Malcolm Tennant's Formula 28 TRIMARAN

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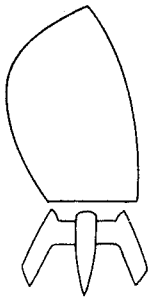
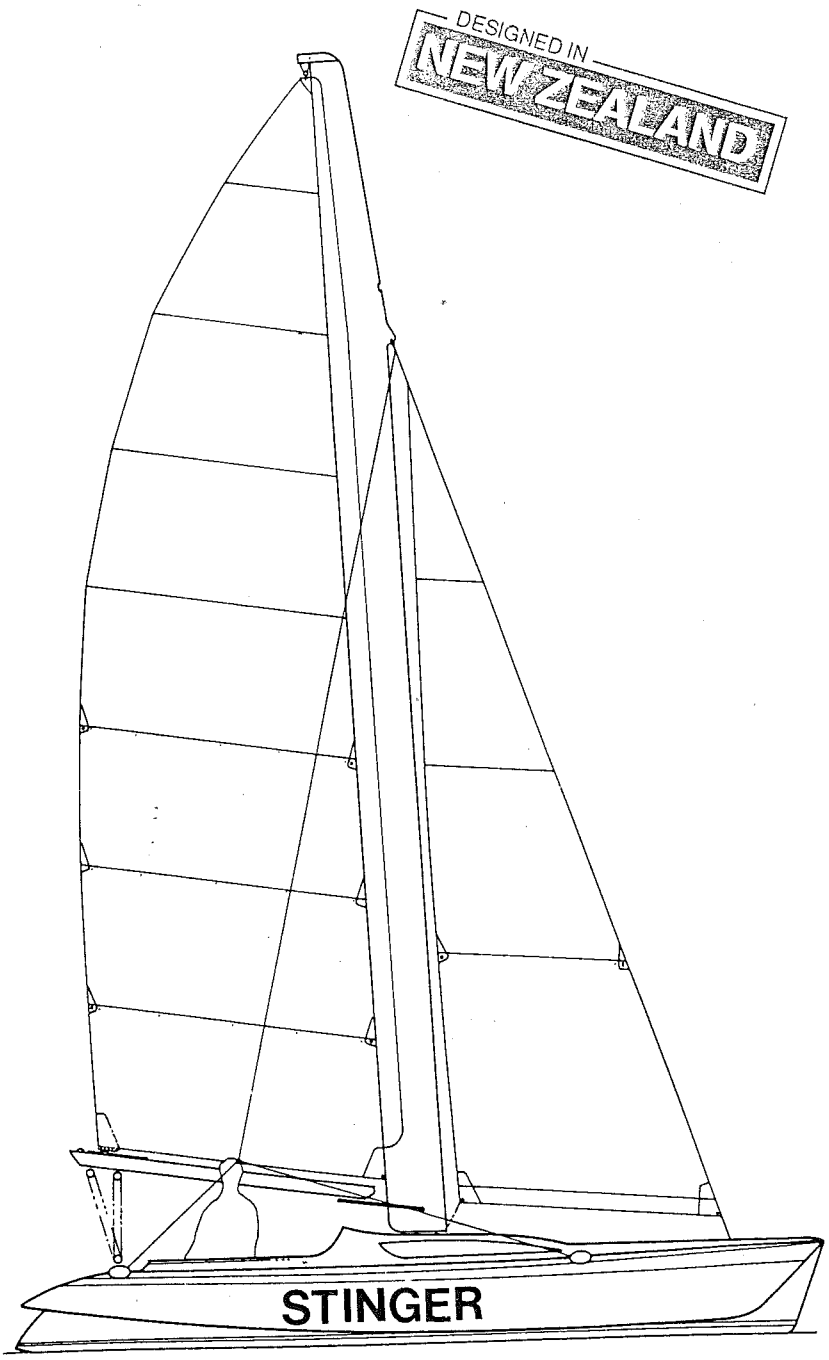


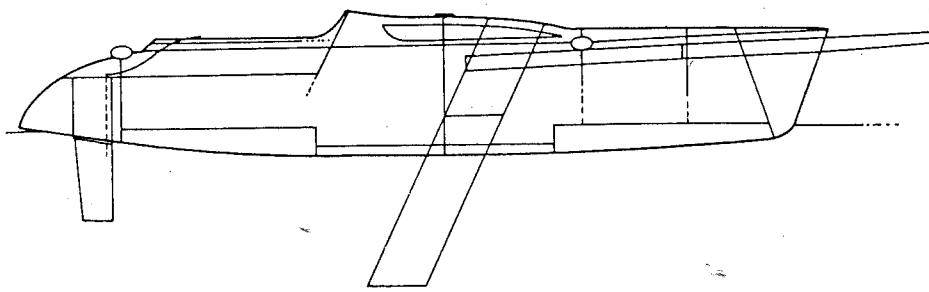
My own ideas were crystalized when I was requested to do some preliminary drawings for a Formula 28, and the result was the *Stinger.* Despite some comments I made, I assumed that there would be no sitting-out devices allowed, and if this was so, then it was imperative (on a small boat like this) to get the crew weight as far out as possible from the centerline of the boat. Similarly, it was imperative to be able to move the crew fore-and-aft as much as possible to achieve optimum trim on any point of sail. This is difficult to do on a foiler (such as *Ker Cadelac*) which only has vestigial floats.

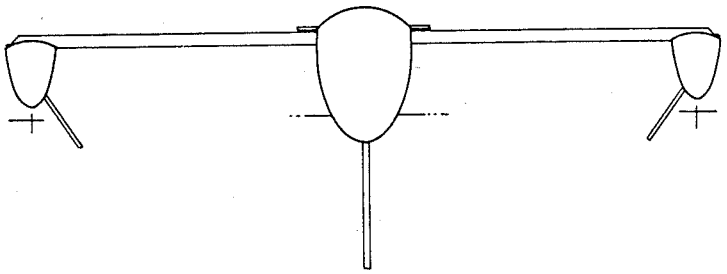
With no restrictions on sail area, the rigs are obviously going to be big and will require boats with a lot of righting moment in all directions. As a consequence of all these factors, I decided to make the floats long and large, and to further enhance the diagonal stability by the use of lifting foils in the forward sections.

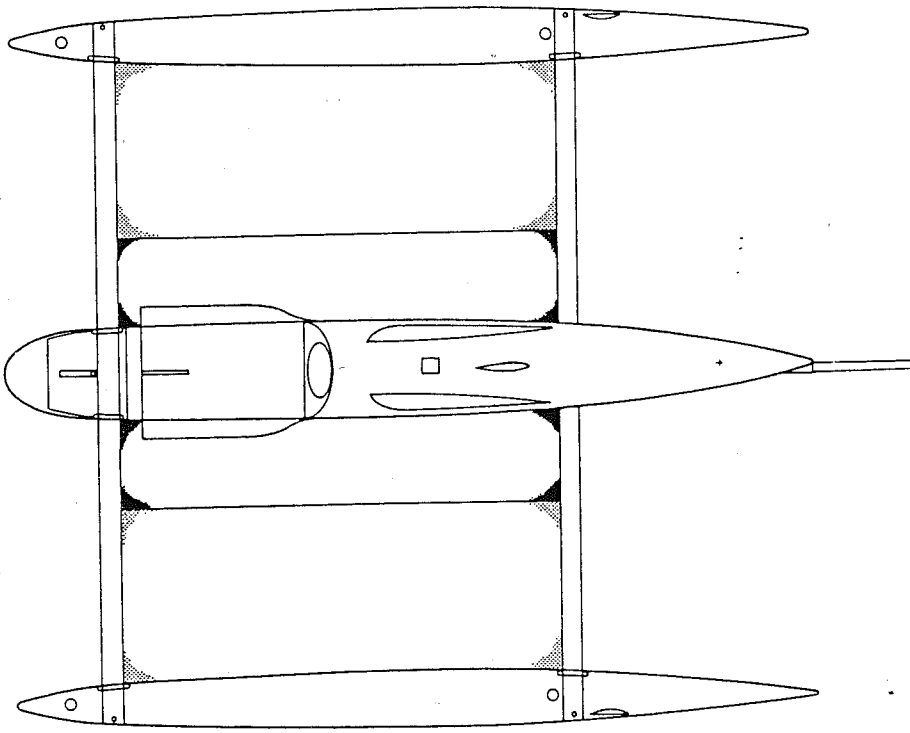
When considering the rig I have assumed that only one will be allowed and, consequently, it must be as efficient and versatile as possible. C-Class catamarans have amply demonstrated the superiority of the solid wing rig, but these boats must be trailerable and such rigs are very unvieldy Also, the rule states that reefing must be possible, which is not yet available with solid wings. This leaves us with the wing/soft sail combination, which could be a una-rig, but I prefer the versatility and ease of handling conferred by a high-aspect ratio, fully-battened headsail. I have drawn a simple 3/4 wing-masted sloop that can augment its basic working sails with reachers and spinnakers, set from just above 3/4 position, and also from the masthead.

Experience with class racing in the 8.5m *Great Barrier Express* catamarans has shown that the fastest way downwind is by tacking. To assist this, I have proposed using a spinnaker pole/bow sprit as used on the *Flying 18s.* Very large asymmetrical spinnakers are used by these boats to good effect. The use of this pole, which is extendable/retractable from the cockpit, makes it possible to set and gybe these sails without going onto the foredeck. These sails give colossal off-the-wind power, hence the need for floats that are deep in the









forefoot, with lifting foil assistance, to get the maximum possible diagonal stability within the length restriction.

The construction of the boat depends on a number of factors, not the least of which is *what can you afford!* If you are building such a boat yourself then, obviously, your familiarity with particular materials would influence your decision concerning the techniques to be used. If the boat were in series production, then a different set of criteria would be in force and a quite different approach to construction might be indicated. If the boat were built in strip-plank cedar composite, then it would be necessary to resort to Nomex, Kevlar, carbon fiber & epoxy. The method chosen is largely a trade-off of weight versus cost. The crossbeams present a similar picture. Alloy mast-extrusions would be the simplest, but they would require bracing wires and internal webs to make them stiff enough, but they might also be very expensive. A compromise might be a cedar composite beam, even though they would require more labor than alloy.

The rudder, centerboard and foils can all be made of glass/Kevlar/carbon fiber combinations, using a simple steel-mold technique. If cost is a factor, simple timber ones would suffice, albeit reinforcement would be used. Transom-hung rudders find little favor in France, and since the Formula 28 is still very much a French class at the moment, the *Stinger* has an underhung spade rudder in a case to allow retraction for trailering. The centerboard is one of the usual cantilever one that does not protrude out the top of the case when retracted.

Will this class develop in the same spectacular way that is apparent with the Formula 40 class in Europe? There are already a number of boats in existance, such as the *Great Barrier Express* and the *Stiletto,* which may be modified to become Formula 28s and boost the class numbers.These boats are close to the Micro-Multihulls in size and some may favor the more restricted boats on a cost basis. Whatever the future of the class, currently, it would seem to provide a relatively inexpensive test bed for all of the go-fast concepts that, at the moment, only exist on designers' drawing boards.

M. Tennant

	STINGER	GBE
LOA	8.53m/28'0"	8.5m/27'10"
BEAM	6.50m/21'4"	5.0m/16'05"
WEIGHT	700 kgs 1,543 lbs	
	DISPLACEMENT	1,077 kgs 2,374 lbs
SAIL:	46m^2/495ft^2	38m^2/410ft^2