

COMMISSION REPORT OF 09.07.2003

Locomotive 44 compressor: faster air charging, gains grew with mileage

ZhP Traktsiya Lokomotivi — Sofia (PZhPTL-Sofia) · commission: eng. I. Petrov, head of REL; eng. Vasko Todorov, head of the "Podgotvitelen" shop; "MAY" OOD — treatment contractor

Sofia, Bulgaria · monitoring 05.02–09.07.2003, measurements up to 70 000 km of mileage after treatment

PRODUCT

"XADO technology"

treatment in operating mode,
without disassembling the
compressor

TEST OBJECT

Compressor No. 1 of
locomotive 44-089.0

measured value — time to raise
reservoir pressure from 7 to 8
atm

DOCUMENT TYPE

Commission report
PZhPTL-Sofia and "MAY"
OOD

EQUIPMENT

Locomotive 44-089.0,
compressor No. 1

**MILEAGE AFTER
TREATMENT**

18 000 · 50 000 · 70 000
km

WHAT WAS MEASURED

Time to raise reservoir pressure from 7 to 8
atm; compressor noise and vibration

The compressor was treated on the locomotive in service; the measurements are compiled from the reports of 05.02.2003, 25.05.2003 and 09.07.2003.

Key result

↑ **40 %**

compressor output, charging time 28 → 20 s

Time to raise pressure from 7 to 8 atm — by mileage after treatment

MEASUREMENT	CHARGING TIME	VS. INITIAL
Before treatment	28 s	—
18 000 km after treatment	26 s	-2 s
50 000 km after treatment	23 s	-5 s
70 000 km after treatment	20 s	-8 s

The measurements were taken on locomotive 44-089.0 in operating mode; the compressor was treated without disassembly.

Commission findings

Monitoring covered 70 000 km of mileage after the treatment, and the charging time shortened from one measurement to the next: **28 → 26 → 23 → 20 s**. The commission of PZhPTL-Sofia and "MAY" OOD recorded:

1. As a result of the treatment, the time to raise pressure from 7 to 8 atm decreased by **28 %** — down to **20 s**.
2. Compressor noise and vibration decreased significantly.
3. The treatment is carried out in operating mode and without disassembling the compressor. Conclusion of the commission: from a technical standpoint, the use of XADO technology on the compressors of series 40-00 locomotives is expedient; it was proposed to treat the auxiliary compressor of a series 40.00 locomotive.



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The results relate to the compressor of a series 44 locomotive under the operating conditions of ZhP Traktsiya Lokomotivi — Sofia; under other conditions the figures may differ. The original report is published in full and available for download. The treatment was performed by the distributor "MAY" OOD, which signed the report alongside the enterprise.