

# Regulations Governing Verification Issuance and Cancellation of Certification Compliance for Motorized Bicycle Configuration Emissions

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## Article 1

These Regulations are determined pursuant to Article 39 of the Air Pollution Control Act (herein referred to as this Act).

## Article 2

Terms used in these Regulations are defined as follows:

- I. The vehicle model configuration pattern (herein referred to as motorcycle configuration) of motorized bicycles (herein referred to as motorcycles) means that motorcycles that are identical in terms of power system (such as internal combustion engine or hybrid power incorporating an electric motor), basic engine, fuel supply system, emission control system, gearshift device, and inertial weight class are considered a single motorcycle configuration.
- II. The engine family means that motorcycles with similar configurations in terms of power system, combustion cycle (engine stroke), cooling system type (air cooled, water cooled), cylinder block configuration (namely, in-line, V-type, or horizontally opposed, distance between cylinder bores, etc.), number of cylinders, air supply method, fuel supply (method, figures, and metering system etc.), vapor storage device, catalytic converter type (oxidation catalyst, reduction catalyst or three-way catalyst), secondary air system, and electronic control module may be classified as having the same engine family.
- III. In-use motorcycles from overseas: motorcycles that have already been registered and licensed by motor vehicle supervisory agencies in the said country of import, must obtain an import and commodities tax payment (exemption) certificate issued by customs at the time of import as documentary proof.
- IV. Model year: the calendar year in which vehicle manufacturer began producing the model in a large quantity.

## Article 3

Motorcycles shall comply with Article 6 and Article 7 of the Vehicular Air Pollutant Emission Standards (herein referred to as Emissions Standards), as well as related stipulations of these Regulations, before the central competent authority shall issue configuration emission test compliance verification (herein referred to as compliance verification).

## Article 4

Applicants shall apply for motorcycle configuration emission test compliance verification (herein referred to as compliance verification) in accordance with the following rules:

- I. For domestically manufactured motorcycles the manufacturer shall submit the application.

- II. For imported motorcycles an agent designated by the manufacturer of the said motorcycle, the importer or a joint importers association shall submit the application.
- III. In addition to the regulations of Paragraphs 1 and 2, for imported motorcycles procured by government organizations at all levels the said organization shall submit the application on its own or commission the winning tenderer to submit the application.
- IV. For motorcycles individually imported from overseas the owner shall submit the application.

Electric motorcycles without internal combustion engines are exempt from the application for compliance verification prescribed in the foregoing paragraph.

#### **Article 5**

The central competent authority may employ test data concerning a test vehicle from a testing organization designated by the central competent authority as a basis for determination whether an engine family for which compliance verification has been applied meets engine meets Emissions Standards.

The selection and testing of the test vehicle in the foregoing paragraph shall comply with the regulations of Appendix 1.

#### **Article 6**

Applicants for compliance verification shall submit documents according to Appendix 1.

#### **Article 7**

After the central competent authority has issued compliance verification for the engine family and vehicle model year, when any one of the following situations applies, the central competent authority may revoke or cancel compliance verification, and may require the applicant to perform recall and correction as prescribed in Appendix 3:

- I. Submitting false documents with an application, reporting false information, or keeping false records of operations.
- II. Violation of Article 12.
- III. Other severe offenses determined by the central competent authority to be in violation of this Act or these Regulations.

#### **Article 8**

When an applicant plans to continue manufacturing or importing in the following year motorcycles that have already obtained compliance verification, he shall apply to the central competent authority for continued use of the compliance verification in the following model year. The central competent authority may permit the continued use of the said engine family compliance certification when the following regulations are met at the same time:

- I. Configurations are identical to those of the previous model year.
- II. All items that may affect emission pollution are identical with those of the previous model year.

#### **Article 9**

When an applicant partially modifies the engine family's parts/components or data, and continues to use the original engine family, he shall apply to the central competent authority for an amendment of the compliance verification, and also provide comparative configuration data before and after modification. When it is verified that relevant items affecting emission pollutants are all identical and have identical emission characteristics, the applicant may be granted an amendment of the said engine family compliance verification after approval by the central competent authority.

#### **Article 10**

The applicant shall apply to the central competent authority for an extension of the compliance certification before adding a new configuration to the same engine family. The applicant shall submit configuration data for compliance certification to be extended to prove that all relevant items affecting emission pollutants are identical with the original engine family and have identical emission characteristics. The applicant shall be granted an extension of the said engine family compliance certification upon receiving approval from the central competent authority.

#### **Article 11**

The applicant shall submit deterioration factors for carbon monoxide, hydrocarbons, and nitrogen oxides for each engine family; each engine family's deterioration factors are to be handled as prescribed in Appendix 4.

#### **Article 12**

Mass production motorcycles for which the applicant has obtained compliance verification shall comply with the following regulations:

- I. Each mass production motorcycle shall have the configuration recorded in the compliance verification. All items affecting emission air pollutants and the emission control system must be consistent with the data that were recorded at the time of application for testing compliance verification.
- II. Any manuals and explanations provided by the manufacturer or importer to agents, distributors, service workshops and vehicle owners that are related to the use, repair, adjustment, servicing or testing of emission control systems shall all be consistent with the data at the time of application for compliance verification.
- III. Manufacturers or importers shall send by letter production/sales data and statistical analysis data of quality control testing for the previous month to the central competent authority before the 20th of each month for future reference. If a motorcycle fails to comply with Emissions Standards in quality control testing, the reason for the failure to comply with standards and corrective measures shall be explained.

The quality control testing in the foregoing paragraph shall be performed pursuant to the following regulations:

- I. When a manufacturer or importer performs quality control testing on its own, the random testing ratio shall be at least one vehicle randomly tested per every 500 vehicles in each engine family produced or imported. Those unable to conduct quality control testing on their own shall commission a testing organization designated by the central competent authority to perform emission control testing, and the random testing ratio should be to test one vehicle when the cumulative number of vehicles in each engine family has reached 200.
- II. If the number of motorcycles manufactured or imported in a year does not reach the quantity specified in the foregoing subparagraph, random testing shall be performed on at least one vehicle.
- III. Half a year after the start of production or import of an engine family, an applicant may submit statistical quality control testing data for the said engine family. When a review by the central competent authority confirms that the quality control plan for said mass-produced or imported motorcycle is performing well, the self-testing ratio may be relaxed to at least one in every 1,000 vehicles produced or imported. For those unable to conduct quality control testing on their own, the random testing ratio should be at least one in every 500 vehicles produced or imported.

#### **Article 13**

The central competent authority may perform new vehicle random testing on motorcycles that have already obtained compliance verification. Such random testing is to be performed in accordance with Appendix 5. If the central competent authority determines that testing results for new vehicle random testing are not in compliance with standards, it shall revoke the compliance certification for the engine family, and the applicant shall conduct matters related to recall and correction as prescribed in

**Article 14**

Motorcycles for which the applicant did not apply for compliance verification based on model year and engine family as basic units shall submit the following documents to apply to the central competent authority for compliance verification as individual vehicle:

- I. Application form
- II. Said motorcycle import and commodities tax payment (exemption) certificate issued by customs
- III. Confirmation by a testing organization designated by the central competent authority that the said motorcycle has an evaporative emission control system or components. Testing reports performed on the individual vehicle and complying with Emissions Standards (the deterioration factors for carbon monoxide, hydrocarbons, and nitrogen oxides shall all be the designated deterioration factor of 1.4).
- IV. Proof of origin

**Article 15**

Applicants who import in-use vehicles from overseas shall submit the following documents to apply to the central competent authority for compliance verification as individual vehicle:

- I. Application form
- II. Said motorcycle import and commodities tax payment (exemption) certificate issued by customs
- III. Confirmation by a testing organization designated by the central competent authority that the said motorcycle has an evaporative emission control system or components. Testing reports performed on the individual vehicle and complying with Emissions Standards (the deterioration factors for carbon monoxide, hydrocarbons, and nitrogen oxides shall all be the designated deterioration factor of 1.4).
- IV. Proof of origin

**Article 16**

With regard to the emission pollution testing needed when applying for compliance verification, the central competent authority shall determine methods and procedures for cold driving cycle exhaust pollution testing, evaporation emission testing, and endurance testing, etc.

**Article 17**

The central competent authority may commission agencies (organizations) to handle relevant matters related to compliance certifications and new vehicle random testing.

**Article 18**

These Regulations shall take effect on the date of promulgation.

# Appendix 1: Relevant vehicle testing regulations for selection and testing

- I. Vehicles selected for vehicle testing shall be representative of the said engine family; the principles of selecting test vehicles are as follows:
  - A. From the said engine family, vehicles of the vehicle model expected to have the greatest quantity of pollutant emissions shall be selected for exhaust emissions testing. Of the vehicles selected, the vehicle with the greatest loaded vehicle weight (including options) shall be selected. When different vehicle models have an identical loaded weight, the vehicle model with the greatest road resistance using dynamometer testing data shall be selected. If road resistance is identical, the engine with the greatest displacement shall be selected for testing. If the displacement is identical, the vehicle with the greatest total gear ratio for all gears (including the overdrive device) shall be selected.
  - B. If the central competent authority does not consider the test vehicle selected by the applicant in the foregoing paragraph to be representative of pollutant emissions from the said engine family, the central competent authority may designate another vehicle model in the said engine family as a test vehicle.
  - C. From the said engine family, select one vehicle of the vehicle model expected to have the highest evaporative emission value. If unable to ascertain the vehicle model expected to have the highest evaporative emission value, select one vehicle from any of the vehicle models in the engine family.
  - D. All test vehicles selected for the testing application shall be finished products for normal use.
  - E. Vehicles in the same engine family that were manufactured in, or imported from, different countries shall be selected separately for testing.
- II. Emissions pollutant testing:
  - A. The applicant shall provide the test vehicle's specifications; maximum speed, basic engine data, power system, fuel supply system, and gearshift system information; emission control system explanations, schematic diagrams, and location diagrams; emission pollutant-related adjustable parameters and recommended settings; and photographs of the test vehicle and emission control system.
  - B. Vehicle emission pollutant testing should be performed with the vehicle in a normal condition. Testing shall be implemented as prescribed in Articles 6 and 7 of the Emissions Standards and in Motorized Bicycle Evaporation Emission Testing Methods and Procedures.
  - C. When more than one test is conducted on the same test vehicle, the test scores from the final test shall be taken as the emission testing results.
  - D. Apart from evaporation emission testing, the data from all new vehicle testing, including new vehicle model certification testing, quality control testing, and random new vehicle testing, shall be multiplied by the deterioration factor of the said engine family. The resulting values shall be the basis for determining whether or not the engine family complies with emissions standards.
  - E. The applicant shall determine the minimum fine-tuning mileage needed to attain stable emissions values for each engine family. However, the accumulated fine-tuning driving mileage for new vehicle pollutant emissions testing shall be at most 1,500 kilometers.

## **Appendix 2. Documents to be submitted and relevant regulations when applying for compliance verification**

- I. When applying for compliance certification, the following documents shall be provided:
- A. Application form (to be completed in the application format)
  - B. “Motorcycle model emissions testing compliance certification” draft (to be completed in the application format)
  - C. A letter of guarantee for compliance with emissions standards and endurance guarantees
  - D. Quality control plan for mass-produced motorcycle emission air pollutants, which shall conform to the following regulations:
    - 1. Vehicles shall undergo quality control testing at a testing organization authorized by the central competent authority.
    - 2. The control quality plan shall include the following content:
      - a. Self-conducted random testing method
      - b. Random test ratio
      - c. Test items: shall at least include driving pollutant emission test and idle pollutant emission test.
      - d. Name of organization performing the test
      - e. Instruments and equipment
      - f. Test results and a complete record of the testing procedure
      - g. Deployment data for personnel implementing the quality control plan
      - h. Flowchart of plan implementation
      - i. Improvement methods for problem areas
      - j. Other supplemental explanations
  - E. General data about applicant company and engine family. (See Table A)
  - F. All configurations of the engine family and estimated annual sales volume. (See Table B)
  - G. Specifications and identification method for all configurations of the engine family (See Table C)
  - H. Basic engine data including combustion cycle, cylinder block configuration, number of cylinders, emission volume, cooling method, air supply method, fuel supply etc. (See Table D)
  - I. Gearshift system information (See Table E)
  - J. Description and schematic diagram of emission control system (See Table F)
  - K. Location of emission control system in vehicle and list of identification numbers for relevant parts. (See Table G)
  - L. Emission pollutant-related adjustable parameters and recommended settings (See Table H)
  - M. Provide owner’s manual, warranty/guarantee and labels in Chinese to be affixed to motorcycle (See Table I)

The regulations for the user’s manual are as follows:

- 1. The applicant shall provide the owner of the vehicle a user’s manual in Chinese. To provide the vehicle owner with directions for regular operation and maintenance, thereby ensuring that the emission control system can function normally, the manual shall include the following content:
  - a. Vehicle specifications list
  - b. Methods of use
  - c. The octane value and types of vehicle used in the vehicle
  - d. Warranty items, time/mileage
  - e. Service and maintenance items, time/mileage
  - f. Address and telephone number of the vehicle service center
- 2. The rules for the maintenance items of components associated with waste emissions and emission control in the user’s manual are explained in detail in the remarks of Table 1.

The regulations for affixed labels are as follows:

1. The applicant shall produce at least one long-lasting and easily identifiable label and affix it to the vehicle in a clearly visible place.
  2. The label shall not be easy to pull off the vehicle; to the point where the label will be damaged or the print will be illegible if one attempts to pull it off.
  3. Applicants that have obtained “compliance certification” shall affix the label onto the vehicle before sale. The Chinese-language content on the label shall include the following information:
    - a. The title of the label shall be “Vehicle Emissions Control Data”.
    - b. Full title of the company, vehicle manufacturer and brand
    - c. Vehicle model year, engine family, and engine displacement.
    - d. The engine’s optimal adjustment specifications, must include idle speed and parameters deemed necessary by the vehicle manufacturer.
    - e. Pollution emission control equipment identification number.
    - f. The label shall clearly state “This engine family complies with the Emissions Standards implemented on January 1, 2004” (when subsequent emissions standard revisions go into effect the date shall be changed to the subsequent date of promulgation), and “Users may not remove or modify the emission control system.”
- N. A summary record of new configuration certification test vehicle emission pollutant testing and deterioration factors for hydrocarbons, carbon monoxide, and nitrogen oxides (See Table J)
- O. New configuration certification test vehicle test report and approved durability testing data (See Table K)
- P. In addition to providing relevant data in accordance with these Regulations (if identical with the previous application data, archived data may be specified for reference by the central competent authority) when applying for the continued use of the model year, motorcycle configuration modification, or new vehicle model extension, a list of items that were modified each time, the date of each modification and a summary of the content of each modification must be filled out. (See Table L)
- Q. Photograph of the test vehicle
- R. The following explanation shall be provided in the case of motorcycles not powered exclusively by internal combustion engines (such as hybrid electric motorcycles):
1. Certification and explanation of vehicle type
  2. Switch function for power operating mode
  3. Explanation and mileage warranty for energy storage installations
  4. Power machinery system
  5. Control unit
  6. Power controller
  7. The vehicle’s greatest driving mileage when electrically powered
  8. Suggestions and recommendations of vehicle manufacturer

## II. Relevant regulations:

- A. If the applicant is not a domestic vehicle manufacturer or the domestic designated dealer of a foreign vehicle manufacturer, the application data shall be based on the user’s manual, technical manual, or product catalog of the original manufacturer and the user’s manual or product catalog shall be attached to the application. Information that cannot be obtained shall be expressed as N/A. However, the applicant engine family is limited to a single vehicle model. Relevant pollutant testing must be performed at the testing organization designated by the central competent authority; rules in these Regulations concerning requests for extended use are not applicable.
- B. The applicant’s application data shall conform to requirements of electronic processing by providing electronic files of data requested on forms and all other required documents.

## III. The applicant shall fill out the following form:

Environmental Protection Administration	審驗合格證明申請 表格 APPLICATION FORM	引擎族 Engine Family	Number of pages	Table A
			Paging	Date
			Number of revisions	Date of revision

## General information

1. Motorcycle manufacturer
2. Manufacturer name
3. Engine family
4. Model year
5. Please issue the testing compliance verification to the following company  
(company address)
6. Name, address and telephone number of company contact person  
(includes domestic and overseas contact persons)
7. Pursuant to these Regulations the following items shall be stated item by  
item (and signed by the statutory responsible person)
  1. Said vehicle complies with these Regulations
  2. Commitments toward the vehicle owner
  3. The EPA may inspect testing equipment
  4. Commissioned agent in R.O.C.
  5. Testing has already been performed in accordance with these  
Regulations

See Guarantee/warranty

See Quality control plan

See \_\_\_\_\_

See Table J

## Remarks:

The name of the engine family shall include the emission quantity and end with the model year (for example G50...-97); the identification number may not exceed 12 digits; and the fuel type should serve as the first letter G=gasoline, L=LPG.

Each form shall have a label affixed before the application is accepted.

The statements regarding Item 7 may be included in the letter of application.





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Vehicle name at time of sale	Emission control system designation	Basic engine designation	Transmission system designation	Inertial weight class (kg)	Motorcycle configuration

## Remarks:

Please use the following abbreviations to identify emission control system terms:

PMP= air pump for air injection

PLS=pulsating air injection system

EGR=exhaust gas recirculation

THM=thermal reactor

OXD=oxidation catalyst

RED=reduction catalyst

3CL=three-way catalyst, closed loop

3WY=three-way catalyst

CAN=carbon canister

RET=retardation system (e.g. Dashpot, throttle opener etc.)e.g. dashpot, throttle opener etc.))

OTR=other devices

For example:OXD EGR PMP 3CL CAN-1 andOXD EGR PMP 3CL CAN-2

Environmental Protection Administration	審驗合格證明申請 表格 APPLICATION FORM	引擎族 Engine Family	Number of pages	Table D
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## Basic Engine Information

1. Basic engine designation \_\_\_\_\_
2. Combustion cycle (two-stroke engine or four-stroke engine) \_\_\_\_\_
3. Cylinder block configuration (namely V-type, upright, flat) \_\_\_\_\_
4. Cylinder capacity \_\_\_\_\_
5. Cooling system type (air-cooled, water-cooled) \_\_\_\_\_
6. Air intake valve and exhaust valve (four stroke)
  1. Number of valves per cylinder, intake/exhaust \_\_\_\_\_
  2. Intake valve (angle)  $\alpha_i$  \_\_\_\_\_
  3. exhaust valve (angle)  $\beta_i$  \_\_\_\_\_  
 $\alpha_e$  \_\_\_\_\_  
 $\beta_e$  \_\_\_\_\_
7. Location of intake port and exhaust port (two-stroke engine)
  1. Number of ports per cylinder, intake/exhaust \_\_\_\_\_
8. Air supply method (natural air supply/pressurized air supply) \_\_\_\_\_
9. fuel supply method (carburetor, fuel injection) \_\_\_\_\_
10. Cylinder bore (mm) \_\_\_\_\_
11. Stroke (mm) \_\_\_\_\_
12. Emission volume (cm<sup>3</sup>) \_\_\_\_\_
13. Compression ratio (normal value) \_\_\_\_\_
14. Four-stroke engine valve head diameter (intake/exhaust) \_\_\_\_\_
15. Surface of intake/exhaust port (mm<sup>2</sup>) \_\_\_\_\_
16. Valve timing (crank angle) or exhaust timing
  1. Opening" intake/exhaust \_\_\_\_\_
  2. Closing: intake/exhaust \_\_\_\_\_
  3. Maximum upstroke (mm) \_\_\_\_\_
17. Internal cooler ☐ Yes ☐ No

## Remarks:

For each basic engine of this engine family separate forms shall be filled out. If engines are identical (with a previously described engine), the information of the said engine may be specified for reference.

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## Transmission system information

1. Transmission system designation	
2. Gearbox type (manual/automatic)	
3. Number of gears	
4. Gearshift method (namely circulatory, international ...)	
5. drive mode	
6. Tire size	
1.	Standard equipment:
2.	Optional equipment:
7. Final reduction ratio	
1. Primary reduction ratio	
2. Secondary reduction ratio	
3. Total reduction ratio (highest gear)	
8. Gear ratios	
1. Gear No. 1	
2. Gear No. 2	
3. Gear No. 3	
4. Gear No. 4	
5. Gear No. 5	
6. Gear No. 6	
9. Vehicle speed (standard tires) at rpm4000 rpm engine revolutions (When vehicle speed deviation does not exceed $\pm 8\%$ , vehicle configurations shall be considered as identical)	
Gear No. 1 (km/h)	
Gear No. 2 (km/h)	
Gear No. 3 (km/h)	
Gear No. 4 (km/h)	
Gear No. 5 (km/h)	
Gear No. 6 (km/h)	

## Remarks:

Separate forms are required for each transmission system

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## Description of the emission control system

1. Emission control system designation \_\_\_\_\_

2. Emission control system \_\_\_\_\_

Fuel and air supply system

1. Make and type designation \_\_\_\_\_

2. Configuration and operation method \_\_\_\_\_

Fuel tank filler inlet restrictor device

See Table F, Page \_\_\_\_\_

Fuel metering system, transient enrichment system, idle stop  
configuration, starting and warm up enrichment system and hot  
idle compensation system, inlet manifold and air inlet  
temperature control system, as applicable

See Table F, Page \_\_\_\_\_

3. Calibration

See Table F, Page \_\_\_\_\_

Ignition system

4. Make and type designation \_\_\_\_\_

5. Configuration and operating method \_\_\_\_\_

See Table F, Page \_\_\_\_\_

6. Calibration

See Table F, Page \_\_\_\_\_

## Remarks:

Separate forms are required for each emission control system

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## Description of Emission Control System (continued)

2. 7. Indicate devices included in the emission control system.

- ☐ Reduction device
- ☐ Oxygen sensor
- ☐ Oxidation catalyst
- ☐ Reduction catalyst
- ☐ Three-way catalyst
- ☐ Air injection, air pump
- ☐ Exhaust gas recirculation

8. Configuration and operating method  
Emission-related data for each component

See Table F, Page \_\_\_\_\_

9. Calibration

See Table F, Page \_\_\_\_\_

3. Crank case emission control system

1. Configuration and operating method

See Table F, Page \_\_\_\_\_

2. Calibration

See Table F, Page \_\_\_\_\_

4. Evaporative emission control system

1. Name of evaporative emission control system

See Table F, Page \_\_\_\_\_

2. Configuration and operating method

3. Calibration

See Table F, Page \_\_\_\_\_

Environmental Protection Administration	審驗合格證明申請 表格 APPLICATION FORM	引擎族 Engine Family	Number of pages	Table G
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## Location Of Emission Control System On Vehicle

1. Emission control system designation \_\_\_\_\_

2. Motorcycle configuration \_\_\_\_\_

3. Photograph or other method showing the location of emission control components in the vehicle

The photograph shall state the configuration designation and emission control system items in a clearly visible location. Each component shall be marked with text or numbers that shall be found in the part identification list.

The location of parts that cannot be shown shall also be described.

See Table G, Page \_\_\_\_\_

4. Schematic drawing of vacuum hose routing

See Table G, Page \_\_\_\_\_

5. Part identification list (mass production parts) Emission-related parts recorded in Appendix F shall be identified with the same name and identification number found on the part.

The said information shall also include the letters or numbers pursuant to the regulations of Item 0.3 so that the location of each part can be identified by photograph.

See Table G, Page \_\_\_\_\_

## Remarks:

Separate forms are required for each emission control system

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## Adjustable Parameters And Recommended Settings

1. Motorcycle configuration
2. List emission pollutant-related parameters that can actually be adjusted (including parameters that cannot easily be accessed)
3. Recommended setting with tolerances for readily accessible adjustable parameters
4. Factory settings with tolerance range for parameters that are not easily accessible due to refitting prevention devices.
5. Description of measures taken to limit or prevent random access to emission-related adjustable parameters.

\_\_\_\_\_

See Table H, Page \_\_\_\_\_

See Table H, Page \_\_\_\_\_

See Table H, Page \_\_\_\_\_

See Table H, Page \_\_\_\_\_



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## Provide emission-related manuals for the vehicle owner

1. Motorcycle configuration	See Table I, Page _____
2. Instructions on how to start the car	See Table I, Page _____
3. How to use the gearshift device	_____
4. Recommended fuel type	_____
5. Recommended tire pressure	_____
6. Other emission-related operating manuals necessary to ensure the effective operation of the emission control system.	See Table I, Page _____
7. Emission-related maintenance manual (including preparatory moves before the vehicle's handover to the owner and service deadlines) to ensure that the vehicle is able to comply with Emissions Standards when used.	See Table I, Page _____
8. A photocopy of the commitments to the vehicle owner to be provided in accordance with these Regulations.	See Table I, Page _____
9. Original Chinese-language labels to be affixed to a prominent place on the motorcycle in accordance with these Regulations.	See Table I, Page _____
10. Original Chinese-language vehicle owner's manual	See Table I, Page _____

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## Summary Of Testing Data And Deterioration Factors

### 1. Emission data

Test vehicle serial number	Motorcycle configuration	Emission testing results multiplied with deterioration factors				Evaporation test	Idle testing		Smoke testing
		CO g/km	HC g/km	NO <sub>x</sub> g/km	HC+NO <sub>x</sub> g/km	HC g/test	CO %	HC ppm	%
Standard value									

Remark: The smoke test shall temporarily be not implemented until the central competent authority announces smoke test procedures.

### 2. Deterioration factors

Test vehicle serial number	Motorcycle configuration	Deterioration factors		
		CO	HC	NO <sub>x</sub>

## Remarks:

- ☐ The deterioration factors follow the test results in accordance with the “Motorized Bicycle Durability Testing Methods and Procedures”.
- ☐ Deterioration factors shall use specified deterioration factors.
- ☐ Deterioration factors shall consist of deterioration factors calculated or converted from factory endurance test data.

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## Emission testing report and deterioration factor approval letter

### 1. Emission testing data

The test report for test vehicles that have been selected in accordance with these Regulations shall include the following information:

Test number and test date

Test vehicle identification (motorcycle configuration, test vehicle serial number, chassis number, engine number, system kilometers, odometer reading)

Setting of emission-related engine components

Idle pollutant emission testing results

Pre-adjustment method

Use of gearshift device (shift timing)

Testing conditions (inertia, road resistance, tire pressure, tire brand)

Ambient conditions (atmospheric pressure and temperature, etc.)

Driving pollutant emission testing results

See Table K \_\_\_\_\_ Page

Evaporative emission testing results

See Table K \_\_\_\_\_ Page

Crankcase testing results

See Table K \_\_\_\_\_ Page

### 2. Deterioration factor approval letter

Deterioration factor approval letter approved by the central competent authority

See Table K \_\_\_\_\_ Page

## Remarks:

If other gearshift modes are used than those specified in the testing methods the central competent authority shall be asked for prior approval.

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# Appendix 3 Regulations Concerning Recall and Correction Plans

- I. When an applicant's compliance verification has been cancelled or revoked by the central competent authority in accordance with regulations, the applicant shall, within 30 days from the day the notice was received, submit a recall and correction plan for unsold and sold vehicles of the engine family in question to the central competent authority. Once the central competent authority has reviewed and approved the plan, the applicant shall, within 90 days of the day the approval letter is delivered, complete the recall and corrections. Those that fail to complete corrections by the deadline shall, within 30 days of the day of receipt of the approval letter, submit a specific improvement plan and apply for an extension with the central competent authority. The central competent authority shall approve the improvement deadline based on actual conditions, and the maximum extension may not exceed one year. The central competent authority may immediately terminate the improvement deadline of those who, after examination and confirmation, demonstrate the failure to strictly carry out implementation in accordance with the improvement plan.
- II. The contents of the recall and correction plan submitted by the applicant shall include the following items:
  - A. Explanation and analysis of the reason for recall and correction, and an engineering analysis of the reasons each vehicle or engine exceeding the Emissions Standards failed to meet said standards.
  - B. Assessment of the effects of the reason for recall and correction.
  - C. The brand, engine family, vehicle model, vehicle model year, and number of vehicles to be recalled and corrected, and other relevant recall and correction information.
  - D. The ratio of the estimated number of recalled vehicles to the number of vehicles sold
  - E. Correction measures to be performed on a recalled vehicle, including component replacement, repair, inspection, calibration, adjustments and other necessary changes in technical information summaries, that are sufficient to verify improvement in air pollutant emissions and compliance with emissions standards.
  - F. The listing method for the full name and address of the owners of vehicles to be recalled and corrected
  - G. For the recall and correction of a vehicle, a vehicle manufacturer or importer may not compel a vehicle owner to cooperate with any maintenance or use standards or conditions without the consent of the central competent authority; for example, a vehicle manufacturer or importer may not request that a vehicle owner use non-factory components or go to a non-authorized repair shop for maintenance work.
  - H. The procedures for the implementation of recall and correction, which shall include the designated starting and concluding dates provided to the vehicle owner, implementation location, and a reasonable timeframe for the implementation of this work.
  - I. The technical abilities and equipment of the unit or personnel that will implement the recall and correction work; assignment of recall and correction work and recall and correction duties.
  - J. The notification letter issued to owners of vehicles subject to recall and correction
  - K. An appropriate supply system for needed components during recall and correction
  - L. The necessary work manuals for personnel that participate in recall and correction work
  - M. Explanation of the impact of recall and correction on energy consumption, noise and other performance functions of recalled and corrected vehicles
  - N. Other statistics or verification data required by the central competent authority to assess the recall and correction plan submitted by the applicant
- III. The central competent authority shall perform certification testing for each correction measure in the recall and correction plan implemented by the applicant.
- IV. Within 15 days after the completion of implementation in accordance with the recall and correction plan, the applicant shall submit a recall and correction report to the central competent authority for review.

- V. When the central competent authority notifies the applicant of the cancellation or revocation of compliance certification, the central competent authority shall notify the Ministry of Transportation and Communications at the same time.
- VI. For unsold vehicles whose compliance certification has been cancelled or revoked by the central competent authority, after the applicant completes implementation of the recall and correction plan approved by the central competent authority, and the central competent authority has reviewed, approved, and closed the case, the applicant may re-apply for compliance verification pursuant to these Regulations.

# Appendix 4: Rules On The Use Of Deterioration Factors

- I. In order to obtain deterioration factors, engine families with an annual sales volume of more than 200 vehicles shall conduct actual vehicle durability testing in accordance with the regulations of the “Motorized Bicycle Durability Testing Methods and Procedures.” Deterioration factors may be used only after approval by the central competent authority.
- II. Engine families with an annual sales volume of less than 200 vehicles may use the following designated values as their deterioration factors.  
Carbon monoxide (CO): 1.4  
Hydrocarbons (HC): 1.4  
Nitrogen oxides (NO<sub>x</sub>): 1.4
- III. When imported motorcycles have engine families with an annual sales volume of less than 200 vehicles, and have been granted compliance verification by foreign government agencies, deterioration factors may be determined according to the following procedures with determination methods that have been authorized by the central competent authority:
  - A. In those cases where the deterioration factor calculation method used in the original manufacturer’s testing methods and durability testing are identical with R.O.C. “Motorized Bicycle Durability Testing Methods And Procedures,” the original manufacturer’s deterioration factors may be used.
  - B. In those cases where the deterioration factor calculation method used in the original manufacturer’s testing methods and durability testing are not identical with the R.O.C. “Motorized Bicycle Durability Testing Methods And Procedures,” the original manufacturer’s data on the accumulated mileage of all test points in durability testing as well as emission pollutant testing data shall be provided. The deterioration factors shall be calculated in accordance with the calculation methods designated in R.O.C. Durability testing.
  - C. In those cases where deterioration factors have been obtained in accordance with U.S. Durability testing regulations, the deterioration factors may be calculated in accordance with the following conversion formula:
$$\text{Deterioration factor} = \frac{K + (DF - 1)(2D - 1)}{K - (DF - 1)(K - 5000)}$$

*K*: motorcycle uses U.S. Durability testing mileage (km)  
*DF*: motorcycle’s deterioration factors in U.S. Durability testing  
*D*: the said motorcycle uses R.O.C. Durability testing mileage (km)
  - D. In those cases where deterioration factors were obtained in accordance with Japanese durability testing regulations, the deterioration factors may be calculated in accordance with the following conversion formula:
$$\text{Deterioration factor} = \frac{10000 + DA}{10000 + 2500A}$$

*D*: the said motorcycle uses R.O.C. Durability testing mileage (km)  
*A*: the deterioration factors of said motorcycle in Japanese durability testing
- IV. Applicants that did not use vehicle model year and engine family as basic units may directly use the deterioration factors designated in Point II of this appendix.
- V. If the central competent authority has authorized extended use of compliance verification for the said engine family, deterioration factors for the engine family during the previous model year may be used.

# Appendix 5, New Motorcycle Random Testing Regulations

- I. The central competent authority may conduct random testing of new vehicles that have already received compliance verification. Mass production vehicles shall be tested as to whether they comply with the Emissions Standards and related regulations; testing methods shall be pursuant to the Emissions Standards. The applicant shall select a motorcycle at a time specified by the central competent authority and send it to a testing organization designated by the central competent authority for testing. The applicant shall bear all expenses.
- II. The central competent authority may determine the engine family and configuration/model, the applicant shall provide mass produced motorcycles to the central competent authority for selection. The sampling ratio for the initial test in new vehicle random testing shall be as follows:  
When the annual sales volume for the same engine family or configuration exceeds 50,000 vehicles, ten vehicles shall be selected for random testing. When the annual sales volume stands at 10,000 vehicles or more and less than 50,000 vehicles, five vehicles shall be tested. When the annual sales volume is below 10,000 vehicles, one vehicle shall be tested for every 2,000 vehicles. When the annual sales volume is less than 2,000 vehicles, one vehicle shall be tested.
- III. Site for selecting motorcycles for random testing:
  - A. The motorcycle manufacturer's storage area for motorcycles that have completed compliance verification.
  - B. R.O.C. Customs warehouse or the importer's motorcycle storage area.
  - C. The domestic agent's or distributor's motorcycle storage area.
- IV. The motorcycles for random testing shall be fine-tuned by the applicant up to the lowest mileage necessary for testing stability to make emission pollutant testing stable, but mileage must not be higher than 1,500 kilometers.
  - A. The fine-tuning period is determined as follows:
    1. 1–5 vehicles: 10 working days
    2. 6–15 vehicles: 15 working days
    3. 16–25 vehicles: 24 working days
    4. 26 and more vehicles: 36 working days
  - B. The fuel used in conducting fine-tuning shall be test fuel designated by the central competent authority, or may be vehicle fuel sold at domestic gas stations.
  - C. During the fine-tuning period for random testing motorcycles no adjustments, servicing, or inspections may be performed on their own. But those who have been given approval by the central competent authority may under the supervision of central competent authority designated personnel use instruments, equipment or tools that are identical in function with that of the distributor's service stations to carry out adjustments, servicing, or inspections.
- V. When a random testing motorcycle cannot be tested due to an accident or when the central competent authority deems the said motorcycle no longer representative, the qualification of the said motorcycle is to be cancelled and other test vehicles shall be selected as substitutes. The number of substitute vehicles shall be determined by the central competent authority in accordance with the ratio for random testing. The applicant may not put forth any objections regarding the said test vehicles and test values.
- VI. The applicant may demand a repeat test for random testing motorcycles that failed to comply with standards, if the said motorcycles are still inside the analysis laboratory and have not undergone any servicing. The results of the repeat test shall be considered as final results.
- VII. Motorcycles that meet all Emissions Standards in random testing are to be determined as complying with standards. Should there be motorcycles that failed to comply with standards, the applicant may demand a retest within 30 days from the day after receiving central competent authority notification. Retesting is regulated as follows:
  - A. The manufacturer may determine the number of samples for retesting on his own, but the number may not be lower than twice the number of those motorcycles that failed to comply



with standards in initial testing.

B. Matters relating to the selection, fine-tuning, testing etc. Of motorcycles in retesting shall be identical with those for the initial testing of motorcycles.

C. For motorcycles that fail to comply with standards in retesting, the applicant may demand a repeat test pursuant to the regulations of Item 6 of this Appendix.

VIII. The criteria in retesting are whether the arithmetic mean values for individual air pollutants are all lower than Emissions Standards and whether during retesting not a single motorcycle's emission values exceed 50% of Emissions Standards. If both criteria are met, the motorcycles are determined as standard-compliant. But for motorcycles that fail to comply with standards in initial testing or retesting the applicant shall send an explanation of the reason for non-compliance and of correction measures to the central competent authority for future reference.

IX. In those circumstances where any of the arithmetic mean values for individual air pollutants of any motorcycle that failed to comply with standards in retesting or initial testing exceeds Emissions Standards, it shall be determined as failure to comply with standards in new vehicle random testing.