Japan' position and proposal on draft of OBD-gtr

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OBD emission thresholds

OBD emission thresholds

（1） Background of OBD in Japan

- Malfunctions in vehicles are assumed to appear in use process. Without repairs of exhaust reduction device, vehicles in use emit high level of pollutants .

- So, for preventing air pollution, not only “Compliance with emission regulations at the type approval test ”but also “Performance maintenance of the exhaust reduction device in use process” are essential.

- In Japan, vehicle inspection system maintains vehicles performance in use.

- But, regarding exhaust performance, most drivers are unaware of its aggravation. In addition, it is getting difficult to identify the parts causing trouble, because exhaust reduction systems are complicated.

OBD emission thresholds

（2） Necessity of OBD in Japan

– Therefore, Japan already introduced OBD requirements into the legislation for passenger vehicles, aiming at
  - Early detection of the malfunction, Early notifying vehicle driver, and Early repair toward reduction of emission.
  - Appropriately informing repairers of the parts causing trouble.

– The aims are basically applied to motorcycles as well as passenger vehicles.

– That is the reason why Japan introduces OBD requirements into motorcycles.

OBD emission thresholds

（3） Future Policy on OBD in Japan

- Recommendation from Japan's Central Environmental Council is "In motorcycle, the OBD system that monitors malfunctions caused by a short-circuit or open electric circuit is mandated, as well as in passenger vehicle" and "the implementation will occur by the end of 2016"

- On the other hand, regarding the OBD II that monitors malfunctions caused by deterioration of systems, components or units, the Council said "there remains technical difficulties in applying the OBD II of passenger vehicle to motorcycles and it is premature to introduce" and "it will be considered once the technical prospect is confirmed in the future".

- One of the above "technical difficulties" is False Detection which leads to loss of credibility of OBD from users .

OBD emission thresholds

（4） Japan’s OBD-I concept

– The purpose of OBD is to prevent air pollution by detecting the failure relevant to gaseous emissions , warning the vehicle operator, and repairing promptly.

– Although various technical methods for detecting malfunction are possible, we consider it appropriate to mandate the diagnosis which meets the following points as the first step.

- To detect the failure without false detection.
- To introduce OBD-I at an early stage as soon as possible.
- To keep down the cost of OBD and to encourage to be introduced into more number of motorcycles.

OBD emission thresholds

（5） Japan’s OBD-I requirements

Electric Circuit diagnosis

- Electric failure detection of the electric parts relevant to the emissions
  - This failure detection can be judged by just the electric diagnostics without the need for the OBD emission thresholds.

Fuel system monitor diagnosis

- Failure detection of the fuel system which has great influence on the emissions
  - In case where the fuel system monitor needs to detect malfunction at certain emission thresholds, the technological level is equal to that of OBD-II, such a complicated system is premature for the time being. Therefore, in Japan's OBD-I, this failure detection is judged by the diagnostic criteria of each manufacturer.

OBD emission thresholds

（6） Japan’s position

- If the malfunction of parts relevant to the emissions is detected by electric circuit diagnosis, it should be notified to the driver by turning on MIL. So, the failure detection by the OBD emissions threshold is not required.
- The failure, which cannot be detected by the circuit diagnosis, could be detected by the OBD emission threshold. But it should be considered at the discussion of next step.

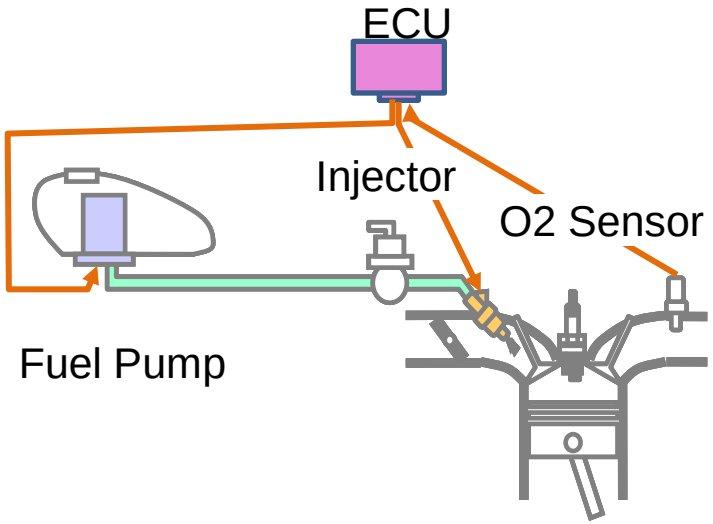
（7） Japan’s proposal

- In the first step, the OBD should be introduced to detect and notify the failure of emission related parts by circuit diagnosis that does not require the OBD emission threshold.

Fuel system monitoring

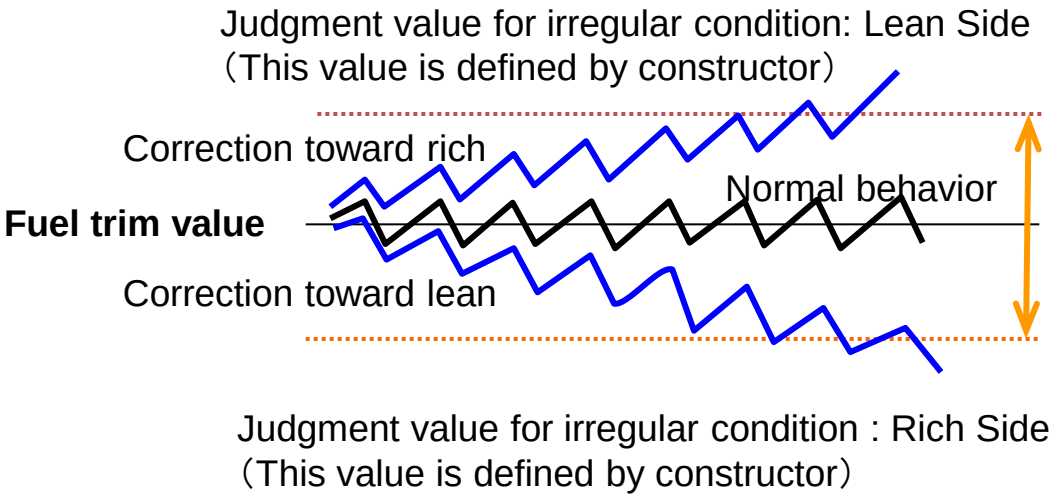
Fuel system monitoring

Japan believes that fuel system monitoring is significant issue and this monitoring should be included into gtr



What is Fuel system monitoring?

- Checking fuel system function according to whether fuel trim value is within a certain range defined by manufacture or not.
- It is allowed to apply a specific driving mode for diagnosis.



Monitoring based on a logic if fuel system is normal and A/F F/B-control works stably ,fuel trim value must be in this range.

Japan's stance on functional safety

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- Japan understands the importance of functional safety, it is not an appropriate to discuss at GRPE.
- The reasons why functional safety should not be included in OBD - gtr are;

1. GRPE is the body to discuss emission, not to discuss safety.
2. Functional safety requirements listed in gtr (B.2. Test type Ⅷ requirements - 8.3.4.) have not been fully validated. (ex. risk assessment)
3. Functional safety should be considered as a whole vehicle level. We should discuss this Functional safety issue as a whole vehicle level.

Repair and maintenance information (RMI)

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- Japan understands the concept of RMI, however we propose to drop it from gtr discussion.
- The reasons why RMI should be dropped from gtr discussion are;

1. RMI is not appropriate for international harmonization in nature.

2. It makes no sense to force the way of an information disclosure under various conditions of CPs.

3. RMI is not included in preceding gtr-No5 (WWH-OBD) for heavy duty vehicles.

Scope

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- Only L3e vehicle with gasoline/spark ignited engine is considered.
- Other categories are not taken into account at all.

Our Scope

Category	L1e	L2e	L3e	L4e	L5e	L6e	L7e
	L1e-A 	L2e-P 	L3e-A1 	L4e 	L5e-A 	L6e-A 	L7e-A 
	L1e-B 	L2e-U 	L3e-A2 		L5e-B 	L6B-BP 	L7e-B 
			L3e-A3 			L6e-BU 	L7e-C