

MITSUBISHI HEAVY INDUSTRIES, LTD.

EXECUTIVE ORDER U-R-035-0187 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours) 8000	
2006	6MVXL04.2AAA	4.2	Diesel		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION		
Direct Diesel Injection, Turbocharger			Excavator		
		urbocharger			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED	EMISSION	EXHAUST (g/kw-hr)				OPACITY (%)				
POWER CLASS	STANDARD CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
37 <u><</u> KW < 75	Tier 2	STD	N/A	N/A	7.5	5.0	0.40	20	15	50
		CERT			7.2	1.3	0.37	11	6	23

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this ______ day of December 2005.

Allen I wans Chief

Mobile Source Operations Division

Engine Model Summary Form

ATACHMENT OF I

Mitsubishi Heavy Industries, Ltd. Manufacturer:

Engine category: Nonroad Cl
EPA Engine Family: 6MVXL04.2AAA

Mfr Family Name: S4K-T

New Submission Process Code:

u-R-035-0187

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9.Emission Control Device Per SAE J1930	DI TC	DI TC	DI TC	DI TC	DITC
8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torque Device Per SAE J1930	27.8	27.2	26.5	26.0	26.5
7.Fuel Rate: mm/stroke@peak torque	90.4	88.7	86.4	84.8	86.4
6.Torque @ RPM (SEA Gross)	274ftlb@1400	264ftlb@1400	273ftlb@1400	263ftlb@1400	273ftlb@1400
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	36.7	31.3	36.4	31.1	36.4
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	85.9	79.3	85.1	78.7	85.1
3.BHP@RPM (SAE Gross)	94hp@1950	82.3hp@1800	94hp@1950	82.3hp@1800	94hp@1950
2.Engine Model	S4K-T	S4K-T	S4K-T	S4K-T	S4K-T
1.Engine Code	312C2	311C2	S4K-Y2DT74SBK	S4K-Y2DT74SAK	S4K-Y2DT61HS