## CUMMINS INC.

EXECUTIVE ORDER U-R-002-0449

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	8CEXL0540AAB	8.8	Diesel	8000
	FEATURES & EMISSION		TYPICAL EQUIPMENT	APPLICATION
Direct Dies	sel Injection, Turbocharg Engine Control Mo	er, Charge Air Cooler, odule	Crane, Loader, Tractor, Dozer, F	Pump and Compressor

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			EXHAUST (g/kw-hr)				OPACITY (%)			
POWER CLASS	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
130 ≤ kW < 450	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT			3.9	3.3	0.15	5	2	13

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.

Annette Hebert, Chief

Mobile Source Operations Division

## Engine Model Summary Form

M-6-002-0449

Manufacturer: Cummins Inc.

Engine category: Nonroad CI

EPA Engine Famiy. 8CEXL0540AAB

Mfr Family Name: B563

Process Code: New Submission

4.Fuel Rate: 5.F mmstroke @ peak HP (lbs/hr) (for dlesel only) (for d	E-1	5.Fuel Rate (lbs/hr) @ peal (for dlesels or 135.8	K HP	6.Torque @ RPM (SEA Gross) 1120@1509	7.Fuel Rate: mm/stroke@peak torque 223	8.Fuel Rate: (lbs/hr) Ø peak torque	9.Emission Control Device Per SAE J1930 ECM TC CAC
	350@2100 36 <b>5@</b> 2100	192	135.8	1120@1500 1113@1500	202	113.0	ECM TO CAG
340	340@2200	173	128,4	1096@1500	218	110.1	ECM TC CAC
365	365@2100	192	136.1	1113@1500	202	102.2	ECM TC CAC
345	345@1800	206	125,2	1095@1400	217	102.6	ECM TC CAC
330	330@1800	199	121.0	1075@1400	216	102.4	ECM TO CAG
325	325@1800	194	117.7	1050@1400	212	100.1	ECM TO CAG
3000	300@1800	187	113.5	1000@1400	210	99.1	ECM TC CAC
280	280@2000	164	110.3	1000@1400	210	1,66	ECM TC CAC
280@	280@1800	174	106.0	950@1400	197	93.0	ECM TC CAC
325@2000	2000	178	120.1	1050@1500	217	109.8	ECM TC CAC
305@2000	2000	174	117.4	1109@1400	216	102.2	ECM TC CAC
300@2100	2100	170	120,4	1010@1500	210	106.2	ECM TC CAC
300@2000	000	173	116.7	1010@1500	211	106.7	ECM TC CAC
325@2100	80	176	124,6	, 1050@1500	213	107.7	ECM TC CAC
280@2100	3	166	116.6	1050@1500	214	108.3	ECM TC CAC
330@2100	100	178	126.0	1050@1500	213	107.7	ECM TC CAC
280@2000	000	164	110.3	1070@1400	212	1.001	ECM TC CAC
250@2000	000	145	97.5	800@1400	157	74.2	ECM TC CAC
345@1500	200	243	123.0	NA	ΑN	NA	ECM TC CAC
399@1800	800	239	145.2	A	ΨN	NA	ECM TO CAC
374@1800	900	219	133.0	NA	NA	NA	ECM TC CAC
321@1500	200	220	1110	AN	NA	NA	ECM TC CAC
325@1800	1800	200	121.3	NA	NA	NA	ECM TC CAC
285@1500	500	201	101.4	NA	NA	NA	ECM TC CAC
364@1800	1800	219	133.2	NA	NA	AN	ECM TC CAC
310@1EDD	<b>EOO</b>	<b>6.13</b>	107 R	NA	NΔ	ΔIN	FCM TO CAD

j.
1754-FH82067