

# ENVIRONMENTAL PROTECTION DEPARTMENT

## Guidance Notes

### **Application for Motor Vehicle Exhaust Emission and Noise Emission Type Approval**

(For motor vehicle with design weight of not more than 3.5 tonnes)

#### **1. Application form**

The application form consists of two parts, PART I and PART II. PART I is the applicant's information and PART II is information of the vehicle model for which type approval is sought. You should complete every item and provide all necessary information to support your application. TWO copies of PART I are required if you apply for both vehicle exhaust and noise emission type approval.

#### **2. Authorized signature**

The application form and the CD-ROMs must have authorized signatures of the vehicle / engine manufacturer to certify that the information of the vehicle / engine model under application is correct and complete.

#### **3. Checklist**

The information in the checklist is essential for your application. You may provide other information to support your application.

#### **4. Submission of Application**

The completed application form together with all supporting documents can be sent by post or in person to

Environmental Protection Department  
Mobile Source Policy Section (1)  
Room 4518, 45/F., Revenue Tower,  
5 Gloucester Road,  
Wan Chai, Hong Kong.

Enquiry:

E-mail address : [cannischeung@epd.gov.hk](mailto:cannischeung@epd.gov.hk)

Telephone : (852) 2594 6332

Fax : (852) 2824 9361

on exhaust emission

(852) 2411 9665

Fax : (852) 2413 3358

on noise emission

# ENVIRONMENTAL PROTECTION DEPARTMENT

## APPLICATION FOR MOTOR VEHICLE EXHAUST AND NOISE EMISSION TYPE APPROVAL

(For motor vehicle with design weight of not more than 3.5 tonnes)

Vehicle Make & Model : \_\_\_\_\_

Class of Vehicle: (e.g. Private Car) \_\_\_\_\_

### **PART I**

#### A. Applicant's information

Company : \_\_\_\_\_

Address : \_\_\_\_\_

Business Registration No. : \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No. : \_\_\_\_\_

Name and Telephone No. of Contact Person (if applicable): \_\_\_\_\_

Signature (Applicant) : \_\_\_\_\_

Name: \_\_\_\_\_ Position : \_\_\_\_\_

E-mail Address : \_\_\_\_\_ Date : \_\_\_\_\_

### **Checklist**

Please tick the relevant boxes

- Two copies of PART I – Applicant's information
- One copy of PART II – Information of the Vehicle Model for Type Approval
- \*One CD-Rom containing third party certificates for exhaust emission / \*One hard copy of third party certificate for exhaust emission
- \*One CD-Rom containing third party certificates for noise emission / \*One hard copy of third party certificate for noise emission
- \*Certification issued by the Ministry of Land, Infrastructure and Transport
- \* Other supporting documents, please specify \_\_\_\_\_

### **Submission of Application**

The completed application form together with all supporting documents can be sent by post or in person to

Environmental Protection Department

Mobile Source Policy Section (1)

Room 4518, 45/F., Revenue Tower,

5 Gloucester Road,

Wan Chai, Hong Kong.

Note : \* delete as appropriate

B.1) Declaration by Vehicle Manufacturer

**I certify that**

- (a) the information in PART II – Information of the Vehicle Model for Type Approval is the correct description of the vehicle or engine model under application.
- (b) the vehicle / engine type described in Part A, Part B and Part C complies with the vehicle exhaust emission standards and the noise emission standards as laid down in the Air Pollution Control (Vehicle Design Standards)(Emission) Regulation and Noise Control (Motor Vehicles) Regulation respectively.
- (c) adequate arrangements and prepared documented quality control plans with certification to international standard such as EN ISO 9002 – 1994, or EN ISO 9001 – 2000 or an equivalent standard acceptable by the Environmental Protection Department has been set up to ensure all vehicles and engines produced and offered for sale in Hong Kong comply with the exhaust emission standards as laid down in the Air Pollution Control (Vehicle Design Standards)(Emission) Regulations.
- (d) at least 1% (or % as agreed with the Environmental Protection Department) of the total sales of the vehicles or engines of the model for which emission type approval is sought, and destined for Hong Kong will be sampled randomly for exhaust emission test to confirm the vehicle model complies with the emission requirements in the Air Pollution Control (Vehicle Design Standards)(Emission) Regulations.
- (e) an annual report will be submitted to the Environmental Protection Department for the approved vehicle model or engine model substantiating the fulfillment of the conformity of production requirements in the approved conformity production plan.

Authorised Homologation Staff (Signature) : \_\_\_\_\_

Name and Position : \_\_\_\_\_

Company : \_\_\_\_\_

Date : \_\_\_\_\_

## **PART II INFORMATION OF THE VEHICLE MODEL FOR TYPE APPROVAL**

**This vehicle model can meet the qualifying emission AND fuel efficiency standards of Environment-friendly vehicle YES/ NO.**

### **A. Details of the Motor Vehicle, Engine, Air-Intake and Exhaust Control Systems**

#### **A.1) Description of Motor Vehicle**

Make :  
Model (Sales Designation) :  
Registration Class :  
  
Manufacturer's Name and Address :  
Manufacturer's Representative's Name :  
and Address :  
  
Design Weight (kg)<sup>(1)</sup> :  
Unladen Mass of Vehicle (kg) :  
Reference Mass of Vehicle (kg)<sup>(2)</sup> :  
Maximum Technically Permissible Mass of Vehicle (kg)<sup>(3)</sup> : (Laden)  
Seating capacity (excluding driver) :  
  
Gearbox - Type : Manual /Automatic /CVT\*  
- Model No. :  
Number of Gears :  
Gear Ratios - First : Second :  
- Third : Fourth :  
- Fifth : Sixth :  
  
For CVT - Minimum Ratio :  
- Maximum Ratio :  
  
Final Drive Ratio :  
  
Driving Wheels : Front /Rear /All\*  
Tyre Specifications - Front :  
- Rear :

Note : \* delete as appropriate

CVT means Continuously Variable Transmission

(1) Maximum design loaded vehicle weight as recommended by the manufacturer of a motor vehicle

(2) Mass of vehicle in running order less the uniform mass of the driver of 75kg and increased by a uniform mass of 100kg

(3) The maximum mass of the vehicle based on its construction and performance, stated by the manufacturer.

## A.2) Description of Engine

Make :

Type :

Fuel used :

Cycle : Four Stroke / Two Stroke / Others\* (please specify) :

Combustion System : Positive Ignition / Compression Ignition\*

Number and Arrangement of Cylinders :

Bore (mm) :

Stroke (mm) :

Firing Order of Cylinders :

Engine Capacity (litre) :

Volumetric Compression Ratio :

Cooling System :

Fueling System (No. and type of carburetors or injection system) :

Rated Maximum Power Output : \_\_\_\_\_ kW at \_\_\_\_\_ rev/min

Rated Maximum Torque Output : \_\_\_\_\_ Nm at \_\_\_\_\_ rev/min

Idle Engine Speed (rpm) :

Maximum Designed No Load Engine Speed (Diesel Only) (rpm) :

Method of Aspiration : Natural / Turbocharger & Intercooler / Other\* (please specify) :

## A.3) Description and Drawings of the Air-intake and Exhaust Control System

### 1. Air-Intake System

Description and drawings (showing in a plan view and a lateral view) of the air-intake system indicating the location of the intake silencer(s) and the air filter(s) :

(i) **Air Filter, drawings number** :

Model/Type :

Identification Marks :

Manufacturer/Authorized Agent :

Note : \*delete as appropriate

(ii) **Air Intake Silencer, drawings number** :

Model/Type :

Identification Marks :

Manufacturer/Authorized Agent :

**2. Exhaust Control System**

Description and drawings (showing in a plan view and a lateral view) of the exhaust system indicating the location of the muffler(s), the catalytic converter(s) and the oxygen sensor(s) :

(i) **Exhaust Silencer, drawings number:**

Model/Type :

Identification Marks :

Manufacturer/Authorized Agent :

(ii) **Catalytic Converter, drawings number:**

Model/Type :

Identification Marks :

Manufacturer/Authorized Agent :

(iii) **Oxygen Sensor, drawings number:**

Design range of Lambda value at high idle speed is  $1 \pm 0.03$  : yes / no\*  
if no, please specify :

Model/Type :

Identification Marks :

Manufacturer/Authorized Agent :

(iv) **Device for Recycle Crankcase Gases**

Description and drawing number :

(v) **Exhaust Gas Recirculation : yes / no\***

Description and drawing number :

(vi) **Evaporative Emission Control System : yes / no\***

Description and drawing (showing in schematic diagram) :

Drawing number of **Carbon Canister** :

(vii) **NOx Sensor : yes / no\***

Description and drawing number :

(viii) **Secondary Air Injection : yes / no\***

Description and drawing number :

(ix) **Particulate Trap : yes / no\***

Description and drawing number :

(x) **Other Anti-Pollution Devices : yes / no\***

Description and drawing number :

**A.4) Description and Diagram of Motor Vehicle with Overall Dimensions**

(including Fuel Tank Filling Pipe Neck Inside Diameter for petrol vehicles only).

*Note : Attach separate sheet(s) showing a plan view, a front view and a lateral (side) view*

**A.5) Maintenance and Service Schedule under Normal and Severe Use**

*Note : Attach separate sheet(s) if necessary*

**A.6) Details of On-Board Diagnostic (OBD) System**

1. The OBD system complies with the requirements laid down in Annex XI of Directive 98/69/EC and its subsequent amendments up to and including amendments made by 2003/76/EC\* or other equivalent\* (state if any) \_\_\_\_\_.
2. Attach comprehensive fault code list and descriptions of the malfunction indicator (MI) used by the OBD system to signal the presence of faults.
3. Attach list of all relevant parts of the vehicle's emission control system that are monitored by the OBD system such as catalyst & oxygen sensor monitoring, misfire detection, electronic evaporative purge control device (if equipped), etc., for positive ignition engine and catalyst/electronic fuelling system/particulate trap monitoring, etc., for compression ignition engines. Details of monitoring method, monitoring flow chart (if any), monitoring condition and malfunction criteria for each relevant part monitored by the OBD system.
4. Full OBD system test report  
Attach a full OBD system test report. The OBD system test has been carried out in accordance with Annex XI of Directive 98/69/EC and its subsequent amendments up to and including amendments made by 2003/76/EC\* or other equivalent\* (state if any) \_\_\_\_\_.  
Certified true copy by the Homologation Department is acceptable.

Note : \* Delete as appropriate

## **B. Exhaust Emission Results**

### **Important Notes:**

- (1) For emission tests conforming to EC Directive, please complete Parts B.1 and B.2 and provide necessary EC Type Approval Certificates for Exhaust Emission, Carbon Dioxide Emissions and Fuel Consumption or third party supporting information such as emission test report, etc. for verifying the emission test results in Part B.2.
- (2) For emission tests conforming to Japan Standard, please complete Parts B.1 and B.2 and complete the following information:
- This model is approved under type designation of device approval system in Japan.
  - This model is approved under whole vehicle type approval system in Japan,
  - A copy of the test report from NTSEL is attached.
  - A copy of the test report from NTSEL not available and will be submitted later.
  - No NTSEL report for this application but the emission testing results are originated from the NTSEL report which will be available for inspection during the COP audit.
- (3) For emission tests conforming to US Standard, please complete Parts B.1 and B.2 and provide necessary supporting information such as emission test reports for verifying emission test results in Part B.2.

### **B.1) Certificate of Compliance for Gaseous, Particulate & Smoke Emission**

Vehicle Make :  
Engine Make :  
Vehicle Type (Model Code) :  
    Variant :  
    Version :  
Vehicle Model :  
Engine Model :  
Manufacturer's name and address :

### **Specify EC Certificate Number / Conforming Standard for**

Whole Vehicle Type Approval :  
Exhaust Emission :  
Fuel Consumption :

## Test Report Number for

Whole Vehicle Type Approval :  
Exhaust Emission :  
Fuel Consumption :  
OBD System :

Test Fuel Specifications : Values of RON / MON / Lead Content / Sulphur Content

## B.2) Motor Vehicle Exhaust Emission Test Report

### 1. Identification of Vehicle Tested

Engine No. <sup>(1)</sup> :  
Chassis No. <sup>(1)</sup> :  
Odometer Reading (km) :

### 2. Emission Test Results

#### 2.1 Type I Test (Verifying the Average Tailpipe Emissions after a Cold Start)

Date of Testing :

	<u>Emitted Mass</u>	<u>Unit</u>	<u>Deterioration Factor</u>	<u>Result</u>	<u>Limit</u>
HC		(in g/km)			
HC+NO <sub>x</sub>		(in g/km)			
NMHC		(in g/km)			
CO		(in g/km)			
NO <sub>x</sub>		(in g/km)			
NMOG		(in g/km)			
HCHO		(in mg/km)			
PM		(in g/km)			

#### 2.2 Type II Test (Carbon Monoxide Emission at Idling Speed)

Date of Testing :  
At Idling Engine Speed (min<sup>-1</sup>) :  
Corrected CO Value (% Vol.) :  
Limit (% Vol.) :

#### 2.3 Type III Test (Crankcase Emission Test)

Date of Testing :  
Test Result :

Note : (1) Details of the engine/chassis code to support the vehicle/engine tested are applicable to the applied vehicle.

2.4 Type IV Test (Evaporative Emission Test)

Date of Testing :  
 Test Method :  
 Test Result (g/test) :  
 Limit (g/test) :

2.5 Type V Test (Durability of Anti-Pollution Control Devices)

Date of Testing :  
 Durability type : 80,000 km or 5 yrs<sup>\*(a)</sup> / 80 000 km<sup>\*(b)</sup> / 50,000 and 120,000 miles<sup>\*(c)</sup>  
 / other\*

Deterioration Factors : Fixed / Calculated\*

	HC	HC+NOx	NMHC	CO	NOx	NMOC	HCHO	PM
Deterioration Factor :								

2.6 Roadworthiness Test

Date of Testing :

	CO Value (% Vol.)	Lambda	Engine Speed (min <sup>-1</sup> )	Engine Oil Temperature (°C)
Low Idle Test				
High Idle Test				

2.7 Results of the CO<sub>2</sub>-Emission / Fuel Consumption Tests

Date of Testing :

	Urban Conditions	Extra-urban Conditions	Combined Conditions
CO <sub>2</sub> Emission (g/km)			
Fuel Consumption (l/100km)			

Name and Address of the :  
 Approved Test Laboratory

Laboratory Approved by :  
 (Name and Address of  
 National or Recognised Authority)

Note : \* Delete as appropriate  
 (a) Durability type for emission tests conforming to EC Directive  
 (b) Durability type for emission tests conforming to Japan Standard  
 (c) Durability type for emission tests conforming to USA Standard

## 2.8 Smoke Test (For diesel engine only)

Free Acceleration Smoke Test Result according to 72/306/EC test procedure and its subsequent amendments up to and including amendments made by 2005/21/EC.

### Identification of Vehicle Tested

Engine No. <sup>(1)</sup> :

Chassis No. <sup>(1)</sup> :

Odometer Reading (km) :

Date of Testing :

Opacimeter Used :

	<u>Measured</u>	<u>Limit</u>
Light Absorption Coefficient (m-1)		

Name and Address of the  
Approved Test Laboratory :

Laboratory Approved by  
(Name and Address of  
National or Recognised Authority) :

Note : (1) Details of the engine/chassis code to support the vehicle/engine tested are applicable to the applied vehicle.

## C. Details of the Motor Vehicle, Engine and Noise Emission Test Results

### C.1) Details of the Motor Vehicle and Engine

Vehicle Make :  
Vehicle Model & Sales Designation :  
Vehicle Registration Class :  
Engine Make :  
Engine Type :  
Engine Capacity (litre) :  
Fuel used :  
Rated Maximum Power Output of Engine : \_\_\_\_\_ kW at \_\_\_\_\_ rev/min  
Manufacturer's name and address :  
Name and Address of Manufacturer's Representative :  
Design Weight (kg) <sup>(1)</sup> :  
Unladen Mass of Vehicle (kg) :  
Maximum Technically Permissible Mass of Vehicle (kg) <sup>(2)</sup> (Laden) :  
Seating capacity (excluding driver) :  
Gear Box Type : Manual / Automatic / CVT\*  
Number of Gears :  
Conforming noise standards :

The noise emission test results for the test motor vehicle are summarised in Part C.2 as follows.

Name and address of Manufacturer's testing site (if different from above) or Acoustic Testing Laboratory :

Note : \* delete as appropriate

CVT means Continuously Variable Transmission

(1) Maximum design loaded vehicle weight as recommended by the manufacturer of a motor vehicle

(2) The maximum mass of the vehicle based on its construction and performance, stated by the manufacturer

## C.2) Motor Vehicle Noise Emission Level Test Results :

The description of the motor vehicle and engine is in Part C.1.

### Identification of Vehicle Tested

Engine No.\* :

Chassis No.\* :

Test Date :

Test Site :

Name and address of the Acoustic Testing Laboratory :

The tests have been carried out in accordance with the testing procedures of the noise standards (EEC or Japan \*\*) in the Noise Control (Motor Vehicles) Regulations. The specific testing procedure adopted is # (select whichever is appropriate).

- # Accelerated Running Noise Level Test (EEC and Japan noise standard)
- # Stationary Noise Level Test (EEC standard only)
- # Steady Running Noise Level Test (Japan standard only)
- # Proximity Stationary Noise Level Test (Japan standard only)

*Note : You should also **provide the appropriate test results** which comply with the noise standards indicated above. A model test results format as shown in Appendix I, for reference, should facilitate the interpretation of test results.*

Note : \* Details of the engine/chassis code to support the vehicle/engine tested are applicable to the applied vehicle

\*\* delete as appropriate

## Appendix I Model format for the presentation of the motor vehicle noise results

### 1) Accelerated Running Noise Level Test (for EEC and Japan noise standard)

No. of Measurement	Used gear position or range	Specified speed (km/h)	Test speed (km/h)		Level of ambient noise dB(A)	Motor vehicle noise level (dB)		Test result dB(A)	Noise level limit dB(A)	
			Entry	Exit		Measured value				Compensated value
						*Left	*Right			
1										
2										
3										
4										

Note : \*denotes EEC test procedure requires noise levels be recorded on both the left and the right handed side of the test vehicle.

### 2) Stationary Noise Level Test (for EEC Standard only)

No. of Measurement	Engine speed delivering max powered output (rpm)	Level of ambient noise dB(A)	Motor vehicle noise level (dB)		Test result dB(A)
			Measured value	Compensated value	
1					
2					
3					

### 3) Steady Running Noise Level Test (for Japan noise standard only)

No. of Measurement	Used gear position or range	Specified speed (km/h)	Test speed (km/h)	Level of ambient noise dB(A)	Motor vehicle noise level (dB)		Test result dB(A)	Noise level limit dB(A)
					Measured value	Compensated value		
1								
2								

### 4) Proximity Stationary Noise Level Test (for Japan noise standard only)

No. of Measurement	Engine speed delivering max powered output (rpm)	Level of ambient noise dB(A)	Motor vehicle noise level (dB)		Test result dB(A)	Noise level limit dB(A)
			Measured value	Compensated value		
Right	1					
	2					
Left	1					
	2					

**Environmental Protection Department**  
**December 2006**