



UMG LVIVTRANSGAZ · UHERSKO BCS · 12.03.2002

Gas-engine compressor 10GKNA: power end keeps running no overhaul, no repair

UMG Lvivtransgaz, Uhersko booster compressor station · approved by UMG chief engineer R. I. Koval · work performed by VV Tekhnologiya LLC, Vinnytsia
Uhersko BCS, Ukraine · act dated 12.03.2002 · measurement after 1831 engine-hours of operation

PRODUCT	OBJECT	DOCUMENT TYPE
XADO RVS repair-and-restoration work using XADO technology	Gas-engine compressor 10 GKNA, station No. 4 power end — cylinder-piston group of the power cylinders	Technical act UMG Lvivtransgaz approved by the UMG chief engineer; signed by customer and contractor, sealed

EQUIPMENT	OPERATION AFTER WORK	WHAT WAS MEASURED
Gas-engine compressor 10 GKNA, station No. 4, Uhersko BCS	1831 engine-hours	Geometry of power cylinders No. 1 and No. 7, condition of pistons and compression rings

The power end was measured on 12.03.2002; the result was obtained by comparing geometric parameters before and after the repair-and-restoration work.

Key result

5-7 %

cylinder-piston group wear over 1831 engine-hours after treatment

Power end of the compressor per the measurement of 12.03.2002

COMPONENT	WHAT WAS RECORDED
Cylinder-piston group	Wear no more than 5-7 % — per the measurement of power cylinders No. 1 and No. 7
Power cylinders No. 1 and No. 7	Geometry compared with the measurements taken before the repair-and-restoration work
Piston of power cylinder No. 1	Requires replacement: mechanical failure of the first compression ring and of the land between the first and second rings
Compressor in service	No characteristic knocking was observed, despite the broken ring and land

The power cylinder measurement report and the comparison table are issued as a separate annex to the act.

Decision on servicing the power end

ITEM	CONTENT
Next scheduled TO-3 service	Inspection and repair of the power end not to be carried out — recommendation of the technical department of VV Tekhnologiya LLC
Non-stop operation	6000 engine-hours for the compressor at station No. 4 — warranty of VV Tekhnologiya LLC
Overhaul interval	+2000 engine-hours over the previous interval under the same warranty

The recommendation and the warranty come from the contractor; the act was approved by the chief engineer of UMG Lvivtransgaz and signed on the customer's side.

Conclusions of the act

According to the power cylinder measurement report and the comparison table, the commission recorded:

1. The piston of power cylinder No. 1 requires replacement because of the mechanical failure of the first compression ring and of the land between the first and the second compression rings.
2. Despite the failure of the compression ring and the land of the piston of power cylinder No. 1, no characteristic knocking was observed while the compressor was in service.
3. Based on the measurement data for cylinders No. 1 and No. 7, the wear of the cylinder-piston group amounts to no more than **5-7 %**. In view of the above, the technical department of VV Tekhnologiya LLC recommends that, during the next scheduled TO-3 service, inspection and repair of the power end not be carried out, and guarantees non-stop operation of the compressor at station No. 4 for **6000 engine-hours**, that is, an increase of the overhaul interval by **2000 engine-hours**.



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The results refer to gas-engine compressor 10 GKNA, station No. 4, at the Uhersko booster compressor station of UMG Lvivtransgaz; on other units and under other operating modes the figures may differ. The repair-and-restoration work was performed by VV Tekhnologiya LLC, which also issues the TO-3 recommendation and the overhaul-interval warranty. RVS is an obsolete XADO designation, the zero-generation compounds; the current generation of products is revitalizants. The original act is published in full and available for download.