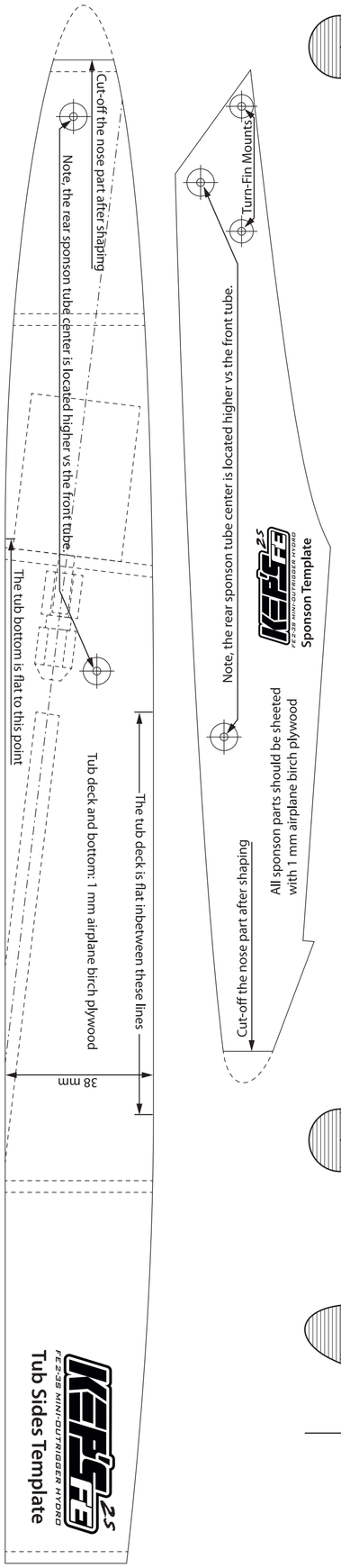
KEP's FE 2-3S Fun Outrigger Racing Hydro • Freebie PDF Drawing | Vers. 1.0 / 2016-03-25 | Scale: 1:1 / Paper size: A2 = 594 x 420 mm | © Design by Niklas Edlund

FE 2-3S MINI-OUTRIGGER HYDRO

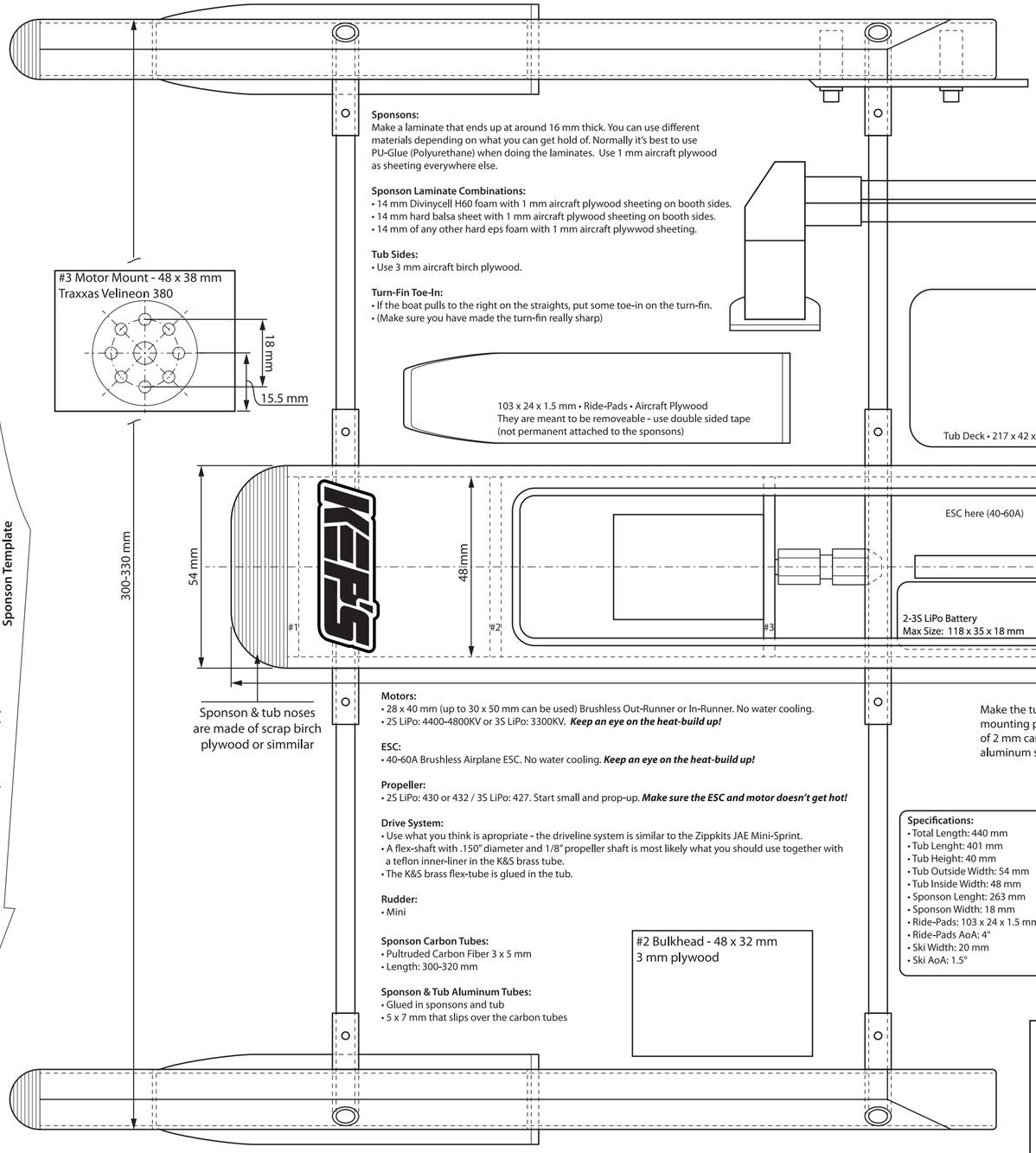


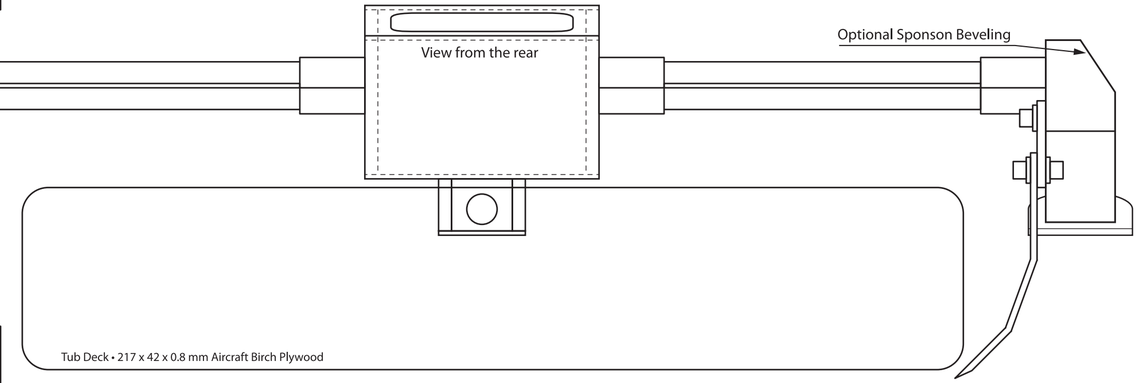
Sponsons:
Make a laminate that ends up at around 16 mm thick. You can use different materials depending on what you can get hold of. Normally it's best to use PU-Glue (Polyurethane) when doing the laminates. Use 1 mm aircraft plywood as sheeting everywhere else.

Sponson Laminate Combinations:
- 14 mm Divinycell H60 foam with 1 mm aircraft plywood sheeting on booth sides.
- 14 mm hard balsa sheet with 1 mm aircraft plywood sheeting on booth sides.
- 14 mm of any other hard eps foam with 1 mm aircraft plywwod sheeting.

Tub Sides:
- Use 3 mm aircraft birch plywood.

Turn-Fin Toe-In:
- If the boat pulls to the right on the straights, put some toe-in on the turn-fin.
- (Make sure you have made the turn-fin really sharp)





Motors:
- 28 x 40 mm (up to 30 x 50 mm can be used) Brushless Out-Runner or In-Runner. No water cooling.
- 2S LiPo: 4400-4800KV or 3S LiPo: 3300KV. ***Keep an eye on the heat-build up!***

ESC:
- 40-60A Brushless Airplane ESC. No water cooling. ***Keep an eye on the heat-build up!***

Propeller:
- 2S LiPo: 430 or 432 / 3S LiPo: 427. Start small and prop-up. ***Make sure the ESC and motor doesn't get hot!***

Drive System:
- Use what you think is apropriate - the driveline system is similar to the Zippkits JAE Mini-Sprint.
- A flex-shaft with .150" diameter and 1/8" propeller shaft is most likely what you should use together with a teflon inner-liner in the K&S brass tube.
- The K&S brass flex-tube is glued in the tub.

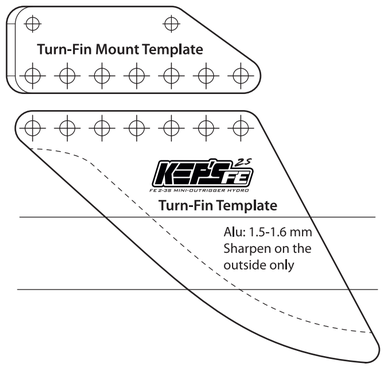
Rudder:
- Mini

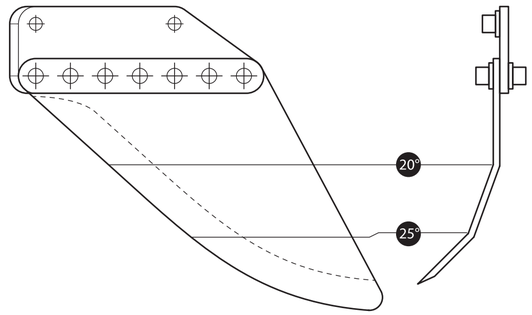
Sponson Carbon Tubes:
- Pultruded Carbon Fiber 3 x 5 mm
- Length: 300-320 mm

Sponson & Tub Aluminum Tubes:
- Glued in sponsons and tub
- 5 x 7 mm that slips over the carbon tubes

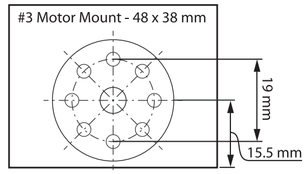
#2 Bulkhead - 48 x 32 mm
3 mm plywood

Make the turn-fin mounting plate of 2 mm carbon or aluminum sheet.





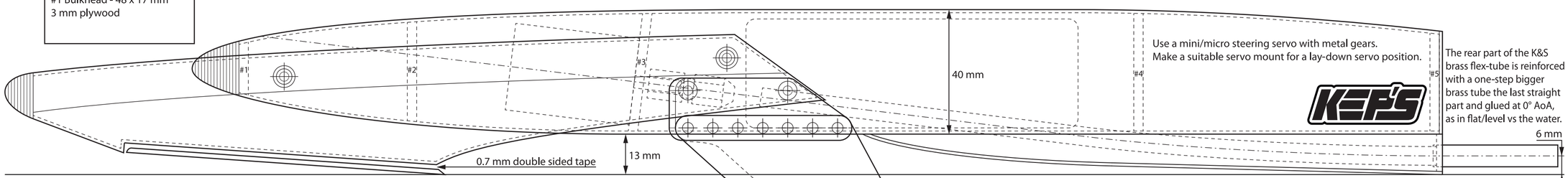
Specifications:
- Total Length: 440 mm
- Tub Lenght: 401 mm
- Tub Height: 40 mm
- Tub Outside Width: 54 mm
- Tub Inside Width: 48 mm
- Sponson Lenght: 263 mm
- Sponson Width: 18 mm
- Ride-Pads: 103 x 24 x 1.5 mm
- Ride-Pads AoA: 4°
- Ski Width: 20 mm
- Ski AoA: 1.5°



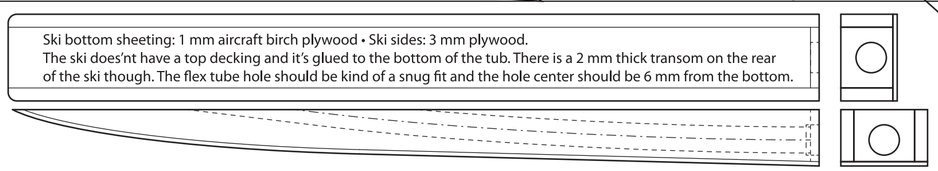
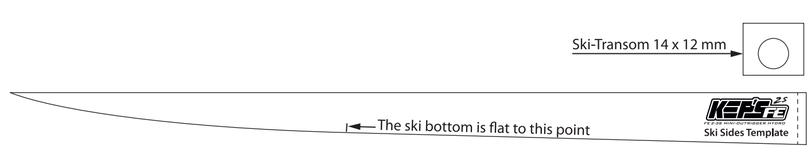
#4 Bulkhead - 48 x 38 mm
3 mm plywood

#5 Transom - 48 x 31.5 mm
3 mm aircraft birch plywood

#1 Bulkhead - 48 x 17 mm
3 mm plywood



Use a mini/micro steering servo with metal gears.
Make a suitable servo mount for a lay-down servo position.

The rear part of the K&S brass flex-tube is reinforced with a one-step bigger brass tube the last straight part and glued at 0° AoA, as in flat/level vs the water.

Ski bottom sheeting: 1 mm aircraft birch plywood • Ski sides: 3 mm plywood.
The ski does'nt have a top decking and it's glued to the bottom of the tub. There is a 2 mm thick transom on the rear of the ski though. The flex tube hole should be kind of a snug fit and the hole center should be 6 mm from the bottom.