

DARING CLASS

New Deck Proposal

By Theo Rye 30-Nov-08

1. Background

The Daring Class Association anticipate that new decks are going to be required in the near future, as many of the older decks have absorbed water and are badly deteriorated. Prices have been obtained from YPL for the construction of a plug and mould, and for the decks themselves; and from Lallow's for fitting new decks onto existing hulls.

2. Proposal

2.1 Existing decks

The existing class deck mould is unusable, and requires replacement. Some of the very earliest decks were constructed from inclined flat panels which meet at the centreline, and the later boats have totally flat decks. The original drawings show that Robb originally intended the decks to be cambered. The decision to make the decks flat was presumably to simplify construction and reduce costs, as end-grain balsa (EGB) was and is economical to use in flat panels. The class construction drawings show the decks to be of EGB with local ply inserts. Both EGB and ply tend to absorb water over time, and it appears that many of the existing decks are degraded to the point where they need replacement.

2.2 Proposal for cambered decks

A slightly cambered deck in line with Robb's original design would be an aesthetic improvement over a flat deck, (and may help prevent seagulls landing and fouling the decks on the moorings). It would also help with keeping water out of the boat, although the improvement will probably be slight. The amount of camber is proposed at approximately 1/2" per foot of maximum beam; in this case giving a maximum amount of camber (or crop) of c.3" based on a beam of a little over 6ft. It is proposed to build the deck camber based on a constant radius (a common approach), which in this instance would be c. 20ft. This would give a maximum amount of camber (or crop) of c.3" (75mm) at maximum beam; as this is in way of the cockpit aperture, the actual greatest crop would be about 2 1/4" (58mm) at the aft end of the cockpit and in way of the mast. This seems to agree with the original drawings.

2.3 New deck structure

The proposal would be to mould the new decks from closed cell foam of sufficient density (c. 150 to 180 kg/m³) to avoid having to place implants in way of fittings. This should have the benefit that any damage or imperfectly sealed fittings would not lead to widespread damage through water absorption, as well as being easier to construct. With good workmanship, the decks could be at least as light, and have at least as good a life as the originals; but still be relatively easy to repair or replace in the future if required. There would also be no restriction (other than the existing Class rules) about where fittings could be located, so making the transfer of existing items simpler.

For existing boats being fitted with new decks, the existing deck supports (knees and beams) will need to be cut out and replaced with cambered items. To this end, the deck design will assume that the deck beams and knees are not in fixed positions but vary according to individual boats. Fitting the new decks to the later boats should be straightforward, as the side flange detail can be incorporated in the new structure. For the very earliest boats with timber beam shelves, the procedure would be more complex and if required this will require more detailed study on a case by case basis.

2.4 Cockpit aperture

It appears that Robb designed the original cockpit in line with the class rules for 5.5 Metres; it seems that the boats were intended to rate 5.5 and be able sail in those fleets. As such, he was restricted in the deck aperture area. The current 5.5 rule limits the aperture to 2.25 sq.m and this is probably consistent with the rule in the late 1950s; Robb's drawing showing an aperture of c.24.1 sq.ft which is 2.24 sq.m. The result in the Daring (in common with most of the smaller Metre boats) is a somewhat compromised layout.

Since the Darings do not in fact rate 5.5 or race with them, it is proposed that a modified cockpit layout would aid the boat handling and make the boat more comfortable for the crew. The basic problem seems to be the distance at the front of the cockpit to the mast; whilst it is clearly not impossible to sail the boats effectively it would probably be easier if the crew could reach forwards of the mast from the cockpit, especially for spinnaker work.

Extending the cockpit forwards and making it slightly wider would enable this. The proposal is to extend the cockpit to a total area of 27.1 sq.ft by extending it forwards by approximately 300mm / 12". This puts the forward end immediately behind the knee which is the continuation of the chainplate structure. The forward end would then be made parallel 2ft 6in apart (to allow anyone sitting out on the side deck to use the opposite coaming as a foot rest).

2.5 Breakwater / toerails

There is a curved breakwater across the front of the cockpit, and also some small toe-rails. These are currently plant-on timber. This has the advantage of being easy to repair or replace, but at the cost of some maintenance. A local detail incorporated in the deck mould would allow GRP or timber versions to be fitted as individual owners prefer.

2.6 Mast hole

It is further proposed that the new deck moulding incorporate an over-size mast hole (as per existing boats), with provision for a future moulding to infill to form a tight collar to the mast; this could be to suit any future mast section necessary.

2.7 Edge joint

The intention would be to ensure that new decks could be fitted to both existing hulls (after modification to the deck knees), using the flange mechanism for joining at the deck edge as per the existing class drawings. It is unlikely that all the existing boats will have an identical form at the deck edge, so the flange may need to be slightly wider to accommodate the variations.

2.8 Mainsheet / Jibsheet tracks

It appears that there is only one boat in the Class with a Lewmar box section mainsheet track, the others now all being Harken. Although the Lewmar track will probably not bend to the new camber, a local block could be added to form a level platform in this isolated case. The other tracks should adapt to the camber. As the jib sheet tracks run approximately longitudinally there is less likelihood of a problem, but the same requirement may apply in a few cases.

2.9 Under deck lines

The opportunity to take some lines through the deck is also proposed; for example, to lead the spinnaker sheets & traveller lines through the aft deck and then under the deck to the cockpit, so the helm doesn't sit on them when on the side deck.

2.10 Provision for furlers

There are a number of small under-deck furling units now available which would be suitable for jibs of the size on a Daring, and many other similar classes are adopting them. Although the current Class jibs may not be suitable to be used on a furler, in due course when the jibs are replaced the Class may wish to adopt or permit their use. It is therefore proposed that the in the deck design is provision for the possible future use of an under-deck furler if the Class decided to adopt them.

2.11 Spinnaker gear

It is proposed to mould a shallow tapered "tray" recess for the spinnaker pole end into the foredeck immediately aft of the forestay, to replace the existing timber pole supports, and also a recessed mounting point for the pole downhaul block and line.

2.12 Chainplates

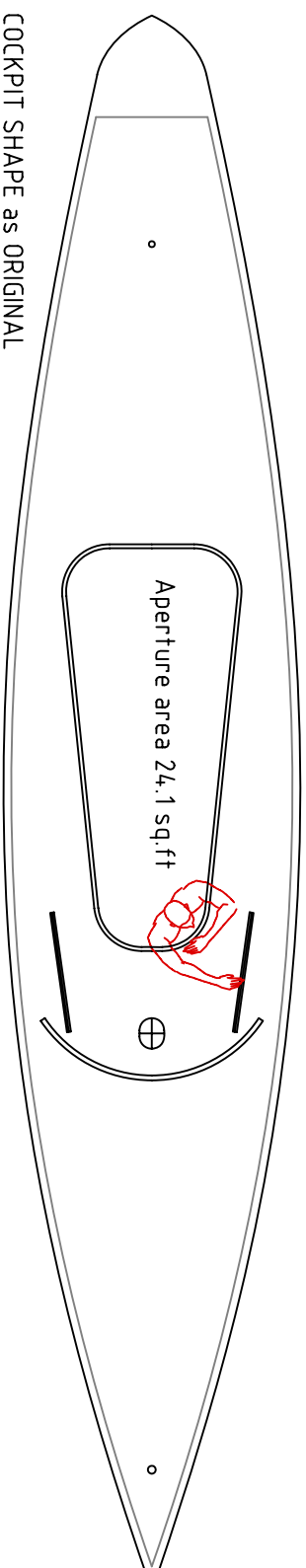
It is proposed that the shroud attachments be made above deck, so avoiding a hole through the side decks where water can enter. In order to accommodate this, a local area of monolithic GRP is envisaged in way of the existing shroud entry points, which can form the basis for an external chainplate (or accommodate the existing arrangements if necessary). The advantages of above deck chainplates would be firstly the elimination of water ingress here, potentially it would be easier to tune the rigs, and the life span of the shrouds would probably be improved. It may also allow the Class to have standard lengths of rigging made up in store, so simplifying any replacement. This change will require bottlescrews or similar above deck.

2.13 Other fittings

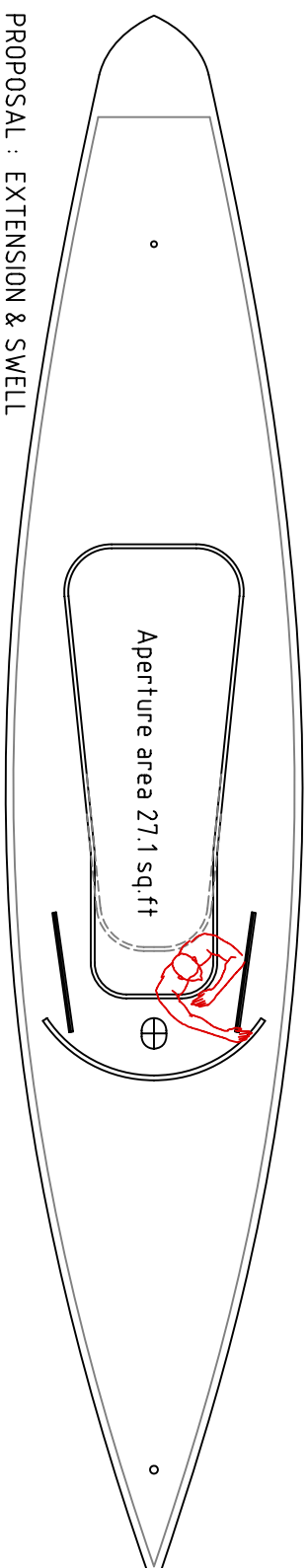
It is intended that all other existing fittings would migrate to the new decks; although some owners may prefer to replace some fittings. It is noted that the existing location of the flagstaff means it is rarely used; a position further forwards might be considered.

Theo Rye
30-Nov-08

SCALE Feet



COCKPIT SHAPE as ORIGINAL



PROPOSAL : EXTENSION & SWELL

SOURCES : This drawing is derived from :

- 1. Outline is from offsets from the lines plan "An International 5.5 Metre One Design" by A Robb, 20-Jan-1961
 - 2. Cockpit position is from "Daring Int. 5.5 Metre One Design Class : Layout of Fittings" by C B Sims, Halmatic Ltd., 21-Mar-1962
 - 3. Mast, track & breakwater positions are from "1815 The Daring Association : Jib Track / Shroud Posn." by Armu, 09-Nov-1989
- Details vary according to source, and need to be checked against several existing boats before construction drawings are made.

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Project	
Daring Class	
DWG	Cockpit proposal
DATE	08-Sep-08
SCALE	1/4"=1ft (A4)
DRAWN	TR
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Project

Daring Class

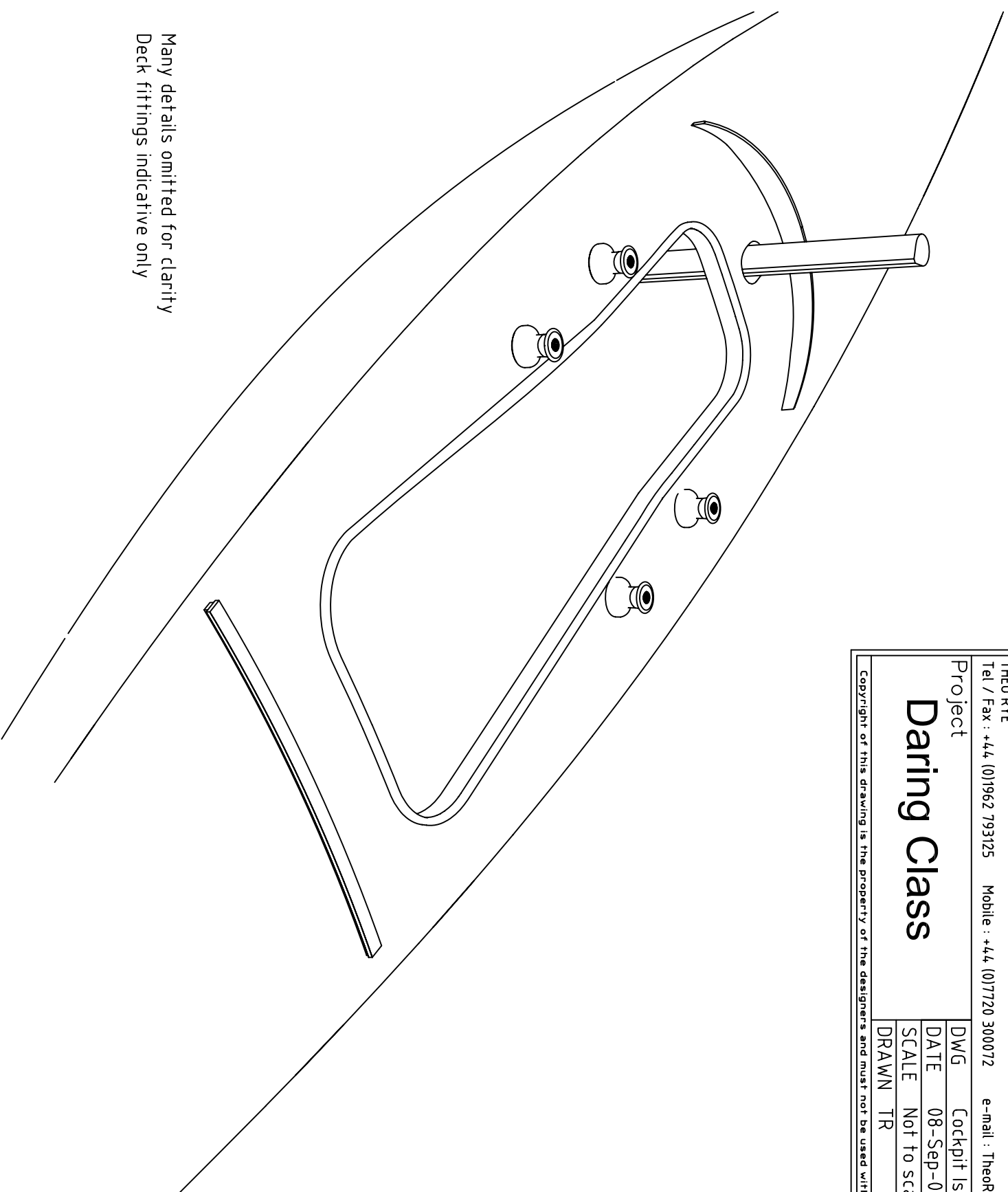
DWG Cockpit Isometric

DATE 08-Sep-08

SCALE Not to scale

DRAWN TR

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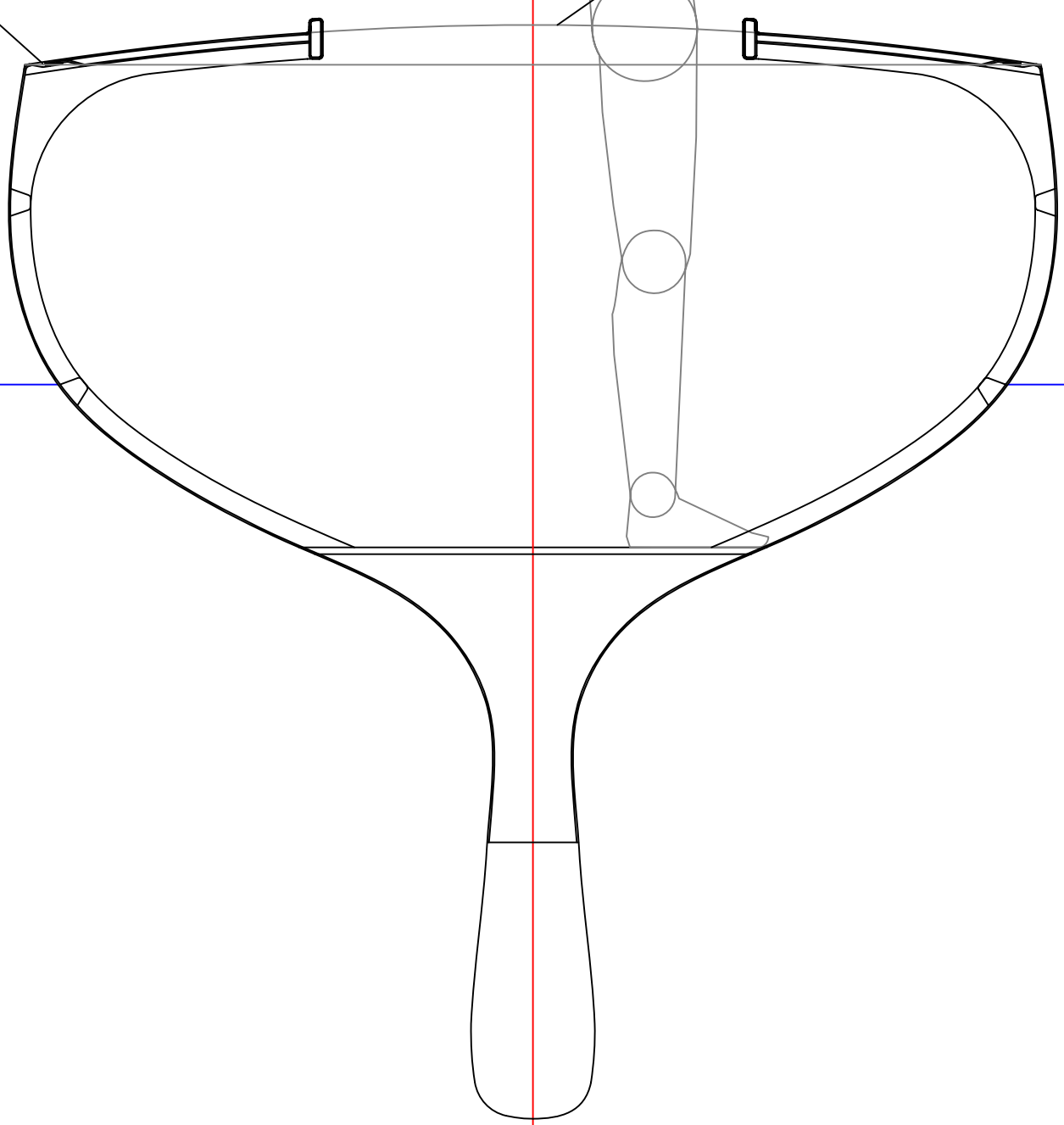


Many details omitted for clarity
Deck fittings indicative only

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Deck edge & hull joint details generally as per existing class drawings, but existing boats will need new raised deck knees. It is suggested that these be of GRP / foam rather than GRP/ply.

Decks cambered to (say) constant radius of 20ft



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Project
Daring Class

DWG	Midship section
DATE	08-Sep-08
SCALE	1"=1ft
DRAWN	TR

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