

Saga of a Rebell

John Dalby

John Dalby's experiences of building and sailing his Rebell Celandine.

Eric Coleman was the founder member of the DCA and for many years was the Technical Advisor. In the late 1960s, using his engineering background and considerable experience of dinghy cruising, Eric designed and built what may be the ultimate cruising dinghy, his Rebell 17. Although many sets of plans have been sold, sadly not many appear to have been built. In response to a number of recent enquiries from members thinking of building the Rebell, John recounts his story of discovering and building his ideal boat.

It was August 1992, on a beach at Llyn Tegid, Bala in North Wales and there on the trailer, ready to be launched for the first time, was 'the boat' as it had been known for so long. After the customary libation of homemade Damson wine to appease the gods of homemade boats and dinghy sailers, *Celandine* was finally launched and suddenly this half-tonne of wood, resin and lead that had been growing ever larger and heavier and following me around for the past 13 years was afloat, bobbing gently on the water and alive for the first time. To my surprise she looked much smaller and more fragile than I had expected. The moment of triumph was short-lived however as, wincing at the sound of the keel grinding on the rocks of the lake bed I now realised that the building was over and the inevitable wear and tear had already begun.

It had all started back in 1979 when I had been looking for a boat to sail after my contract in the Persian Gulf came to an end. I had done a lot of dinghy sailing and cruising on the rivers and canals as a lad and at the time was enjoying sailing on the coast of Oman in an 11ft stitch-and-glue dinghy shipped out as a kit. Now, a comparatively wealthy bachelor, I was looking for a larger boat to build in the traditional manner for some serious cruising and messing about in. Whilst in the UK on leave, I had come across an article in a back edition of *Practical Boat Owner* (October 1978) about a quirky 17ft cruising dinghy designed by Eric Coleman, Technical Advisor of an interesting organisation called the Dinghy Cruising Association, and sent off for an information pack. From the information supplied, including several reprints of sailing trials from boating magazines, I realised this was the boat for me and immediately bought a set of plans to take back with me for my final few months in Oman.

The Rebell is a 17ft boat with a 6' 5" beam, a small cabin with two sleeping berths under the cockpit seats, 135lb lead ballast in the centreboard, and is Bermudan rigged with 151 sq feet of sail plus a spinnaker (and a trapeze wire if you really want to hang out). It was designed and built by Eric for himself and his wife Maureen for serious coastal cruising. Sleeping up to four, with a large cockpit tent and a flushing sea toilet, it could be anchored in sheltered water and the two-part nesting pram dinghy used for going ashore. The description and layout of the Rebell below are taken from the information pack supplied by Eric Coleman. The labelling of the frames A to F are for ease of reference.

Rebell Layout

The bow section (1) has a removable shelf at the top. The kedge anchor (fisherman) and warp are stowed at (2) with the anchor vertical. This keeps the foredeck clear and avoids weight too far forward. Approaching an anchorage, the anchor can be stowed on the foredeck without fouling the jib. The flush toilet is positioned under the forehatch and is normally covered by a step. There is a vertical partition each side of the toilet and on the other side of each partition, a galley (3) with stowage space below and lockers (4) above. A useful arrangement is to have a paraffin stove on one side and a gas stove on the other side. Aft of this are two 6' 3" berths with stowage beneath for clothes (5) and a 45 lb buoyancy bag (6). There is stowage space between the bunks under the bridge deck (7). The cockpit, which is watertight to a depth of 1' 5" can be covered with a canvas cabin set on hoops which is stowed against the aft end of the cabin and permanently attached to it (8). The side benches can be extended to form two 6' 6" berths using air beds or for sun bathing. There are two large lockers (9) for stowage of sails, water etc. and an open locker (10) for the outboard. There is stowage under the bottom boards for a 10lb C.Q.R. anchor, fenders etc. The space under the side decks is closed off with canvas and used for the stowage or air beds, oars etc. Aft of the cockpit there is deck stowage for a 6' nesting pram dinghy (11) or a rubber dinghy (this space can be seen in photo 3). Below this is a large locker with a watertight hatch (12).

The plans were extremely detailed, as one would expect from an engineer, and came with a booklet describing each stage of the construction and listing every piece of wood and every fitting and supplier. I enjoyed many a long evening in my company's drawing office in Muscat lofting the frames full size onto plastic drafting film and calculating all the timber needed for the construction. As I

1. June 1980 - The frame ready for fairing and sheathing in plywood.



2. July 1980 - The completed hull turned over and ready for fitting out.



3. August 1992 - Celandine afloat for the first time.



Photos 1 to 4: John Dalby's Rebell Celandine, (article starts on facing page)

4. August 1992 - Sailing again after 13 years.



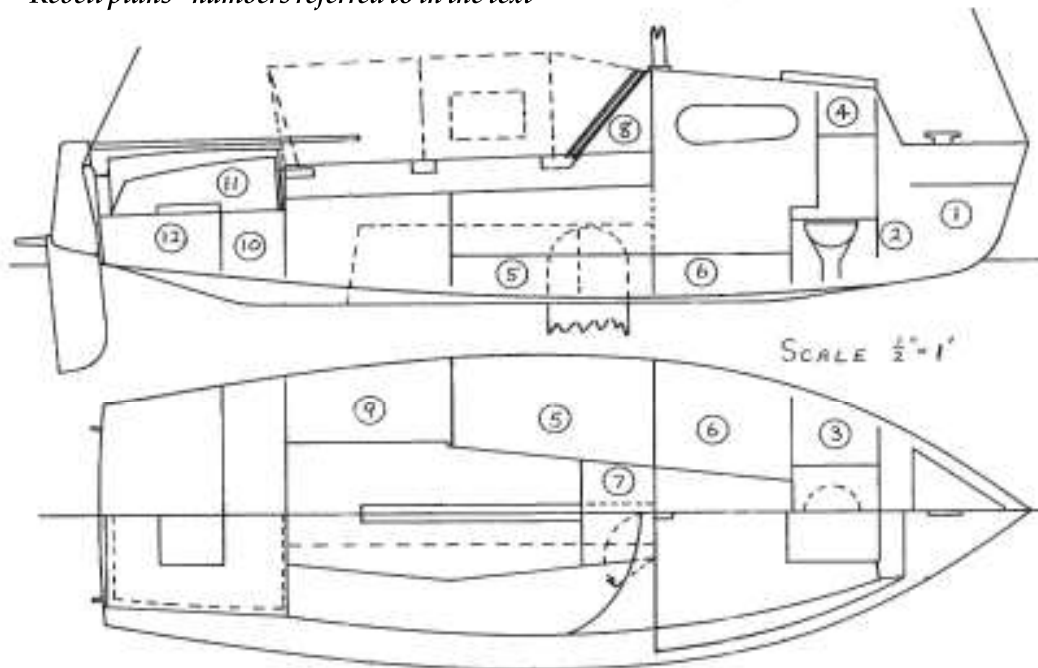
Larry Loveday, Mirror 16 and mates at Caloundra Regatta 2004 (see letter p.7)



had a lot of spruce and mahogany left from an aborted attempt to build a 14ft Tarpon, a lot of time on my hands and the typical male blind spot when it comes to reading assembly instructions, I ignored these schedules and started again from scratch. I was able to order the timber before leaving Muscat and arrived back at my long-suffering parents' house shortly before the materials arrived in March 1980. After months of planning and many sleepless nights building every joint and frame in my head, it was time to start in earnest.

With a traditional boat like this, one starts by building the stem, frames and transom, which was made much easier by having full-size drawings to work from. Each frame was made of 2'x1' mahogany with a 7' x 1' mahogany plank (left over from the Tarpon - priceless now but back in 1968 relatively cheap) for the keelson to fasten to and to support the cockpit bottom boards. Where a transverse bulkhead was needed, the frame was filled with 6mm plywood at this stage. The completed frames were then laid out in position at right angles to a string centreline and screwed to the

Rebell plans - numbers referred to in the text



floor of the garage. The stem is fixed into position on the centreline and the keelson screwed into place to join them all up, followed by the longitudinal timbers fastened in the notches at the chines and gunwales. Finally the keel is fastened to the keelson and the whole frame faired off to receive the 9mm marine ply skin (Photo 1). Progress was gratifyingly fast at this stage and within 6 months the hull was finished, the bottom painted and ready for turning (Photo 2). However the subsequent fitting out was much slower as every piece of wood had to be measured, offered up and repeatedly trimmed until it fitted. I then met and married my wife at college and over the following years set up a market gardening business and had two children, all of which took their toll on finances, time and energy. As with many boat-building projects, construction then slowed to a crawl, and years sometimes passed with the boat stuck under a cover in the front garden with little or no progress.

The wonderful thing about building in wood is the flexibility to change things and I had decided to make some minor modifications to Eric's original design to make it more suitable for my own needs. The numbers refer to the number of the component on Eric's plans:

1 - The bow compartment was sealed in with a plywood bulkhead and watertight hatch at frame A to make a large buoyancy/storage compartment.

2 - I did not bother with the sea toilet as it would not be permitted on inland waters. A Porta Potti chemical toilet is used in its place when needed.

3 - The galley shelves either side of the toilet were not installed, as the idea of cooking in a cramped cabin next to the toilet did not appeal. The cockpit gives much more space and is safer

when using a Calor Gas bottle and cooker. In fact I still have not fitted out the cabin, leaving it as a large open space to stow things and for the family to retreat into from the rain.

I was planning to rig the boat as a junk rig, with an unstayed mast stepped through the cabin roof, instead of being mounted on the beam above the cabin door at frame C as per the plans. Consequently the cabin roof is strengthened at frame B, which lies across the centre of the cabin, with a laminated roof beam, tied into the keelson by a hefty ring beam. Two fore-and-aft timbers between frames B and C enabled a square hole (called the mast partners) to be constructed in the cabin roof, through which the mast is lowered to a strong step on the keelson. It is then wedged into place with tapered wedges at the partners and bolted to the step to prevent it lifting.

7 - The bridge deck, instead of being open to the cabin, was sealed to make two more buoyancy tanks either side of the centre-board casing.

5 - The centreboard is made of three layers of laminated half inch oak planks and was designed to have a 135lb lead casting bolted to the end. I was concerned that this might move the centre of gravity aft as it was raised (not a problem as it turned out, in such a large boat) or worse, might be dislodged or break off if it hit an obstruction at speed. Instead, the planks were laminated to leave a series of 8" by 1/2" indents down each side, into which lead plates, cast from scrap melted on a camping stove, were screwed. The cavities were then filled with Exterior Polyfilla, epoxy filler being too expensive in such large quantities, and after fairing and sanding, the whole coated with three coats of epoxy resin, giving it a glass-like finish. This has stood the test of time, despite the board hitting a pinnacle of rock at high speed 100 yards off the northern shore of Windermere. The jolt was so violent I am sure my worst fears would have been fulfilled had the lead casting being fastened to the bottom.

10 - At frame E, there should be a false transom, creating a large space behind in which to store the two-part nesting pram tender or inflatable. As I did not intend to use the tender, the false transom was moved back to frame F in order to make the cockpit larger. This false transom up to deck level should prevent the cockpit flooding if the boat is ever pooped in a following sea. The seat between frames E and F was boxed in to create another large buoyancy tank.

12 - The locker between frame F and the transom is used to store ropes, the anchor, outboard petrol tank and gas bottle etc.

8 - The canvas cockpit tent was designed to be supported by two curved laminated plywood hoops which fitted into slots in the cockpit coaming and be stored at the front of the cockpit ready for use. I would have found this tent too low so instead, I bolted vertical posts to the coaming, spanning the cockpit with curved cross pieces, covered by a polythene tarpaulin. This creates a large living space and enables the roof to be left on when river/canal cruising to keep the rain off.

5 & 6 - The beds run under the cockpit seats but I found these too narrow for comfort (imagine trying to sleep in a coffin) and prefer to sleep on boards over the cockpit well. This creates a 8ft by 6ft platform on which one can sleep three on airbeds at a squash or two in comfort. The sleeping cavities under the seats are, however, great for storing bulky kit such as lifejackets, bedding, clothing and food.

The bottom of the boat should have been sheathed in two additional layers of 3mm plywood veneers laid diagonally and bedded on resin. This seemed unnecessary with such a strongly built boat and, faced with the huge amount of filling and fairing that would be necessary to achieve the glass smooth hull that I already had, I decided not to bother. Instead, I glued 9mm plywood offcuts to the inside of the hull between the bottom stringers and frames, making the bottom below the waterline 18mm thick.

In addition to the built-in buoyancy tanks, the spaces beneath the cockpit bottom boards and sleeping platforms are filled with 2, 3 and 5 litre polythene drinks bottles, providing another hundred kg or so of buoyancy. In hindsight, I should have sealed the cockpit floor, creating a large buoyancy chamber underneath and making the cockpit self-draining. Perhaps I will still do this one day.

The 9' oars were made from 2" by 2" Douglas Fir and are stowed under the side decks, passing through slots in the false transom at frame F. A stainless steel ring on each oar is padlocked to an eye-bolt under the deck to prevent them being stolen.

At the time of starting, the West System (Wood Epoxy Saturation Technique) had recently come onto the market, and although very expensive, epoxy resin was used as both the glue and as a sheathing, the whole hull being coated inside and out with three coats to make it impervious to water.

My intention from the start was to reduce the maintenance to the minimum, so in addition to epoxy resin, my wife, who is better at painting than me, painted the hull, decks, outside cabin and cockpit with two coats of International 709 to provide a hard durable finish. Tahiti Yellow was used on the hull as a safety measure, on the basis that it would stand out at sea or in the middle of a lake if the boat ever capsized. Only the mahogany trimming round the cockpit, cabin and gunwales were left unpainted, and rather than use varnish, these were treated with Burgess Hydrosol Wood Treatment, a water-based resin (Photo 3). The results have been very successful and the paint, although a bit scratched, has not been redone in 20 years. The mahogany trim only needs a rub down with another coat of Burgess Wood Treatment on a cloth every spring, so the time spent on maintenance has been minimal.

My ambition had been to build my own boat and I had finally done it, using Eric Coleman's excellent design but in my own way and to my own specification. Everything had been built from scratch (principally though lack of money), including the oars, mast, sail and trailer. Only the ropes and metal fittings had been bought ready-made. The hull was as strong as I could make it, composed as it was of hefty timbers and box sections glued together and sheathed with state of the art epoxy resin. It had taken over a decade longer than expected and countless hours of solitary work, leaving my ever-patient wife and family to look after themselves. The experience had been enormously satisfying and now, standing on that beach in Wales, it was time to climb aboard and see if the dream lived up to reality – but that's another story (Photo 4)! **JD**

*In his next article John describes how he constructed the fully-battened lugsail, otherwise known as the Chinese junk rig, and his experiences of sailing Celandine. **Ed.***

Dinghies to live aboard

Transcript of a PBO article in October 1978

THOSE WHO can't do teach. That's the old jibe, and in boats it might sometimes be thought that those who don't sail, design. Certainly some boats give the appearance of having been designed and built by people who have no direct personal experience of handling boats or living aboard them.

Eric Coleman, by contrast, is a fine example of the most practical type of designer. One who first



Eric & Maureen Coleman setting off in their Rebell from Maldon

designs, then builds, and then uses. You may know him as the designer of a rather odd-looking boat called Roamer, or as the designer of the Rebell cruising dinghy which was reported in our issue for November 1970.

Others may know him as the technical officer of the Dinghy Cruising Association for dinghy cruising and cruising dinghies are his speciality. His views on the subject are well set out in his book *Dinghies for All Waters* (Hollis & Carter), where he explains precisely the characteristics of stability, ease of handling, ample freeboard and efficient stowage which suit a boat to the purpose of carrying a family, keeping them dry, and 'looking after them'.

Those qualities are often associated with boats of the older sort, but Eric's contribution has been to design boats which offer the same qualities, yet which can be built by an amateur from marine plywood in the modern manner.

The Rebell class, for example, has a small cabin forward with two quarter berths running under the cockpit side benches. The cockpit itself is spacious, and is endowed with a canvas canopy to enclose it completely. The cloth, with the hoops which support it, is stowed at the forward end of the cockpit ready for immediate use.

Although only 17 feet long, Rebell carries her own six-foot tender, which comes into two halves, one of which nests inside the other. The whole thing then stows in the after end of the bigger boat's cockpit.

I believe that about a hundred people have bought a set of Rebell plans for home construction in the search for a small boat with the stability and capacity to look after them and their belongings. If you are interested in that sort of boat you can find Eric Coleman at ... (1978 address omitted here). **PBO**

BSRs and me

Duncan Gilchrist

A heartfelt response to Len Wingfield's Safety Quiz

(Duncan's numbered points below correspond to the enumeration of the DCA Boat Safety Recommendations, as printed inside the back cover.)

As I have no hope of winning such a quiz, perhaps it is time to bare my soul and tell others what I actually do, in a safety context, while cruising in dinghies.

1. I sail a 16' dinghy singlehanded; I weigh 12 stone.
2. The boat I sail exceeds recommendation 2 by times 2, but it is virtually impossible to right such a boat from fully-inverted single-handed, even in ideal conditons.
3. I agree with this entirely.
4. Yes, but washboards need to work too, Otherwise a foredeck is mere bracing for the sides, a wave scoop.
5. Fully agree.
6. Absolutely.
7. Yes. Maybe two anchors, two pumps, fire blanket AND extinguisher.
8. Yes, but extreme advanced continuous care required to keep many of these items dry.
9. No, I don't. I have a long list of reasons why not, which I shall not bore you with, but they all boil down to one thing – self-sufficiency. I hope I do not die regretting this viewpoint.

Pyrotechnics – *buy one now, new one each year. Fire off the oldest, from your extensive collection, on November 5th. (I live way inland; the nearest sea is 20 miles away.)*

Buoyancy aid – *100N, always worn, must have a crotch strap.*

Capsizes – *are most likely on a run, due to the lack of a kicker, or the kicker too slack, or hardening-up from a run to a reach (too much plate down, too much sail up!)*

Inversion – can be eliminated by carrying 30 litres of masthead buoyancy. **DG**