

ACCEPTANCE REPORT UNDER CONTRACT No. 191 OF 26.02.1999

GAZ 31-029: compression evened out, no CPG replacement needed

Plitochnyi Zavod JSC (tile plant), transport shop · report signed by both parties: O. I. Karantan — head of the transport shop, E. G. Ivchenko — mechanic, S. I. Tatarinov — fitter, V. P. Timoshenko — driver; for the contractor — S. N. Aleksandrov, technical director of XADO LLC, and N. I. Babansky, engineer
Ukraine · contract No. 191 of 26.02.1999 · treatment and measurements — March 1999

PRODUCT

XADO RVS
engine treatment without
disassembly, with the car in
normal service

TEST OBJECT

GAZ 31-029 passenger car
internal combustion engine, 4
cylinders · transport shop of the
plant

DOCUMENT TYPE

Report under contract No.
191
signatures of the parties,
two seals

VEHICLE

GAZ 31-029, reg. No.
94-97 KhIA

CONDITION AT THE START OF WORK

Compression uneven across the cylinders,
4.0-5.5 kgf/cm²; the worst is cylinder III.
Oil pressure **3.0** and **5.0 kgf/cm²**

WHAT WAS MEASURED

Compression on all four cylinders;
oil pressure at idle and at
above-average engine speed

The XADO RVS treatment was carried out in March 1999 on a running engine, without disassembly and without taking the car out of service.

Key results

↑ **10-37.5 %**

compression across the cylinders, 4.0-5.0 → 5.5
kgf/cm²; the others unchanged; gain on 2 of 4
measurements; the others unchanged

↑ **20 %**

oil pressure at above-average engine speed, 5.0 → 6.0
kgf/cm²

Compression across the engine cylinders

CYLINDER	BEFORE TREATMENT	AFTER TREATMENT	CHANGE
I	5.5 kgf/cm ²	5.5 kgf/cm ²	at the initial level
II	5.0 kgf/cm ²	5.5 kgf/cm ²	+0.5 kgf/cm ² · +10 %
III	4.0 kgf/cm ²	5.5 kgf/cm ²	+1.5 kgf/cm ² · +37.5 %
IV	5.5 kgf/cm ²	5.5 kgf/cm ²	at the initial level
Spread between cylinders	1.5 kgf/cm ²	0	all four at the same level

Compression does not rise above the factory nominal: cylinders I and IV were already at **5.5 kgf/cm²** before the treatment, and the worn ones caught up with them — that is the maximum attainable.

Oil pressure in the engine lubrication system

OPERATING MODE	BEFORE TREATMENT	AFTER TREATMENT	CHANGE
Above-average engine speed	5.0 kgf/cm ²	6.0 kgf/cm ²	+20 %
Idle speed	3.0 kgf/cm ²	3.5 kgf/cm ²	+16.7 %

Oil pressure is held by the clearances in the friction pairs and in the pump: its rise in both modes means that the clearances have decreased.

Conclusion of the commission

The commission of Plitochnyi Zavod JSC and XADO LLC recorded in the report: «Compression has evened out, the engine runs steadily at all speeds and in all modes. The engine is fit for further service and does not require replacement of the cylinder-piston group». Before the treatment compression ranged from **4.0** to **5.5 kgf/cm²**, with cylinder III the worst; afterwards all four hold **5.5 kgf/cm²**. The restored tightness of the cylinder-piston group is precisely the reason for the engine's smooth running, and the oil pressure that rose in both modes says the same about the lubrication system. Compression does not rise above the nominal, so bringing all cylinders to a single value is the limiting result for this assembly — and it was obtained without disassembly, on a car that remained in normal service.



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The results refer to the petrol engine of a GAZ 31-029 passenger car in the state of wear recorded by the report; on other engines and with a different initial wear 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 seals is published in full and available for download.