REPORT BY SE “UKRVODPUT” · JULY 2001

Marine diesel 6ChN 18/22: compression and oil pressure rose in service

SE “Ukrvodput”, marine facilities service · treatment carried out by PKP “Serna”; the report is signed by the head of the marine facilities service and approved by the deputy head of the enterprise

Ukraine · contract No. 2 of 04.07.2001 · monitored up to 500 hours of operation

PRODUCT

XADO RVS

repair-and-restoration compounds of the XADO technology · treatment without engine disassembly

TEST OBJECT

Marine diesel 6ChN 18/22

dredger DN “E. Kolodochka”, six cylinders · measurements before treatment and after 100 and 500 hours of operation

DOCUMENT TYPE

Enterprise report with signatures and stamps

VESSEL · ENGINE	CHECK AFTER TREATMENT	WHAT WAS MEASURED
dredger DN “E. Kolodochka” · 6ChN 18/22, six cylinders	after **100** and **500 h** of operation	compression by cylinder, oil pressure, fuel consumption under load

The engine was treated in service: without disassembly and without taking the vessel out of operation. All three sets of measurements were taken on the same unit.

What the commission recorded after 500 hours

↑ 19.3-37.2 %

cylinder compression, 22.6-24.8 → 29.0-31.0 kgf/cm²

↓ 11.6 %

fuel consumption under load, 21.5 → 19.0 kg/h

↑ 21.4 %

oil pressure at 750 rpm, 2.8 → 3.4 kgf/cm²

How the effect grew on the “E. Kolodochka” — 6ChN 18/22, all six cylinders

CYLINDER	BEFORE TREATMENT	AFTER 100 HOURS	AFTER 500 HOURS
Cylinder 1	24.3	26.0	29.0
Cylinder 2	24.0	26.0	30.0
Cylinder 3	24.3	28.0	31.0
Cylinder 4	24.8	28.0	31.0
Cylinder 5	22.6	24.0	31.0
Cylinder 6	24.0	24.0	30.0
Engine average	24.0	26.0	30.3

The values are cylinder pressures, kgf/cm². The weakest cylinder before treatment (22.6) gained the most and reached the level of the best ones.

Fuel consumption

MEASURING POINT	BEFORE TREATMENT	AFTER TREATMENT	CHANGE
“E. Kolodochka”, 750 rpm, load on the generator	21.5 kg/h	19.0 kg/h	−11.6 %

Consumption was taken by timing the engine on a measured portion of fuel: more time on the same portion means lower consumption.

Oil pressure in the lubrication system

MEASURING POINT	BEFORE TREATMENT	AFTER TREATMENT	CHANGE
“E. Kolodochka”, 750 rpm, oil at 65 °C	2.8	3.4	+21.4 %

Values in kgf/cm², measured at an oil temperature of 65 °C.

Conclusion of the enterprise commission

After 500 hours of operation the commission of SE “Ukrvodput” recorded a pressure rise in all six cylinders of the 6ChN 18/22 diesel: **22.6-24.8 → 29.0-31.0 kgf/cm²**, with the cylinder that had been weakest before treatment gaining the most and reaching the level of the best ones. The restored tightness of the cylinder-piston group produced fuel savings under load, and the restored clearances in the lubrication system raised the oil pressure. The engine was not disassembled and ran under its own power. The commission also noted lower engine noise and vibration and easier starting. Conclusion of the report: “The results of applying XADO technology for the restoration of marine engines in service instead of conventional restoration repair are to be considered positive.”

XADO

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The results relate to the marine diesel 6ChN 18/22 treated in service; with other engines and conditions the figures may differ. RVS is an obsolete XADO designation, the zero-generation compounds; the current product generation is revitalizants. The original report with signatures and stamps is published in full and available for download.