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**ИСТОРИЯ**



# SUDOSTROENIE 5 2014

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The author hereby proposes the genuine method for processing of experimental data by means of normalization, i.e. attribution to characteristic values. Upon that, many results achieved at various objects can be narrowed down to unified dependency.

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***Yur G. S.* Operation advancement for marine diesel engine operating on heavy fuel.**

The author hereby proposes the innovative method for increasing heavy fuel combustion speed and efficiency in marine diesel engines. The experiments proved presence of cracking and gasification inside heavy fuel drops due to cavitation. Submitted are results of comparison tests conducted inside combustion chamber operation on heavy fuel.

***Kudishkin V. S.* Pulse vibration of ships equipped with marine diesel engines.**

The author narrates about general vibrations of ship hull after burst pulses arising in diesel cylinders upon fuel combustion. Proposed is solution of differential equation on forced oscillations where right part represents periodic sequence of pulses active at pre-determined clock intervals. Required spectral characteristics are obtained by means of energy method. The author mentions as an instance the empiric spectrum of hull oscillations of diesel-electric ship «Ob». The spectrum was created as per Fourier coefficients, and calculated on basis of recorded vibrations of one of its four diesel engines. Also, this article reviews issues of combined ice and diesel vibrations occurring due to ship motion in ice conditions.

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The УДГ3-200 machine allows manual hardening of items which were not subjected to hardening before, had low durability and caused frequent and expensive repairs. Plasma hardening by УДГ3-200 machine does not require application of water on part surface. Due to that, hardening can be performed not only in special thermal shops, but also on part processing and operation sites. Minimum welder qualification for operating the machine — 2nd or 3rd degree.

***Fomin A. P. Standards for marine engineering items manufactured at shipyard.***

This article reviews domestic and foreign standardization experience in area of marine engineering items manufactured at shipyard. The author proposes to include figures of article parts in standards for certain range of products. Therefore, specialists of shipyard shall be capable to develop WDD on their own if necessary, and unification between similar projects shall be provided.

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***Kuznetsov L. A. Outfitting projects for «Voroshilov» cruiser.***

Reviewed are various outfitting projects for «Voroshilov» cruiser developed in 1920-s. Despite the fact they were not implemented, they are interesting in view of naval shipbuilding formation in USSR.

***Baskakov I. Y. Steam-sailing ships for border patrols.***

This article reviews construction of steam-sailing ships for border patrols in 1920-s. The author provides ship technical specification and history of their service.