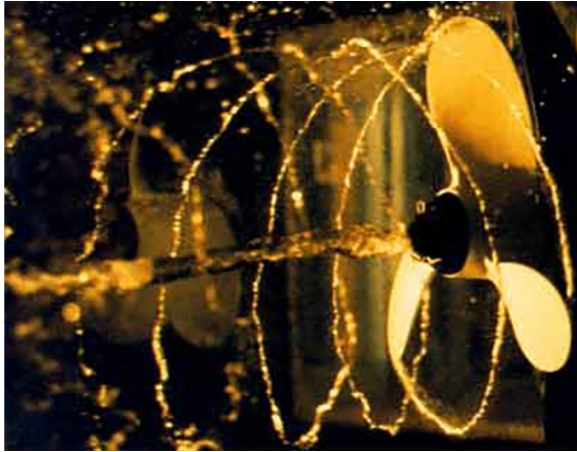


Marine Propulsor Hub Efficiency Device

ID# 2008-0851



PennState



Hub Vortex "Swirl"

Technology Summary

This invention describes a device that can be fit to new marine propellers or retro-fit to existing marine propellers, and can significantly reduce or eliminate the hub vortex created by the propeller. This vortex can cause reductions in shaft torque, induce damage to the propeller, and lead to an overall loss of efficiency of a ship's propulsion system. The device acts to counter the vorticity or "swirl" introduced into the water by the action of the propeller, thus reducing the strength of the hub vortex. The device leads to significant propulsive improvement, better fuel efficiency, and improved propeller operational life span.

Application & Market Utility

Manufacturing processes are well known and economical. Improves propeller efficiency and cuts fuel usage. Lightweight compared to comparable devices. Compatible with variable pitch propellers. May be retro-fit to existing propellers. Proper positioning of device provides anti-fouling benefits.

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

1-3

Seeking

Investment | Licensing | Research

Keywords

- Marine propulsor
- efficiency
- propeller
- hub vortex

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