Catifornia Environmental Protection Agency

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		DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2004	4MVXL33.9AAB	33.93	Diesel	8000
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT	APPLICATION
	el Injection, Turbocharge Engine Control Mo	er, Charge Air Cooler, idule	Excavator and Industri	al Equipment

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 POWER	EMISSION STANDARD			I	EXHAUST (g/kw-ł	יד)		0	PACITY (%	 6)
CLASS	CATEGORY		HC	NOx	NMHC+NOx	co	РМ	ACCEL	LUG	PEAK
KW > 560	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		CERT	0.4	6.8		0.9	0.25	15		38

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 $3/s_{\tau}$ day of December 2003.

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Allen Lyons, Chief Mobile Source Operations Division

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Engine Model Summary Form

Manufacturer: Mitsubishi Heavy Industries, Ltd.

Engine category: Nonroad CI

EPA Engine Family. 4MVXL33.9AAB

Mfr Family Name: SAV-TA

Process Code: New Submission

4110-520-21-27

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1.Engine Code	1.Engine Code 2.Engine Model	3.BHP@RPM (SAE Gross)	 4.Fuel Rate: mm/stroke @ peak HP ((for diesel only) 	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	8.Fuel Rate: 9.Emission Control (bs/hr)@peak torque Device Per SAE J1930
S12A2-Y1TAA1	S12A2-Y1TAA1 S12A2-TAA 1026@1800 306.9	1026@1800	S12A2-Y1TAA1 S12A2-TAA 1026@1800 306.9 364.3 3592ff-lb@135 341.5 341.5 304.2 71 DI TAA, ECM	364.3	3592ft-1b@135	341.5	304.2	364.3 3592ft-lb@135 341.5 341.5 304.2