ADVANTAGES

Timber for planking can be of short length, minimum 1.4 m
Short planks are easier to fit.
The number of frames are reduced by half.

DISADVANTAGES

If the planking is attacked by toredo worm under the waterline, the whole side has to be changed.

CONSTRUCTION PROCEDURE

The building method is the same as for longitudinal bottom planking, except for the following:

PAGES 1 AND 2. **REVISED TIMBER SPECIFICATION**

TYPE OF TIMBER	DIMENSIONS SAWN mm	MINIMUM LENGTH m	CORRECTED NUMBER OF PIECES	DIMENSION SPLIT AND PLANED mm
A	25x150	4	1	20x140
	25x150	4	1	20x70
	25x150	4	1	20x45
	40x150	4	1	35x45 35 x 90
	40x150	5	2	35x45 35x90
	40x200	3	2	35x200
	50x150	5	2	45x55 20 x 45
	50x150	5	2	45x45
	50x300	1.8	1	45x300
	75x100	4	1	70x90
	100x200	2	1	90x200
B	20x150	1.4	*	15x140

* Total length is 230 m

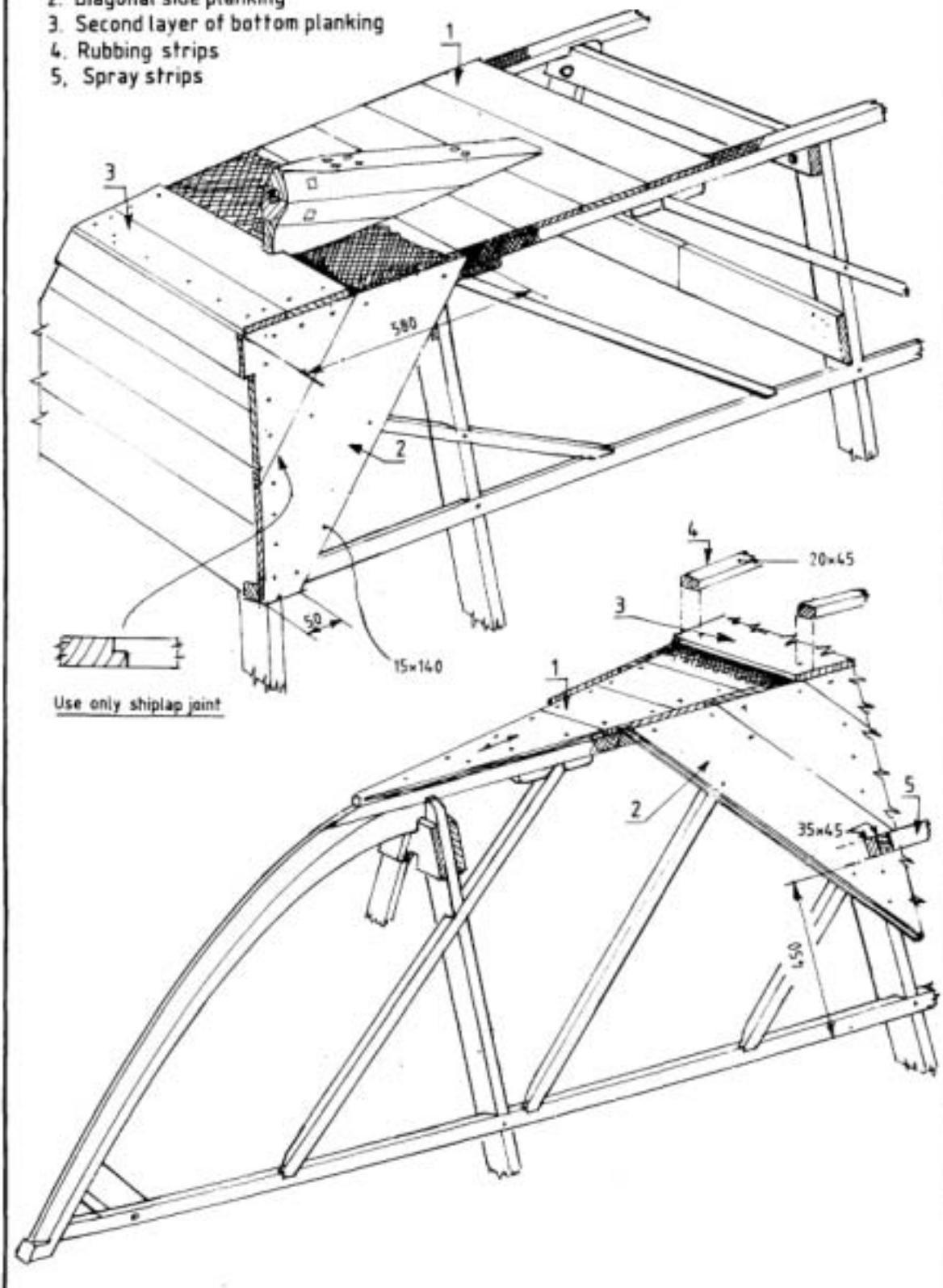
PAGE 3 – Item to be added: Cap head bolts with nuts and washers, Dimension: 8 x 80 mm.
Quantity: 12.

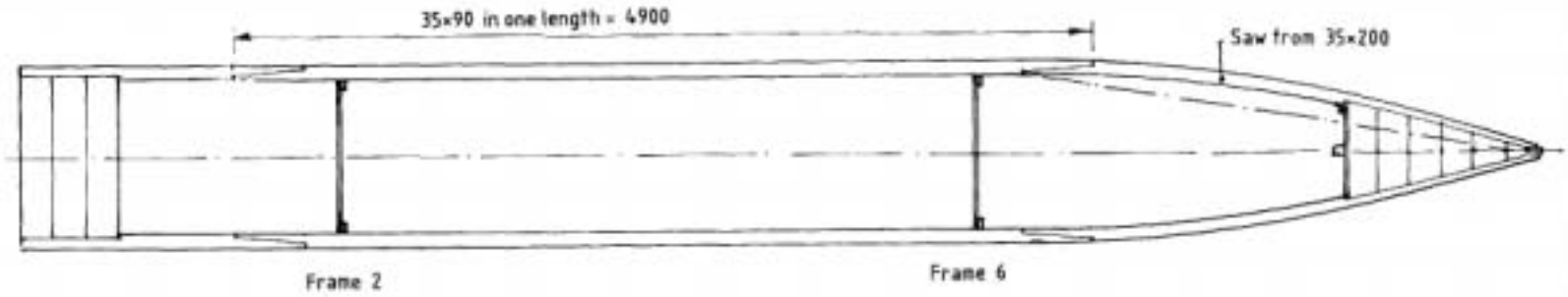
PAGE 23 – See page35

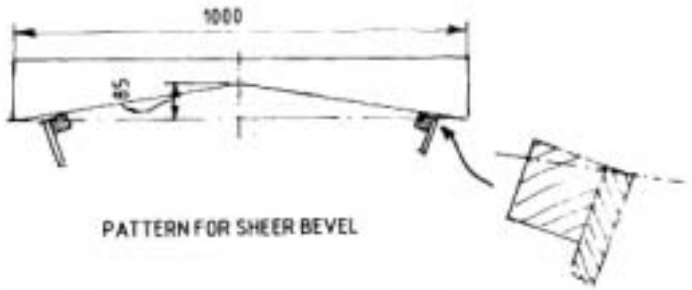
DIAGONAL PLANKING Side frames

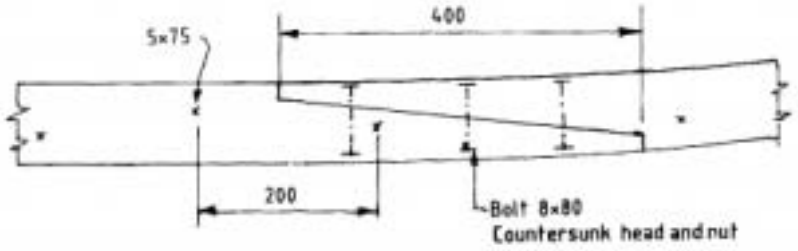
IDIAGONAL PLANKING

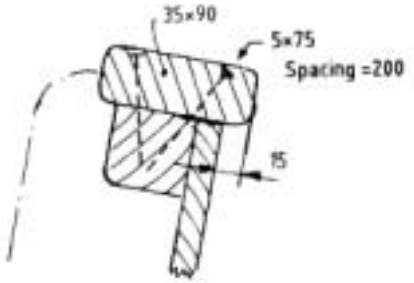
1. First layer of bottom planking.
2. Diagonal side planking
3. Second layer of bottom planking
4. Rubbing strips
5. Spray strips

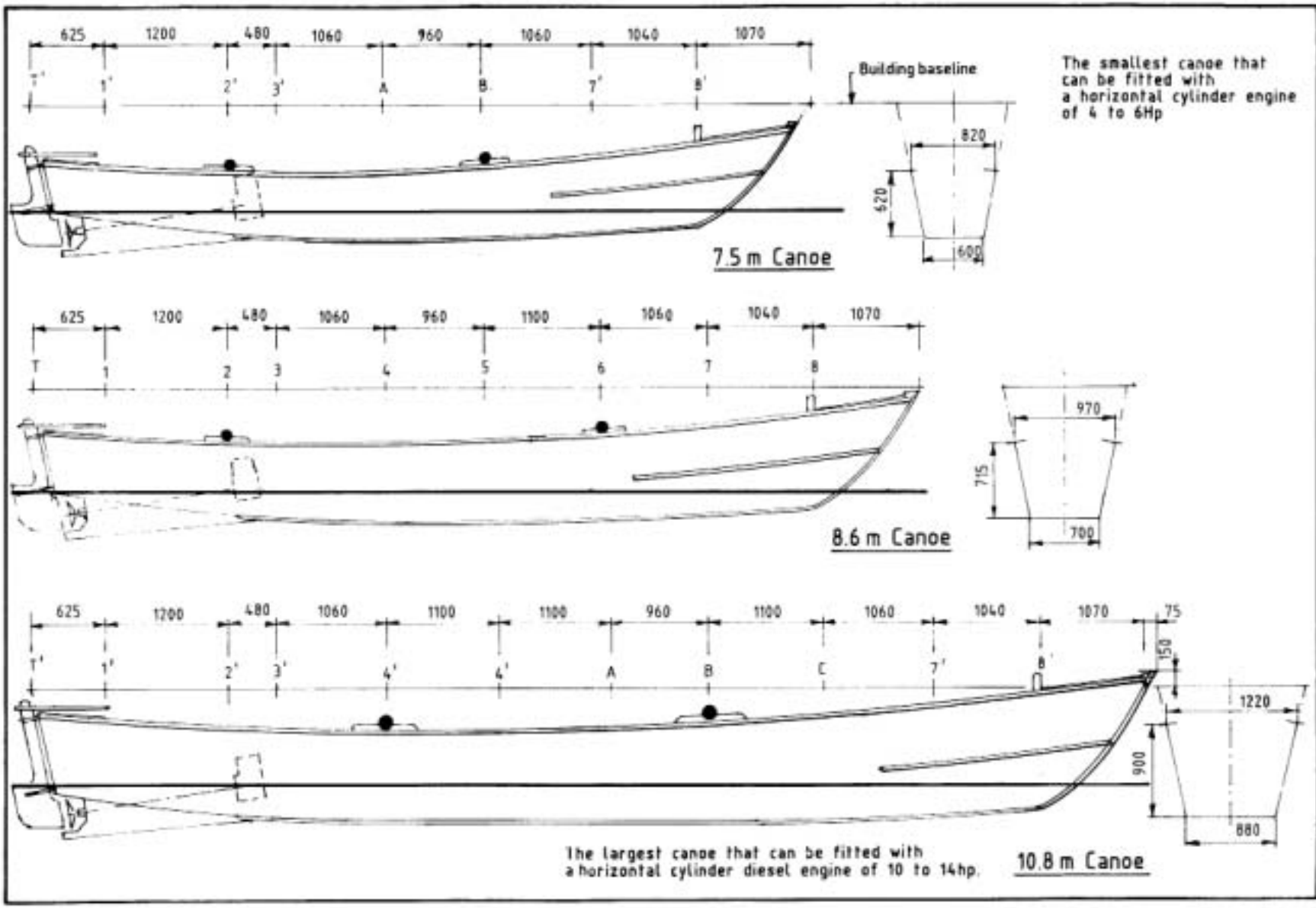



35×90 in one length = 4900
Saw from 35×200
Frame 2
Frame 6


1000
45
PATTERN FOR SHEER BEVEL

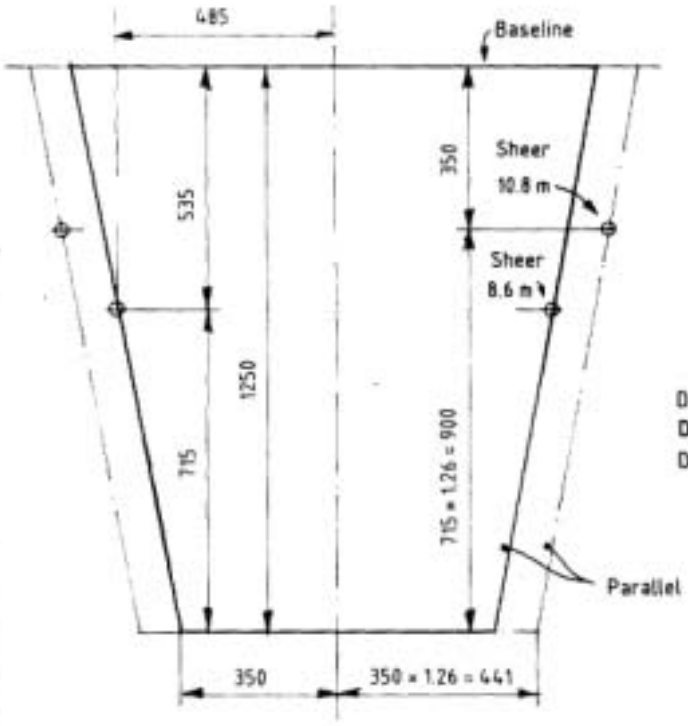

5×75
400
200
Bolt 8×80
Countersunk head and nut


35×90
5×75
Spacing =200
15



The smallest canoe that can be fitted with a horizontal cylinder engine of 4 to 6Hp

The largest canoe that can be fitted with a horizontal cylinder diesel engine of 10 to 14hp.



RULE 1

Frames T, 1, 2, 3 and 4 are changed in proportion to change in length.

EXAMPLE FRAME 4

8.6 m canoe is increased with two frame spacings = 2×1100 = 2200 to a length of 10.8 m

$$\text{Ratio} = \frac{10.8\ \text{m}}{8.6\text{m}} = 1.26$$

Bottom width of 8.6 m canoe = 350

Bottom width of 10.8 m canoe:

$$350 \times 1.26 = 441$$

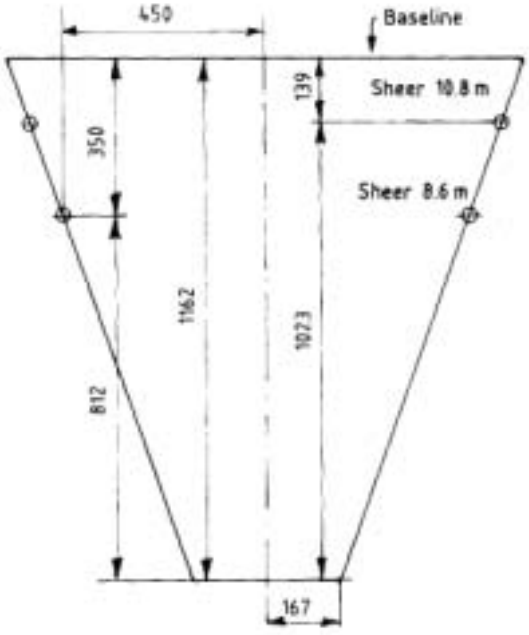
Depth of 8.6 m canoe = 1250 − 535 = 715

Depth of 10.8 m canoe = 715 × 1.26 = 900

Distance from baseline to sheer:

$$1250 - 900 = 350$$

New frame marked 4'



RULE 2

Frame 7 and 8 are not changed in shape. Only the height of the sheer is adjusted.

EXAMPLE FRAME 7

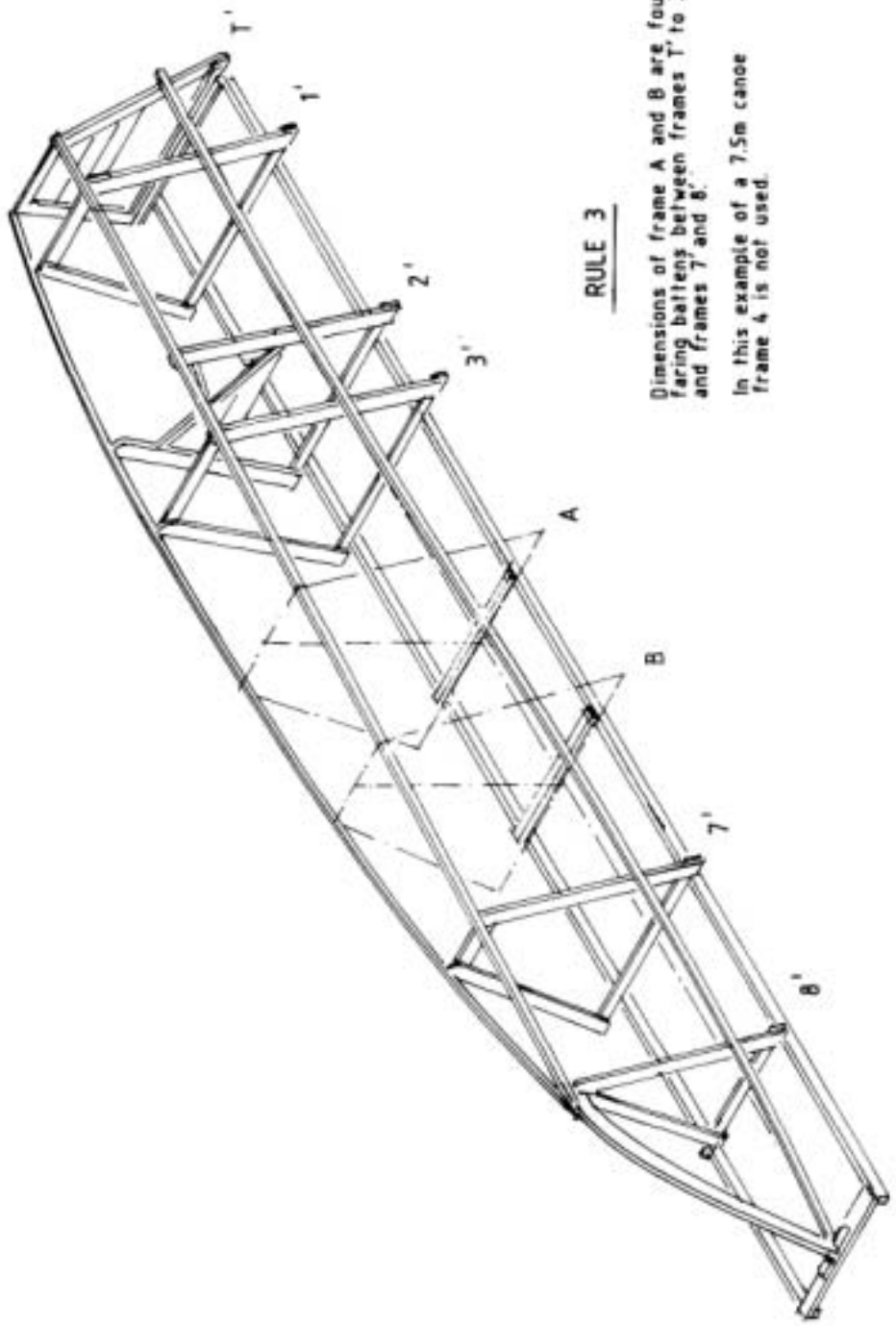
Depth of 8.6 m canoe: 1162 − 350 = 812

Depth of 10.8 m canoe: 812 × 1.26 = 1023

Distance from baseline to sheer:

$$1162 - 1023 = 139$$

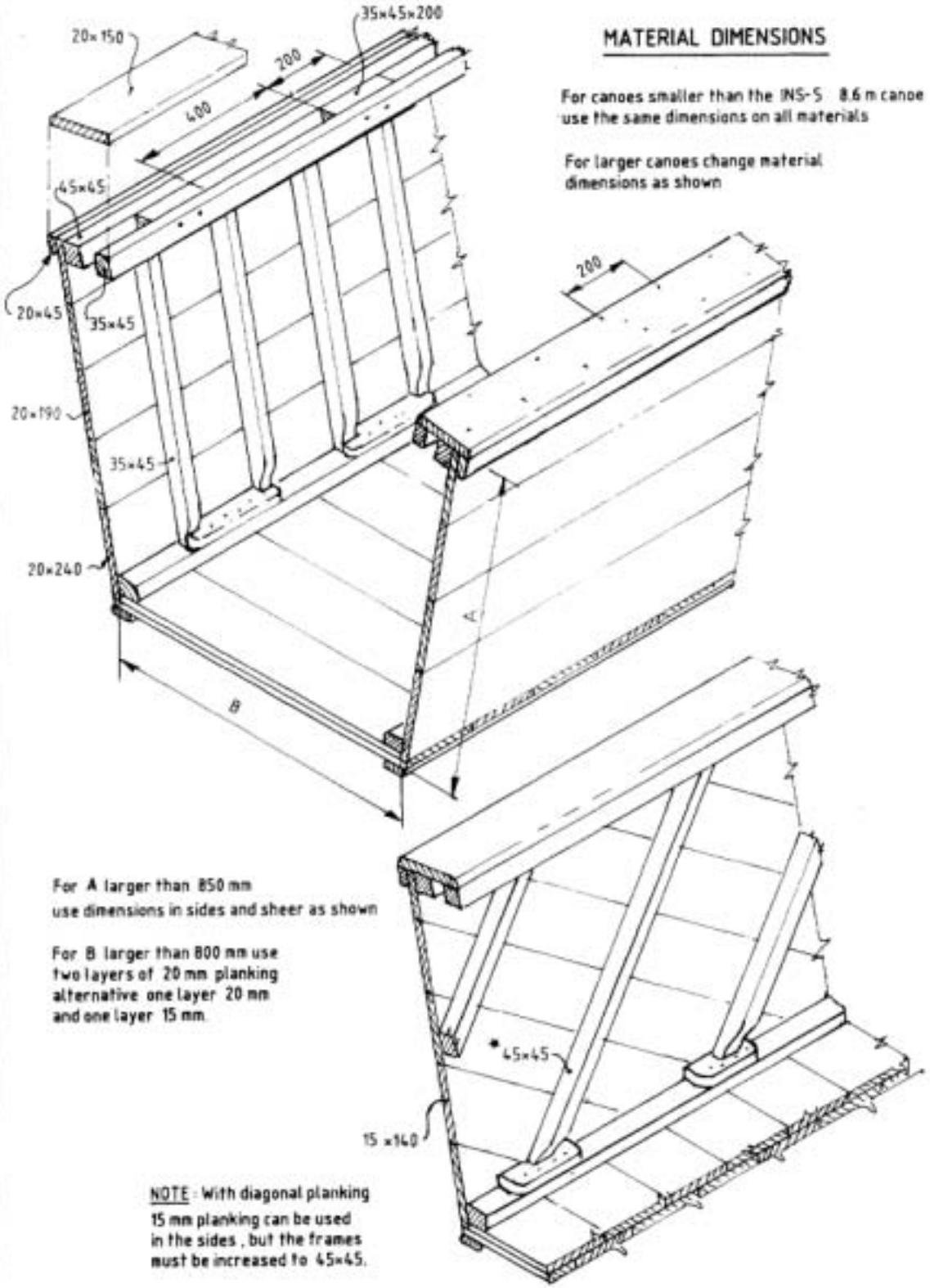
New frame marked 7'



RULE 3

Dimensions of frame A and B are found by using faring battens between frames T' to 3' and frames 7' and 8'.

In this example of a 7.5m canoe frame 4 is not used.



MATERIAL DIMENSIONS

For canoes smaller than the INS-S 8.6 m canoe use the same dimensions on all materials

For larger canoes change material dimensions as shown

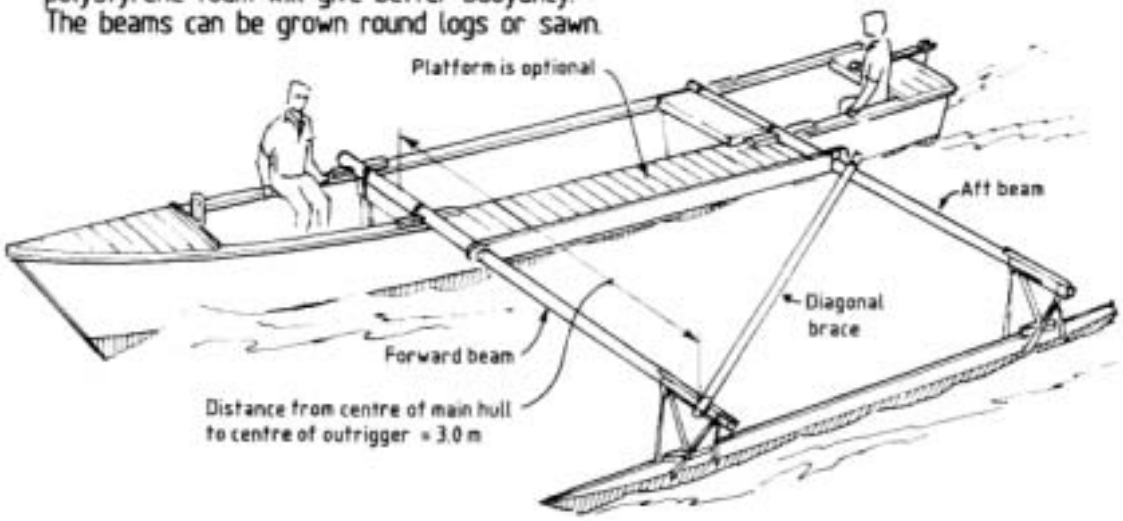
For A larger than 850 mm use dimensions in sides and sheer as shown

For B larger than 800 mm use two layers of 20 mm planking alternative one layer 20 mm and one layer 15 mm

NOTE : With diagonal planking 15 mm planking can be used in the sides , but the frames must be increased to 45×45.

ALTERNATIVE SINGLE OUTRIGGER

A traditional double outrigger with beams can be used, but the single planked outrigger fitted with polystyrene foam will give better buoyancy. The beams can be grown round logs or sawn.



MATERIALS

Not including platform.

TYPE OF TIMBER	DIMENSIONS SAWN mm	MINIMUM LENGTH m	NUMBER OF PIECES	DIMENSION SPLIT AND PLANED mm
A	50 × 125	0.8	1	1 pc 45 × 110 × 280
				2 pc 45 × 45 × 500
	40 × 150	1.1	1	35 × 140
	40 × 50	3.2	2	35 × 45
	40 × 100	3.0	1	35 × 90
B	25 × 200	4.5	6	20 × 190
	25 × 150	3.5	1	20 × 140

Total quantity of sawn timber = 0.18 m^3 (6.2 ft^3)

Hot dip galvanized nails : 4×50 – 2.0 kg , 5×75 – 0.1 kg

Polystyrene foam in slabs of whatever thickness is available in the market. Total volume = 0.15 m^3

For example: 50 mm slabs of 0.5 m × 1.0 m will require 6 pieces

Polyester (Terylene) braided rope for lashings, 5mm or 6 mm., Length = 40 m

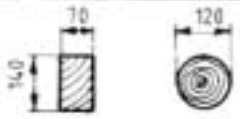
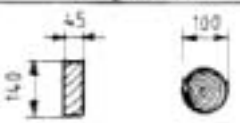
Bitumastic compound and nylon flyscreen in joints.

Paint.

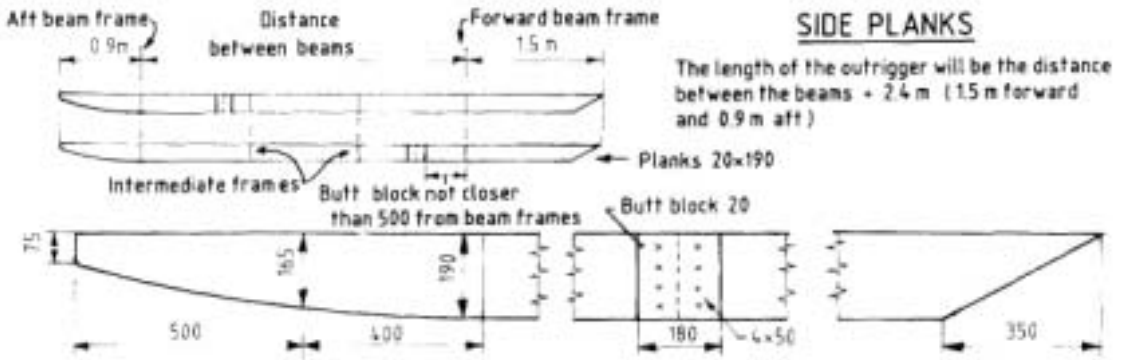
BEAMS

Timber must be free from defects and of weight 650 – 750 kg / m

Alternative sawn or grown round logs

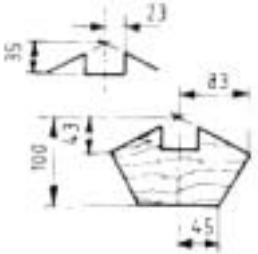
FORWARD BEAM Length = 3.6 m	AFT BEAM Length = 3.6 m	DIAGONAL BRACE Length = 4.5 m
 Taper to 90 at outrigger	 Taper to 90 at outrigger	

SINGLE OUTRIGGER



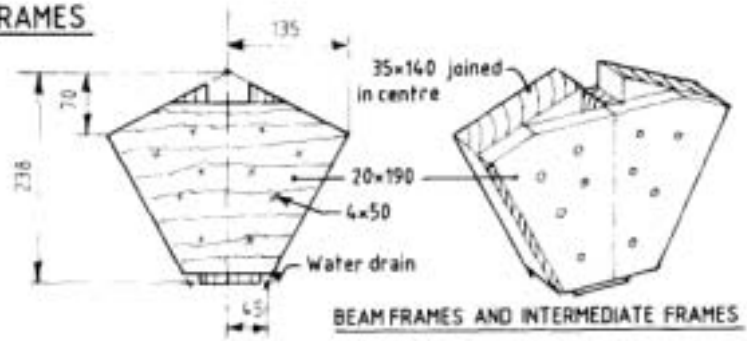
SIDE PLANKS

The length of the outrigger will be the distance between the beams + 2.4 m (1.5 m forward and 0.9 m aft)



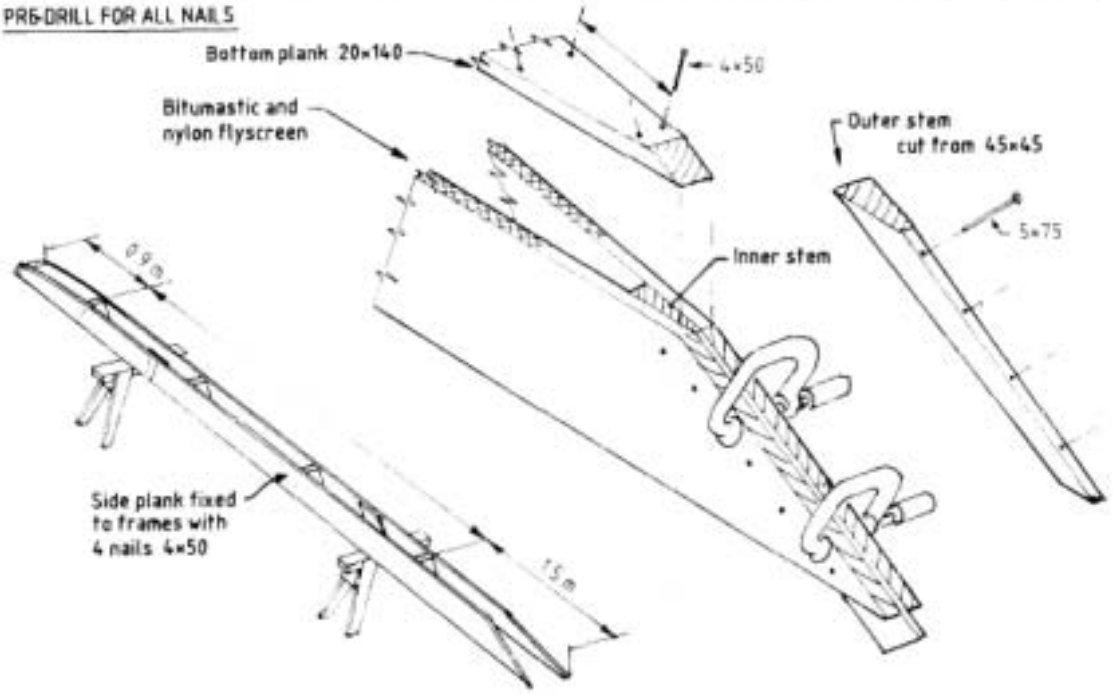
TRANSOM
Cut from 45×100

FRAMES

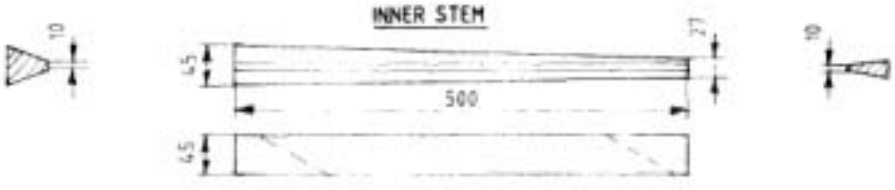


BEAM FRAMES AND INTERMEDIATE FRAMES (4)

PRE-DRILL FOR ALL NAILS

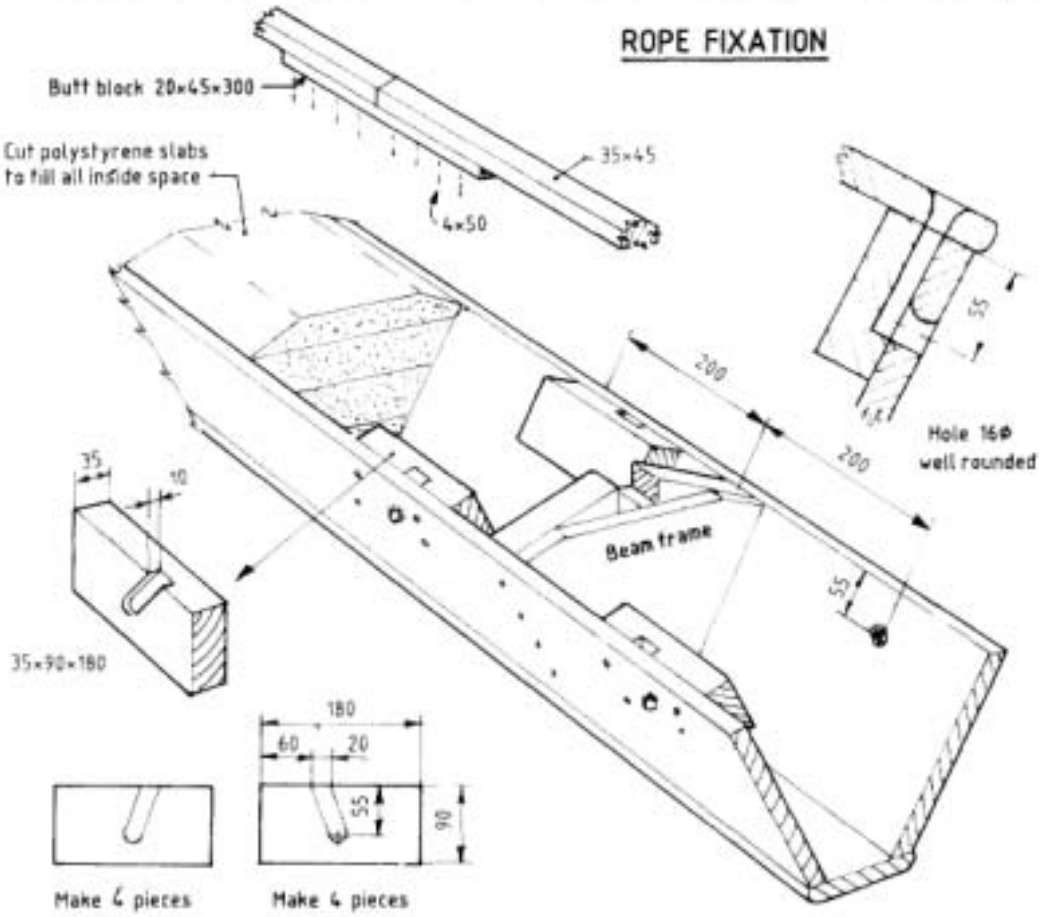


INNER STEM

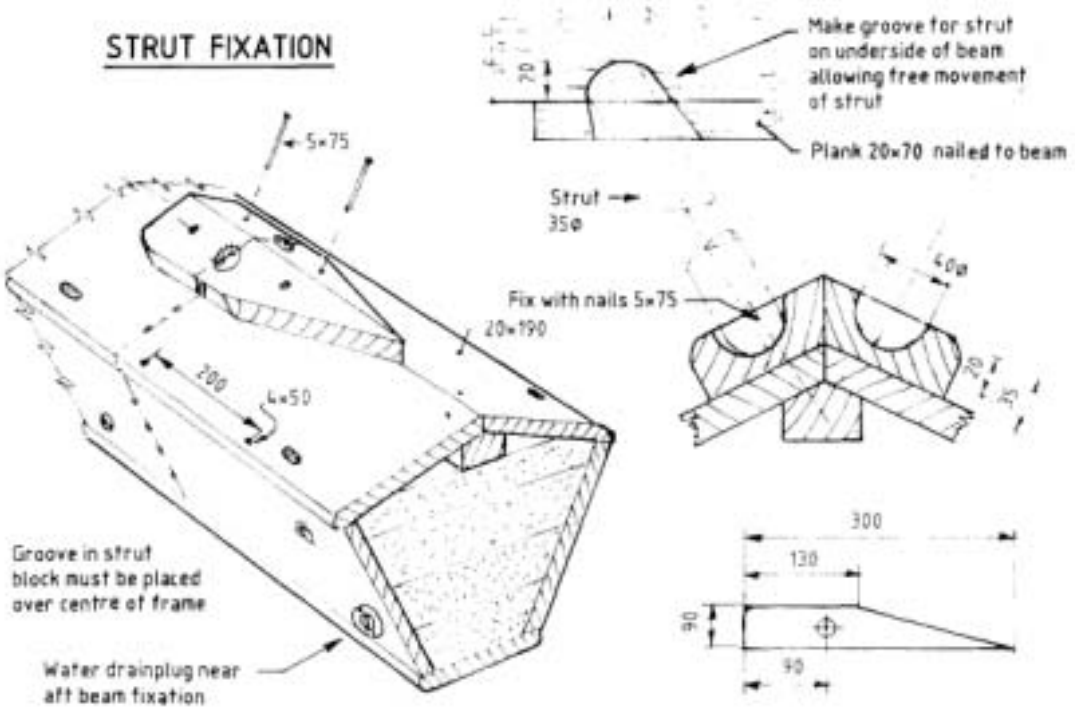


SINGLE OUTRIGGER

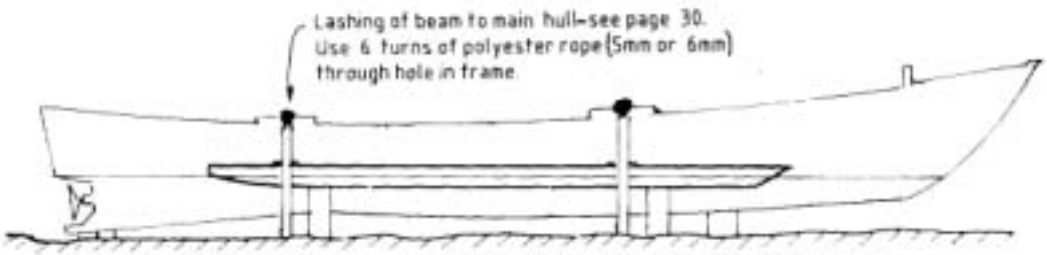
ROPE FIXATION



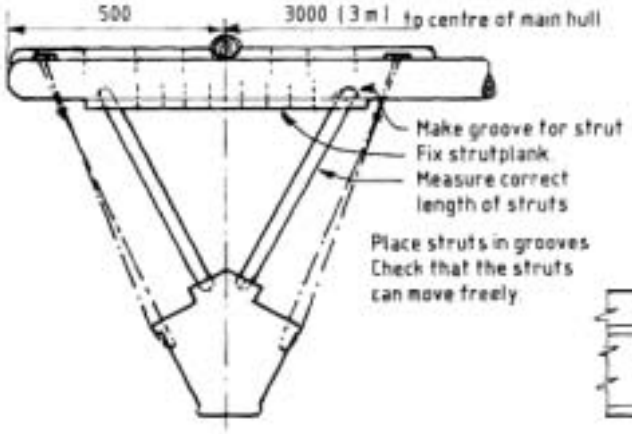
STRUT FIXATION

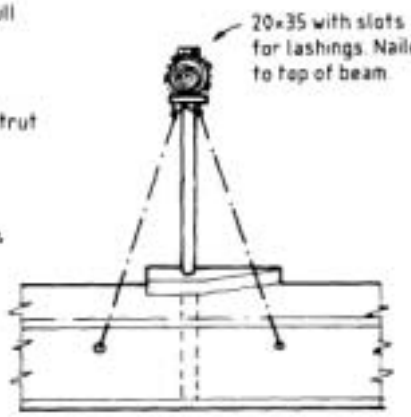


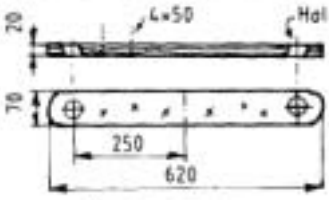
SINGLE OUTRIGGER

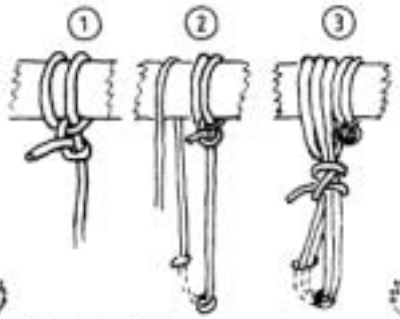


Support the main hull so that the expected waterline is horizontal. Check with spirit level.
Support the beams so that they are level. Support the outrigger in a level position.
Check that the centre distance between the main hull and the outrigger is 3 m.



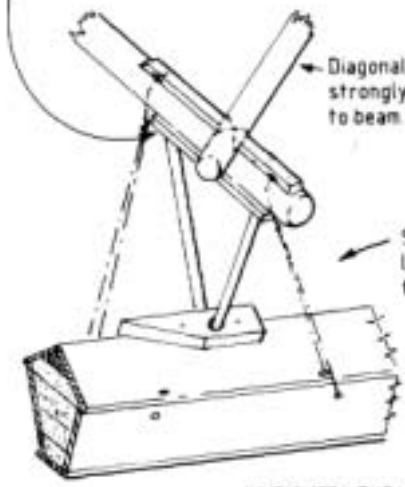




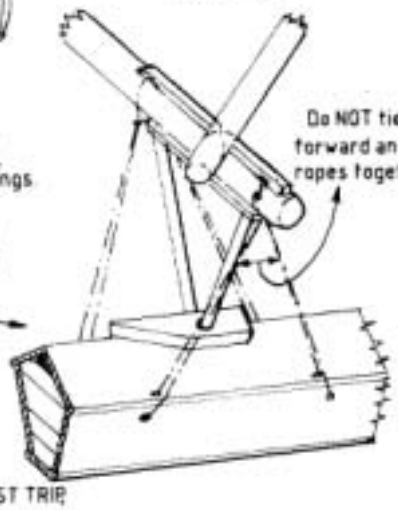


For all lashings use polyester (Terylene) rope, preferably braided, of 5 mm or 6 mm

1. Secure end with a clove hitch and a half hitch
2. Tie twice through lashing hole in outrigger
3. Secure end with two half hitches.



Use four separate ropes for the lashings



RE-TIGHTEN THE LASHINGS AFTER THE FIRST TRIP