

 AIR RESOURCES BOARD	KOMATSU LIMITED	EXECUTIVE ORDER U-R-005-0325 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)
2009	9KLXL23.2FD5	23.2	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module			Generator and Other Industrial Equipment	

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
kW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	N/A	N/A	N/A
		CERT	--	--	5.9	0.8	0.14	--	--	--

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 27th day of November 2008.


 Annette Hebert, Chief
 Mobile Source Operations Division

Attachment 1 of 1

Engine Model Summary Template

U-R-005-0325

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
9KLXL23.2FD5	2G01	SAA6D170E2-3	1000@1800	567	343	---	---	---	DFI,TC,CAC,EM,ECM
9KLXL23.2FD5	2G02	SAA6D170E2-3	891@1500	572	288	---	---	---	DFI,TC,CAC,EM,ECM
9KLXL23.2FD5	2G03	SAA6D170E2-3	1145@1800	628	377	---	---	---	DFI,TC,CAC,EM,ECM
9KLXL23.2FD5	2G04	SAA6D170E2-3	1009@1500	664	332	---	---	---	DFI,TC,CAC,EM,ECM
9KLXL23.2FD5	2G05	SAA6D170E2-3	1220@1800	647	388	---	---	---	DFI,TC,CAC,EM,ECM
9KLXL23.2FD5	2G06	SAA6D170E2-3	1060@1500	669	335	---	---	---	DFI,TC,CAC,EM,ECM
9KLXL23.2FD5	2G07	SAA6D170E2-3	1220@1760	699	410	---	---	---	DFI,TC,CAC,EM,ECM
9KLXL23.2FD5	2G08	SAA6D170E2-3	968@1470	656	320	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL3083FR50043	QSK23-G5-NR2	1000@1800	567	343	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL3083FR50043	QSK23-G5-NR2	891@1500	572	288	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL2621FR50045	QSK23-G6-NR2	1145@1800	628	377	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL3083FR50061	QSK23-G8-NR2	1009@1500	664	332	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL2621FR50047	QSK23-G7-NR2	1220@1800	647	388	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL3083FR50063	QSK23-G9-NR2	1060@1500	669	335	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL3352FR50069	QSK23-NR2	1220@1760	699	410	---	---	---	DFI,TC,CAC,EM,ECM
9CEXL023.AAB	CPL3352FR50071	QSK23-NR2	968@1470	656	320	---	---	---	DFI,TC,CAC,EM,ECM