Cummins Inc.

EXECUTIVE ORDER U-R-002-0217 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.

110DEL		DISPLACEMENT	FUEL TYPE	USEFUL LIFE (hours) 8000	
MODEL YEAR	ENGINE FAMILY	(liters)			
2004	4CEXL015.AAB	15.0	Diesel		
	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION		
Engin	e Control Module, Direc Turbocharger, Charge	t Diesel Injection, Air Cooler	Generator		

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):

	<del></del> -	EXHAUST (g/kw-hr)				OPACITY (%)			
EMISSION STANDARD	ŀ	HC		NMHC+NOx	со	PM	ACCEL	LUG	PEAK
CATEGORY	etn.			6.4	3.5	0.20	N/A	N/A	N/A
1161 2				6.3	0.6	0.10		- <del>-</del>	
		STANDARD CATEGORY	STANDARD HC CATEGORY Tier 2 STD N/A	HC   NOx	## HC NOX NMHC+NOX   NOX   NMHC+NOX   NOX   NMHC+NOX   NOX   NMHC+NOX   NOX   NOX   NMHC+NOX   NOX   N	## HC NOX NMHC+NOX CO ## NOX NMH	## HC NOX NMHC+NOX CO PM CATEGORY Tier 2 STD N/A N/A 6.4 3.5 0.20	EMISSION   EXHAUST (g/kW-nr)	EMISSION STANDARD CATEGORY         HC         NOx         NMHC+NOx         CO         PM         ACCEL         LUG           Tier 2         STD         N/A         N/A         6.4         3.5         0.20         N/A         N/A

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.

Replaced Susmowiff

Executed at El Monte, California on this \_\_\_\_\_\_\_ day of August 2003.

/z:Allen Lyons, Chief

Mobile Source Operations Division

## Engine Model Summary Form AHACHMENT Pg 1 o.€ 1

Cummins Inc. Manufacturer:

Engine category: Nonroad Cl
EPA Engine Family: 4CEXL015.AAB

Mfr Family Name: D103

Process Code:

New Submission

8,Fuel Rate: 9.Emission Control (bs/hr)@peak torque Device Per SAE J1930	at ECM, TC, CAC	ECM,TC,CAC	ECM,TC,CAC	ECM, IG, CAC	EOM, TC, CAG	ECM, TC, CAC	EUM, IC, CAC	/ ECM, C,CAU
8,Fuel Rate: (lbs/hr)@peak torque	NA DO	N/A	N/A	N/A	N/A	N/A	N/A	N/A \
7.Fuel Rate: mm/stroke@peak torque	N/A	N/A	N/A	N/A	NIA	AIN	NA	A/N
6.Torque @ RPM (SEA Gross)	N/A	N/A	NA	N/A	N/A	N/A	N/A	N/A
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	231.0	227.0	202.0	178.0	166.0	255.0	224.0	220.0
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	457	449	399	352	328	420	369	330
3.BHP@RPM (SAE Gross)	690@1500	670@1500	615@1500	<b>545@1500</b>	505@1500	750@1800	685@1800	610@1800
2.Engine Model	CISX15-G	OSX15-GB	QSX15.G6	OSX15-G4	QSX15-G3	QSX15-G9	QSX15.G7	O5X15-G5
1.Engine Code	ana t EDINA7	8081-FE10401	8081,FR10444	9081:FR10443	8081 FR10442	8142:FR10441	8142.FB10440	8142:FR10349