



- A** Keel bored for M8 hex bolts. Countersinks on bottom of keel Ø20 x 10mm deep for bolt heads. Except for aft pair (which are square to scarph) bolts are vertical.
- B** Keel bored for M12 hex bolts. Countersinks on bottom of keel Ø25 x 15mm deep for bolt heads. Bolts are vertical.
- C** Keel bored for M10 hex bolt. Countersink on bottom of keel Ø22 x 10mm deep for bolt head. Bolt is vertical.

- Specific Notes:**
- Keel is cast in lead /4% antimony.
  - Keel volume =  $0.0181m^3$  - slot at  $0.0028m^3 = 0.0153m^3$ . Weight at 11350 = 173kg.
  - Keel bolts are stainless steel Grades 316 S16. Nuts and washers are Grade A4.
  - Bolts are only to be threaded in way of head and inside nut - do not use studding.

- General Notes:**
- The Zero Point is the intersection of the Datum Water Line (dwl) with the stemface.
  - Positions are measured fwd and aft (marked "-") of the Zero Point.
  - Heights are measured above and below (marked "-") the dwl.
  - Offsets are measured each side of the fore-&-aft centreline.
  - Waterlines are designated "wl" followed by their height.
  - Buttocks are designated "b" followed by their offset.
  - Diagonals are designated "d" followed by their start height on the centreline and their angle to it.
  - Offsets on diagonals are measured down the angle of the diagonal.
  - Offsets are to inside of skin unless noted otherwise.

Heights to give shape of top and bottom of keel			
	Position	Heights from dwl	
		Keel top	Keel bottom
Fwd end	-635	---	-209
	-695	---	-215
Fwd end	-785	-163	---
	-1035	-182	-242
	-1375	-199	-262
	-1705	-207	-278
	-2035	-208	-293
	-2365	-204	-308
	-2695	-195	-322
Aft end	-2820	-190	---
Aft end	-2970	---	-334

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<p><b>Boat 077</b></p> <p><b>Ballast Keel</b></p>	Scale 1/10
	Date 20/05/2000
	Plan No. 077/005/01
	Issue No. 01 web
All dimensions in millimetres unless noted otherwise	

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