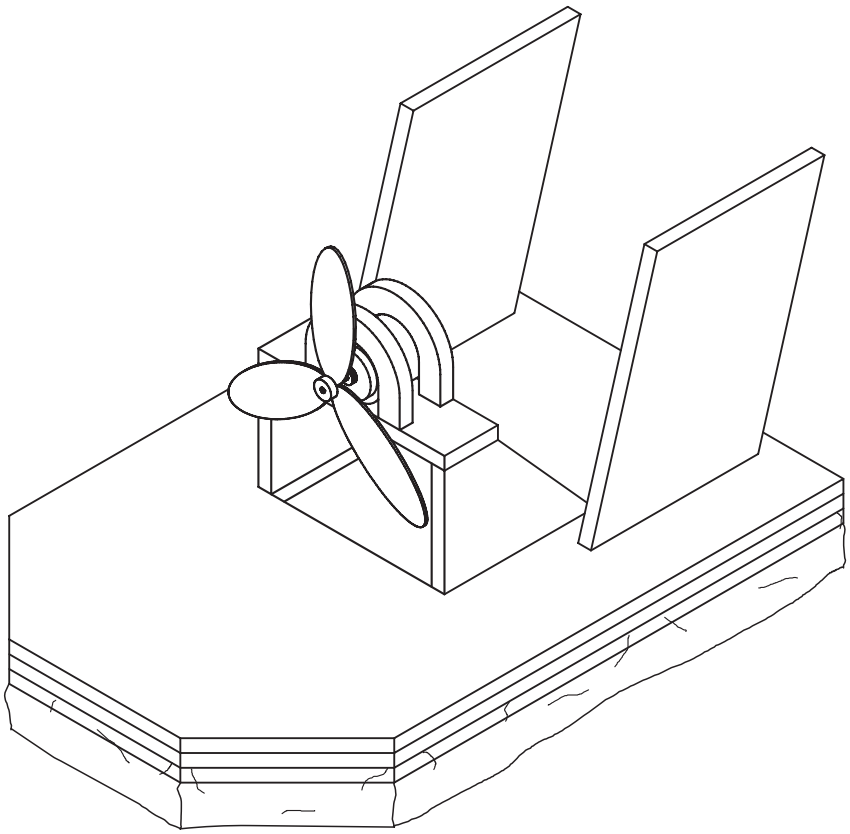
OPITEC

Hobbyfix

103.185

Hovercraft



Contents

Description	Part No.	Material
Body	1 & 2	foam sheet
Deck	3	"
Deckhouse	4	"
Sides of Deckhouse	5 & 6	"
Rudder	8 & 9	"
Motor & Propeller		
Wire		

Please Note

The OPITEC range of projects is not intended as play toys for young children.They are teaching aids for young people learning the skills of Craft, Design and Technolo- gy.These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Dan- ger of suffocation!

The Hovercraft is one of the most modern forms of transport in the world. It is really a mixture of car, plane and ship. The name itself implies a vehicle that can fly. The advantage of the Hovercraft is that it is equally at home on land or water and has both civilian and military uses. The Hovercraft service between Dover and France can carry up to 400 passengers and 60 vehicles at speeds up to 70 mph. across the channel.

Assembly Instructions for the “Hovercraft”

The material for this model is made from foam sheet. This is a light hard styrene foam, something like polystyrene. However foam sheet has other qualities, such as it can be cut cleanly with a knife and sanded like wood. For this model we will need a sharp knife to cut the parts from the three Rohacell sheets.

Stage 1.
Firstly trace the shape of the deck frame parts 1 & 2 on to the foam sheet and carefully cut out the shapes. Another method is to photocopy the plans cut them up and then use the shapes to draw around. The parts 1 & 2 for deck frame can then be glued together using Pritt glue or similar and laid to one side until dry.

Stage 2.
The main deck can then be traced and cut out including the hole for the air duct (this is part 4 and is later used for the rear wall of the deckhouse) Cut the front corners of the deck to angle as shown on the plan. The side walls (5 & 6) and top (7) of the Deckhouse can now be cut out, glued and assembled. The part from the main deck which was cut out earlier, serves as the rear wall(4).

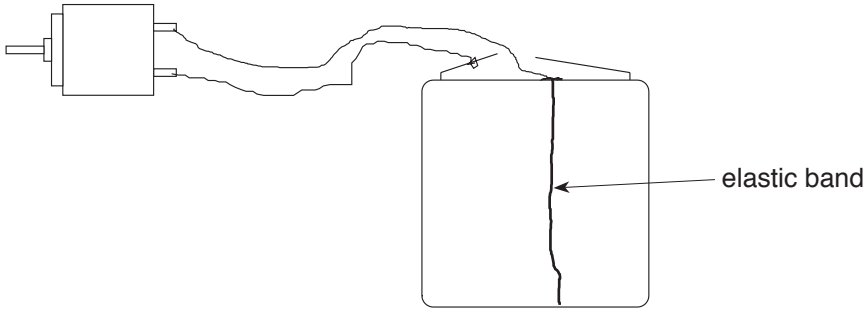
Stage 3.
Lastly the motor and propellor can be mounted in position using two U shapes (10) (see plan). These must be mounted in the middle of the deckhouse top and the motor held in place until the assembly is dry.

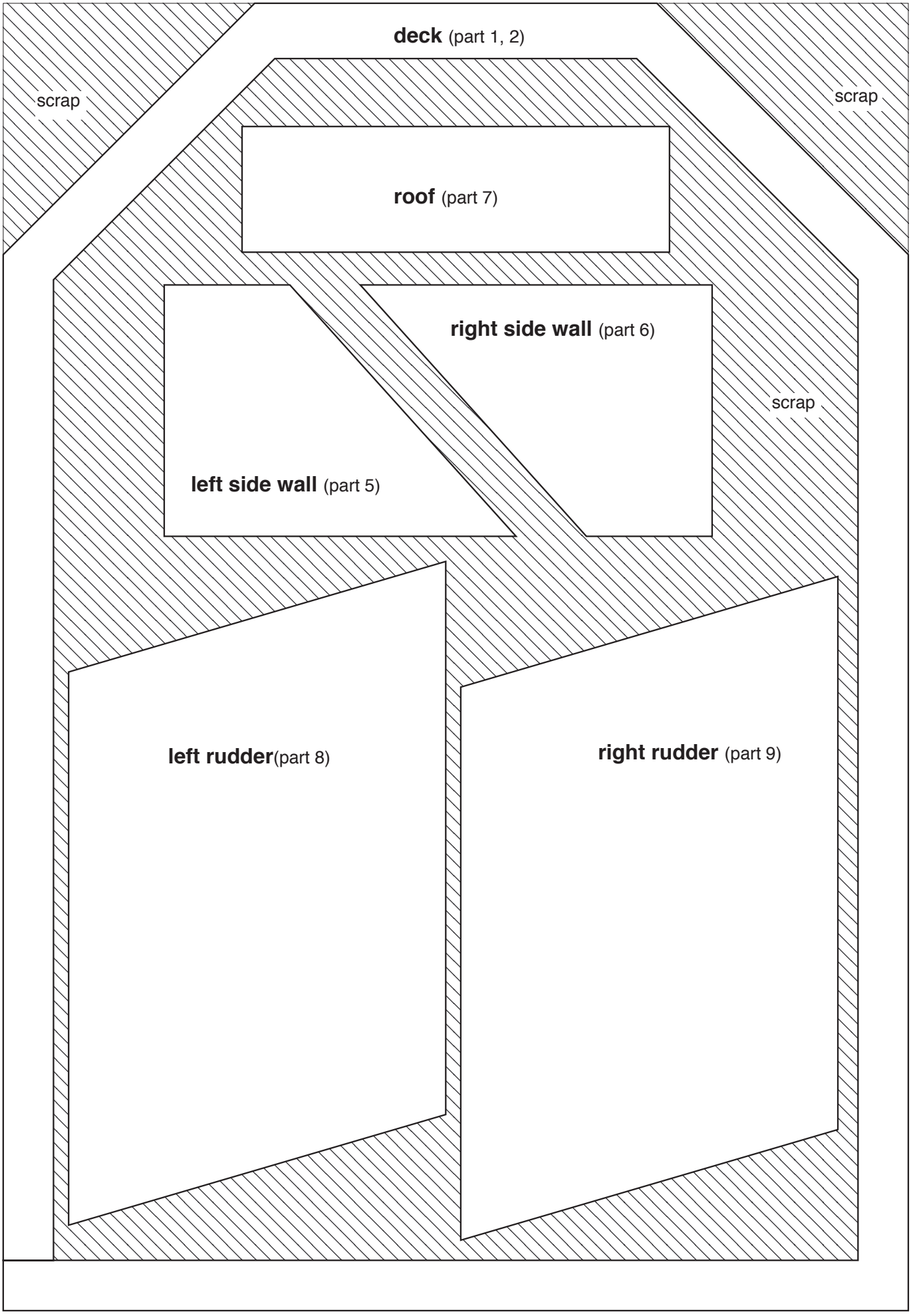
Stage 4.
Now the "skirt" of the hovercraft can be formed from the polythene bag. Lay the bag on the plan so that the sealed end faces forward. The outline shape of the bag is shown on the plan as a long broken line Transfer the inner dotted line from the plan on to the bag with a felt tip pen. The next step is, to cut out the dotted area in the centre of the bag, so that only a frame of polythene is left. Slide the deck parts 1 & 2 into the polythene frame. Now the main deck (3) complete with deckhouse can be added on top and held in place with small strips of sellotape. The places for the tape are shown on the plan.

Stage 5.
The rudders 8 & 9 are fixed in place with a pin from underneath, so that they can swivel. To lock them in position insert a further pin at the rear of each rudder. This way it is easy to alter the direction of the craft. Finally solder the two lengths of cable to the motor and on the other ends solder paper clips to act as battery connectors. Connect one paper clip to the plus on the battery and hold the other clip down on the battery case with an elastic band. When the battery connector is pressed down, the circuit should be made (see the plan). If the craft does not rise, the battery connections are the wrong way around and need changing over.

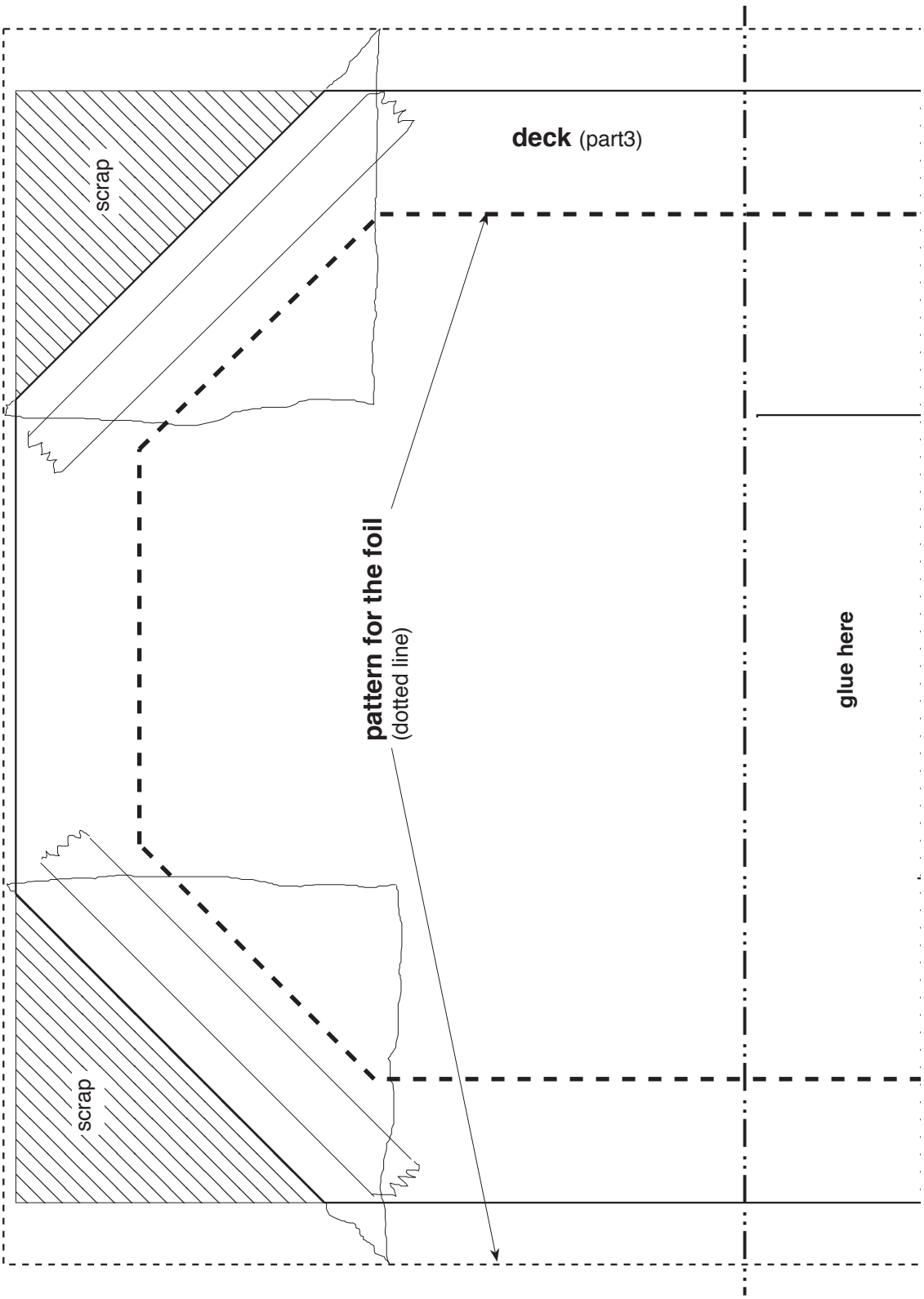
Happy "Hovering"

Wiring the motor and battery

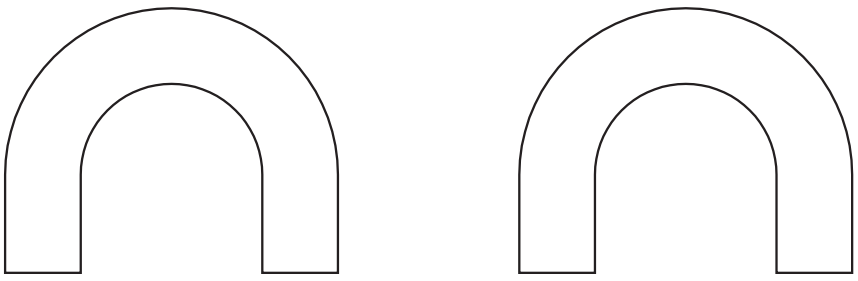



deck (part 1, 2)
scrap
scrap
roof (part 7)
right side wall (part 6)
scrap
left side wall (part 5)
left rudder(part 8)
right rudder (part 9)

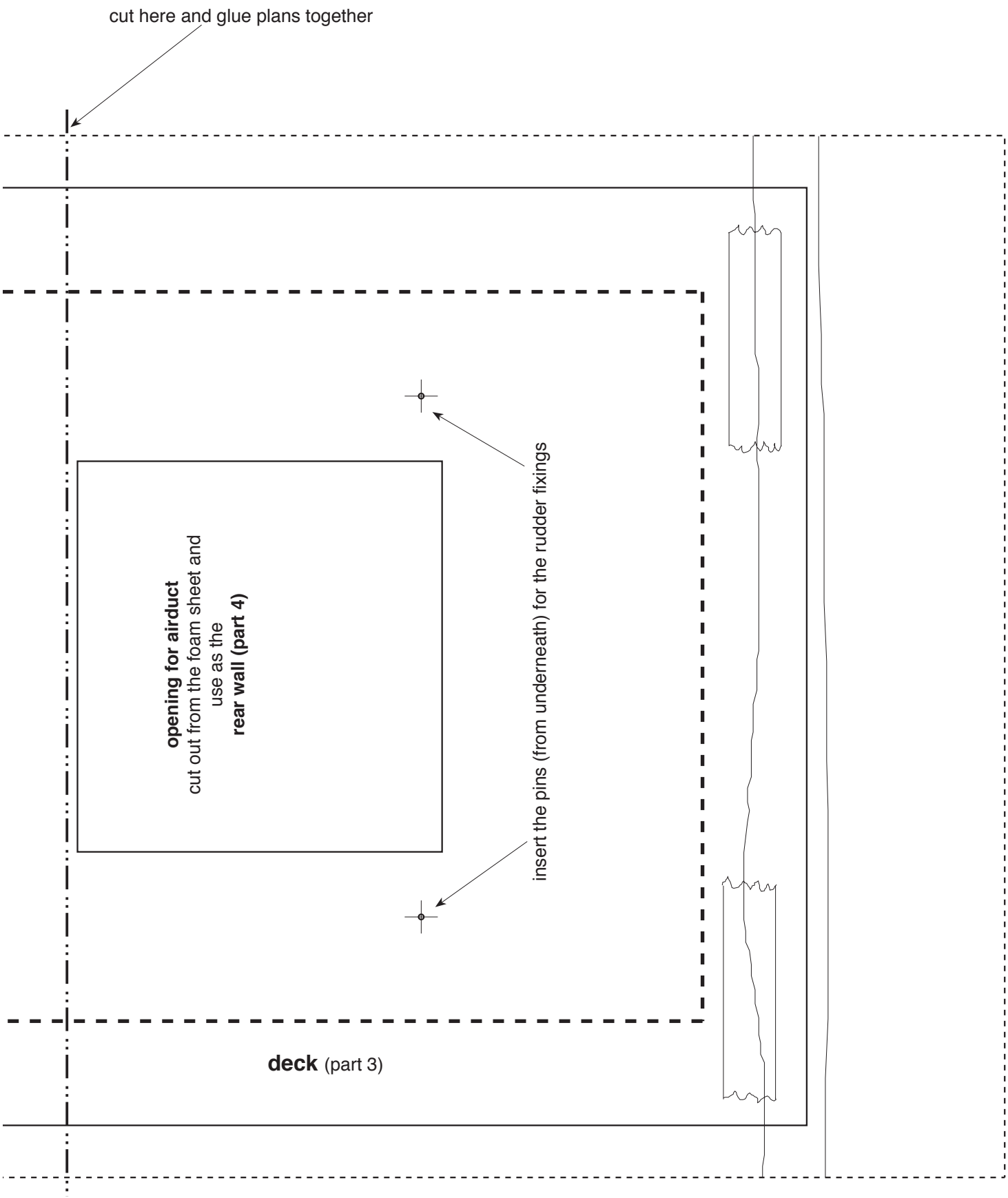
deck A-1



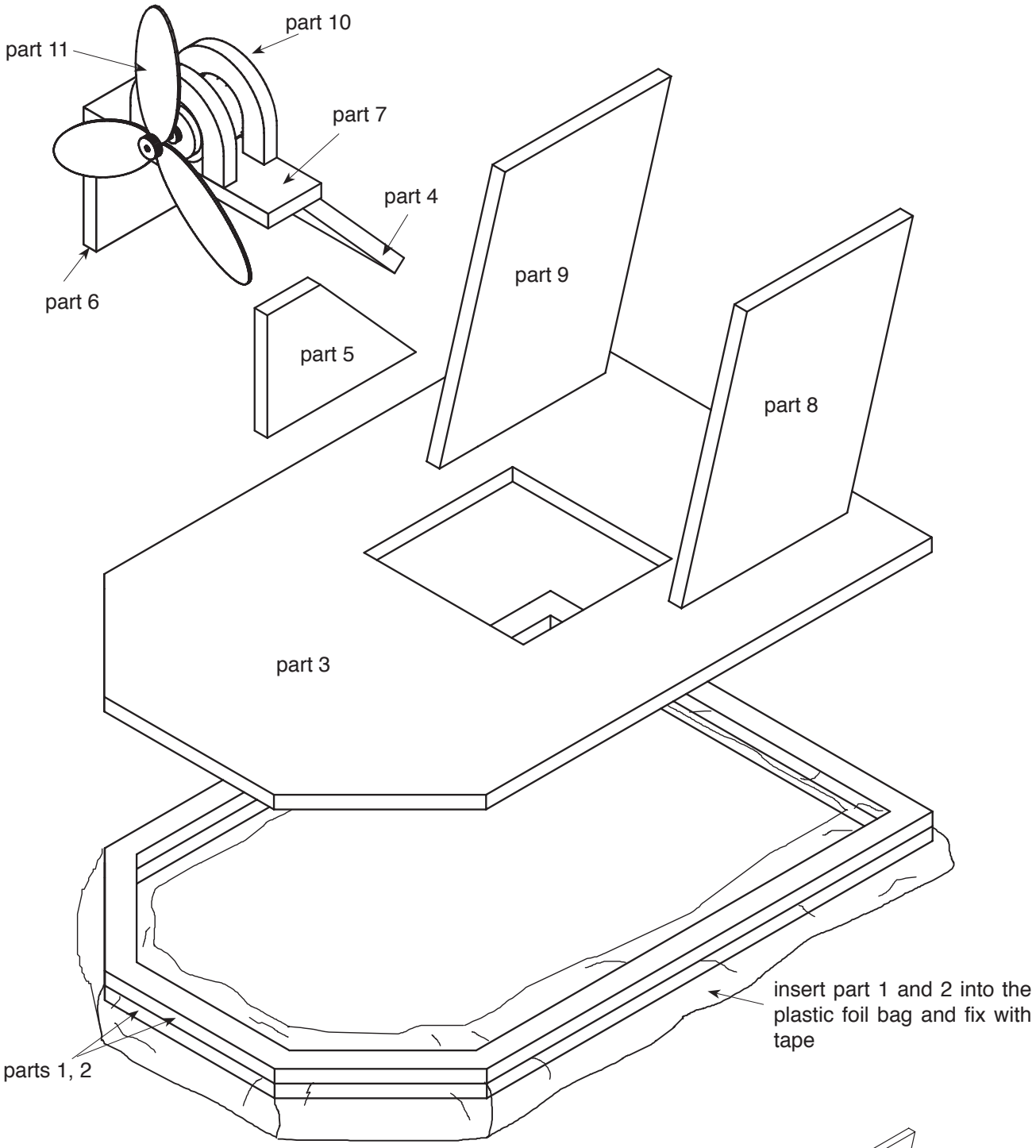
motor holders
(part 10)
2x



deck A-2


cut here and glue plans together
opening for airduct
cut out from the foam sheet and
use as the
rear wall (part 4)
insert the pins (from underneath) for the rudder fixings
deck (part 3)

Assembly



The Hovercraft Principle