

EXECUTIVE ORDER U-R-015-0154 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	9VEXL04.5DAB	4.5	Diesel	8000		
SPECIAL	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLIC	······································		
Direct Dies Exhaus	sel Injection, Turbocharge t Gas Recirculation and S	er, Charge Air Cooler, Smoke Puff Limiter	Loader, Tractor, Generator and Other Industrial 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			E	XHAUST (g/kw-l	nr)		OF	PACITY (%	<b>6</b> )
CLASS	CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
56 ≤ kW < 75	Tier 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
	`	CERT			4.2	1.1	0.26	13	7	20

**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

Annette Hebert, Chief

Mobile Source Operations Division

day of January 2009.

## Engine Model Summary Template

			3.BHP@RPM	4.Fuel Rate: 5.Fuel Rate: mm/stroke @ peak HP (lbs/hr) @ peak HP 6.Torque @ RPM	5.Fuel Rate: (lbs/hr) @ peak HP	6.Torque @ RPM	7.Fuel Rate: mm/stroke@peak	8.Fuel Rate:	9.Emission Control	
Engine Family 1. Engine Code 2. Engine Model	2	<b>Engine Model</b>	(SAE Gross)	(for diesel only)	(for diesels only)	(SEA Gross)	torque	(lbs/hr)@peak torque	(lbs/hr)@peak torqueDevice Per SAE J1930	- 1
445TA/MNK		F4GE9484F*J/ F4CE9484F*J	99 @ 2200	78	N/A	305 @ 1320	66	N/A	EM. SPL. CAC, EAK	2
445TA/MNB F4GE9484P*J	_	-4GE9484P*J	99 @ 2100	85	N/A	305 @ 1260	95	N/A	EM. SPL. CAC	-+
445TA/MNC F	ш.	F4GE9484C*J	97 @ 2200	77	N/A	299 @ 1320	97	N/A	EM. SPL. CAC	
445TA/MND F		F4CE9484M*J	95 @ 2300	75	N/A	288 @ 1380	92	N/A	EM. SPL. CAC	
445TA/MNE	_	F4CE9487N*J	94 @ 2500	70	N/A	277 @ 1500	86	N/A	EM. SPL. CAC	ì
445TA/MNF F	. 🖵	F4CE9487M*J	87 @ 2500	. 65	N/A	258 @ 1500	80	N/A	EM. SPL. CAC	1
445TA/MNG F	ш.	F4CE9484N*J	84 @ 2300	67	N/A	260 @ 1380	84	N/A	EM. SPL. CAC	1
445TA/MNJ	_	F4CE9484A*J	75 @ 2300	61	N/A	229 @ 1380	73	N/A	EM. SPL. CAC	1
445TA/MNL		F4CE9487A*J	99 @ 2500	72	A/Z	284 @ 1500	06	N/A	EM. SPL. CAC	