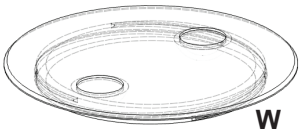
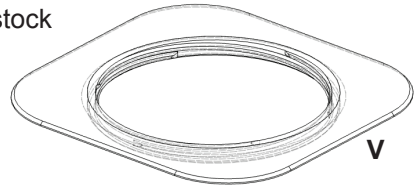
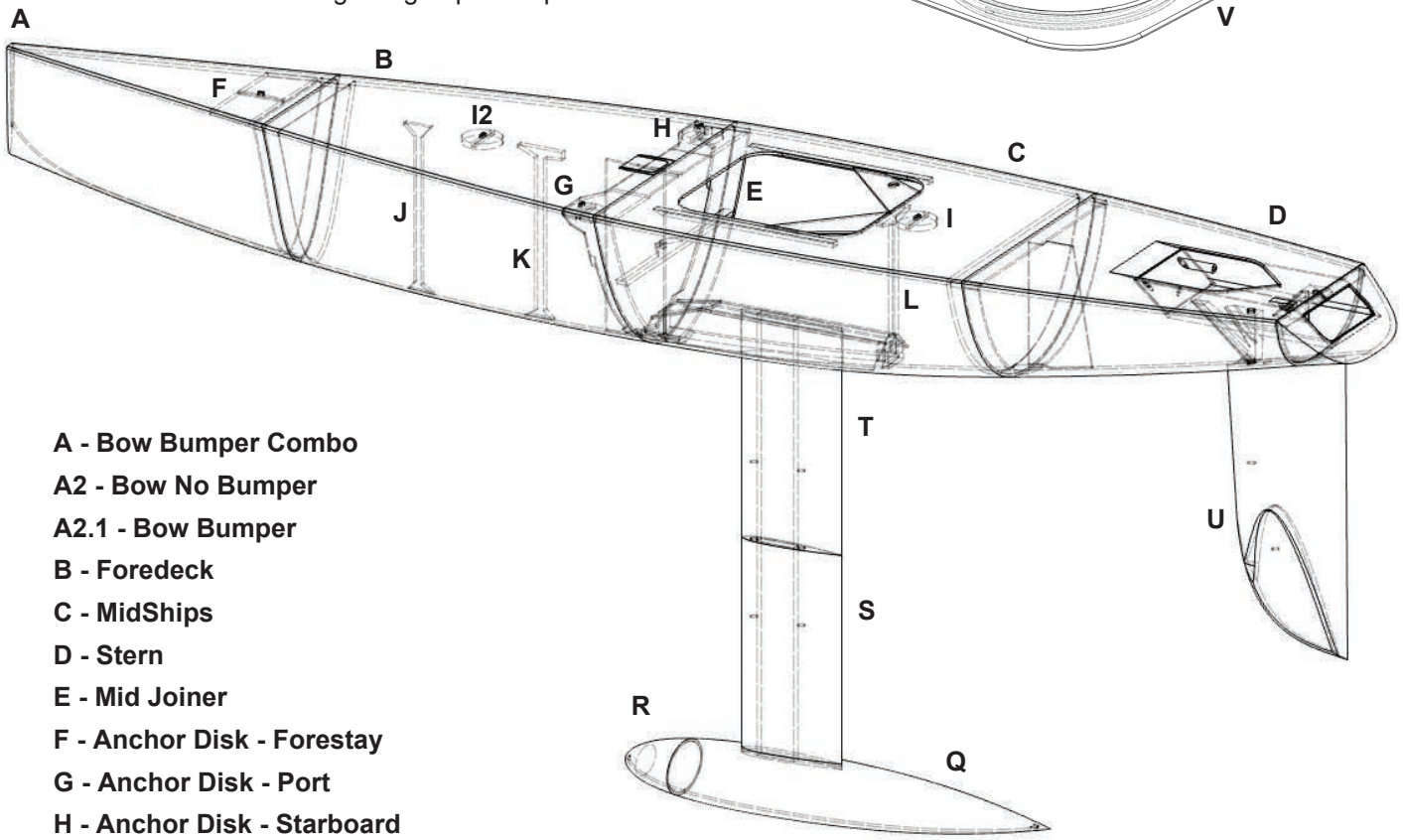
RacingSparrow 3D RC Yacht - 760mm long
Materials suppliers: racingsparrow.co.nz/materials

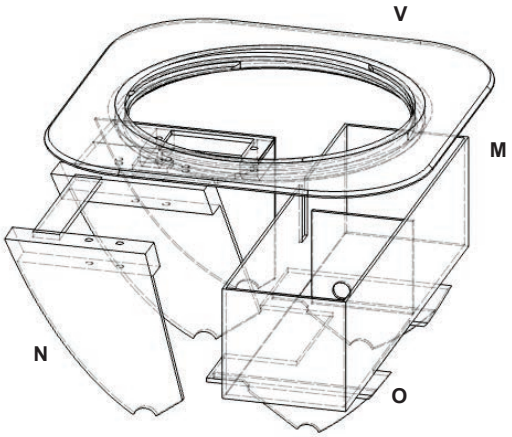
Lead shot filled keel ballast 800g
Mast 950mm carbon 6mm
No part larger than 207mm, great for many printer brands
Carbon internal keel slot
Rudder printed with carbon rod 3mm insert and stock
Water tight twist hatch optional.
Bow bumper optional.
All rig fittings - printed parts







A - Bow Bumper Combo
A2 - Bow No Bumper
A2.1 - Bow Bumper
B - Foredeck
C - MidShips
D - Stern
E - Mid Joiner
F - Anchor Disk - Forestay
G - Anchor Disk - Port
H - Anchor Disk - Starboard
I, I2 - Anchor Disks (2) - Main & Jib
J - Foredeck Brace Forward
K - Foredeck Brace Rear
L - Deck mid brace
M - Floor
N - Servo Bracket
O - Dry Box - Lid
P - Dry Box
Q - Keel Bulb Main
R - Keel Bulb Nose
S - Keel Bottom
T - Keel Top
U - Rudder
V - Round Hatch - Plate
W - Round Hatch - Lid



To finish you need:
Visit: racingsparrow.co.nz/materials

Sail Servo Futaba 3003
Rudder Servo Corona 929MG
Receiver Radiomaster R86

On/off switch
Futaba Battery Holder & 4AA
Futaba - Sail Servo Arm
Tiller Arm 3mm hole

Carbon 6mm Mast x 950mm
Carbon 5mm Booms x 440mm
Carbon Rod 3mm, Fins & Topper
Carbon Bar 6mmx4mmx1m, Keel

Mylar Sail Material 0.5x1m
Sail Repair Tape
Fishing Braid line & Lure Parts
Coated Fishing Wire & Crimps Pack.
800g Lead Shot - Gun Shop
Split Pins 25mm Stainless

Super Glue
Araldite Epoxy
Resin - Runny for Lead Bulb

Transmitter - Radiomaster Pocket
(Authors Favourite)

RacingSparrow 3D RC Yacht
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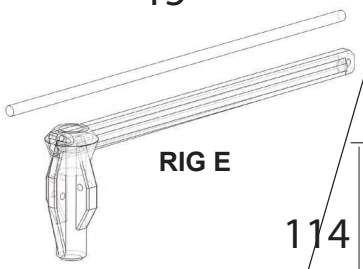
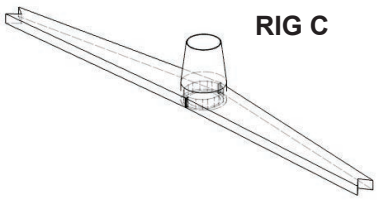
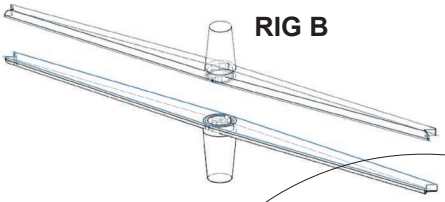
Mast 950mm Carbon 6mm
Booms 215 & 225mm 5mm
Printed Gooseneck
Printed Crane & Stay Points
- with carbon inner
Printed Spreaders
Printed Boom Attachments
Printed Sail Battens

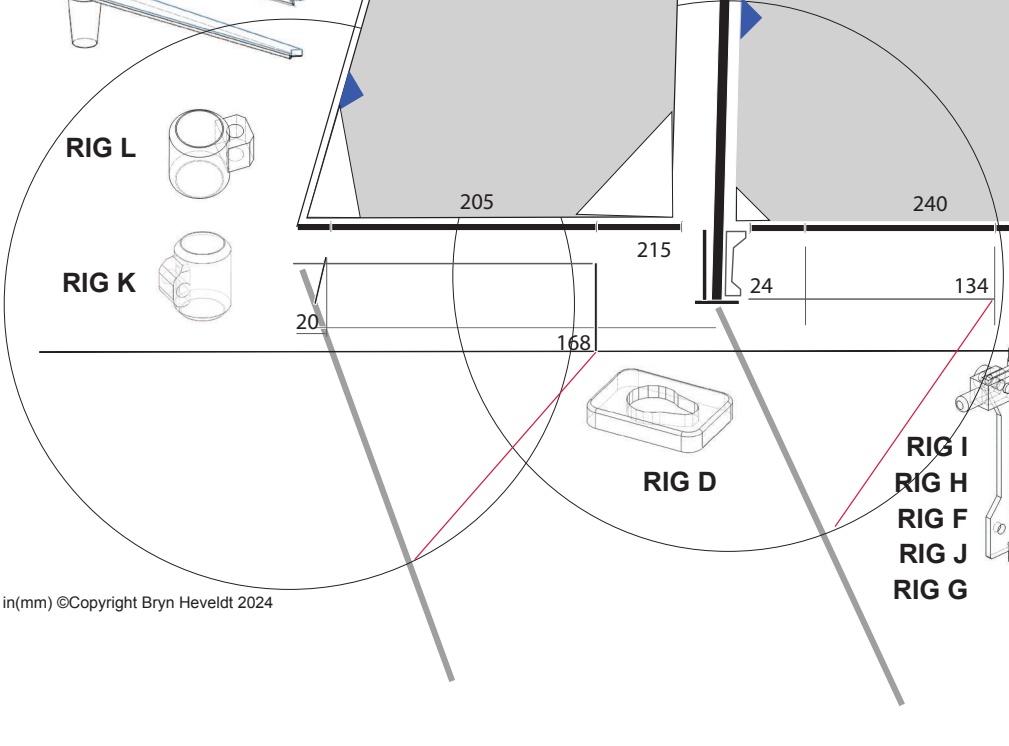
Carbon Spars to have 1mm thick walls. so 6/4mm & 5/3mm.

Topper and stay attachment rig fitting









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Steps to Build the RacingSparrow 3D RC Yacht

Hull

- Print Files
- Clean up parts
- Make and glue in 5 split pin anchors
- Super Glue in 3 deck braces
- Join Hull Quarters with Super Glue
- Super Glue Mid Joiner to hull part C
- Join Hull Halves with Super Glue
- Drill side stay holes through all layers
- Install Electrics on Servo Bracket
- Super Glue Servo Bracket into Hull
- Super Glue in battery floor
- Install rudder & push rod with z bends
- Main Sheet to arm and install
- Super Glue in Battery Box

Keel & Rudder

- Super Glue keel halves with 3mm rods
- Super Glue keel into main bulb slot
- Epoxy in place carbon centre
- Fill bulb Main and Nose with lead & runny resin
- Epoxy Bulb Nose in place
- Super Glue keel into hull - hull upside down
- Super Glue carbon into rudder holes

Rigging

- Cut and glue 3mm rod into the stay topper
- Prep mast, measure & sand glue areas
- Super Glue in place attachment points & fittings
- Rig wires/stays crimping in place
- Cut/remove hatch print supports
- Super Glue Hatch Plate into deck cutout

Sails

- Cut sails
- Tape sails corners and triangle attachment points
- Cut small holes through triangles for braid with craftknife
- Tie sail tie points
- Tie & super glue knots to mast / trim add
- Rig braid lines

Final Prep

- Tune: Jib trailing edge to match side stays. Main sail centred.
- Sail: test range, tighten hatch, relax!

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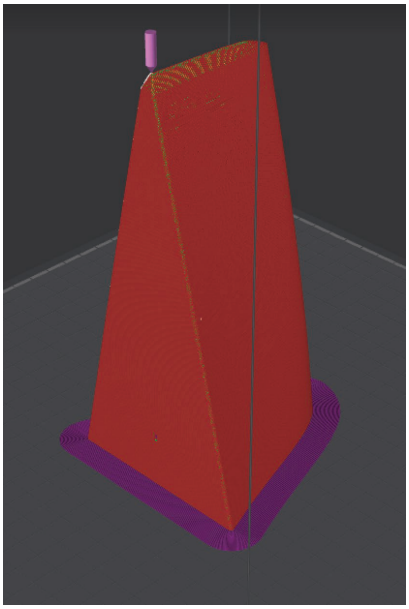
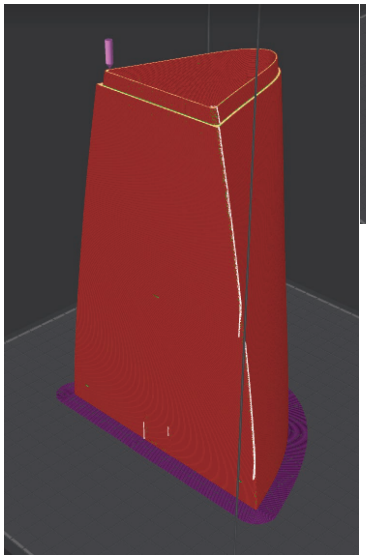
Printing Guide

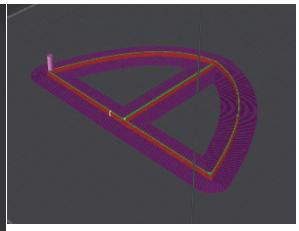
The Racing Sparrow 3D is designed to be printed from PLA+. 1 Roll of filament should be enough to print the 4 hull parts, the keel, bulb and rudder and also the rig parts. The 3d model has been designed so that no part is larger than 207mm on any axis making this easy to print on most home 3d printers. All that is needed is to load the STL files into the slicer software and print. No extra modelling required. No supports are needed when printing. Any supporting material is modelled directly into the parts.

The settings the author used on a Creality K1 Max Printer were:
Nozzle 0.4,Wall count of 2: top 4, bottom 4 layers
Brim inside and out for adhesion for hull skins.
220˚ Nozzle,
65˚ Bed
25-30˚ Chamber
100% infill @ 200mm/s speed

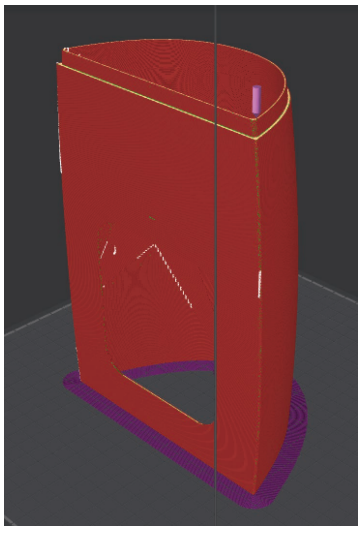


A - Bow Bumper Combo

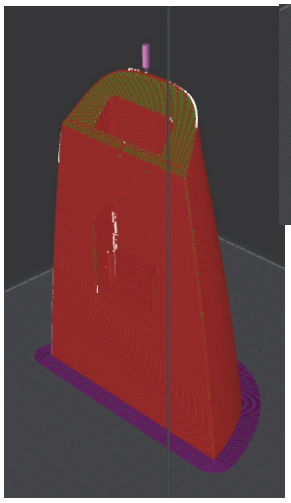


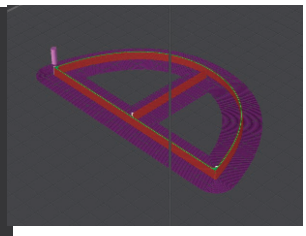


B - Foredeck



C - MidShips





D - Stern

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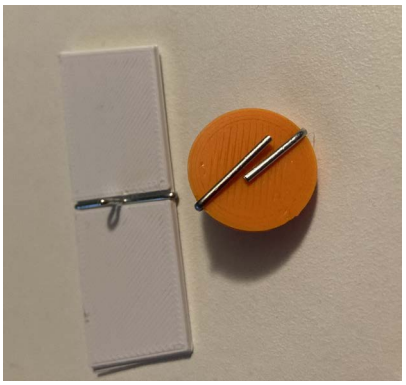
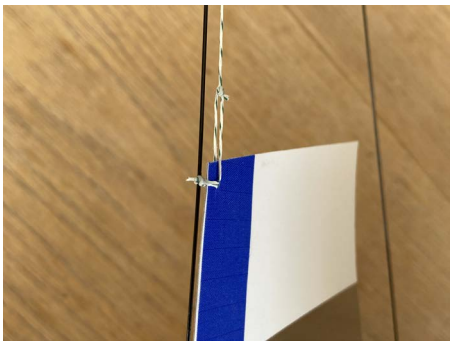
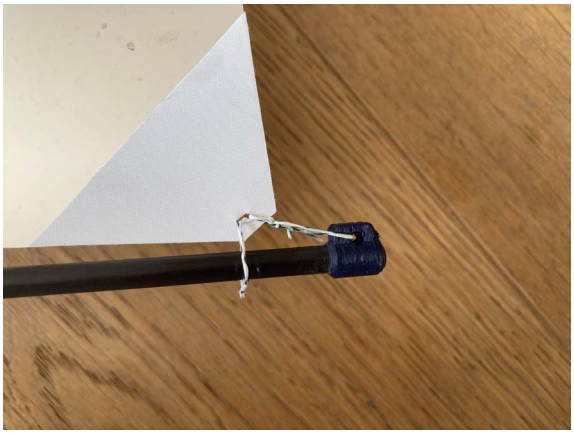
Useful Images







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Useful Images