California Environmental Protection Agency AIR RESOURCES BOARD	CUMMINS INC.	EXECUTIVE ORDER U-R-002-0520 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 engines and emission control systems 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)
2010	ACEXL0505AAE	8.3	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module	Crane, Loader, Tractor, Dozer, 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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	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	--	--	4.0	1.8	0.15	4	1	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 10 day of September 2009.

Annette Hebert, Chief
Mobile Source Operations Division

Engine Model Summary Template

U-12-002-0520
Attachment #1 Pg 1/2
6/24/2009

Engine Family	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
ACEXL0505AAE	8539;FR91358	QSC	305@2200	159	118.2	1020@1500	208	105.2	ECM TC CAC DDI
ACEXL0505AAE	8630;FR91506	QSC	305@2200	159	118.2	1020@1500	208	105.2	ECM TC CAC
ACEXL0505AAE	8630;FR91507	QSC	305@2100	164	116.2	1020@1500	206	104.4	ECM TC CAC
ACEXL0505AAE	8630;FR91508	QSC	300@2100	162	114.5	1000@1500	203	102.5	ECM TC CAC
ACEXL0505AAE	8630;FR91509	QSC	300@2200	159	118.1	1000@1500	207	104.6	ECM TC CAC
ACEXL0505AAE	"8627,	QSC	275@2200	146	108.1	896@1500	196	98.9	ECM TC CAC
ACEXL0505AAE	8627;FR91357	QSC	240@2200	129	95.9	800@1500	171	86.5	ECM TC CAC
ACEXL0505AAE	8627;FR91502	QSC	280@2100	157	111	1000@1500	202	102.3	ECM TC CAC
ACEXL0505AAE	8627;FR91510	QSC	280@2200	150	111.2	1000@1500	203	102.8	ECM TC CAC
ACEXL0505AAE	8627;FR91512	QSC	250@2200	130	96.3	835@1500	176	88.9	ECM TC CAC
ACEXL0505AAE	8627;FR91513	QSC	230@2200	122	90.7	800@1500	172	86.8	ECM TC CAC
ACEXL0505AAE	8627;FR91698	QSC	245@2200	130	96.5	857@1500	183	92.5	ECM TC CAC
ACEXL0505AAE	8627;FR91853	QSC	245@2000	139	93.8	938@1400	193	90.9	ECM TC CAC
ACEXL0505AAE	8627;FR92001	QSC	245@1800	149	90.7	870@1400	197	93	ECM TC CAC
ACEXL0505AAE	8639;FR91516	QSC	240@2200	129	95.9	800@1500	171	86.5	ECM TC CAC
ACEXL0505AAE	8639;FR91915	QSC	250@2200	130	96.3	835@1400	176	88.9	ECM TC CAC
ACEXL0505AAE	1632;FR91505	QSC	215@2200	118	87.5	675@1500	148	74.8	ECM TC CAC
ACEXL0505AAE	1632;FR92042	QSC	220@2000	126	85.1	645@1400	134	63.4	ECM TC CAC
ACEXL0505AAE	8746;FR91514	QSC	215@2200	118	87.5	675@1500	148	74.8	ECM TC CAC
ACEXL0505AAE	1738;FR92024	QSC	207@1950	121	79.5	746@1450	166	81.3	ECM TC CAC
ACEXL0505AAE	2705;FR92333	QSC	260@1900	150	96.4	830@1400	178	83.9	ECM TC CAC
ACEXL0505AAE	8639::FR92838	QSC	275@2200	144	107	896@1500	188	95.5	ECM TC CAC
ACEXL0505AAE	8539;FR91358	6TAA-8304	305@2200	159	118.2	1020@1500	208	105.2	ECM TC CAC
ACEXL0505AAE	8539;FR91354	6TAA-8304	299@2200	159	118.1	1008@1500	207	104.6	ECM TC CAC
ACEXL0505AAE	8539;FR92422	6TAA-8304	305@2200	155	115	1020@1500	202	102	ECM TC CAC
ACEXL0505AAE	8539;FR92062	6TAA-8304	290@2200	158	117.5	1020@1500	204	103.2	ECM TC CAC
ACEXL0505AAE	8535;FR91400	6TAA-8304	244@2200	130	96.5	857@1500	183	92.5	ECM TC CAC
ACEXL0505AAE	8535;FR91501	6TAA-8304	270@2200	143	106.2	948@1500	201	101.5	ECM TC CAC

Engine Model Summary Template

Attachment 1/1 Page 2/2
6/24/2009

Engine Family	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
ACEXL0505AAE	8535;FR91372	6TAA-8304	275@2000	156	105.4	1029@1400	208	98.3	ECM TC CAC DDI
ACEXL0505AAE	8535;FR91353	6TAA-8304	248@2000	139	93.8	938@1400	193	90.9	ECM TC CAC
ACEXL0505AAE	8535;FR91359	6TAA-8304	275@2200	146	108.1	896@1500	196	98.9	ECM TC CAC
ACEXL0505AAE	8535;FR92520	6TAA-8304	275@2200	140	104	896@1500	180	91	ECM TC CAC
ACEXL0505AAE	8745;FR91558	6TAA-8304	217@2200	118	87.5	754@1500	159	80.4	ECM TC CAC
ACEXL0505AAE	8745;FR91559	6TAA-8304	221@2000	126	85	824@1400	168	79.3	ECM TC CAC
ACEXL0505AAE	1376;FR91693	6TAA-8304	283@2000	159	107.1	1020@1400	201	95.1	ECM TC CAC
ACEXL0505AAE	8627:FR92746	QSC	275@ 2000	155	103.6	1029 @ 1400	202	95.4	ECM TC CAC
ACEXL0505AAE	8630:FR91691	QSC	290@2200	157	116.2	940@1500	195	98.7	ECM TC CAC
ACEXL0505AAE	8627:FR91503	QSC	260@2200	136	101.2	870@1500	179	90.5	ECM TC CAC