California Environmental Protection Agency AIR RESOURCES BOARD	Cummins Inc.	EXECUTIVE ORDER U-R-002-0137 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-45-9;

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)
2002	2CEXL0505AAA	8.3	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger	Crane, Loader, Tractor, Dozer, 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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75 ≤ KW < 130	Tier 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
130 ≤ KW < 225	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		FEL	N/A	9.0	N/A	N/A	N/A	N/A	N/A	N/A
		CERT	0.4	7.4	--	0.7	0.33	5	2	11

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 10th day of December 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model S mary Form

ATTACHMENT

Pg 1 of 2

U-R-002-0137

Manufacturer: Cummins Inc.

Engine category: Nonroad Over 50 Hp

EPA Engine Family: 2CEXL0505AAA

Mfr Family Name: A412

Process Code: New Submission

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	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	9.Emission Control Device Per SAE J1930
1943;FR9874	C8.3-C	215@2200	111	82.3	642@1500	127	64	DDI, TC
1943;FR90181	C8.3-C	215@2200	111	82.3	642@1500	127	64	TC
1943;FR90416	C8.3-C	215@2200	111	82.3	642@1500	127	64	TC
1943;FR9873	C8.3-C	205@2200	106	78.9	636@1500	125	63.4	TC
1943;FR90178	C8.3-C	205@2200	106	78.9	636@1500	125	63.4	TC
1943;FR90118	C8.3-C	205@2200	106	78.9	636@1500	125	63.4	TC
1943;FR9871	C8.3-C	190@2200	98	73	590@1500	116	58.5	TC
1943;FR90042	C8.3-C	185@2200	96	71	575@1500	110	55.8	TC
1943;FR9870	C8.3-C	185@2200	96	71	575@1500	110	55.8	TC
1943;FR90330	C8.3-C	185@2200	96	71	575@1500	110	55.8	TC
1943;FR90417	C8.3-C	185@2200	96	71	575@1500	110	55.8	TC
1943;FR9869	C8.3-C	170@2200	92	68	560@1500	111	56	TC
1943;FR90225	C8.3-C	170@2200	92	68	520@1500	105	52.9	TC
1943;FR90515	C8.3-C	215@2200	111	82.3	642@1500	127	64	TC
1943;FR90772	C8.3-C	190@2200	97	72.2	590@1500	113	57.1	TC
2060;FR90043	C8.3-C	205@2000	115	77.6	636@1500	126	63.9	TC
2060;FR90113	C8.3-C	195@1900	112	71.8	563@1600	115	62.2	TC
2060;FR90044	C8.3-C	180@2000	98	66.2	575@1500	126	63.9	TC
2060;FR90168	C8.3-C	181@2000	101	67.8	626@1500	124	62.7	TC
2060;FR90350	C8.3-C	165@2100	89	66.1	550@1400	109	51.6	TC
2060;FR90117	C8.3-C	150@2200	80	59.1	475@1500	85	43.2	TC
2060;FR90914	C8.3-C	170@1900	99	63.6	599@1500	121	61.4	TC
2061;FR90177	C8.3-C	201@2500	99	83.7	574@1500	110	55.8	TC
2061;FR90041	C8.3-C	177@2500	87	73.7	507@1500	98	49.5	TC
2185;FR90040	C8.3-C	215@2500	106	89.1	610@1500	119	60	TC
2120;FR90119	C8.3-C	173@2380	87	68.9	496@1600	98	51.8	TC
2120;FR90353	C8.3-C	173@2300	89	69	496@1500	99	50	TC

ATTACHMENT

V-R-002-0137

2556;FR905	C8.3-C	165 @ 1850	100		615 @ 1300	125	54.6		TC
2556;FR90794	C8.3-C	165 @ 1850	100	62.2	615 @ 1300	125	54.6		TC