

TWO TECHNICAL REPORTS OF THE COMPANY · 06.02.2002

SUV engines: compression gain repeated and held over mileage

ATP Khabarovskenergo JSC, Khabarovsk · reports signed by senior foreman A. N. Novikov, the head of the repair shops and a representative of XADO Corporation

Khabarovsk, Russia · both reports dated 06.02.2002, measurements taken before treatment and after a control run

PRODUCT

XADO technology
restorative engine repair
without disassembly

TEST OBJECT

Engines of two SUVs
MITSUBISHI CHALLENGER ·
TOYOTA LAND CRUISER ·
cylinder-piston group

DOCUMENT TYPE

Technical reports
of the company
with signatures of officials and
a stamp

VEHICLE	WHAT WAS MEASURED	MILEAGE BEFORE THE RE-TEST	REPORT DATE
MITSUBISHI CHALLENGER	Compression by cylinder, kgf/cm ²	1500 km	06.02.2002
TOYOTA LAND CRUISER	Compression by cylinder, kgf/cm ²	3000 km	06.02.2002

Both vehicles belong to the company fleet and stayed in normal service: the repeat measurement was taken after a control run, not right after the treatment.

What repeated on both vehicles

↑ **6.9-16.7 %**

compression by cylinder, MITSUBISHI CHALLENGER,
12.0-12.5 → 14.0-14.5 kgf/cm²

↑ **6.9-16.7 %**

compression by cylinder, TOYOTA LAND CRUISER,
35.0-36.0 → 38.5-39.0 kgf/cm²

Compression by cylinder: before treatment and after the control run

VEHICLE	CYLINDER	BEFORE, kgf/cm ²	AFTER, kgf/cm ²	CHANGE
MITSUBISHI CHALLENGER	No. 1	12.5	14.5	+16.0 %
MITSUBISHI CHALLENGER	No. 2	12.0	14.0	+16.7 %
MITSUBISHI CHALLENGER	No. 3	12.5	14.0	+12.0 %
TOYOTA LAND CRUISER	No. 1	36.0	39.0	+8.3 %
TOYOTA LAND CRUISER	No. 3	35.0	38.5	+10.0 %
TOYOTA LAND CRUISER	No. 4	36.0	38.5	+6.9 %

Measurement before the restorative repair with XADO technology and a repeat measurement after the control run; both measurements were made in the presence of the head of the repair shops and the senior foreman of the company.

Conclusion from the two reports

Both reports of ATP Khabarovskenergo JSC were signed on the same day and describe the same job on different vehicles: restorative engine repair with XADO technology without disassembly, a compression measurement before treatment and a repeat one after a control run. On the MITSUBISHI CHALLENGER compression rose by **12.0-16.7 %** on every cylinder measured, on the TOYOTA LAND CRUISER by **6.9-10.0 %**; on no cylinder did it fall. The gain was obtained on two different engines with different compression levels and was confirmed not on the day of treatment but after **1500** and **3000 km** of normal service: the restored sealing of the cylinder-piston group holds up in service. Compression is capped from above by the manufacturer's rated value — the growth runs towards it and stops there, which is why the score here is in percent, not in multiples. The measurements were made in the presence of company officials, and both reports carry a stamp.

XADO

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The results apply to the engines of the listed SUVs from the fleet of ATP Khabarovskenergo JSC and to their operating conditions; on other vehicles and duty cycles the figures may differ. The originals of both reports, with signatures and stamps, are published in full and available for download.