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## Components sizing for PHERB powertrain using ST river driving cycle (Conference Paper)

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### Abstract

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In this paper, the parameters and specifications of plug-in hybrid electric recreational boat (PHERB) powertrain main components are selected using steady state velocity and Seberang Takir (ST) river driving cycle. The ST river driving cycle ends at 787 s, with a distance of 1.74 km, an average speed of 7.97 km/h and maximum speed of 13.5 km/h. The size and capacity of the main components are determined through a power flow analysis so as to fulfill the PHERB powertrain design specifications and requirements. After that, the parameters and specifications for each component that make up the overall structure of the PHERB powertrain are defined based on the developed ST river driving cycle. The results obtained from this analysis are within reasonable range and satisfactory. © 2015 IEEE.

### Author keywords

**Driving Cycle**; Plug-in hybrid electric recreational boat; Power Requirement; **Powertrain**

### Indexed keywords

**Engineering controlled terms:** Boats; Electric load flow; **Rivers**; Specifications

Average speed; **Components sizing**; **Driving cycle**; Plug-in hybrids; Power flow analysis; Power requirement; **Powertrain** design; Steady-state velocity

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