

TEST REPORT OF SE «ZAVOD UB I VT» · 11 SEPTEMBER 2000

# GAZ-53: compression rose in every engine cylinder with no teardown

SE «Zavod UB i VT», Sumy — a subsidiary of OJSC «Sumy Machine-Building Science and Production Association named after M. V. Frunze» · approved by chief engineer B. A. Korolev  
Sumy, Ukraine · report dated 11 September 2000

**PRODUCT**

XADO compound  
engine treatment by XADO  
technology, through the oil  
system

**TEST OBJECT**

GAZ-53 vehicle  
reg. no. 42-32 SUN · internal  
combustion engine, eight  
cylinders

**DOCUMENT TYPE**

Company test report  
with signatures and seal

**EQUIPMENT**

GAZ-53 vehicle, reg. no. 42-32  
SUN

**TREATED UNIT**

Internal combustion engine,  
eight cylinders

**WHAT WAS MEASURED**

Compression in each cylinder —  
before and after treatment

The engine was treated in normal service, without teardown and without removal from the vehicle.

## Key result

↑ **10-27.8 %**

compression by cylinder, 9.0-10.5 → 10.5-12.0

# Compression in the eight cylinders — before and after treatment

| CYLINDER | BEFORE TREATMENT | AFTER TREATMENT | CHANGE |
|----------|------------------|-----------------|--------|
| 1        | 9.5              | 10.5            | +10.5% |
| 2        | 10.0             | 11.0            | +10.0% |
| 3        | 9.5              | 11.0            | +15.8% |
| 4        | 10.0             | 11.0            | +10.0% |
| 5        | 10.5             | 12.0            | +14.3% |
| 6        | 9.5              | 11.5            | +21.1% |
| 7        | 9.0              | 11.0            | +22.2% |
| 8        | 9.0              | 11.5            | +27.8% |

The unit of compression is not stated in the report — the values are given exactly as recorded by the company's commission.

## What follows from this

Treatment by XADO technology is performed through the oil system — the engine was neither dismantled nor removed from the vehicle. The company's commission measured compression in each of the eight cylinders before and after treatment: it rose in all eight, a gain of **10-28%**. The largest gains came from the two weakest cylinders — **9.0 → 11.0** and **9.0 → 11.5**: the metal-ceramic layer is self-regulating with load and builds up where wear is greater. Higher compression means restored sealing of the cylinder-piston group, and with it power and fuel consumption. Compression cannot rise above the nominal value set by the engine manufacturer, so bringing the worn cylinders up to the level of the rest is the limit of what is achievable. The report was approved by the chief engineer of SE «Zavod UB i VT» and signed by the chief mechanical engineer of XADO, the leading engineer of the PES service and the vehicle's driver.

**XADO**

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The results relate to the engine of the GAZ-53 vehicle (reg. no. 42-32 SUN) and to the measurement conditions recorded in the report; on other equipment the figures may differ. The original report with signatures and seal is published in full and available for download.