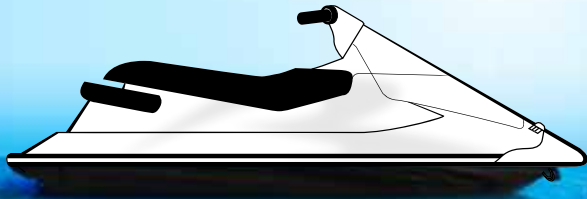




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**Thrust versus
Throttle Position (typical)**

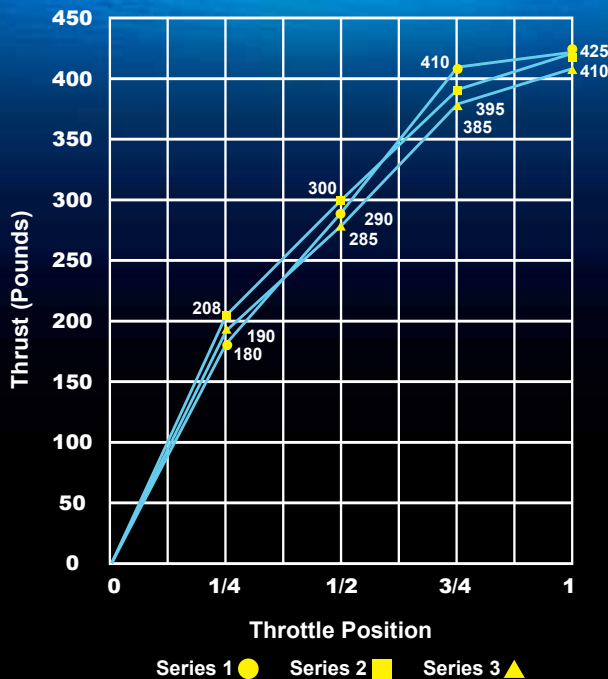
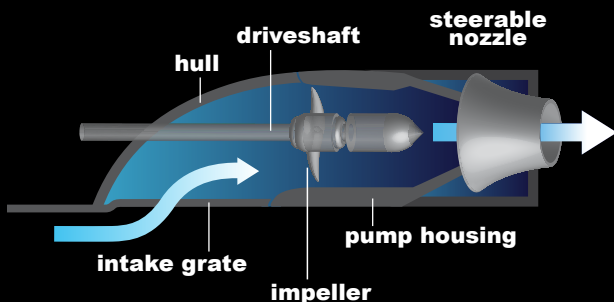


Illustration of Jet Drive



Personal Watercraft: Action/Reaction Hazards

Andrew H. Tudor, P.E.

*The following is an excerpt of a published paper that originally appeared in the **2004 ASME International Mechanical Engineering Congress and Exposition**. The main focus of the paper concerns personal watercraft, acceleration and personal safety.*

Personal Watercraft (PWC) are small, light, high-horsepower boats. They are quite capable of injuring their occupants. This condition is exacerbated by the levels of acceleration these machines achieve under normal operating conditions, their unique operating characteristics, the design of the controls, operator/passenger configurations, seat and hand-hold designs and regulations.

This paper explores the ergonomic design package, machine and boat design, injury patterns, safety hazards, regulations and some other issues that surround the PWC.

The chart on the left shows Thrust vs. Throttle position. To obtain the data, three series of tests were run. Click on the arrow to view a video of one series of tests.



For more information on this paper, and on personal watercraft and safety regulations please contact us at **Meridian One, Inc.**