



STERN FLAPS



What is it?

A Stern Flap is an extension of the hull bottom surface which extends aft of the transom. It is a relatively small steel plate appendage that is welded to the transom.

How does it work?

Stern Flaps modify the flow field under the hull afterbody, decreasing flow velocity and increasing pressure, resulting in reduced drag, reduced turbulence, and thus, reduced hull resistance.

What will it accomplish?

Stern Flaps have been proven, at sea, to increase propulsion efficiency and reduce exhaust emissions to foster significant fuel cost savings while increasing both ship speed and range. Stern Flaps decrease the strain on main engines, decrease propeller loading, cavitation, vibration and noise, and thereby increase the interval between engine overhauls and extend the service life of the propulsion machinery.

Applications

Stern Flaps are currently installed (or being installed) on Cruisers (CG 47 Class), Destroyers (DDG 51 Class), and certain amphibious ships (LPD 4/17 Classes, LHD 1 Class, and LSD 41/49 Classes).

Metrics

Stern Flaps have shown a fuel savings of 3.4% (2,000 – 4,900 bbl/ship/yr) depending on class.

For More Information

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