Diesel Emission Data - Constant Speed

LEGEND

EPA	Tier 1	Tier 2	Tier 3	Interim Tier 4	Final Tier 4
EU	Stage I	Stage II	Stage IIIA	Stage IIIB	Stage IV

New emissions regulations take effect January 1st of the year indicated by colour change unless otherwise noted.

EXAMPLES

NOx	2.0
NMHC	0.19
PM	0.025

2.0, the maximum amount of nitrogen oxides (NOx) allowed in grams / kW-hr.
0.19, the maximum amount of non-methane hydrocarbons (NMHC) allowed in grams / kW-hr.
0.025, the maximum amount of particulate matter (PM) allowed in grams / kW-hr.

NMHC + NOx	7.5
PM	0.80

7.5, the maximum amount of NMHC + NOx allowed in grams / kW -hr.
0.80, the maximum amount of PM allowed in grams / kW-hr.

EPA NONROAD EMISSIONS REGULATIONS NEW SOURCE PERFORMANCE STANDARD (NSPS)

kW	HP	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
0 - 7	0 - 10			7.5 0.40							
8 - 18	11 - 24			7.5 0.40							
19 - 36	25 - 49			7.5 0.30					4.7 0.03		
37 - 55	50 - 74			4.7 0.30	Option 1*				4.7 0.03		
				4.7 0.40	Option 2*			4.7 0.03			
56 - 74	75 - 99			4.7 0.40				3.4 0.19 0.02			0.40 0.19 0.02
75 - 129	100 - 174		4.0 0.30					3.4 0.19 0.02			0.40 0.19 0.02
130 - 224	175 - 299		4.0 0.20				2.0 0.19 0.02			0.40 0.19 0.02	
225 - 449	300 - 599										
450 - 559	600 - 749										
≥ 560	≥ 750		6.4 0.20				3.5 0.19 0.10				3.5 0.19 0.04

*In the 50 to 75 horsepower category there are two options. Option 1 requires a reduced PM level (.30 vs. 40) but allows Final Tier 4 to be delayed one year (2013).

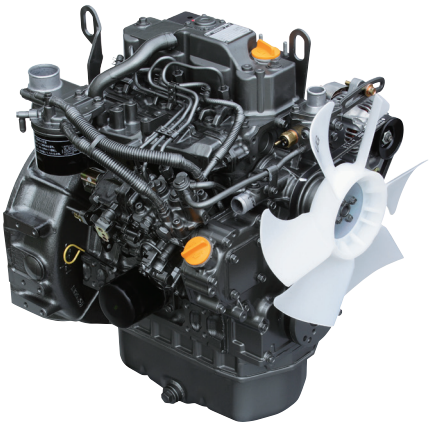
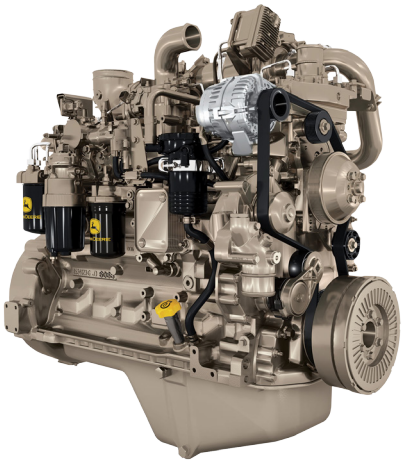
NOTE: The vertical dashed lines separating the years show when the seven-year life of the Tier 2/3 Equipment Flexibility Provision ends and engines can no longer be placed in vehicle production.

The new source performance standard (NSPS) required most stationary engines to be Tier 1 compatible on 1st April 2006 and meet current nonroad mobile standards after 1st January 2007.

EPA. Environmental Protection Agency.

EU: European Union.

EU NONROAD EMISSIONS REGULATIONS CONSTANT SPEED

kW	HP	2007	2008	2009	2010	2011	2012	2013	2014	2015
0 - 7	0 - 10	Not regulated in EU								
8 - 18	11 - 24	Not regulated in EU								
19 - 36	25 - 49	8.0 1.5 0.80				7.5 0.60				
37 - 56	50 - 74	7.0 1.3 0.40					4.7 0.40			
57 - 74	75 - 99	7.0 1.3 0.40					4.7 0.40			
75 - 129	100 - 174	6.0 1.0 0.30				4.0 0.30				
130 - 559	175 - 749	6.0 1.0 0.20				4.0 0.20				
≥ 560	≥ 750	Not regulated in EU								

European Union directive 97/68/EC requires constant speed engines, such as mobile gen-sets, meet stage II emissions levels on 01 January 2007. The directive also requires constant speed engines meet Stage III A emissions levels beginning 01 January 2011.