Propeller Matching for Small Craft – Introductory Course at the 4th Chesapeake PowerBoat Symposium

A three hour introductory course in practical propeller matching for small craft was held during the 4th Chesapeake PowerBoat Symposium on Tuesday, 24 June at St. John’s College in Annapolis, Maryland. The goal of the course was to introduce the basic background of resistance and propulsion and to present practical aspects and standard methods for predicting resistance and selecting propellers using spreadsheets or similar computer methods. Details for doing the Savitsky method and the Nordstrom-Mercier-Savitsky pre-planing resistance prediction technique were covered as were methods for using trial data and evaluating propellers using standard statistical regressions of propeller series data. Short examples were discussed including a re-engined river tow boat, evaluating top end performance of a planing craft, a cavitating tug propeller, and installation of a nozzle on a fishing vessel. Three problems were worked in class comprising predicting top speed of a planing boat, changing propellers for a small ferry that was changing service speed, and predicting the full speed/RPM/engine power match for a fast displacement yacht. The course included a short exam for those interested in continuing education credits. About a dozen people attended the course. The course notes and the spreadsheets of the worked examples are available on the e-Group that was set up for all attendees at the CPBS.

One goal of this workshop is to develop the material into a T&R Bulletin that can be used for similar courses in the future or for self-study, as well as to evaluate the possible interest in such short courses for the future. Anyone with suggestions about this potential bulletin or other bulletins or short courses that might be of interest to the small craft community is encouraged to contact Chris Barry, Small Craft T&R Chair, through the SNAME eGroups, especially if you are volunteering to work on them.

SNAME is a leading international professional society of individual members in the maritime and ocean community. Founded in 1893 as the Society of Naval Architects and Marine Engineers, SNAME comprises over 7000 professionals throughout the world and membership is open to all qualified applicants.