

JAPAN: NONROAD: EMISSIONS

History

After the reorganization of the Japanese government in 2001, off-road engine emission standards became the responsibility of Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and Ministry of the Environment (MOE). Earlier MOT/MOC emission regulations were replaced by three groups of emission standards, applicable to the following categories of equipment:

- *Special Motor Vehicles* - self-propelled nonroad vehicles and machinery that are registered for operation on public roads (fitted with license plates).
- *Nonroad Motor Vehicles* - self-propelled and non-registered nonroad vehicles and machinery.
- *Portable And Transportable Equipment: Recognition System* - recognition of low emission engines for designation of low emission construction machinery.

Technical Standards

a. Special/Nonroad Motor Vehicles

These standards apply to nonroad vehicles rated between 19-560 kW with ("Special Motor Vehicles") or without ("Nonroad Motor Vehicles") license plates.

The emission limits for the two vehicle categories are the same, but they are introduced by separate regulatory acts. On 28 June 2005, the MOE promulgated a new set of standards for Special Vehicles, superseding former MOT standards. On 28 March 2006, the same standards were promulgated for Nonroad Vehicles, superseding former MOC standards. These standards, although similar in stringency to the US Tier 3 (2006-2008) and the EU Stage III A (2005-2007), are not harmonized with US and EU regulations. The standards do not require the use of exhaust aftertreatment devices, such as diesel particulate filters.

The standards are summarized below for compression ignition engines and spark ignited engines. Emissions are measured according to JIS B 8001-1 (Japanese version of ISO 8178 8-mode test for diesel, 7-mode test for SI). Smoke is measured according to JCMAS T-004.

Emission Standards for Diesel Special/Nonroad Vehicles, g/kWh							
Power (P)	CO	HC	NO_x	PM	Smoke	Date	
						New Models	All Models[†]
<i>kW</i>	<i>g/kWh</i>				<i>%</i>		
19 ≤ P < 37	5.0	1.0	6.0	0.4	40	2007.10	2008.09
37 ≤ P < 56	5.0	0.7	4.0	0.3	35	2008.10	2009.09
56 ≤ P < 75	5.0	0.7	4.0	0.25	30	2008.10	2010.09
75 ≤ P < 130	5.0	0.4	3.6	0.2	25	2007.10	2008.09
130 ≤ P < 560	3.5	0.4	3.6	0.17	25	2006.10	2008.09
[†] Applies to continuously produced nonroad vehicles (but not special vehicles) and imported special/nonroad vehicles.							

Emission Standards for Spark Ignited Special/Nonroad Vehicles, g/kWh							
Power (P)	7-mode			Idle		Date	
	CO	HC	NO _x	CO	HC	New Models	All Models [†]
<i>kW</i>	<i>g/kWh</i>			%	<i>ppm</i>		
19 ≤ P < 560	20.0	0.60	0.60	1	500	2007.10	2008.09

[†] Applies to continuously produced nonroad vehicles (but not special vehicles) and imported special/nonroad vehicles.

b. Portable/Transportable Equipment (Recognition System)

Under the recognition system regulations that became effective on 17 March 2006, manufacturers may apply for their engines to be recognized as a "low emission engine" for use in designated "low emission construction machinery." The recognition system applies to portable and transportable (i.e., non-self-propelled) equipment, which is not emission regulated under the Special/Nonroad Motor Vehicle regulations.

The emission standards are listed below. Emissions are measured over the JIS B 8001-1 ISO 8178 8-mode test. For generator application, the rated speed is for 60 Hz and the intermediate speed is for 50 Hz.

Emission Limits - Recognition System, g/kWh					
Power (P)	CO	HC	NO_x	PM	Smoke
<i>kW</i>	<i>g/kWh</i>				<i>%</i>
$8 \leq P < 19$	5.0	7.5*		0.4	40
$19 \leq P < 37$	5.0	1.0	6.0	0.4	40
$37 \leq P < 56$	5.0	0.7	4.0	0.3	35
$56 \leq P < 75$	5.0	0.7	4.0	0.25	30
$75 \leq P < 130$	5.0	0.4	3.6	0.2	25
$130 \leq P < 560$	3.5	0.4	3.6	0.17	25
* NO _x + HC					

Source: http://transportpolicy.net/index.php?title=Japan:_Nonroad:_Emissions