

BLOOMSBURY

**'It's like Top Gear  
afloat!' Pete Goss**



# THE CRASH TEST BOAT

Foreword by  
**Mike Golding**

Edited by Paul Gelder  
Crash Tests by Chris Beeson

How **YACHTING** MONTHLY took a 40 ft yacht through 8 disaster scenarios

# THE CRASH TEST BOAT

HOW *YACHTING MONTHLY* TOOK A 40FT  
YACHT THROUGH 8 DISASTER SCENARIOS

















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## Foreword by Mike Golding

With around half a million miles of racing or sailing behind me, across all the oceans of the world, relying upon the mechanics of complex technical sail boats, nature's general wrath and our own human frailties, I have experienced perhaps more than my fair share of 'Crash Test' type experiences.

We plan every event with care and precision and as a team we spend weeks, even months, during the build-up to major races trying to imagine what would, could or might go wrong. Without exception we work on the basis of 'Plan for the worst, hope for the best'. Unfortunately, and in spite of all our best efforts, things can, will and eventually do still go wrong from time to time.

To date I have not lost a boat– I'm touching wood as I write this, prior to the 2012–2013 Vendée Globe – nor has anyone aboard our boats been seriously injured or gone (far) overboard. Considering the extreme boats and conditions we have experienced, I consider this a tangible success.

But after two serious capsizes (in multihulls), numerous dismastings – two of them deep in the Southern Ocean – a near sinking or two, a broken keel 50 miles from the finish of the 2004-2005 Vendée Globe, medical issues for both myself and others, not to mention the odd fire onboard... I guess I must accept that I am qualified to write the prologue for this book about the Yachting Monthly Crash Test Boat series.

As far as I know this is the first time that a normal cruising type boat has been subjected to this variety of extreme crash tests under relatively controlled conditions. Every road car is tested in this way before it can go on the roads. Boats, however, do not have the same requirements, even though the range of possible disasters is so much wider. Testing and then evaluating those outcomes, provides sailors with the opportunity to learn the results from the comfort of a book, rather than needing to risk life and limb. Such knowledge could have some preventative effect, or may help provide experience that could save lives.

I was asked initially to help with the capsize test. Paul and his team of crash testers did not at any point shy away from tests of catastrophic proportions. When I met the team they seemed to revel in the task of abusing that poor old boat in the pursuit of knowledge.

In the IMOCA class (International Monohull Open Class Association), the 60ft boats that we race in the Vendée Globe, we are obliged to do a full 360° capsize test when the boats are first launched; each year thereafter we must tip the yacht on its side for a 90° stability test, so we are perhaps the most experienced in conducting such extreme tests. On the day of the capsize, it surprised everyone present (including me) just how easy and how little force was needed to get this standard cruising yacht to capsize fully. It will surprise even more people that, like almost all boats, she was very happy to sit there in the marina – upside down but fully stable. Most leisure sailors still think of and refer to their boats as being self-righting – clearly this is not correct.



Perhaps you are thinking 'none of this will ever happen to me'? Perhaps you are careful, skilled and experienced? Possibly the boats you sail are 'safe', so you feel you are not exposed to such dangers. It is also possible that this very act of self-denial may lead you blindly towards an unseen crisis. Certainly, everything I have learned and all of my experience tells me that this is 'wrong thinking'. The question you really have to address is what might happen, and what will I do if and when it does?

Good planning and preparation is the subject for another book. Meanwhile, this book will help you to better understand the causes and effects of some serious eventualities aboard a yacht. The knowledge gained here could equip you to deal with a crisis – helping to ensure that you and your crew are kept safe.

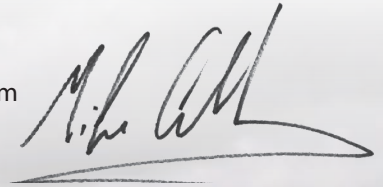
As a former Fire Service Officer, it is perhaps my training above everything else that has provided the ideal background for the uncertainties of my career in high performance professional sailing, where serious

problems are often seen as just 'par for the course'. Just like attending a 999 fire emergency, every single incident on a boat is completely unique and requires different actions in response. It is vital you are able to adapt to each scenario and deal with the priorities logically, while always maintaining some level of calm detachment to assess, plan and put into action what needs to be done.

As a professional sailor the ultimate accolade is always to stand on top of the podium. However, I must confess that I derive a significant personal satisfaction from having overcome some of the random crash test dramas featured in this book. Staying calm, never giving up and always holding the safety and well-being of the crew are all at the top of the priorities.

Mike Golding OBE

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## Introduction by Paul Gelder

The Crash Test Boat series is a world-first and certainly exploded a few myths about safety at sea. She's been called 'Britain's most abused boat' – deliberately stranded on a shingle bank, capsized twice through 360 degrees, 'sunk', set ablaze and, finally, blown up in a gas explosion off the Isle of Wight.

In 2010, *Yachting Monthly* magazine acquired a 40ft Jeanneau Sun Fizz ketch, which, over a period of eight months, was tested to destruction. The project has been described as a nautical version of television's *Top Gear* car stunts, though the tests had the added bonus of offering potentially life-saving lessons for sailors. We documented seven of our crash tests in live-action footage too, accompanied by commentary and safety tips from the team. Each clip can be viewed using the QR codes on the chapter opener pages in this book.

No one else has recorded so graphically, in words and pictures, what happens when calamity strikes out of the blue. But it's when things go wrong that we learn our most valuable lessons – and the ethos of the Crash Test Boat series was all about encouraging self-reliance, good seamanship and safety.

Each chapter of accidents in our so-called 'controlled experiments' proved to be a step into the unknown. But as solo sailing legend Chay Blyth once said, 'Without risk there is no adventure...'

In a risk-averse culture, obsessed with 'health and safety', we had our work cut out to comply with a list of regulations and legislation as thick as a telephone directory. We had a duty of care to everyone involved. We also had to convince the authorities – the Marine Coastguard Agency (MCA), the Marine Accident Investigation Branch (MAIB) and our publishers, IPC Media – that our experiments were not reckless stunts.

Before each test, Chris Beeson, the Crash Test Boat skipper, and I had to fill out 'risk assessment' forms, identifying hazards – injury, drowning, boat sinking and pollution – and offer convincing 'control methods'. Risk was measured on a scale from 'low' to 'high', 'extreme' and, of course, 'unacceptable'. The latter saw Chris banned from being aboard the yacht during the capsize test.

Another major hurdle to overcome was the threat of damage to the environment by pollution, especially from the capsize and explosion tests. The MCA cautioned in an email: 'While this [pollution] is accepted when a genuine accident occurs, these are pre-planned test which wouldn't fall under that exception.' Worryingly, they also added the proviso: 'Should the MCA believe at any point that the vessel has become dangerously unsafe we would have to stop that test progressing any further.'

During the capsize test in Ocean Village Marina, I asked Mike Golding, 'What's the worst case scenario?' He replied, 'We lose control and the boat sinks to the bottom of the marina!' The night before, Chris had texted me to say he couldn't extract all the oil from the engine. Luckily, we succeeded on the day.

Only now can it be revealed that during the dismasting test there was a moment when we feared we might black out the Isle of Wight. As the yacht drifted up the Solent, the mast was dragging along the seabed where a 'submarine power cable' from the mainland was marked on the chart!

At one point, I was told that creating a real gas explosion was 'too dangerous and uncontrollable' and we should examine simulating a blast. Who would give us permission to explode a 40ft yacht in what was called 'a crazy experiment'? It was suggested we might have to go offshore, beyond the 12-mile limit – and the reach of the law. David Lanfranchi, a risk management expert consulted



# INTRODUCTION

by IPC, gave me the phone number of John Richardson, the Oscar-winning special effects legend, who worked on *Alien* and the Harry Potter films. Here was a man who knew how to make a blast. Fortunately, in the nick of time, we found the answer to our plans, thanks to a meeting with Paul Boissier, CEO of the RNLI. Paul is a former Chief Naval Warfare Officer and he put me in touch with Admiral Sir George Zambellas, now Commander-in-Chief Fleet, which led us to 'Harry' Palmer, the Royal Navy's Fleet Explosives Officer.

Our biggest challenge, before we could even begin our test series, was to find a suitable yacht to wreck. I will always be grateful to Robert Holbrook, founder and managing director of Admiral Yacht Insurance, who bravely stepped in to become our project's title sponsor, later writing a cheque to buy a ketch worth some £30,000. A passionate sailor himself – twice voted National Finn champion – Robert, having paid out thousands of pounds in insurance claims to unlucky sailors, recognised the potential of our series to educate yachtsmen.

We had invaluable support from the RYA, the RNLI, who stood by during the explosion, Osmotech UK, one of Europe's leading yacht repair centres, and Marina

Developments Limited, who gave us free berthing at Hamble Point Marina. Our expert consultants included solo sailor Mike Golding, Paul Lees from Crusader Sails and Warsash Maritime Academy.

We received accolades from as far away as America and Australia. 'In my 30 years of lecturing and research on yacht and boat design, this must be the most beneficial project for boat safety that I have ever encountered – it certainly deserves a safety award,' wrote Kim Klaka, Safety Officer for Fremantle Sailing Club's cruising section.

In April in 2012, the Crash Test Series won the Innovation of the Year award at IPC Media's Editorial awards.

Looking back over 45 years in journalism, the Crash Test Boat series was one of the most exciting and rewarding 'assignments' of my career, as well as the the most stressful! There were sleepless nights, waking up to scribble 'must do' and 'don't forget' notes. But how many people get to blow-up a 40ft yacht as part of their job – and all in a good cause? As sailor Richard Houghton told me: 'The project has been a fabulous advert for yacht safety and accident prevention.' And IPC Publisher Simon Owen added: 'It's been a remarkable, original piece of journalism that has a lifespan way beyond the magazine issues in which it appeared.'

Paul Gelder





## Meet the Crash Test Boat team



**MIKE GOLDING**

### SOLO OCEAN RACER

One of the world's top ocean sailors, awarded an OBE in 2007 for his contribution to the sport of sailing, Mike has sailed singlehanded around the world five times. Once called 'the unluckiest yachtsman in the world', he has been dismasted several times and once lost his keel in the final stage of the famous Vendee Globe round-the-world race – but still managed to cross the finish line.



**PAUL LEES**

### SAILMAKER

Founder and principal of Crusader Sails, in Poole, Dorset, Paul was our consultant on the dismasting and jury rig tests. A veteran of the 1979 Fastnet Race and a former skipper of the J Class yacht, *Velsheda*, he is a highly experienced inshore and offshore racer. He has been sailmaking for more than 40 years also been a boat-builder with 32 boats launched.



**PAUL GELDER**

### YACHTING MONTHLY EDITOR (2002–2012)

No stranger to disaster at sea, Paul has edited the best selling anthology of true-life sailing disasters, *Total Loss*, plus it's companion volume, *Sunk Without Trace* (Adlard Coles Nautical). He was presented with the Ocean Cruising Club's Award of Merit in 2005 for launching a campaign to save Sir Francis Chichester's famous ketch *Gipsy Moth IV*, which sailed around the world on the 40th anniversary of Chichester's epic voyage.



**MARTIN LODGE**

### CONSULTANT ON FIRE TEST

Sub-officer Firefighter Martin Lodge teaches at the International Fire Training Centre, at Warsash Maritime Academy, together with firefighters Andy Baynham and Barry Marsh. Between them they have more than 100 years of fire-fighting experience.



**LT CDR MICHAEL ('HARRY') PALMER**

### EXPLOSIVES CONSULTANT

A keen sailor, Lt Cdr Palmer joined the Royal Navy in 1989 and studied to become a Weapon Engineer. He has served on a variety of frigates and destroyers and in 2000 was selected to study for an MSc in Explosives Ordnance Engineering. As Fleet Explosives Officer he is responsible for the standards of explosives safety in all ships.



**JIM HIRST**

### REPAIR SPECIALIST

We destroyed and 'Jim fixed it!' Jim co-founded Osmotech, the yacht repair specialists, at Hamble Point Marina, Hampshire, with Mike Ingram. Together they took Osmotech from a market leader for osmosis treatment to a global repair and refit centre.





**CHRIS BEESON**

## CRASH TEST BOAT SKIPPER

Chris is *Yachting Monthly's* Assistant Editor and has more than 30 years' sailing experience with 40,000 miles logged, including two westward transatlantic passages three Fastnet Races and one non-stop Round Britain and Ireland Race. He is *Yachting Monthly's* chief boat tester and equipment reviewer and is also author of the *Handbook of Survival at Sea*.



**KIERAN FLATT**

## YACHTING MONTHLY EDITOR

A sailor for more than three decades, Kieran has spent the last 10 years cruising his 28ft sloop, a Twister, around the English Channel, the Bay of Biscay, the Bristol Channel, and the Irish Sea. He has also crewed in offshore races and worked as a sailing instructor in both the UK and France. He was appointed YM editor in 2012.



**ANDREW BROOK**

## CRASH TEST BOAT CREW

Joined *Yachting Monthly* on the Geoff Pack Scholarship, launched in memory of its former editor from 1992-1997. Andrew had sailed for 15 years and worked on Mediterranean charter yachts: one season instructing with Sunsail and one season as flotilla engineer with Setsail.



**STUART CARRUTHERS**

## RYA CRUISING MANAGER

With more than 40 years' sailing experience and thousands of sea miles, both as crew and skipper, Stuart was actively involved in our 'Aground!' test and was consulted on other disaster scenarios in the Crash Test Boat series. He has detailed knowledge of many technical and regulatory issues that affect leisure sailors.



**DAVID STOPARD**

## GAS SAFETY CONSULTANT

A registered Gas Safe engineer, David is MD of Marine Systems Engineering Ltd, which specialises in marine LPG systems. A marine engineer, he was formerly senior engineer at Rival Bowman Starlight yachts. A keen sailor, he has logged 100,000 miles, including 10,000 miles singlehanded. He lives on board his Sadler 32, *Capella*.



**PAUL STEVENS**

## CONSULTANT ON 'MAJOR LEAKS' TEST

A founding member of British Marine Surveyors Europe, Paul was the whistleblower for a seacock safety campaign run by *Yachting Monthly* magazine. He was the consultant on our 'Major Leaks!' test. Author of *Surveying Yachts and Small Craft* (Adlard Coles Nautical), Paul is a lecturer at the International Boatbuilding Training College, in Lowestoft, Suffolk.



**JERRY HENWOOD**

## RIGGING CONSULTANT

A lifelong sailor, Jerry runs his own bespoke rigging service from his workshop in Gosport, Hampshire, and was one of our consultants for the dismasting and jury rig test. Every year Admiral Yacht Insurance, the sponsor of the Crash Test Boat series, send Jerry to Las Palmas, in the Canary islands, to check the rigs of yachts taking parting the Atlantic Rally for Cruisers.



**SIMON JINKS**

## CONSULTANT

Simon formerly managed the RYA Yachtmaster programme for sail and motor vessels as well as the RYA navigation and safety courses. He is now a partner in SeaRegs LLP, specialising in the MCA commercial codes of practice, safety management systems and RYA training.



**MARK LEES**

## CREW ON DISMASTING AND JURY RIG

Mark, 19, is a former Optimist dinghy junior national champion, RYA youth national match racing champion and has held many other junior titles. He was also a helmsman in 2011 for the British Keelboat Academy, racing Niklas Zennstrom's Farr 45, *Kolga*.



**LESTER MCCARTHY**

## PHOTOGRAPHER

Lester has more than 40 years' experience with many extended passages around the UK and Europe. He has owned many boats, from a tugboat to a classic wooden Vertue sloop.



**GRAHAM SNOOK**

## PHOTOGRAPHER

Graham is *Yachting Monthly's* staff photographer with more than 32 years' sailing experience and more than 10,000 sea miles logged. He has cruised in the Caribbean, the Indian Ocean and the Mediterranean and owns a Sadler 32 sloop, *Pixie*.



**STEVE ADAMS**

## FILM-MAKER

Steve has 20 years' experience in TV production and now produces programmes for his own website, [www.yachtingTV.co.uk](http://www.yachtingTV.co.uk), which has featured films on crossing the Atlantic and Bay of Biscay. He is a passionate sailor always looking for adventurous ways to bring sailing to life on TV.

## The Crash Test Boat

Our first challenge was to find a suitable yacht to wreck. 'I shall be trying my hardest not to form any emotional connection with this yacht,' said *Fizzical*'s new owner, Robert Holbrook, the boss of Admiral Yacht Insurance.

Having signed up to sponsor the Crash Test Boat project at the end of 2010, Robert found *Fizzical*, a 1982 Jeanneau Sun Fizz ketch, at Hamble Point Marina, Hampshire, in December. Well loved and maintained, she seemed too good to destroy, but she was for sale at a knockdown price. Given a 'makeover' she could easily have been sold for around £30,000.

Her co-owners for the past nine years had been David Short (45) and Martin Rolfe (40), both keen yachtsmen and friends for almost 20 years. They were to become enthusiastic followers of the Crash Test series and even attended the gas explosion, when their former pride and joy suffered her final humiliation.

Ironically, they first saw *Fizzical* listed for sale on *Yachting Monthly*'s website ybw.com. She was ashore in a boatyard in Preveza, in the Greek Ionian, having been sailed there from the UK by her previous owner, Mr Melling, from Lancaster, with his family.

'She looked like a lot of boat for the money,' said Martin. 'David and I had chartered several times in Greece which gave us the idea to buy a yacht.' So at the end of 2001, having flown to Athens and driven to Preveza, they wrote a cheque and *Fizzical* was theirs. For the next few years they enjoyed many cruising trips around the Ionian, moving the yacht from to Lefkada Marina and entering the Ionian Regatta several times. In 2007 they decided to bring *Fizzical* home to the UK, to make more use of her, before finally to deciding to sell her and buy a Hanse three years later.

'I don't mind what you do to her. I've written her off in my mind,' said new owner Robert, adding, 'but it would be nice if we could all go for a sail before we blow her up!'



**Robert Holbrook, managing director of Admiral Yacht Insurance at the wheel**







## Fizzical under colourful cruising chute

Chris Beeson, the newly appointed Crash Test Boat skipper, together with photographer Lester McCarthy, obliged with a test sail in March, hoisting the yacht's one-year-old suit of Kemp performance cruising sails in a breeze that barely blew out the creases.

Sailed later on in a wet Force 4, with full main and 80 per cent of the genoa, she fetched out at around 8 knots and beam-reached back at 8-9 knots. Though over-pressed in gusts, she never lost her head where a modern cruiser with a wider stern and a single rudder might.

'In the early 1980s she must have seemed quite hairy, but by today's standards the ketch, at least, has a very



**Chris (left) chats with Robert in the saloon, amidst the 'doomed symphony in brown'**



## Robert relaxes in the cockpit with Chris at the wheel

modest sail area, observed Chris. 'Yacht design has come an awfully long way since then,' he added, looking down below at the limited light and ventilation. 'The Stygian gloom is overpowering. Her interior would need a complete overhaul to seem anything but dungeonesque, with her cramped cabins,' he ranted. 'Using the forward heads is like shutting yourself in a small, fetid humidor!'

Chris memorably described the accommodation as 'a doomed symphony in brown, with sagging nicotine-yellow vinyl headlining, jaundiced Formica, stressed executive cork tiles in the two heads and mournful ebony-trimmed mahogany veneers dripping gloom throughout.'



# JEANNEAU SUN FIZZ 40



**Martin Rolfe writes up the day's log at the chart table**



**Sunset as Fizzical arrives at the Greek island of Kastos**



**Fizzical under full sail in the Solent**



**Martin's wife Anna and her brother Tim, re-sealing the saloon window panels in Preveza.**



**David Short and Martin Rolfe, with gas safety expert Peter Spreadborough (seated), watch as their yacht explodes off the Isle of Wight**

Most of the 600 Sun Fizz 40s built between 1980–86 were sloop-rigged, so *Fizzical* was somewhat unusual. However, the Sun Fizz range had sparked a new age of performance cruising and cemented Jeanneau's mass market credentials. The Philippe Briand-design, with its fin and spade appendages, set a new benchmark for performance cruising – Sun Fizz 40s placed second and third in a two-handed Transatlantic Race in 1980. 'She is still recognised as one of the first boats that proved the validity of the performance cruiser concept,' Chris noted.

The yacht boasted 11 berths in total, which seemed wildly excessive, and included two 6ft 2in pilot berths in the saloon. She had a 45hp BMW engine and the hand-laid construction of the hull was very solid for such a light boat, as subsequently proved during the destructive testing.

Despite all her shortcomings when set against modern designs, Chris admitted that the hull is sweetly designed. 'She'll perform as well as many modern cruisers and the price is tempting,' he said, adding: 'Should Robert find himself warming to her, all he needs to do is spend a night on board, after which he'll light the fuse that detonates her himself!'





# 1 AGROUND





RVA  
Admiral  
BOAT INSURANCE



**YACHTING**  
MONTHLY  
**CRASH TEST BOAT**





## What to do when you run aground

Provided you refloat without any damage, it doesn't much matter how, but the aim of this test was to go step-by-step through the various methods, from simple to increasingly desperate, and assess how effective they are. Armed with the knowledge in this feature, you can react more quickly and more effectively – and on a falling tide it could make the difference between a nuisance and a nightmare.

The nature of the grounding will suggest what type of bottom you've found. Slow deceleration means mud, quicker deceleration means gravel, sharper still is sand and a dead stop is a rock or a wreck. Check charts to confirm but be aware that things can change – as a Yachtmaster Instructor, our consultant Simon Jinks once ran aground on a Ford Capri. If you're grounded on rocks, use only the heeling techniques – don't attempt to turn the yacht because you could rip out the keel.

*“ If you're grounded on rocks, don't attempt to turn the yacht because you could rip out the keel ”*

**The Crash Test Boat team (left to right): RYA Cruising Manager, Stuart Carruthers, Kieran Flatt, Andrew Brook and Chris Beeson**



# 14

## ways to get out of trouble if you run aground

The Crash Test Boat team tried every possible method to discover what worked and what didn't, so if it happens to you, you'll know just what to do

### 1 First response: change direction immediately

Change direction while you still have way. As a general rule the genoa will haul the bow away from the wind and the main will bring it up so, depending on wind direction, try bearing away, tacking and leaving the jib backed or gybing, to go back down your track, or at least away from shallow water. This will most likely be a series of bumps – heeling, vertical, heeling – as the keel bounces down into deeper water.



*Having touched, we tacked, leaving the jib backed*

### 2 Hang off the shrouds to heel the boat

It's generally accepted that you should get all but one crew to hang onto the downwind shrouds to increase heel, which reduces draught on fin and long keel yachts. In reality, however, we found that three stocky gents hanging onto the shrouds had little effect on the heel of the 40ft Crash Test Boat and, as a first response, backing the genoa (on a windward shore) was much more effective if there was any sort of sailing breeze. That said, with a smaller crew on a smaller yacht, it might just make the difference you need if you react as soon as you run aground. In light winds it's worth trying to heel her both ways. If you're fore-and-aft along the contour, heeling the mast offshore reduces draught and heeling it inshore means the keel may slide down into deeper water. Remember to furl the jib if it's countering your heel.

Conversely, if you have twin keels and you've been sailing upwind, reducing heel will also reduce draught, so drop the main, furl away most of the jib and back what's left. Another trick on long and twin keelers is to move any spare crew to the bow, which also reduces draught. This method is the only one available for skippers of wing-keeled boats as heeling will dig the wing tips into the bottom.



*Weight forward reduces draught on bilge and long keelers*



*On the 40ft Crash Test Boat, three 'heavies' on the shrouds didn't induce much heel*





## 3 Start the engine and try to motor off

If your first response doesn't work, check there are no lines over the side and start the engine. On a lee shore, drop sail, otherwise use canvas and crew to generate as much heel as possible. Select astern and give her plenty of throttle. If that doesn't work, select forward and try turning hard to port then hard to starboard. This might loosen the mud's suction on the keel or dig a hole in the shingle, allowing you to break free by selecting hard astern again. You'll be stirring up the bottom a fair bit so make regular checks of the raw water strainer. After several hours of testing, ours remained clear.

If that doesn't work, get everyone into lifejackets and switch them to manual if possible. In the next few minutes you'll be jumping all over the boat so the chances of ending up in the water are heightened. It may be shallow enough that drowning won't be a problem but you could be swept away by current and the lifejacket will keep you afloat long enough to be retrieved.



**You'll churn up plenty of sediment so check the engine's raw water strainer regularly**

## 4 Put the crew on the boom end

Now get all but one crew out to the end of the boom to increase the heel generated by the backed genoa. Drop the main and check the gooseneck fitting. Secure the main halyard around the boom end to support the topping lift so that the crew weight is not supported by a single shackle or casting, run the lazyjacks forward to the mast, release the mainsheet and rig a foreguy from the boom end to the forward cleat to haul the boom outboard. Leave the engine running and get your crew to shimmy out onto the boom end while you try to reverse off. Again, we found this made little difference to the heel of our boat but react quick enough and a little difference is all you need.



**Our ketch rig meant a short boom, which limited the effect of our combined weight**



**Throttle astern, then forward, left rudder and right to dig her free – unless you're aground on rock**

**‘ Select astern and give her plenty of throttle. If that doesn't work, select forward and try turning hard to port then hard to starboard ’**