

Informal document No. GRB-40-2

(40th GRB, 23-24 September 2004,

Agenda Item 1.2.2)

Measures Taken Against Motor Vehicle Exhaust Noise Pollution in Japan

GRB, September 23, 2004, Geneva

Ministry of Land, Infrastructure and Transport
(in cooperation with Ministry of the Environment), Japan

Outline of Regulations on Motor Vehicle Noise in Japan (1)

Safety Regulations for Road Vehicles

Regulations on Accelerated Running Noise

Running test on a test course

Regulations on Steady Running Noise

Running test on a test course

Regulations on Exhaust Proximity Noise

Test in stationary state
(Test course not necessary)

Confirmation on type designation of motor vehicles, devices, and parts (National Traffic Safety and Environment Laboratory)

Confirmation on initial inspection (other than type designated motor vehicles), renewal inspection, on-the-spot inspection (MLIT)

Outline of Regulations on Motor Vehicle Noise in Japan (2)

Noise Regulatory Level

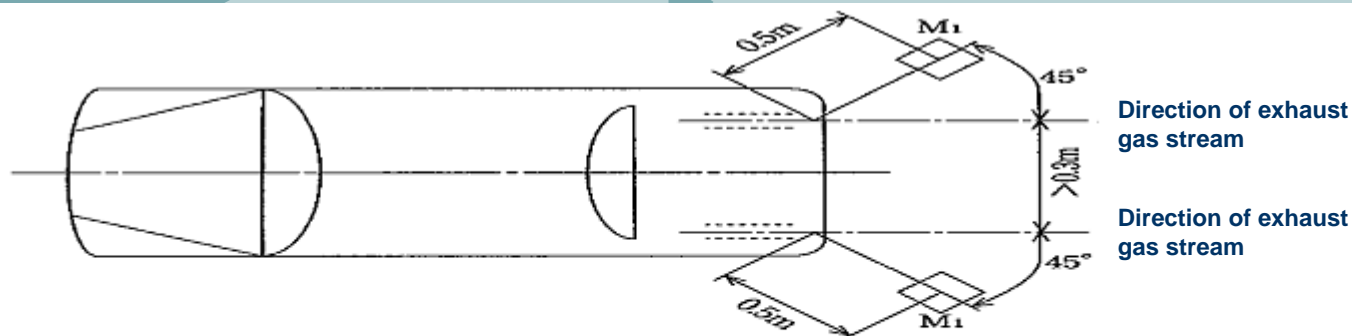
(Passenger cars, motorcycles, and motor-driven cycles)

Type of Motor Vehicles			Regulatory Level (dB)		
			Accelerated Running Noise	Steady Running Noise	Exhaust Proximity Noise
Passenger Cars (with a capacity of 10 or less occupants)			76	72	96, and 100 for those with rear engines
Motorcycles	Small-sized motorcycles	Displacement > 0.25 L	73	72	94
	Light motorcycles	0.125 L < Displacement ≤ 0.250 L	73	71	94
Motor-driven Cycles	Class II	0.050 L < Displacement ≤ 0.125 L	71	68	90
	Class I	Displacement ≤ 0.050L	71	65	84

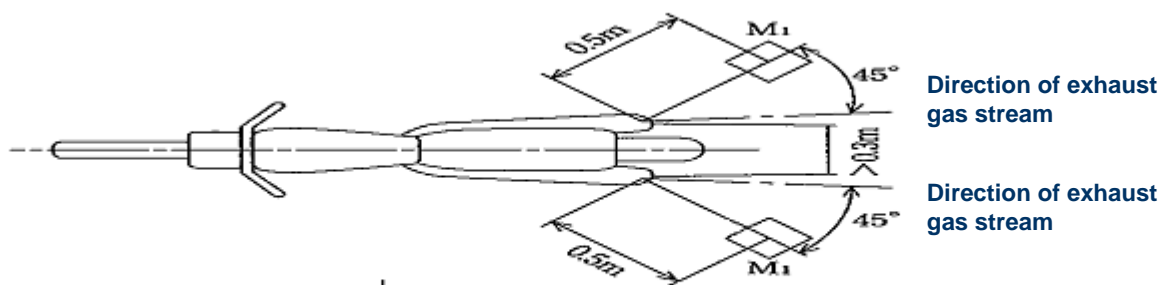
* Commercial vehicles also have regulatory levels, but they are not shown here.

Outline of Regulations on Motor Vehicle Noise in Japan (3)

Test Method for Exhaust Proximity Noise Level (The same as ISO 5130)



- The engine speed is set at 75% of the number of revolutions at maximum output ± 100 (rpm)
- The microphones are placed at points M₁ at the same height as the center of the exhaust pipe opening ± 0.025 m.



Outline of Regulations on Motor Vehicle Noise in Japan (4)



On-the-spot Inspection



Renewal Inspection

**Measuring Exhaust Proximity Noise Level in
On-the-spot Inspections and Renewal Inspections**

Realities and Problems of Motor Vehicle Noise Pollution in Japan (1)



Examples of replaced mufflers and vehicles equipped with them

Realities and Problems of Motor Vehicle Noise Pollution in Japan (2)

(Realities)

- As replacement mufflers, illegal mufflers and annoying mufflers that meet the current requirements, but that emit huge noise are distributed and sold. (“inappropriate mufflers” hereafter for these both types of mufflers)
- Many people purchase and equip their vehicles with these mufflers, causing serious social problems.



It is necessary to inspect and control the exhaust proximity noise of cars and motorcycles with inappropriate mufflers.

(Current problems)

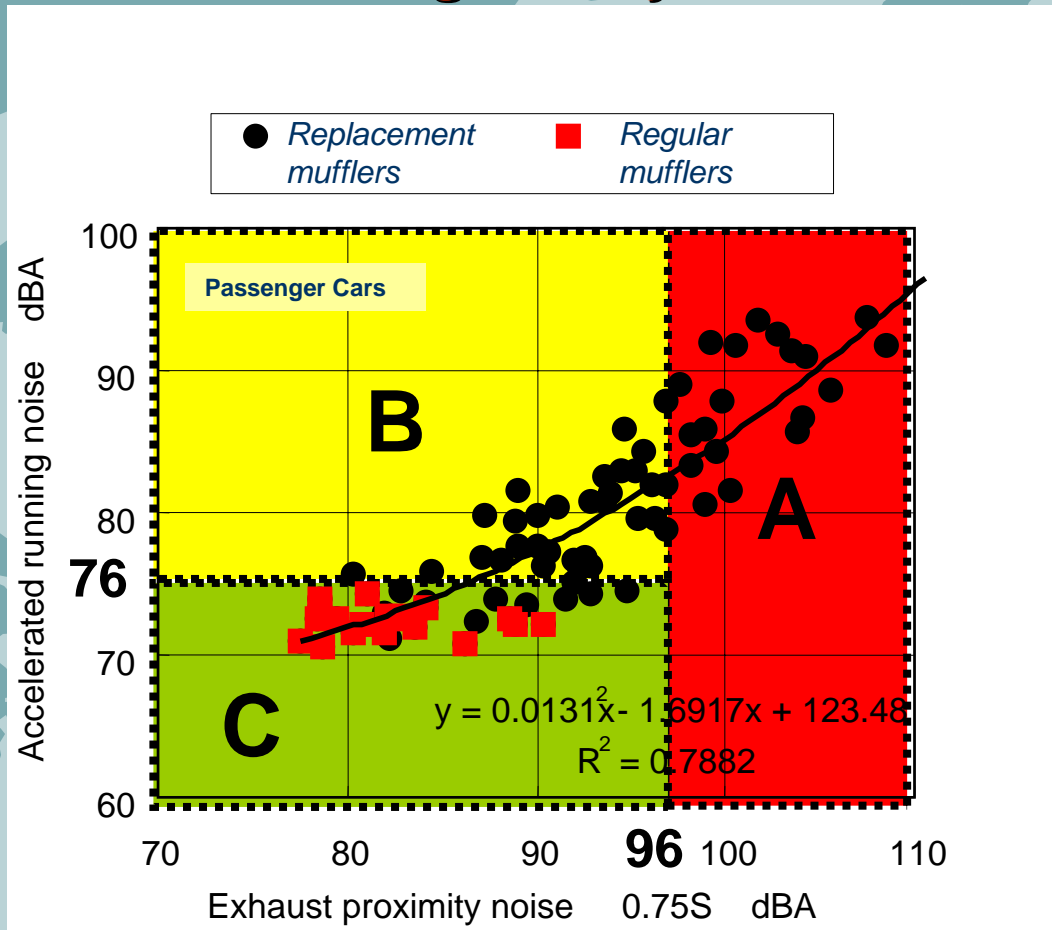


Mainly for the following reasons, it is difficult for us to effectively control inappropriate mufflers:

- It is not easy to measure the exhaust proximity noise level because of the complexity of the measuring method.
 - Problems in measuring method
- Annoying accelerated running noise and low frequency noise emitted from cars and motorcycles sometimes satisfy the regulatory level of the exhaust proximity noise and so evade control.
 - Problems in regulatory levels
- It is difficult to identify inappropriate mufflers
 - Problems in identification of mufflers

Realities and Problems of Motor Vehicle Noise Pollution in Japan (3)

Problem in Regulatory Levels



	Passenger cars	Motorcycles
Regular mufflers	19	4
Replacement mufflers	63	8
Total	82	12

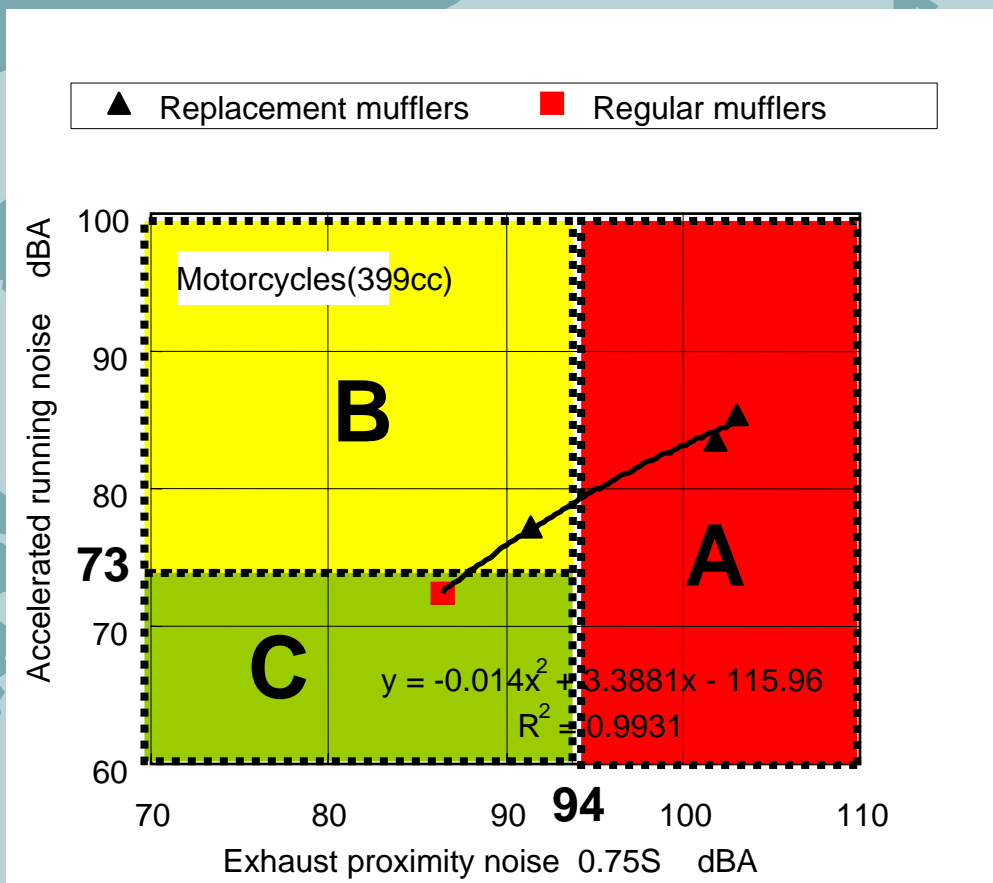
Sometimes mufflers that meet the requirement for the exhaust proximity noise level exceed the regulatory level of the accelerated running noise level for the type designated cars (Field B).

Correlation Between Exhaust Noise Level and Accelerated Running Noise Level (Passenger Cars)

(Sources: MLIT and JAMA surveys in 2000, 2001)

Realities and Problems of Motor Vehicle Noise Pollution in Japan (4)

Problem in Regulatory Levels



	Passenger cars	Motorcycles
Regular mufflers	19	4
Replacement mufflers	63	8
Total	82	12

Sometimes mufflers meeting the requirement for the exhaust proximity noise level exceed the control level of the accelerated running noise for the type designated cars (Field B).

Correlation Between Stationary Exhaust Noise Level and Accelerated Running Noise Level (Motorcycles)

(Sources: MLIT and JAMA surveys in 2000, 2001)

Our Future Efforts

Council on Measures Against Motor Vehicle Exhaust Noise Pollution (Established July 2004)

(Members)

Academic experts, NTSEL, JARI, JAMA, JAPIA, JSAE, NAVI, NPA, MLIT, MOE

(Our Future Efforts)

- 1. Study for effectively and efficiently inspection and controlling motor vehicle noise.**
- 2. Study for regulating mufflers that emit annoying noise.**
- 3. Study for ensuring that good compliant mufflers dominate the market**