

Building Instructions for Island Supporter "Borkum" Scale 1:12



At the turn of the century boats had been built for supplying the near islands at the coast. Many of them had a steam engine for a fast and powerful run.

You have acquired a model kit which in its conception is clearly different from others. The wooden parts are all cut by modern laser technique. The visible parts are all made of African hard wood, which makes this model very attractive.

The construction of the Borkum is not very difficult. All you need is a bit of constructor skill, combined with accuracy and patience. Completed with the extra available fitting set you will have a very nice model.

Before beginning with the construction, transfer the numbers of all construction parts to the pre-cut parts. Do not yet remove the parts. You will find the corresponding numbers in the reduced figures in the assembly instructions. Please use a lead pencil and mark the numbers only lightly so that you can erase them later. For removing the parts we recommend to use a very thin fretsaw blade (00). We urgently ask you to follow our recommendations concerning the glue. Experience has shown that following these recommendations will ensure success.

For the construction of the Borkum we recommend:

Strip parts 5 x 5 mm x approx. 2m total

Silicon sealant, clear

Wood sealer

2 servo extension leads of your RC

1 fitting set Borkum, art. No. 20293

2 packages ballast, art. No. 60112

Krick extra fest, art. No 80480, a P.V.A. glue of good quality.

You can use Ponal, Uhu coli or something similar instead.

Krick ruck zuck, art. No. 80491 or similar cyano acrylit glue

Krick ABS glue, art. No. 80478, developed especially for the connection of wood and ABS or UHU plus acrylit, art. No. 48315 a two component glue.

UHU plus endfest 300, art. No. 45640, for the ballast.

If there is no special glue indicated in the instructions, you have free choice.

Article no. 210042: water oil condenser for clean lakes and rivers.

Article no. 60100: special oil for steam engine.

Generally you should lightly sand carefully all wooden parts after gluing and varnishing them three times with wood sealer. Sand after each coating in order to smooth the prominent wood fibers. The final varnishing with mat or silkmat lacquer is only applied at the very end, when the model is finished.

For the construction please follow the numbers of the construction Plan.

Building instruction

To run the Borkum we recommend our steam engine Puffin, article no. 211001. To built-in this machine you will find drawings in the kit which can be layed directly on the plan.

Fig. 1

Start with the boat stand (parts 1 to 3). Glue all parts together on a flat and true surface. Before the glue sets ensure that the stand feet contact the surface.

Building plan 1

As shown on the plan we make the holes for prop shaft tube no. 58 (7 mm) and rudder trunk no. 8 (5mm) at the marked places of the hull.

The stiffeners no. 5 must be glued together and then with Uhu plus acrylit into the hull.

The rudder heel no. 6 is prefabricated and must be fitted with screw no. 7 to the hull.

Set in rudder trunk 8 and push rudder shaft 9 through the trunk and the hole in rudder heel 6.

With the steering crank parts 10 to 12, you avoid a falling out of the shaft.

Fig. 2

Glue the trunk bearings 13 to 15 on the hull and trunk with UHU plus acrylit.

Fig. 3

The rudder, consisting of parts 9, 16, 17 and 20, must be glued with epoxy glue. File into the rudder shaft at the place where the rudder will be glued some scores to avoid a turning of the rudder on the shaft. After varnishing, set the complete rudder into the hull to check. Between hull and rudder should be 1 or 2 mm clearance.

Fig. 4

Glue bulwark holder 21 on the underside of deck 22, on each side 5 pieces. These parts have to flush with the inside corner of the deck.

Solder a piece of antenna cable to the antenna 23, push the antenna through the bulwark holders and fix them with glue. At the end of the cable, solder a plug to your receiver.

Fig. 5

Glue strip 24 beneath frame 25 and grind the form of the frame. Glue frame-bearing 26 to the frame 25.

Fig. 6

Use the same way for combining strip 27 and support 28 with frame 29.

Before you glue servo support 31 between back frame bearings 30 please check whether your servo fits the hole.

When this is ready glue, front and back frame to the deck.

Now plank both frames with strips no. 32 and 33. Begin from the middle of each frame to the left and right end. Glue parts 34 as head ledge on the deck.

Fig. 7

Now you need a bit time for the next steps. You will now fit the deck into the hull. It is necessary to adapt the frames to the form of the hull. Press the deck into the edge.

If everything fits perfect, first glue only the deck to the hull giving ABS glue into the edge of the hull and laying the deck inside. With adhesive tape, press the deck into the hull as shown on Fig. 7. Be sure that the deck lies deep enough in the edge.

At this moment, there must not be any strain, because the frames could shift to the middle and shorten the place for the floors. During the drying time lay the hull with the deck side down on the table that outcoming glue does not disturb the ship's side. When the glue is dry, fix the frames with superglue to the hull.

Fig. 8

Sand rubbing strake 35 at the outside before you glue it and give it three coats of sealer. Then glue it. The strip has to stay 0,5 to 0,8 mm over the deck.

Fig. 9

As shown on the plan the deck planking 36 and 37 must be glued on the deck. The planking strips 37 have to be ironed flat with a flat iron as shown on Fig. 9 after they were soaked in hot water. Plank from the middle to the outside. Sand the complete planking carefully after the glue is dry.

The plan shows how to glue strip 39 to frame 38 under the marked line. Then plank the frame above the strip with strips 40

Fig. 10

Glue strips 41 on frame 38 as shown on Fig. 10. Then glue strips 42. Now glue the complete frame into the hull.

Fit engine base plate 43 into the hull but do not glue. Sand the edges oblique as shown in Fig. 17 with part 65.

Without fig.

Glue the hatchway surrounding 52 from below on the engine base plate 43 and fit in the hatch.

The engine base plate 43 has to be planked with strips 54 and sanded properly. Give the plate two or three coats of wood sealer, sand and glue in hull with "ruck-zuck" or a similar cyano acrylit glue.

Fig. 14

Push prop shaft tube 58 through the hole in the hull and complete it with shaft 59, shaft nut 60, propeller 61, set collar 62, hose 63 and screw 64. Put the ready built steam engine Puffin on its position and adjust the height of the shaft to the shaft of the steam engine. If necessary correct frame 38. When the alignment is correct, glue the shaft tube into the hull and the frame with UHU plus acrylit.

Build up cockpit deck 65 with following parts: hatchway surrounding 66, hatch 67, stiffener 68 and plan-king 69.

For the next step, you need a servo extension lead and a thin string of approx. 50 cm. Pull this string through the small bore in the deck, which was drilled in before and secure it with a knot on the upper side of the deck. Under the deck, you fasten the servo extension cord to the string.

Now give wood- or epoxy glue on parts 28, 38, 41 and 42, pull the string with cord under the strips 41 and 42 starboard and fix the deck. Burden the deck with weights until the glue is dry.

At the free end of the servo extension lead, fix also a string, which you fasten at the antenna wire. Now you can pull the lead to the servo.

The second servo extension lead you need for the rudder servo. Pull it through the hole in frame 30 and secure it.

For the following steps, you need both bulwark strips 72. Round the upper edge. Use some epoxy glue for the bulwark holders 21. Pay attention that no glue drops to the hull. Now press the bulwarks on and fix them with superglue up to the front frame 25.

At the front bevel both bulwarks that they fit well and glue them with superglue

Fit the bulwark parts 73 and 74. Round the upper edge and glue them vertical on rear frame 29. Glue strips 75 around the whole bulwark with superglue.

Fig. 15

Glue the rail 76 as shown in the figure and round it. Glue on blinds 77 and sand. Prepare bulwark sup-ports 78, paint them, but glue them only after the last painting of the deck on it.

Fig. 16

Now produce the hatchway surrounding with parts 79 and 80. Keep them removable with some strips of paper. After the glue is dry glue hatch 81 on the surrounding. Plank the hatch 81 with strips 82 and the surrounding 79/80 with strips 83.

Strips 84 must be painted totally before they are cut. Mark the position of the false frames 84 in the hull and glue them with small drops of superglue.

The blind strip 85 covers the edge of the upper deck 65/69 at frame 38 and should be 1 mm higher then the deck planking as stop face for the seat side parts 86 and 93. It must be glued with superglue. Now fit seat side part 86 on frame 38 and bulwark 72. Sand seat side Part 86 and glue in.

Glue seat bottom part 87 with supports 88, put them into the holes in the deck and glue them to side part 86 and upper deck 65.

Sand seat 89 and side part 90 and glue them.

Glue strip 91 as shown with no. 100 in Fig. 17 behind the back of the seat 92 and fix all at bulwark 72. Then glue seat side part 93, bottom part 94 and supports 95.

Fig. 17

Place seat receiver and battery under the starboard and glue the switch plate 96 at a good place. The starboard seat must not be glued, only glue fastener 98.

Drill through bottom part 94 and fastener 98 a hole of 1,5 mm for screw 99.

Strip 100 must be glued to the bulwark that seat 97 can be opened.

Sand off the 1 mm rest of strip 85.

Round the cushions 102 to 107 and paint them. They will be glued after the last painting of the boat.

Fig. 18

Build up the pedestal with surroundings 108 and 109 and floor 110 and plank it with strips 111 and 112. Produce the rudder stand 113 as shown in the plan, drill the hole for screw 116 of rudder 115 and glue it to the pedestal. Then glue the complete pedestal to the deck with strips 117. The rudder with spacing

Sleeve will be mounted after the last painting of the boat.

Glue the stair out of stair side 118 and steps 119, but glue them after the final painting of the boat. Glue stair base 121 and step 120 as shown in the plan.

Sand and drill (4 mm) pedestal 122 to 124 as shown in the plan and glue it. Sand also holders 125 and 126 for the lifebelts and glue them at the correct place.

For the mast bases 129 to 131 drill a 4 mm hole at the correct place, also 2 mm holes for mounting eyes 132.

You can now finish painting your Borkum. To avoid damage at the hull use some adhesive tape under the deck and under the rail.

Seal the engine base plate to the hull with clear silicone sealant. After painting glue bases 129 to 131 and eye 132.

Mark the water line at the front and the back of the hull, put the hull on the cradle. Under the cradle put some wood that the height of the water line in the front and back is equal. Now paint the water-line with a pencil that you have mounted on a piece of wood with the correct height around the hull. Now lacquer the hull under the water-line.

Unscrew the propeller and nut, draw out the shaft and fill the shaft pipe with vaseline.

Now produce both flag staffs with parts 133 and 134, trucks 135 and 136, clamps 137 and 138, ensign halliard 139 and 140 and Flags 141 and 142.

Cut to length and curve lamp mast 143 and bell mast 145 as shown in the plan. Heat until Cherry Red the upper ends of the mast with the burner of your steam engine. Then hammer the heated part flat, round it and drill a hole of 1,5 mm in it. Open the holder of the lamp 144 and bell 146 a bit, insert it into the hole of the mast and close the wires again.

Curve hand rail 147 as shown on the plan and glue it. Sand life belts 148, lacquer them white and complete them with handling line 149, straps 150 and nameplate 151.

Drill holes of 1,5 mm into bollards 152 as shown on the plan, lacquer them black and glue them to the deck. After this drill with 0,8 mm through the holes in the bollards into the deck and hammer in the nails 153.

Curve ring hooks 154 as shown on the plan and fasten them with knots to the bowfender.

Secure the-knots with superglue.

Fasten the sidefenders 156 at the bollards.

Roll the rope into coils and glue them to the deck.

Fig. 20

Produce the transport box for covering the servo with parts 178 - 180 and plank it with strips 165. Don't glue the box to the deck so that you can reach your servo. Drill at the correct place a hole of 1,5 mm, hammer in nail 166 into the wall, grind away the nail's head, place the box to the deck that the nail makes a small mark into the deck. Drill a 1,5 mm hole into the mark.

Fix the waterslide nameplates to the front and the deck of the boat as shown on the plan. Connect the servos with clevis 168/169, pushrods 170/171, set collars 172/173 and screw 174/175.

Building Instructions for Borkum Steamboat

Shorten the antenna of your receiver of the length of the wire in the boat (500 mm). Solder a coupling to the cable and connect it with the antenna.

Before trimming your boat you have to place all fittings at the correct place. All parts that are put in later will change the trim.

Before you fill in the ballast please pay attention to the following points.

1. Put in steam engine with full boiler.
2. Put in full gas tank.
3. Put in steam condenser.
4. Set in the complete RC (receiver, servos, batteries and switch)
5. Pull the servo cables tight and fix them carefully with tape.
7. To avoid a damage of the deck cover it with a broad tape.
8. Set the boat into the water.
9. Mix the ballast with UHU plus endfest 300 that all balls are moistened a bit.

10. Now fill in the ballast with a spoon. Check after each small addition of ballast the trim and set the boiler in its place. Fill in ballast till the boat lies at its waterline in the water.

When the boat lies in the water till the water line, let the steam engine at its position until the glue is dry (during a night), in the water, so that the ballast is unable to change its position. Then take off the tapes put in the hatches and screw on the steam engine.

After a thorough check of all equipment you can launch and navigate your "Borkum", and we are certain, that this will provide you with a lot of fun.

Klaus Krick Modelltechnik, D-75438 Knittlingen, Federal Republic of Germany

Building Instructions for Borkum Steamboat

Parts List

| No. | Description | Qty. | Material | Board No. |
|-------|----------------------|------|-------------------------------------|-----------|
| 1-2 | boats rack | 2 | plywood 7 mm | 1 |
| 3 | junction for racks | 2 | plywood 7 mm | 1 |
| 4 | hull | 1 | ABS | |
| 5 | stiffener | 3 | plywood 3 mm | 2 |
| 6 | rudder heel | 1 | brass | |
| 7 | fixing screw | 3 | tin screw 2,9 x 9,5 mm | |
| 8 | rudder trunk | 1 | brass tube 5 x 0,45 x 35 mm | |
| 9 | rudder shaft | 1 | brass 4 x 130 mm | |
| 10 | steering crank | 1 | nylon | |
| 11 | hub | 1 | brass prefabricated | |
| 12 | screwing splint | 1 | inward wrench M 3 x 3 mm | |
| 13-15 | trunk bearing | 4 | plywood 3 mm | 2 |
| 16-17 | rudder part | 2 | plywood 4 mm | 6 |
| 20 | rudder part | 2 | plywood 1 mm | 4 |
| 21 | bulwark holder | 10 | plywood 3 mm | 2 |
| 22 | deck | 1 | plywood 3 mm | 2 |
| 23 | antenna | 1 | steel wire 0,8 x 500 mm | |
| 24 | support strip | 1 | ramin 5 x 5 x 60 mm | |
| 25 | frame | 1 | plywood 3 mm | 7 |
| 26 | frame bearing | 1 | plywood 3 mm | |
| 27 | support strip | 1 | ramin 5 x 5 x 90 mm | |
| 28 | support | 1 | plywood 1 mm | 4 |
| 29 | back frame | 1 | plywood 3 mm | 7 |
| 30 | back frame bearing | 2 | plywood 3 mm | 2 |
| 31 | servo support | 1 | plywood 3 mm | 3 |
| 32 | frame planking | 1 | mahagoni 0,5 x 5 x 3500 mm total | |
| 33 | frame planking | 1 | mahagoni 0,5 x 5 x 2500 mm total | |
| 34 | head ledge | 2 | plywood 3 mm | 2 |
| 35 | rubbing strake | 2 | mahagoni 2 x 6 x 1000 mm | |
| 36 | deck planking | 1 | mahagoni 0,5 x 5 x 600 mm total | |
| 37 | deck planking | 1 | tanganjika 0,5 x 5 x 20000 mm total | |
| 38 | frame | 1 | plywood 3 mm | 7 |
| 39 | support strip | 1 | ramin 5 x 5 x 200 mm | |
| 40 | frame planking | 1 | mahagoni 0,5 x 5 x 2500 mm total | |
| 41 | strip | 2 | ramin 5 x 5 x 230 mm | |
| 42 | strip | 2 | ramin 5 x 5 x 241 mm | |
| 43 | engine base plate | 1 | plywood 3 mm | 3 |
| 52 | hatchway surrounding | 4 | ramin 1,5 x 5 x 230 mm total | |
| 53 | hatch | 1 | plywood 3 mm | 3 |
| 54 | planking | 1 | tanganjika 1 x 10 x 5200 mm total | |
| 58 | prop shaft tube | 1 | brass prefabricated | |
| 59 | shaft | 1 | steel | |
| 60 | shaft nut | 1 | brass M 4 | |
| 61 | propeller | 1 | brass prefabricated | |
| 62 | set collar | 1 | brass prefabricated 4.2 mm | |
| 63 | hose | 1 | silicon hose | |
| 64 | cylinder screw | 1 | steel M 3 x 14mm | |
| 65 | cockpit deck | 1 | plywood 3 mm | 3 |
| 66 | hatchway surrounding | 4 | ramin 1,5 x 5 x 210 mm total | |
| 67 | hatch | 1 | plywood 3 mm | 3 |
| 68 | stiffener | 2 | plywood 3 mm | 2 |
| 69 | deck planking | 1 | tanganjika 1 x 10 x 6500 mm total | |
| 70 | hatch planking | 1 | tanganjika 1 x 10 x 210 mm total | |

Building Instructions for Borkum Steamboat

| No. | Description | Qty. | Material | Board No. |
|---------|----------------------|------|------------------------------------|-----------|
| 71 | hatch surrounding | 4 | mahagoni 0,5 x 5 x 190 total | |
| 72-74 | bulwark | 4 | tanganjika plywood 3 mm | 5 |
| 75 | strip | 8 | mahagoni 1,5 x 1,5 x 3300 mm total | |
| 76 | rail strip | 10 | mahagoni 1,5 x 1,5 x 2800 mm total | |
| 77 | blind | 2 | mahagoni 2 x 6 x 100 mm total | |
| 78 | bulwark support | 9 | mahagoni 2 x 6 x 350 mm total | |
| 79-80 | hatchway surrounding | 4 | plywood 3 mm | 2 |
| 81 | hatch | 1 | plywood 1 mm | 4 |
| 82 | hatch planking | 1 | tanganjika 0,5 x 5 x 1700 mm total | |
| 83 | hatch surrounding | 1 | mahagoni 0,5 x 5 x 800 mm total | |
| 84 | frame strip | 26 | mahagoni 0,5 x 5 x 3000 mm total | |
| 85 | blind | 1 | mahagoni 1 x 8 x 290 mm | |
| 86 | seat side part | 1 | tanganjika plywood 3 mm | 5 |
| 87 | seat bottom part | 1 | tanganjika plywood 3 mm | 5 |
| 88 | support | 2 | plywood 3 mm | 2 |
| 89 | seat | 1 | tanganjika plywood 3 mm | 5 |
| 90 | seat side part | 1 | tanganjika plywood 3 mm | 5 |
| 91 | strip | 1 | ramin 3 x 3 x 150 mm | |
| 92 | back of seat | 1 | tanganjika plywood 3 mm | 5 |
| 93 | seat side part | 1 | tanganjika plywood 3 mm | 5 |
| 94 | seat bottom part | 1 | tanganjika plywood 3 mm | 5 |
| 95 | support | 3 | plywood 3 mm | 2 |
| 96 | switch plate | 1 | plywood 3 mm | 2 |
| 97 | seat | 1 | tanganjika plywood 3 mm | 5 |
| 98 | fastener | 1 | tanganjika plywood 3 mm | 5 |
| 99 | fastener screw | 1 | tin screw 2,2 x 6,5 mm | |
| 100 | strip | 1 | ramin 3 x 3 x 270 mm | |
| 101 | back of seat | 1 | tanganjika plywood 3 mm | 5 |
| 102-107 | seat cussion | 6 | plywood 3 mm | 2 |
| 108-109 | pedestal surrounding | 3 | plywood 3 mm | 2 |
| 110 | pedestal floor | 1 | plywood 3 mm | 2 |
| 111 | pedestal planking | 1 | tanganjika 0,5 x 5 x 1200 mm total | |
| 112 | pedestal planking | 1 | mahagoni 0,5 x 5 x 750 mm total | |
| 113 | rudder stand | 1 | abachi 90 x 40 x 20 mm | |
| 114 | spacing sleeve | 1 | pin 3 x 0,25 x 3 mm | |
| 115 | rudder wheel | 1 | wood prefabricated | |
| 116 | cylinder screw | 1 | brass M 2 x 15 mm | |
| 117 | strip | 13 | mahagoni 1,5 x 1,5 x 1300 mm total | |
| 118 | stair side | 2 | tanganjika plywood 3 mm | 5 |
| 119+120 | step | 4 | tanganjika plywood 3 mm | 5 |
| 121 | stair base | 2 | tanganjika plywood 3 mm | 5 |
| 122+123 | pedestal | 2 | mahagoni 5 x 12 x 30 mm | |
| 124 | pedestal | 1 | mahagoni 5 x 12 x 12 mm | |
| 125+126 | holder for lifebelt | 8 | tanganjika plywood 3 mm | 5 |
| 127+128 | flag staff base | 2 | brass prefabricated | # |
| 129 | lamp mast base | 1 | brass prefabricated | # |
| 130 | bell mast base | 1 | brass prefabricated | # |
| 131 | rail base | 2 | brass prefabricated | |
| 132 | mounting eye | 1 | brass prefabricated | |
| 133 | flag staff | 1 | ramin 2 x 100 mm | # |
| 134 | flag staff | 1 | ramin 2 x 150 mm | # |
| 135+136 | truck | 2 | wood prefabricated | # |
| 137+138 | clamp | 2 | prefabricated | # |
| 139+140 | ensign helliard | 2 | rigging yarn 0,25 x 600 mm total | # |

Building Instructions for Borkum Steamboat

| No. | Description | Qty. | Material | Board No. |
|---------|------------------|------|--------------------------------|-----------|
| 141+142 | flagg | 2 | prefabricated | # |
| 143 | lamp mast | 1 | brass wire 2 x 150 mm | # |
| 144 | lamp | 1 | brass prefabricated | # |
| 145 | bell mast | 1 | brass wire 2 x 260 mm | # |
| 146 | bell | 1 | brass prefabricated | # |
| 147 | hand rail | 1 | brass wire 2 x 250 mm | |
| 148 | life belt | 3 | wood prefabricated | # |
| 149 | handling line | 3 | rigging yarn 1,75 x 600 mm | # |
| 150 | life belt straps | 12 | self adhesive plastic tape | # |
| 151 | nameplate | 3 | waterslide transfer | |
| 152 | bollard | 6 | plastic prefabricated | # |
| 153 | bolt | 24 | brass nail 1,1 x 10 mm | # |
| 154 | ring hook | 2 | brass wire 1 x 60 mm total | |
| 155 | bowfender | 1 | prefabricated | # |
| 156 | side fender | 6 | prefabricated | # |
| 157 | rope | 2 | rigging yarn 2 x 1000 mm total | |
| 165 | planking | 1 | maple 0,5 x 4 x 2600 mm total | |
| 166 | pin | 3 | brass nail 1,1 x 10 mm | |
| 167 | nameplate | 6 | waterslide transfer | |
| 168+169 | clevis | 2 | prefabricated | |
| 170+171 | pushrod | 2 | prefabricated | |
| 172+173 | set collar | 2 | brass 2 mm | |
| 174+175 | screw | 2 | steel M 3 x 3 | |
| 176 | inward wrench | 1 | prefabricated | |
| 177 | ballast | 1 | approx. 1,8 kg | x |
| 178 | crate side part | 2 | plywood 3 mm | 2 |
| 179 | crate back part | 1 | plywood 3 mm | 2 |
| 180 | crate top part | 1 | plywood 3 mm | 2 |

fittings only in fitting set no. 20293

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