MAHINDRA & MAHINDRA LTD.

EXECUTIVE ORDER U-R-043-0054 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)		
2009	9MMLL02.5N64	2.497	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS		TYPICAL EQUIPMENT APPLICATION				
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Exhaust Gas Recirculation			Loader, Trad	ctor		

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 CLASS	EMISSION STANDARD CATEGORY	·	EXHAUST (g/kw-hr)				OPACITY (%)			
			нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
37≤KW<56	Tier 4 Interim	STD	N/A	N/A	4.7	5.0	0.30	20	15	50
		CERT			4.3	1.5	0.15	4	4	26

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 2008.

Annette Hebert, Chief

Mobile Source Operations Division

Engine Model Summary Form			
	ATTACHMENT (OF)	MAHINDRA & MAHINDRA LTD.,	
	ATTACH	anufacturer:	

Nonroad CI Engine category: Manufacturer:

9MMLL02.5N64 EPA Engine Family.

MAHINDRA & MAHINDRA Mfr Family Name:

New Submission

17.57@1400pgr7 C BeM, CHC, EGE 17.57@1400pgrT C, ECM, CHC, EGE 8.Fuel Rate: 9.Emission Control (lbs/hr)@peak lorque Device Per SAE J1930

4-500-840-8-1

7.Fuel Rate: mm/stroke@peak torque 75.75 @1400 75.75@1400

6.Torque @ RPM (SEA Gross)

4-Fuel Rate: 5-Fuel Rate: mm/stroke @ peak HP (tbs/hr) @ peak HP (for diesel only) (for diesels only)

24.49@2200 246 N.m@1400 24.49@2200 246 N.m@1400

67.21@2200 67.21@2200

65.02@2200 65.02@2200 3.BHP@RPM (SAE Gross)

> 2.Engine Model NE364 2wd NE364 4wd

1.Engine Code

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Process Cade: