea anchor while the gale howled around us, waves broke over us. We drifted about 1 nautical mile per hour. We were able to cook and eat a large, hot meal and catch up on much needed sleep. After 6 days the gale warning was cancelled. The parachute sea anchor was easily retrieved, an exercise similar to pulling in Smoky Cape’s MR anchor.

“It is our belief that the Para-Anchor parachute sea anchor should be carried aboard every boat that is going offshore. The strongly built chute is lightweight and easy to store, its convenient deploying bag assisting in its use. It enables any small vessel to sit safely while a bad weather system passes. The comfort provided and the deserved confidence in the Para-Anchor parachute sea anchor also reduces the likelihood of injury to the crew and damage to the vessel.

“In other circumstances, the ability to safely stop and hold a vessel in position, while miles offshore, has many benefits especially for short handed sailors in need of a rest or waiting a rendezvous with another

vessel. Our gale lasted 4 to 5 days with estimated 50+ knot winds. To our knowledge we were the only vessel in this particular gale not to sustain any gear damage or crew injury. We believe that the Para-Anchor parachute sea anchor was our saving grace. And only in a 24 footer.”

“First Light,” 10 May 2001, Tasman Sea

Dennis and Sally Gillett.

Dennis writes “Its a rip about a metre in length and positioned above the third reef point. ‘Bugger! That’s torn it’, I say, attempting to change the mood we have got ourselves into.

“There is little alternative, we lower the main and lash it for the night. The wind has risen to forty knots and the sea has become worse. The reason for this is not so much the strength of the wind but the strong south running current that opposes it. The waves stand up flashing white images at us and threatening to break over the boat.

“We have aboard a Para-Anchor and had intended to practice deploying it as soon as we left the Gold Coast, but because there was no wind this was not possible. ‘Looks like it may be time to break out that sea anchor’ said Sal. She was right; there was little alternative with our sail wardrobe now consisting of a jib and MPS. Besides, conditions may very well worsen. On the other hand we now had to consider throwing overboard at night, in rough seas, two buoys attached to twenty metres of line each, a parachute, fifteen feet diameter, a hundred metres of warp and a thirty metre bridle. A perfect recipe for a tangle around the props, which would leave us at the mercy of the sea. ‘OK, I’ll get it out if you get the bridle ready’.

“Now the bridle we had attached to the forward crossbeam prior to departing, running it aft to the cockpit as Alby McCracken, the manufacturer of the Para-Anchor, had advised. It was secured outside the lifelines to the base of the stanchions with plastic electrical ties and in theory was basically ready. I attached the two marker buoys to the rear of the chute and then fitted chute to the hundred metres of rode and moused the shackles to the bridle. This system would allow us to launch from the safety of the cockpit rather than from the plunging wet bows. As an extra safety precaution, we doubled up on all the shackles as well. We manoeuvred the boat till it lay sixty degrees to the wind then launched the marker buoys and their respective twenty metre retrieval lines. This is probably the most likely time to get into trouble for as the buoys and lines are light they tend to blow back to the boat to create mischief. We used the motors to manoeuvre the boat and then launched the chute, still in its deployment bag, over the windward quarter. The boat moved back and with a little tension the chute opened and we slowly fed out the rode till it was almost to the bridle line. As it tightened further still, I let go the remaining line over the side, which soon took up tight popping the electrical ties securing it. The bridle took up, the head came to wind and the boat began to ride the sea in an easy gentle manner. It is a relief, and to have it launched without a problem is a bonus.

“The only thing I don't feel completely at ease with is that the entire rig is fastened to the boat by two shackles connected to welded tangs on the cross beam. Admittedly the shackles are fine Ronstan ones and rated at six tons but if either were to fail or the weld tear we would be in difficulty. I went forward to the bows clipping myself on with the safety harness and double lashed both the bridle eyes around the cross beam and cleated off the tails. ‘Now try and escape from that’ I thought, returning to the cockpit.

“The complex low, which is three hundred miles south, is the rascal responsible for these diabolical conditions and how long they will last is a guess. We keep anchor watch all night in two hour shifts.

“Thursday 10th May. A grey dawn with squalls and rain with the wind 30 to 40 knots. ‘I don't think we will be going anywhere today’ Sal says. She is right about that too. All day the seas build until large breaking seas are rolling through. The Para-Anchor holds the bows to them and first light climbs over endless rows marching northwards. We take turns sleeping or laying about and keeping watch. Sometimes the boat drops off the back of a steeper than usual wave, crashing into the trough sending a shudder right through First Light.

“At night it is tempting to just leave the anchor light on, close the hatch and both go to sleep, but we don't for we are fifty miles off the Australian coast and there is shipping”.

Coffs Harbour to New Caledonia

Vlad and Joy 20 miles out of Noumea, in their Cavalier 37 Touch 'n Go.

Vlad writes “Townsville Radio's Saturday night forecast mentioned the formation of a low at about our location and ask for any reports, so I obliged giving our location, wind and sea state confirming the expected 40-45 knots from the east. I had a horrible feeling that we might be sitting in the middle of an out-of-season cyclone, if such things exist. They are the sort of thoughts that come to haunt you and you try to ignore. We did get the Para-Anchor for just such a possibility but never really thought that we would need to use it. We got the Para-Anchor out and prepared for deployment.

“With the genoa out of the way, we decided to put out the Para-Anchor as more wind was expected from the east and we did not want to be blown back to Australia! We had never deployed the Para-Anchor and we had to do it in the dark, not a good scenario. The end of the 50 metre nylon rope was secured to the bow cleat with about three metres to spare. The rope was brought back to the cockpit where all the rest had been assembled and checked. We knew that with a partial trip line, once the deployment started there would be huge forces involved and no going back short of cutting the thing loose. We deployed from the windward side of the cockpit, first the partial trip line, then the float and the Para-Anchor, which I shook out of its bag as it went over. As we drifted we noticed that the rope was starting to pay out. It went out slowly but in jerks as the boat rolled. All was going well until near the end of the rope a loop coiled around a main winch and Joy's thumb got caught when she went to free it. She shouted and I pulled on the rope until her hand was free. One problem solved but another created. As I jumped forward I had stepped into a bight in the rope which promptly tried to pull me overboard with it. I was

tethered on so I dangled my leg over the side and it unwound. But the rope was not finished with us yet. When I crossed over to pull on the rope I had crossed my tether over the rope which now tugged on the tether instead of it falling free over the safety lines. I could either go over the side, under the rope and back into the cockpit or undo the tether. I undid the tether and the rope went free.

“All this drama was worth it. As we drifted from the anchor the bow was pulled into the wind and stayed there for the next 12 hours. Under bare poles the boat stayed head to wind give or take 15 degrees and to my surprise the bow rose easily to every wave. I credit the stretch in the 16mm nylon rope for allowing the bow to lift to the seas because the anchor was certainly not going anywhere! In 12 hours we drifted NW 10 miles and our distance to Noumea had increased only 4 miles.

“Chafe of the Para-Anchor rope was a problem. All the time we were at anchor I did two hourly checks of the rope and moved it along so the same spots would not get all the wear. For this purpose I had left three metres before the bitter end. By the time we were finished the one-inch reinforced hosing that the rope ran through was completely destroyed.

“At the height of the gale going to the bow was a pretty miserable crawl on all fours with wind, rain and spray lashing my face. I was lightly dressed for these too frequent excursions, just the weatherproof jacket over my underwear. On the return trip I got hurry up from the wind as spray blasted up my jacket. Whilst forward I also observed how the bow was rising to the seas. There was another 100 metres of 16mm of nylon waiting to be deployed if the bow did not consistently rise to the waves or if the gale lasted longer or got stronger than expected and waves became higher and longer. I deployed only 50 metres of rope initially because the wave height would be about 5.5 to 7 metres at most and crests not too far apart.

“By keeping the scope short I hoped the boat would be kept more firmly in line with the anchor and we would get the benefit of any slick the anchor may have created. The boat did stay lined up remarkably well and no significant breaking waves hit our bow. Whether that was due to the slick from the anchor I don't really know because the strongest winds were during the night when I could not observe the extent of the breaking waves downwind of the anchor and either side of it.

“Next morning we were eager to get going but there was the job of recovering the Para-Anchor. Joy was willing to cut it loose rather than risk snagging the propeller with it, or having it drag me overboard. The Para-Anchor had caused Joy much pain and suffering so I could understand her readiness to be rid of it. I, on the other hand, thought of the cost of the thing and the possible need for it again. The seas were moderate and the wind 20-25 knots so we had a go at recovery which turned out to be easy, even though the partial trip line had tangled around the anchor's float. We motored slowly towards the float whilst taking up the slack rope, the anchor was visible well down below the keel of the boat. I picked up the float just like a mooring and hauled it up. The anchor collapsed and was easily brought on deck.

“One piece of advice I give is to deploy in daylight if at all possible. Our accident may not have happened if we had done so”.

Size is important



As with conventional anchoring the size of anchor is important. Under stress a boat will drag an undersized anchor and lay beam on to the weather. Marginally oversized is fine, as it gives an additional level of security. Substantially oversized and it is a weight penalty and a waste of money. When anchoring to a parachute sea anchor, the same arguments apply. It is therefore important to have a parachute sea anchor large enough to hold bow on in all conditions. As a guide, refer to size chart on following page.

Anchors, drogues, sea anchors - what's the difference?

There is a difference and it is impossible for one to do the other's job. In simple terms a 9ft diameter or larger parachute sea anchor is required to hold a bow head to wind, whereas a 3ft diameter (drogue) simply does not have the power and would allow the yacht to fall backwards or be thrown by a wave. The 3ft Para-Drogue, deployed astern, is designed to slow a boat allowing directional stability downwind. The parachute sea anchor complements the Para-Drogue and vice versa. Traditional sea anchors (Admiralty cone, windsock type) are an item that time has overtaken and today should be renamed to fit into the drogue family. A drogue does not have the power and cannot develop the power to hold the bow of an ocean-going vessel head to wind in any condition.

Ideally a drogue can be used as a means of allowing the safe deployment of a Para-Anchor by substantially slowing a vessel down when it is impossible to heave to or luff up owing to sea state. In this situation the downwind speed of the vessel is substantially reduced and the Para-Anchor can be deployed over the windward side from the cockpit.

Para-Anchor Specifications

Para-Anchors Australia manufactures parachute sea anchors to an exacting standard of quality with every stage of construction checked and acknowledged.

- The Para-Anchor is made from high density nylon, brightly coloured for safety in an air search.
- Each radial seam is over-sewn with polyester webbing to absorb the high loads.
- All localised stress points in the canopy are further reinforced with vinyl and webbing inserts.
- The double braid shroud lines are secured to the Para-Anchor through stainless steel eyelets to the base of the swivel, which is unique in design offering a very compact, strong and effective unit.
- Attached at the apex of the canopy is a small segment of stainless steel chain. This, combined with the retrieval system, allows for a very efficient and safe method of deployment.
- The self-deploying bag is permanently attached to the back of the swivel allowing for easy deployment.

Yachtsman Series

	Multihull,	Mono light/disp,	Mono heavy/disp
Coastal 9	9m	8m	6.5m
Force 10	10.5m	10m	9m
Tasman 15	12m	11m	10m
Bass Strait 18	14m	12m	11m
Pacific 20	15m	13m	12m
Southern Ocean 24	18m	17m	16m
Indian 28	Refer to manufacturer		

Designed and manufactured to resist substantial loads over long and many uses.

Fisherman Series

Fisherman 4	6.5m
Fisherman 7	9m
Fisherman 9	11m
Fisherman 12	12
Fisherman 15	13.5m
Fisherman 18	Refer to Manufacturer.

Designed for light loads long term, high loads short term (survival over 24 hours)

Professional Fisherman Series.

PAF 30	Overnight camping	12m
PAF 35	Overnight camping	16m
PAF 40	Overnight camping	19m
PAF 50	Overnight camping	22m
PAF 50	Total holding (Squid fishing)	13m
PAF 60	Total holding (Squid fishing)	15m
PAF 70	Total holding (Squid fishing)	20m
PAF 80	Total holding (Squid fishing)	26m
PAF 90	Total holding (Squid fishing)	29m
PAF 100	Total holding (Squid fishing)	22m

Designed and manufactured for long term substantial loads.

Note:

- (1) This chart is to be used as an approximate guide only. Vessel details should be confirmed with manufacture before ordering.
- (2) Two boats of same length, one with full keel heavy displacement the other light displacement would behave differently on the same Para-Anchor. Therefore each boat would require a different size Para-Anchor.

Many uses

There are many occasions when boats at sea require repairs to be carried out. Having the bows to the seas, especially if mast climbing is involved, is a major advantage. Even the amount of pitching is reduced, let alone the rolling.

When laying to a Para-Anchor any rescue attempt by helicopter or rescue vessel is much safer because the boat is very predictable in its behaviour and capable of being approached from down wind.

Single-handers find parachute sea anchors are worth their weight in gold. The degree of self-sufficiency is multiplied many times.

The rode

It is extremely important to use nylon for the rode (either 3 strand or braided) with a minimum of around 120 metres. On multi-hulls, bridle and rode lines should total approximately 120 metres (100 m rode and 20 m bridle arms). Typically, nylon has a stretch factor of approximately 30% when wet (50% dry), thus extending your rode to about 150m. Because of the stretchiness, about 25% of the load will be captured by the rode itself. The longer the rode, the less the strain on the boat and the parachute sea anchor.

Rode diameter and length is very important to achieve the maximum comfort and safety from the Para-Anchor system. Too large a diameter and the stretch of the line is reduced. At the same time too small a diameter of line and the elasticity in the line is reduced by the fact that the rode line is stretched to its maximum too much of the time. If the diameter is too small the risk of a rode line breaking is very much a possibility.

It is often said that the rode line length should be x times length of boat or y times height of waves, etc. It is an impossible task to adjust the rode length in the conditions that are applicable at the time of use. Who wants to be on the foredeck adjusting the length of the rode line at 0200 hrs, with minimal crew as backup in 50 knots. An impossible task.

At some time in the past we have all towed a motor vehicle. Had we towed that car with an excessive amount of towline it would have been impossible to control the tension in the line. The towline would have spent most of its time dragging on the road with a risk of the towed car fouling the line.



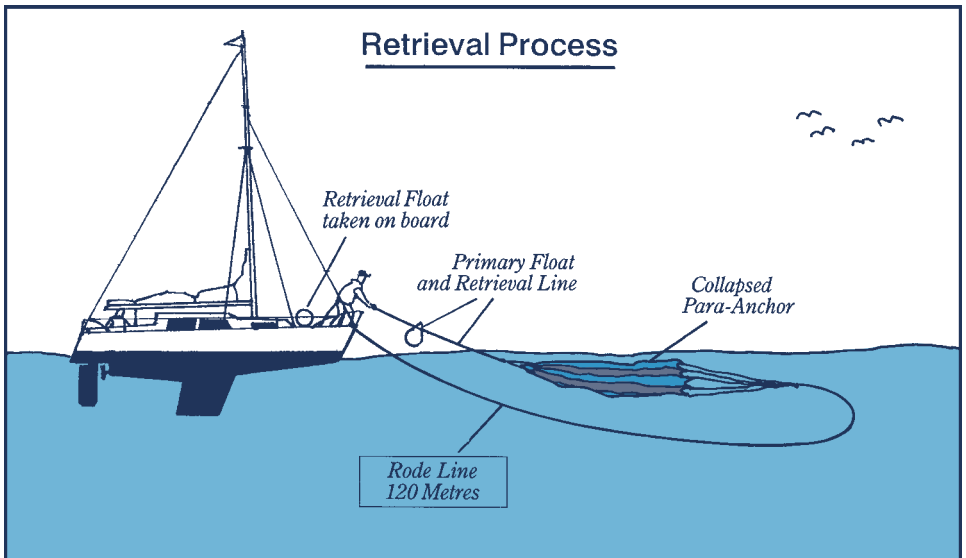
With a rode line that cannot develop the correct level of elasticity (shock absorption) because of incorrect diameter or length, the boat secured to the Para-Anchor will misbehave badly, surging forward, backing down and veering around.

Deployment

There is more than one way to skin a cat. There are more ways than one of deploying a parachute sea anchor, but a simple, safe and effective method is to rig the system prior to departure. Secure the rode line from the bow outside of the lifelines fastened to the toe rails or stanchion bases by plastic cable ties, and lead it to the cockpit where it is made secure to the nearest stanchion base. When the parachute sea anchor is required, shackle all lines to the appropriate parts and deploy the retrieval floats over the windward side followed by the Para-Anchor in its self-deploying bag. Allow Para-Anchor to inflate with the water. Once inflated and all lines have deployed and the boat is stable, check for security and eliminate chafe. Now set up a regular radio and anchor watch and then go below and enjoy the ride.

Retrieval

Retrieval may be achieved by use of an easy to use partial trip line. We suggest the use of a 10mm silver (polyester) floating line about 15m in length, (depending on the size of the Para-Anchor) attached to the stainless steel chain at the apex of the Para-Anchor and, and leading up to a buoy (floating fender). From this buoy, attach a second buoyant line, a 10mm x 25m with a small float (bright colour) attached to the bitter end. The second float will be carried down wind from the primary float. On retrieval the boat moves up to and retrieves this bright coloured float. With load applied to the line the parachute sea anchor collapses and is then pulled in. With the use of this system no tangle or foul-up has been recorded.



Practice and timing

It is highly recommended that practice be undertaken before the voyage commences to familiarise yourself with this procedure. The parachute sea anchor should be deployed prior to conditions becoming unmanageable or disastrous. As in reefing (we should reef 10 minutes before we thought of it) so does this apply to parachute sea anchoring. A wise approach is to deploy in daylight.

The power of the parachute

During one of our sea trials, Para-Anchors Australia chartered a high powered, high speed, 100 passenger, 20-knot tourist catamaran. With Para-Anchors Australia's Force 10 unit deployed astern, the big cat's power was slowly built up to the power setting that should have produced 10 knots of boat speed. Much to the skipper/owners surprise (verbal comments not able to print) the big cat had not registered boat speed on its instruments. We estimate that at this point the boat was doing less than 1 knot and pulling 3 tons of force. It was at this point, and much to our disappointment, that the test line broke. The parachute showed no sign whatsoever of any stress.

Airborne deployment package

Para-Anchors Australia have developed an airborne deployment package specifically designed to hold a vessel in distress, thus requiring minimal assistance or no further assistance after deployment of the parachute anchor. The airborne package consists of 100m of nylon webbing (equivalent to 16mm nylon 3-strand rope). Tightly packed in a series of linked cells, Tasman 15 Parachute Sea Anchor, float and retrieval system. The operation of this unit is simple and straightforward. Once received by the vessel in distress, the nylon rode tail is removed from under the restraining flap and clipped to a strong point on the bow of the boat. The complete package is then thrown into the ocean while at the same time tearing open the yellow velcro retaining strap. The parachute sea anchor will now deploy from the container, pull out 100 metres of line, stabilise and hold the bow of the vessel head to wind.

The Fisherman Series

This parachute sea anchor by Para-Anchors Australia is a unit specifically designed for the amateur fisherman, or charter boat operator. The main objective is to improve fish catch by controlling the behavior of the boat relative to the direction of water movement (current). The fisherman is able to the stay on the fishing ground longer, use very light tackle and less fuel because he does not need to move as often. However, should conditions deteriorate and the boat become disabled, the Fisherman Series is designed with the capacity to save both boat and crew.

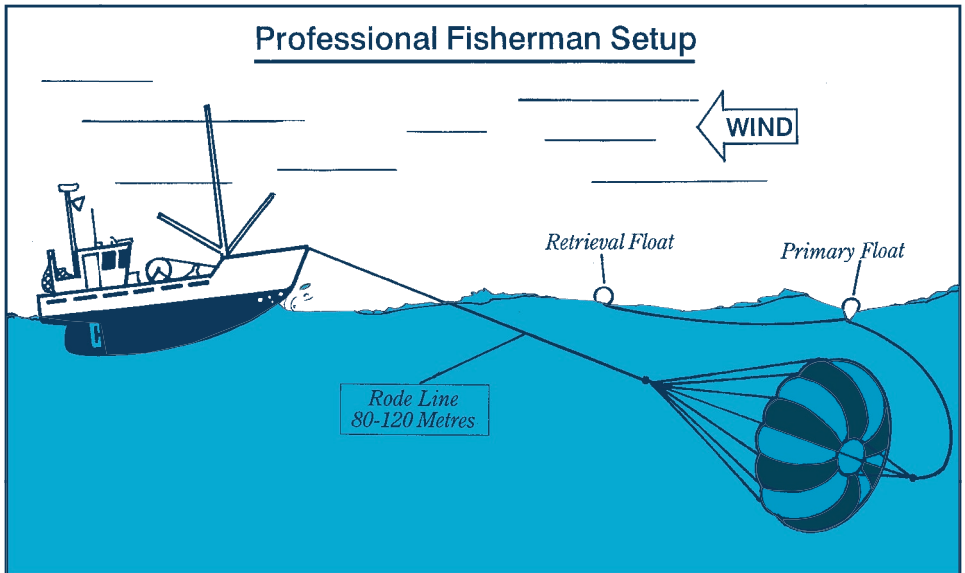
John Stevens OBI Charters says "The Fisherman Para Anchor has transformed my business since the parachute sea anchor has been in use, greatly increasing our fish catches and giving more comfort for our passengers".

Professional Fisherman Series

This unit is designed along the same lines as our Yachtsman series, with the ability to allow a trawler to hold station and fish or rest while waiting to retrieve their catch.

Graham Cull, skipper on a 150 ton squid trawler, comments “While sitting to a 100ft diameter parachute sea anchor in 55 knot sloppy Bass Strait, we were moving upwind with the current and very comfortable”. Graham was not fishing at the time. “We were sick of bashing into it”, on the way to his homeport of Queenscliff Victoria.

Longliners fishing the east coast of Australia regularly use the parachute sea anchor, not as a fishing tool, but as a means of gaining a comfortable night waiting to retrieve their catch come daylight.



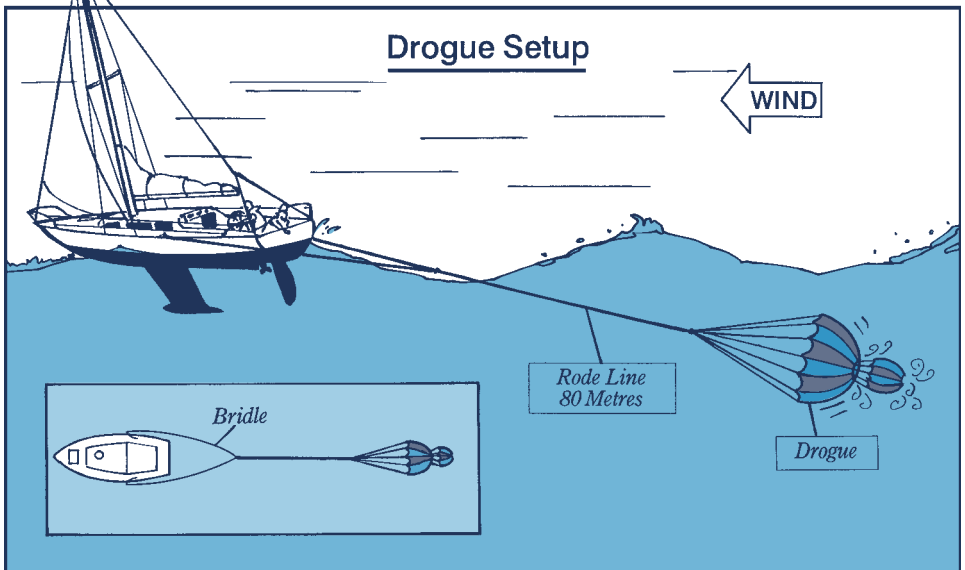
Para-Drogues - Running before it

There are many situations where conditions are poor but not really life-threatening, and you would rather continue sailing and still maintain control. If you're running before big seas, especially breaking seas, broaching can be a danger, notably if you are running dead square to the wind. Whether in the ocean or entering a harbour (perhaps over a bar) even in a narrow channel, broaching can be disastrous. This calls for a drogue.

Para-Anchors Australia's Para-Drogue is based on parachute technology, but in the case of a drogue we use two parachute sea anchors. The two units are cut differently and closely coupled. They are designed to interact with each other, creating a very high drag and consequent pressure wave. The Para-Drogue will not break free of the water and maintains an even and positive drag on the stern of a vessel. The Para-Drogue has a simple adjustable vent that can be pretensioned to vary the load being applied to the boat.

Para-Drogue test results.

BOAT SPEED	DRAG
● 5 knots	265kg
● 7 knots	480kg
● 9 knots	890kg



When stowed, the Para-Drogue can be stored in a shoe box sized locker. It is manufactured from high-density nylon with all seams and panels heavily reinforced.

Emergency steering with a Para Drogue

Para-Anchors Australia's Para-Drogue has been approved by the Australian Yachting Federation as an Emergency Steering Device under regulation 15-12, 1995.

On a multi-hull, a bridle is required to be able to vary the drag position on the after end of the boat. A similar effect can be achieved on a monohull by strapping a spinnaker pole across the transom and rigging a bridle through the end fittings back to the primary winches, allowing easy steerage.

Terry Travers and Robin Chamberlin carried both the parachute sea anchor and Para-Drogue on their challenging voyage to Antarctica. Regarding the use of the Para-Drogue, Terry advises "This arrangement served us well for the three days of the gale allowing us to steer by winching in the arm of the bridle in the direction we wished to turn. After the gale passed we retrieved the Para-Drogue and inspected it, finding it like new."

Towing with the drogue

Under normal circumstances, especially with a sea running, a towed vessel can easily overrun the towing vessel or at least be directionally unstable. When the towed vessel in turn tows a Para-Drogue, towing steerage and manageability becomes a breeze.

How to order

Write, fax or e-mail your vessel's specifications including type (trimaran, catamaran, displacement cruiser, planing hull), class, length, draft, displacement, description of superstructure and most importantly the underwater configuration.

Para-Anchors Australia, PO Box 1377, Sale, Vic. 3850 Australia

Telephone - Local: (03) 5144 1244 International: 61 3 5144 1244

After Hours - Local: (03) 5143 2223 International: 61 3 5143 2223

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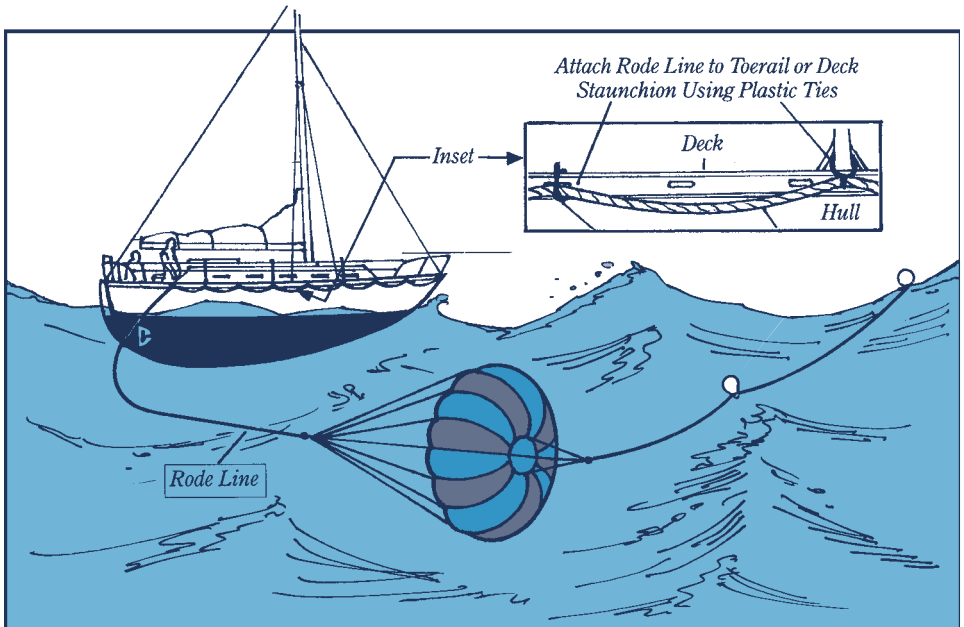
Email: alby@paraanchors.com.au

Warranty

Para-Anchors Australia marine products have a warranty period of 4 years from the date of purchase. Should any product manufactured by Para-Anchors Australia fail due to faulty workmanship or materials, Para-Anchors Australia at its option would repair or replace the product. In the unlikely event that the purchaser encounters such a problem, simply return the product postage paid to Para Anchors Australia, P O Box 1377, Sale 3850, Australia, and we will remedy the problem in a prompt manner.

An Australian Company

Para-Anchors Australia is an Australian owned company with all products proudly developed and manufactured in Australia.



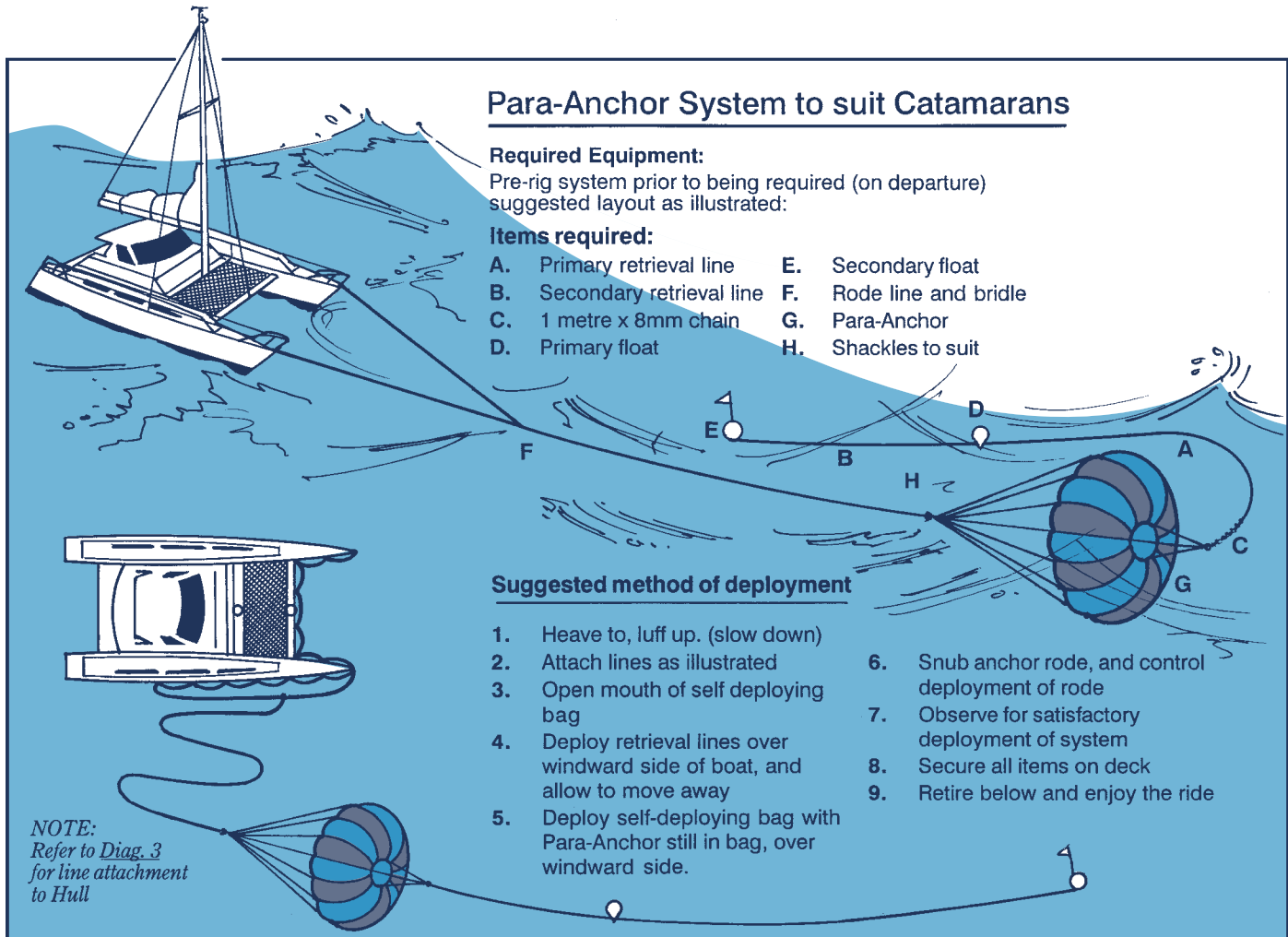
Para-Anchor System to suit Catamarans

Required Equipment:

Pre-rig system prior to being required (on departure)
suggested layout as illustrated:

Items required:

- | | |
|-----------------------------|-------------------------|
| A. Primary retrieval line | E. Secondary float |
| B. Secondary retrieval line | F. Rode line and bridle |
| C. 1 metre x 8mm chain | G. Para-Anchor |
| D. Primary float | H. Shackles to suit |



Suggested method of deployment

1. Heave to, luff up. (slow down)
2. Attach lines as illustrated
3. Open mouth of self deploying bag
4. Deploy retrieval lines over windward side of boat, and allow to move away
5. Deploy self-deploying bag with Para-Anchor still in bag, over windward side.
6. Snub anchor rode, and control deployment of rode
7. Observe for satisfactory deployment of system
8. Secure all items on deck
9. Retire below and enjoy the ride

NOTE:
Refer to *Diag. 3*
for line attachment
to Hull



...Fair wind and following seas



(Inset, top left) Swivel is standard in Para-Anchors Australia's Yachtsman and Fisherman units.

(Inset, Above Right) Stowed size, Left to Right, Tasman 15, Coastal 9, Bass Strait 18.

(Above) Tasman 15 on left and Para-Drogue.

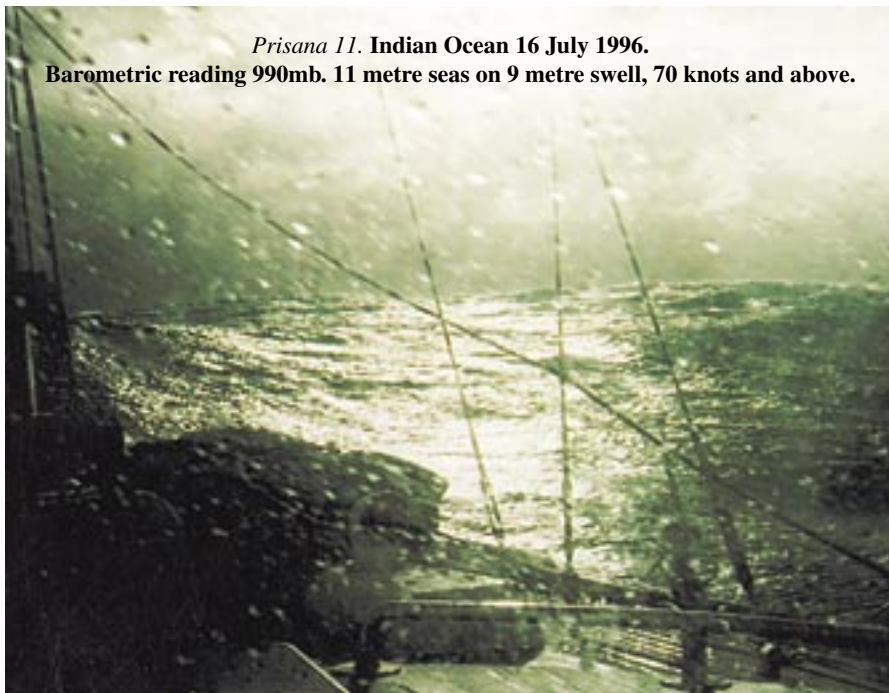
(Left) Final inspection "PAF 100" 100 ft diameter.



Secured to 'Bass Strait 18' and 120 metres 18mm Nylon Rode Line

Prisana 11. Indian Ocean 16 July 1996.

Barometric reading 990mb. 11 metre seas on 9 metre swell, 70 knots and above.



To the question, did the Para-Anchor save *Prisma 11*?... Debora Schutz's answer "Absolutely" in the conditions we were caught in, we believe that having a Para-Anchor set up before departure was crucial to its safe and easy deployment. Had we not had it (an awful thought) we would probably have tried to find shelter behind Rottneest Island by sailing on a broad reach, possibly dragging warps as we were not carrying a drogue. I believe our chances of surviving had we done so would have been extremely slim.

Courtesy Adlard Coles' Heavy Weather Sailing

PARA·ANCHORS

AUSTRALIA

Established 1986

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