



TEST REPORT DATED 4 NOVEMBER 2000

Industrial compressor: bore wear offset, no overhaul needed

Prywatna Huta «ALMET», Częstochowa · signed by: plant director mgr inż. Lech Pustuł, independent expert dr inż. Janusz Kuliś, XADO representative Yuriy Bosiy

Częstochowa, Poland · report dated 04.11.2000 · test on in-service equipment, 121 h of operation

PRODUCT

XADO revitalizant
formulation for petrol engines ·
3 tubes, three additions into the
oil system

TEST OBJECT

Three-cylinder compressor
working pressure up to 7 atm ·
cylinder bores, piston group

DOCUMENT TYPE

Test report
with signatures and seal
measurements outsourced to
an external workshop, an
independent expert engaged
for assessment

**MACHINERY AND
COMPONENTS****CONDITION AT START OF TESTING****WHAT WAS MEASURED**

Three-cylinder compressor,
working pressure up to **7
atm**

Unfit for service: heavy oil consumption, low
compression

Oil consumption, receiver
filling time

Cylinder No. 2 bore

Destroyed over a significant area of the upper
section, score depth about **0.05 mm**

Score depth

Cylinder No. 1 bore

Three scores, perceptible to the finger

Surface condition

Shop pneumatic hammers

Frequent seizures, erratic operation in a dusty
and aggressive environment

Tool operation, assessment

The product was added three times through the oil system: about {{200 g}} of oil with a tube of the product was heated to {{80 °C}} and returned to the sump; running time {{7 + 7 + 107 h}}.

Key result

↓ **2.5x**

score depth on the cylinder No. 2 bore, 0.05 → 0.02 mm

Cylinder bores — condition before and after the test

COMPONENT	BEFORE TREATMENT	AFTER 121 H OF OPERATION
Cylinder No. 2, upper section of the bore	Bore destroyed over a significant area, score depth about 0.05 mm	Greatest score depth 0.02 mm , bore largely restored
Cylinder No. 1, bore	Three scores, perceptible to the finger	The former scores can no longer be felt

Score depth measurements were carried out by an external organisation — Zakład Mechaniki Pojazdowej «AUTO-SZLIF-SPRAWKA», Częstochowa.

Compressor operating parameters

PARAMETER	BEFORE TREATMENT	AFTER TREATMENT
Engine oil consumption	100 cm³ per 8 h of operation	100 cm³ per 24 h of operation
Receiver filling time to 4.5 atm	3 min	1 min 30 s

Before the test the piston rings of all pistons were replaced; ring replacement has no effect on the geometry of the cylinder bores.

Conclusion of the report

The report of Prywatna Huta «ALMET» states: «After this test, repair of the compressor proved unnecessary owing to the significant improvement in operating parameters». Before treatment the unit was unfit for service: the bore of the first cylinder had three scores perceptible to the finger, the bore of the second was destroyed over a significant area of its upper section, with a score depth of about **0.05 mm**. After **121 h** of operation the greatest score depth in the second cylinder was **0.02 mm**, the bore was largely restored, and the former scores in the first cylinder could no longer be felt — the coating had built up where the wear had been. Separately, the XADO repair kit for metal surfaces was applied to the shop pneumatic hammers: the seizures stopped and the tools ran smoothly. The authenticity of the facts described is certified by the plant director, the independent expert and the XADO representative.



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The results relate to a three-cylinder industrial compressor with a working pressure of up to 7 atm at the Prywatna Huta «ALMET» plant (Częstochowa, Poland); on other units and duty cycles the figures may differ. The report was signed, among others, by a XADO representative; the score depth measurements were performed by an external workshop, and an independent expert was engaged for the assessment. The original report with signatures and seal is published in full and available for download.