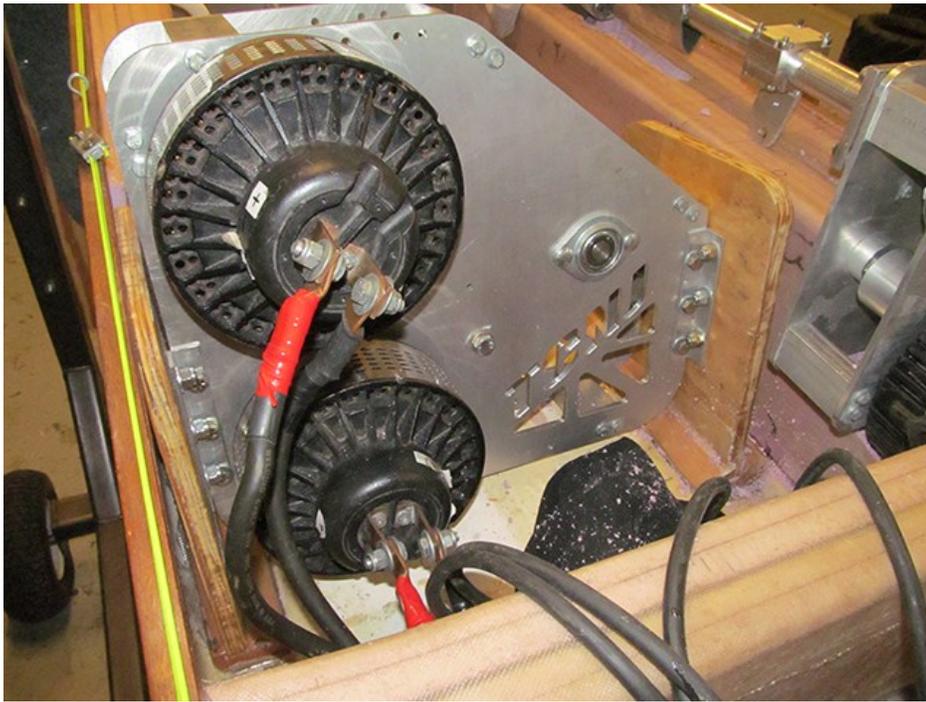




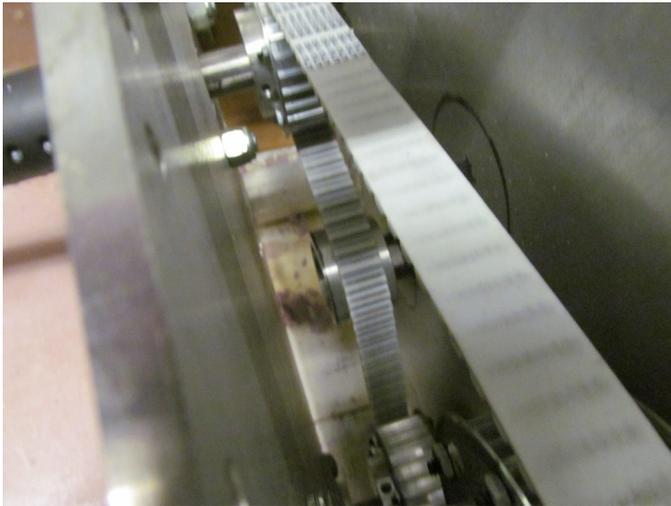
It took more than a little courage to cut through the beautiful Balsa Strip/Fiberglass Sandwich hull. It simply had to be shortened in order to accept the newly designed surface drive unit in production. The hull and drive unit combined would be just too long to fit into the Solar Splash rules.



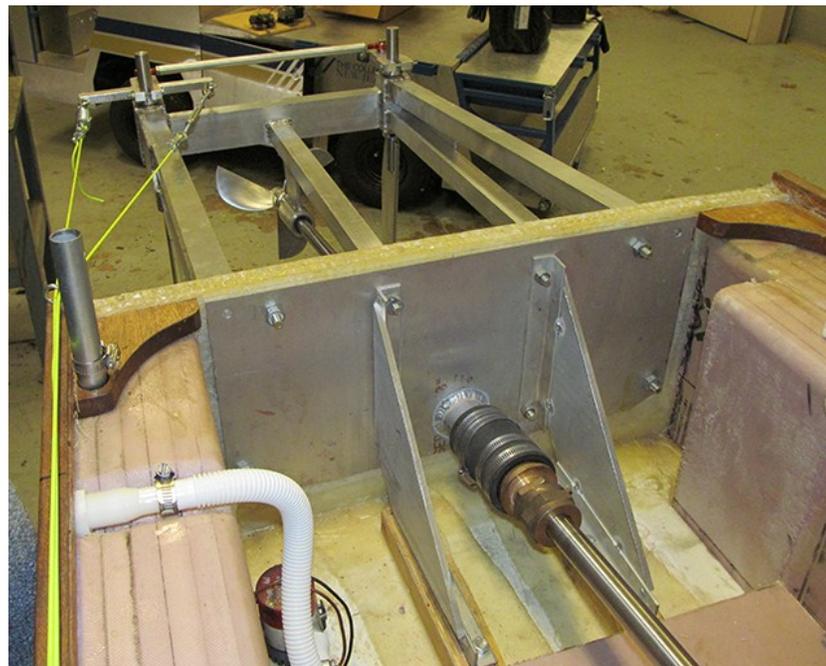


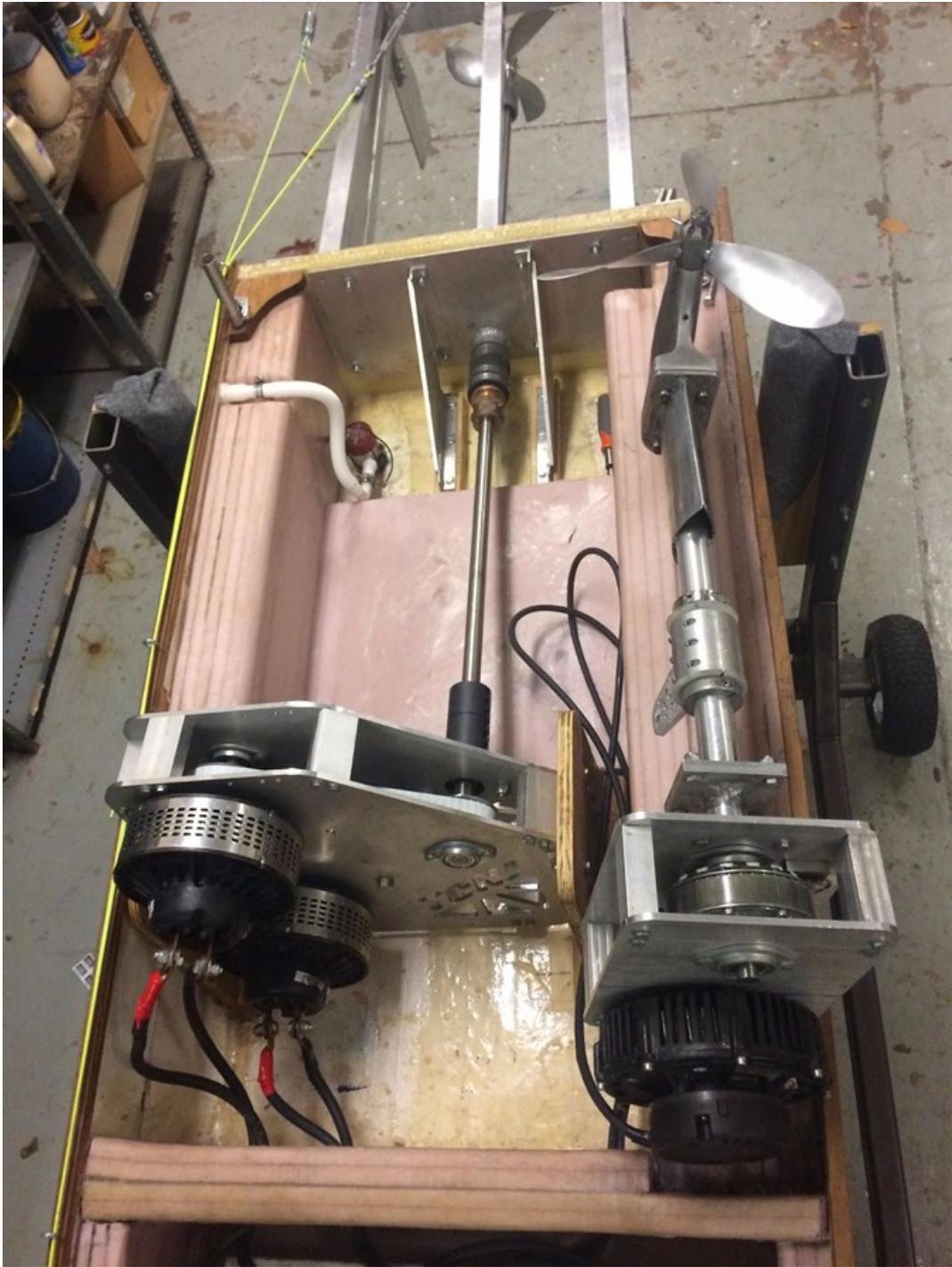
The dual inboard motors are driving the propeller shaft through high strength, notch-belt pulleys.

Aluminum plates sandwiched the honey-comb transom. The aluminum transom knees were probably overkill. A standard stuffing box sealed the shaft.



Standard cable steering controlled the twin rudders linked with an adjustable tie rod. The chain and sprocket ca-



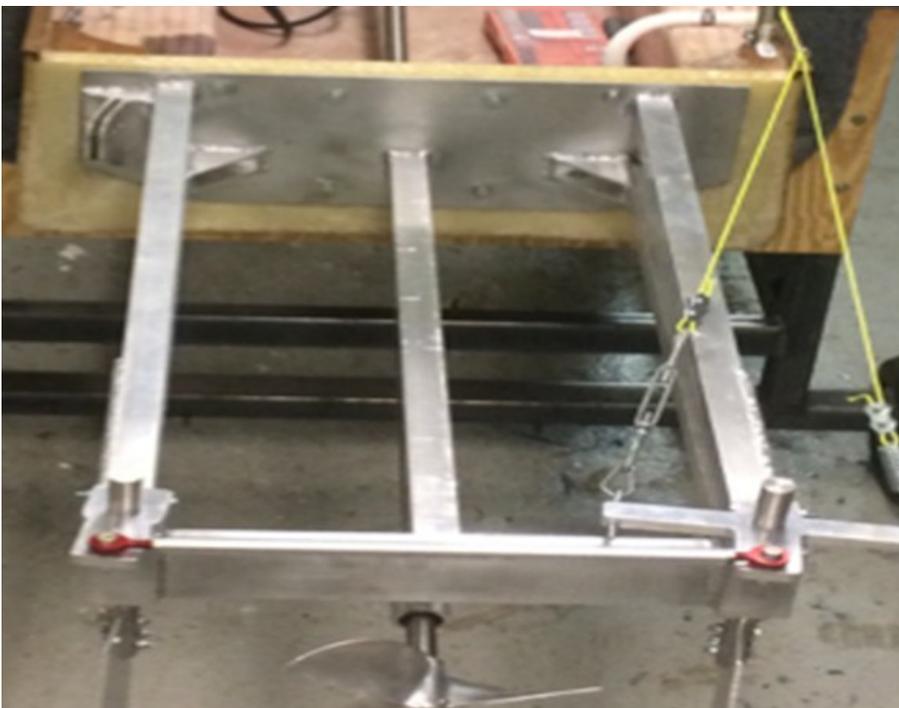


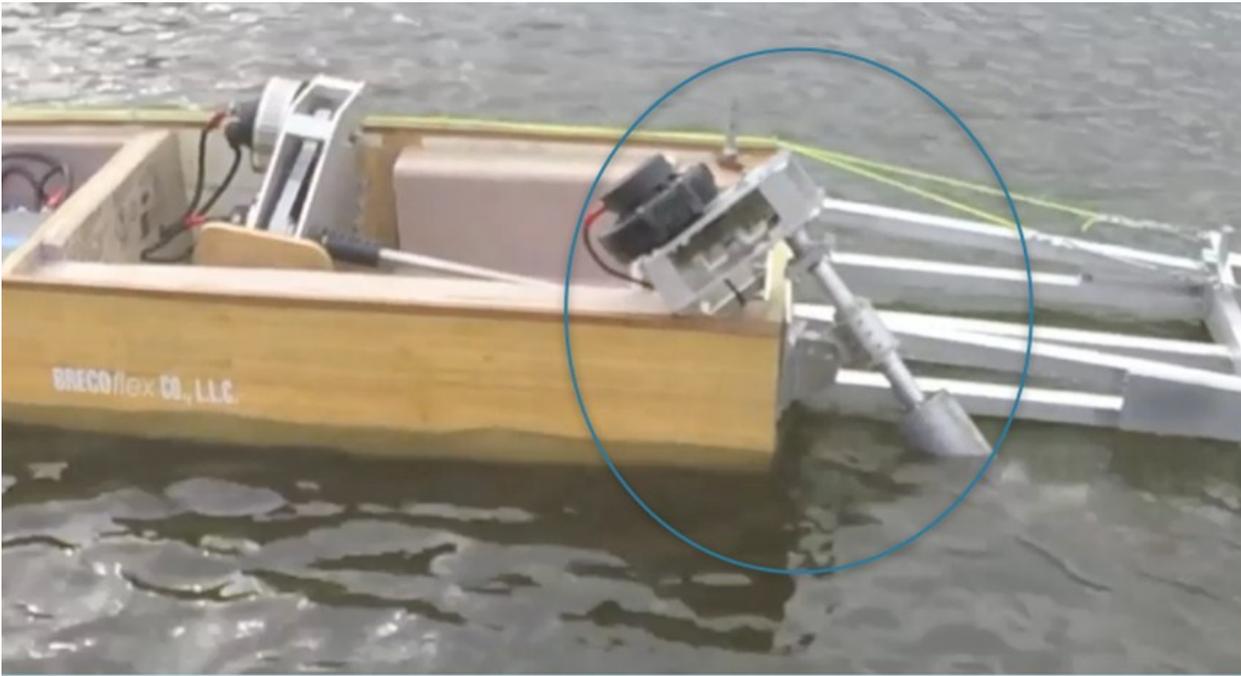
The entire onboard drive systems is shown above. The endurance motor bunk was eventually reversed in order to move the center of balance aft. Notice that the endurance power unit is also notch belt driven. Both propellers were designed and machined in-house.



The Helm consists of a standard sprocket mounted to the wheel shaft. The chain and sprocket mechanism then drives a standard cable/tiller steering system.

The plain flat rudder shown is a testing place holder while the NACA symmetrical rudders are being machined.





Although tilting the endurance outboard motor was the original plan, it became obvious that the unit could not be raised completely out of the water. Even reversing the motor on the powerhouse was still not enough. The foam bunk was then fabricated to store the endurance outboard within the hull during the sprint events.

A hydrodynamic skirt was fabricated to fit around the endurance motor powerhouse, and a Koni 1:1 lower unit completed the package. Although it may look like the blades of the endurance propeller are adjustable, they are keyed in place and removable in order to change blades if necessary.



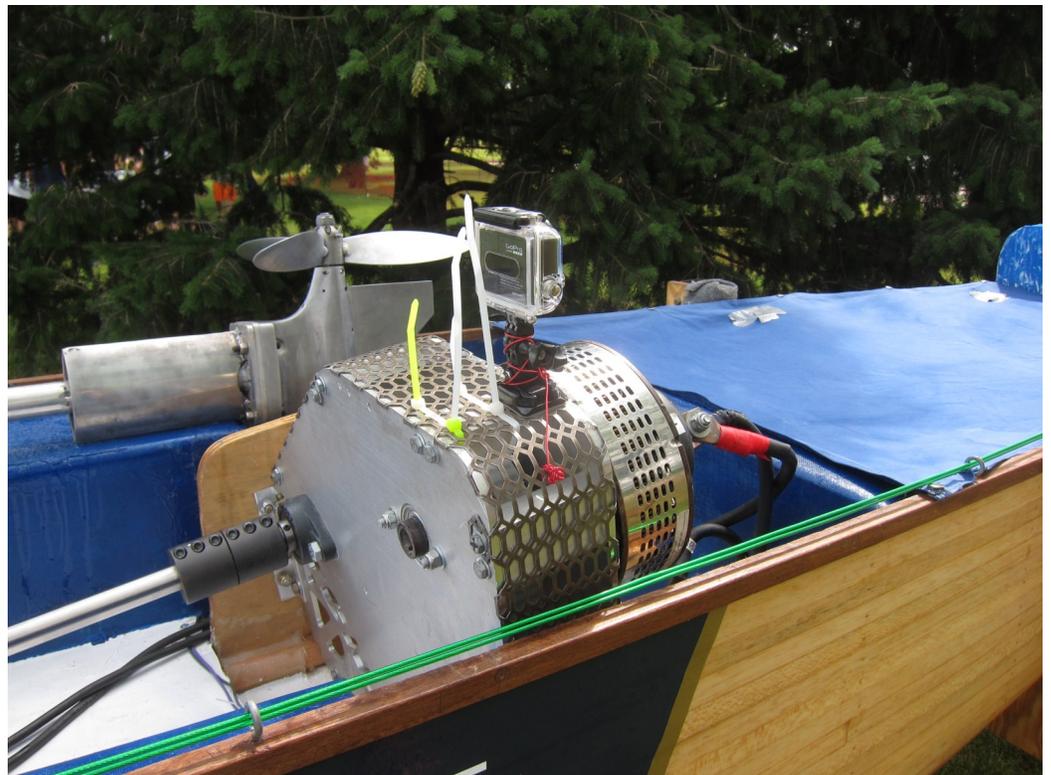


A new 2016 team completed the modifications in time for the event in Dayton. The three member team was joined by the 2015 designer of the sprint drive system and driver. Also joining the team was a volunteer from the 2018 team.





Launching the boat for a sprint event went off without incident. A sail cloth cover protected the motor controllers and batteries from splash, and a Go-Pro camera was mounted to the sprint motor assembly. The perforated metal cover over the belt and pulley mechanism was nothing more than a ventilated cover to keep fingers out.





Kali getting instructions from Jeff, the launch master and event coordinator. Below she easily beats the Arkansas boat in the heat race going on to finish third in the finals.





In spite of an electrical/water malfunction and eventual removal of one solar panel, the endurance system worked exceptionally well. Kali won the first endurance heat and finished sixth overall in the final standing.





The team was generally happy with the performance of the boat—showing what can be done with a small team from a small school. Karley, the volunteer from the 2018 team, is the president of the SWE and assembling an all-women’s team for 2018. It should prove to be fantastic. She brought two members of that new team to the 2017 event in Springfield.





Repacking the truck for the trip home is always a drag.

