Introducing the second of several reports we're going to publish about one of the biggest selling classes of boats in Australia – 4.3m open boats. F&B is going to purchase a new 4.3m boat to embrace fishing, exploring, swimming, diving and relaxing in different parts of the East Coast of Australia between Brisbane and Melbourne. Buying the boat has presented a series of challenges, and we thought you'd be interested to join us on our journey through tinny-land, making one of the toughest decisions in the market.

4.3 Tinny Engines

Last month, we took a long and careful look at the very wide range of craft available in the 4.2/4.4m class, focussing on 4.3, but without being naively locked into a mathematical figure ie, if the right 4.4 came along with the needed attributes, we'd just as happily look at that as we would a 4.2.

Coincident with our study of boats in this class, we paid a lengthy visit to the Brisbane Boat Show, just to make sure that we were on the pace with the available range of craft, and can happily report that we didn't find any surprises, or craft that took our breath away.

There are good reasons for this of course, not least of which is the serious limitations imposed on any designer having to work with the pressed tinny concept. This is the type of construction Australians have pioneered, where aluminium ribs are literally pressed into and up against wobbly thin sheets of aluminium that might only be 1.2mm thick on the topsides and maybe 1.66m on the bottom. Without the ribs to support them and provide the structural strength, the craft would be ridiculously floppy and quite useless in the water.

Make no mistake about this – it's the engineering of the ribs (the "pressing" of the ribs against the sheets of ally) that provides the structural strength in these small craft, and by definition, if the welding and engineering is not up to par, then the consequences can be fairly dire.

However, let it also be noted that Australia leads the world in the way we manufacture tinnies from really light aluminium sheets, and structural failures are remarkably few and far between.

Engine Selection

When tinnies do fail, it's usually for a number of fairly obvious reasons. For example, grossly overloading a tinny can have a detrimental affect on the floor under the pressed ribs, and apply oppressive pressure to the welds on the structure.

Given that aluminium is wonderfully malleable, this same characteristic can work against it being heavily overloaded especially if it's done in such a way that the load is simply put on to the bottom of the boat.

However, this is so obviously stupid, even the most naïve boatowner quickly realises that there might be a good reason for that big dimple or ripple that's emerged under his foot, and it doesn't take too long even for youngsters to work out the strengths – and the weaknesses - of the pressed tinny format.

A more serious problem with tinnies of this kind, is that they are frequently overpowered, and thus generate hull forces and stresses that exceed the boat's engineered capacity to withstand such stress and pressure.

Put in a very simple perspective, if you put a 60hp outboard on a boat rated for 20, the most obvious thing that will happen is that the boat will be driven through the water with much greater force than it was designed to deal with; hitting the water at high speed (or at speeds in excess of the tinny's ability to cope) is not that much different from driving the tinny into a brick wall.

One of the other problems concerning overpowering is the little known and understood impact of the tinny twisting or 'wracking' under the additional pressure or force of the big outboard.

Even experienced tinny owners are rarely aware of the wracking factor in their tinnies, because it's only seen in a physical sense fairly rarely – again, usually when the boat is working in a following sea that is probably too much for the tinny's safe use.

On a number of occasions, the writer

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