

**ADB Regional Workshop;
Reducing Emission of 2-3 Wheelers**

**Overview of
Motorcycles Emission Standards
in ASIA**

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FAMI/TC and JAMA/TC**

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JAMA ;

Japan Automobile Manufacturers Association

FAMI ;

Federation of Asian Motorcycle Industries

JAMA is a member of FAMI

FAMI ;

Federation of Asian Motorcycle Industries

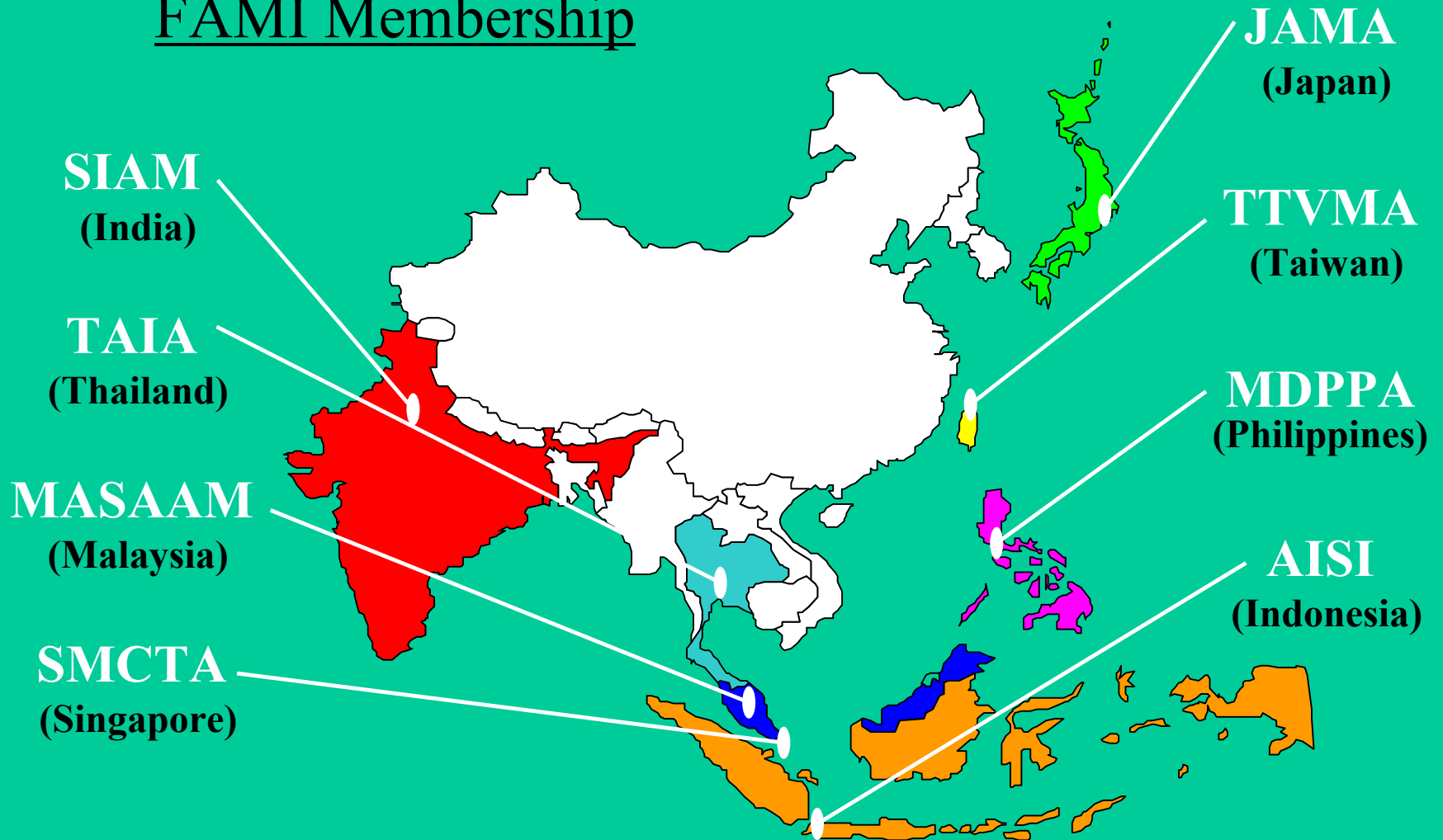
History;

- 1991 - 1997 : The Asian Motorcycle Conference
- 30/Jan/1999 : FAMI was established under registry of societies, Singapore

The aim for the establishment;

- To promote consultation to Asian motorcycle industry in the development.
- To advise at all activities of the motorcycle industry in Asia.

FAMI Membership



Type approval standards

Table ; Emission standards

Test timing	MCs tested	Requirement	Emission Test method	
			Mode	Idling
Before production	Representative of Production	(Certification) Type approval	Main test	Attached test
At shipment	Production sampling			
After sale	In field	In-use Test	Rare	Common

Type approval (1)

“Type approval” means;

- ◇ One of the certification systems for vehicles including motorcycles(MCs),
- ◇ In the country who has emission regulation for MCs, every new produced MCs must pass its emission regulation. However, it is impossible for the government to check every new produced MC whether it actually passed or not,
- ◇ Under “Type approval” systems, MC maker can take the government inspection before the mass-production or sale,

Type approval Systems (2)

- ◇ At the inspection, one sample MC is checked its emission data as the represent of all production. When passed, MC maker is given the “Type approval” and starts production or sale of MCs under the certification of the government,
- ◇ The government also has the benefit of avoiding the cost of all production checking,
- ◇ Because the maker guarantees that its production is keeping same emission performance under its strict quality control system.

Type approval (3)

FAMI/JAMA's recommendation;

- 1) At the first step, the government checks as followings;
 - document examination by the authority based on maker reports.
 - Official test with the authority as the witness at MC maker facility.
 - Official test by the official third organization.

Type approval (4)

2) The second step;

- Official test at the government facility.

Table ; Emission standards

Test timing	MCs tested	Requirement	Emission Test method	
			Mode	Idling
Before production	Representative of Production	(Certification) Type approval	Main test	Attached test
		Durability		
At shipment	Production sampling	conformity of production		
After sale	In field	In-use Test	Rare	Common

Type approval (5)

COP requirement

- ✧ COP means “conformity of production”
- ✧ This COP is combined with the Type approval system usually. This means that Type approval systems rely upon this COP.
- ✧ COP test is held by the government without any notice to the maker. If failed its COP test, the maker must stop mass production.

Table ; Emission standards

Test timing	MCs tested	Requirement	Emission Test method	
			Mode	Idling
Before production	Representative of Production	(Certification) Type approval	Main test	Attached test
At shipment	Production sampling	COP		
After sale	In field	In-use Test	Rare	Common

Type approval (6)

Durability test

- ✧ In Taiwan and Thailand, already introduced. Their test procedures are harmonized with each other.
- ✧ When introducing this system, recognizing to simulate MCs actual usage in the field is the priority and also harmonizing test procedure like in Taiwan and Thailand is important.

Table ; Emission standards

Test timing	MCs tested	Requirement	Emission Test method	
			Mode	Idling
Before production	Representative of Production	(Certification) Type approval	Main test	Attached test
At shipment	Production sampling	COP		
After sale	In field	In-use Test	Rare	Common

Type approval (7)

Emission test method;

✧ Mode Test;

- Test cycle simulates the urban area usage, as the urban area has air pollution problem.
- CO /HC/NO_x emission are measured in gram/kilometer(g/km) of mass unit.
- This test is executed for the new produced MCs.

Type approval Test (2)

Emission Test;

✧ Idling test;

- This test is executed as an attached test of Mode test.
- This test is executed as the inspection for the In-use MCs.
- In this test, the concentration ratio (%) of CO (and HC) is measured.

Type approval Test (1)

Mode Test ;Procedure/Test cycle

- ✧ Test procedure in Asian countries, it is accordance with ECE R40.
- ✧ Regarding the test cycle;
India has introduced an unique test cycle to suit for the actual usage in own country.
For your reference, EU is going to make a new test cycle which is called WMTC (World Motorcycle Test Cycle)(to be developed at GRPE) for 2006 regulation.
The United States has LA-4.

In-use standards for Emission

Table ; Emission standards

Test timing	MCs tested	Requirement	Emission Test method	
			Mode	Idling
Before production	Representative of Production	(Certification) Type approval	Main test	Attached test
At shipment	Production sampling	COP		
After sale	In field	In-use Test	Rare	Common

In-Use Requirement (1)

Emission Test in-use MCs;

- ✧ In Asian countries, emission (CO, HC) at idling condition is checked.
- ✧ In California/US, surveyed by mode test irregularly under the authority.
- ✧ In EU, no regulation now. This regulation will be introduced soon. It is very effective to reduce air pollution by in-use MCs.

In-use Requirement (2)

Inspection for in-use MCs;

✧ Periodical inspection system;

A mandatory inspection is carried out in Taiwan, Thailand & Japan, in order to recognize whether MCs are kept their good condition and suit for the regulation or not.

✧ Roadside inspection system;

In Taiwan, there is irregular inspection by police on roadside. If not passed, user is charged of some penalty.

FAMI's Recommendation

FAMI's recommendation

When introducing a regulation;

To apply ECE regulation in considering global harmonization according to the “1958 Agreement” and/or “1999 Agreement”.

Reasons are;

- Already good results in many countries,
- More efficient than making an unique regulation,
- It is profitable when MCs are exported to other country which have the same ECE regulation.

**Thank you
for your kind attention.**