PART II

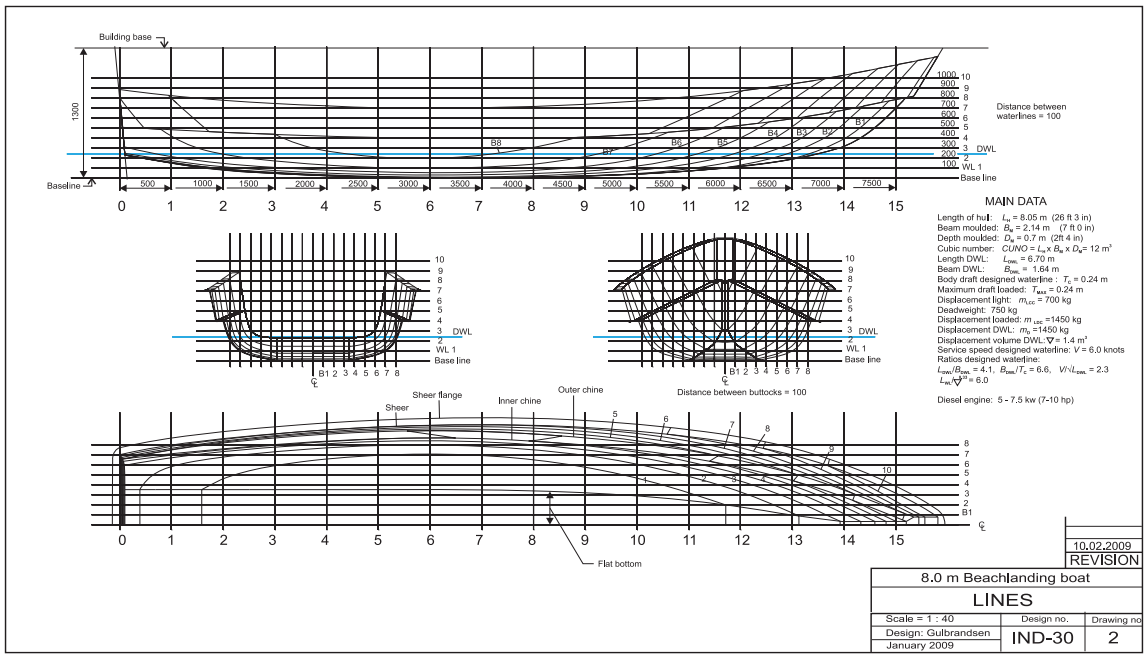
BUILDING OF PLUGS AND MOULDS

8 - MAKING THE HULL PLUG

If the mould already exists, Part II can be skipped. The building of the beach landing boat is described in Part III.

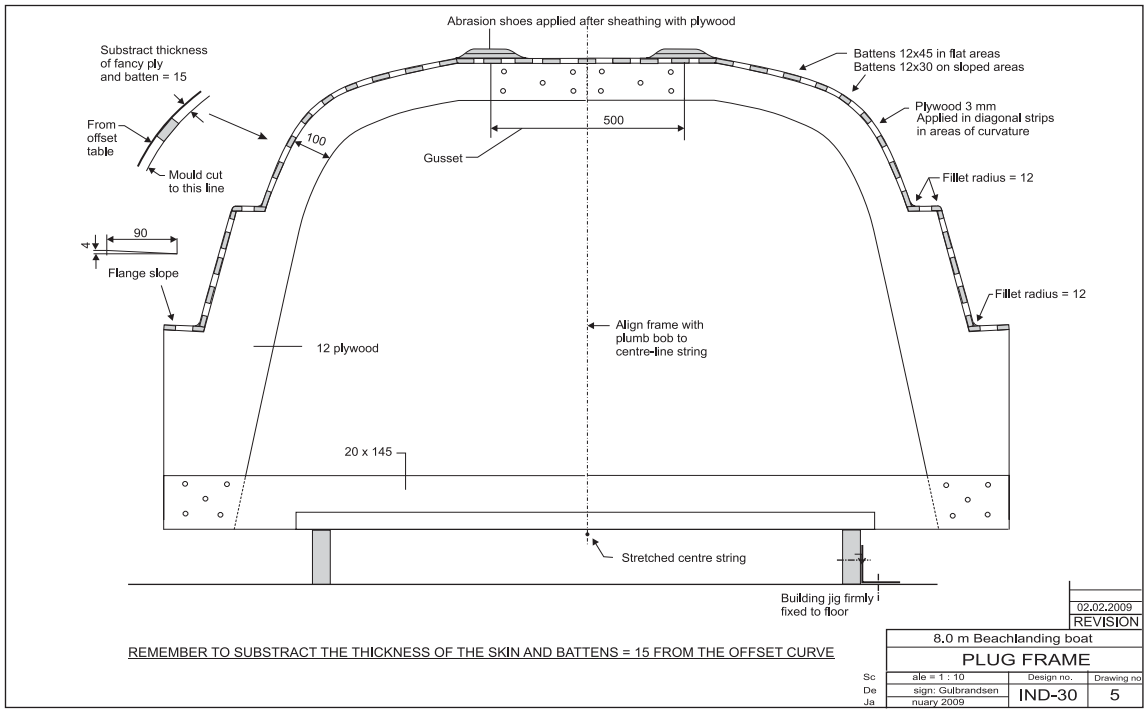
The following section illustrates the sequence of building a hull plug.

Remember! Drawings must be studied carefully and the dimensions specified by the designer should be adhered to (Annex 3).



	10.02.2009
	REVISION

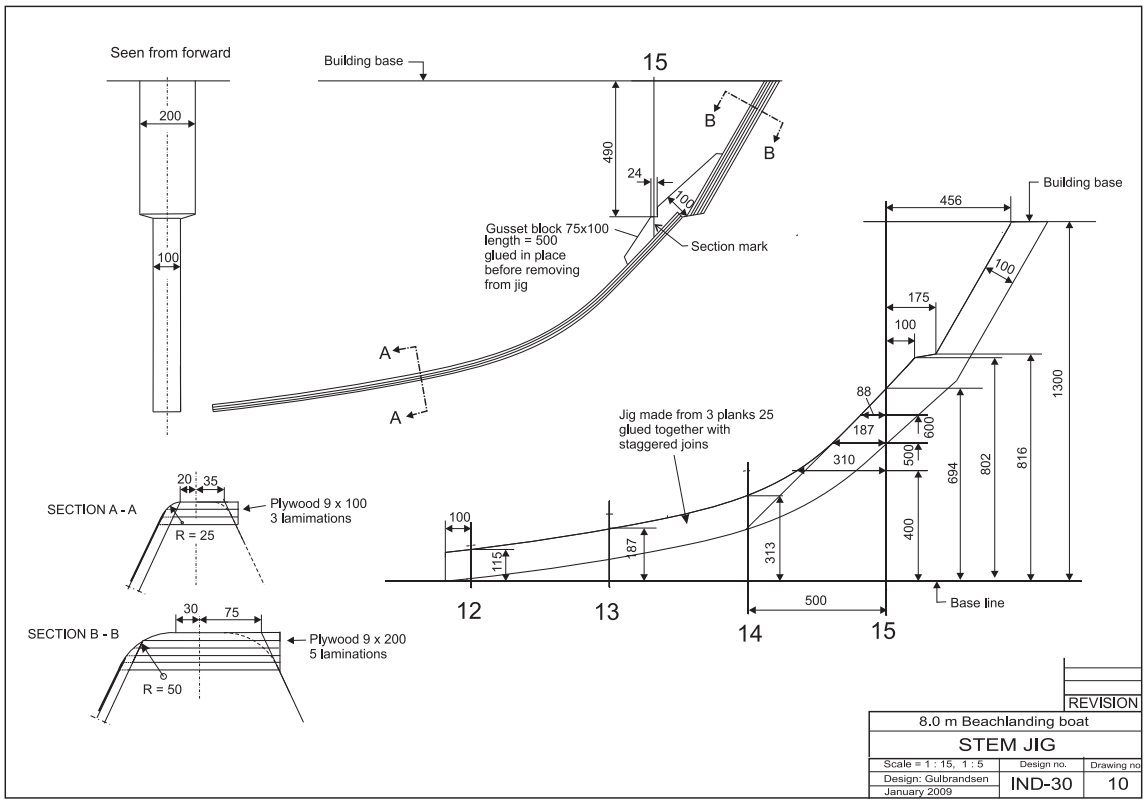
8.0 m Beachlanding boat		
LINES		
Scale = 1 : 40	Design no.	Drawing no
Design: Gulbrandsen	IND-30	2
January 2009		



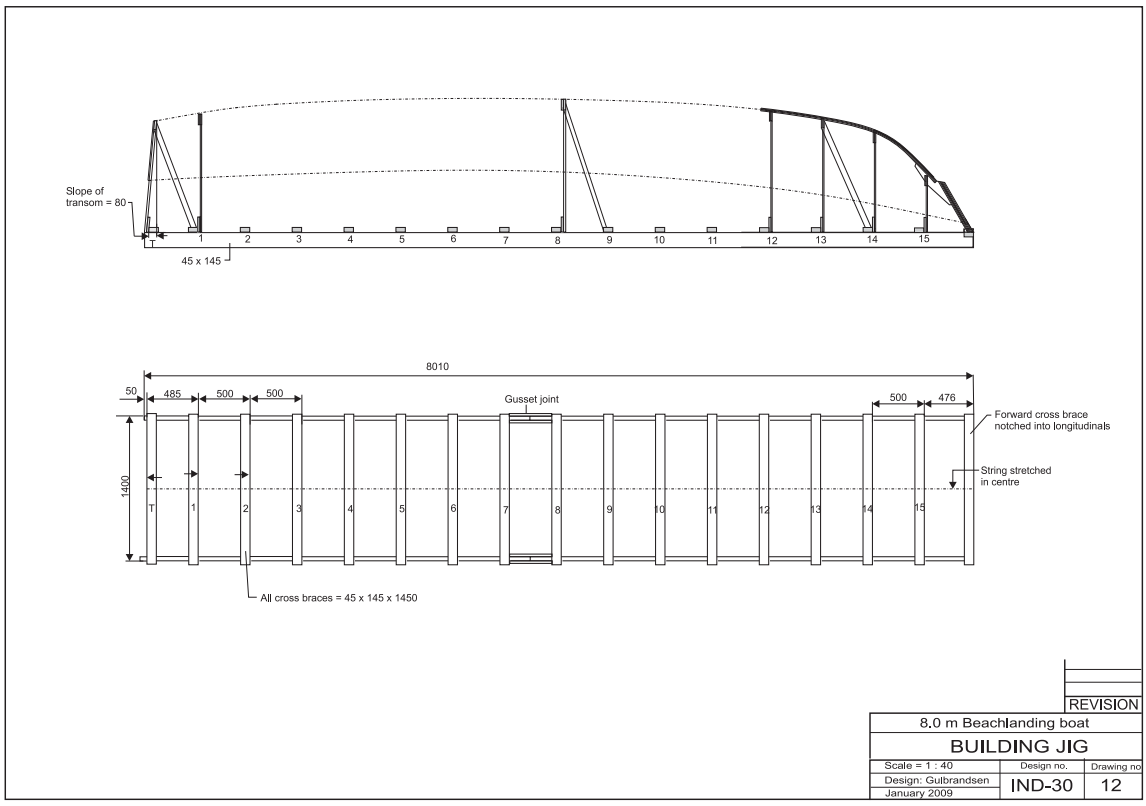
REMEMBER TO SUBSTRACT THE THICKNESS OF THE SKIN AND BATTENS = 15 FROM THE OFFSET CURVE

	02.02.2009
	REVISION

8.0 m Beachlanding boat		
PLUG FRAME		
Scale = 1 : 10	Design no.	Drawing no
Design: Gulbrandsen	IND-30	5
January 2009		



REVISION			
8.0 m Beachlanding boat			
STEM JIG			
Scale = 1 : 15, 1 : 5	Design no.	Drawing no	
Design: Gulbrandsen January 2009	IND-30	10	



REVISION			
8.0 m Beachlanding boat			
BUILDING JIG			
Scale = 1 : 40	Design no.	Drawing no	
Design: Gulbrandsen January 2009	IND-30	12	

8.1 LOFTING AND FRAMES

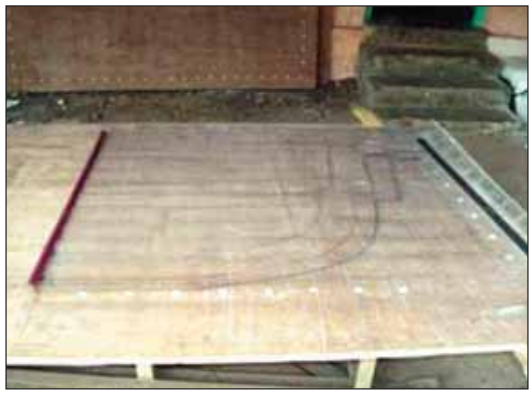


Figure 41

Lofting on plywood – mylar film transfer.

Figure 42

Sample plywood frame.

Figure 43

Frame assembly on jig.

Figure 44

Plumbline check.

Figure 45
Frame assembly.

Figure 46
Applying veneer ply skin.

8.2 HULL SKIN

Figure 47
Topside skin.

Figure 48
Diagonal strips for a curved surface.

Figure 49
Skin complete.

Figure 50
Preliminary fairing.

Figure 51
Applying autograde putty.

Figure 52
Hull plug ready for painting.

Figure 53

Spray painting – first coat.

A two-component paint should be used that will resist the solvents in the tooling gelcoat that will be applied.

Figure 54

Spray painting and rubbing down.

Figure 55

Finished plug.

THE PLUG FINISH WILL DETERMINE THE MOULD FINISH

9 - MAKING THE MOULD

Useful tips when making a mould are:

- Use large flanges for stability.
- Use plenty of framing to add stability, either plywood on edge or FRP top-hat.
- Restrict all secondary bonding on the outside of the mould to light laminates in order to avoid shrinkage and pulling the mould,
- Ensure that mould thickness is 6 mm thick for a boat up to 3 m in length, then add 2-mm thickness for each metre of length.
- Use a proper tooling gelcoat that is light-coloured to reduce the heat of the mould. Do not lay up the mould too quickly.
- For a better result, do one lay up in the morning and one lay up in the afternoon until the required thickness is obtained. Thickness can be obtained with a core material.
- Avoid print through by using no roving or core material closer than 6 mm from the gelcoat.

Figure 56

The buffing compound used to polish the mould after release from the plug as a step after wet sanding and before waxing, or to polish the plug surface.

Read the instructions on the can.

Figure 57

Flange on transom.

Figure 58

Gelcoat on transom.

Figure 59

Transom lay-up completed.

Figure 60

Centre flange on hull plug (the purpose of which is to make a split mould).

Figure 61

Gelcoat on starboard half.

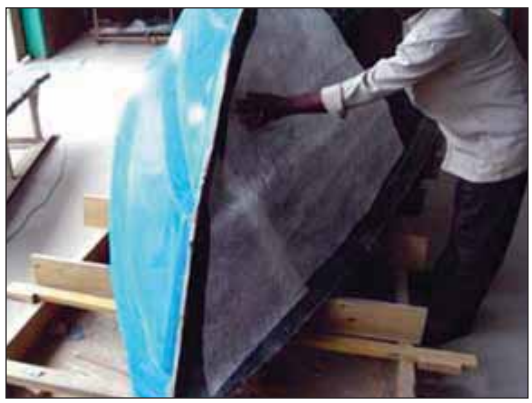


Figure 62

Mould lay-up.

Figure 63

Mould lay-up.

Figure 64

Mould framework. The shape of the frame is for tilting of the mould (See Figure 80) .

Figure 65

Mould framework.

Figure 66

Rubbing down with water emery.

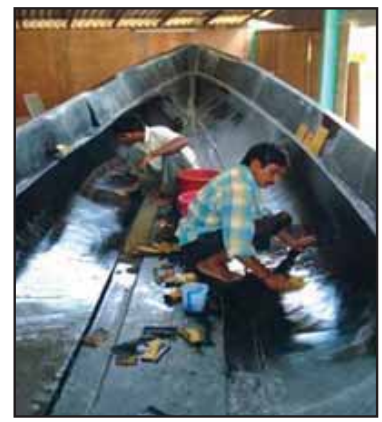


Figure 67

The completed split mould (without the transom).