

## MAHINDRA & MAHINDRA LTD.

EXECUTIVE ORDER U-R-043-0041 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)		
2008	8MMLL02.5N59	2.497	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Direct Dies Engine	sel Injection, Turbocharg Control Module, Exhaus	er, Charge Air Cooler, t Gas Recirculation	Loader, Tractor			

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		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
37 <u>&lt;</u> KW<75	Tier 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
		CERT			4.2	1.5	0.15	5	3	31

**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 \_\_\_\_\_\_ 17 4 day of December 2007.

Annette Hebert, Chief

Mobile Source Operations Division

## **Engine Model Summary Form**

ATTACHMENT 10F1

Manufacturer: MAHINDRA & MAHINDRA LTD.,

Engine category: Nonroad CI

EPA Engine Family: 8MMLL02.5N59

Mfr Family Name: MAHINDRA & MAHINDRA

Process Code: New Submission

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8.Fuel Rate: 9.Emission Control lbs/hr)@peak torque Device Per SAE J1930	ODITICHACAC
~	15.96@1400 15.96@1400
7.Fuel Rate: mm/stroke@peak torque	68.83@1400 68.83@1400
6.Torque @ RPM (SEA Gross)	229.5N.m@1400 229.5N.m@1400
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	22.18@2100 22.18@2100
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	63.77@2100 63.77@2100
3.BHP@RPM (SAE Gross)	59.58@2100 59.58@2100
2.Engine Model	NE362 2wd NE362 4wd
1.Engine Code	AN AN