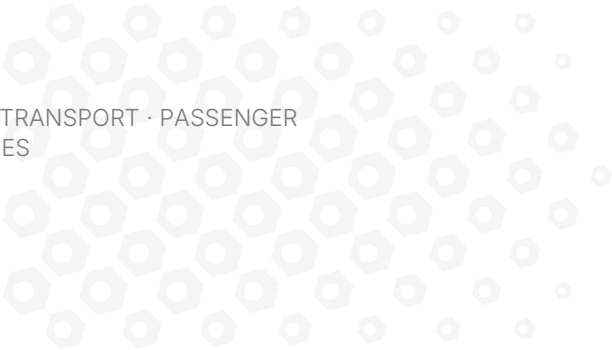




RECORD OF RESULTS FROM APPLYING XADO TECHNOLOGY

LAZ and Ikarus buses: compression up in every cylinder, less oil top-up

OJSC ATP-14330 — Sevastopol motor transport enterprise, in-house technical commission · signed by:
G. M. Shkurko, Head of the Technical Department, company seal
Sevastopol, Ukraine · city bus fleet; compression measured on LAZ-52523 no. 26-46 KRR

PRODUCT	TREATED EQUIPMENT	DOCUMENT TYPE
XADO technology treatment carried out in line with the application instructions	Buses LAZ-52523, LAZ-42021, Ikarus-260, Ikarus-263 engines · high-pressure fuel pumps · gearboxes · rear axles	Enterprise report OJSC ATP-14330 signed by the Head of the Technical Department, sealed

VEHICLE	WHAT WAS TREATED	WHAT WAS MEASURED
LAZ-52523, reg. no. 26-46 KRR	Engine, high-pressure fuel pump, gearbox, rear axle	End-of-compression pressure in all six cylinders, before and after
LAZ-52523, LAZ-42021	Same across the fleet vehicles	Engine oil top-up per shift, engine oil pressure
Ikarus-260, Ikarus-263	Same across the fleet vehicles	Smoke opacity, noise and vibration of gearboxes and rear axles — commission assessment

Lubrication systems treated: engine — 22 l, gearboxes — 20 and 13 l, rear axles — 10 and 16 l. The high-pressure fuel pumps were treated as well.

Key results

↑ **12.5-22.7 %**

compression across the cylinders, 22-24 → 27-28
kgf/cm²

↓ **1-2 l/shift**

engine oil top-up per shift, 2-3 → 1 l

End-of-compression pressure — LAZ-52523 no. 26-46 KRR

CYLINDER	BEFORE TREATMENT, kgf/cm ²	AFTER TREATMENT, kgf/cm ²	GAIN
I	24	27	+3 · 12.5 %
II	23	27	+4 · 17.4 %
III	23	28	+5 · 21.7 %
IV	23	28	+5 · 21.7 %
V	23	28	+5 · 21.7 %
VI	22	27	+5 · 22.7 %
All six	22-24	27-28	12.5-22.7 %

Compression is closing on the factory nominal: a gain in each of the six cylinders and a convergence of their values — the engine has returned to even running.

Fleet operation after treatment

PARAMETER	RESULT
Engine oil top-up	2-3 l → 1 l per shift
Engine oil pressure	Stabilised; average increase 1.2 kg
Oil service life	Increased
Exhaust smoke opacity	Decreased
Noise and vibration of gearboxes and rear axles	Decreased

The gearboxes and rear axles were treated together with the engines; for these the commission recorded the result as an assessment — reduced noise and vibration.

Conclusion of the enterprise technical commission

The technical commission of OJSC ATP-14330 recorded: «As a result of the treatment there was a reduction in exhaust smoke opacity during operation of the rolling stock, a reduction in oil consumption (before treatment, engine oil top-up averaged **2-3 l** per shift, and after treatment – **1 l**), an increase in oil service life, a stabilisation of engine oil pressure (the average increase in engine oil pressure was – **1.2 kg**), a reduction in noise and vibration in the gearboxes and rear axles; the increase in end-of-compression pressure (compression) is shown using the example of bus LAZ-52523 no. 26-46 KRR». Across the six cylinders of this bus, compression rose from **22-24** to **27-28 kgf/cm²**: the sealing of the cylinder-piston group was restored in every cylinder, and with it the pulling power and even running of the engine. All of this was obtained on vehicles in ordinary service, without disassembling the units.



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The results relate to the LAZ-52523, LAZ-42021, Ikarus-260 and Ikarus-263 city buses of the OJSC ATP-14330 fleet and to their operating conditions; under other conditions the figures may differ. The original signed and sealed report is published in full and available for download.