

CONTROL MEASUREMENTS 18 JAN — 29 FEB 2000

BJ 6480 and CA 141 engines: compression up, fuel use down with no teardown

Energy Use Supervision Centre for the Road Transport Industries under the Ministry of Communications · applicant: RVS Science and Technology Development Co. Ltd, Beijing
Beijing, China · reports No. 2000-005-301 of 31 Jan 2000 and No. 2000-006-501 of 03 Mar 2000

PRODUCT

XADO RVS
in the reports — “Moshen”
agent for modifying friction
surfaces; added to the lubricant

TEST OBJECT

Two vehicles in service
petrol “Beijing” BJ 6480 · diesel
“Liberation” CA 141

DOCUMENT TYPE

Control measurement
reports
of the state supervision
centre
signatures, seal, registration
numbers

VEHICLE, PLATE NUMBER	ENGINE	MILEAGE	RUN ON THE COMPOUND	MEASUREMENTS
“Beijing” BJ 6480, “Jing” A*E 9385	petrol, 4 cyl.	55,000 km	24 h of operation	compression, fuel consumption, CO and HC
“Liberation” CA 141, “Jing” A*18594	diesel, 6 cyl.	53,600 km	2400 km	compression, fuel consumption, smoke opacity

The compound was added to the lubricant of the engine, gearbox and differential; measurements were taken on the engine. Both vehicles stayed in ordinary service, the engines were not opened.

What repeated on both vehicles

↑ **4-18.2 %**

compression across the cylinders, 0.85-0.90 → 0.95-1.00 (petrol) and 2.20-2.50 → 2.50-2.80 MPa (diesel)

↓ **4.2-7.0 %**

fuel consumption at 30-60 km/h, 5.55-6.50 → 5.17-6.10 (petrol) and 16.7-24.5 → 15.9-23.3 kg/100 km (diesel)

Cylinder pressure (compression), MPa

CYLINDER	BJ 6480 BEFORE	BJ 6480 AFTER	CA 141 BEFORE	CA 141 AFTER
No. 1	0.90	1.00	2.50	2.60
No. 2	0.90	1.00	2.40	2.65
No. 3	0.85	0.95	2.45	2.80
No. 4	0.85	1.00	2.20	2.60
No. 5	—	—	2.20	2.50
No. 6	—	—	2.30	2.65

Pressure rose in every cylinder of both vehicles; the average increase per the reports is **11.4 %** for the BJ 6480 and **12.4 %** for the CA 141. The diesel was measured with a UT-601 gauge.

Fuel consumption at steady speeds, kg/100 km

SPEED	BJ 6480 BEFORE	BJ 6480 AFTER	BJ 6480 SAVING	CA 141 BEFORE	CA 141 AFTER	CA 141 SAVING
20 km/h	—	—	—	17.3	16.1	6.8 %
30 km/h	5.55	5.17	7.0 %	16.7	15.9	5.1 %
40 km/h	5.76	5.44	5.4 %	17.7	16.6	6.1 %
50 km/h	6.50	6.10	6.0 %	19.7	18.3	6.6 %
60 km/h	6.18	5.93	4.2 %	24.5	23.3	4.8 %
70 km/h	6.52	6.45	1.2 %	—	—	—

FP-224 fuel flow meter, LG-660S non-contact speedometer; procedure for determining the fuel economy rate of motor vehicles GD/T 14951-94.

What the supervision centre recorded

The state Energy Use Supervision Centre for the Road Transport Industries (PRC) recorded for the petrol "Beijing" BJ 6480: "at vehicle speeds of 30, 40, 50, 60, 70 km/h the fuel economy rate is **7.0%, 5.4%, 6.0%, 4.2%, 1.2%** respectively"; the HC reduction rate — **70.0%** at 600 rpm and **89.2%** at 2000 rpm; "the average increase of pressure in the cylinders of the vehicle engines equals **11.4%**". For the diesel "Liberation" CA 141: "at vehicle speeds of 20, 30, 40, 50, 60 km/h the fuel economy rate is **6.8%, 5.1%, 6.1%, 6.6%, 4.8%** respectively"; "exhaust reduction rate: **10.0%**"; "the average increase of pressure in the cylinders of the vehicle engines equals **12.4%**". Both vehicles had covered over **50,000 km** and stayed in ordinary service: the compound was added to the oil, the engines were not opened.



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The results relate to the petrol "Beijing" BJ 6480 and the diesel "Liberation" CA 141 under control measurements on the test highway of the Ministry of Communications; on other equipment the figures may differ. The originals of reports No. 2000-005-301 and No. 2000-006-501 with signatures and seals are published in full and available for download. RVS is a legacy XADO designation, the zero-generation compounds; the current product generation is revitalizants.