Mahindra & Mahindra LTD.

EXECUTIVE ORDER U-R-043-0009 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)		
2004	4MMLL02.4NEF	2.394	Diesel	5000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
	Direct Diesel Injec	etion	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 POWER	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)				OF	OPACITY (%)		
CLASS			HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
19 <u><</u> KW<37	Tier 2	STD	N/A	N/A	7.5	5.5	0.60	20	15	50
		CERT		-	6.2	2.0	0.20	8	9	9

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 September 2004.

Allen Lyons, Chief

Mobile Source Operations Division

er: MAHINDRA & MAHINDRA LTD.,

Itegory: Nonroad CI

he Family: 4MMLL02,4NEF

y Name: MAHINDRA & MAHINDRA

Code: New Submission

W-A-043-0009

8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torque. Device Per SAE J1930	TOO AN
8.Fuel Rate: (lbs/hr)@peak torque	11.64
7.Fuel Rate: mm/stroke@peak torque	50.21 50.21
6.Torque @ RPM (SEA Gross)	156.8@1400 156.8@1400
5 Fuel Rate: (ibs/hr) @ peak HP (for diesels only)	15.48 15.48
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	44.55 44.55
з.внр@врм (SAE Gross)	41.01@2100 41.01@2100
2.Engine Model	NE342R 2wd NE342R 4wd
Code	