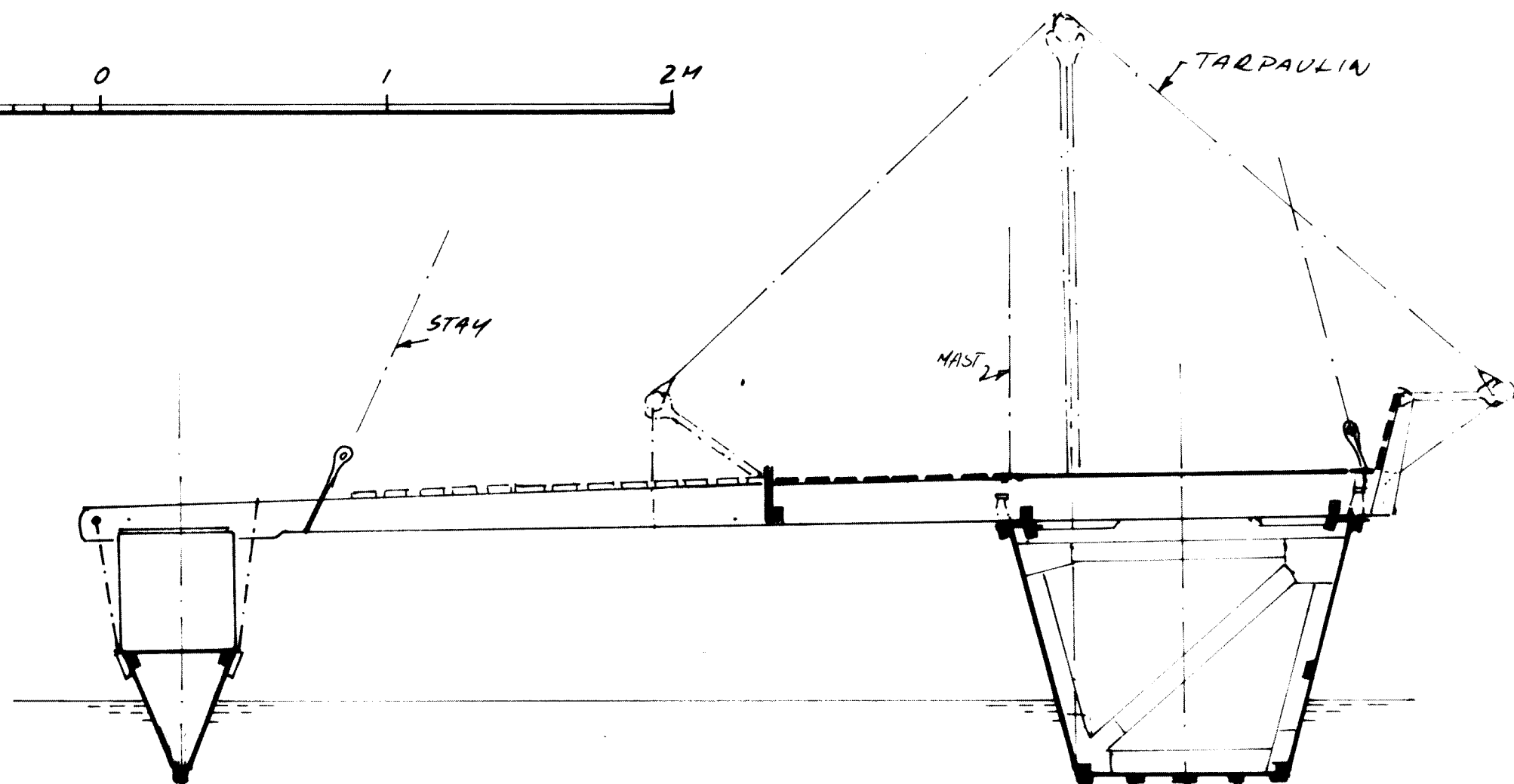
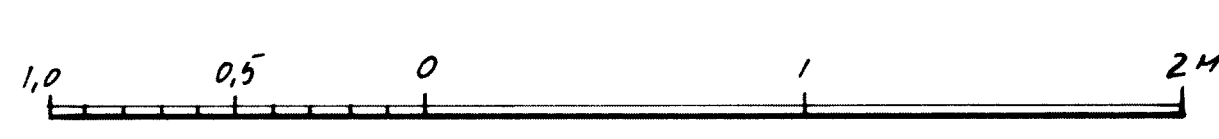
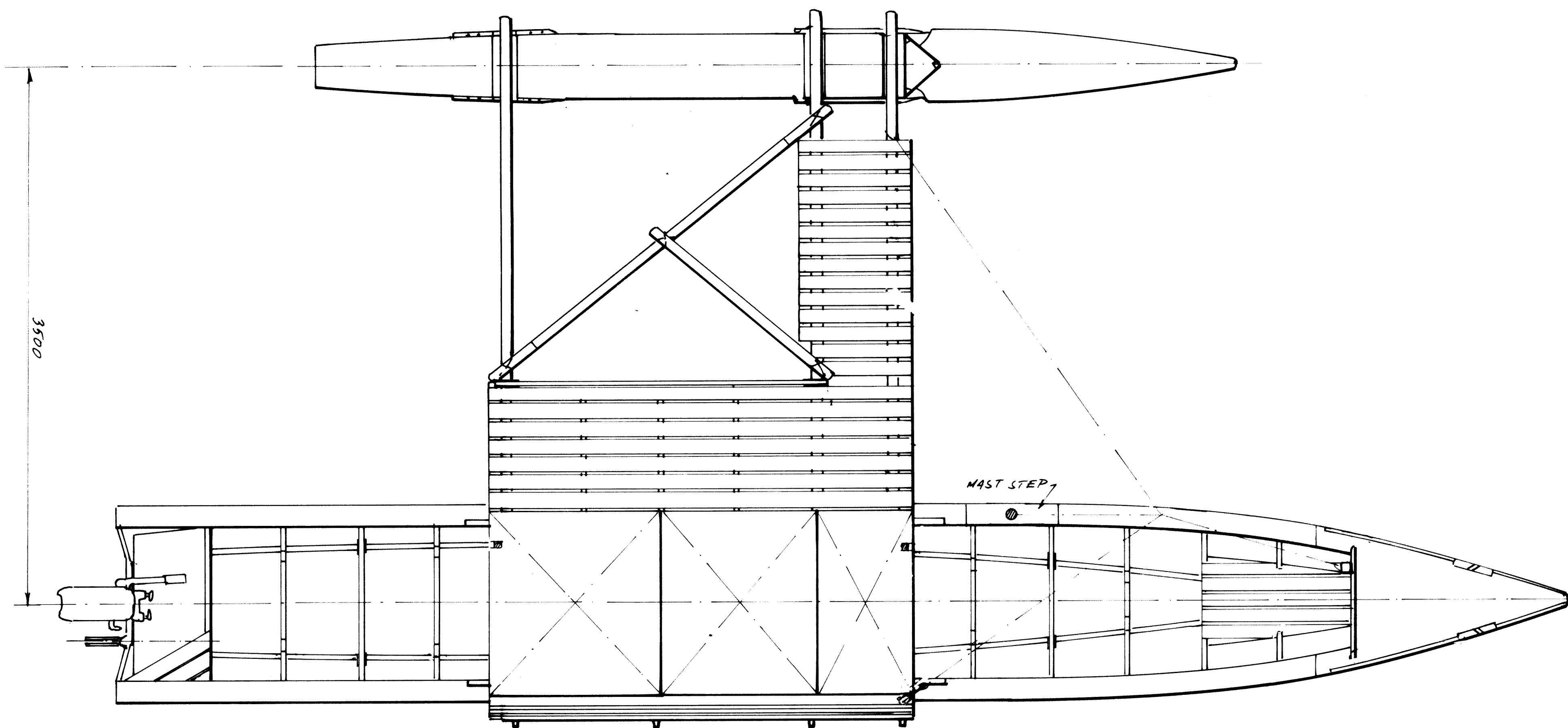
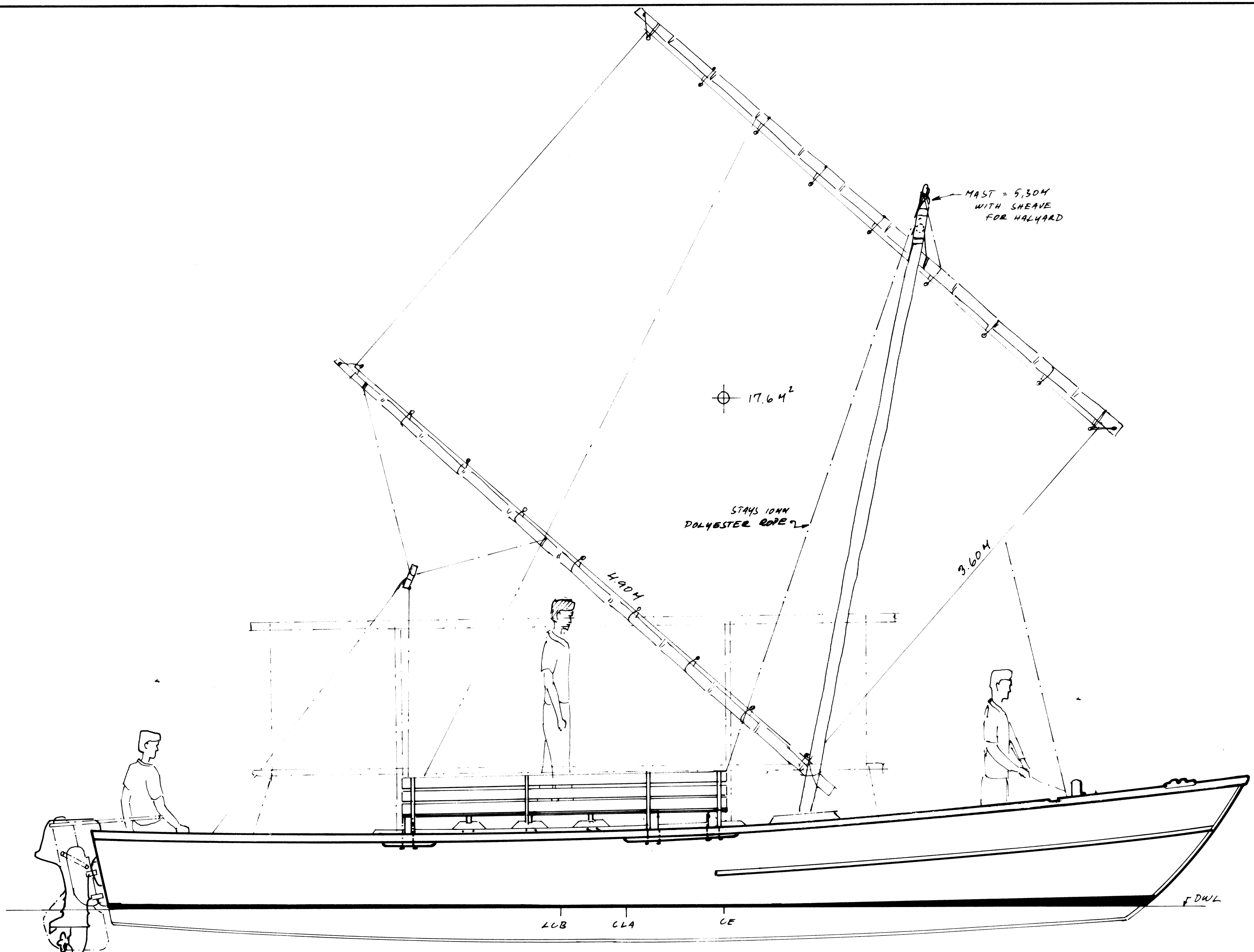


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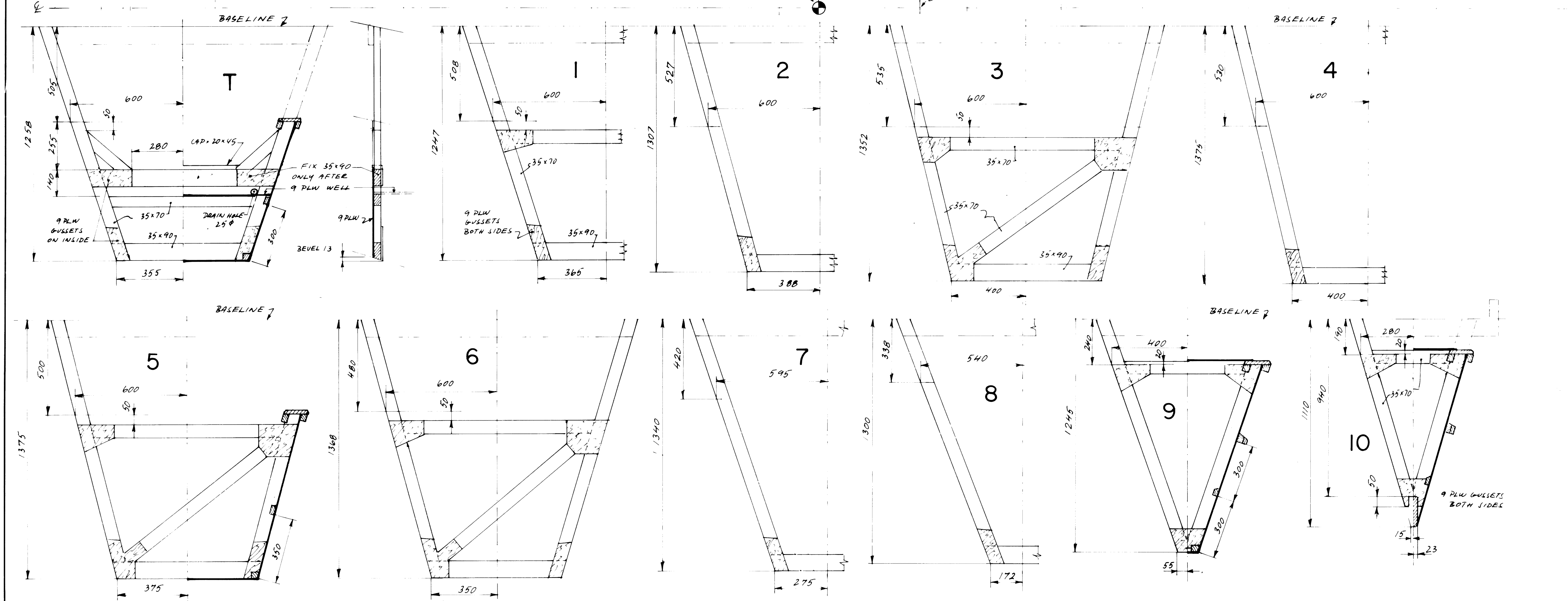
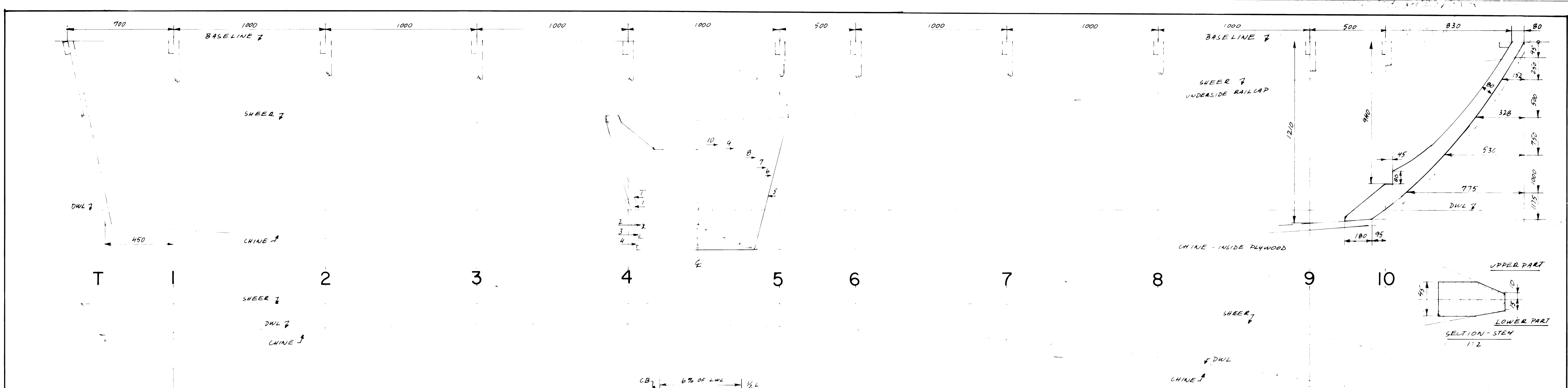


| Particulars | | MAIN HULL | OUTRIGGER |
|----------------------------------|-------|---------------------|--------------------|
| LENGTH OVER ALL | LOA = | 9,50 M | 6,0 M |
| BEAM MOULDED | BMD = | 1,22 M | 0,44 M |
| DEPTH MOULDED, MIDSHIP | DMD = | 0,89 M | 0,44 M |
| WBL NUMBER, LOA x BMD x DMD, WMB | | 10,3 M ³ | 1,2 M ³ |
| DRAFT MAX DWL | T = | 0,30 M | 0,28 M |
| WEIGHT EMPTY | | 600 KG | 110 KG |
| SERVICE LOAD | | 800 KG | 40 KG |
| DISPLACEMENT, DWL | Δ = | 1400 KG | 150 KG |
| PROPULSION: | | | |
| OUTBOARD ENGINE 15-25 HP | | | |
| SERVICE SPEED 25 HP = 9 KNOTS | | | |
| EMERGENCY SAIL: | | | |
| TARPAULIN 17,6 M ² | | | |



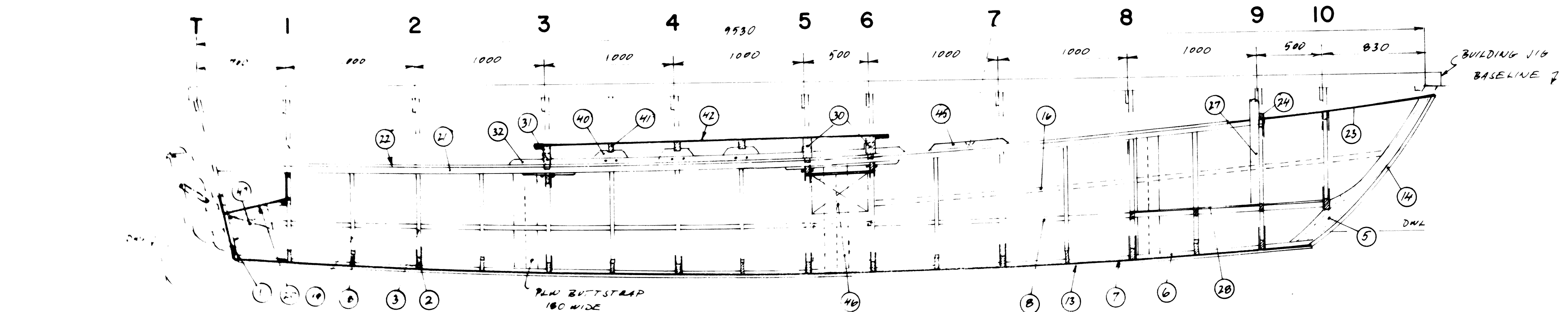
**9.5m Outrigger Canoe
GENERAL ARRANGEMENT**

| | | |
|--------------------|------------|-----------|
| SCALE = 1:20 | DESIGN NO. | DRWG. NO. |
| DESIGN: P. GILBERT | PNG-II | I |
| GRIMSTAD, OUT-89 | | |



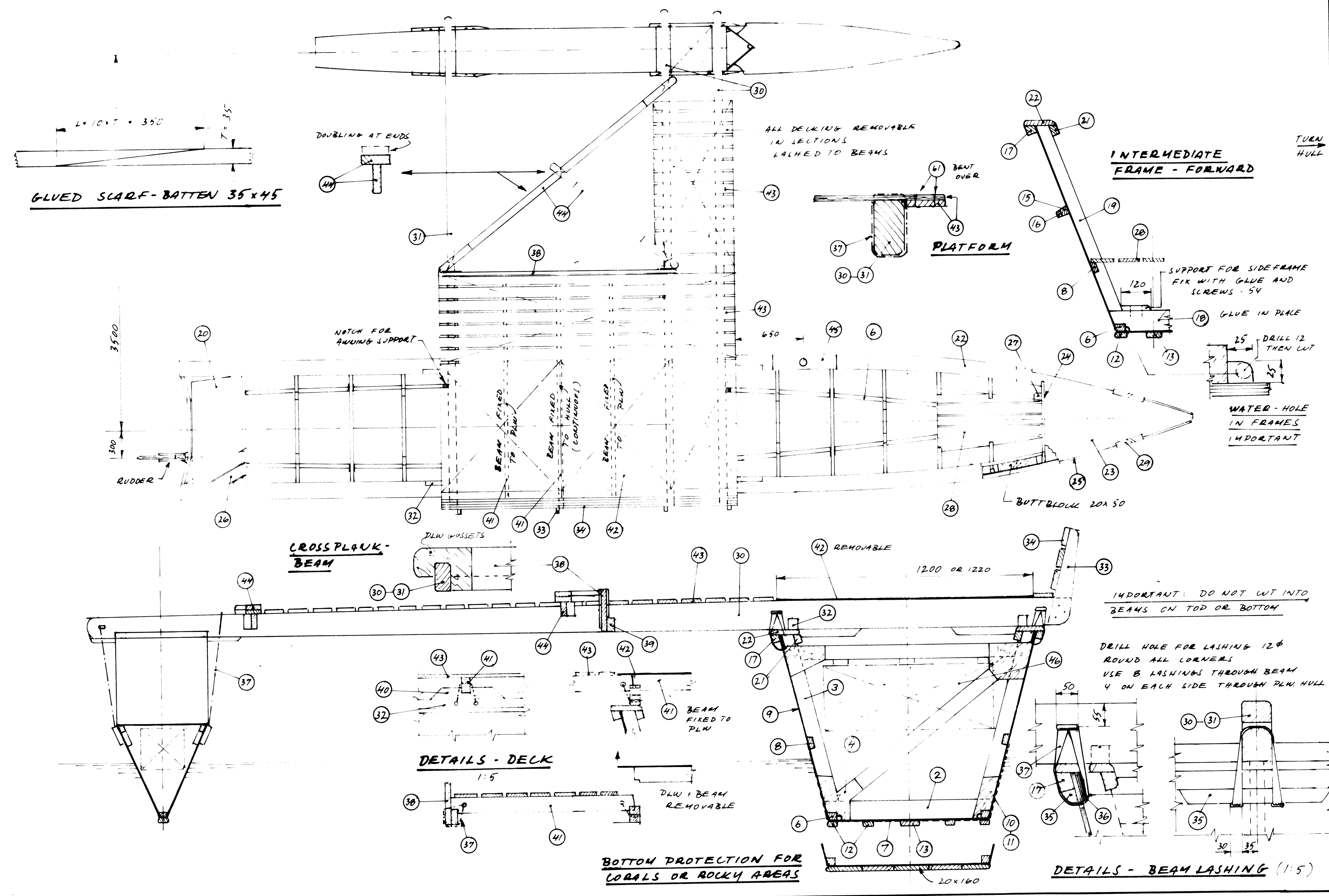
| Particulars | | |
|-------------------------|----------------------------|---------------|
| MAIN HULL | | |
| LENGTH OVER ALL | LOA = 9.504 | |
| BEAM MOULDED | BMD = 1.224 | |
| DEPTH MOULDED MIDSHIP | DMD = 0.894 | |
| LUKIC NUMBER | LOA x BMD x DMD | LUKD = 10.314 |
| LENGTH DWL | L = 8.504 | |
| BEAM DWL | B = 0.934 | |
| DRAFT DWL | T = 0.294 | |
| FREEBOARD MINIMUM DWL | FMD = 0.904 | |
| FREEBOARD BOW | FMB = 0.904 | |
| DISPLACEMENT DWL | Δ = 1.35 TONNE | |
| ENGINE POWER - OUTBOARD | 15 - 25 HP | |
| SERVICE SPEED | V = 10 KNOTS | |
| COEFFICIENTS DWL: | | |
| SPEED RATIO | $\frac{V}{\sqrt{L}}$ = 1.9 | |
| $\frac{L}{B}$ = 9.1 | $\frac{D}{0.1L}$ = 2.1 | |
| PALMATIC: ϕ = 0.05 | | |
| 1/2 ANGLE OF ENTRANCE | 1/2 X = 8° | |

| | | | |
|--------------------------|-----------------------------|-----------|----------|
| F A O FIAT PANAMA | 9.5m Outrigger Canoe | | |
| | LINES - FRAMES | | |
| | SCALE = 1:10 | DESIGN NO | DRWG. NO |
| | DESIGN: J. GUY/BRITANNIA | PNG-11 | 2 |



LIST OF MATERIALS DO NOT INCLUDE
OUTRIGGER (DRAW NO 4) OR BUILDING JIG.

| MATERIALS LISTED IN ORDER OF ASSEMBLY | | | | |
|---------------------------------------|--------------------------------|-----------------|-------------------------------|--|
| POS | ITEM | DIMENSION MM | LENGTH M | NOTES |
| 1 | TRANSOM PLANKING PLW | 9 | | |
| 2 | BOTTOM FRAME | 35 x 90 | 7 | |
| 3 | SIDE FRAME, MAIN | 35 x 70 | 26 | |
| 4 | GUSSETS PLW BOTH SIDES | 9 | | OFFCUTS |
| 5 | STEM | 45 x 200 | 1,7 | SAWN TO SHAPE |
| 6 | CHINE | 35 x 45 | 17 | |
| 7 | BOTTOM PLANKING PLW | 12 | | |
| 8 | SIDE BATTEN | 20 x 45 | 17 | |
| 9 | SIDE PLANKING PLW | 9 | | |
| 10 | F.R.D MAT 450 g/m ² | | 12,4 ^{m²} | ALTERNATIV 20 LITRES |
| 11 | POLYESTER RESIN | | | DHUEL + EPOXY RESIN TO COVER WATERLINE |
| 12 | BOTTOM PROTECTION | 20 x 70 | 8,5 | |
| 13 | BOTTOM PROTECTION, CENTRE | 20 x 45 | 1,7 | |
| 14 | STEM LADDING | 35 x 45 | 1,7 | |
| 15 | SPRAH RAIL INNER | 35 x 45 | 8 | |
| 16 | SPRAH RAIL OUTER | 20 x 35 | 8 | |
| 17 | SHEER BATTEN | 35 x 45 | 20 | |
| 18 | INTERMEDIATE FLOOR | 35 x 90 | 5 | |
| 19 | INTERMEDIATE SIDE FRAMES | 35 x 55 | 14 | ALTERNATIV 1 OF 35 x 55 + 1 OF LONGS |
| 20 | OUTBOARD WELL PLW | 9 | | |
| 21 | LAMING | 35 x 45 | 17 | |
| 22 | RAIL CAP | 20 x 150 | 17 | FORWARD FROM 20R200 |
| 23 | DECK FORWARD PLW | 9 | | |
| 24 | DECK BATTEN | 20 x 35 | | |
| 25 | DECK PROTECTION | 12 x 20 | | |
| 26 | SEAT AFT | 12 x 90 | 1,1 | |
| 27 | MOORING BITT | 70 x 70 | 0,8 | |
| 28 | FLOOR FORWARD | 12 x 90 | 5 | |
| 29 | FAIRLEADS | 45 x 45 | 0,5 | |
| 30 | BEAMS FORWARD | 70 x 140 | 9,2 | TWO OF 4,64 |
| 31 | BEAM AFT | 70 x 140 | 4,6 | |
| 32 | BEAM SUPPORT | 45 x 45 | 6 | STOPS AT BEAMS |
| 33 | STAUCTIONS | 35 x 90 | 2 | |
| 34 | STAUCTION PLANKS | 20 x 90 | 8,4 | |
| 35 | FILLER BLOCK | 35 x 35 | 2,2 | GLUE IN PLACE |
| 36 | PLYWOOD DOUBLING | 9 | | GLUE IN PLACE |
| 37 | LASHING ROPE, POLYAMIDE | 6 φ | 40 | |
| 38 | CROSS PLANK | 20 x 200 | 2,3 | |
| 39 | CROSS BATTEN | 35 x 70 | 1,9 | |
| 40 | BEAM BLOCKS | 45 x 45 | 2,1 | |
| 41 | DECK BEAMS | 35 x 70 | 6,6 | |
| 42 | PLYWOOD DECK | 9 | | |
| 43 | WOODEN DECK | 12 x 90 | 35 | |
| 44 | DIAGONAL BRACE | 20 x 70 | 11 | |
| 45 | 4AST STEP | 45 x 140 | 0,6 | |
| 46 | BUYAHUKU BLOCK MAIN | 300 x 450 x 200 | | POLYURETHAN OR POLYURETHAN |
| 47 | BUYAHUKU BLOCK AFT | 200 x 300 x 200 | | |
| FASTENINGS | | | | |
| 50 | GLUE EPOXY OR RESORCINAL | | | |
| 51 | WOODSCREWS SILICON BRONZE | 25 x 89 | | PLW 9 - BATTEN 20 |
| 52 | WOODSCREWS SILICON BRONZE | 32 x 89 | | PLW 9 - BATTEN 35 |
| 53 | " | 38 x 89 | | PLW 12 |
| 54 | " | 45 x 109 | | PLW 20 |
| 55 | " | 75 x 129 | | BATTENS 35 |
| 56 | BARBED RINGNAILS | 25 x 129 | | PLW 9 - BATTEN 20 |
| 57 | SILICON BRONZE, FLAT HEAD | 32 x 129 | | PLW 9 - BATTEN 35 |
| 58 | " | 38 x 109 | | PLW 12 |
| 59 | " | 50 x 109 | | PLW 20 |
| 60 | LODGER BOTTNAILS | 25 x 129 | | PLW 9, BUTTS |
| 61 | " | 32 x 129 | | PLW 12, BUTTS |

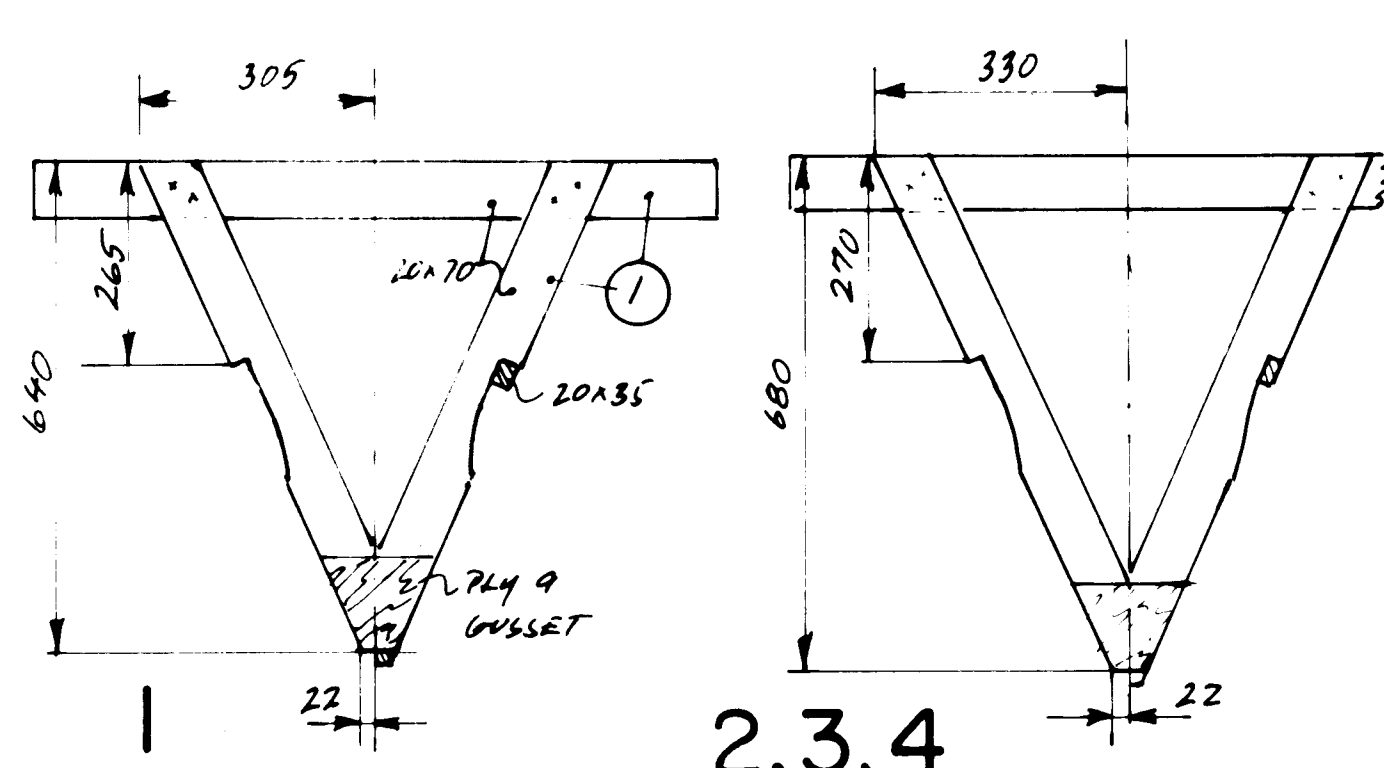
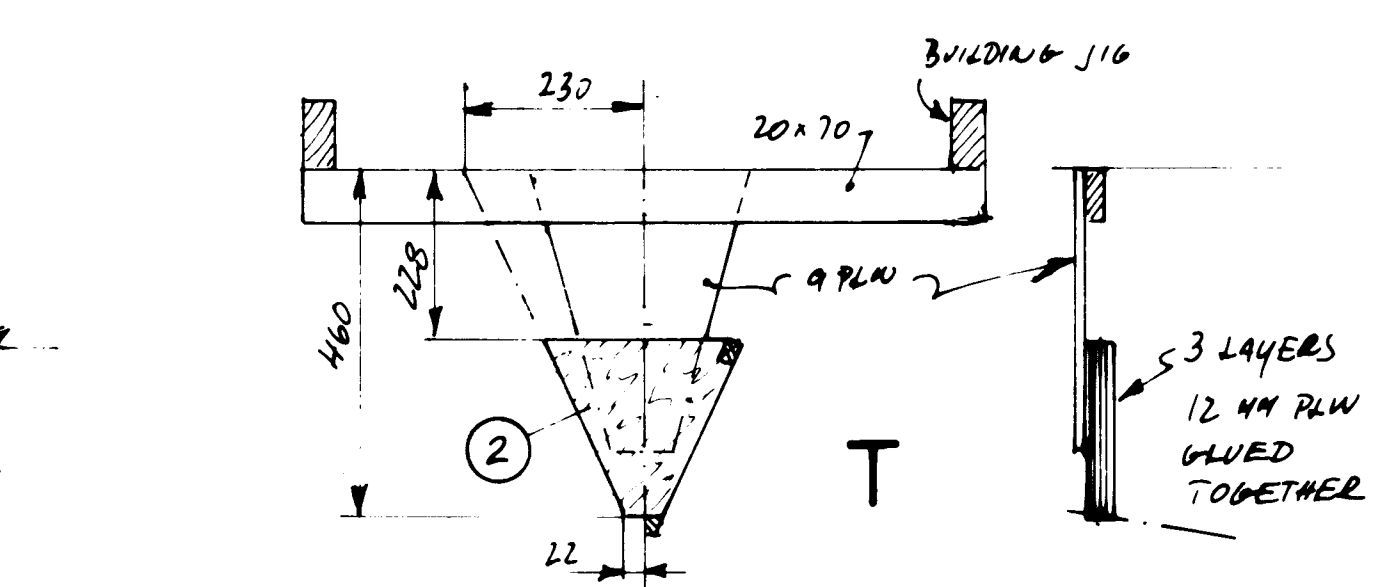
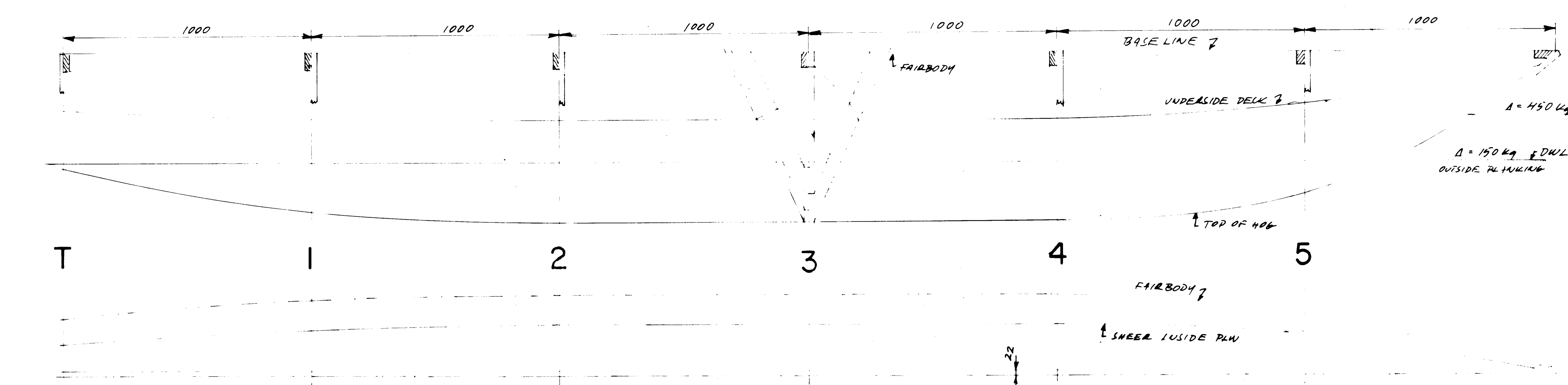


9.5 m Outrigger Canoe CONSTRUCTION

SCALE = 1:10, 1:20 DESIGN NO. DRAWG. NO.

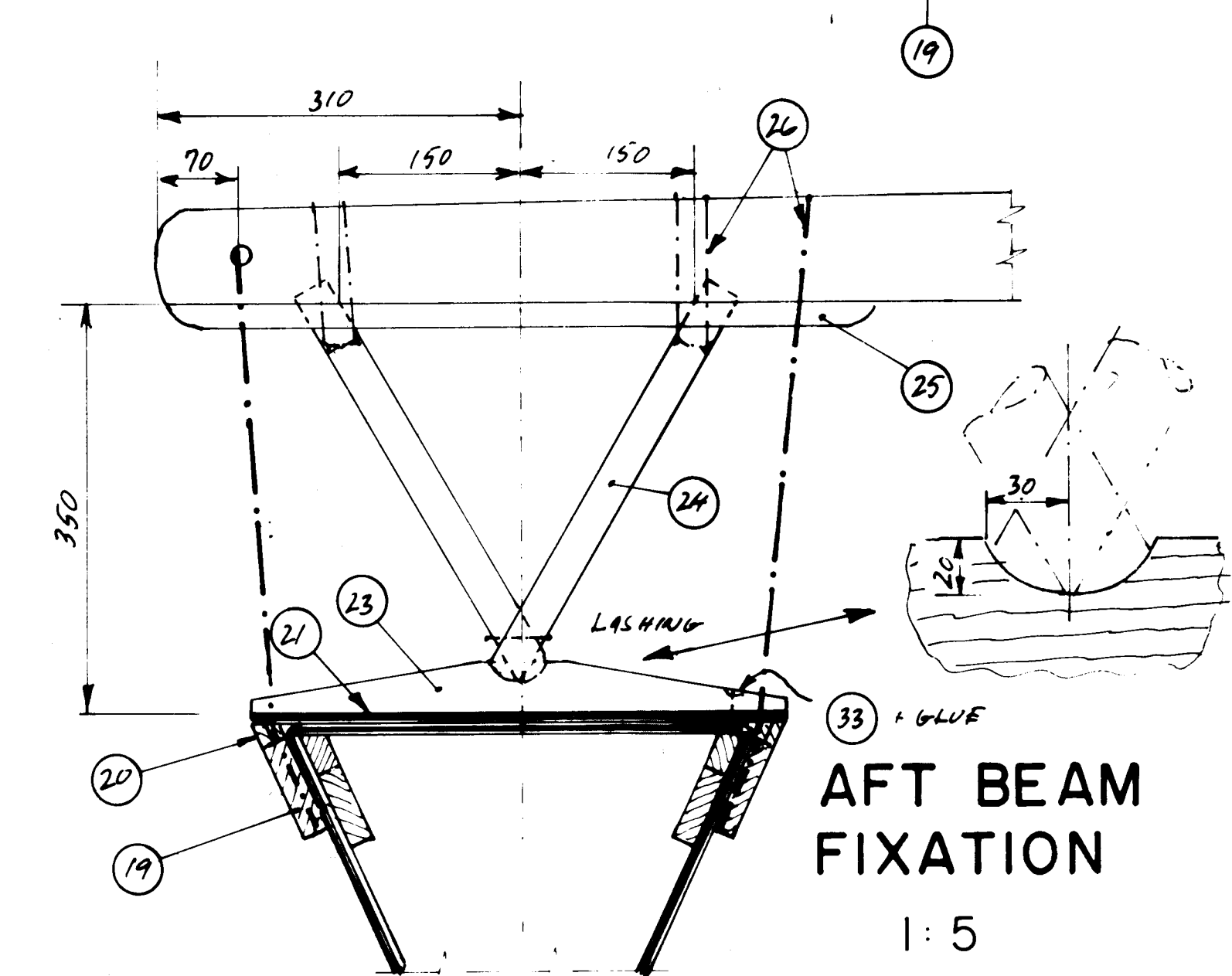
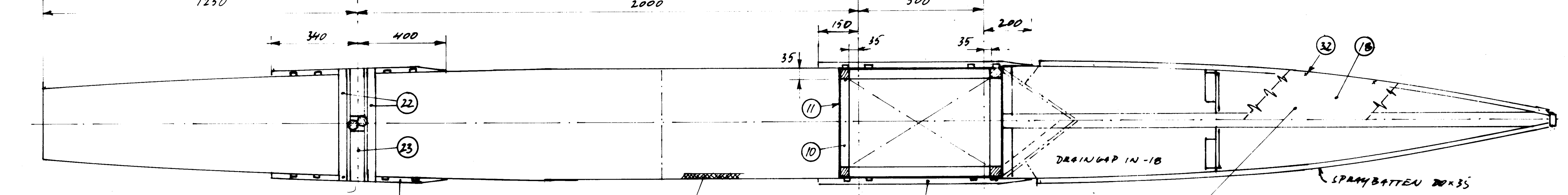
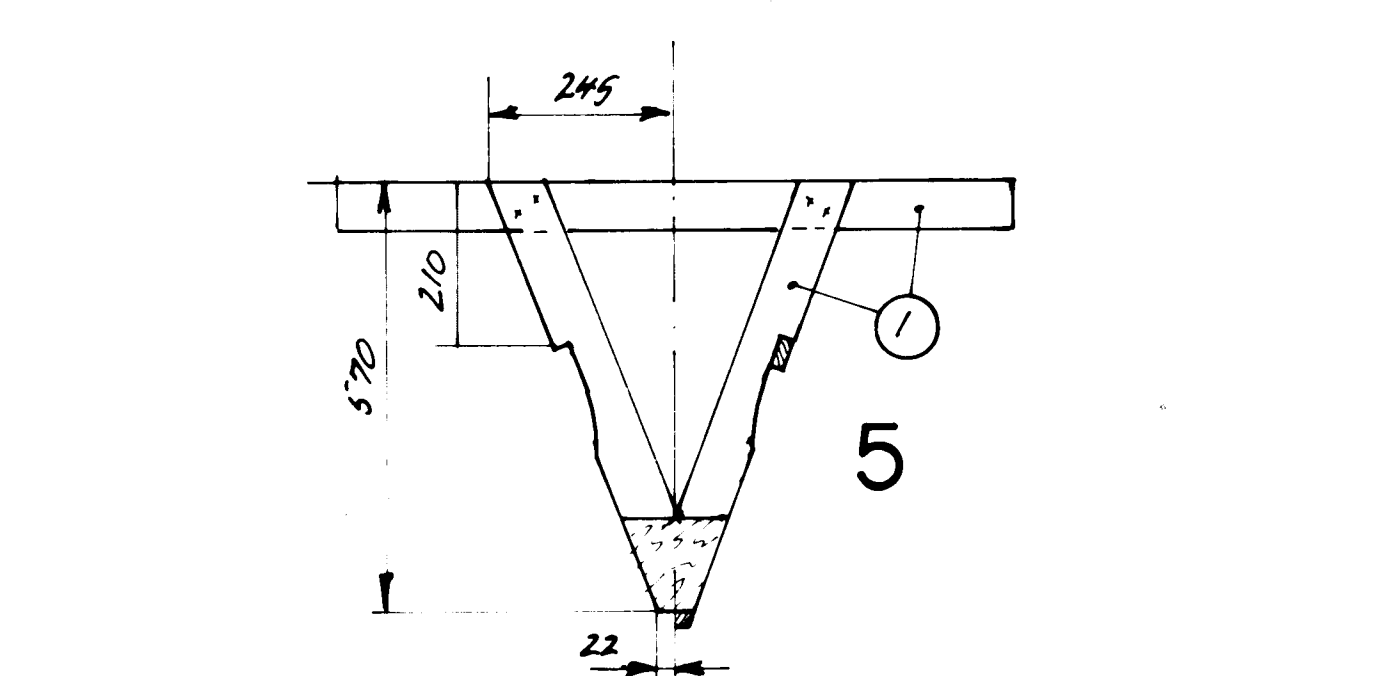
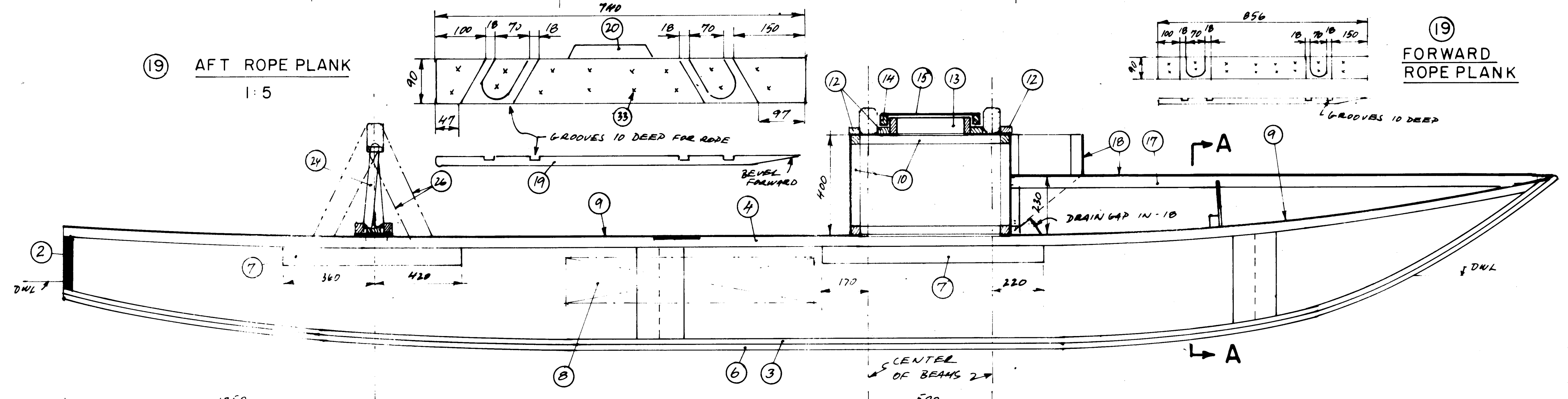
DESIGNER: J. Carl Gustafsson **PNG-II** **3**

GUSTAFSSON, OUT-89

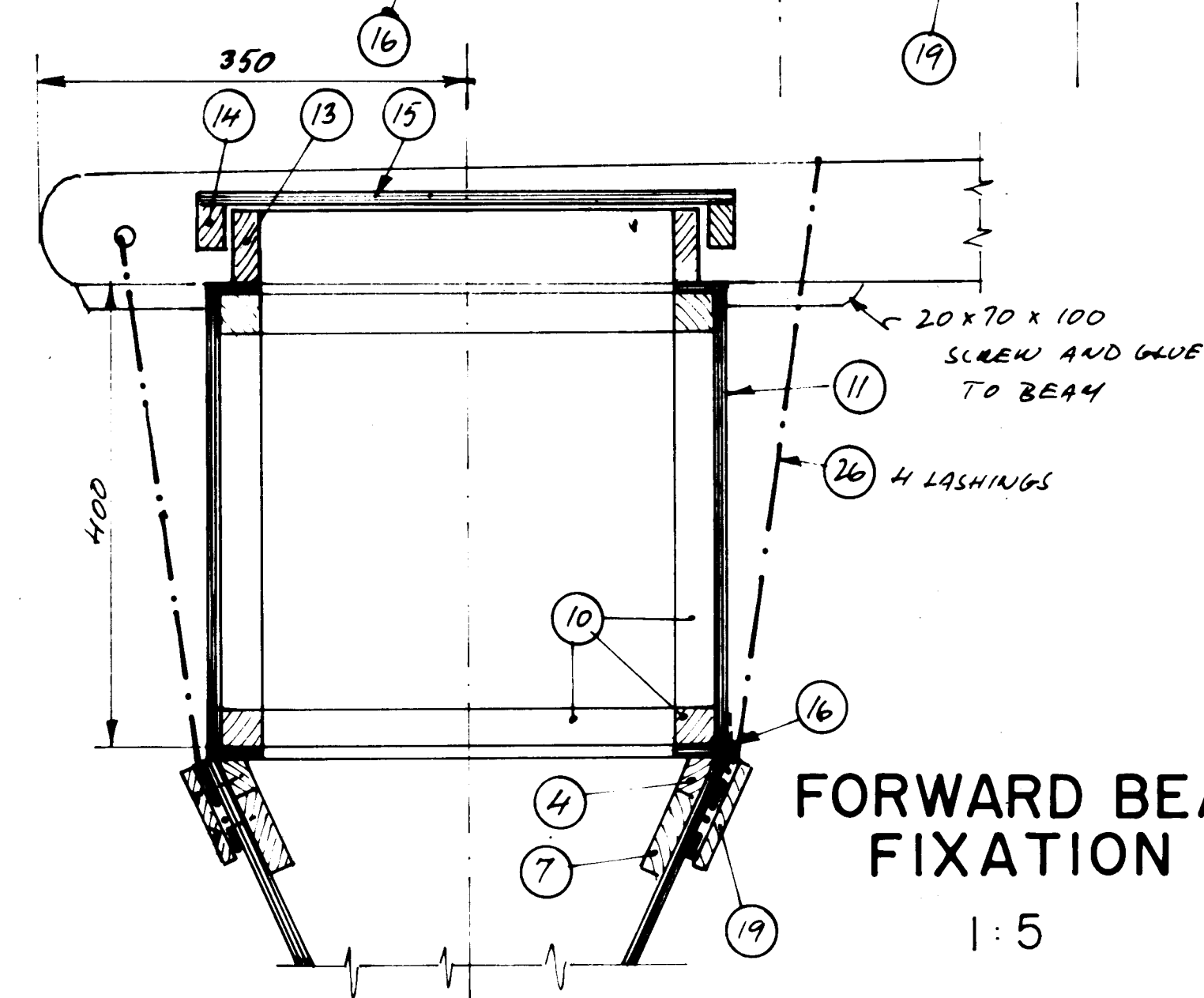


19 AFT ROPE PLANK
1:5

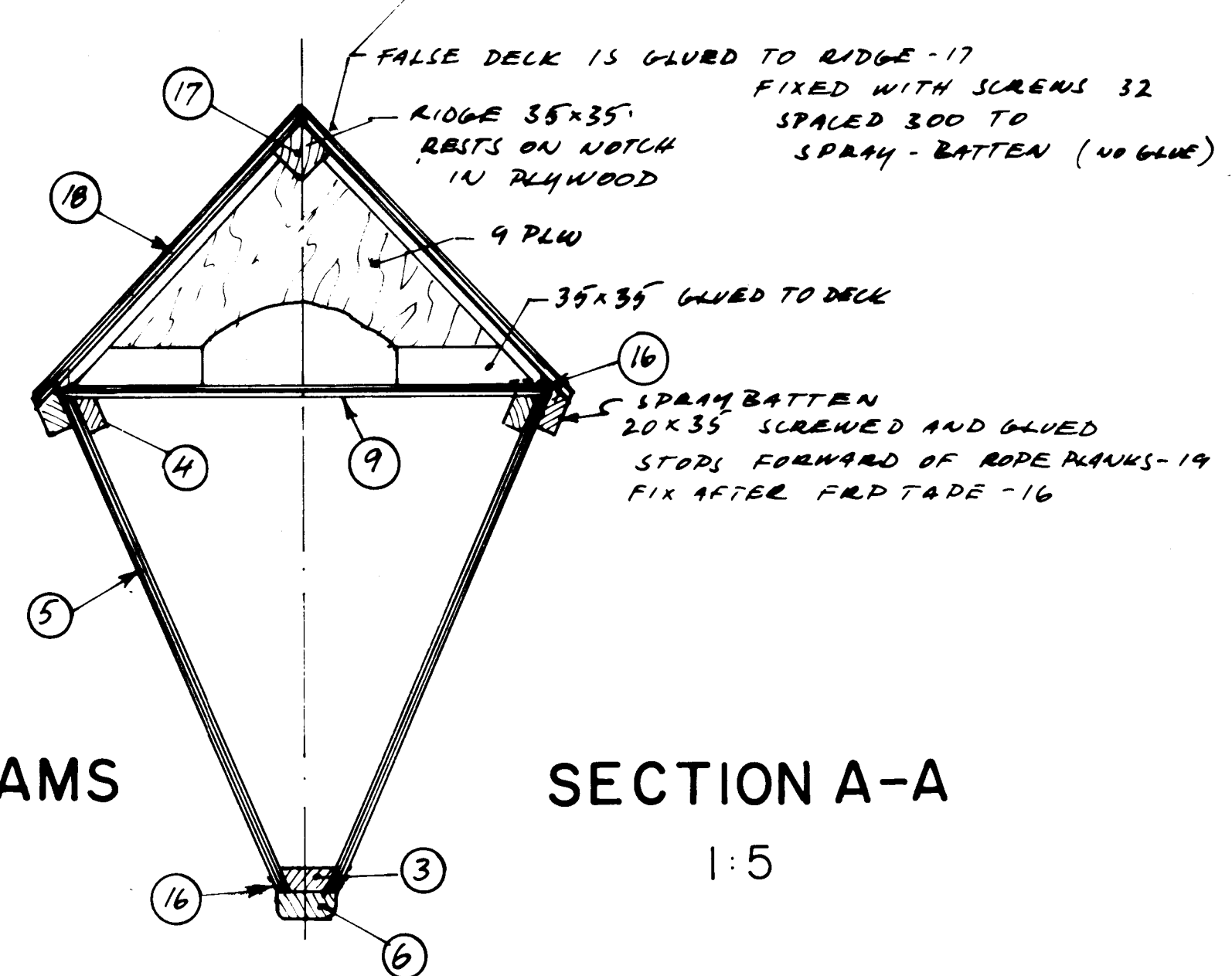
19 FORWARD ROPE PLANK



AFT BEAM FIXATION
1:5

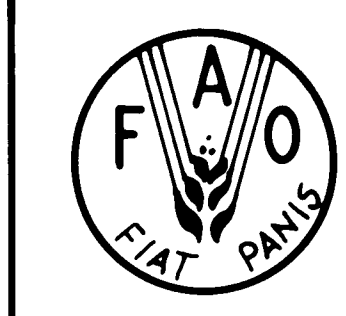


FORWARD BEAMS FIXATION
1:5



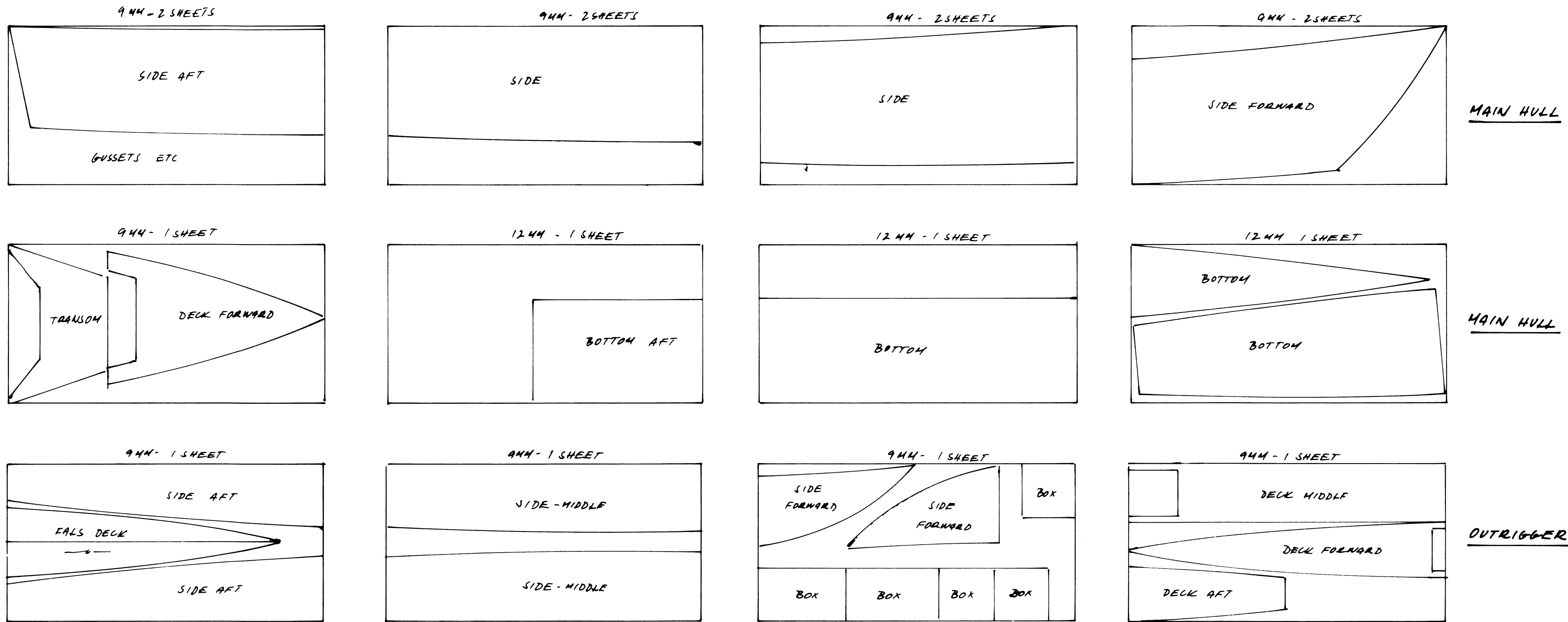
SECTION A-A
1:5

| POS | ITEM | DIMENSION MM | LENGTH M | NOTES |
|-------------------|----------------------------------|--------------|------------------|----------------------|
| 1 | BUILDING JIG FRAMES | 20x70 | 7 | REMOVABLE |
| 2 | TRANSOM, PLW | 8x36 | | 3 LAYERS 12 PLW |
| 3 | HOG | 20x45 | 6,2 | BEVEL BEFORE BONDING |
| 4 | SHEER BATTEN (2) | 20x35 | 12 | |
| 5 | SIDE PLANKING | 9 PLW | | |
| 6 | KEEL | 20x45 | 6,2 | TURN HULL AFTER FIX. |
| 7 | BALCKING BLOCKS (4) | 20x70 | 3,3 | |
| 8 | BUOYANCY BLOCK, POLYSTYRENE | 200x200x100 | | |
| 9 | DECK | 9 PLW | | |
| 10 | BOX FRAMING | 35x35 | 5,5 | |
| 11 | BOX PLANKING | 9 PLW | | |
| 12 | BEAM BATTENS | 20x35 | 2,0 | |
| 13 | LOADING | 20x60 | 1,5 | |
| 14 | HATCH FRAME | 20x35 | 1,6 | |
| 15 | HATCH PLANKING | 9 PLW | | |
| 16 | GLASS CLOTH 330 g/m ² | 50 WIDE | 2,0 | ALL JOINTS |
| 17 | FALSE DECK FRAMING | 35x35 | 3,5 | |
| 18 | FALSE DECK PLW | 9 PLW | | |
| 19 | ROPE PLANKS | 20x90 | 3,2 | |
| 20 | BLANK ROPE PLANK | 20 | 0,15 | FIT FLUSH DECK |
| 21 | STRAUT PLANK BOTTOM | 9 PLW | | |
| 22 | STRAUT PLANK STIFFENER | 35x45 | 0,90 | ON HIGH |
| 23 | " | 45x55 | 0,45 | ON FLAT |
| 24 | STRAUT (2) | 35xROUNO | 0,70 | |
| 25 | STRAUT RETAINER | 20x70 | 0,60 | FIX UNDER BEAM |
| 26 | ROPE POLYAMIDE (NYLON) | 6 φ | 15 | |
| FASTENINGS | | | | |
| 30 | EPOXY OR RESORCINOL GLUE | | | ALL JOINTS |
| 31 | WOODSCREWS SILICON BRONZE | 25x86 | 9 PLW | |
| 32 | " | 32x86 | 9 PLW + KEEL (6) | |
| 33 | " | 45x106 | ROPE PLANKS - 19 | |
| 34 | BARBED RINGNAILS BRONZE | 25x126 | 9 PLW | |
| 35 | " | 32x126 | 9 PLW | |
| 36 | COPPER BOATNAILS | 25x126 | PLW, BUTT BLOCK | |



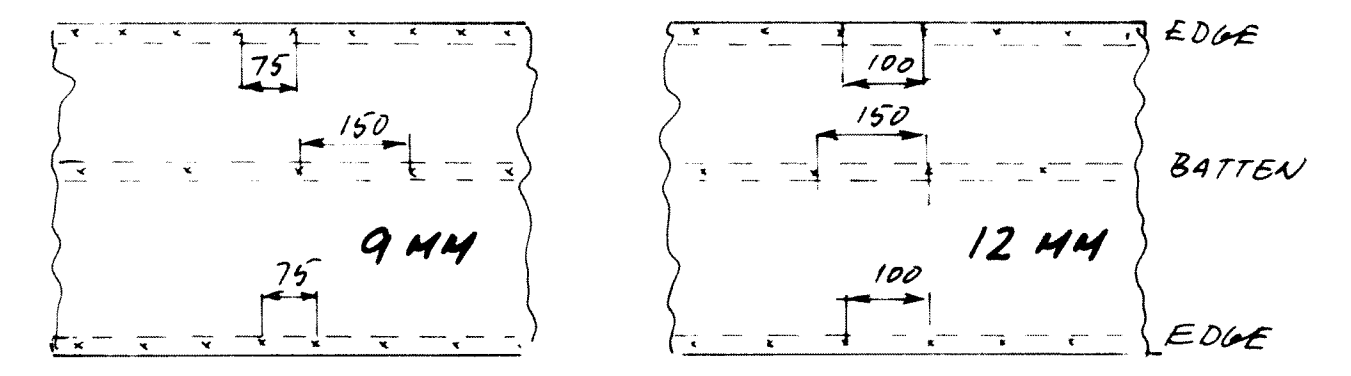
| | | |
|------------------------------------|---------------|-----------|
| 6.0m Outrigger CONSTRUCTION | | |
| SCALE = 1:10 | DESIGN NO | DRWG. NO. |
| DESIGN: P. Goubran | KIR-5A | 5 |
| GAMK174D, OUT-89 | PNG-11 | 4 |

PLYWOOD UTILIZATION

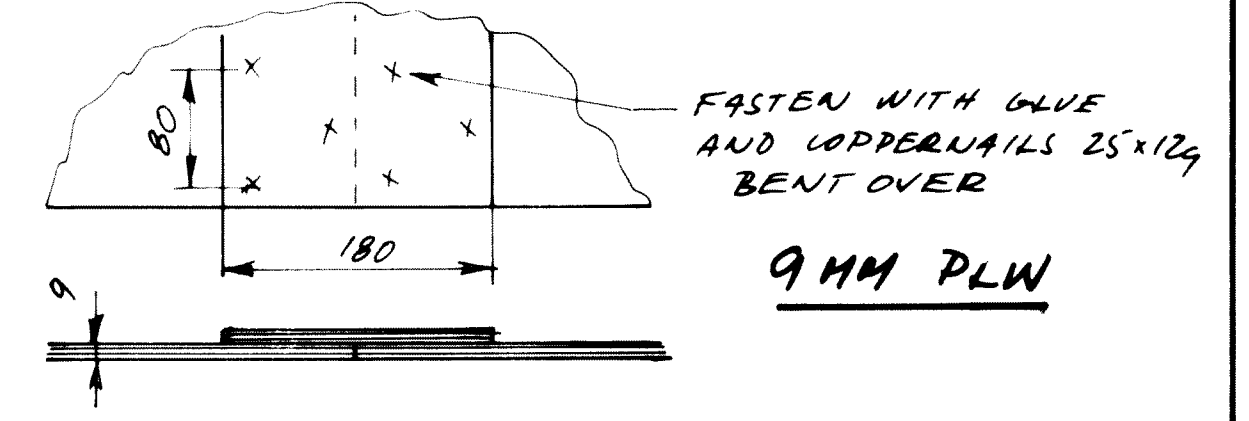


TOTAL PLYWOOD SHEETS (1.2 x 2.44)

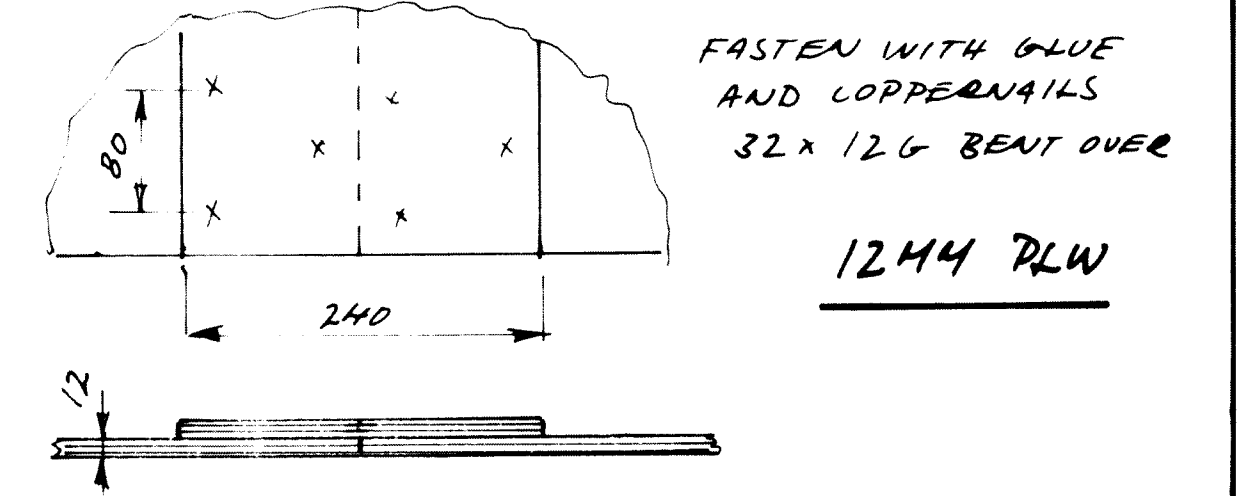
MAIN HULL: 9MM - 9 SHEETS
12MM - 3 SHEETS
OUTRIGGER: 9MM - 4 SHEETS



SPACING OF GRIPFAST NAILS

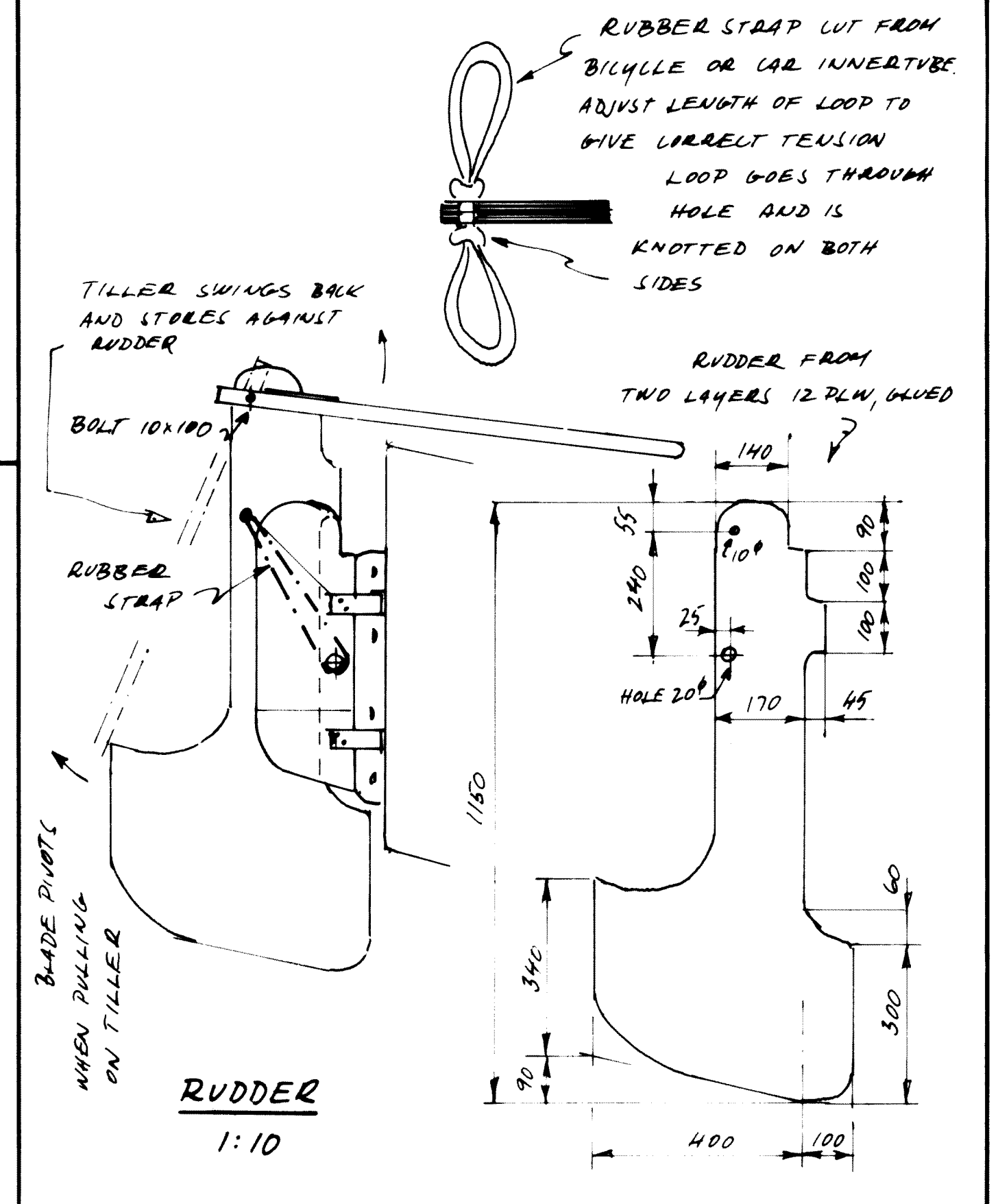
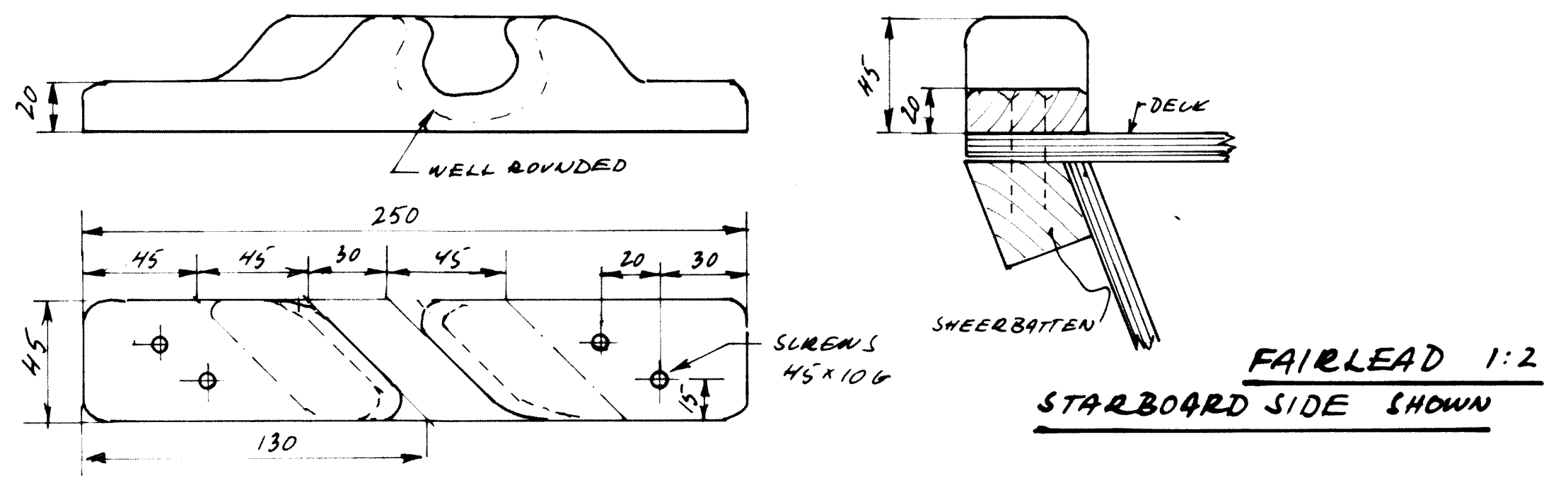


9MM PLW

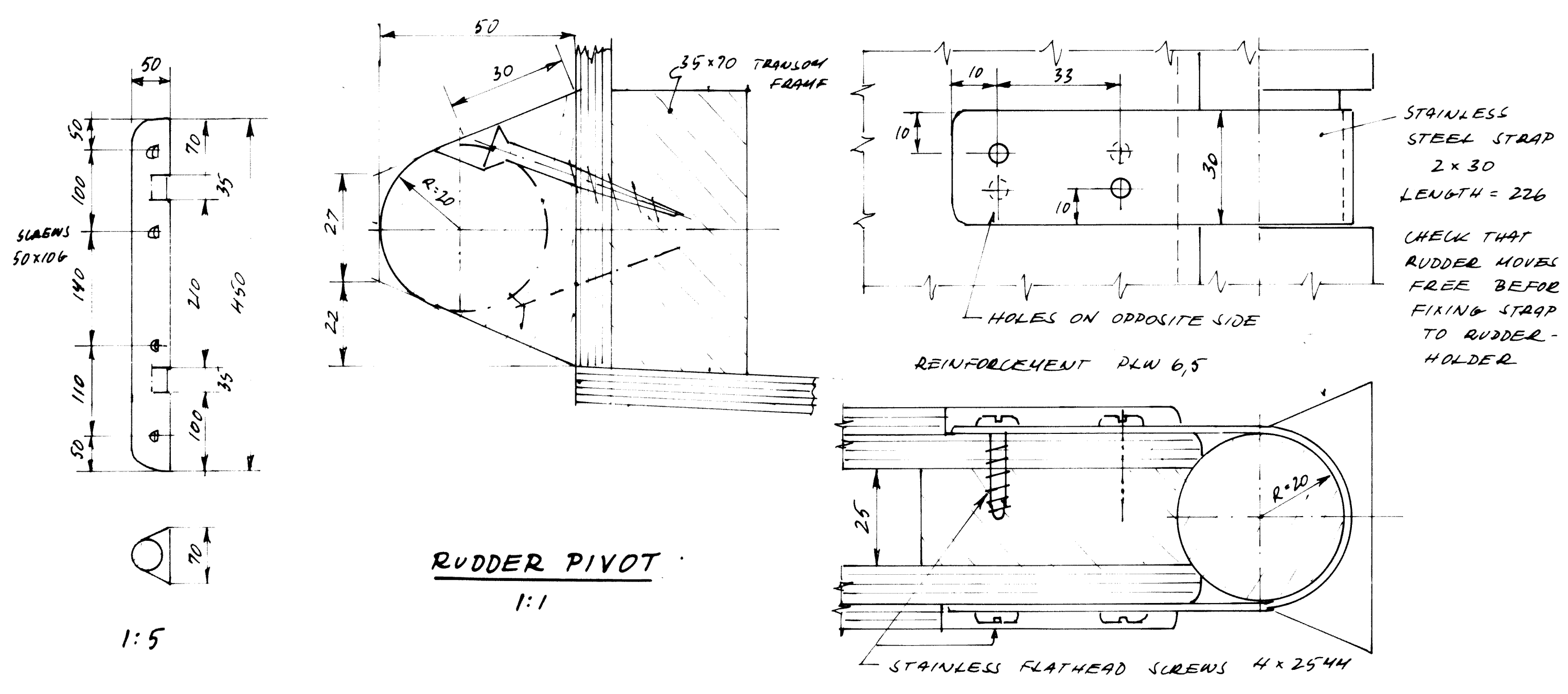


12MM PLW

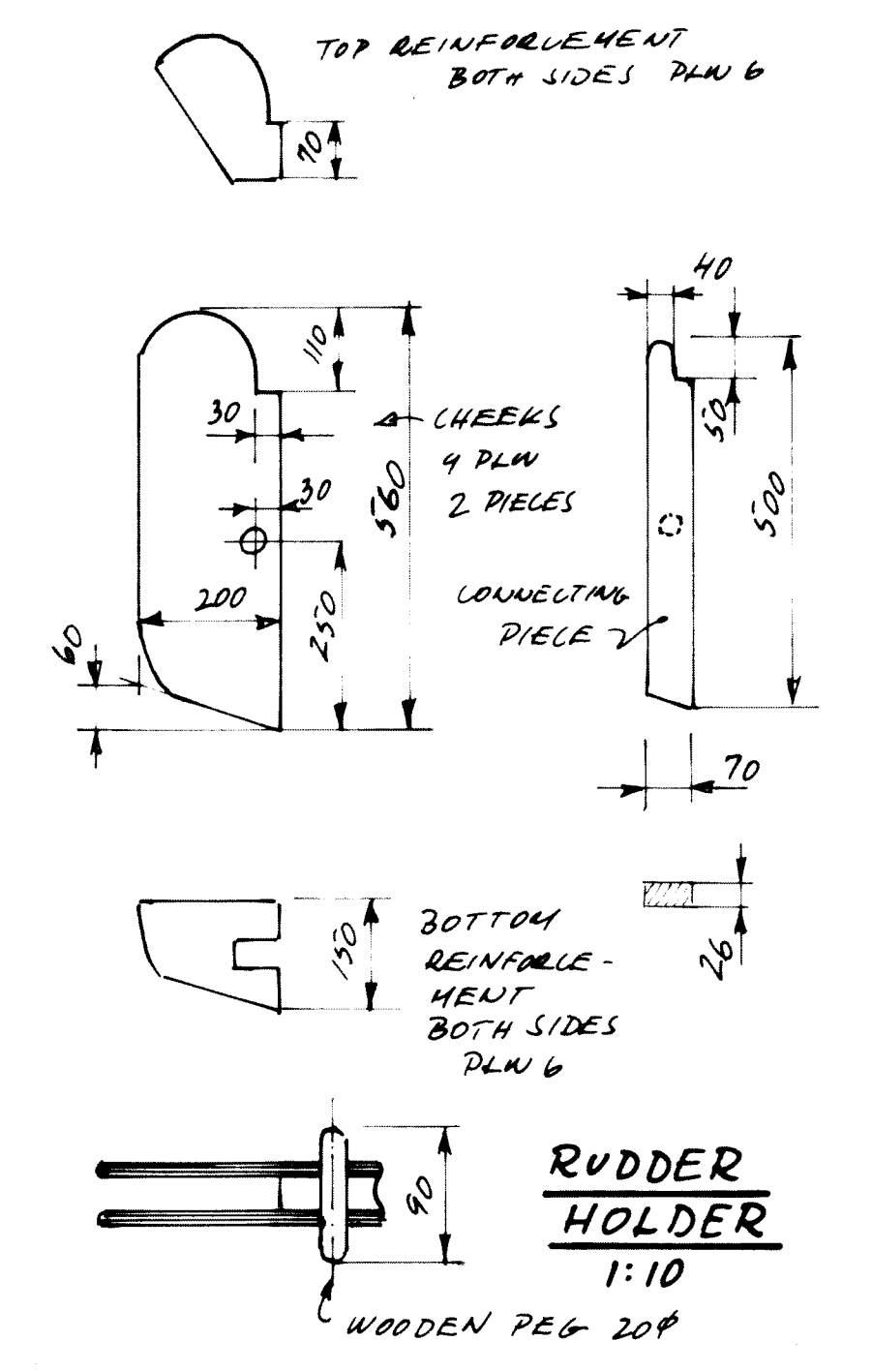
PLYWOOD JOINTS



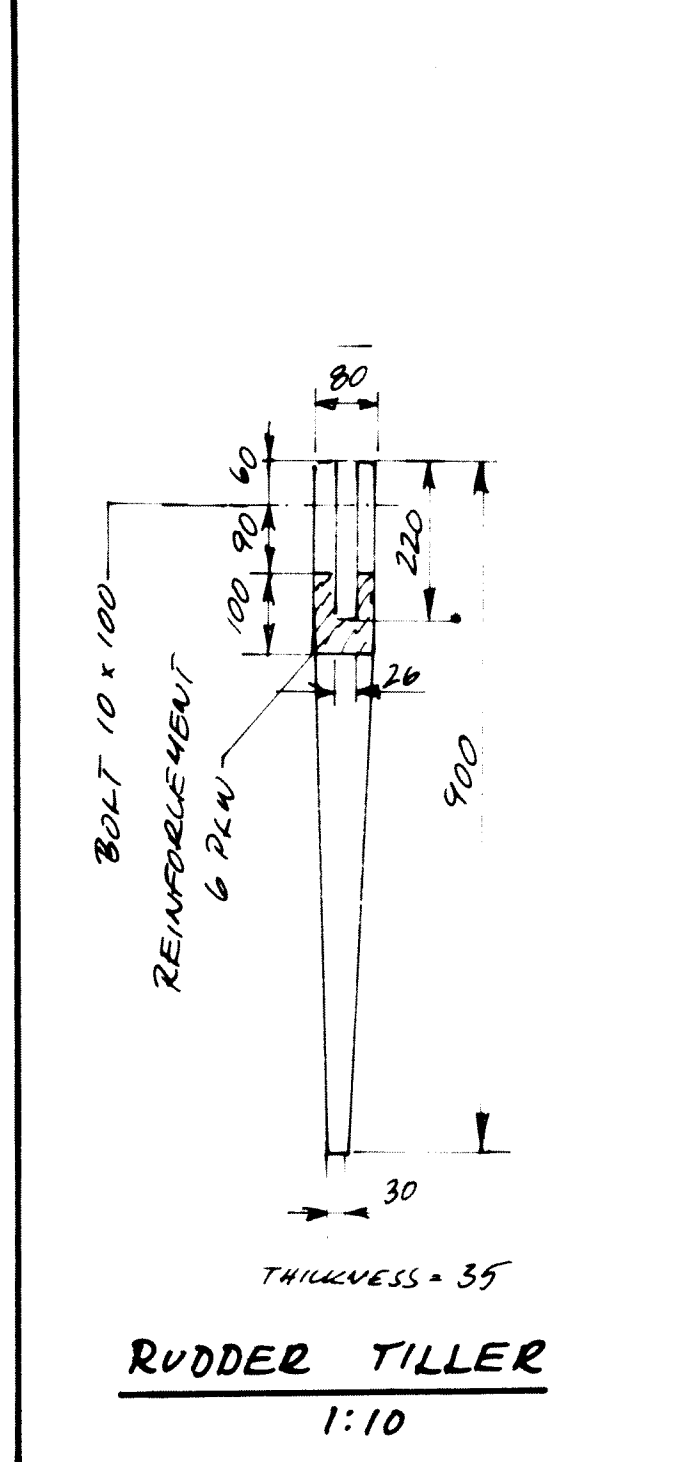
RUDDER 1:10



RUDDER PIVOT 1:1



RUDDER HOLDER 1:10



RUDDER TILLER 1:10

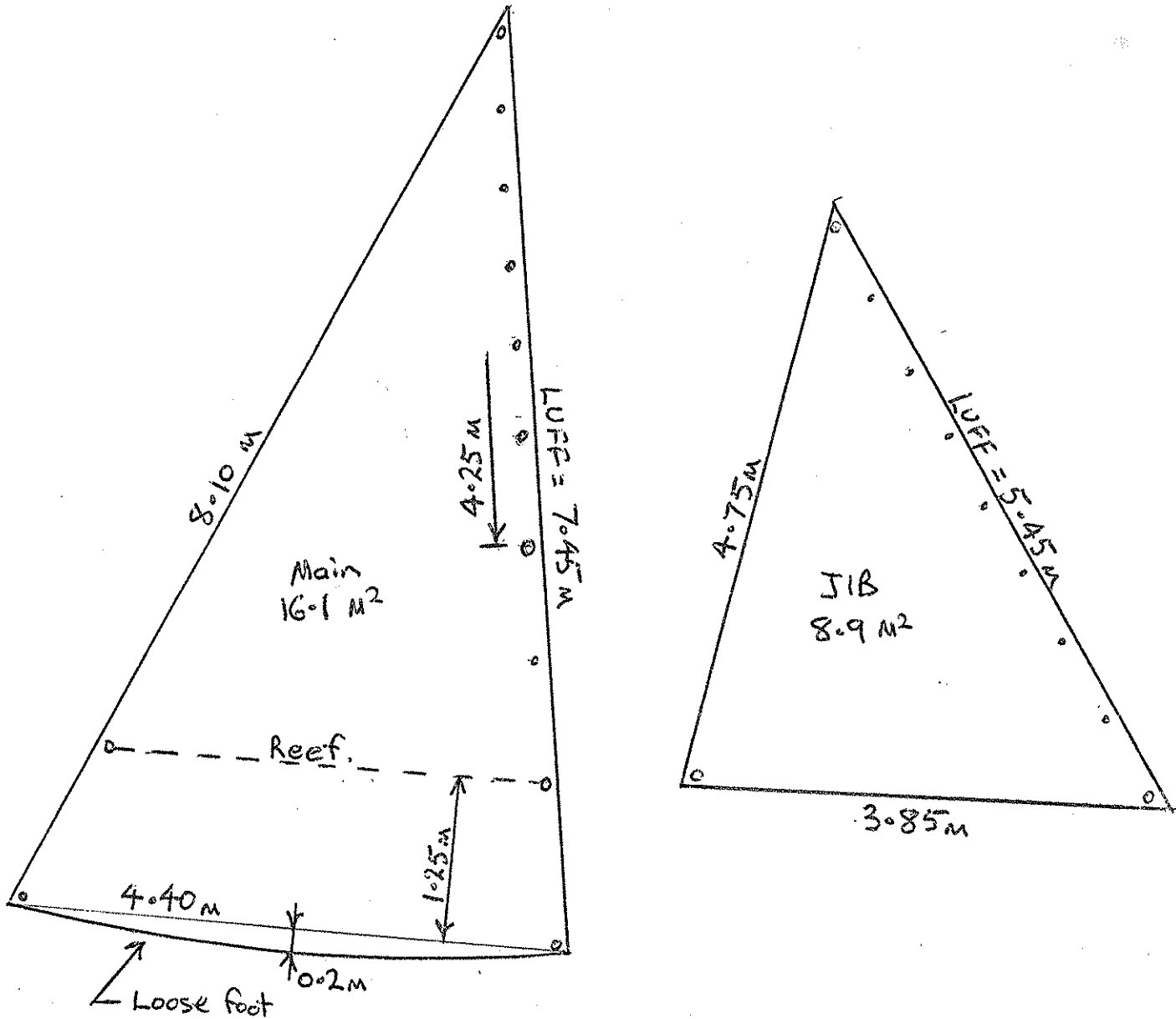


9.5 m Outrigger Canoe DETAILS

| | | |
|------------------------|---------------|----------|
| SCALE: AS SHOWN | DESIGN NO. | DRWG NO. |
| DESIGN: P. GULBRANDSEN | PNG-11 | 5 |
| GUMSTAD, OUT - B9 | | |

APPENDIX : 1

MODIFIED GUNTER MAIN SAIL AND JIB SAIL RIG FOR PNG 11

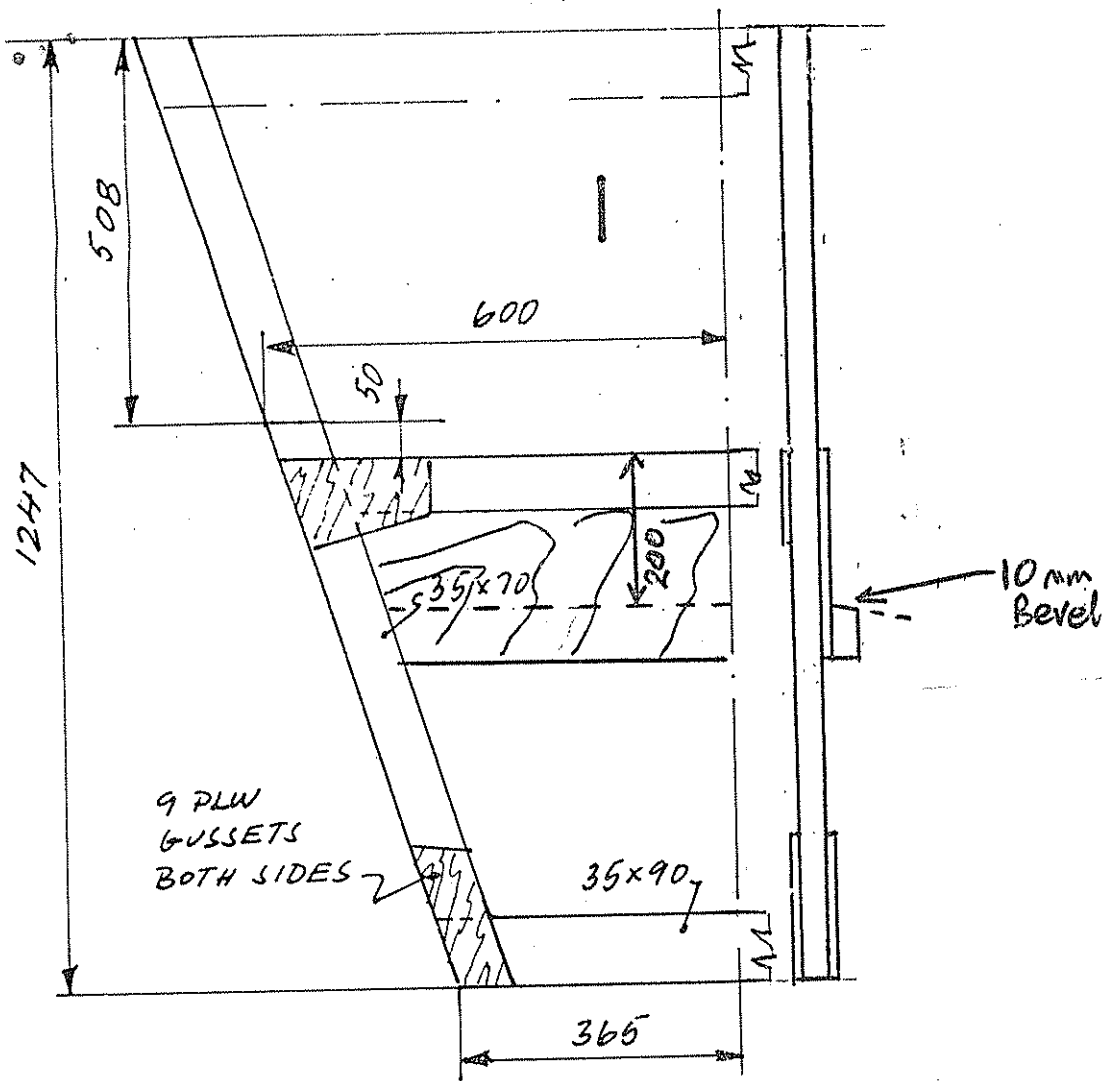


NOTE: This sail rig is dependent on fixed ballast = 90kg (concrete block 300 x 700 x 200mm) Tied to top of outrigger aft of hatch. The craft is UNSAFE without ballast.

Mast is stepped at same position as shown on Drawing PNG 11. No.1. Forestay attached around sheerbatten - PLW at Frame 9. Sidestays to Forward beam. Mainsheet to Aft beam. Jibsheet to outer end starboard side Aft beam and 1.75m from centreline on Port Side.

- Stays : Stainless steel wire rope 1 x 19 - 5mm diameter
- Mast : 120mm Round tapering on ends to 75mm : Length 6.15 mtrs
- Yard : 75mm round tapering on top to 55mm : Length 4.50 mtrs
- Boom : 65 x 90mm Tapering on ends to 65 x 70mm: Length 4.65 mtrs

For details yard and boom jaws and mast top refer to drawing KIR 8 No.6.

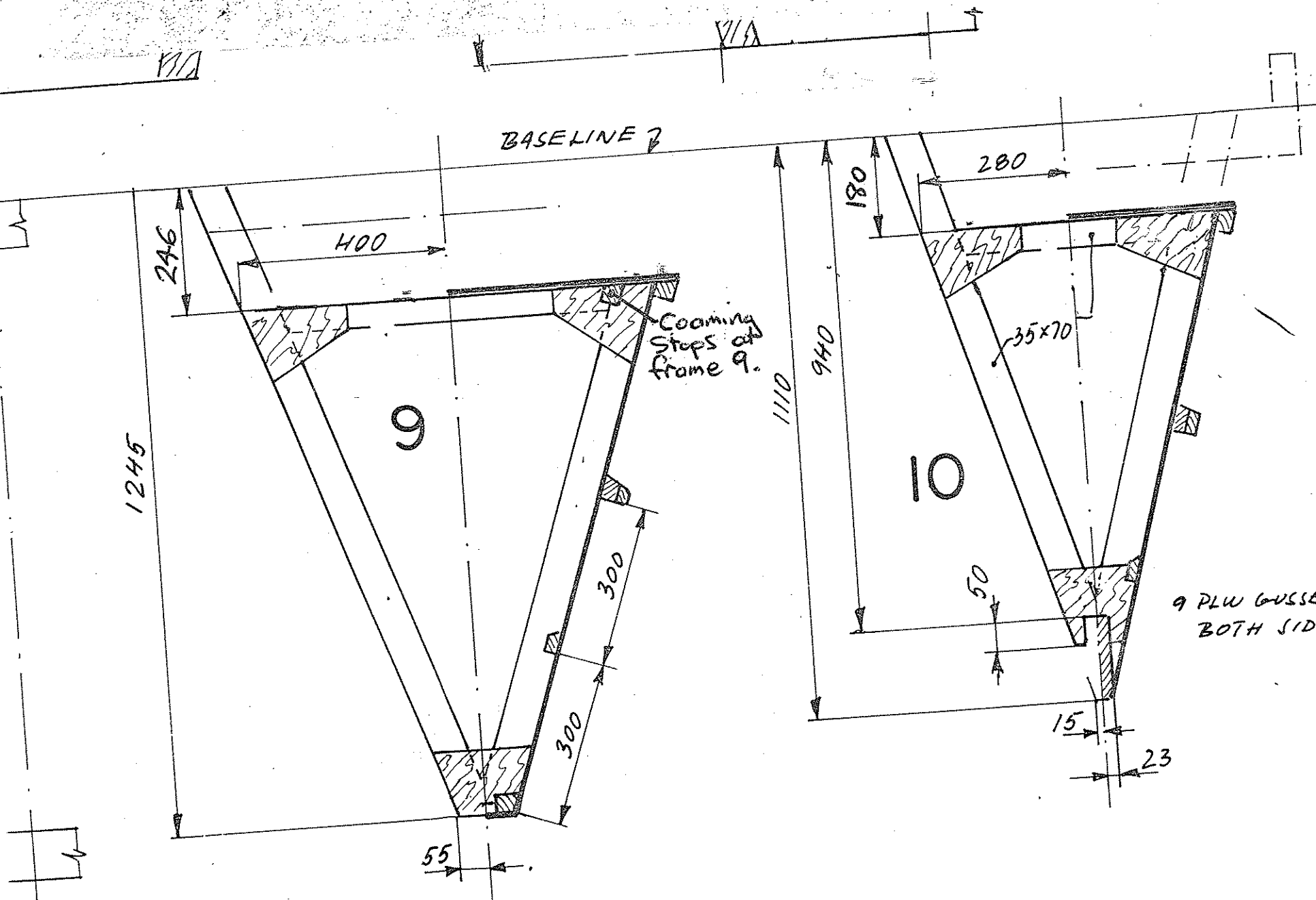


- Other frame changes are: Main Hull.
 Baseline to Chine: Transom = 1250
 Frame No. 3 = 1348

- Baseline to Rabbett: Outrigger frames.
 No. 2 = 684
 No. 3 = 692
 No. 4 = 680

- If using ballast block on Outrigger. Bouyancy Block in Outrigger must be changed to 200 x 200 x 1500 mm.

- No. 24 Strut length = 420 mm



PNG 11 MODIFICATIONS