Cummins Inc.

EXECUTIVE ORDER U-R-002-0163 New Off-Road Compression-Ignition Engines Profes

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)						
2003	3CEXL0239ABA	3.9	Diesel	8000						
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION							
[Direct Diesel Injection, To	urbocharger	Crane, Loader, Tractor, Doze	r, Pump, Compressor						

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, 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			E		OPACITY (%)					
POWER CLASS	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK	
37 ≤ KW < 130	Tier 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50	
		FEL	N/A	8.8	N/A	N/A	N/A	N/A	N/A	N/A	
		CERT		8.2				13	2	31	

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

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

1214

day of November 2002.

Allen Lyons, Chief

Mobile Source Operations Division

Engine Model Summary Form ATIACHMENT PS (o.f.)

5410-200-2-11

Manufacturer: Cummins Inc.

Engine category: Nonroad over 50 HP

EPA Engine Family: 3CEXL0239ABA

Mfr Family Name: A382

Process Code: Running Change

9.Emission Control Device Per SAE J1930	DDI, TC *	DDI, TC	DDI,TC	DDI, TC	DDI, TC	DDI,TC	DDI, TG	DDI, TC	DDI, TC	DDI,TC	DDI, TC	DDI,TC	DDI, TC		DDI,TC	DDI,TC										
8.Fuel Rate: (lbs/hr)@peak torque	28.1	25.5	25.5	30.1	30.1	29.7	26.7	25.7	25.7	19.3	23.9	22.0	21.6	22.6	22.9	20.7	20.7	27.1	27.8	24.5	28.5	28.1	29.2	25.0	29.0	30.1
7.Fuel Rate: mm/stroke@peak torque	83	76	76	- 88	88	88	79	76	76	57	71	75	74	77	78	99	99	75.3	77	82	91	83	87	- 42	26	68
6.Torque @ RPM (SEA Gross)	283@1500	254@1500	254@1500	295@1500	295@1500	293@1500	269@1500	254@1500	245@1500	229@1500	239@1500	246@1300	246@1300	246@1300	246@1300	218@1400	218@1400	253@1600	260 @ 1600	268 @ 1450	291 @ 1400	283@1500	293@1500	265@1400	296@1400	295@1500
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	35.9	37.1	36.5	37.6	37,6	34.2	34.4	34.1	34,1	31.5	6368	35.2	32.2	34.8	31.5	29.7	32.1	36.8	36.5	35.5	34.6	35.9	39.4	30.0	34.0	37,6
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	73	99	99	76	76	72	20	69	69	64	- 09	89	65	70	7.4	56	25	70	89	. 72	7.2	73	- 20	67	76	92
3.BHP@RPM (SAE Gross)	95@2200	90@2500	90@250B	99@2200	99@2200	92@2100	80@2200	85@2200	85@2200	80@2200	85@2500	91@2300	86@2200	90@2200	86@1900	75@2350	79@2500	93@ 2350	91 @ 2400	89 @ 2200	95@2000	95@2200	99@2500	80@2000	90@5000	99@2200
2.Engine Model	83,9-0	B3.9-C	D-6°EB	B3.9-C	B3.9-C	B3,9-C	B3.9-C	B3.9-C	B3.9-C	B3.9-C	B3.9-C	B3.9-C	B3.9-G	B3.9-C	B3.9-C	B3.9-C	B3.9-C	B3.9-C	B3.9-C	B3.9-C	83.9-0	B3.9-C	B3.9-C	B3.9-C	4B3.9-G	B3.9-C
1.Engine Code	1967,FR90131	1967,FR90129	1967;FR90412	1967,FR90953	1967,FR90954	1965;FR90134	1985;FR90130	1965;FR90144	1965,FR90846	2478;FR90126	2359;FR90127	2148;FR90390	2148;FR90720	2148;FR90646	2456;FR90391	2457;FR90392	2457,FR90395	2144;FR90309	2681,FR90653	2623;FR90618	2623;FR90540	1966;FR90369	2808;FR91031	2478;FR91024	8303;FR91025	1966;FR90953