MAHINDRA & MAHINDRA LTD.

EXECUTIVE ORDER U-R-043-0075 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)			
2011	BMMLL02.5N59	2.497	Diesel	8000			
	FEATURES & EMISSION		TYPICAL EQUIPMENT AP	PLICATION			
Mechanical Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Exhaust 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 (%)							5)
POWER	STANDARD CATEGORY		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			4.4	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 ______ day of January 2011.

Annette Hebert, Chief

Mobile Source Operations Division

ATTACHMENT 1 OF 1

Engine Model Summary Form

Manufacturer:

MAHINDRA & MAHINDRA LTD.,

Engine category:

Nonroad CI

EPA Engine Family: BMMLL02.5N59

Mfr Family Name:

MAHINDRA & MAHINDRA

Process Code:

New Submission

U-R-043-0075 1/2012011

1.Engine Code	1.Engine Code 2.Engine Model 3.BH (SAI		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			
NA	NE359 2wd	59.58@2100	63.77@2100	22.18@2100	229.5N.m@1400	68.83@1400	15.96@1400	AM. 100	TAA,GO	M, EGR
NA	NE359 4wd	59.58@2100	63.77@2100	22.18@2100	229.5N.m@1400	68.83@1400	15.96@1400	-M	- &	
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