

Manufacturer : Toyota
Type : XE1
(IS200 Compressor by TMG)

TECHNICAL REPORT

according to Council Directive on the approximation of the laws of the
Member States relating to

**Measures to be taken against air pollution
by emissions from motor vehicles**

No.: **70/220/EEC**

dated: **20.03.1970**

including all amendments until

No.: **98/69/EC**

dated: **13.10.1998**

Structure of report:

1. Test object(s) and general test information
2. Test minutes
3. Remarks concerning tested object(s)
4. Appendices
5. Statement of conformity

Manufacturer : Toyota
Type : XE1
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1. Test object(s) and general test information

1.1. Test object(s)

Identification No. : JTDBS182000009893 (mechanical gear box)
JTDBS182700037187 (automatik gear box)

tested version

- commercial description : Lexus IS 200 Compressor
- manufacturer of the engine : Toyota
- engine type : 1G-FE
 - working principle : 4-stroke, positive ignition
 - engine capacity : 1988 cm³
 - maximum net power : 151 kW at 6300 min⁻¹

1.2. General test information

- 1.2.1. Order issued by : Toyota Motorsport GmbH (TMG)
- 1.2.2. Test object / test vehicle received on : 13.03.2000
- 1.2.3. Test date : 21.03. and 09.05.2000
- 1.2.4. Test site : EMPA; Dübendorf (CH)
- 1.2.5. Remark : The results of the test refer exclusively of the object(s) mentioned under point 1.1. of this report.

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2. Test minutes

Nos. in () related to Annex X of 98/69/EC

2.1. Test facilities : The measurement equipment used was in compliance with the test requirements.

Exhaust gas sampling system : CFV/CVS

2.2. Test results according 70/220/EEC : ~~The vehicle type has been tested according to the amendments mentioned in Appendix O.~~

Vehicle with mechanical gear box

Equivalent inertia mass : 1590 kg
 Absorbed power Pa : 7,1 KW at 80 km/h
 Setting : according coast down method
 Annex III, Appendix 3

Tyre pessure of the driven
 wheels on the dynamometer : 230 kPa

(1.8.) Test type I - Annex III

	CO (g/km)	THC (g/km)	NO _x (g/km)	THC+No _x (g/km)	Particulates (g/km)
test results 1 st test	1,195	0,102	0,015	-	-
test results 2 nd test	-	-	-	-	-
test results 3 rd test	-	-	-	-	-
average	1,195	0,102	0,017	-	-
DF-factor	1,2	1,2	1,2	-	-
with DF calculated	1,43	0,122	0,02	-	-
Limits EC	2,3	0,200	0,150	-	-

Additional information to test type I till III

Gearbox : manual, 6-speed
 Ratio driven axle : 3,909
 Tyre size : 215/45 R 17 (1910 mm)

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(1.8.) Test type II – Annex IV

Test condition	Para. No.			Manufacturers value acc.
	2.5.2.1.	2.5.2.5.1.	2.5.2.5.2.	
Engine speed [min ⁻¹]	680	-	-	700 ± 50
CO (corr.) [Vol %]	0,00	-	-	-
Limit [Vol %]	3,5	4,5	4,5	not applicable *

* downstream catalyst

(1.8.) Test type III – Annex V

No gaseous emissions were emitted into the atmosphere at the test of the emissions of crankcase gases according Annex V under the conditions of No. 3.2.

(1.8.) Test type IV – Annex VI

Compressor system is judged to have no relevant influence on evaporative emission.

(1.8.) Test type V – Annex VIII

- Durability type : ~~80-000 km~~ / not applicable ¹⁾
 - Deterioration factor DF : ~~calculated~~ / fixed ¹⁾
- DF values according Annex I, no. 5.3.6.2

Engine category	Deterioration factor				
	CO	THC	NO _x	THC + NO _x	Particulates
positive-ignition	1.2	1.2	1.2	-	-
compression-ignition	1.1	-	1.0	1.0	1.2

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(1.8.) Test type VI- Annex VII

(266 K [-7°C])	CO (g/km)	THC (g/km)
Test results	n. a.	n. a.
Limit	15	1,8

(1.8.2.

-1.8.6.)Details about the OBD-System – Annex X

See EC Approval Certificate No. e11*70/220*98/69*1886*00

(1.9.) Emissions data required for roadworthiness testing

See EC Approval Certificate No. e11*70/220*98/69*1886*00

2.2. Test results

according 70/220/EEC

: ~~The vehicle type has been tested according to the amendments mentioned in Appendix O.~~

Vehicle with automatic gear box

Equivalent inertia mass : 1590 kg
 Absorbed power Pa : 7,1 KW at 80 km/h
 Setting : according coast down method
 Annex III, Appendix 3
 Tyre pressure of the driven wheels on the dynamometer : 230 kPa

(1.8.) Test type I - Annex III

	CO (g/km)	THC (g/km)	NO _x (g/km)	THC+NO _x (g/km)	Particulates (g/km)
test results 1 st test	0,439	0,125	0,033	-	-
test results 2 nd test	0,505	0,124	0,024	-	-
test results 3 rd test	-	-	-	-	-
average	0,472	0,124	0,029	-	-
DF-factor	1,2	1,2	1,2	-	-
with DF calculated	0,57	0,149	0,03	-	-
Limits EC	2,3	0,200	0,150	-	-

Additional information to test type I till III

Gearbox : automatic, 4-speed
 Ratio driven axle : 4,100
 Tyre size : 215/45 R 17 (1910 mm)

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(1.8.) **Test type II – Annex IV**

Test condition	Para. No.			Manufacturers value acc.
	2.5.2.1.	2.5.2.5.1.	2.5.2.5.2.	2.5.2.1.
Engine speed [min ⁻¹]	640	-	-	700 ± 50
CO (corr.) [Vol %]	0,00	-	-	-
Limit [Vol %]	3,5	4,5	4,5	not applicable *

* downstream catalyst

(1.8.) **Test type III – Annex V**

No gaseous emissions were emitted into the atmosphere at the test of the emissions of crankcase gases according Annex V under the conditions of No. 3.2.

(1.8.) **Test type IV – Annex VI**

Compressor system is judged to have no relevant influence on evaporative emission.

(1.8.) **Test type V – Annex VIII**

- Durability type : ~~80 000 km~~ / not applicable ¹⁾
 - Deterioration factor DF : ~~calculated~~ / fixed ¹⁾
- DF values according Annex I, no. 5.3.6.2

Engine category	Deterioration factor				
	CO	THC	NO _x	THC + NO _x	Particulates
positive-ignition	1.2	1.2	1.2	-	-
compression-ignition	1.1	-	1.0	1.0	1.2

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(1.8.) **Test type VI- Annex VII**

(266 K [-7°C])	CO (g/km)	THC (g/km)
Test results	n. a.	n. a.
Limit	15	1,8

(1.8.2.

-1.8.6.) **Details about the OBD-System – Annex X**

See EC Approval Certificate No. e11*70/220*98/69*1885*00

(1.9.) **Emissions data required for roadworthiness testing**

See EC Approval Certificate No. e11*70/220*98/69*1885*00

3. Remarks concerning tested object(s)

All versions of the vehicle type as stated in the information document of the EC Approval Certificate No. e11*70/220*98/69*1885*00 and e11*70/220*98/69*1886*00 are covered by the tested vehicle version(s) and test object(s) respectively.

4. Appendices

not applicable

5. Statement of conformity

The type referred to above complies with the requirements mentioned on page 1.

The technical report comprises the pages 1 to 7 and shall not be reproduced partially without the written approval of the testing laboratory.

27.07.2000
sh/pc

Dipl.-Ing. Heinz-Werner Stiehl