Kraftfahrt-Bundesamt

DE-24932 Flensburg

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E 1

MITTEILUNG

ausgestellt von:
Kraftfahrt-Bundesamt

über die Erweiterung einer Genehmigung eines Fahrzeugtyps hinsichtlich der Emission gasförmiger Schadstoffe aus dem Motor nach der Regelung Nr. 83 einschließlich Änderungen Nr. 07 Ergänzung 16

COMMUNICATION

issued by:
Kraftfahrt-Bundesamt

concerning the extension of an approval of a type of vehicle with regard to the emission of gaseous pollutants by the engine pursuant to Regulation No. 83 including amendment No. 07 supplement 16

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

Abschnitt I
Section I

0.1. Fabrikmarke (Firmenname des Herstellers):
Make (trade name of manufacturer):
MITSUBISHI

0.2. Typ:
Type:
83/GK0-00W

0.2.1. Handelsname(n) (gegebenenfalls):
Trade name(s) (if any):
MITSUBISHI ECLIPSE CROSS

**(GK1WXT?UZL6Z, GK1WXT?UL6Z,
GK1WXT?U?, GK1WXJ?U?,
GK1WXT?UR8, GK1WXT?UZR8,
GK1WXT?UZ?)**

0.3. Merkmale zur Typidentifizierung, sofern am Fahrzeug vorhanden:
Means of identification of type, if marked on the vehicle:
Siehe 0.2. (...)
See 0.2. (...)

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

0.3.1 Anbringungsstelle dieser Kennzeichnung:
Location of that marking:
Schild an der Innenseite der Motorhaube
Engine-transmission plate on the inner side of bonnet

0.4. Fahrzeugklassen:
Category of vehicle:
M1

0.5. Name und Anschrift des Herstellers:
Name and address of manufacturer:
Mitsubishi Motors Corporation
Tokyo 108-8410, Japan

0.8. Name(n) und Anschrift(en) der Fertigungsstätte(n):
Name(s) and address(es) of assembly plant(s):
Okazaki plant
1, Nakashinkiri, Hashime-cho,
Okazaki, Aichi Pref. 444-8501, Japan

0.9. Name und Anschrift des Bevollmächtigten des Herstellers (gegebenenfalls):
Name and address of manufacturer's representative (if any):
MITSUBISHI MOTOR R&D EUROPE GmbH
D-65468 Trebur

Abschnitt II
Section II

1. Zusätzliche Angaben (gegebenenfalls):
Additional information (if any):
Siehe Beiblatt
See addendum

2. Technischer Dienst, der für die Durchführung der Prüfungen zuständig ist:
Technical service responsible for carrying out the tests:
TÜV Nord Mobilität GmbH & Co. KG Institut für Fahrzeugtechnik und Mobilität
DE-45307 Essen

3. Datum des Gutachtens:
Date of test report:
31.07.2024

4. Nummer des Gutachtens:
Number of test report:
12.09.591.06

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

5. Die Genehmigung **wird erweitert**
Approval **is extended**

6. Bemerkung(en):
Remark(s):
Siehe Beiblatt
See addendum

7. Ort: **DE-24932 Flensburg**
Place:

8. Datum: **14.08.2024**
Date:

9. Unterschrift: **Im Auftrag**
Signature:

Erkan Sentürk

KRAFTFAHRT-BUNDESAMT 587

Anlagen:
Attachments:
Gemäß Inhaltsverzeichnis
According to index

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

Beiblatt zur Typgenehmigung Nr. E1*83R07/16/W*6287*06 in Bezug auf die Typgenehmigung eines Fahrzeugs hinsichtlich der Emissionen gemäß Regelung Nr. 83 Änderungsserie 07
Addendum to type approval communication No E1*83R07/16/W*6287*06 concerning the type approval of a vehicle with regard to exhaust emissions pursuant to Regulation No 83, 07 series of amendments

1. WEITERE ANGABEN
ADDITIONAL INFORMATION

1.1. Masse des fahrbereiten Fahrzeugs:
Mass of the vehicle in running order:
***)**

1.2. Bezugsmasse des Fahrzeugs:
Reference mass of the vehicle:
***)**

1.3. Höchstmasse des Fahrzeugs:
Maximum mass of the vehicle:
***)**

1.4. Sitzzahl (einschließlich des Fahrersitzes):
Number of seats (including the driver):
***)**

1.6. Art des Aufbaus
Type of bodywork

1.6.1. Für Fahrzeuge der Klasse M1, M2:
For M1, M2:
***)**

1.6.2. Für N1, N2:
For N1, N2:
***)**

1.7. Radantrieb:
Drive wheels:
***)**

1.8. Fahrzeug mit reinem Elektroantrieb:
Pure electric vehicle:
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

1.9. Hybrid-Elektrofahrzeug:
Hybrid electric vehicle:
***)**

1.9.1. Art des Hybrid-Elektrofahrzeugs:
Category of Hybrid Electric vehicle:
***)**

1.9.2 Betriebsartschalter:
Operating mode switch:
***)**

1.10. Motoridentifizierung:
Engine identification:
***)**

1.10.1. Hubraum:
Engine displacement:
***)**

1.10.2. Kraftstoffanlage:
Fuel supply system:
***)**

1.10.3. Vom Hersteller empfohlener Kraftstoff:
Fuel recommended by the manufacturer:
***)**

1.10.4. Höchstleistung:
Maximum power:
***) kW bei *) min^{-1}**
***) kW at *) min^{-1}**

1.10.5. Lader:
Pressure charging device:
***)**

1.10.6. Art der Zündanlage:
Ignition system:
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

1.11. Antriebssystem (für Fahrzeuge mit reinem Elektroantrieb oder Hybrid-Elektrofahrzeuge)
Power train (for pure electric vehicle or hybrid electric vehicle)

1.11.1. Höchste Nutzleistung:
Maximum net power:
***) kW, bei *) min^{-1} bis *) min^{-1}**
***) kW, at *) min^{-1} to *) min^{-1}**

1.11.2. Höchste Dreißig-Minuten-Leistung (kW):
Maximum thirty minutes power (kW):
***)**

1.11.3. Maximales Drehmoment:
Maximum net torque:
***) Nm, bei *) min^{-1}**
***) Nm, at *) min^{-1}**

1.12. Antriebsbatterie (bei reinen Elektrofahrzeugen oder Hybridelektrofahrzeugen)
Traction battery (for pure electric vehicle or hybrid electric vehicle)

1.12.1. Nennspannung (V):
Nominal voltage (V):
***)**

1.12.2. Kapazität (während 2 Stunden) (Ah):
Capacity (2 h rate) (Ah):
***)**

1.13. Kraftübertragung
Transmission

1.13.1. Art des Getriebes:
Type of transmission:
***)**

1.13.2. Anzahl der Gänge:
Number of gear ratios:
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

1.13.3. Gesamtübersetzung (einschließlich Abrollumfang der Reifen unter Last): Geschwindigkeiten auf der Straße pro 1000 min^{-1} (km/h)
Total gear ratios (including the rolling circumferences of the tyres under load): road speeds per 1 000 min– 1 (km/h)

Erster Gang:
First gear:
***)**
Zweiter Gang:
Second gear:
***)**
Dritter Gang:
Third gear:
***)**
Vierter Gang:
Fourth gear:
***)**
Fünfter Gang:
Fifth gear:
***)**
Sechster Gang:
Sixth gear:
***)**
Siebter Gang:
Seventh gear:
***)**
Achter Gang:
Eight gear:
***)**
Schnellgang („Overdrive“):
Overdrive:
***)**

1.13.4. Achsenantriebsübersetzung:
Final drive ratio:
***)**

1.14. Reifen:
Tyres:
***)**

1.14.1. Typ:
Type:
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

1.14.2. Abmessungen:
Dimensions:
***)**

1.14.3. Abrollumfang unter Last:
Rolling circumference under load:
***)**

1.14.4. Abrollumfang der Reifen, die bei der Prüfung Typ I verwendet wurden:
Rolling circumference of tyres used for the Type I test:
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

2. **PRÜFERGEBNISSE**
TEST RESULTS

2.1. Prüfergebnisse Auspuffemissionen
Tailpipe emissions test results

Emissionsklasse: Änderungsserie **07**
Emissions classification: **07** series of amendments

Typgenehmigungsnummer für andere als Stammfahrzeuge:
Type approval number if not parent vehicle:
***)**

Ergebnis Prüfung Typ I Type I Result	Prüfung Test	CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NO_x (mg/km)	THC +NO_x (mg/km)	Partikel Particulates (mg/km)	Partikel Particulates (#/km)
Gemessen Measured	1	***)**	***)**	***)**	***)**	***)**	***)**	***)**
	2	***)**	***)**	***)**	***)**	***)**	***)**	***)**
	3	***)**	***)**	***)**	***)**	***)**	***)**	***)**
Gemessener Mittelwert (M) Measured mean value (M)		***)**	***)**	***)**	***)**	***)**	***)**	***)**
K_i		***)**	***)**	***)**	***)**	**Entfällt N/A**	***)**	***)**
Mit K_i berechneter Mittelwert ($M.K_i$) Mean value calculated with K_i ($M.K_i$)		***)**	***)**	***)**	***)**	***)**	***)**	***)**
DF		***)**	***)**	***)**	***)**	***)**	***)**	***)**
Mit Ki und DF berechneter endgültiger Mittelwert ($M.K_i$.DF) Final mean value calculated with K_i and DF ($M.K_i$.DF)		***)**	***)**	***)**	***)**	***)**	***)**	***)**
Grenzwert Limit value		***)**	***)**	***)**	***)**	***)**	***)**	***)**

Stelle des Motorgebläses während der Prüfung
Position of the engine cooling fan during the test

Höhe der Unterkante über dem Boden (cm):
Height of the lower edge above ground (cm):
***)**

Seitliche Lage des Mittelpunktes des Motorgebläses (cm):
Lateral position of fan centre (cm):
***)**

***)** von der Fahrzeug-Mittellinie
***)** of vehicle centre-line

Angaben zur Regenerierungsstrategie
Information about regeneration strategy

D — die Zahl der Fahrzyklen zwischen zwei (2) Zyklen, in denen Regenerierungsphasen auftreten:
D — Number of operating cycles between two (2) cycles where regenerative phases occur:
***)**

d — die Zahl der Fahrzyklen, die für die Regenerierung erforderlich ist:
d — Number of operating cycles required for regeneration:
***)**

Typ II (Prozent):
Type II (per cent):
***)**

Typ III:
Type III:
***)**

Typ IV (g/Prüfung):
Type IV (g/test):
***)**

Typ V:
Type V:
***)**

Dauerhaltbarkeitsprüfung:
Durability test type:
***)**

Verschlechterungsfaktor (DF):
Deterioration Factor (DF):
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

Zahlenwerte des Verschlechterungsfaktors:
Specify the values (DF):
***)**

Typ VI:
Type VI:

Typ VI Type VI	CO (mg/km)	THC (mg/km)
Messwert Measured value	***)**	***)**

2.1.1. Für Fahrzeuge mit Zweistoffbetrieb ist die Tabelle für Typ I für beide Kraftstoffe anzugeben. Wird die Prüfung für Typ I bei Fahrzeugen mit Flex-Fuel-Betrieb gemäß Tabelle A dieser Regelung mit beiden Kraftstoffen und für Fahrzeuge mit Flüssiggas- oder Erdgas-/Biomethan-Betrieb im Einstoff- oder Zweistoff-Betrieb durchgeführt, so ist die Tabelle für jedes einzelne bei der Prüfung verwendete Bezugsgas anzugeben und die schlechtesten Ergebnisse sind in einer gesonderten Tabelle anzugeben. Gegebenenfalls wird gemäß Anhang 12 Absätze 3.1.4 und 3.1.5 dieser Regelung angegeben, ob die Ergebnisse gemessen oder berechnet wurden.
For bi fuel vehicles, the type I table shall be repeated for both fuels. For flex fuel vehicles, when the type I test is to be performed on both fuels according to Table A of this Regulation and for vehicles running on LPG or NG/Biomethane, either mono fuel or bi fuel, the table shall be repeated for the different reference gases used in the test, and an additional table shall display the worst results obtained. When applicable, in accordance with paragraphs 3.1.4 and 3.1.5 of Annex 12 to this Regulation, it shall be shown if the results are measured or calculated.

OBD-Prüfung
OBD test

2.1.2. Schriftliche Beschreibung und/oder Zeichnung der Fehlfunktionsanzeige (MI):
Written description and/or drawing of the Malfunction Indicator (MI):
***)**

2.1.3. Liste und Funktionen alle Bauteile, die von dem OBD-System überwacht werden:
List and function of all components monitored by the OBD system:
***)**

2.1.4. Schriftliche Darstellung (allgemeine Arbeitsweise) für
Written description (general working principles) for

2.1.4.1. Erkennung von Verbrennungsaussetzern:
Misfire detection:
***)**

2.1.4.2. Überwachung des Katalysators:
Catalyst monitoring:
***)**

2.1.4.3. Überwachung der Sauerstoffsonde:
Oxygen sensor monitoring:
***)**

2.1.4.4. Sonstige vom OBD-System überwachte Bauteile:
Other components monitored by the OBD system:
***)**

2.1.4.5. Überwachung des Katalysators:
Catalyst monitoring:
***)**

2.1.4.6. Überwachung des Partikelfilters:
Particulate trap monitoring:
***)**

2.1.4.7. Überwachung der Stellglieder des elektronischen Kraftstoffzufuhrsystems:
Electronic fuelling system actuator monitoring:
***)**

2.1.4.8. Sonstige vom OBD-System überwachte Bauteile:
Other components monitored by the OBD system:
***)**

2.1.5. Kriterien für die Aktivierung der Fehlfunktionsanzeige (eine bestimmte Zahl von Fahrzyklen oder statistisches Verfahren):
Criteria for MI activation (fixed number of driving cycles or statistical method):
***)**

2.1.6. Liste aller vom OBD-System verwendeten Ausgabecodes und Formate (jeweils mit Erläuterung):
List of all OBD output codes and formats used (with explanation of each):
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

2.2. Emissionswerte für die Verkehrssicherheitsprüfung:
Emissions data required for roadworthiness testing:

Prüfung Test	CO-Wert CO Value	Lambda-Wert Lambda	Motordrehzahl Engine speed	Mooröltemperatur Engine oil temperature
Prüfung bei niedriger Leerlaufdrehzahl Low idle test	***)**	**Entfällt N/A**	***)**	***)**
Prüfung bei erhöhter Leerlaufdrehzahl High idle test	***)**	***)**	***)**	***)**

2.3. Katalysatoren:
Catalytic converters:
***)**

2.3.1. Nach allen einschlägigen Bestimmungen dieser Verordnung geprüfter Katalysator für die Erstausrüstung:
Original equipment catalytic converter tested to all relevant requirements of this Regulation:
***)**

2.4. Prüfergebnisse Abgastrübung
Smoke opacity test results

2.4.1. Bei konstanten Drehzahlen: siehe Prüfbericht des technischen Dienstes Nr.:
At steady speeds: See technical service test report number:
***)**

2.4.2. Prüfungen bei freier Beschleunigung
Free acceleration tests

2.4.2.1. Gemessener Absorptionskoeffizient (m^{-1}):
Measured value of the absorption coefficient (m^{-1}):
***)**

2.4.2.2. Korrigierter Absorptionskoeffizient (m^{-1}):
Corrected value of the absorption coefficient (m^{-1}):
***)**

Genehmigungsnummer: **E1*83R07/16/W*6287*06**
Approval number:

2.4.2.3. Anbringungsstelle des Symbols für den Absorptionskoeffizienten:
Location of the absorption coefficient symbol on the vehicle:
***)**

3. Anmerkung(en):
Remark(s):
***)**

***) Siehe Anlage**
See enclosure

Kraftfahrt-Bundesamt

DE-24932 Flensburg

Zu: **E1*83R07/16/W*6287*06**
To:

Erklärung über die Einhaltung der Anforderungen hinsichtlich der Übereinstimmung der Produktion gemäß dem Übereinkommen von 1958
Statement of compliance with the conformity of the production requirements of the 1958 Agreement

1. Name des Herstellers:
   Manufacturer's name:
   Mitsubishi Motors Corporation
   Tokyo 108-8410, Japan

2. Datum der Anfangsbewertung:
   Date of the initial assessment:
   01.02.1996

3. Datum aller durchgeführten Überwachungstätigkeiten:
   Date of any surveillance activities:

Aktenzeichen Register number	Datum der Begehung Date of inspection	Genehmigungsnummer Approval number

   CoP-Q:
   Entfällt
   Not applicable

   CoP-P:
   Entfällt
   Not applicable

Kraftfahrt-Bundesamt

DE-24932 Flensburg

Zu: **E1*83R07/16/W*6287*06**
To:

Inhaltsverzeichnis zu den Beschreibungsunterlagen
Index to the information package

Ausgabedatum: Date of issue:	**06.10.2017**	Letztes Änderungsdatum: Last date of amendment:	**14.08.2024**

Nebenbestimmungen und Rechtsbehelfsbelehrung
Collateral clauses and instruction on right to appeal

Prüfbericht(e) Nr.: Test report(s) No.:	Datum: Date:
12.09.591.00	**18.09.2017**
12.09.591.01	**11.04.2018**
12.09.591.02	**11.06.2018**
12.09.591.03	**26.04.2019**
12.09.591.04	**28.07.2020**
12.09.591.05	**05.07.2022**
12.09.591.06	**31.07.2024**

Beschreibungsbogen Nr.: Information document No.:	Datum: Date:
83/GK0-00W	**24.07.2017**
83/GK0-00W	**01.05.2024**

Liste der Änderungen: List of modifications:	Datum: Date:
83/GK0-00W	**01.05.2024**

Kraftfahrt-Bundesamt
DE-24932 Flensburg

Nummer der Genehmigung: **E1*83R07/16/W*6287*06**

- Anlage -

Nebenbestimmungen und Rechtsbehelfsbelehrung

Nebenbestimmungen

Wurde diese Genehmigung mit einem Mangel im OBD-System erteilt, sind Mangel sowie die Frist der Gültigkeit dieser Genehmigung der Dokumentation zum OBD-System zu entnehmen.

Jede Einrichtung, die dem genehmigten Typ entspricht, ist gemäß der angewendeten Vorschrift zu kennzeichnen.

Die Einzelerzeugnisse der reihenweisen Fertigung müssen mit den Genehmigungsunterlagen genau übereinstimmen. Änderungen an den Einzelerzeugnissen sind nur mit ausdrücklicher Zustimmung des Kraftfahrt-Bundesamtes gestattet.
Änderungen der Firmenbezeichnung, der Anschrift und der Fertigungsstätten sowie eines bei der Erteilung der Genehmigung benannten Zustellungsbevollmächtigten oder bevollmächtigten Vertreters sind dem Kraftfahrt-Bundesamt unverzüglich mitzuteilen.
Verstöße gegen diese Bestimmungen können zum Widerruf der Genehmigung führen und können überdies strafrechtlich verfolgt werden.

Die Genehmigung erlischt, wenn sie zurückgegeben oder entzogen wird, oder der genehmigte Typ den Rechtsvorschriften nicht mehr entspricht. Der Widerruf kann ausgesprochen werden, wenn die für die Erteilung und den Bestand der Genehmigung geforderten Voraussetzungen nicht mehr bestehen, wenn der Genehmigungsinhaber gegen die mit der Genehmigung verbundenen Pflichten - auch soweit sie sich aus den zu dieser Genehmigung zugeordneten besonderen Auflagen ergeben - verstößt oder wenn sich herausstellt, dass der genehmigte Typ den Erfordernissen der Verkehrssicherheit oder des Umweltschutzes nicht entspricht.

Das Kraftfahrt-Bundesamt kann jederzeit die ordnungsgemäße Ausübung der durch diese Genehmigung verliehenen Befugnisse, insbesondere die genehmigungsgerechte Fertigung sowie die Maßnahmen zur Übereinstimmung der Produktion, nachprüfen. Es kann zu diesem Zweck Proben entnehmen oder entnehmen lassen. Dem Kraftfahrt-Bundesamt und/oder seinen Beauftragten ist ungehinderter Zutritt zu Produktions- und Lagerstätten zu gewähren.

Die mit der Erteilung der Genehmigung verliehenen Befugnisse sind nicht übertragbar. Schutzrechte Dritter werden durch diese Genehmigung nicht berührt.

Rechtsbehelfsbelehrung

Gegen diese Genehmigung kann innerhalb eines Monats nach Bekanntgabe Widerspruch erhoben werden. Der Widerspruch ist beim **Kraftfahrt-Bundesamt, Fördestraße 16, DE-24944 Flensburg,** schriftlich oder zur Niederschrift einzulegen.

Approval No.: **E1*83R07/16/W*6287*06**

- Attachment -

Collateral clauses and instruction on right to appeal

Collateral clauses

If this approval was granted with a deficiency in the OBD-system, the deficiency and the validity period of this approval can be found in the OBD-system documentation.
All equipment which corresponds to the approved type is to be identified according to the applied regulation.

The individual production of serial fabrication must be in exact accordance with the approval documents. Changes in the individual production are only allowed with express consent of the Kraftfahrt-Bundesamt.
Changes in the name of the company, the address and the manufacturing plant as well as one of the parties given the authority to delivery or authorised representative named when the approval was granted is to be immediately disclosed to the Kraftfahrt-Bundesamt.
Breach of this regulation can lead to recall of the approval and moreover can be legally prosecuted.

The approval expires if it is returned or withdrawn or if the type approved no longer complies with the legal requirements. The revocation can be made if the demanded requirements for issuance and the continuance of the approval no longer exist, if the holder of the approval violates the duties involved in the approval, also to the extent that they result from the assigned conditions to this approval, or if it is determined that the approved type does not comply with the requirements of traffic safety or environmental protection.

The Kraftfahrt-Bundesamt may check the proper exercise of the conferred authority taken from this approval at any time. In particular this means the compliant production as well as the measures for conformity of production. For this purpose samples can be taken or have taken. The employees or the representatives of the Kraftfahrt-Bundesamt may get unhindered access to the production and storage facilities.

The conferred authority contained with issuance of this approval is not transferable. Trade mark rights of third parties are not affected with this approval.

Instruction on right to appeal

This approval can be appealed within one month after notification. The appeal is to be filed in writing or as a transcript at the **Kraftfahrt-Bundesamt, Fördestraße 16,
DE-24944 Flensburg.**

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

Prüfbericht / Test Report

Prüfung der Emission luftverunreinigender Gase aus Fremd- oder Selbstzündungsmotoren von Kraftfahrzeugen nach den Kraftstoffanforderungen gemäß der
ECE Nr. 83 einschließlich Änderung 07
Ergänzung 16

Examination in accordance with the regulation concerning the approval of vehicles with regard to the emissions of gaseous pollutants by the engine according to engine fuel requirements
ECE No. 83 including amendment 07
supplement 16

Fahrzeugklasse und -gruppe / ***Category of vehicle and class***

M, N1 Gruppe I
M, N1 class I

Buchstabe / *Character*: W

Spezifikation der Antriebsart / *Specification of drive configuration*

X	Einstoff *Mono fuel*		Zweistoff *Bi fuel*		Flex fuel		Hybrid
X	Benzin *Petrol*		Diesel *Diesel*		Erdgas *NG*		Flüssiggas *LPG*

Genehmigungsstand / *approval status*	
Erweiterung zur Typgenehmigung Nr. *Extension to type approval No.*	E1*83R07/08W*6287*05

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

0.	Allgemeines *General*	
0.1.	Fabrikmarke (Firmenname des Herstellers) *Make (trade name of manufacturer)*	: MITSUBISHI
0.2.	Typ *Type*	: 83/GK0-00W
0.3.	Merkmale zur Typidentifizierung *Means of type identification*	: entfällt *n/a*
0.4.	Fahrzeugklasse *Category of vehicle*	: M1
0.5.	Name und Anschrift des Herstellers *Manufacturer's name and address*	: MITSUBISHI MOTORS Corp. Tokyo 108-8410, Japan
0.6.	Beschreibungsbogen *Information Document*	
	Nr. *No.*	: 83/GK0-00W Nachtrag 06 *83/GK0-00W extension 06*
	Ausgabedatum *Date of issue*	: 24.07.2017
	Letztes Änderungsdatum *Date of last change*	: 01.05.2024
1.	Prüffahrzeug(e)/-objekt(e) *Test vehicle(s)/-object(s)*	
1.1.	Beschreibung *Description*	
1.1.1.	geprüfte Ausführung (Handelsbez.) *tested version (Commercial descr.)*	: MITSUBISHI ECLIPSE CROSS
	Motorhersteller *Engine manufacturer*	: MITSUBISHI MOTORS Corp. Tokyo 108-8410, Japan
	Motortyp *Engine type*	: 4B40 (110 kW)
	Arbeitsweise *Working principle*	: Fremdzündung, Mehrstelleneinspritzung, Direkteinspritzung *Positive ignition, multi point injection, direct injection*
	Hubvolumen [cm^3] *Displacement*	: 1.499

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

1.2. Prüfprotokoll
Test record

1.2.1.	Mess- und Prüfeinrichtungen *Equipment for measuring and testing*	:	Prüfeinrichtungen und Prüfbedingungen entsprechend der Anhänge 4a bis 14 der ECE R83 - 07 *Test equipments and test conditions according to the Annexes 4a till 14 of Regulation ECE R83 - 07*
1.2.2.	Prüfergebnisse *Test results*	:	Siehe nächste Seiten *See next pages*

Abweichende Nrn. in ( ) beziehen sich auf den Anhang 2 der Regelung ECE R83 - 07

Different Nos. in ( ) are related to Annex 2 of Regulation ECE R83 - 07

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2. Prüfergebnisse
Test results

Typ I / *Type I*

…Anhang 4a / *Annex 4a* …

Auspuffemissionen bei Umgebungsbedingungen
Exhaust emissions at ambient conditions

2.1.a
(2.1)

Testergebnisse unverändert
Test results unchanged

Testergebnisse gültig für Fahrzeugtyp:
Test results valid for vehicle type:

MITSUBISHI ECLIPSE CROSS

	Test-Nr. *Test-No.*	CO [mg/km]	THC [mg/km]	NMHC [mg/km]	NO_x [mg/km]	THC+NO_x [mg/km]	Particulates [mg/km]	Particles [#/km]
Messwert *Measured value*	1	197,14	30,60	22,67	14,45	--	0,34	8,11E+11
	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Mittlerer Messwert *Measured mean value* (M)		197,14	30,60	22,67	14,45	--	0,34	8,11E+11
Ki (gem. ECE-R.83) *Ki (acc. to ECE-R.83)*		--	--	--	--	--	--	--
Mittlerer Wert (berechnet mit Ki) *Mean value calculated with Ki* (M.Ki)		197,14	30,60	22,67	14,45	--	0,34	8,11E+11
DF (multiplikativ) *DF (multiplicative)*		1,5000	1,3000	1,3000	1,6000	--	1,0000	1,0000
DF (additiv) *DF (additive)*		--	--	--	--	--	--	--
Endgültiger mittl. Wert (ber. mit Ki und DF) *Final mean value cal. with Ki and DF* (M.Ki.DF)		295,7	39,8	29,5	23,1	--	0,34	8,11E+11
Grenzwert ***Limit value***		**1000**	**100**	**68**	**60**	**--**	**4,5**	**6,0E+12**

Angaben zur Regenerationsstrategie
Information about regeneration strategy:

D- die Zahl der Fahrzyklen zwischen 2 Regenerationsphasen
D- number of operating cycles between 2 cycles where regenerative phases occu -

d- die Zahl der erforderlichen Fahrzyklen für die Regeneration
d- number of operating cycles required for regeneration -

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.1.a Weitere Angaben zu den Prüfungen Typ I bis III
Additional information to test Type I until III

Geprüfter Fahrzeugtyp *Tested vehicle type*	:	MITSUBUSHI ECLIPSE CROSS	
Äquivalente Schwungmasse (kg) *Equivalent inertia*	:	1700	
Aufgenommene Leistung Pa_{eff} bei 80 km/h (kW) *Absorbed power Pa_{eff} at 80 km/h*	:	10,10	
Ausrollzeit 85-75 km/h (s) *Coast down duration*	:	10,39	
Einstellung: nach Auslaufversuch, Energieänderung *Setting: according coast down, energy variation*			
Fahrgestellnummer *VIN*	:	JMFXTGK1WJZ000003	
Steuergeräte Nr. *ECU part No.*	:	E6T85974H	
Getriebetyp *Gearbox type*	:	handgeschaltet *manual gear* automatisch *automatic*	 X
Bezeichnung *sign*	:	CVT	
Anzahl der Gänge *number of gear ratios*	:	stufenlos *continuously variable*	
Achsübersetzung i_A *Final drive ratio*	:	6,386	
Antriebsachse *Driving axle*	:	vorne / *front* hinten / *rear* Allrad / *4-WD*	 X
Katalysator, Typ *Catalyst, type*	:	AGT (FCC), AHU (UCC)	
Sauerstoffsonde(n), Typ, Teilenummer *Oxygen sensor(s), type, identifying part number*	:	UAA0004-MM010 (Front) 149100 6665 (Rear)	
Partikelfilter (DPF), Bezeichnung *Particulate filter (DPF), sign*	:	--	
Reifengröße *Tyre dimension*	:	225/55 R18	
Reifenluftdruck der Antriebsräder (Prüfstand, kPa) *Tyre pressure of driven wheels (Dynamometer)*	:	240	
Gasentnahmesystem, CVS *Gas-sampling system, CVS*	:	PDP	CFV X
Kraftstoff gem. ANHANG 10 *Fuel acc. to ANNEX 10*	:	E10	
Schwefelgehalt (mg/kg) *Sulphur content*	:	< 3	

Position des Motor-Kühlgebläses während Test / *Position of the engine cooling fan during test* :	
Höhe untere Austrittskante über dem Boden / *Height of the lower edge above ground* :	ca. 20 cm
Position des Gebläses in Längsrichtung / *Lateral position of fan centre*	Fahrzeug-Mittellinie / *Vehicle centre-line*

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2. Prüfergebnisse
Test results

Typ I / *Type I*

…Anhang 4a / *Annex 4a* …

Auspuffemissionen bei Umgebungsbedingungen
Exhaust emissions at ambient conditions

2.1.b
(2.1)

Testergebnisse unverändert
Test results unchanged

Testergebnisse gültig für Fahrzeugtyp:
Test results valid for vehicle type:

MITSUBISHI ECLIPSE CROSS

	Test-Nr. *Test-No.*	CO [mg/km]	THC [mg/km]	NMHC [mg/km]	NO_x [mg/km]	THC+NO_x [mg/km]	Particulates [mg/km]	Particles [#/km]
Messwert *Measured value*	1	354,47	43,70	34,48	6,50	--	0,26	3,64E+11
	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Mittlerer Messwert *Measured mean value* (M)		354,47	43,70	34,48	6,50	--	0,26	3,64E+11
Ki (gem. ECE-R.83) *Ki (acc. to ECE-R.83)*		--	--	--	--	--	--	--
Mittlerer Wert (berechnet mit Ki) *Mean value calculated with Ki* (M.Ki)		354,47	43,70	34,48	6,50	--	0,26	3,64E+11
DF (multiplikativ) *DF (multiplicative)*		1,5000	1,3000	1,3000	1,6000	--	1,0000	1,0000
DF (additiv) *DF (additive)*		--	--	--	--	--	--	--
Endgültiger mittl. Wert (ber. mit Ki und DF) *Final mean value cal. with Ki and DF* (M.Ki.DF)		531,7	56,8	44,8	10,4	--	0,26	3,64E+11
Grenzwert ***Limit value***		**1000**	**100**	**68**	**60**	**--**	**4,5**	**6,0E+12**

Angaben zur Regenerationsstrategie
Information about regeneration strategy:

D- die Zahl der Fahrzyklen zwischen 2 Regenerationsphasen
D- number of operating cycles between 2 cycles where regenerative phases occu
d- die Zahl der erforderlichen Fahrzyklen für die Regeneration
d- number of operating cycles required for regeneration

-
-

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.1.b Weitere Angaben zu den Prüfungen Typ I bis III
Additional information to test Type I until III

Geprüfter Fahrzeugtyp *Tested vehicle type*	:	MITSUBUSHI ECLIPSE CROSS	
Äquivalente Schwungmasse (kg) *Equivalent inertia*	:	1590	
Aufgenommene Leistung Pa_{eff} bei 80 km/h (kW) *Absorbed power Pa_{eff} at 80 km/h*	:	9,50	
Ausrollzeit 85-75 km/h (s) *Coast down duration*	:	10,33	
Einstellung: nach Auslaufversuch, Energieänderung *Setting: according coast down, energy variation*			
Fahrgestellnummer *VIN*	:	JMYXJGK1WJZ000003	
Steuergeräte Nr. *ECU part No.*	:	E6T85973H	
Getriebetyp *Gearbox type*	:	handgeschaltet *manual gear* automatisch *automatic*	X
Bezeichnung *sign*	:	6MT	
Anzahl der Gänge *number of gear ratios*	:	6 *6*	
Achsübersetzung i_A *Final drive ratio*	:	4,058	
Antriebsachse *Driving axle*	:	vorne / *front* hinten / *rear* Allrad / *4-WD*	X
Katalysator, Typ *Catalyst, type*	:	AHY (FCC), AHU (UCC)	
Sauerstoffsonde(n), Typ, Teilenummer *Oxygen sensor(s), type, identifying part number*	:	UAA0004-MM010 (Front) 149100 6665 (Rear)	
Partikelfilter (DPF), Bezeichnung *Particulate filter (DPF), sign*	:	--	
Reifengröße *Tyre dimension*	:	215/70 R16	
Reifenluftdruck der Antriebsräder (Prüfstand, kPa) *Tyre pressure of driven wheels (Dynamometer)*	:	240	
Gasentnahmesystem, CVS *Gas-sampling system, CVS*	:	PDP 	CFV X
Kraftstoff gem. ANHANG 10 *Fuel acc. to ANNEX 10*	:	E10	
Schwefelgehalt (mg/kg) *Sulphur content*	:	< 3	

Position des Motor-Kühlgebläses während Test / *Position of the engine cooling fan during test* :	
Höhe untere Austrittskante über dem Boden / *Height of the lower edge above ground* :	ca. 20 cm
Position des Gebläses in Längsrichtung / *Lateral position of fan centre*	Fahrzeug-Mittellinie / *Vehicle centre-line*

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.2. **Typ II / *Type II***
(2.1) ...Anhang 5 / *Annex 5 …*

Testergebnisse unverändert
Test results unchanged

Kohlenmonoxid im Leerlauf
Carbon monoxide at idling speed

Prüfbedingung Test condition	gültig für *valid for*	Punkt Nr. **) *Point No. **)*			Herstellerangabe gemäß 2.5.2.1. **) *Manufacturers value acc. 2.5.2.1. **)*
		2.5.2.1.	2.5.2.5.1.	2.5.2.5.2	
Motor-Drehzahl Engine speed [min^{-1}]	**CVT**	750	--	--	750 ± 100
CO (korr.) CO (corr.) [Vol.%]		0,02	--	--	--
Grenzwert Limit [Vol.%]		**0,3**	**0,3**	**0,3**	**max. 0,3 *)**

Prüfbedingung Test condition	gültig für *valid for*	Punkt Nr. **) *Point No. **)*			Herstellerangabe gemäß 2.5.2.1. **) *Manufacturers value acc. 2.5.2.1. **)*
		2.5.2.1.	2.5.2.5.1.	2.5.2.5.2	
Motor-Drehzahl Engine speed [min^{-1}]	**6MT**	750	--	--	750 ± 100
CO (korr.) CO (corr.) [Vol.%]		0,01	--	--	--
Grenzwert Limit [Vol.%]		**0,3**	**0,3**	**0,3**	**max. 0,3 *)**

Prüfbedingung Test condition	gültig für *valid for*	Punkt Nr. **) *Point No. **)*			Herstellerangabe gemäß 2.5.2.1. **) *Manufacturers value acc. 2.5.2.1. **)*
		2.5.2.1.	2.5.2.5.1.	2.5.2.5.2	
Motor-Drehzahl Engine speed [min^{-1}]	**--**	--	--	--	--
CO (korr.) CO (corr.) [Vol.%]		--	--	--	--
Grenzwert Limit [Vol.%]		**--**	**--**	**--**	**--**

*) nach Katalysator
downstream catalyst

**) gem. Anhang 5, ECE-R.83
according annex 5, ECE-R.83

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.3. **Typ III / *Type III***
(2.1) ...Anhang 6 / *Annex 6* …

Testergebnisse unverändert
Test results unchanged

Gasemissionen aus dem Kurbelgehäuse
Emissions of crankcase gases

Bei der Prüfung der Gasemission aus dem Kurbelgehäuse gemäß ANHANG V gelangten unter Bezug auf die in Anhang 6, Nr. 3.2 der ECE R83 angegebenen Betriebsbedingungen keine Gasemissionen in die Atmosphäre.

No gaseous emissions were emitted into the atmosphere at testing crankcase emissions according ANNEX V with reference to operating conditions specified in annex 6, No. 3.2, ECE R83.

2.4. **Typ IV / *Type IV***
(2.1) ...Anhang 7 / *Annex 7* …

Testergebnisse unverändert
Test results unchanged

Verdunstungsemissionen (Prüfergebnisse in g/Test)
Evaporative emissions (Test results in g/test)

EVAP - Familie / *EVAP - family*: ECLIPSE CROSS

Gültig für *Valid for*	Tankvolumen *Tank capacity*	Heißabstellen *Hot Soak* M_{HS}	Tankatmung *Diurnal* M_{DI}	Gesamt *Total* M_{HC}	**Grenzwert *Limit***
	[l]	[g]	[g]	[g]	**[g]**
4B40	60	0,054	0,732	0,79	**2**

EVAP - Familie / *EVAP - family*:

Gültig für *Valid for*	Tankvolumen *Tank capacity*	Heißabstellen *Hot Soak* M_{HS}	Tankatmung *Diurnal* M_{DI}	Gesamt *Total* M_{HC}	**Grenzwert *Limit***
	[l]	[g]	[g]	[g]	**[g]**
--	--	--	--	--	--

Testergebnisse auch gültig für 63 l Tankvolumen
Test results are also valid for 63 l tank capacity

Bemerkungen / *Remarks*:
...Regelung Abschnitt 5 / *Regulation section 5* …

Konstruktive Maßnahme zur Vermeidung überhöhter Verdunstungsemissionen bei fehlendem Tankdeckel siehe 5.1.4.3 der Regelung ECE R83 - 07 .
Construction measure to avoid higher evaporation emissions by missing filler cap see 5.1.4.3 of Regulation ECE R83 - 07 .

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.5. **Typ V / *Type V*** Testergebnisse unverändert
(2.1) ...Anhang 9 / *Annex 9 …* *Test results unchanged*

Dauerhaltbarkeit von emissionsmindernden Einrichtungen
Durability of pollution control devices

Fahrzeugprüfung *whole vehicle test*		
Alterungsprüfstand *bench aging test*		
keine *none*		X
Verschlechterungsfaktor (DF) *Deterioration factor*	: vorgegeben *) *assigned*	X
	berechnet *calculated*	
Art des Verschlechterungsfaktors *Kind of deterioration factor*	: multiplikativ *multiplicative*	X
	additiv *additive*	

Schadstoff *pollutant*	Gültig für Variante *Valid for variant*	CO	THC	NMHC	NO_x	PM	PN
DF multiplikativ *DF multiplicative*	**4B40**	[mg/km]	[mg/km]	[mg/km]	[mg/km]	[mg/km]	[mg/km]
		1,5000	1,3000	1,3000	1,6000	1,0000	1,0000
DF additiv [mg/km] *DF additive*	**--**	-	-	-	-	-	-
		--	--	--	--	--	--

***)** Zahlenwerte der DF nach 5.3.6.2.
DF values according to 5.3.6.2.

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.6.a **Typ VI / *Type VI***
(2.1) ...Anhang 8 / *Annex 8* …

Testergebnisse unverändert
Test results unchanged

Abgasemissionen bei niedrigen Umgebungstemperaturen
Emissions at low ambient temperatures

Gültig für / *Valid for*: MITSUBISHI ECLIPSE CROSS

	Test-Nr. *Test No.*	CO [g/km]	THC [g/km]
Messwert *Measured value*	1	4,03	0,928
	--	--	--
	--	--	--
Mittelwert		4,0	0,93
Grenzwert		**15**	**1,8**

Geprüfter Fahrzeugtyp : MITSUBISHI ECLIPSE CROSS
Tested vehicle type

Äquivalente Schwungmasse (kg) : 1700
Equivalent inertia

Aufgenommene Leistung Pa_{eff} bei 80 km/h (kW) : 11,22
Absorbed power Pa_{eff} at 80 km/h

Ausrollzeit 85-75 km/h (s) : 9,35
Coast down duration

Einstellung: Alternativmethode mit Verr. der Ausrollzeit um 10%
Setting: Alternative method by decrease of the coast down time by 10%

Fahrgestellnummer : JMFXTGK1WJZ000004
VIN

Steuergeräte Nr. : E6T85974H
ECU part No.

Getriebetyp : handgeschaltet *manual gear* [ ]
Gearbox type automatisch *automatic* [X]

Bezeichnung : CVT
sign

Anzahl der Gänge : stufenlos *continuously variable*
number of gear ratios

Achsübersetzung i_A : 6,386
Final drive ratio

Reifengröße : 225/55 R18
Tyre dimension

Reifenluftdruck der Antriebsräder (Prüfstand, kPa) : 240
Tyre pressure of driven wheels (Dynamometer)

Gasentnahmesystem, CVS : PDP [ ] CFV [X]
Gas-sampling system, CVS

Kraftstoff gem. ANHANG 10 : E10
Fuel acc. to ANNEX 10

Schwefelgehalt (mg/kg) : < 3
Sulphur content

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.6.b **Typ VI / *Type VI*** Testergebnisse unverändert
(2.1) ...Anhang 8 / *Annex 8* … *Test results unchanged*

Abgasemissionen bei niedrigen Umgebungstemperaturen
Emissions at low ambient temperatures

Gültig für / *Valid for*: MITSUBISHI ECLIPSE CROSS

	Test-Nr. *Test No.*	CO [g/km]	THC [g/km]
Messwert *Measured value*	1	6,25	0,751
	--	--	--
	--	--	--
Mittelwert		6,3	0,75
Grenzwert		**15**	**1,8**

Geprüfter Fahrzeugtyp *Tested vehicle type*	:	MITSUBISHI ECLIPSE CROSS
Äquivalente Schwungmasse (kg) *Equivalent inertia*	:	1590
Aufgenommene Leistung Pa_{eff} bei 80 km/h (kW) *Absorbed power Pa_{eff} at 80 km/h*	:	10,56
Ausrollzeit 85-75 km/h (s) *Coast down duration*	:	9,30
Einstellung: Alternativmethode mit Verr. der Ausrollzeit um 10% *Setting: Alternative method by decrease of the coast down time by 10%*		
Fahrgestellnummer *VIN*	:	JMFXJGK1WJZ000002
Steuergeräte Nr. *ECU part No.*	:	E6T85973H
Getriebetyp *Gearbox type*	:	handgeschaltet *manual gear* [X] automatisch *automatic* [ ]
Bezeichnung *sign*	:	6MT
Anzahl der Gänge *number of gear ratios*	:	6
Achsübersetzung i_A *Final drive ratio*	:	4,058
Reifengröße *Tyre dimension*	:	225/55 R18
Reifenluftdruck der Antriebsräder (Prüfstand, kPa) *Tyre pressure of driven wheels (Dynamometer)*	:	240
Gasentnahmesystem, CVS *Gas-sampling system, CVS*	:	PDP [ ] CFV [X]
Kraftstoff gem. ANHANG 10 *Fuel acc. to ANNEX 10*	:	E10
Schwefelgehalt (mg/kg) *Sulphur content*	:	< 3

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.7.
(2.1.2.-2.1.6.) Angaben zum OBD-System / *Information about OBD system* : Neue Testergebnisse / *New test results*

...Anhang 2 und 11 / *Annex 2 and 11 …*

Alle Angaben beziehen sich auf die Regelung ECE R83 - 07
All statements refer to regulation ECE R83 - 07

OBD-Familie / *OBD family*	**MMC-EOBD-G22**
MMC-EOBD-G22-03	Ausgabe / *date of issue*: 01.05.2024

2.7.1. Die technische Überprüfung auf Einhaltung der OBD-Vorschriften ist im Wesentlichen auf Basis der entsprechenden Inhalte und Anforderungen von

- Abschnitt 3.1-3.4, 4.10.
- Abschnitt 7.4,
  - Anhang 1
    - -- Abschnitt 3.2.12.2.7,
  - Anhang 2,
    - -- Anlage 1,
    - -- Anlage 2
  - Anhang 11 (Abschnitt 2.1 bis 5.2.3) sowie
    - -- Anlage 1 (Abschnitt 2.1 bis 7.7),
    - -- Anlage 2 (Abschnitt 1 und 2)

vorgenommen worden.

Technical inspection of compliance with OBD specifications is essentially based on the matters and requirements of

- *Section 3.1-3.4, 4.10*
- *Section 7.4,*
  - *Annex 1*
    - *-- Section 3.2.12.2.7,*
  - *Annex 2,*
    - *-- Appendix 1,*
    - *-- Appendix 2*
  - *Annex 11 (Section 2.1 to 5.2.3.) as well as*
    - *-- Appendix 1 (Section 2.1 to 7.7),*
    - *-- Appendix 2 (Section 1 and 2)*

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.7.2. Beschreibung
Description

Siehe Beschreibungsbogen gemäß ANHANG 1, Abschnitt 3.2.12.2.7 und Dokument **MMC-EOBD-G22-03 vom 01.05.2024 .**

See information document corresponding to ANNEX 1, section 3.2.12.2.7 and document ***MMC-EOBD-G22-03 of 01.05.2024 .***

2.7.3. **Ergebnis der Prüfung**
Conclusion of test

Die Einhaltung der unter 2.7.1 aufgeführten OBD-Anforderungen wird hiermit bestätigt.

Die im Beschreibungsbogen und den Unterlagen des Herstellers enthaltenen Angaben entsprechen - inhaltlich - der Richtlinie ECE R83 - 07.

Details zu den durchgeführten Prüfungen sind aus der Tabelle ersichtlich.

Compliance with the OBD specifications listed at 2.7.1 is herewith confirmed.

Manufacturer's specifications contained in the information document and supporting documents are - as regards content - in compliance with regulation ECE R83 - 07.

Details to the conducted tests are provided by the table.

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

OBD – Funktionsprüfung / *OBD functional check* **)

Fehlerhafter Betriebszustand *Failure mode*	Geprüft gem. Pkt. *tested acc. to point* (ECE-R 83)		MI *) An / *on*	Fehler-Code *Fault code*
Abgaskatalysator *catalytic converter*	3.3.3.1	X	ja / yes	P0421
Kraftstoffsystem (Fett) *Fuel system (Rich)*	3.3.3.4	X	ja / yes	P0172
Kraftstoffsystem (Mager) *Fuel system (Lean)*	3.3.3.4	X	ja / yes	P0171
λ Sonde (vor Katalysator) O_2 *sensor (pre catalyst)*	3.3.3.3	X	ja / yes	P0133
λ Sonde (nach Katalysator) O_2 *sensor (after catalyst)*	3.3.3.3	X	ja / yes	P0140
Verbrennungsaussetzer *Engine Misfire*	3.3.3.2	X	ja / yes	P0300
Einspritzdüse (DI) elektr. getrennt *Fuel injector(DI) electr. disconnection*	3.3.3.5	X	ja / yes	P21DB
Drosselklappen Position elektr. getrennt *Throttle position sensor electr. disconnection*	3.3.3.5	X	ja / yes	P0123
Wassertemperatursensor elektr. getrennt *Water temperature sensor electr. disconnection*	3.3.3.5	X	ja / yes	P0118
O2 Sensor elektr. getrennt *O2 sensor electr. disconnection*	3.3.3.5	X	ja / yes	P0031
Hochdruckkraftstoffpumpe (DI) elektr. getrennt *High pressure fuel pump electr. disconnection*	3.3.3.5	X	ja / yes	P0629
Kraftstoffdampf-Spülventil *Fuel evaporage purge*	3.3.3.6	X	ja / yes	P0458

X Prüfung durchgeführt / *Test performed*
-- Prüfung nicht durchgeführt / *Test not performed*

)** **MI** = ***M*alfunction* ***I****ndicator* (Fehlfunktions-Anzeige)

****)** OBD Familienmessung, gilt auch für weitere Fahrzeugtypen mit identischer OBD Überwachungsstrategie, gemäß ANHANG XI, Anlage 2
OBD family measurement, valid also for additional vehicle types with identical OBD function strategy, see ANNEX XI, Appendix 2

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

	Fahrzeugtyp *Vehicle type*	: MITSUBISHI ECLIPSE CROSS	
	Testfahrzeug Nr. (FIN) *Test vehicle No. (VIN)*	: JMBXTGK1WJZ000004	
2.7.4. **(3.4)**	Bescheinigung des Herstellers gemäß ANHANG 2, Anlage 2 beigefügt *Manufacturer's certificate according to ANNEX 2, Appendix 2 provided*	: ja *yes*	X
		nein *no*	

Typ / *Type* : 83/GK0-00W
Hersteller / *Manufacturer* : MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

2.8. **Emissionswerte für die Verkehrs-**
(2.2) **sicherheitsprüfung**
Emission data required for roadworthiness testing

Testergebnisse unverändert
Test results unchanged

...Regelung Abschnitt 5.3.7
...Regulation section 5.3.7 …

CVT

Prüfung bei *Test at*	CO-Wert CO value [Vol.%]*)	Lambda λ [--]	Motordrehzahl Engine speed [min^{-1}]	Motoröltemp. Engine oil temp. [K]
Leerlauf (niedrig) Low idle test	0,02	--	750	369
Leerlauf (hoch) High idle test	0,01	0,999	2510	360

6MT

Prüfung bei *Test at*	CO-Wert CO value [Vol.%]***)**	Lambda λ [--]	Motordrehzahl Engine speed [min^{-1}]	Motoröltemp. Engine oil temp. [K]
Leerlauf (niedrig) Low idle test	0,01	--	750	360
Leerlauf (hoch) High idle test	0,01	1,000	2520	359

Prüfung bei *Test at*	CO-Wert CO value [Vol.%]*)	Lambda λ [--]	Motordrehzahl Engine speed [min^{-1}]	Motoröltemp. Engine oil temp. [K]
Leerlauf (niedrig) Low idle test	--	--	--	--
Leerlauf (hoch) High idle test	--	--	--	--

) nach Katalysator** / ***downstream catalyst

(2.3.) Katalysator : ja X
Catalytic converter *yes*
nein
no

(2.3.1.) Nach dieser Verordnung geprüfter : ja X
Katalysator für die Erstausrüstung *yes*
Original equipment catalytic converter tested nein
to all relevant requirements of this regulation *no*

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

4. Allgemeine Angaben
Other information

4.1.	Ort der Prüfung *Place of testing*	: Okazaki / Japan
4.2.	Datum der Prüfung *Date of testing*	: 25.07.2017 – 27.07.2017

4.3. Bemerkungen :
Remarks

Die Messergebnisse sind auch gültig fürs Steuergeräte E6T87073H (6MT), E6T85993H (CVT) und E6T87074H (CVT).

Die Messergebnisse sind auch gültig fürs Sauerstoffsonde 149100-680#.

The test results are also valid for ECU E6T87073H (6MT), E6T85993H (CVT) and E6T87074H (CVT).
The test results are also valid for oxygen sensor 149100-680#.

The type is equipped with automatic headlamp system compliant to UN regulation R48 (Uniform provisions concerning the approval of vehicles with regard to the installation of lighting and light-signalling devices) which will activate the headlamp in case the brightness in the testing room is below 3000 lux. The test results mentioned in this test report are taking into account the activation of the DRL only as required by UN Regulation R83, Annex 4a, 3.2.7. as technical requirement pursuant to Commission Regulation (EC) 692/2008.

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

5. Anlagen
Enclosures

5.1. Ergänzende Daten zum Beschreibungsbogen zur Ausfertigung des Genehmigungsbogens gemäß ANHANG 2, Abschnitt II und Beiblatt
Information document's additional data to issue approval certificate according ANNEX 2, Section II and addendum

5.1.1. **(1.13.3)**	Gesamtübersetzung (einschl. Abrollumfang der Reifen unter Last) Geschwindigkeit auf der Strasse bei 1000 min-1 Motordrehzahl (km/h)	:	siehe Teilbeschreibungsbogen, Anlage 14
	Total gear ratios (incl. tyre rolling circumferences under load) Road vehicle speed at 1000 rpm engine speed (km/h)	:	*see partial description, Appendix 14*

Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

6. Schlussbescheinigung
Statement of conformity

Der Beschreibungsbogen (siehe Nr. 0.6) und die darin beschriebenen Typen entsprechen den genannten Prüfgrundlagen. (Genehmigung B)

Die Prüfmuster / Testfahrzeuge sind repräsentativ in Bezug auf den zu genehmigenden Typ.

Prüflaboratorium akkreditiert von der DAkkS Deutsche Akkreditierungsstelle GmbH: D-PL-11109-01-00 nach DIN EN ISO/IEC 17025:2018 und vom Kraftfahrt - Bundesamt als Technischer Dienst benannt: KBA – P 00004-96.

Eine auszugsweise Vervielfältigung und Veröffentlichung des Prüfberichts ist ohne schriftliche Genehmigung des Prüflaboratoriums nicht zulässig.

The information document (see No. 0.6) and the type described therein are - In compliance - with the test specification mentioned above. (Approval B)

The samples / test vehicles used, were representative in terms of the type to be approved.

Test laboratory accredited by DAkkS Deutsche Akkreditierungsstelle GmbH. D-PL-11109-01-00 according DIN EN ISO/IEC 17025:2018 and designated by Kraftfahrt - Bundesamt as Technical Service: KBA – P 00004-96.

Duplication and publication in extracts of the test report is not allowed without a written permission of the testing laboratory.

Dieser Prüfbericht umfasst die Seiten 1 bis 20 .
The Test Report comprises pages 1 to 20 .

TÜV NORD Mobilität GmbH & Co. KG
IFM - Institut für Fahrzeugtechnik und Mobilität
Schönscheidtstr. 28, 45307 Essen

Akkreditiert nach / *accredited to* : DIN EN ISO/IEC 17025:2018 D-PL-11109-01-00
Benannt als Technischer Dienst / *Designated as Technical Service*
vom Kraftfahrt Bundesamt / *by Kraftfahrt-Bundesamt* : KBA – P 00004-96

Geschäftsstelle Essen, 31.07.2024

IFM TÜV NORD Mobilität

M. Sc. L. Ackerschott

Als Anlage zur Genehmigungsurkunde ist dieser Prüfbericht auch ohne Unterschrift gültig.
As an annex to the approval certificate, this test report is also valid without signature.

Gutachtennummer	12.09.591.06
Auftragsnummer	812 2872 624
E-Mail	jalbert@tuev-nord.de
Telefon	+49 (0)201 825 4151
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Typ / *Type*	:	83/GK0-00W
Hersteller / *Manufacturer*	:	MITSUBISHI MOTORS Corp. , Tokyo 108-8410, Japan

List of modifications

1. Redaktionelle Änderungen
   Editorial modifications

2. OBD Beschreibung aktualisiert
   OBD description updated

3. Bemerkung aktualisiert
   Remarks updated

Description of modification

(Approval number(s) previously granted : E1*83R07/14W*6287*05)

Added : - Added 2WD model for Ukraine(Item 0.2., 3.2.4.3.4.1., 3.2.5.2.2., Annex 16 Page 1)
- Rear O_2 sensor ID(Item 3.2.12.2.2.5.)
- Drawings of representative vehicles(Annex 1 Page 2)

Cancelled : - N/A

Changed :
- Supplement number to be applied (Upgraded)
- Mass in running order(Item 2.6.)
- Manufacturer's engine code (As marked on the engine, or other means of identification) (Item 3.1.1.)
- Changed the supplier name
  - Make and type of the control unit (ECU) (Item 3.2.4.3.4.1.)
  - Make and type of air-flow sensor (Item 3.2.4.3.4.3.)
  - Make and type of water temperature sensor (Item 3.2.4.3.4.9.)
  - Make and type of air temperature sensor (Item 3.2.4.3.4.10.)
  - Make and type of air pressure sensor (Item 3.2.4.3.4.11.)

  Injectors:
  - Make(s) (Item 3.2.4.3.5.1.)

  Electrical system
  - Type (Item 3.2.5.2.1.)

  Oxygen sensor:
  - Make (Item 3.2.12.2.2.1.)

  Page 4:
  - Make and type of throttle valve controller
  - Make and type of crank angle sensor
  - Make and type of cam position sensor
- Circulating pump(s):
  - Make(s) (tem 3.2.7.2.3.1.)
  - Type(s) (Item 3.2.7.2.3.2.)
  - Drive ratio(s) (Item 3.2.7.2.4.)

Corrected : - Evaporative emission control system(Annex 12 Page 2)
- Charcoal canister(Annex 12 Page 3)

Following pages are modified as extension 06:	
Page	1F - 14F

0. GENERAL

0.1.	Make (Trade name of manufacturer)	:	MITSUBISHI
0.2.	Type	:	83/GK0-00W (GK1WXT?UZL6Z, GK1WXT?UL6Z, GK1WXT?U?, GK1WXJ?U?, GK1WXT?UR8, GK1WXT?UZR8, GK1WXT?UZ?) See annexed model code composition
0.2.1.	Commercial name(s) (if available)	:	MITSUBISHI ECLIPSE CROSS
0.3.	Means of identification of type, if marked on the vehicle	:	See 0.2 (...)
0.3.1.	Location of that marking (identification of type)	:	Engine-transmission plate on the inner side of bonnet
0.4.	Category of vehicle	:	M1
0.5.	Company name and address of manufacturer	:	MITSUBISHI MOTORS CORPORATION Tokyo 108-8410, Japan
---	Position of approval mark on the vehicle	:	On the right B-pillar next to the manufacturer's plate
0.8.	Name(s) and address(es) of assembly plant(s)	:	Okazaki plant 1, Nakashinkiri, Hashime-cho, Okazaki, Aichi Pref. 444-8501, Japan
0.9.	Name and address of the manufacturer's representative (if any)	:	Mitsubishi Motor R & D Europe GmbH, Diamantstr. 2, D-65468 Trebur, Germany

1. GENERAL CONSTRUCTION CHARACTERISTICS

1.1.	Photographs and/or drawings of a representative vehicles	:	See Annex 1
1.3.3.	Powered axles (Number, Position, Interconnection)	:	2WD : 1, Front axle 4WD : 2, Front and Rear axles, Propeller shaft

means variable (none, A, B, … or 0, 1, …)
and is applied to all pages.

2. MASSES AND DIMENSIONS (in kg and mm)

2.6.	Mass in running order (a) minimum and maximum for each variant	: 2WD/6MT 2WD/CVT 4WD/CVT	: 1500 - 1543 : 1530 - 1636 ~~1607~~ : 1600 - 1696 ~~1695~~
2.8.	Technically permissible maximum laden mass stated by the manufacturer	: 2WD/6MT 2WD/CVT 4WD/CVT	: 2050 : 2100 : 2100

3. POWER PLANT

3.1.	Manufacturer of the engine	:	MITSUBISHI MOTORS CORPORATION
3.1.1.	Manufacturer's engine code (As marked on the engine, or other means of identification)	:	4B40 + Serial No.* * 6-digits, combination of letters and numbers ~~+ Serial No. (2-letter + 4-digit)~~
3.2.	Internal combustion engine		
3.2.1.	Specific engine information		
3.2.1.1.	Working principle Cycle	:	Positive ignition Four stroke
3.2.1.2.	Number and arrangements of cylinders	:	4, in line
3.2.1.2.1.	Bore (mm)	:	75.0
3.2.1.2.2.	Stroke (mm)	:	84.8
3.2.1.2.3.	Firing order	:	1-3-4-2
3.2.1.3.	Engine capacity(s) (cm^3)	:	1499
3.2.1.4.	Volumetric compression ratio (specify the tolerance)	:	(10.0 ± 0.3) : 1

3.2.1.5.	Drawings of combustion chamber, piston crown and, in the case of positive ignition engine, piston rings	:	See Annex 2
3.2.1.6.	Normal engine idling speed (min^{-1}) (specify the tolerance)	:	750 ± 100 (Automatically controlled)
3.2.1.6.1.	High engine idling speed (min^{-1}) (specify the tolerance)	:	2500 ± 100
3.2.1.7.	Carbon monoxide content by volume in the exhaust gas with the engine idling as stated by the manufacturer (positive ignition engine only)	:	0.3% (Normal idling speed), 0.2% (High idling speed)measured at tail pipe
3.2.1.8.	Maximum net power (kW at min^{-1}) (manufacturer's declared value)	:	110 at 5500
3.2.1.9.	Maximum permitted engine speed as prescribed by the manufacturer (min^{-1})	:	6000
3.2.1.10.	Maximum net torque (Nm at min^{-1}) (manufacturer's declared value)	:	250 at 2000 - 3500
3.2.2.	Fuel	:	Petrol
3.2.2.1.	RON, leaded	:	N/A
3.2.2.2.	RON, unleaded	:	Min. 90
3.2.2.3.	Fuel tank inlet	:	Restricted orifice
3.2.2.4.	Vehicle fuel type	:	Mono fuel
3.2.2.5.	Maximum amount of biofuel acceptable in fuel (manufacturer's declared value) % by volume	:	10% (E10)
3.2.4.	Fuel feed		
3.2.4.3.	By fuel injection (positive ignition only)	:	yes
3.2.4.3.1.	Working principle	:	Intake manifold(multi-point) /direct injection
3.2.4.3.2.	Make(s)	:	MITSUBISHI MOTORS
3.2.4.3.3.	Type(s)	:	None

3.2.4.3.4.	System description, in the case of systems other than continuous injection give equivalent details	:	See Annex 3
3.2.4.3.4.1.	Make and type of the control unit (ECU)	:	MITSUBISHI ELECTRIC MOBILITY / 6MT : E6T87073H (for GK1WXJ?U?) CVT : E6T85993H (for GK1WXT??ZL6Z, GK1WXT??L6Z) E6T87074H (Except for GK1WXT??ZL6Z, GK1WXT??L6Z)
---	Make and type of valve lift controller	:	N/A
3.2.4.3.4.3.	Make and type of air-flow sensor	:	MITSUBISHI ELECTRIC MOBILITY / E5T62172
3.2.4.3.4.6.	Make and type of micro switch	:	Integrated with ECU
3.2.4.3.4.8.	Make and type of throttle housing	:	MIKUNI / 45003
---	Make and type of throttle position sensor	:	MIKUNI / None (Integrated with throttle body)
---	Make and type of throttle valve controller	:	MITSUBISHI ELECTRIC MOBILITY / None (Integrated with engine ECU)
---	Make and type of accel position sensor	:	CTS / 1600A102 (Case of LHD) 1600A104 (Case of LHD with aluminum pad) 1600A186 (Case of RHD) 1600A187 (Case of RHD with aluminum pad) 1600A188 (Case of RHD) 1600A189 (Case of RHD with aluminum pad)
3.2.4.3.4.9.	Make and type of water temperature sensor	:	Vitesco Technologies Japan ~~CONTINENTAL~~ / A012
3.2.4.3.4.10.	Make and type of air temperature sensor	:	MITSUBISHI ELECTRIC MOBILITY / None (Integrated with air-flow sensor and air pressure sensor)
---	Make and type of air temperature switch	:	N/A
---	Make and type of boost sensor	:	N/A
3.2.4.3.4.11.	Make and type of air pressure sensor	:	MITSUBISHI ELECTRIC MOBILITY / 1865A348 or 1865A538
---	Make and type of crank angle sensor	:	MITSUBISHI ELECTRIC MOBILITY / J5T38871 or J5T38872
---	Make and type of cam position sensor	:	MITSUBISHI ELECTRIC MOBILITY / 31471 or 31472

3.2.4.3.5.	Injectors : opening pressure (kPa) or characteristic diagram	:	[PORT INJECTION] Opening pressure 450 ± 10 (characteristics of press. regulator) [DIRECT INJECTION] Opening pressure MAX.20000 (controlled by engine ECU)
3.2.4.3.5.1.	Make(s)	:	[PORT INJECTION] MITSUBISHI ELECTRIC MOBILITY [DIRECT INJECTION] DENSO
3.2.4.3.5.2.	Type(s)	:	[PORT INJECTION] KMN150A [DIRECT INJECTION] 022#
---	Injector driver	:	Integrated with Engine ECU
3.2.4.3.6.	Injection timing	:	ECU controlled
3.2.4.3.7.	Cold start system	:	Function integrated in electric control system
3.2.4.3.7.1.	Operating principle(s)	:	By fuel increasing
3.2.4.3.7.2.	Operating limits/ settings	:	ECU controlled Control range by engine coolant temperature at starting engine:-32℃～34℃
3.2.4.4.	Feed pump		
3.2.4.4.1.	Pressure (kPa) or characteristic diagram	:	≦1000 at 12V
3.2.5.	Electrical system		
3.2.5.1.	Rated voltage	:	12V, negative ground
3.2.5.2.	Generator		
3.2.5.2.1.	Type	:	Alternating current type (MITSUBISHI ELECTRIC MOBILITY)
3.2.5.2.2.	Nominal output (VA)	:	12V /150A (for GK1WXT??ZL6Z, GK1WXT??L6Z) 12V /110A (Except for GK1WXT??ZL6Z, GK1WXT??L6Z)

3.2.6.	Ignition system (spark ignition engines only)		
3.2.6.1.	Make(s)	:	MITSUBISHI MOTORS
3.2.6.2.	Type(s)	:	None
3.2.6.3.	Working principle	:	Breakerless transistorized coil ignition
3.2.6.4.	Ignition advance curve or map	:	ECU controlled
3.2.6.5.	Static ignition timing (degrees before TDC)	:	Basic timing 5° BTDC ± 3° at idle (Not adjustable) [About 11° BTDC at idle with electronic control]
3.2.7.	Cooling system	:	Liquid
3.2.7.1.	Nominal setting of the engine temperature control mechanism	:	Thermostat setting : 355 K
3.2.7.2.	Liquid		
3.2.7.2.1.	Nature of liquid	:	Coolant + Anti-freeze
3.2.7.2.2.	Circulating pump(s)	:	yes
3.2.7.2.3.	Characteristics, or		
3.2.7.2.3.1.	Make(s)	:	GMB Korea corp. ~~AISIN SEIKI~~
3.2.7.2.3.2.	Type(s)	:	21010W020P (no ID mark on the parts) ~~1300A095 (no ID mark on the parts)~~
3.2.7.2.4.	Drive ratio(s)	:	1.46 ~~1.385 (pump/crank)~~
3.2.7.2.5.	Description of the fan and its drive mechanism — Fan	:	Outer diameter 320mm, 9-blade + 320mm, 11-blade
	Fan drive system	:	Electric
	Drive ratio	:	---
	Fan cowl	:	with
3.2.7.3.	Air	:	N/A
3.2.8.	Intake system		
3.2.8.1.	Pressure charger	:	yes
3.2.8.1.1.	Make(s)	:	IHI Corporation
3.2.8.1.2.	Type(s)	:	VT20
3.2.8.1.3.	Description of the system (e.g. maximum charge pressure (kPa), waste gate if applicable)	:	130 ± 10

3.2.8.2.	Intercooler	:	yes
3.2.8.2.1.	Type	:	air-air
---	Make	:	DENSO
3.2.8.4.	Description and drawings of the inlet pipes and their accessories (plenum chamber, heating device, additional air intakes, etc.)	:	Air flow from air cleaner to engine See Annex 4
3.2.8.4.1.	Intake manifold description (include drawings and/or photos)	:	See Annex 5
3.2.8.4.2.	Air filter, drawings, or		
3.2.8.4.2.1.	Make(s)	:	See Annex 4
3.2.8.4.2.2.	Type(s)	:	See Annex 4
3.2.8.4.3.	Intake silencer, drawings, or		
3.2.8.4.3.1.	Make(s)	:	See Annex 4
3.2.8.4.3.2.	Type(s)	:	See Annex 4
3.2.9.	Exhaust system		
3.2.9.1.	Description and/or drawing of the exhaust manifold	:	See Annex 6
3.2.9.2.	Description and/or drawings of the exhaust system	:	See Annex 7
3.2.10.	Minimum cross-sectional areas of inlet and outlet ports	:	Inlet port : 4.5 cm^2 × 2 Outlet port : 3.8 cm^2 × 2

3.2.11.	Valve timing or equivalent data			
3.2.11.1.	Maximum lift of valves, angles of opening and closing, or timing details of alternative distribution systems, in relation to dead centres		Intake	Exhaust
	For variable timing system, minimum and maximum timing	Lift(mm) :	8.4	7.8
		Opening :	-27°10′ ~ 32°50′ BTDC	14°43′ ~ -5°17′ BBDC
		Closing :	42°46′ ~ -17°14′ ABDC	-12°38′ ~ 7°22′ ATDC
			Angle of opening and closing in relation of dead centre at the actual valve lift of 1 mm	
3.2.11.2.	Reference and/or setting ranges	:	Valve clearance (Engine Cold) Intake (mm) : 0.22 ± 0.04 Exhaust (mm) : 0.30 ± 0.04	
3.2.12.	Measures taken against air pollution			
3.2.12.1.	Device for recycling crankcase gases	:	See Annex 9 Type of PCV Valve : C	
3.2.12.2.	Additional anti-pollution devices (if any, and if not covered by another heading)			
3.2.12.2.1.	Catalytic converter	:	yes	
3.2.12.2.1.1.	Number of catalytic converters and elements (provide the information below for each separate unit)	:	2 converters [FCC:1,UCC : 1] 1 element for each converter	
3.2.12.2.1.2.	Dimensions, shape and volume of the catalytic converter(s)	:	See Annex 8	
3.2.12.2.1.3.	Type of catalytic action	:	3-way	
3.2.12.2.1.4.	Total charge of precious metals	:	See Annex 8	
3.2.12.2.1.5.	Relative concentration	:	See Annex 8	
3.2.12.2.1.6.	Substrate (structure and material)	:	See Annex 8	
3.2.12.2.1.7.	Cell density	:	See Annex 8	
3.2.12.2.1.8.	Type of casing for the catalytic converter(s)	:	See Annex 8	
3.2.12.2.1.9.	Location of the catalytic converter(s) (place and reference distance in the exhaust line)	:	See Annexes 7 and 8	

3.2.12.2.1.10.	Heat shield	:	[FCC] yes [UCC] 2WD : no 4WD : yes
3.2.12.2.1.11.	Regeneration systems/ method of exhaust after-treatment systems, description	:	N/A
3.2.12.2.1.12.	Make of catalytic converter	:	See Annex 8
3.2.12.2.1.13.	Identifying part number	:	See Annex 8
3.2.12.2.2.	Oxygen sensor	:	yes
3.2.12.2.2.1.	Make	:	Front : Niterra ~~NGK~~ Rear : DENSO
3.2.12.2.2.2.	Location	:	See Annex 7
3.2.12.2.2.3.	Control range	:	See Annex 10
3.2.12.2.2.4.	Type	:	Front :Wide band Rear :Narrow band
3.2.12.2.2.5.	Identifying part number	:	Front : UAA0004-MM010 Rear : 149100-666# 680#
3.2.12.2.3.	Air injection	:	no
3.2.12.2.4.	Exhaust gas recirculation (EGR)	:	no
3.2.12.2.5.	Evaporative emissions control systems	:	yes
3.2.12.2.5.1.	Detailed description of the devices and their state of tune	:	See Annex 12
3.2.12.2.5.2.	Drawing of the evaporative control system	:	See Annex 12
3.2.12.2.5.3.	Drawing of the carbon canister	:	See Annex 12
3.2.12.2.5.4.	Mass of dry charcoal (g)	:	303
3.2.12.2.5.5.	Schematic drawing of the fuel tank with indication of capacity and material	:	See Annex 12
3.2.12.2.5.6.	Drawing of the heat shield between tank and exhaust system	:	See Annex 12

3.2.12.2.6.	Particulate trap (PT)	:	no
3.2.12.2.7.	On-board-diagnostic (OBD) system	:	yes See Annex 18
3.2.12.2.8.	Other systems (description and operation)	:	Knock control system See Annex 13 Type of knock sensor : 1865A014
3.2.14.	Details of any devices designed to influence fuel economy (if not covered by other items)	:	N/A
3.2.15.	LPG fuelling system	:	no
3.2.16.	NG fuelling system	:	no
3.2.18.	Hydrogen fuelling system	:	no
3.2.19.	H2NG fuelling system	:	no
3.4.	Engines or motor combinations	:	N/A

3.6.	Temperatures permitted by the manufacturer		
3.6.1.	Cooling system		
3.6.1.1.	Liquid cooling Maximum temperature at outlet (K)		: 386
3.6.1.2.	Air cooling		: N/A
3.6.2.	Maximum outlet temperature of the inlet intercooler (K)		: 333
3.6.3.	Maximum exhaust temperature at the point in the exhaust pipe(s) adjacent to the outer flange(s) of the exhaust manifold or turbocharger (K)		: 1173
3.6.4.	Fuel temperature (K)	Minimum Maximum	: 293 : 313
3.6.5.	Lubricant temperature (K)	Minimum Maximum	: 333 : 418
3.8.	Lubrication system		
3.8.1.	Description of the system		
3.8.1.1.	Position of the lubricant reservoir		: Oil pan, under the engine
3.8.1.2.	Feed system		: By pump
3.8.2.	Lubricating pump		
3.8.2.1.	Make(s)		: AISIN-SEIKI
3.8.2.2.	Type(s)		: Timing chain case (with oil pump) 1060A240

3.8.3.	Mixture with fuel		
3.8.3.1.	Percentage	:	N/A
3.8.4.	Oil cooler	:	yes
3.8.4.1.	Drawing(s) or	:	N/A
3.8.4.1.1.	Make(s)	:	TOKYO ROKI
3.8.4.1.2.	Type(s)	:	Water-cooled type 1240A110

4. TRANSMISSION

4.4.	Clutch (type)	:	MT : Single dry plate CVT : 3-element, 1-stage, 2-phase hydraulic
4.4.1.	Maximum torque conversion	:	MT : N/A CVT : 2.14
4.5.	Gear box		
4.5.1.	Type (Manual/ Automatic/ CVT)	:	6-speed manual or CVT
4.6.	Gear ratios	:	See Annex 14
---	Manufactures recommended shift point	:	See Annex 15

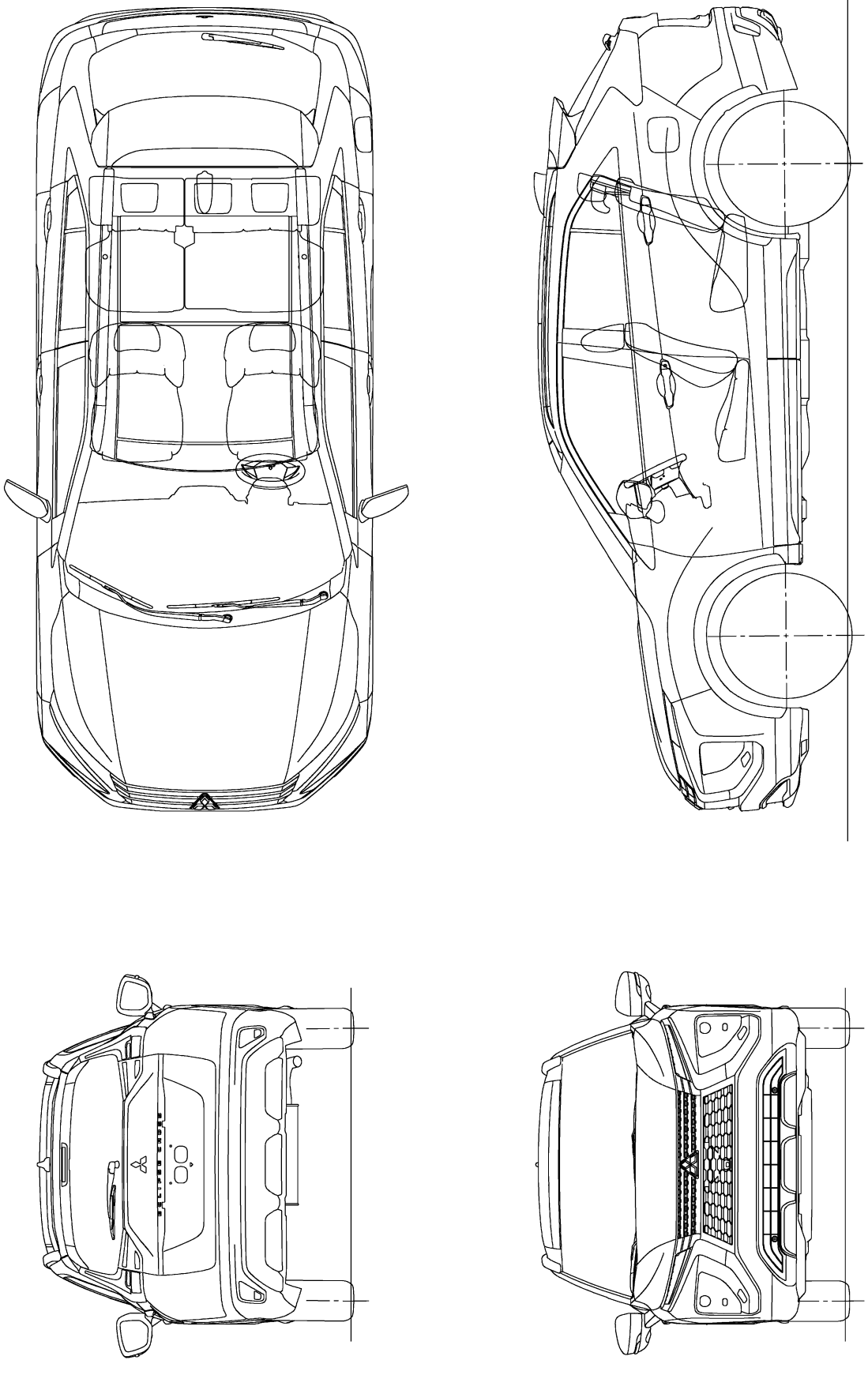
6. SUSPENSION

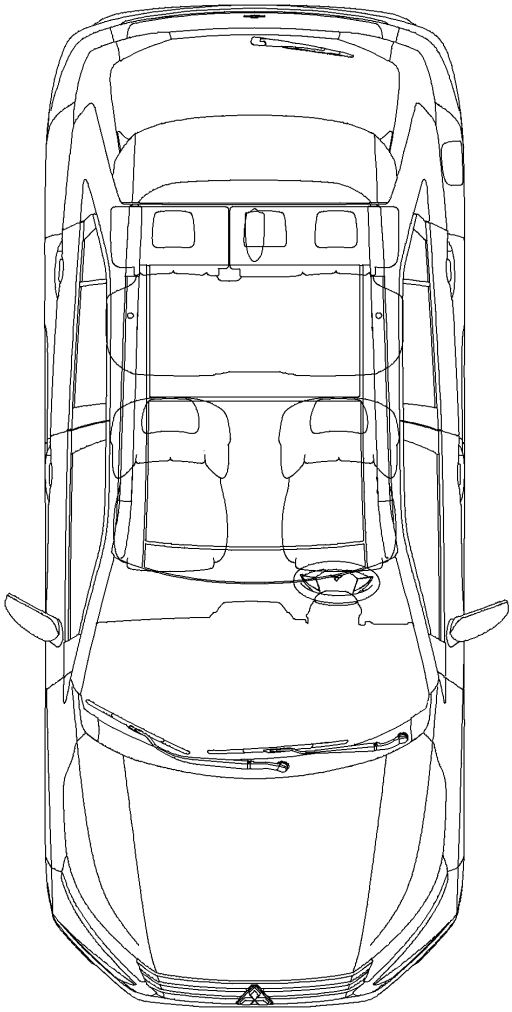
6.6.	Tyres and wheels	
6.6.1.	Tyre/ wheel combination(s)	
	(a) for Tyres indicate - Size designation - Load-capacity index - Speed category symbol - Rolling resistance coefficient (measured in accordance with ISO 28580) - Rolling resistance in accordance with ISO 28580 (where applicable) - Tyre brand and commercial name	: See Annex 16
	(b) for Wheels indicate - Rim size(s) and off-set(s)	: See Annex 16
6.6.1.1.	Axles	
6.6.1.1.1.	Axle 1	: See Annex 16
6.6.1.1.1.1.	Tyre size designation	: See Annex 16
6.6.1.1.2.	Axle 2	: See Annex 16
6.6.1.1.2.1.	Tyre size designation	: See Annex 16
6.6.2.	Upper and lower limits of rolling radii	
6.6.2.1.	Axle 1	: See Annex 16
6.6.2.2.	Axle 2	: See Annex 16
6.6.3.	Tyre pressure(s) as recommended by the vehicle manufacturer (kPa)	: See Annex 16

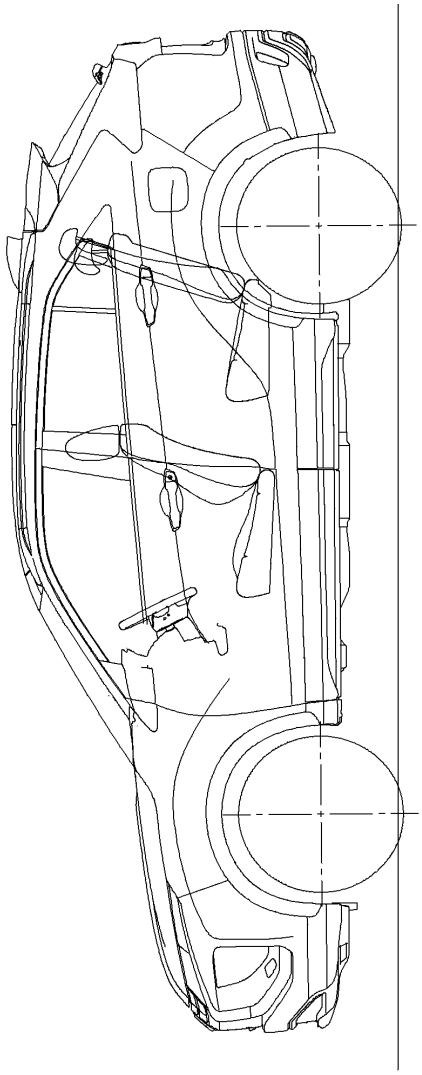
9. BODYWORK

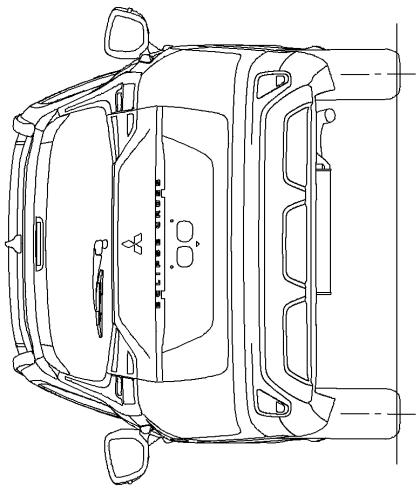
9.1.	Type of bodywork (use codes defined in Annex II, section C of Directive 2007/46/EC)	: AC (Station wagon) AF (Multi-Purpose vehicle)
9.10.3.	Seats	
9.10.3.1.	Number of seating positions	: 5

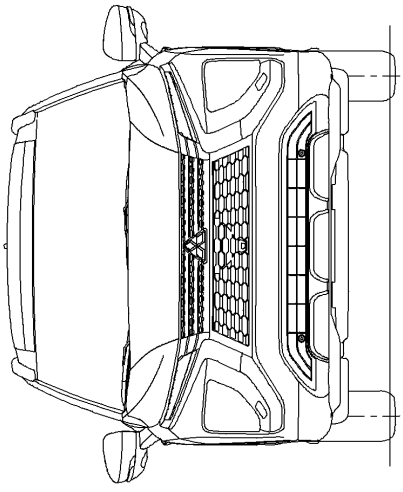
LIST OF ANNEXES — Page (s) per Annex (Part)

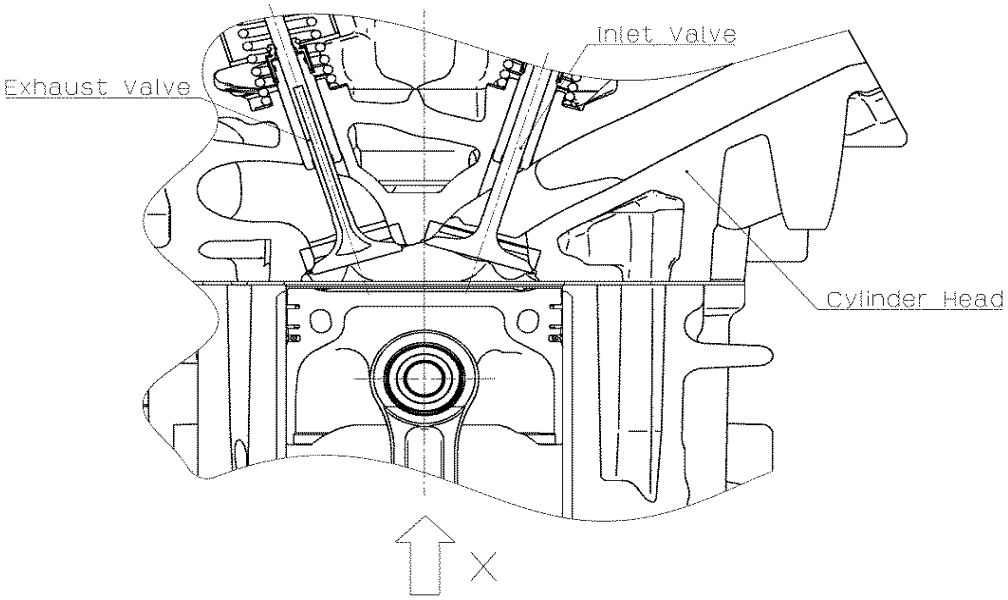












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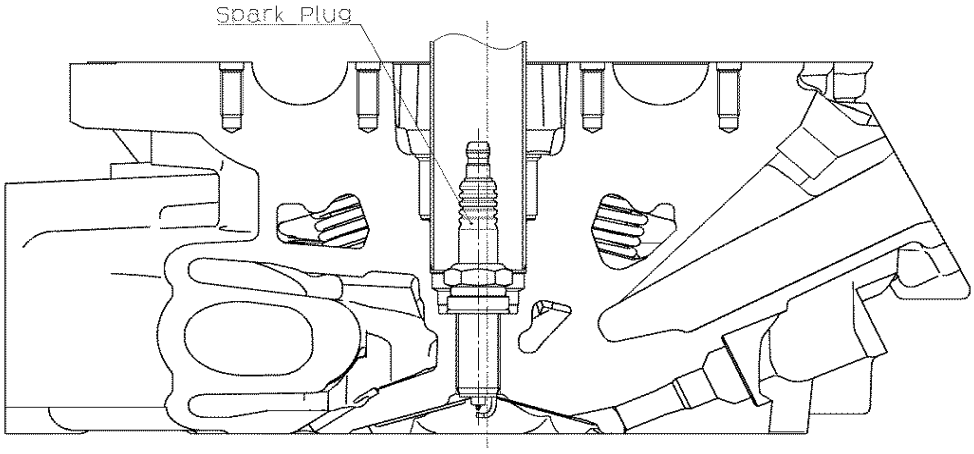

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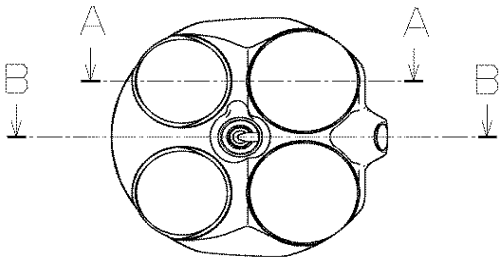

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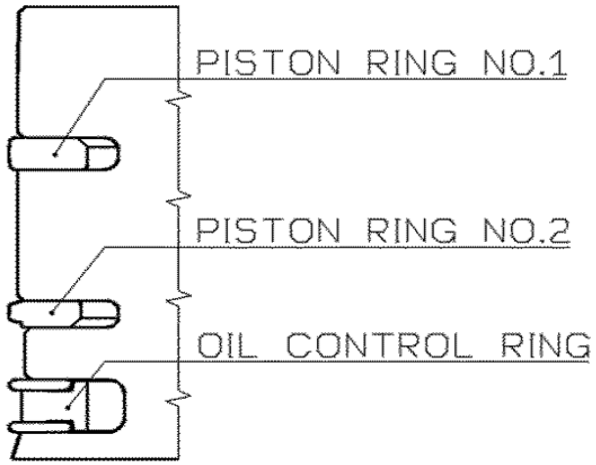
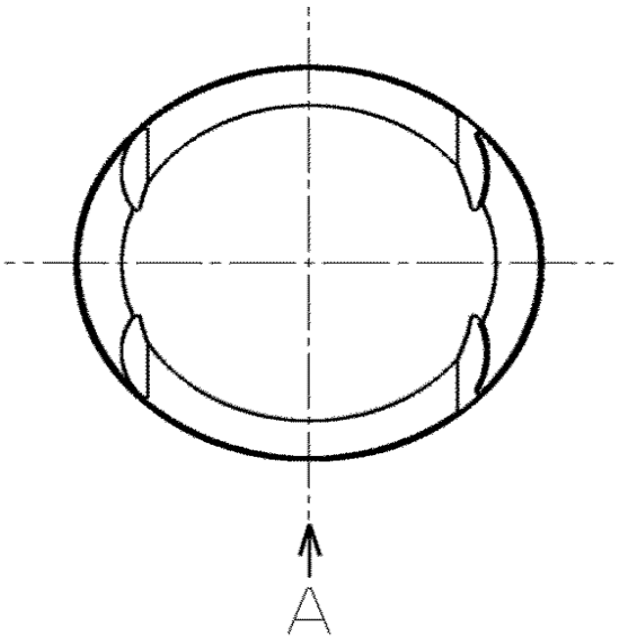
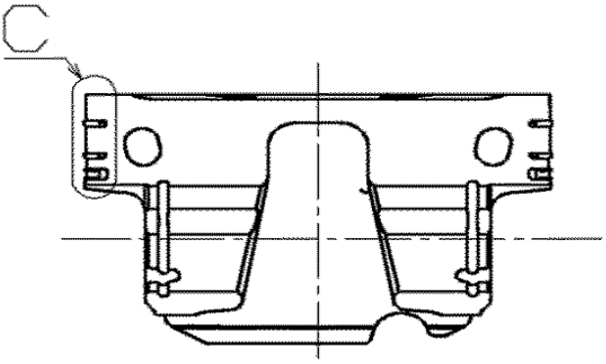
VIEW X

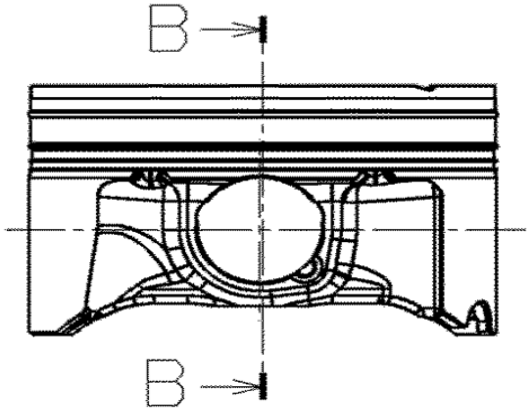


DETAIL C





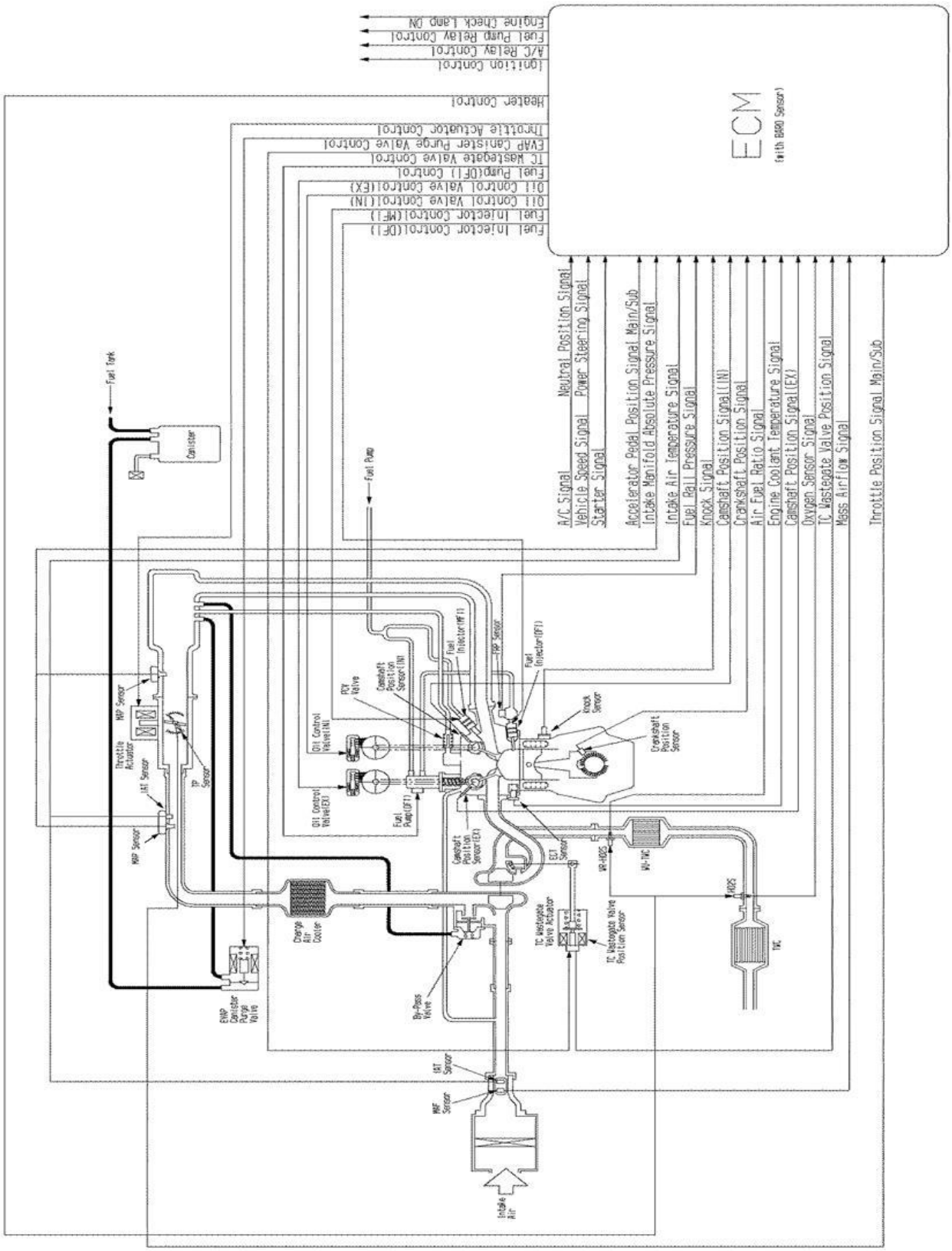
SECT B-B

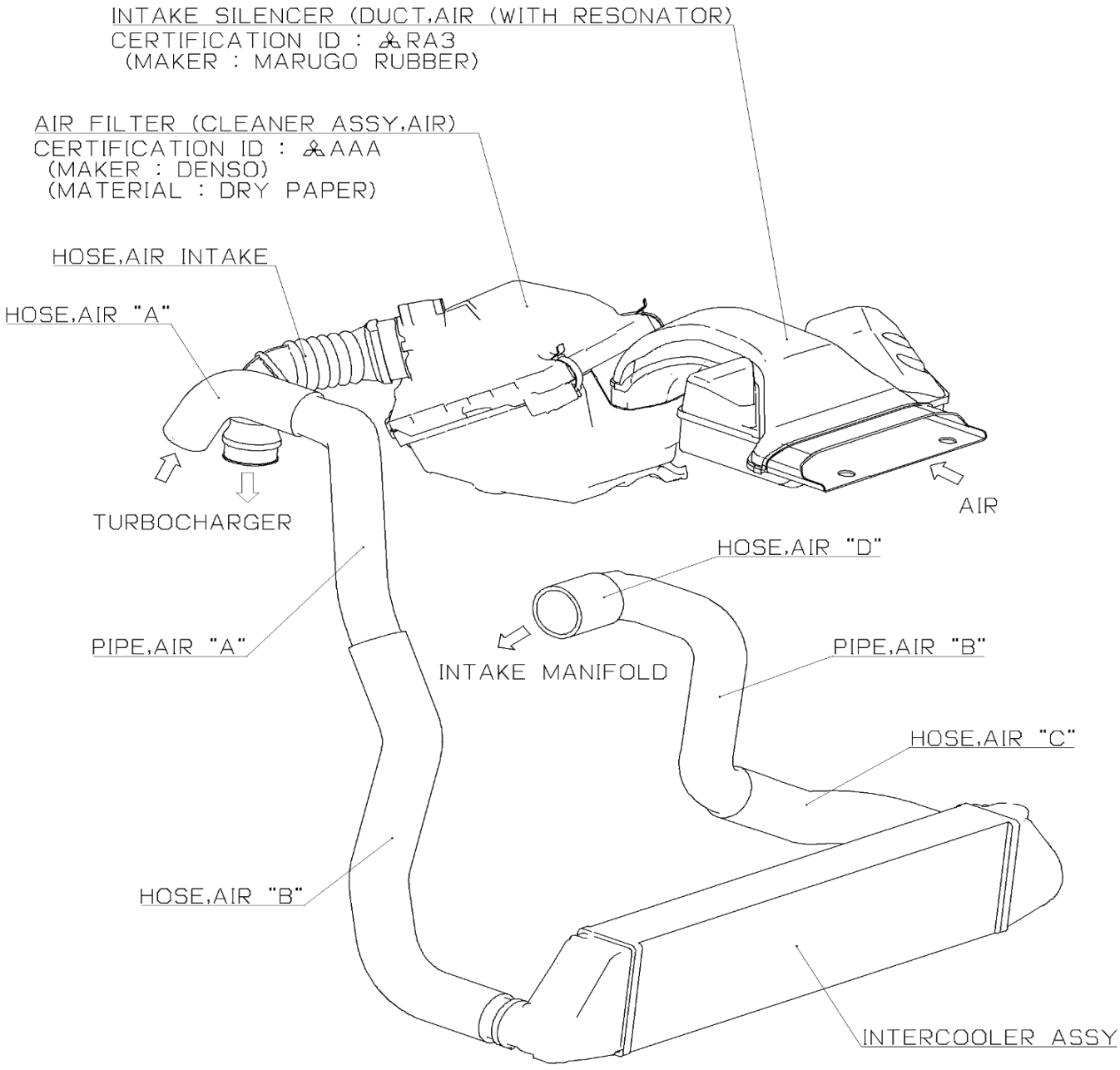


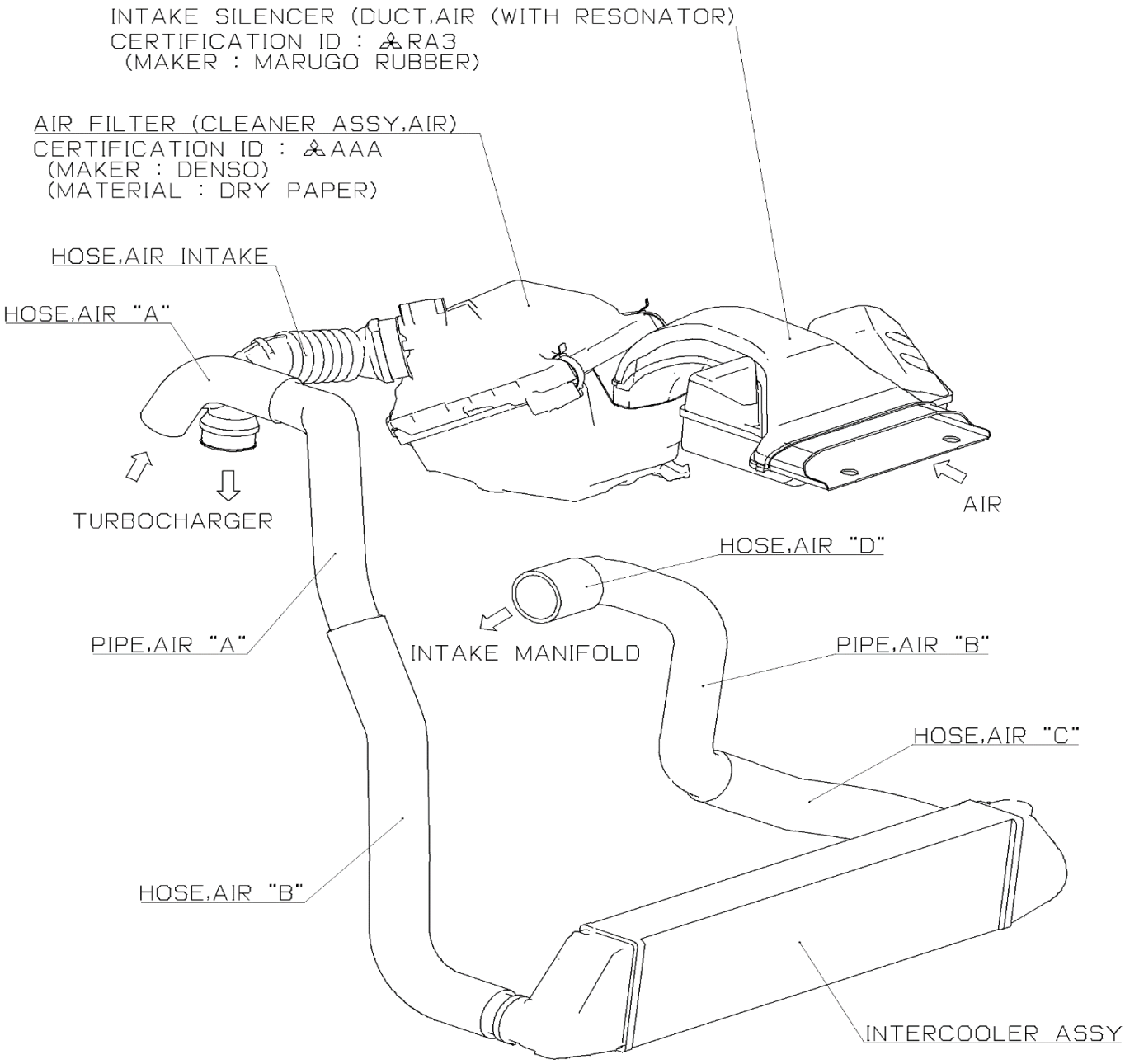
VIEW A

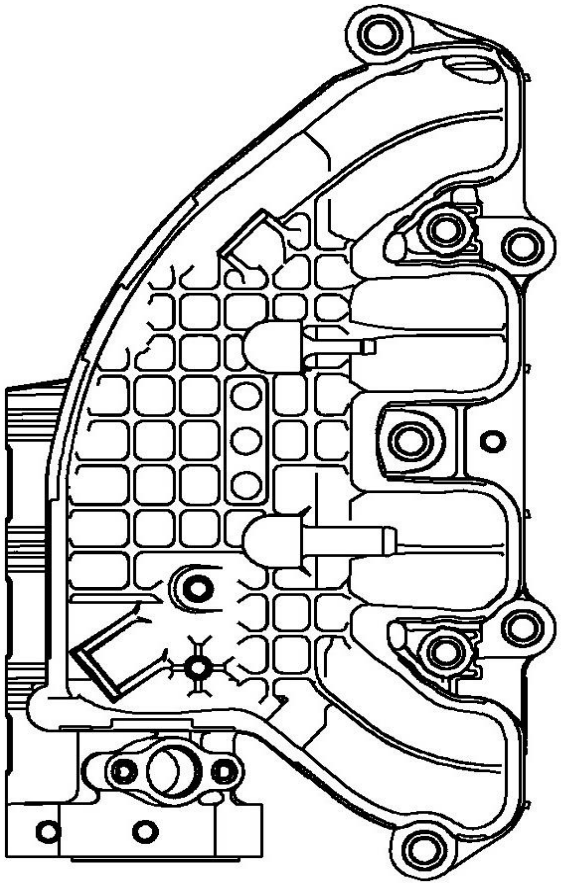
This system is an electronic injector fuel metering system that has a fuel injector near each cylinder inlet port and combustion chamber.
The amount of fuel to be metered by the injectors is determined by an electronic signal supplied by the electronic control unit.
The electronic control unit monitors signals from sensing units (shown on the next page), and calculates the fuel amount (pulse width) required to yield the desired A/F (air/fuel) ratio for each particular operating condition.
Closed loop control is used to adjust the fuel flow to yield a near stoichiometric A/F ratio, for proper operation of the 3-way catalyst.
For engine protection at high engine load, the A/F ratio must not be stoichiometric.
Furthermore the fuel flow is modified to take account of special operating conditions such as cold/hot starts, acceleration and deceleration.

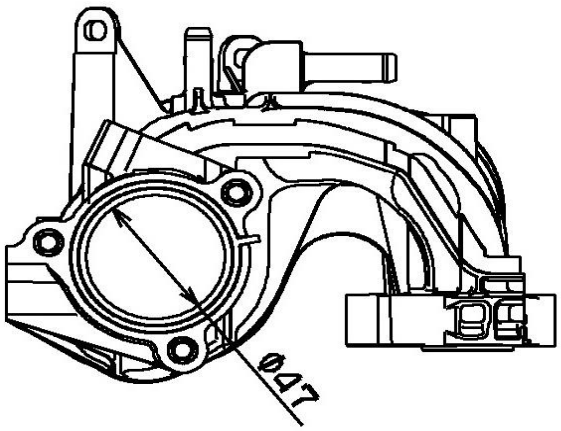
[Electronically-controlled throttle-valve system]
The electronically-controlled throttle-valve system consists of a throttle-valve and a controller for controlling valve.
The valve is activated not only for engine-output control but for the following functions :
>Idle-speed control,
>Increase of idle-speed,
>Fast idling,
>Dash pot.

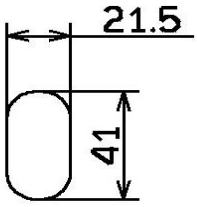


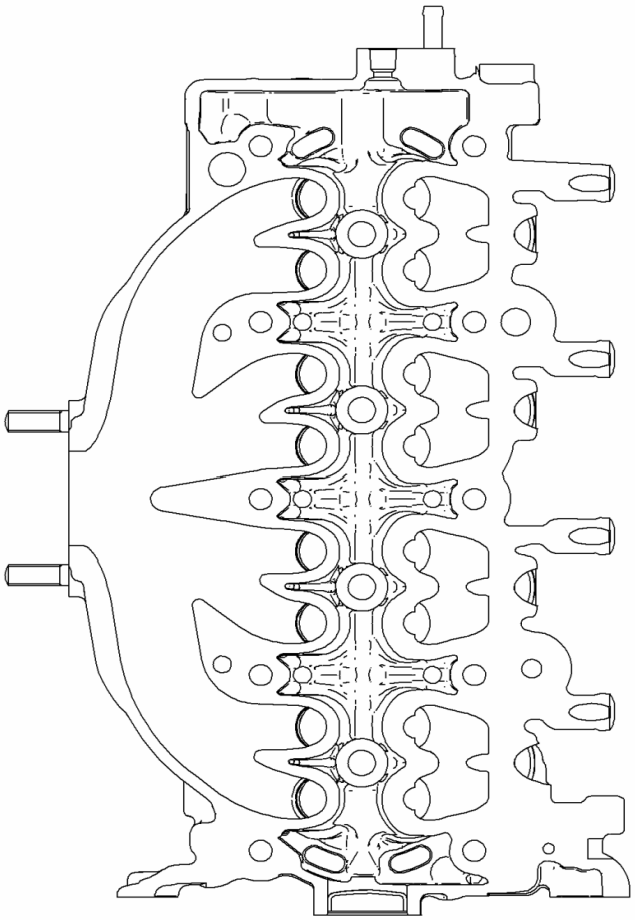












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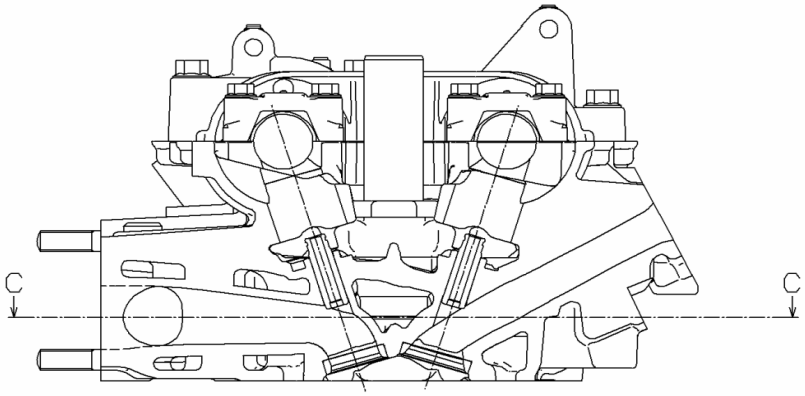
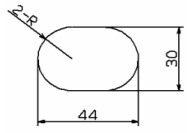
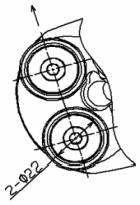
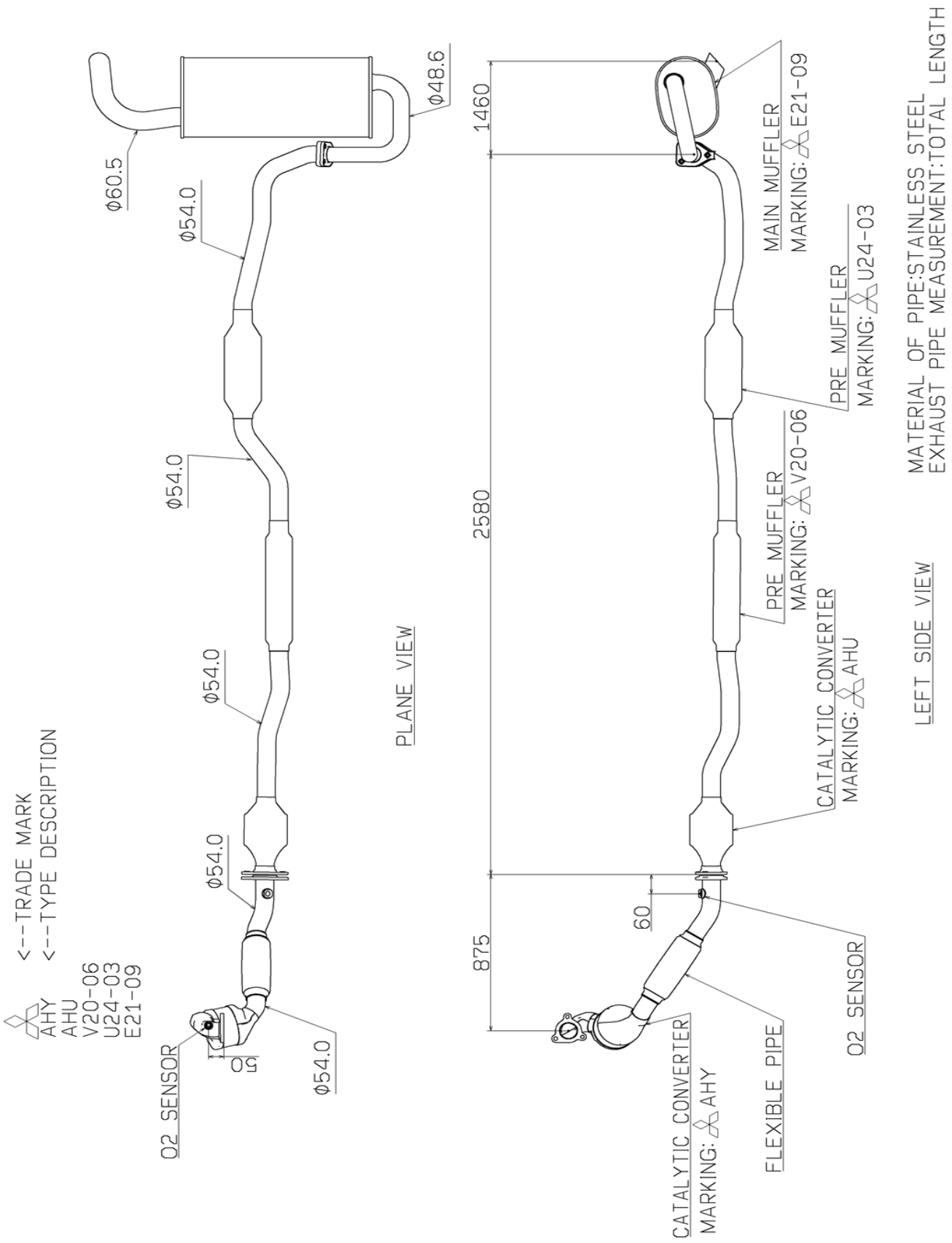
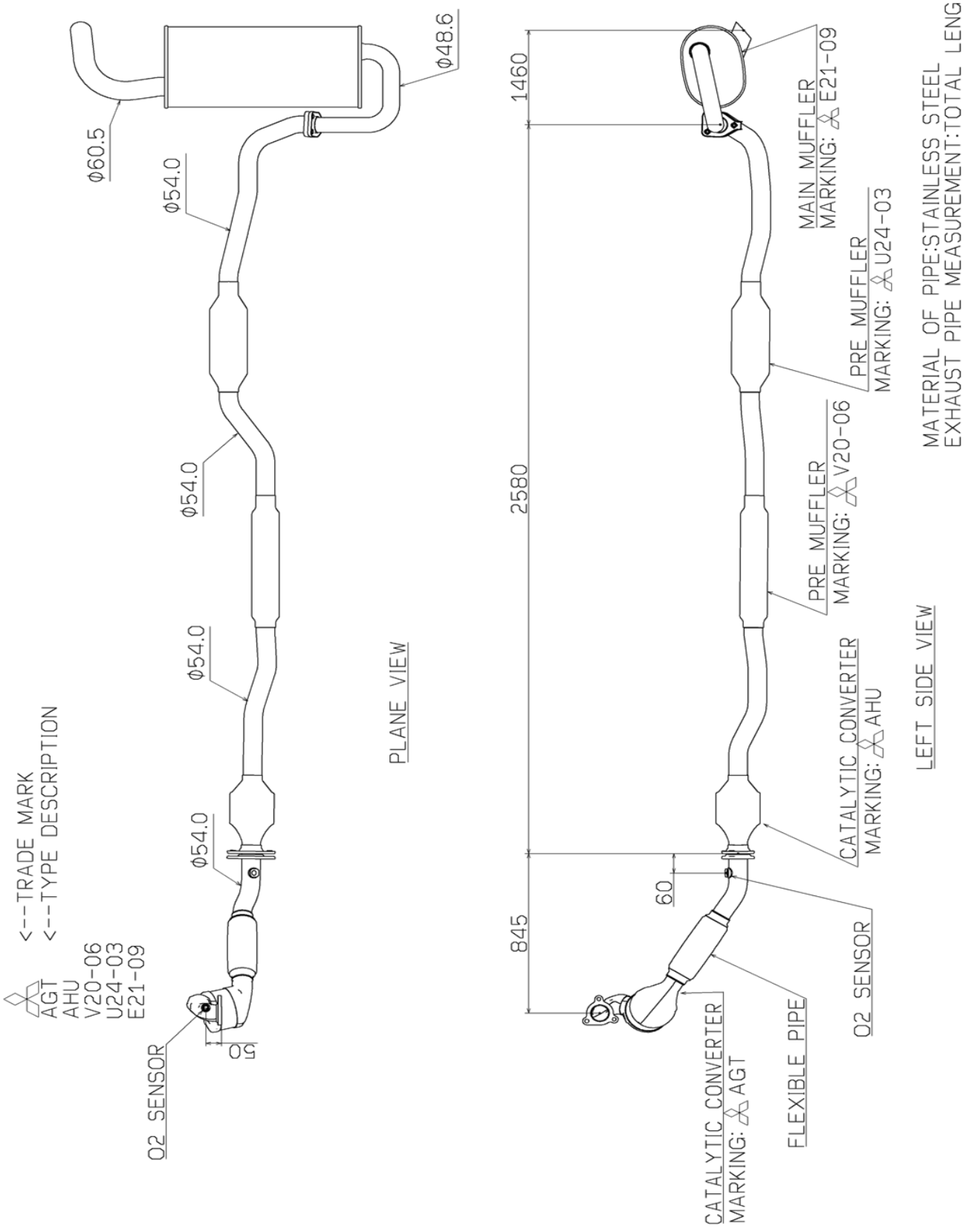
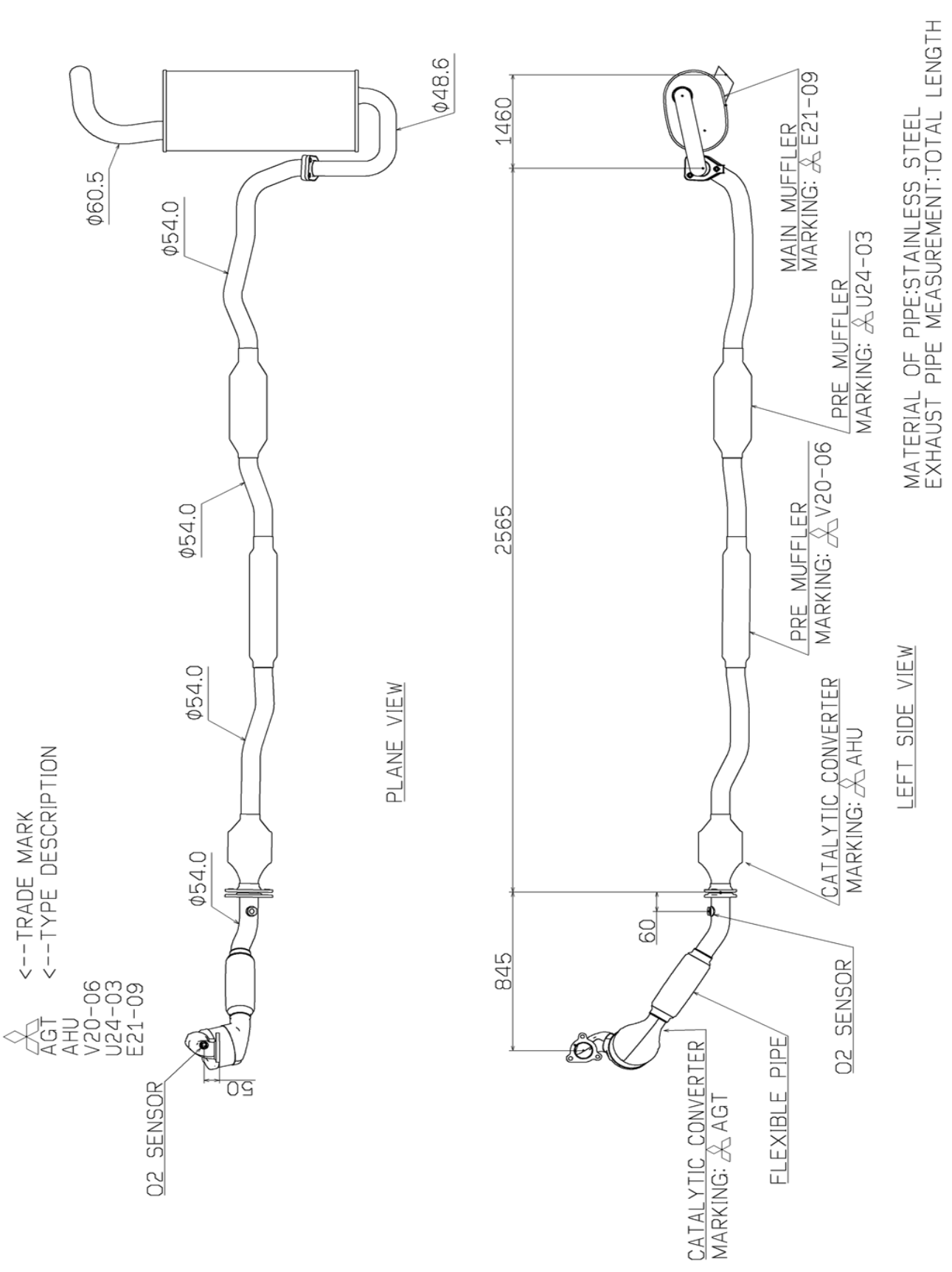


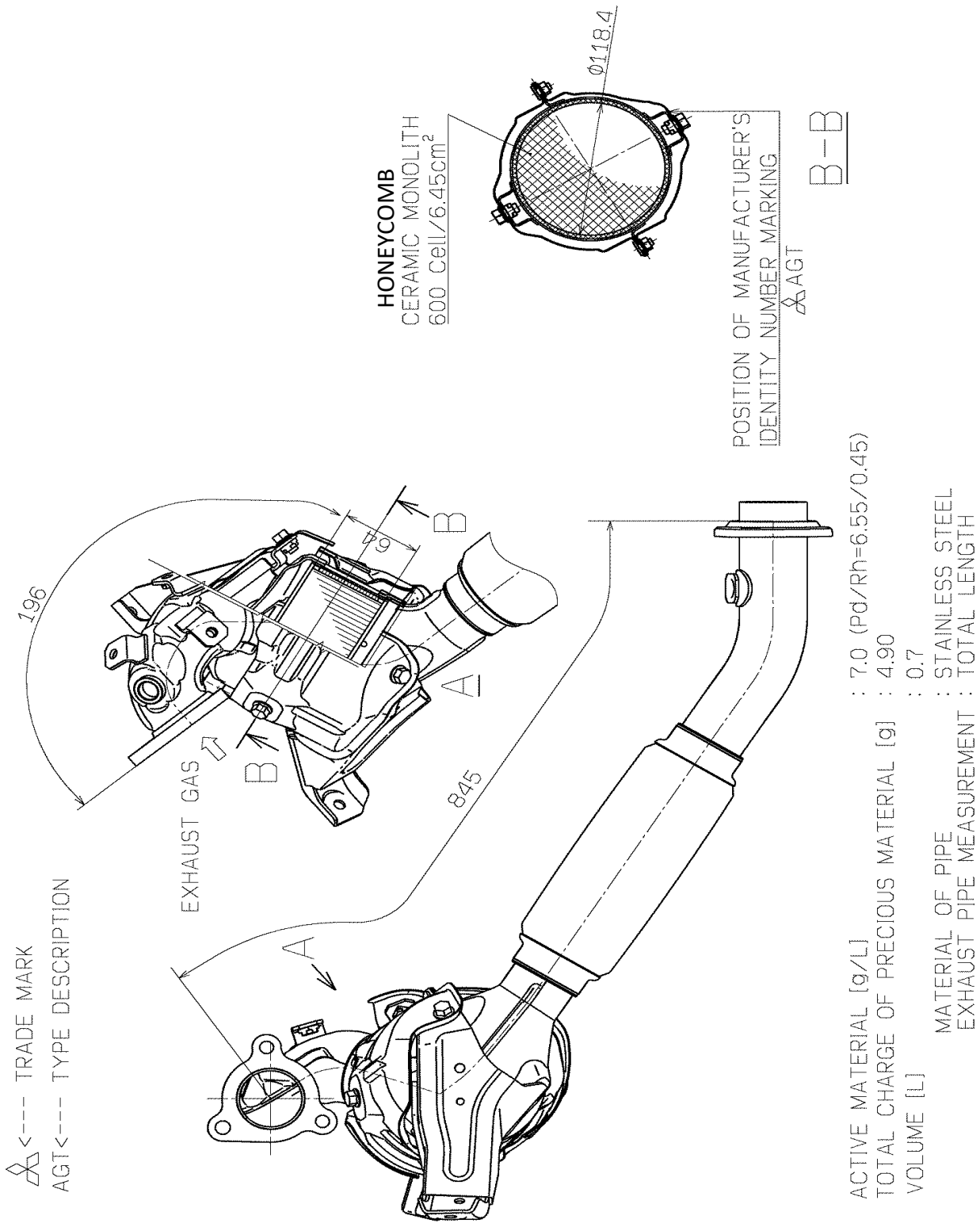


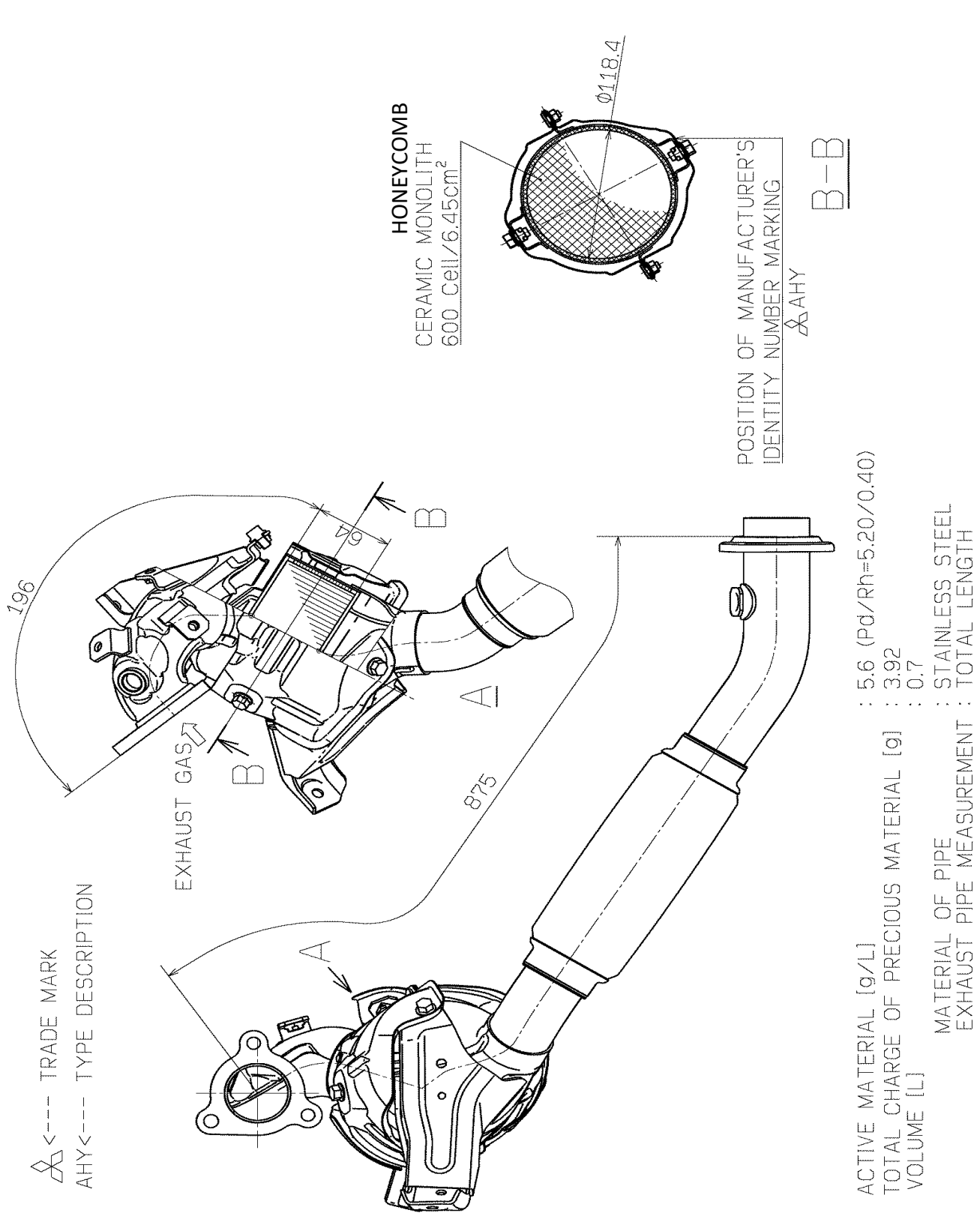


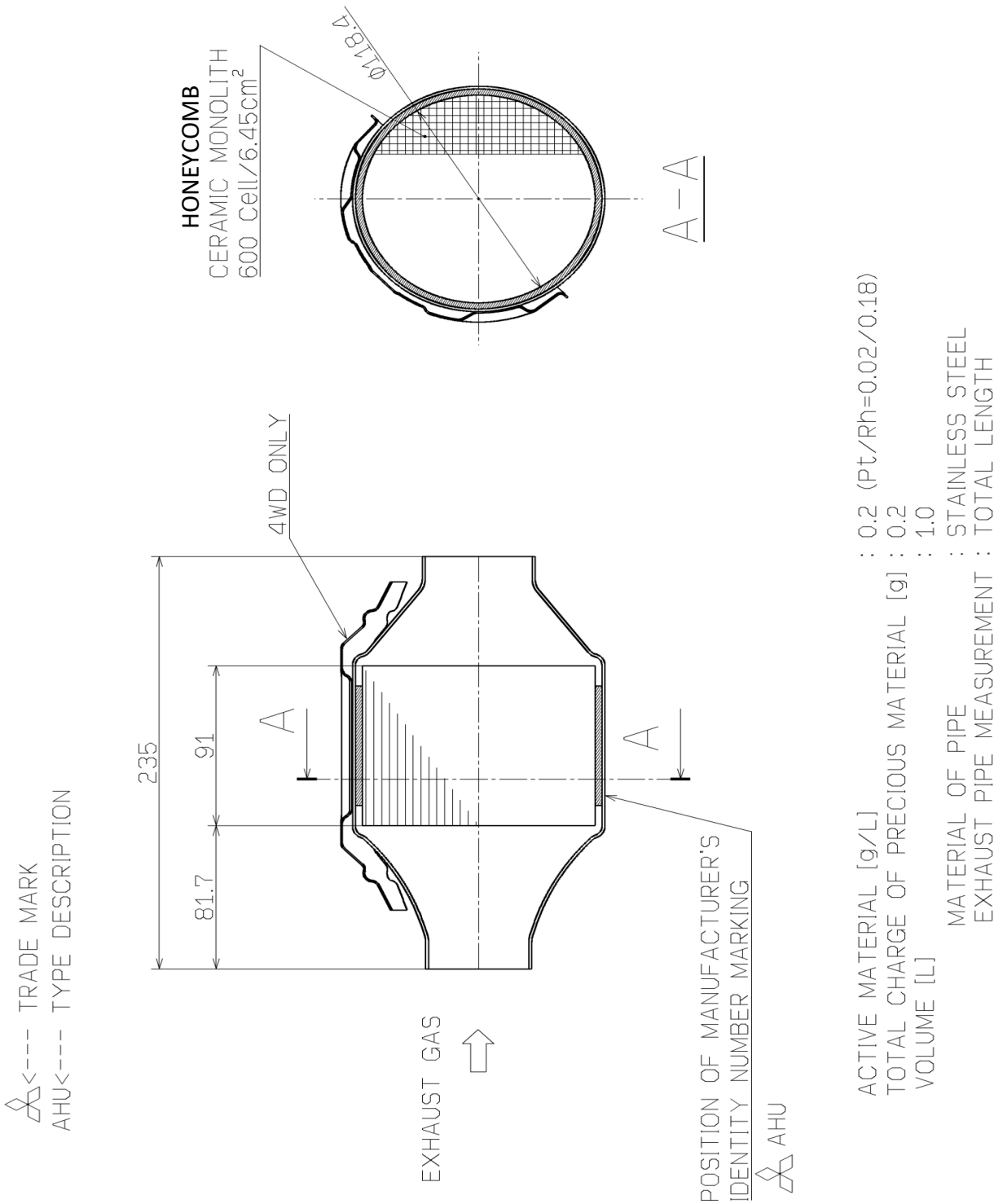


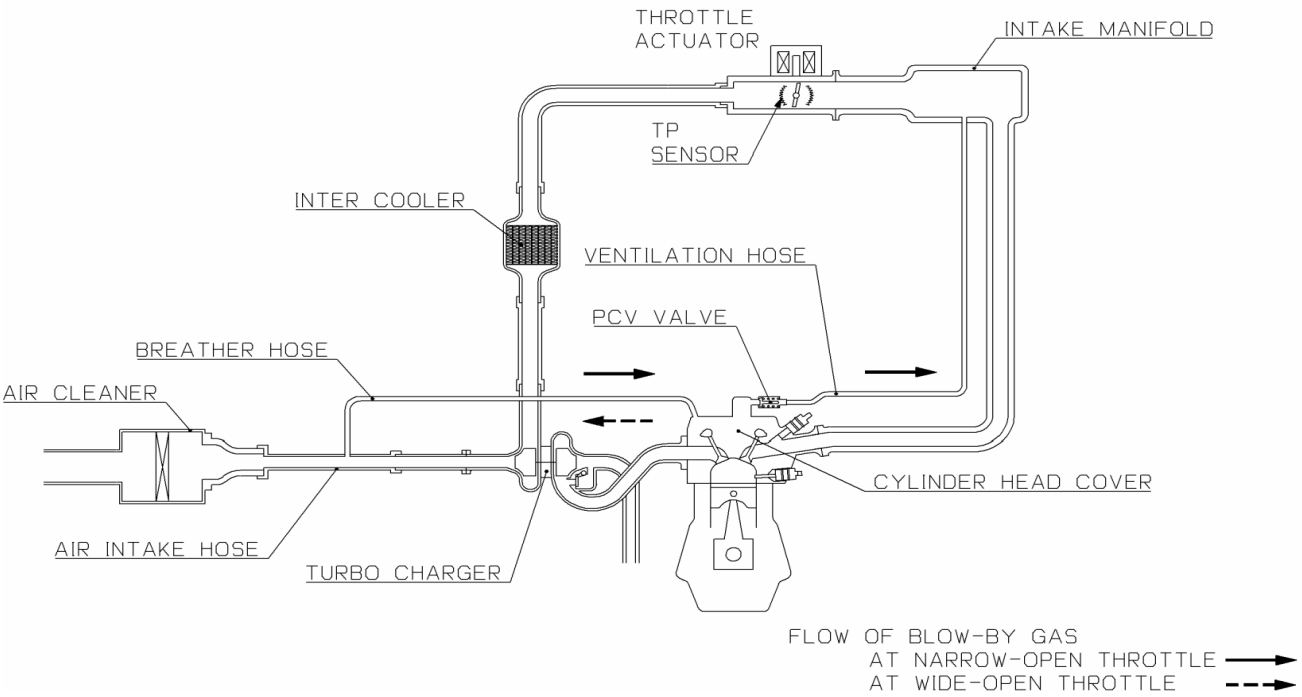






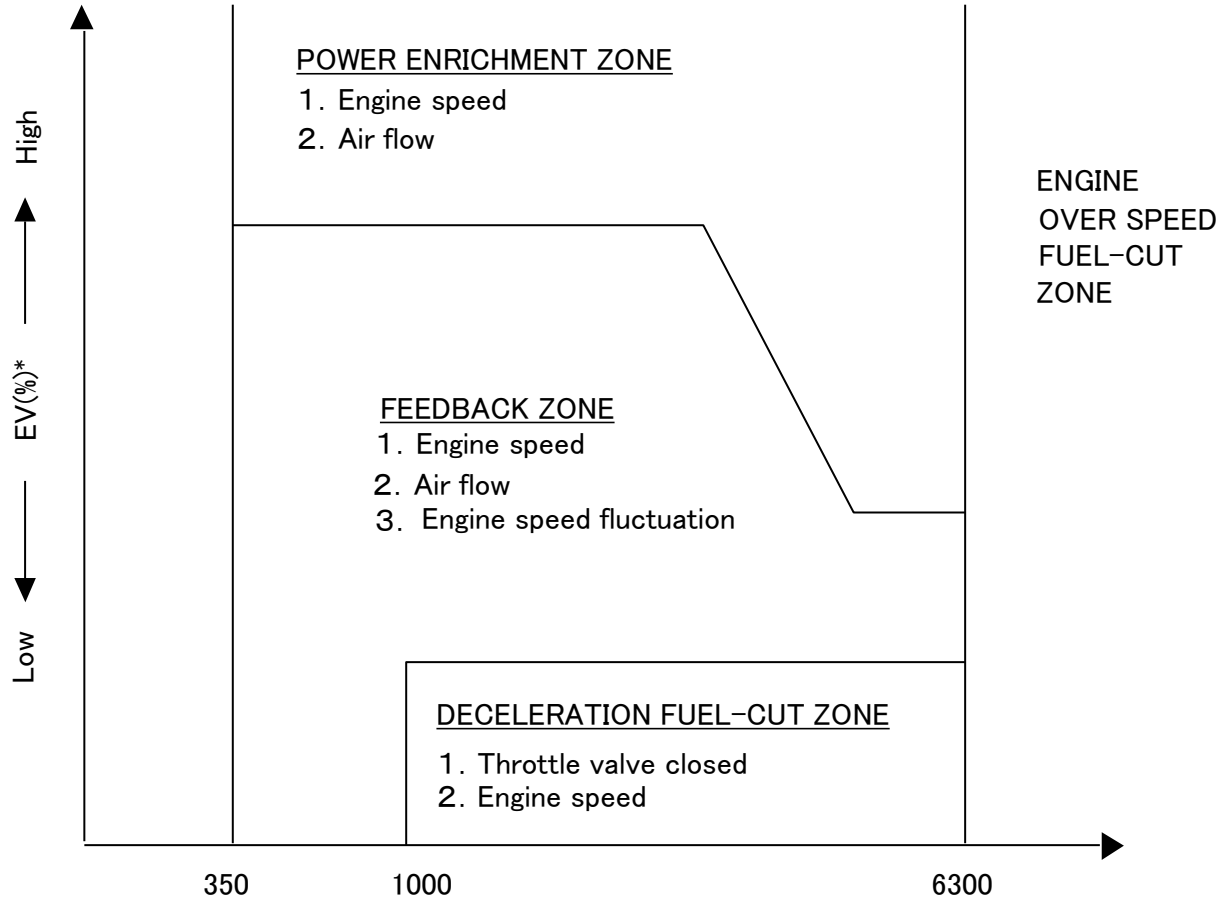






A closed-type crankcase ventilation system is adopted to prevent the blow-by gas escapes from the engine to the atmosphere.
This system has a positive crankcase vent valve (PCV valve) at the cylinder head cover. The PCV valve has a metering orifice through which the blow-by gas is drawn into the intake manifold in response to the intake manifold vacuum.

The blow-by gas is led through two passages ; one by a rubber ventilation hose from the cylinder head cover into the intake manifold through the PCV valve, and the other by a rubber breather hose from the same cover into the air intake hose.
At narrow-open throttle, the blow-by gas flows from the cylinder head cover into the intake manifold through the ventilation hose together with fresh air from air intake hose through the breather hose.
At wide-open throttle, the blow-by gas flows from the cylinder head cover to the air intake hose.

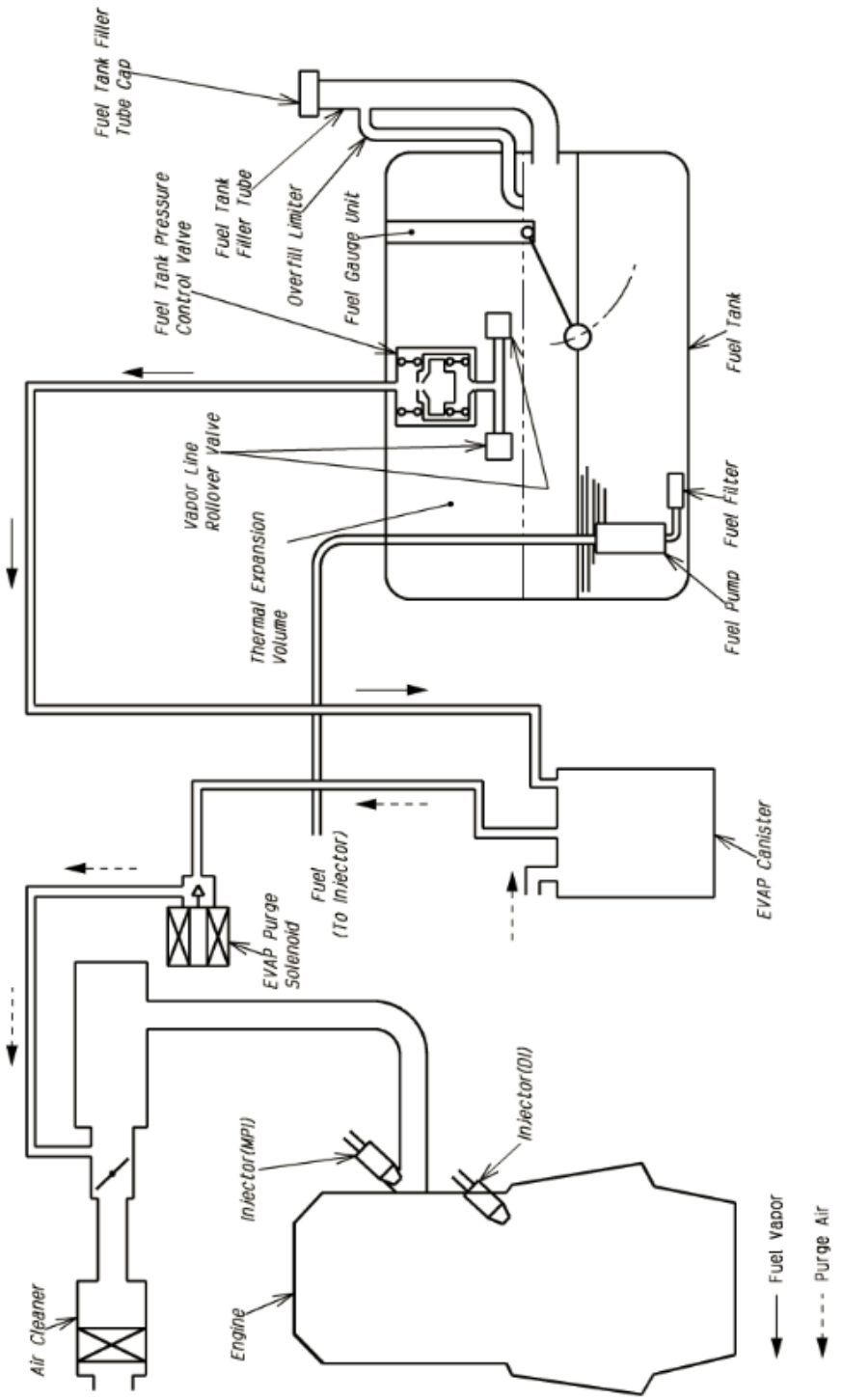


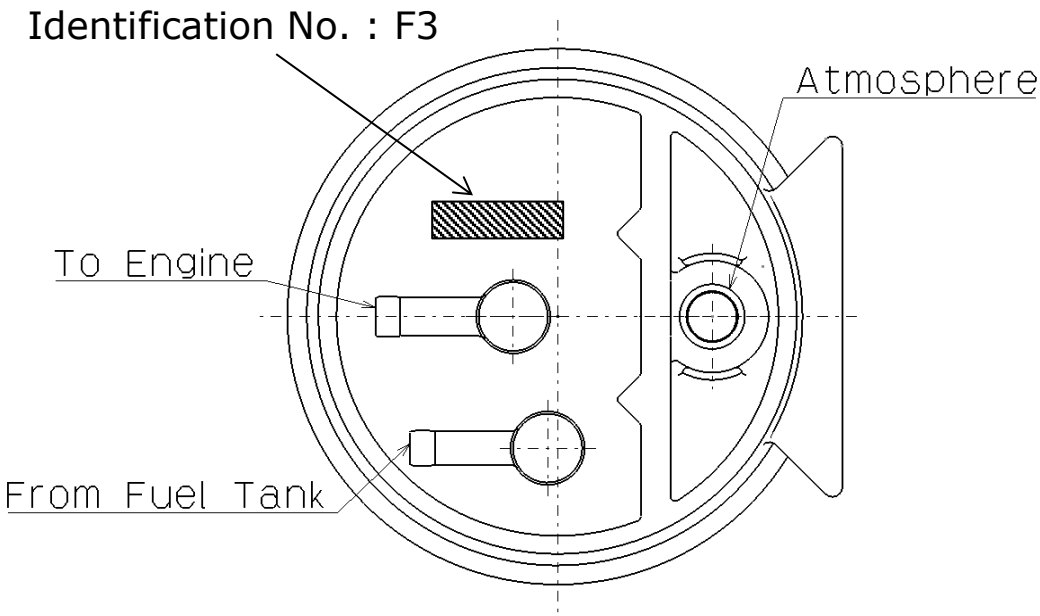
Under following conditions
— Atmospheric pressure : 95 ～ 105kPa
— Intake air temperature : 20 ～ 30℃
— Coolant temperature : 85 ～ 95℃

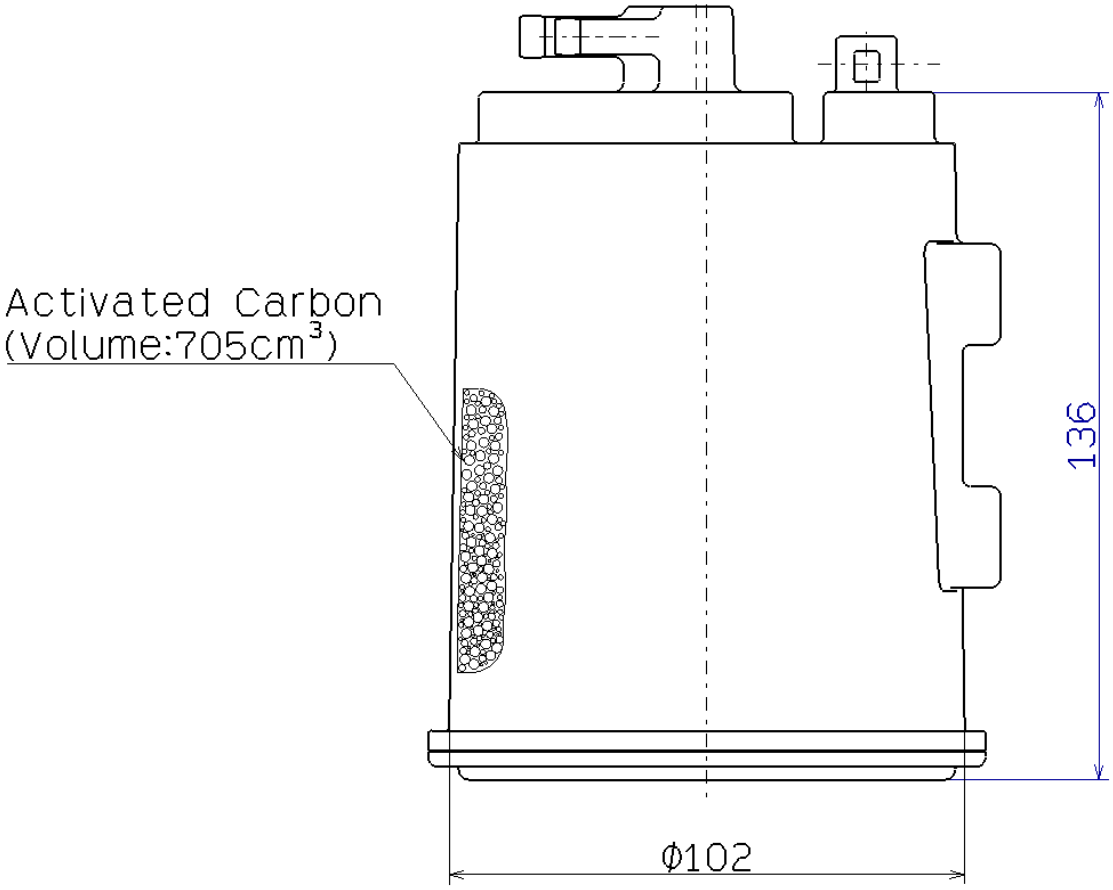
$$*)EV = \frac{Qin}{Vcy1} \times 100$$

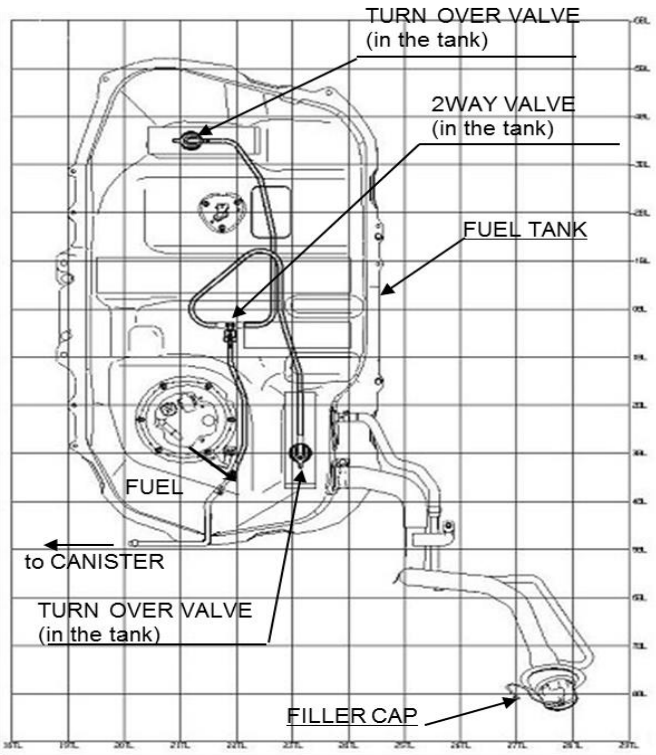
Qin: Volume of Intake Air per 1 cylinder
Vcy1: Volume per 1 cylinder

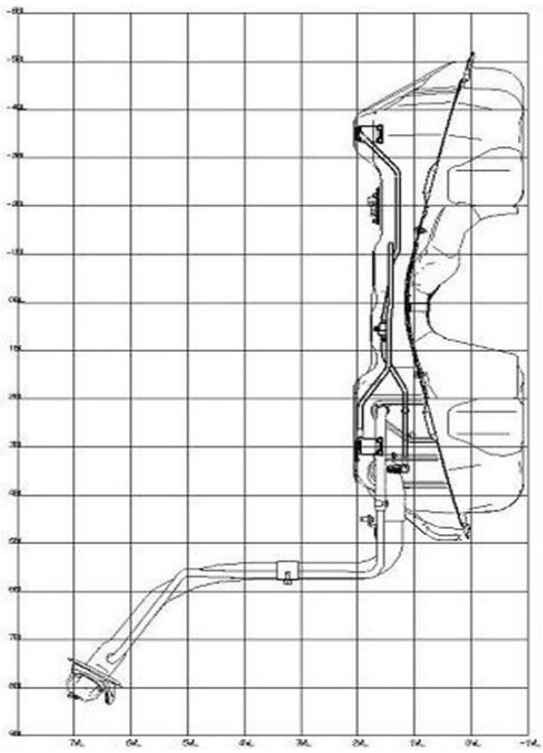
The evaporative emission control system consists of a charcoal canister, a purge control solenoid valve (PCSV), an electronic control unit and some sensors.
The charcoal canister absorbs and stores the fuel vapor from the fuel tank while the engine is inoperative.
The stored vapor is drawn by the intake manifold vacuum into the air intake system through the PCSV when the engine is running.
The coolant temperature signal is used to control the PCSV through the ECU in such a way that when the coolant temperature is lower than 60degC, the PCSV is closed, leading to CO/HC reduction under the engine warm-up condition.
When the coolant temperature exceeds 60degC, the PCSV is opened

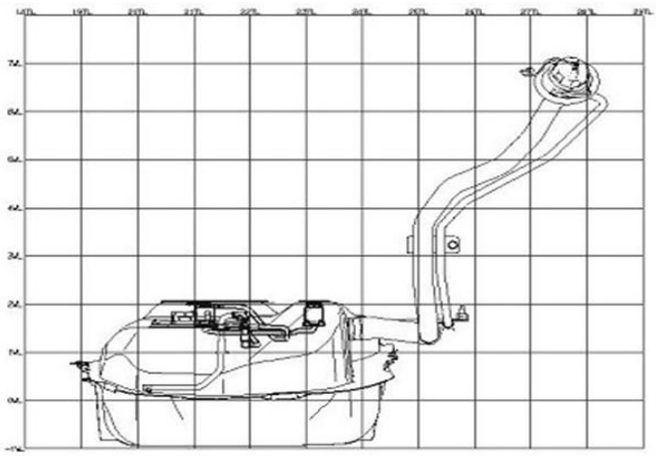






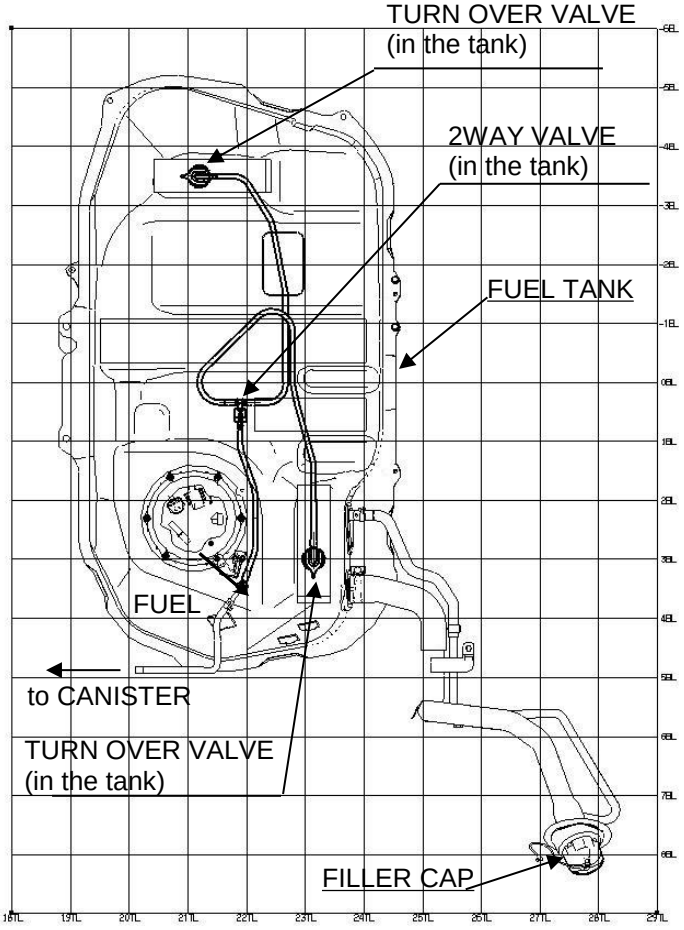


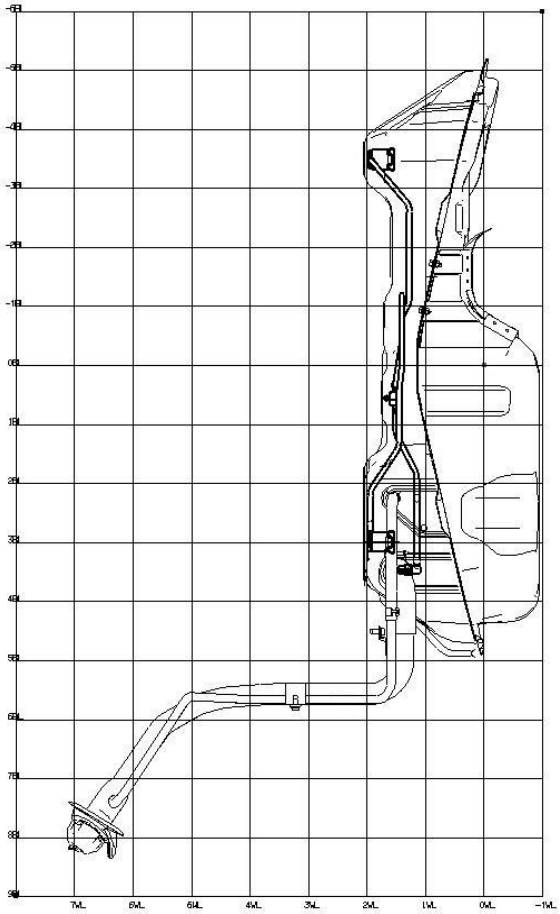


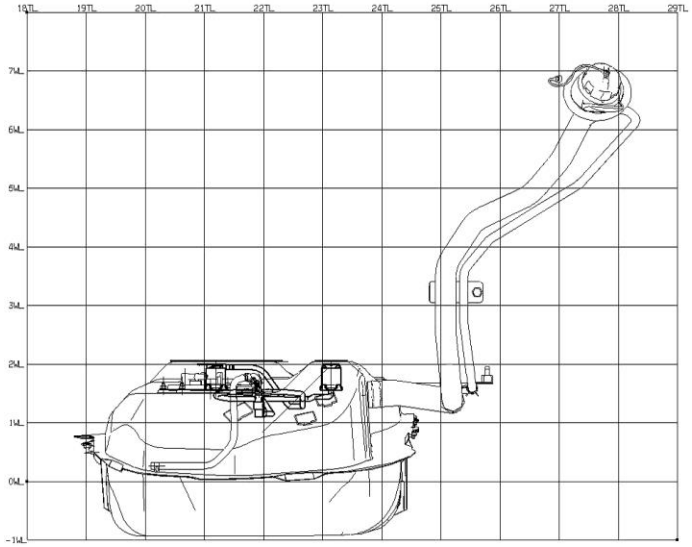


FUEL TANK

Material : Metal
Total volume : 76L
Usable volume : 60L

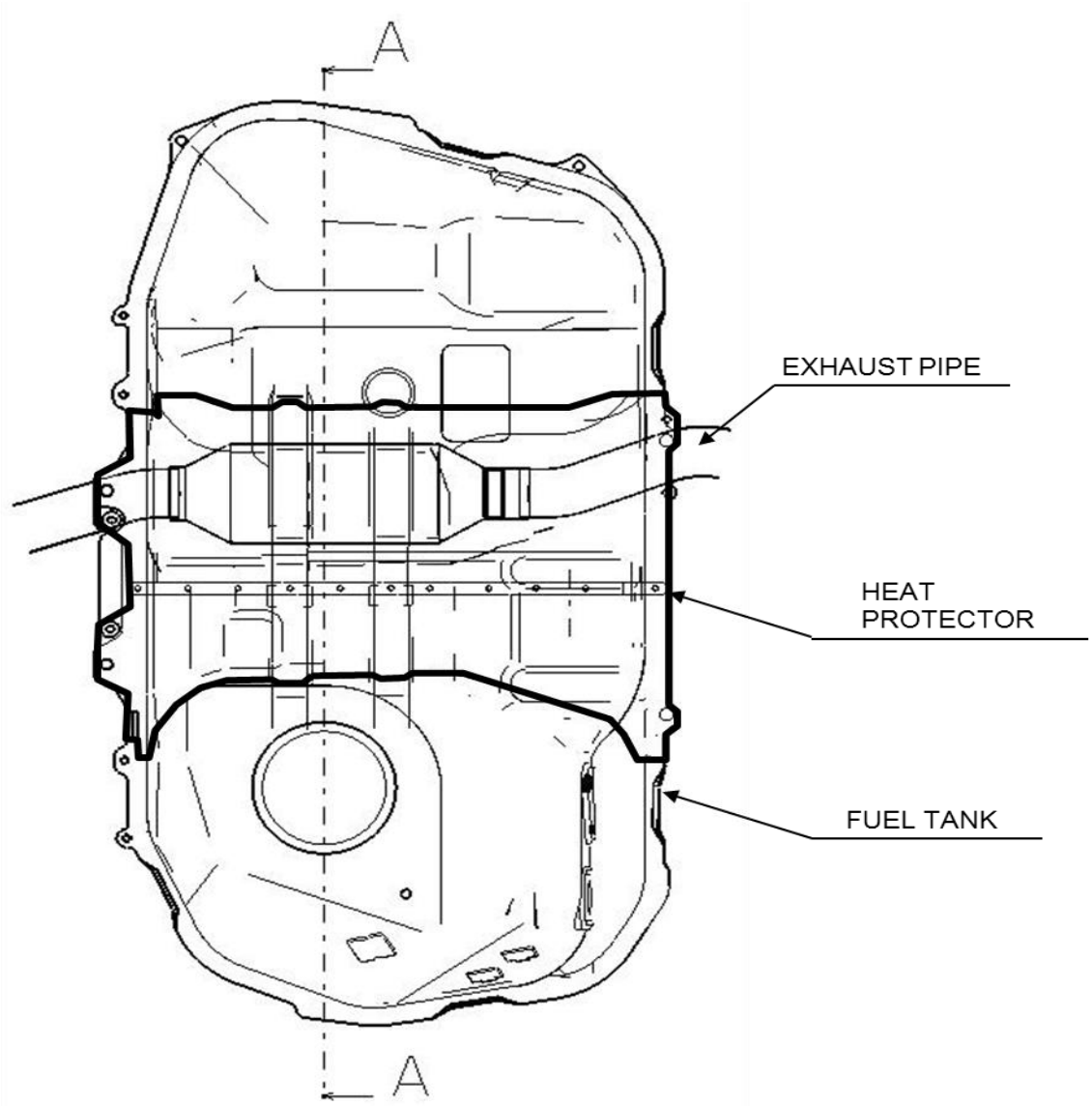


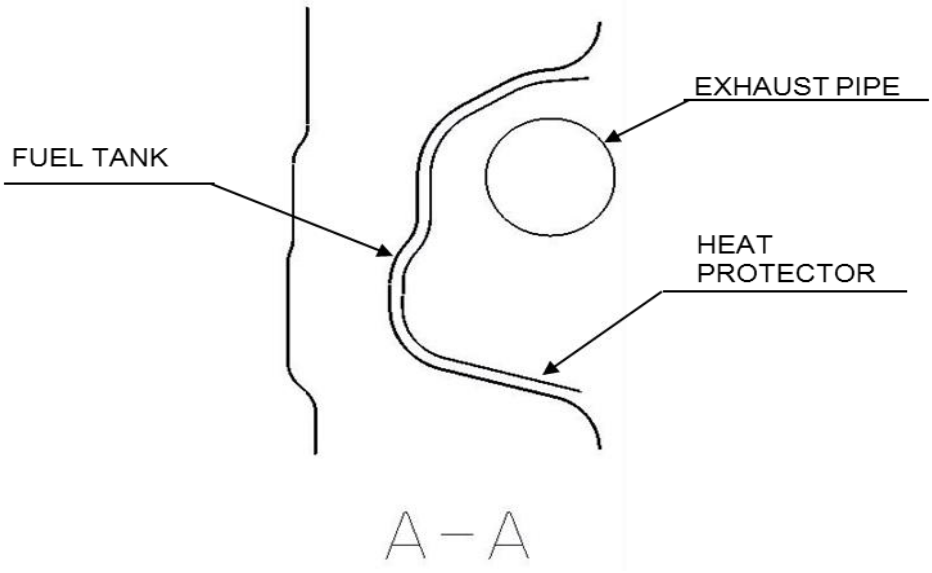




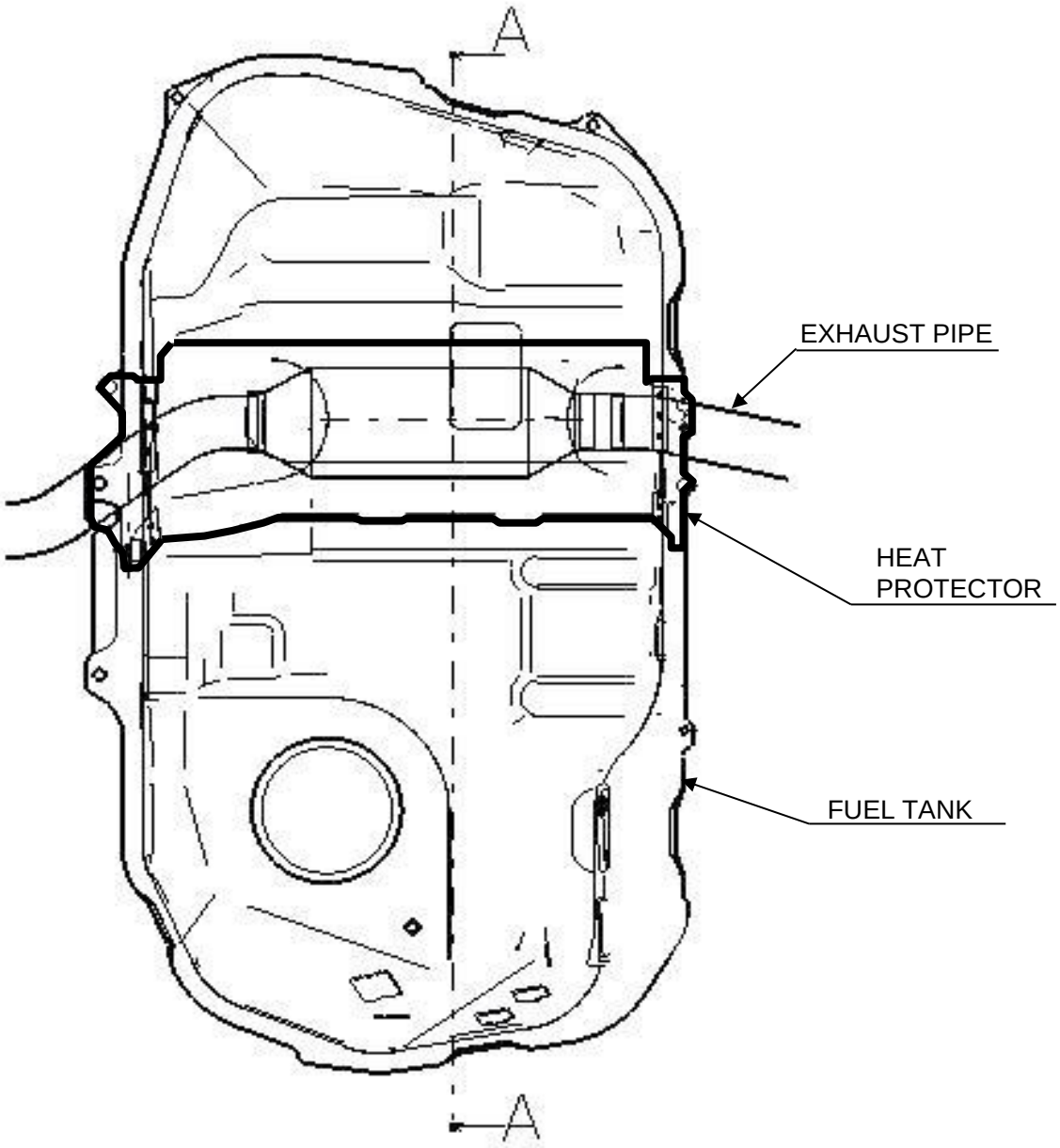
FUEL TANK

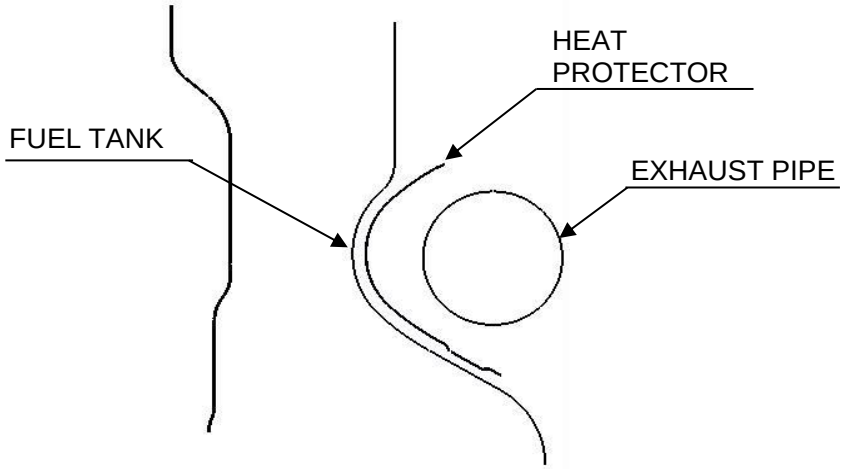
Material : Metal
Total volume : 80L
Usable volume : 63L





A – A





A – A

The engine is provided with the knock sensor for the purpose of protecting engine from knock damage.
The knock sensor converts mechanical movement into electric signals, and transmits it to the electronic control unit.
When knock sensor detects knock, it signals the electronic control unit to retard ignition timing. This spark retardation, however, is suspended by the electronic control unit when the engine is in light load operation.

Gear ratio
6MT

Gear	Internal gearbox ratios (ratios to gearbox output shaft revolutions)	Final drive ratio(s) (ratio of gearbox output shaft to driven wheel revolutions)	Total gear ratios
1st	3.833 (46/12)	4.058 (69/17)	15.558
2nd	2.047 (43/21)		8.31
3rd	1.303 (43/33)		5.288
4th	0.975 (40/41)		3.959
5th	0.744 (32/43)		3.02
6th	0.659 (31/47)		2.677
Reverse	3.545 (39/28*28/11)		14.39

Vehicle speed at engine speed 1000min^{-1} (km/h)

Tyre size		215/70R16	225/55R18
d Design overall diameter (mm)		708	705
F		3.05	3.05
$\mathbf{C_R}$ Rolling circumference (mm) = d X F		2159	2150
Gear	1st	8.3	8.3
	2nd	15.6	15.5
	3rd	24.5	24.4
	4th	32.7	32.6
	5th	42.9	42.7
	6th	48.4	48.2

Gear ratio
CVT

Gear		Internal gearbox ratios (ratios to gearbox output shaft revolutions)	Final drive ratio(s) (ratio of gearbox output shaft to driven wheel revolutions)	Total gear ratios
D range		2.631 - 0.378	6.386 ([54/25]▪[68/23])	16.801- 2.413
Sports Mode(*)	1st	2.631		16.801
	2nd	1.765		11.271
	3rd	1.313		8.384
	4th	1.046		6.679
	5th	0.843		5.383
	6th	0.657		4.195
	7th	0.495		3.161
	8th	0.378		2.413
Reverse		1.960 (planetary gear mechanism 0.745*2.631)		12.517

*) In engine speed approximately more than 5600 min^{-1} or vehicle speed approximately more than 120km/h , internal gear box ratio changes automatically.

Vehicle speed at engine speed 1000min^{-1} (km/h)

Tyre size		215/70R16	225/55R18
d Design overall diameter (mm)		708	705
F		3.05	3.05
$\mathbf{C_R}$ Rolling circumference (mm) = d X F		2159	2150
Gear	Maximum	7.7	7.7
	Minimum	53.7	53.5
Manual Mode	1st	7.7	7.7
	2st	11.5	11.4
	3rd	15.5	15.4
	4th	19.4	19.3
	5th	24.1	24.0
	6th	30.9	30.8
	7th	41.0	40.8
	8th	53.7	53.5

(**)Shift-point for additional gears of manual transmission with more than five gear declared by manufacturer

<Extra-urban (Part 2) for the type I test>

No. of operation	ACCUMULATIVE TIME (s)	OPERATION (s)	SPEED (km/h)	GEAR
1	20	20		K_1(*)
2	25	5	0 – 15	1
3	27	2		—
4	36	9	15 – 35	2
5	38	2		—
6	46	8	35 – 50	3
7	48	2		—
8	61	13	50 – 70	4
9	111	50	70	5
10	119	8	70 – 50	4 s.5 + 4 s.4
11	188	69	50	4
12	201	13	50 – 70	4
13	251	50	70	5
14	286	35	70 – 100	5
15	*316*	*30*	*100*	*6(**)*
16	*336*	*20*	*100 – 120*	*6(**)*
17	*346*	*10*	*120*	*6(**)*
18	*362*	*16*	*120 – 80*	*6(**)*
19	*370*	*8*	*80 – 50*	*6(**)*
20	380	10	50 – 0	K_5(*)
21	400	20		PM(*)

[REMARKS]
(*)PM = gearbox in neutral, clutch engaged.
K_1, K_5 = first or fifth gear engaged, clutch disengaged.

TYRE / WHEEL COMBINATION
TYRE PRESSURE

O : Applicable

Applicable vehicle models					Speed category Load capacity Tyre size	Rolling radius	Wheel size Off-set: 38mm (inset)	Tyre pressure (kPa) Front/Rear	Rolling resistance (N)
GK1WXTMUZL6Z	GK1WXTHUZL6Z	GK1WXTHUL6Z							
O					215/70R16 100H	344	16X6 1/2J	240/240	43.3 -45.3
O	O	O			225/55R18 98H	342	18X7J	250/250	

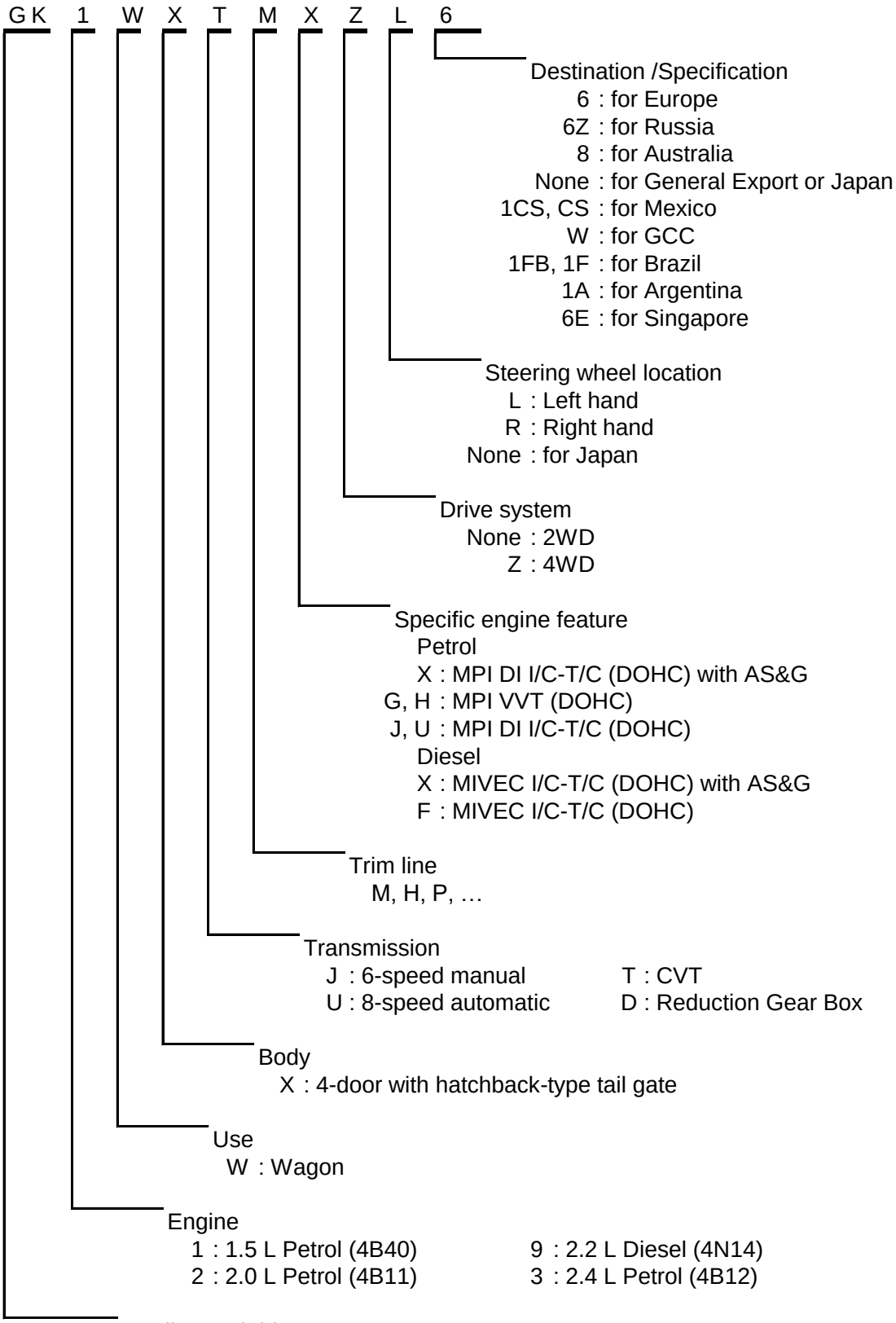
TYRE / WHEEL COMBINATION
TYRE PRESSURE
O : Applicable

Applicable vehicle models							Speed category Load capacity Tyre size	Rolling radius	Wheel size Off-set: 38mm (inset)	Tyre pressure (kPa) Front/Rear	Rolling resistance (N)
GK1WXJMUL	GK1WXTMUL	GK1WXTHUZL	GK1WXTHUL								
O	O						215/70R16 100H	344	16X6 1/2J	240/240	44.77 -45.3
O	O	O	O				225/55R18 98H	342	18X7J	250/250	

TYRE / WHEEL COMBINATION
TYRE PRESSURE
O : Applicable

Applicable vehicle models					Speed category Load capacity Tyre size	Rolling radius	Wheel size Off-set: 38mm (inset)	Tyre pressure (kPa) Front/Rear	Rolling resistance (N)
GK1WXTMUR8	GK1WXTHUR8	GK1WXTPUR8	GK1WXTHUZR8	GK1WXTPUZR8					
O					215/70R16 100H	344	16X6 1/2J	240/240	44.77
O	O	O	O	O	225/55R18 98H	342	18X7J	250/250	45.3

Model Code Composition



INFORMATION DOCUMENT

of

Gasoline On-Board Diagnostic system

Family Name : MMC-EOBD-G22

CONTENTS (Page per each Part)

3.2.12.2.7.	On-board-diagnostic (OBD) system		
3.2.12.2.7.1.	Written description and/or drawing of the MI	:	See Part 3
3.2.12.2.7.2.	List and purpose of all components monitored by the OBD system	:	See Parts 4 to 5
3.2.12.2.7.3.	Written description (general working principles) for		
3.2.12.2.7.3.1.	Positive-ignition engines		
3.2.12.2.7.3.1.1.	Catalyst monitoring	:	See Part 3
3.2.12.2.7.3.1.2.	Misfire detection	:	See Part 3
3.2.12.2.7.3.1.3.	Oxygen sensor monitoring	:	See Part 3
3.2.12.2.7.3.1.4.	Other components monitored by the OBD system	:	See Part 3
3.2.12.2.7.4.	Criteria for MI activation (fixed number of driving cycles or statistical method)	:	See Part 4
3.2.12.2.7.5.	List of all OBD output codes and formats used (with explanation of each)	:	See Part 4
3.2.12.2.7.6.	The following additional information shall be provided by the vehicle manufacturer for the purposes of enabling the manufacturer of OBD-compatible replacement or service parts and diagnostic tools and test equipment	:	See Part 4
3.2.12.2.7.6.1.	A description of the type and number of the pre-conditioning cycles used for the original type-approval of the vehicle.	:	See Part 4
3.2.12.2.7.6.2.	A description of the type of the OBD demonstration cycle used for the original type-approval of the vehicle for the component monitored by the OBD system.	:	See Part 4

3.2.12.2.7.6.3.	A comprehensive document describing all sensed components with the strategy for fault detection and MI activation (fixed number of driving cycles or statistical method), including a list of relevant secondary sensed parameters for each component monitored by the OBD system. A list of all OBD output codes and format used (with an explanation of each) associated with individual emission related power-train components and individual non-emission related components, where monitoring of the component is used to determine MI activation. In particular, a comprehensive explanation for the data given in service $05 Test ID $21 to FF and the data given in service $06 shall be provided. In the case of vehicle types that use a communication link in accordance with ISO 15765-4 'Road vehicles diagnostics on controller area network (CAN) - part 4: requirements for emissions-related systems', a comprehensive explanation for the data given in service $06 Test ID $00 to FF, for each OBD monitor ID supported, shall be provided.	: See Parts 4 & 6
3.2.12.2.7.6.4.	The information required by this section may, for example, be defined by completing a table as follows, which shall be attached to this Annex.	: See Part 4

Description of monitoring method

1. Monitoring items

1.1 Catalyst monitoring (3.3.3.1. of Annex XI of ECE R83)

(a) Monitoring method
- Front oxygen or A/F sensor and rear oxygen sensors are located upstream and downstream of the monitored catalyst.
- Calculate rich/lean switching frequency ratio (Rf) of front oxygen or A/F sensor and rear oxygen sensor according to the following equation:

$$Rf = \frac{\text{Rear oxygen sensor rich/ lean switching frequency}}{\text{Front oxygen or A/F sensor rich/ lean switching frequency}}$$

- Frequency ratio (Rf) is sampled for specified times
- Calculate average switching frequency ratio (Rfave)

(b) Malfunction criteria

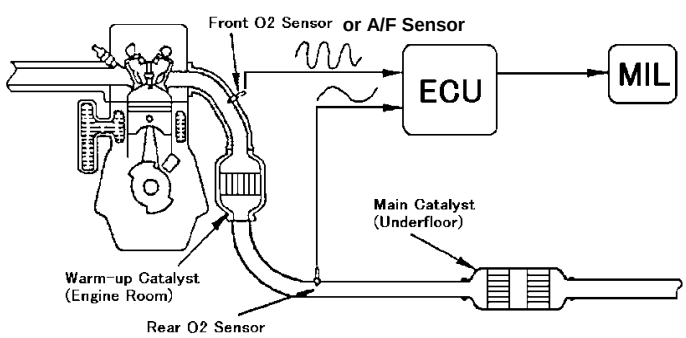
Rfave > R0 and Rf >= R1

R0 : threshold value for average frequency ratio

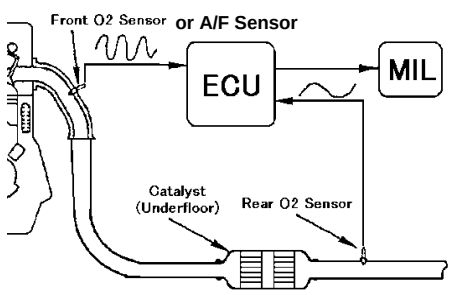
R1 : threshold value for real-time frequency ratio

(c) Malfunction Indicator (MI) & Fault Code

If the malfunction described above is detected, pending fault code is stored. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.



Warm-up catalyst and underfloor catalyst system



Underfloor catalyst system

1.2 Misfire detection (3.3.3.2. of Annex XI of ECE R83)

(a) Monitoring method
- Fluctuation of crank angular acceleration is monitored.
- Calculate the crank angular acceleration(a(n)) according to the following equation:

$$a(n) = \frac{1}{Tn} \times \left(\frac{1}{Tn} - \frac{1}{Tn_{-1}} \right)$$

Tn : n-th time period during specified crank angle revolution

- Detect misfire when a(n) < a0 (a0 : threshold value)
- Calculate misfire rate (RMF) during specified engine revolution (200rev. and 1000rev.)

(b) Malfunction criteria

RMF >= R0 or RMF >= R1

R0 : threshold value for catalyst damage misfire

R1 : threshold value for emission-increasing misfire (See Part 3, Item 9 for specific percentage of misfire for each model)

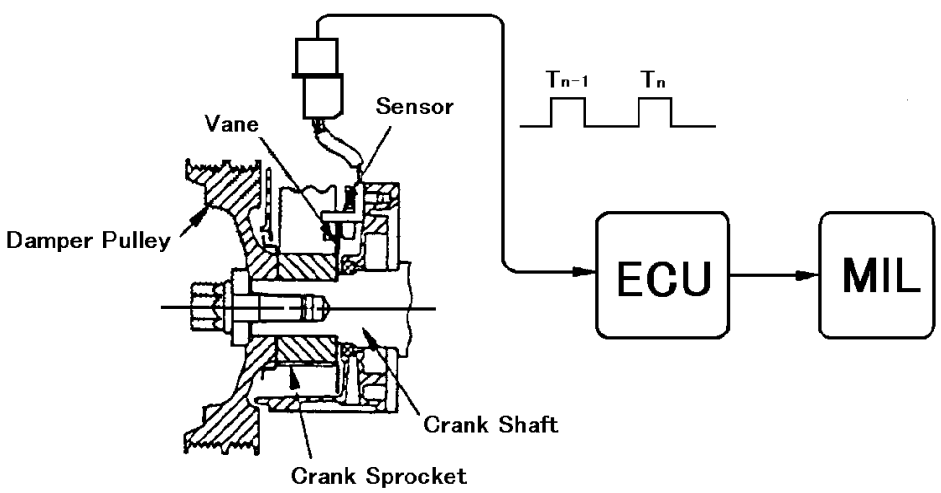
(c) Malfunction Indicator (MI) & Fault Code

Type A
- If the catalyst damage misfire is detected, confirmed fault code is stored and MI is illuminated (stay on), and fuel shutoff is activated on misfiring cylinder as soon as the misfire is detected. Fuel shutoff is deactivated when engine operation gets out of the misfire range.
- If the emission-increasing misfire is detected, pending fault code is stored. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.

Type B
- If the catalyst damaging misfire is detected, pending fault code is stored. Fuel shutoff for misfire cylinder and MI blinking are activated as soon as the catalyst damaging misfire is detected. Fuel shutoff and MI blinking are deactivated when engine operation gets out of misfire range. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated (stay on).
- If the emission-increasing misfire is detected in the following cases, pending fault code is stored. When the malfunction is again detected in the following cases during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.

Case1: For the first 1000 revolutions after engine start

Case2: For four times after the first 1000 revolutions after engine start



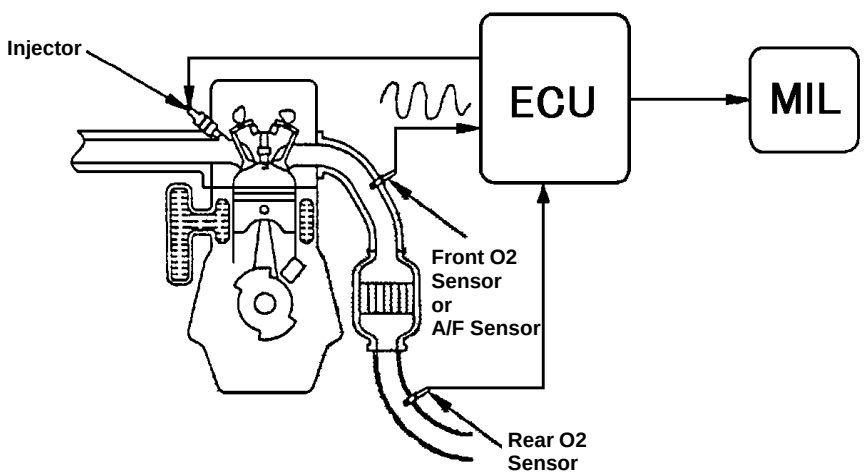
1.3 Oxygen sensor monitoring (3.3.3.3. of Annex XI of ECE R83)

1.3.1 Front oxygen or A/F sensor

(a) Monitoring method
- Front oxygen or A/F sensor rich/lean switching frequency (Ff) is monitored.
- Calculate average switching frequency (Ffave)

(b) Malfunction criteria
- Ffave < F0 and Ff < F1
  F0 : threshold value for average frequency
  F1 : threshold value for real-time frequency

(c) Malfunction Indicator (MI) & Fault Code
If the malfunction described above is detected, pending fault code is stored. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.



1.3.2 Rear oxygen sensor

(a) Monitoring method
- Calculate rear oxygen sensor voltage change (ΔVO2 = VO2 MAX - VO2 MIN) during go/stop operation

(b) Malfunction criteria
- ΔVO2 < V0 (V0 : threshold value) or VO2 MAX <= V1 (V1 : threshold value)

(c) Malfunction Indicator (MI) & Fault Code
If the malfunction described above is detected, pending fault code is stored. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.

1.4 Other emission control system components or systems (3.3.3.4. of Annex XI of ECE R83)

1.4.1 Fuel system monitoring

(a) Monitoring method
Air fuel ratio feedback compensation values* are monitored.
*: short term fuel trim (Integral value : KI) and long term fuel trim (A/F learning value : KLRN)

(b) Malfunction criteria
- KLRN >= K0 and KI >= K1 (K0, K1 : threshold value for lean shift) or
- KLRN <= K2 and KI <= K3 (K2, K3 : threshold value for rich shift)
Each injection mode(MFI, DFI) has a KLRN value separately.

(c) Malfunction Indicator (MI) & Fault Code
If the malfunction described above is detected, pending fault code is stored. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.

1.5 Circuit continuity monitoring (3.3.3.5. of Annex XI of ECE R83)

- All emission-related power-train components connected to a computer are monitored for circuit continuity.
- If the malfunction is detected, confirmed fault code is stored and MI is illuminated on first or second driving cycle.

1.6 Evaporative emission purge control system monitoring (3.3.3.6. of Annex XI of ECE R83)

- Evaporative purge solenoid is monitored for circuit continuity.
- If the malfunction is detected, pending fault code is stored. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.

1.7 Gasoline particulate filter(GPF) missing monitoring (3.3.3.7. of Annex XI of ECE R83)

(a) Monitoring method
- GPF temperature change ratio* is monitored during upstream temperature rising.

$$*\text{GPF temperature change ratio} = \frac{\text{GPF upstream temperature change} - \text{GPF downstream temperature change}}{\text{GPF upstream temperature change}}$$

(b) Malfunction criteria
- GPF temperature change ratio average < T0 (T0 : threshold value)

(c) Malfunction Indicator (MI) & Fault Code
If the malfunction described above is detected, pending fault code is stored. When the malfunction is again detected during the succeeding driving cycle, confirmed fault code is stored and MI is illuminated.

2. Fault code storage

- The fault codes can be read-out and reset by means of a generic scan-tool via the diagnostic connector on the vehicle.
- The fault codes will be erased after 40 engine warm-up cycles during which the same fault is not re-registered.
- The distance travelled by the vehicle while the MI is activated is available at any instant through the serial port on the standard link connector.

3. Freeze-frame data

- Upon determination of the first malfunction, following data required by 6.5.1.1. of Annex XI - Appendix 1 of ECE R83 are stored in computer memory.

- Calculated load value	- Engine speed
- Fuel trim values	- Vehicle speed
- Coolant temperature	- Intake manifold pressure (if available)
- Closed- or open loop operation	- Fault code which caused the data to be stored

4. Monitor disablement

- The OBD monitors for catalytic converter, misfire, oxygen sensor deterioration and fuel system are disabled when ambient temperature is below -10degC or barometric pressure is below 570mmHg.
- The disablement is necessary to avoid unreliable monitoring and is allowed in 3.2.1.2. of Annex XI of ECE R83.

5. Calibration identification

- The software calibration identification number is available through the serial port on the standardized data link connector and is provided in a standardized format in accordance with SAE J1979.
- The software calibration identification number consists of the part number of the controller and an alphanumeric code which has maximum 16 digits.

6. Data link connector

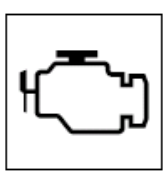
Data link connector complies with ISO DIS 15031-3.

7. Malfunction Indicator

- Malfunction indicator lamp identified by the following symbol illuminates when the ignition key is turned to “ON” position before engine start to indicate that malfunction indicator lamp is functioning.
- Malfunction indicator lamp illuminates when the emission-related component or system is malfunctioning.

Location : Malfunction indicator lamp is located somewhere in the meter cluster depending on vehicle models so that it is readily visible to the driver.

Size : The size of the actual symbol is almost the same as those of other symbols in the meter cluster, such as the brake failure tell-tale or the battery charging condition tell-tale.

Symbol of malfunction indicator lamp  Color : Amber (Tell-tale)

8. Provisions taken to prevent tampering with and modification of the emission control computer

- The emission control computer is integrated in the powertrain control module and non-removable.
- The software is protected against misuse by encoding, checksum detection or encrypted access.
- Switch-off function is not provided to emission control computer.

9. Minimum percentage of Misfire

Model	Percentage of misfire
GK1W	2.0 %

List of monitoring Items for Engine

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Variable valve timing system	P0010	Circuit continuity (Oil control valve)	Current	2nd cycle	Battery voltage	One Type1 cycle	Type1
A/F sensor heater	P0031	Range check-min	Current	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P0032	Range check-max	Current	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
Oxygen sensor heater (Rear)	P0037	Range check-min	Current	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P0038	Range check-max	Current	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
Air flow sensor / Manifold absolute pressure sensor	P0068	Plausibility	Calculated load value*1	1st cycle	Ignition on	-	Type1
Fuel rail pressure sensor	P0191	Rationality	Fuel rail pressure	1st cycle	Battery voltage Time after engine start-up	-	Type1
Air flow sensor	P0102	Range check-min	Air flow rate	1st cycle	Ignition on	-	Type1
	P0103	Range check-max	Air flow rate	1st cycle	Ignition on	-	Type1
Manifold absolute pressure sensor / Throttle inlet pressure sensor	P0106	Rationality	Manifold absolute pressure sensor signal	2nd cycle	Time after engine start-up	-	Type1
Manifold absolute pressure sensor	P0107	Range check-min	Voltage	2nd cycle	Ignition on, Throttle position	-	Type1
	P0108	Range check-max	Voltage	2nd cycle	Ignition on	-	Type1
Intake air temperature sensor	P0112	Range check-min	Voltage	1st cycle	Time after engine start-up	-	Type1
	P0113	Range check-max	Voltage	1st cycle	Time after engine start-up	-	Type1
Engine coolant temperature sensor	P0117	Range check-min	Voltage	1st cycle	Ignition on	-	Type1
	P0118	Range check-max	Voltage	1st cycle	Ignition on	-	Type1

*1: Charge efficiency for vehicles equipped with air flow sensor,
Manifold pressure for vehicles without air flow sensor

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Throttle position sensor (TPS)	P0122	Range check-min (TPS-main)	Voltage	1st cycle	Ignition on	-	Type1
	P0123	Range check-max (TPS-main)	Voltage	1st cycle	Ignition on	-	Type1
	P0121	Plausibility (TPS-main)	Calculated load value*1	1st cycle	Engine speed	-	Type1
	P0222	Range check-min (TPS-sub)	Voltage	1st cycle	Ignition on	-	Type1
	P0223	Range check-max (TPS-sub)	Voltage	1st cycle	Ignition on	-	Type1
	P0221	Plausibility (TPS-sub)	Calculated load value*1	1st cycle	Engine speed	-	Type1
	P1238	Plausibility (TPS-main, sub)	Calculated load value*1	1st cycle	Engine speed	-	Type1
	P2135	Rationality (TPS-main, sub)	Relation between main and sub	1st cycle	Battery voltage	-	Type1
A/F sensor	P0130	Circuit over voltage	Voltage	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P0131	Range check-min	Voltage	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P0132	Range check-max	Voltage	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P0133	Deterioration	Switching frequency	2nd cycle	Engine speed, Load value*1, Coolant temp., Fuel system	One Type1 cycle	Type1
	P0134	No active detected	Sensor Impedance	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P2237	Circuit continuity-open (Positive current control)	Voltage	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P2243	Circuit continuity-open (Reference current control)	Voltage	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
	P2251	Circuit continuity-open (Negative current control)	Voltage	2nd cycle	Battery voltage Time after engine start-up	One Type1 cycle	Type1
Oxygen sensor (Rear)	P0137	Range check-min	Voltage	2nd cycle	Battery voltage, Offset voltage, Time after engine start-up	One Type1 cycle	Type1
	P0138	Range check-max	Voltage	2nd cycle	Offset voltage, Time after engine start-up	One Type1 cycle	Type1
	P0140	Rationality	Oxygen sensor (Rear) signal	2nd cycle	Engine speed, Load value*1, Coolant temp., Vehicle speed	One Type1 cycle	Type1
Fuel system	P0171	A/F shift to lean	Fuel trim values	2nd cycle	Coolant temp., Fuel system	Two Type1 cycles	Type1
	P0172	A/F shift to rich	Fuel trim values	2nd cycle	Coolant temp., Fuel system	Two Type1 cycles	Type1

*1: Charge efficiency for vehicles equipped with air flow sensor,
Manifold pressure for vehicles without air flow sensor

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Injection valve	P0261	Circuit continuity (Open/Shorted-low)	Voltage	2nd cycle	Activation command	One Type1 cycle	Type1
	P0262	Circuit continuity (Shorted-high)	Current	2nd cycle	Activation command	One Type1 cycle	Type1
	P0264	Circuit continuity (Open/Shorted-low)	Voltage	2nd cycle	Activation command	One Type1 cycle	Type1
	P0265	Circuit continuity (Shorted-high)	Current	2nd cycle	Activation command	One Type1 cycle	Type1
	P0267	Circuit continuity (Open/Shorted-low)	Voltage	2nd cycle	Activation command	One Type1 cycle	Type1
	P0268	Circuit continuity (Shorted-high)	Current	2nd cycle	Activation command	One Type1 cycle	Type1
	P0270	Circuit continuity (Open/Shorted-low)	Voltage	2nd cycle	Activation command	One Type1 cycle	Type1
	P0271	Circuit continuity (Shorted-high)	Current	2nd cycle	Activation command	One Type1 cycle	Type1
Misfire	P0300-P0304	Crankshaft speed fluctuation	Percentage of misfire per 1000rev.	2nd cycle	Engine speed, Load value*1, Coolant temp., Barometric pressure	One Type1 cycle	Type1
			Percentage of misfire per 200rev. (Catalyst damage)	1st cycle	Engine speed, Load value*1, Coolant temp., Barometric pressure	-	Type1
Knock sensor	P0327	Circuit continuity (Open/Shorted-low)	Voltage	1st cycle	Time after engine start-up	-	Type1
	P0328	Circuit continuity (Shorted-high)	Voltage	1st cycle	Time after engine start-up	-	Type1
	P1310	Abnormal vibration error	Knock sensor signal	2nd cycle	Time after engine start-up	-	Type1
Crankshaft position sensor	P0335	Circuit continuity, Rationality	Alignment to camshaft	1st cycle	Engine speed	-	Type1
	P061C	Plausibility	Engine speed	1st cycle	Engine speed	-	Type1
Camshaft position sensor	P0340	Circuit continuity, Rationality	Alignment to crankshaft	1st cycle	Engine speed	-	Type1
Camshaft position sensor(EX)	P0013	Circuit continuity (Open/Shorted-low/Shorted-high)	Current	2nd cycle	Battery voltage	-	Type1
	P0365	Circuit continuity, Rationality	Alignment to crankshaft	2nd cycle	Engine speed	-	Type1
Catalyst	P0421	Deterioration	Oxygen sensor switching frequency ratio	2nd cycle	Engine speed, Air flow rate, Fuel system, Vehicle speed, Intake air temp., Barometric pressure	One Type1 cycle	Type1

*1: Charge efficiency for vehicles equipped with air flow sensor,
Manifold pressure for vehicles without air flow sensor

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Evaporative purge valve	P0458	Circuit continuity (Open/Shorted-low)	Voltage	2nd cycle	Battery voltage	One Type1 cycle	Type1
	P0459	Circuit continuity (Shorted-high)	Current	2nd cycle	Battery voltage	One Type1 cycle	Type1
Vehicle speed sensor	P0500	Circuit continuity	Vehicle speed	1st cycle	Battery voltage, Time after engine start-up	-	Type1
Non-volatile memory	P0602	Coding status	Not programmed	1st cycle	Ignition on	-	Type1
	P062F	Communication	Data check	1st cycle	Ignition on	-	Type1
	P0630	VIN status	Not programmed	1st cycle	Ignition on	-	Type1
Direct injection driver circuit	P062B	Supply voltage circuit continuity	Voltage	1st cycle	Battery voltage, Time after engine start-up	-	Type1
Powertrain control module (PCM)	P0604	RAM check	RAM data	1st cycle	Ignition on	-	Type1
	P0606	ROM check	ROM data	1st cycle	Ignition on	-	Type1
	P060B	A/D converter check	A/D data	1st cycle	Ignition on	-	Type1
Accelerator position sensor (APS)	P060D	Rationality (APS-main, sub)	Relation between main and sub	1st cycle	Ignition on	-	Type1
	P2122	Range check-min (APS-main)	Voltage	1st cycle	Ignition on	-	Type1
	P2123	Range check-max (APS-main)	Voltage	1st cycle	Ignition on	-	Type1
	P2127	Range check-min (APS-sub)	Voltage	1st cycle	Ignition on	-	Type1
	P2128	Range check-max (APS-sub)	Voltage	1st cycle	Ignition on	-	Type1
	P2138	Rationality (APS-main, sub)	Relation between main and sub	1st cycle	Ignition on	-	Type1
Torque monitor	P061A	Torque check	Actual and calculated torque	1st cycle	Engine speed, Load value*1	-	Type1
Electronic throttle valve (ETV)	P0638	Rationality	Throttle position sensor signal	1st cycle	Battery voltage	-	Type1
	P0657	Circuit continuity	Voltage	1st cycle	Battery voltage	-	Type1
	P2100	ETV motor function	Throttle position sensor signal	1st cycle	Battery voltage	-	Type1
	P2101	Circuit continuity	Current	1st cycle	Battery voltage	-	Type1

*1: Charge efficiency for vehicles equipped with air flow sensor,
Manifold pressure for vehicles without air flow sensor

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Throttle position sensor source	P0642	Range check-min	Voltage	1st cycle	Battery voltage	-	Type1
Keep alive memory	P1603	Circuit continuity	Voltage	1st cycle	Battery voltage, Engine running	-	Type1
Barometric Pressure Sensor	P2228	Circuit continuity (Range check-min)	Pressure	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P2229	Circuit continuity (Range check-max)	Pressure	1st cycle	Battery voltage Time after engine start-up	-	Type1
Oxygen sensor offset voltage	P2252	Range check-min	Voltage	2nd cycle	Time after engine start-up	One Type1 cycle	Type1
	P2253	Range check-max	Voltage	2nd cycle	Time after engine start-up	One Type1 cycle	Type1
Wastegate position sensor	P2564	Circuit continuity (Open/Shorted-low)	Voltage	1st cycle	Battery voltage	-	Type1
	P2565	Circuit continuity (Shorted-high)	Voltage	1st cycle	Battery voltage	-	Type1
Fuel rail pressure sensor	P0191	Rationality	Fuel rail pressure	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P0192	Circuit continuity (Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P0193	Circuit continuity (Open/Shorted-high)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
Fuel high pressure system	P0087	Fuel pressure low	Voltage Actual and target	1st cycle	Battery voltage	-	Type1
	P0088	Fuel pressure high	Voltage Actual and target	1st cycle	Battery voltage	-	Type1
Throttle inlet air temperature sensor	P0097	Circuit continuity (Shorted-low)	Voltage	1st cycle	Time after engine start-up	-	Type1
	P0098	Circuit continuity (Open/Shorted-high)	Voltage	1st cycle	Time after engine start-up	-	Type1

*1: Charge efficiency for vehicles equipped with air flow sensor,
Manifold pressure for vehicles without air flow sensor

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Electric wastegate valve actuator	P0045	Circuit continuity (Shorted-low/Shorted-high)	Current	1st cycle	Battery voltage	-	Type1
	P006E	Supply voltage circuit continuity	Voltage	1st cycle	Battery voltage	-	Type1
	P226C	wastegate position target error	Actual and target control wastegate position	1st cycle	Battery voltage Time after engine start-up	-	Type1
Throttle inlet pressure sensor	P0237	Range check-min	Voltage	1st cycle	Time after engine start-up	-	Type1
	P0238	Range check-max	Voltage	1st cycle	Time after engine start-up	-	Type1
High pressure fuel pump	P0628	Circuit continuity (Open/Shorted-high)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P0629	Circuit continuity (Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
Barometric Pressure Sensor / Throttle inlet pressure sensor	P00CF	Plausibility	Calculated load value	2nd cycle	Time after engine start-up Coolant temp	-	Type1
Direct injection valve	P21DB	Circuit continuity (Open/Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P21DC	Circuit continuity (Shorted-high)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P21DE	Circuit continuity (Open/Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P21DF	Circuit continuity (Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P21E0	Circuit continuity (Open/Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P21E1	Circuit continuity (Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P21E2	Circuit continuity (Open/Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1
	P21E3	Circuit continuity (Shorted-low)	Voltage	1st cycle	Battery voltage Time after engine start-up	-	Type1

*1: Charge efficiency for vehicles equipped with air flow sensor,
Manifold pressure for vehicles without air flow sensor

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
GPF differential pressure sensor	P2454	Circuit continuity (Shorted-low)	Voltage	1st cycle	Ignition on Time after engine start-up	-	Type1
Exhaust gas temperature sensor (Front)	P0546	Circuit continuity (Open/Shorted-high)	Voltage	1st cycle	Ignition on Time after engine start-up	-	Type1
	P0545	Circuit continuity (Shorted-low)	Voltage	1st cycle	Ignition on Time after engine start-up	-	Type1
Exhaust gas temperature sensor (Rear)	P2033	Circuit continuity (Open/Shorted-high)	Voltage	1st cycle	Ignition on Time after engine start-up	-	Type1
	P2032	Circuit continuity (Shorted-low)	Voltage	1st cycle	Ignition on Time after engine start-up	-	Type1
GPF clogging	P24A4	Deterioration	GPF soot load	1st cycle	Ignition on Battery voltage	-	Type1
GPF missing	P226D	Deterioration	GPF temperature change ratio	2nd cycle	Ignition on Battery voltage	- One Type1 cycle	Type1
Controller area network	P1590	Communication	Communication data rationality (PCM and T/M ECU)	1st cycle	Battery voltage	-	Type1
	U0101	Communication	Communication status (PCM and T/M ECU)	1st cycle	Battery voltage	-	Type1
	U0121	Communication	Communication status (PCM and ABS ECU)	1st cycle	Battery voltage	-	Type1
	U0141	Communication	Communication status (PCM and Gateway ECU)	1st cycle	Battery voltage	-	Type1
	U0155	Communication	Communication status (PCM and Combi Meter)	1st cycle	Battery voltage	-	Type1

*1: Charge efficiency for vehicles equipped with air flow sensor,
Manifold pressure for vehicles without air flow sensor

List of monitoring Items for T/M

<CVT> for GK0

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Brake Switch B	P0703	Input Other Rationality	Brake switch signal	2nd cycle	System voltage Vehicle speed	One Type1 cycle	Type1
Transmission Range Sensor A	P0705	Input Other Rationality	Range switch input	2nd cycle	System voltage	One Type1 cycle	Type1
		Input Open Circuit	Range switch input	2nd cycle	System voltage Vehicle speed	One Type1 cycle	Type1
Transmission Fluid Temperature Sensor A	P0711	Input Other Rationality	Continuous time	2nd cycle	Fluid temperature Transmission range sensor Vehicle speed Accelerator position Engine speed	One Type1 cycle	Type1
	P0712	Input Out-of-Range Low	Sensor voltage	2nd cycle	System voltage	One Type1 cycle	Type1
	P0713	Input Out-of-Range High	Sensor voltage	2nd cycle	System voltage Vehicle speed	One Type1 cycle	Type1
Input Shaft Speed Sensor A	P0715	Input Rationality-Low	Input shaft speed	2nd cycle	System voltage Output shaft speed	One Type1 cycle	Type1
		Input Open Circuit	Input shaft speed	2nd cycle	System voltage Input shaft speed	One Type1 cycle	Type1
		Input Other Rationality	Engine speed Turbine speed Input shaft speed	2nd cycle	System voltage Transmission range sensor Engine speed Input shaft speed Output shaft speed Turbine speed TCC status	One Type1 cycle	Type1
Output Speed Sensor	P0720	Input Rationality-Low	Output shaft speed	2nd cycle	System voltage Input shaft speed	One Type1 cycle	Type1
		Input Open Circuit	Output shaft speed	2nd cycle	System voltage Output shaft speed	One Type1 cycle	Type1
		Input Other Rationality	Input shaft speed Output shaft speed	2nd cycle	System voltage Transmission range sensor Engine speed Input shaft speed Turbine speed TCC status	One Type1 cycle	Type1

List of monitoring Items for T/M

<CVT> for GK0

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Turbine Speed Sensor	P2765	Input Rationality-Low	Turbine speed	2nd cycle	System voltage Transmission range sensor Engine speed Input shaft speed	One Type1 cycle	Type1
		Input Open Circuit	Turbine speed	2nd cycle	System voltage Turbine speed	One Type1 cycle	Type1
		Input Other Rationality	Engine speed Turbine speed Input shaft speed	2nd cycle	System voltage Transmission range sensor Engine speed Input shaft speed Output shaft speed Turbine speed TCC status	One Type1 cycle	Type1
Transmission Fluid Pressure Sensor B	P0847	Input Rationality-Low	Sensor voltage	2nd cycle	System voltage Fluid temperature	One Type1 cycle	Type1
	P0848	Input Rationality-High	Sensor voltage	2nd cycle	System voltage Fluid temperature	One Type1 cycle	Type1
Transmission Fluid Pressure Sensor A	P0842	Input Rationality-Low	Sensor voltage	2nd cycle	System voltage Fluid temperature	One Type1 cycle	Type1
	P0843	Input Rationality-High	Sensor voltage	2nd cycle	System voltage Fluid temperature	One Type1 cycle	Type1
Transmission Fluid Pressure Sensor A / B	P084A	Input Other Rationality	Primary pressure Secondary pressure	2nd cycle	System voltage Input shaft speed Output shaft speed	One Type1 cycle	Type1
Pressure Control Solenoid A	P0962	Output Shorted Low	Solenoid actual current	2nd cycle	System voltage	One Type1 cycle	Type1
	P0963	Output Open Circuit / Shorted High	Solenoid actual current Solenoid target current	2nd cycle	System voltage	One Type1 cycle	Type1
Incorrect Gear Ratio	P0730	Other Functional	Actual pulley ratio	2nd cycle	System voltage Transmission range sensor Engine speed Input shaft speed Acceleration	One Type1 cycle	Type1

List of monitoring Items for T/M

<CVT> for GK0

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Pressure Control Solenoid C	P0970	Output Shorted Low	Solenoid actual current	2nd cycle	System voltage	One Type1 cycle	Type1
	P0971	Output Open Circuit / Shorted High	Solenoid actual current Solenoid target current	2nd cycle	System voltage	One Type1 cycle	Type1
	P0969	Output Functional -high	Actual primary pressure Target primary pressure	2nd cycle	System voltage Transmission range sensor	One Type1 cycle	Type1
		Output Functional -low	Actual primary pressure Target primary pressure	2nd cycle	System voltage Transmission range sensor Engine speed Actual primary pressure Target primary pressure	One Type1 cycle	Type1
Pressure Control Solenoid B	P0966	Output Shorted Low	Solenoid actual current	2nd cycle	System voltage	One Type1 cycle	Type1
	P0967	Output Open Circuit / Shorted High	Solenoid actual current Solenoid target current	2nd cycle	System voltage	One Type1 cycle	Type1
	P0776	Output Functional -high	Actual secondary pressure Target secondary current	2nd cycle	System voltage Transmission range sensor	One Type1 cycle	Type1
		Output Functional -low	Actual secondary pressure Target secondary current	2nd cycle	System voltage Transmission range sensor Engine speed Target secondary pressure Actual secondary pressure Minimum line pressure Accelerator position Vehicle speed	One Type1 cycle	Type1

List of monitoring Items for T/M

<CVT> for GK0

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Pressure Control Solenoid D	P2720	Output Shorted Low	Solenoid actual current	2nd cycle	System voltage	One Type1 cycle	Type1
	P2721	Output Open Circuit / Shorted High	Solenoid actual current Solenoid target current	2nd cycle	System voltage	One Type1 cycle	Type1
	P2719	Output Functional -high	Turbine speed	2nd cycle	System voltage Fluid temperature Transmission range sensor Accelerator position Vehicle speed Turbine speed	One Type1 cycle	Type1
		Output Functional -low	Turbine speed Input shaft speed	2nd cycle	System voltage Transmission range sensor Vehicle speed Engine speed Input shaft speed Output shaft speed Turbine speed Forward clutch target status	One Type1 cycle	Type1
Torque Converter Clutch Pressure Control Solenoid	P2764	Output Shorted Low	Solenoid actual current	2nd cycle	System voltage	One Type1 cycle	Type1
	P2763	Output Open Circuit / Shorted High	Solenoid actual current Solenoid target current	2nd cycle	System voltage	One Type1 cycle	Type1
	P0741	Output Functional	Engine speed Turbine speed	2nd cycle	System voltage TCC fluid target pressure	One Type1 cycle	Type1

List of monitoring Items for T/M

<CVT> for GK0

Component	Fault code	Monitoring Strategy	Fault detection Criteria	MI activation criteria	Secondary Parameters	Precondition	Demo. test
Ds position Switch	P071B	Circuit continuity	Ds position Switch input	2nd cycle	Battery voltage T/M Range Switch "P"or"R"or"N"	One Type1 cycle	Type1
Solenoid Supply Voltage	P1607	Input Rationality-Low	Solenoid supply voltage	1st cycle	System voltage	-	Type1
EEPROM	P1637	Other Functional	Checksum	1st cycle	Ignition switch	-	Type1
Controller Area Network	U0001	Malfunction CAN line	CAN communication	1st cycle	System voltage Time after TCM start	-	Type1
	U0100	Malfunction CAN communication TCM and ECM	CAN signal from ECM	2nd cycle	System voltage Time after TCM start	One Type1 cycle	Type1
	P1773	ABS malfunction	ABS status signal	2nd cycle	Time after TCM start	One Type1 cycle	Type1
	P1798	G sensor malfunction	G sensor status signal	2nd cycle	System voltage Engine speed Time since normal value receipt Vehicle speed	One Type1 cycle	Type1

List of additional monitoring items
(German VDA voluntary items for engine with VVT system)
Applicable only to the models : GK0

Monitor Item	Fault Code	Monitoring Strategy	Failure Detection Criteria	Secondary Parameters	Pre-conditioning	Demonstration Test Mode	MI Activation Criteria (dc=driv. cyc.)	Note dc: according to 98/69/EC
Monitoring Concept	P1233 P0121	Plausibility Check TPS(MAIN)	| Ec value - backup Ec value after clip by TPS(MAIN) | > fixed Ec(%)	Engine speed, Accelerator position, Battery voltage	–	–	1 dc	MIL on(lighting)
	P1234 P0221	Plausibility Check TPS(SUB)	| Ec value - backup Ec value after clip by TPS(SUB) | > fixed Ec(%)	Engine speed, Accelerator position, Battery voltage	–	–		
	P1235 P0068	Plausibility check MAP	| Ec value for TPS(MAIN) - backup Ec value for TPS(SUB) | < fixed Ec(%) and | Ec value - backup Ec value after clip by TPS(MAIN) | > fixed Ec(%) and | Ec value - backup Ec value after clip by TPS(SUB) | > fixed Ec(%)	Engine speed, Accelerator position, Battery voltage	–	–	1 dc	
	P1236 P060B	AD converter	AD converter is failure. (AD value of TEST > fixed Voltage(always)) and (AD value of APS(SUB) > fixed Voltage)	Accelerator position	–	–	1 dc	
	P1237 P060D	Plausibility check APS	(APS(SUB) voltage x 2 - APS(MAIN) voltage) >= fixed Voltage and |Δ APS(SUB) voltage x2 / 25ms| < fixed Voltage	---	–	–		
	P1238	Plausibility check MAP	| backup Ecr value for TPS(MAIN) - backup Ec value for TPS(SUB) | < fixed Ec(%) and | Ec value - backup Ec value after clip by TPS(MAIN) | > fixed Ec(%) and | Ec value - backup Ec value after clip by TPS(SUB) | > fixed Ec(%)	Engine speed, Accelerator position, Battery voltage	–	–		
	P1239 P061C	Plausibility check engine speed	|calculate value by level1 - calculate value by level2| >fixed Eng. speed	Engine speed	–	–		
	P1247	Plausibility check TRNS	Demand torque of TRNS is failure. (range, RAM complement, demand mode)	---	–	–	–	No MIL on (No lighting)
	P1240	Plausibility check ignition angle	Retard of ignition angle is failure. (RAM complement)	---				
	P1231	Plausibility check ESP	Demand torque of ESP is failure. (range, message check via CAN, demand mode)	CAN				
	P1241 P061A	Torque Monitoring	actual torque - permitted torque > fixed value	Engine speed, Accelerator position, Battery voltage			1 dc	MIL on(lighting)
Monitoring Concept	P1242	Fault reaction Monitoring	In Limp-home mode But engine speed > fixed value(high speed)	---	–	–	–	No MIL on (No lighting)
	P1243	Inquiry/Response error	Flow Check Error or Stimuli Data Error is detected.	---				
	P0606	ROM	ROM test for all area or cyclic ROM test is failure.	---				
	P1244	RAM test for all area	RAM test for all area is failure.	---				
	P1245	Cyclic RAM test (ENGINE)	Cyclic RAM test is failure.	---				
	P1248	Plausibility chwck 4WD	Demand torque of 4WD is failure. (range,message check via CAN,demand mode)	CAN				
	P1232	Disabling path	Microcomputer, Monitoring Module can not disable to a throttle actuator.	---				

SERVICE $06 DATA

OBDMID	S/MDTID	Item	Scale
01	81	A/F Sensor / Oxygen Sensor Monitor Bank1-Sensor1 Rich/Lean Switching frequency	1count/bit
02	08	Oxygen Sensor Monitor Bank1-Sensor2 Maximum Sensor Voltage for Test Cycle	0.122mV/bit
	82	Oxygen Sensor Monitor Bank1-Sensor2 Output Voltage change	0.122mV/bit
21	83	Catalyst Monitor Bank1 Frequency ratio between Front- and Rear-Oxygen Sensors	0.0039/bit
A2	0B	Mis-Fire Cylinder1 Data EWMA Misfire Counts For Last 10 Driving Cycles	1count/bit
	0C	Mis-Fire Cylinder1 Data Misfire Counts For Last/Current Driving Cycle	1count/bit
A3	0B	Mis-Fire Cylinder2 Data EWMA Misfire Counts For Last 10 Driving Cycles	1count/bit
	0C	Mis-Fire Cylinder2 Data Misfire Counts For Last/Current Driving Cycle	1count/bit
A4	0B	Mis-Fire Cylinder3 Data EWMA Misfire Counts For Last 10 Driving Cycles	1count/bit
	0C	Mis-Fire Cylinder3 Data Misfire Counts For Last/Current Driving Cycle	1count/bit
A5	0B	Mis-Fire Cylinder4 Data EWMA Misfire Counts For Last 10 Driving Cycles	1count/bit
	0C	Mis-Fire Cylinder4 Data Misfire Counts For Last/Current Driving Cycle	1count/bit
B2	9F	PM Filter Monitor Bank 1 GPF temperature change ratio	0.000305/bit

Manufacture's certificate of compliance with the OBD in-use performance requirements

(Manufacturer) : MITSUBISHI MOTORS CORPORATION

(Address of the manufacturer) : 33-8, Shiba 5-chome, Minato-ku, Tokyo 108-8410, Japan

Certifies that

- The vehicle types listed in attachment to this Certificate are in compliance with the provisions of section 3 of Appendix 1 to Annex XI of Regulation (EU) No. 692/2008 relating to the in-use performance of the OBD system under all reasonably foreseeable driving conditions.
- The plan(s) describing the detailed technical criteria for incrementing the numerator and denominator of each monitor attached to this Certificate are correct and complete for all types of vehicles to which this Certificate applies.

Done at [Tokyo]

On [22th May 2017]

[Signature of the Manufacturer's Representative]

Annexes :

- List of vehicle types to which this Certificate applies.
- Plan(s) describing the detailed technical criteria for incrementing the numerator and denominator of each monitor, as well as plan(s) for disabling numerators, denominators and general denominator.

  Note: Always the Regulation status as mentioned in the information document is considered.

List of vehicle type to which this Certificate applies

GK1W

Plans describing the detailed technical criteria for incrementing the numerator and denominator of each monitor, as well as plans for disabling numerators, denominators and general denominator

1 Incrementing / disabling the numerator and denominator of each monitor

1.1 Catalyst monitor

1.1.1 Numerator and denominator are disabled while one of the following conditions is satisfied:

[1] General denominator is disabled.

[2] Either of the following monitors detects malfunction:

- **A) Intake air temperature sensor**
- **B) Engine coolant temperature sensor**
- **C) Air flow sensor**
- **D) Barometric pressure sensor**
- **E) Throttle position sensor**
- **F) Accelerator position sensor**
- **G) Manifold absolute pressure sensor**
- **H) Front oxygen sensor (including air fuel ratio sensor)**
- **I) Rear oxygen sensor**
- **J) Misfire**
- **K) Fuel system**
- **L) Air fuel ratio feedback**
- **M) Front oxygen sensor (including air fuel ratio sensor) heater**
- **N) Rear oxygen sensor heater**
- **O) Oxygen sensor offset voltage**

1.1.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Every monitoring condition to detect a malfunction is satisfied.

[2] 1.1.1 is not satisfied.

1.1.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Condition to increment the general denominator is satisfied.

[2] 1.1.1 is not satisfied.

1.2 Front oxygen sensor (including air fuel ratio sensor) deterioration monitor

1.2.1 Numerator and denominator are disabled while one of the following conditions is satisfied:

[1] General denominator is disabled.

[2] Either of the following monitors detects malfunction:

A) Intake air temperature sensor
B) Engine coolant temperature sensor
C) Air flow sensor
D) Barometric pressure sensor
E) Throttle position sensor
F) Accelerator position sensor
G) Manifold absolute pressure sensor
H) Front oxygen sensor (including air fuel ratio sensor) circuit
I) Front oxygen sensor (including air fuel ratio sensor) heater
J) Oxygen sensor offset voltage
K) Misfire
L) Fuel system

1.2.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Every monitoring condition to detect a malfunction is satisfied.

[2] 1.2.1 is not satisfied.

1.2.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Condition to increment the general denominator is satisfied.

[2] 1.2.1 is not satisfied.

1.3 Rear oxygen sensor rationality monitor

1.3.1 Numerator and denominator are disabled while one of the following conditions is satisfied:

[1] General denominator is disabled.

[2] Either of the following monitors detects malfunction:

A) Intake air temperature sensor
B) Engine coolant temperature sensor

C) Air flow sensor
D) Barometric pressure sensor
E) Manifold absolute pressure sensor
F) Front oxygen sensor (including air fuel ratio sensor)
G) Front oxygen sensor (including air fuel ratio sensor) heater
H) Rear oxygen sensor circuit
I) Rear oxygen sensor heater
J) Oxygen sensor offset voltage
K) Air fuel ratio feedback

1.3.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:
[1] Every monitoring condition to detect a malfunction is satisfied.
[2] 1.3.1 is not satisfied.

1.3.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:
[1] Condition to increment the general denominator is satisfied.
[2] 1.3.1 is not satisfied.

1.4 Evaporative purge valve monitor

1.4.1 Numerator and denominator are disabled while one of the following conditions is satisfied:
[1] General denominator is disabled.
[2] The following monitor detects malfunction:
A) Powertrain control module

1.4.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:
[1] Every monitoring condition to detect a malfunction is satisfied.
[2] 1.4.1 is not satisfied.

1.4.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:
[1] Condition to increment the general denominator is satisfied.
[2] 1.4.1 is not satisfied.

1.5 EGR valve monitor

1.5.1 Numerator and denominator are disabled while the following condition is satisfied:

[1] General denominator is disabled.

1.5.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Every monitoring condition to detect a malfunction is satisfied.

[2] 1.5.1 is not satisfied.

1.5.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Condition to increment the general denominator is satisfied.

[2] 1.5.1 is not satisfied.

1.6 Variable valve timing (VVT) system monitor

1.6.1 Numerator and denominator are disabled while the following condition is satisfied:

[1] General denominator is disabled.

1.6.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Every monitoring condition to detect a malfunction is satisfied.

[2] 1.6.1 is not satisfied.

1.6.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Condition to increment the general denominator is satisfied.

[2] 1.6.1 is not satisfied.

1.7 Variable valve lift (VVL) target error monitor

1.7.1 Numerator and denominator are disabled while one of the following conditions is satisfied:

[1] General denominator is disabled.

[2] Either of the following monitors detects malfunction:

A) Valve lift actuator circuit

B) Communication between Powertrain control module and Valve lift controller

1.7.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Every monitoring condition to detect a malfunction is satisfied.

[2] 1.7.1 is not satisfied.

1.7.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Condition to increment the general denominator is satisfied.

[2] VVL system is commanded to function for greater than or equal to 10 seconds

[3] 1.7.1 is not satisfied.

1.8 Valve lift sensor rationality monitor

1.8.1 Numerator and denominator are disabled while one of the following conditions is satisfied:

[1] General denominator is disabled.

[2] Either of the following monitors detects malfunction:

A) Valve lift sensor circuit

B) Valve lift actuator circuit

C) Communication between Powertrain control module and Valve lift controller

1.8.2 Numerator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Every monitoring condition to detect a malfunction is satisfied.

[2] 1.8.1is not satisfied.

1.8.3 Denominator is incremented once in a driving cycle within 10 seconds after all of the following conditions are satisfied:

[1] Condition to increment the general denominator is satisfied.

[2] VVL system is commanded to function for greater than or equal to 10 seconds

[3] 1.8.1 is not satisfied.

2 Disabling the general denominator.

The OBD system disables further increment of the general denominator within 10 seconds after [1] is satisfied, and restarts within 10 seconds after [1] is no longer satisfied.

[1] Either of the following monitors detects malfunction:

A) Intake air temperature sensor

B) Barometric pressure sensor

C) Throttle position sensor

D) Accelerator position sensor

E) Vehicle speed sensor

INFORMATION ON TEST CONDITIONS

1.	Spark plugs	
1.1.	Make	: NGK
1.2.	Type	: SILKR7H8
1.3.	Spark-gap setting	: 0.7 - 0.8 mm
2.	Ignition coil	
2.1.	Make	: DIAMOND ELECTRIC
2.2.	Type	: 1832A080
3.	Lubricant used	
	Engine oil	
3.1.	Make	: JXTG Nippon Oil & Energy Corporation
3.2.	Type	: API : SN/GF-5 SAE : 0W-20
	Gear box	
	MT	
3.1.	Make	: JX NIPPON OIL & ENERGY
3.2.	Type	: API : GL-4, SAE : 75W-80
	CVT	
3.1.	Make	: IDEMITSU KOSAN or Showa Shell Sekiyu
3.2.	Type	: CVTF-J4, SAE : N/A
	Differential (Front)	
3.1.	Make	: same as gearbox
3.2.	Type	: same as gearbox
	Differential (Rear) (4WD)	
3.1.	Make	: JX Nippon Oil & Energy or Showa Shell Sekiyu
3.2.	Type	: API : GL-5, SAE : 80
	Transfer gear box (4WD)	
3.1.	Make	: JX Nippon Oil & Energy or Showa Shell Sekiyu
3.2.	Type	: API : GL-5, SAE : 80

INFORMATION ON TEST CONDITIONS

4. Dynamometer load setting information (repeat information for each dynamometer test)

4.1. Vehicle bodywork type (variant /version) : Station wagon

4.2. Gearbox type (manual /automatic /CVT) : MT

4.3. Fixed load curve dynamometer setting information (if used) : N/A

4.4. Adjustable load curve dynamometer setting information (if used)

4.4.1. Coast down information from the test track : OKAZAKI

4.4.2. Tyres make and type (Rolling resistance coefficient) : TOYO PROXES R44(7.7)

4.4.3. Tyre dimensions (front /rear) : 225/55R18

4.4.4. Tyre pressure (front /rear) (kPa) : Fr 240 / Rr 240

4.4.5. Vehicle test mass including driver (kg) : 1590

4.4.6. Road coast down data (if used)

v (km/h)	v2 (km/h)	v1 (km/h)	Mean corrected coast down time (s)
120	115	125	5.62
110	105	115	6.55
100	95	105	7.63
90	85	95	8.78
80	75	85	10.33
70	65	75	12.54
60	55	65	14.91
50	45	55	18.50
40	35	45	21.64
30	25	35	26.97
20	15	25	33.44

4.4.7. Average corrected road power (if used)

v (km/h)	Cp corrected (kW)	Cp corrected (N)
120	26.2	786.2
110	20.6	674.8
100	16.1	579.0
90	12.6	503.1
80	9.5	427.6
70	6.8	352.1
60	4.9	296.3
50	3.3	238.8
40	2.3	204.1
30	1.4	163.8
20	0.7	132.1

INFORMATION ON TEST CONDITIONS

4. Dynamometer load setting information (repeat information for each dynamometer test)

4.1. Vehicle bodywork type (variant /version) : Station wagon

4.2. Gearbox type (manual /automatic /CVT) : CVT

4.3. Fixed load curve dynamometer setting information (if used) : N/A

4.4. Adjustable load curve dynamometer setting information (if used)

4.4.1. Coast down information from the test track : OKAZAKI

4.4.2. Tyres make and type (Rolling resistance coefficient) : TOYO PROXES R44(7.7)

4.4.3. Tyre dimensions (front /rear) : 225/55R18

4.4.4. Tyre pressure (front /rear) (kPa) : Fr 240 / Rr 240

4.4.5. Vehicle test mass including driver (kg) : 1700

4.4.6. Road coast down data (if used)

v (km/h)	v2 (km/h)	v1 (km/h)	Mean corrected coast down time (s)
120	115	125	5.97
110	105	115	6.65
100	95	105	7.82
90	85	95	8.96
80	75	85	10.39
70	65	75	12.32
60	55	65	14.35
50	45	55	17.16
40	35	45	19.62
30	25	35	23.20
20	15	25	23.88

4.4.7. Average corrected road power (if used)

v (km/h)	Cp corrected (kW)	Cp corrected (N)
120	26.4	791.1
110	21.7	709.8
100	16.8	604.2
90	13.2	527.1
80	10.1	454.4
70	7.5	383.4
60	5.5	329.1
50	3.8	275.2
40	2.7	240.7
30	1.7	203.6
20	1.1	197.8