

"The time for taking all measures for a ship's safety is while still able to do so. Nothing is more dangerous than for a seaman to be grudging in taking precautions lest they turn out to have been unnecessary. Safety at sea for a thousand years has depended on exactly the opposite philosophy."

Admiral C. W. Nimitz

A Sea Anchor
is
Your First Line of Defense

Survival Gear for Cruising and Commercial Boats

#### WHAT USERS HAVE TO SAY

"We're alive! Thanks to the parachute anchor which secured us for 53 hours in Cyclone Justin..."

"The sea anchor definitely saved the boat and I'm sure our lives. It operated flawlessly on those two days and the other three days during the other two gales... We did what should have been done and came

through a very violent storm and survived with no

damage. Thank you again for everything."

"My parachute [Sea Anchor] is one of the few items of purchased which performed as advertised and not defect or surprises. I appreciated the quality and

performance more than I can express. Wouldn't leave

port without it, ever!"

"... I consider your equipment the most important safety item on my boat ... I will never make an ocean passage without one on board. People must realize that ocean cruising can be safe if you go with the idea

that you will go into a defensive position before the

## SELF SUFFICIENCY

GOOD SEAMANSHIP being **THE ESSENCE OF PREPAREDNESS**, no small, independent craft should venture offshore without the tremendous confidence, security/insurance - and peace of mind - afforded by a PARA-TECH® Sea Anchor. A Sea Anchor will go a long way toward enabling a skipper to limit contingencies at sea and dispose of them early. Self sufficiency is the trend of the day and Sea Anchors contribute greatly to self sufficiency on the oft hostile interface between the sea and sky, with all the uncertainties - and challenges - that they hold for the contemporary sailor.

#### MULTIHULLS

U. S. Sailing has recognized the value of a true Sea Anchor on Multihulls...in Appendix VII of "RECOMMENDATIONS FOR OFFSHORE SAILING."

One multihull builder has stated that the introduction of large diameter parachute type Sea Anchors has made it safer for multihulls to cruise bluewater.

# DESIGN & CONSTRUCTION OF PARA-TECH® Sea Anchors

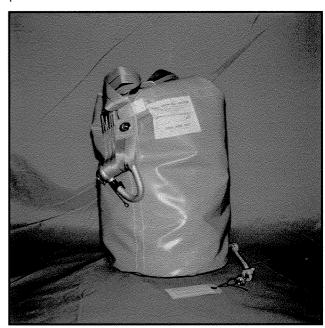
PARA-TECH® Sea Anchors are made from high strength NYLON fabric having a weight and strength of more than four times that of surplus parachutes which have been used as Sea Anchors for many years. Seams are reinforced with Nylon webbing. Lines are Nylon with a minimum strength of 1500 lbs. and are joined at the rode end to a shackle with a strength from 17,000 to 52,000 lbs. A correctly sized and rigged PARA-TECH® Sea Anchor will never experience the loads it is capable of taking.

PARA-TECH® Sea Anchors are designed to be "failure tolerant." If the full system is over stressed, the Sea Anchor is designed to blow a panel before anything else fails. The Sea Anchor will then still hold the boat but with increased drift. It will also function properly with some broken lines.

When PARA-TECH® entered the Sea Anchor business, we supplied surplus personnel parachutes to the sportfishing fleet in San Diego, CA. Those parachutes failed within one season, which prompted us to make our own. By contrast, in 1996, we got a 5-year-old Sea Anchor back that was worn out. The skipper reported that it had spent the equivalent of ONE YEAR in the water...

#### USER FRIENDLY

PARA-TECH® Sea Anchors are the easiest Sea Anchors in the world to use. Thanks to input to the DRAG DEVICE DATA BASE by Victor Shane, we added our Deployable Stow Bag which eliminates the tendency of a parachute Sea Anchor to "catch air" and inflate on deck, making deployment difficult. The bag is simply tossed overboard with the Sea Anchor inside. It automatically deploys IN THE WATER from the bag. All PARA-TECH® system components are likewise designed for ease of use and clean deployment. We are constantly looking for ways to improve all our products.

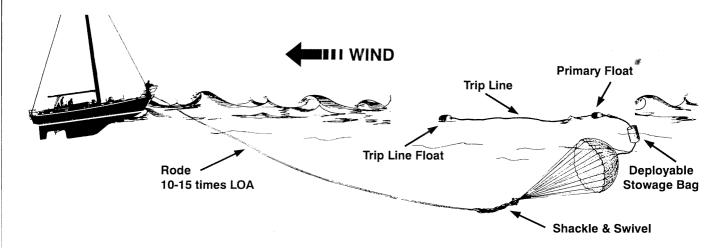


PARA-TECH® Sea Anchor in the Deployable Stow Bag

Commercial fishermen have been using parachutes at sea for decades...on long excursions the parachute is indispensable for sea layovers, for heaving to and for otherwise maintaining station on fishing grounds. With the engine shut off, drift is reduced up to 90% with the bow pointed comfortably into the seas... "other vessels went into port with broken trips...we stayed, and in this respect the [Sea] anchor paid for itself."

#### PAY OUT LOTS OF RODE

The Sea Anchor relies very heavily on the stretch of the long **NYLON** rode for yielding to the seas (and not standing up against them). Even in moderate conditions, pay out at least 300' of rode and 10 to 15X the boat's overall length in heavy weather situations.



# THERE ARE DISTINCT ADVANTAGES IN HAVING A PARA-TECH\* SEA ANCHOR ON BOARD...

#### SEA ANCHOR RIGGING

All components used with your Sea Anchor MUST be suitable for storm anchoring and bow attachments (cleats, Sampson posts, etc.) MUST have backing plates. Rode MUST be NYLON and 10 to 15 times the boat's overall length. A swivel is highly recommended. MULTIHULLS also MUST rig the rode to a bridle with EACH leg being at least 2½ times the BEAM of the boat and rigged to the OUTER HULLS. Adding a length of chain somewhere between the boat and the Sea Anchor will create some catenary in the system and help reduce shock loads, making the ride more comfortable. A partial Trip Line is the simplest way to retrieve your Sea Anchor.

## DRIFT CONTROL

Many boats are lost annually when - initially disabled - they drift out of control and run aground. A Sea Anchor will enable you to hold your position and keep your disabled craft off the rocks long enough for help to arrive.

## "PRECIOUS MILES"

Sometimes it doesn't pay to beat into heavy seas. The wear and tear on the crew and boat do not justify the handful of miles gained upwind. It may be wiser to heave-to a Sea Anchor and wait for better conditions. To heave-to without one may mean losing in a few hours what you have spent days gaining.

#### ATTITUDE STABILIZATION

With sails down or engines out your boat will become unstable - SIDEWAYS - rolling sickeningly, rails buried in the troughs. A Sea Anchor will force the bow back into the seas and restore stability allowing you to go about the business of pumping out, making repairs, or going up the mast if necessary.

## SAFETY VALVE AT SEA

For shorthanded sailors, hopeless exhaustion is just as dangerous as the sudden gale. Brain numb from fatigue the shorthanded sailor will soon cross the dangerous threshold beyond which all is error and wrong decision. It is precisely at this point a Sea Anchor is worth its weight in gold. Set the Sea Anchor, get some rest, and **THEN** get up to fight again, with your brain back in working order.

# MAKING LANDFALL SAFELY

"Land is a mixed blessing," to quote Webb Chiles, and Lord knows how many boats have arrived at night and gone belly-up on reefs because the skipper couldn't wait to set foot on dry land. If you make the landfall at night and the entry is a difficult one...Lav off a safe distance and heave-to a Sea Anchor until daybreak. Better late than never.

# SEA ANCHOR DEPLOYMENT

- 1. Secure items on board, lower sails, Etc.
- 2. Head into the weather to "stall" the boat.
- 3. Toss trip line, float line and Sea Anchor into the water on the WINDWARD side, followed by the rode.
- 4. Drift back on the Sea Anchor, paying out the required scope.
- 5. Make fast the rode and employ chafe gear.6. Secure the rudder amidships.
- 7. Secure the boat and get some rest.

## **SIZING GUIDELINES**

Sizing is first based on length overall with weight, keel configuration and windage taken into account next. Note that generally the greater windage of power boats equals the greater draft (wetted surface) of sailing craft, hence the same size Sea Anchor. When in doubt, select the larger size. Full keeled boats should consider going to a larger size. GENERAL RECOMMENDATIONS are as follows:

Under 20'	LOA	Under	4,000#	6	3'
Under 25'	LOA	Under	8,000#	<b>a</b> €	)'
25 to 33'	LOA	Under	12,000#	<b>*</b> 12	'n
30 to 40'	LOA	Under	25,000#	15	5'
35 to 48'	LOA	Under	40,000#	18	3'
40 to 90'	LOA	Under	95,000#	24	,
70 to 120'	LOA	Under	200,000#	32	,,
120' to 150'	LOA	Under	300,000#	40	,*

# INCLUDED WITH ALL PARA-TECH® Sea Anchors:

Deployable Stowage Bag, Heavy Duty Shackle, Float Line, Instruction manual

#### NOT Included:

Floats, Anchor rode, Swivel Shackle, Trip line, Boat

The PARA-TECH® name is your assurance of quality fabrication per the standards established by the parachute industry. PARA-TECH® Sea Anchors are warranted to be free from defects in materials and workmanship for a period of one year.



# PARA-TECH® Engineering Co.

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