esea FuelSaver
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Trim optimization tool in LOADMASTER loading computer

FUELSAVER

General Information

It is well known, that the specific design of a vessel results in a certain required propulsion power by the given combination of speed, draft and trim.
Finding the best trim can reduce the power consumption and consequently fuel costs/emissions.

There are many stand-alone trim optimization systems available. The trim advice may not be practical, which makes the trim optimization process time consuming for the already busy crew.

FuelSaver is different. It is an integrated module in the LOADMASTER X5 or LOADMASTER Easeacon loading computer system on board.
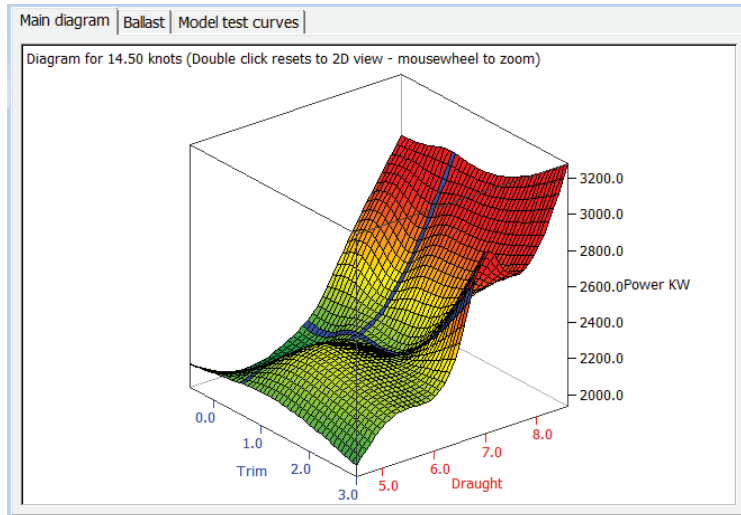
The integration with the loading computer gives several advantages. The system will not - as opposed to conventional trim optimization - suggest a theoretical optimum trim.

FuelSaver will automatically - by a click with the mouse - calculate the optimum obtainable trim. Ballast configuration is complete and the entire condition is validated according to strength and stability limits.

Depending on vessel type is it also possible to let FuelSaver use the cargo on board to reach the optimum trim in order to reduce ballast water on board.

Any current LOADMASTER X5 or LOADMASTER Easeacon installation can be expanded to incorporate FuelSaver without having to be re-approved by the classification society.

FuelSaver is one of the easiest, fastest and most efficient measures to reduce fuel costs and emissions for a vessel. Return of investment is typically reached within a few months.

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Main diagram | Ballast | Model test curves

Diagram for 14.50 knots (Double click resets to 2D view - mousewheel to zoom)

Running FuelSaver

FuelSaver is an integrated software module in the LOADMASTER loading computer system.

Once the user has created a loading condition in LOADMASTER, he/she can open FuelSaver which automatically will retrieve the present condition.

The desired parameters for the voyage are then set, such as speed, special limits for draft, trim, GM, shear forces and bending moments, ballast tank settings, cargo trim on/off, fuel oil price, etc.

A mouse click will start the comprehensive calculation. By use of genetic algorithms FuelSaver will search for - and present - a list of the best obtainable trim/draft combinations for minimum fuel oil consumption by present loading condition and speed. The optimum ballast (and cargo if applicable) solution to achieve each suggested trim/draft combination is included in the calculation. Only solutions, where strength and stability are within the limits, are presented. Fuel oil consumption per day and the saving compared to starting point is shown for each solution and the best one is on top of the list.

The user can now select one of the optimized solutions and automatically update the loading condition in LOADMASTER.
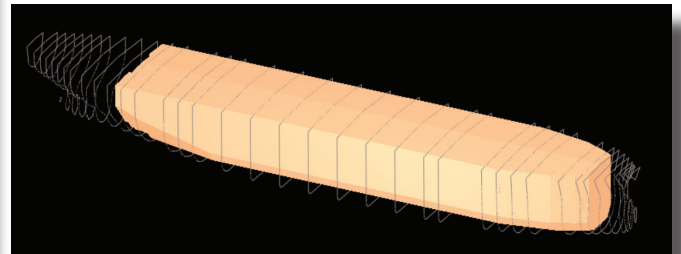
Input data for FuelSaver

The required input data to produce FuelSaver are approximately 125 power consumption values by preferably 5x5x5 combinations of speed/draft/trim for the particular vessel. These data are normally obtained from tank towing tests or CFD (computational fluid dynamics) calculations. The power consumption data can be used for all hull-identical sisters in a series of vessels. Kockumation can supply high quality CFD calculations, if not already available.

Please visit our website for more information about product line.