

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-5-39  
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

KOMATSU LTD.

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

IT IS ORDERED AND RESOLVED: That the following diesel engines and the exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000  
Typical Equipment Usage: Loader, Generator, Excavator  
Engine Power Ratings Range: 175 – 750 horsepower, inclusive  
Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems and Special Features</u>
	<u>Liters</u>	<u>Cubic Inches</u>	
YKLXL11.0DC1 (SA6D125)	11.0	671	Turbocharger Charge Air Cooler

The engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values in grams per brake horsepower-hour (g/hp-h) for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak-values from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	<u>Exhaust Emissions (g/hp-h)</u>				<u>Smoke Opacity (%)</u>		
	<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.3	0.4	5.6	0.2	7	5	10

BE IT FURTHER RESOLVED: That the listed engine models comply with "Exhaust Emission Standards and Test Procedures—Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels—1996 and Later Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 *et seq.*).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 2<sup>nd</sup> day of December 1999.



R. B. Summerfield, Chief  
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

Manufacturer: **KOMATSU LTD.**

Process Code: **New Sub - continued**

EPA Engine Family: **YKLXL11.0DC1**

Manufacturer Family Name: **SA6D125E-2**

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 Device Per SAE J1930	9. Emission Control
K10	SA6D125E-2	406@1800	238	142	--	--	--	EM Tc CAC
K11	SA6D125E-2	334@2100	167	116	904@1700	179	100	EM Tc CAC
K12	SA6D125E-2	314@1950	164	105	918@1400	177	82	EM Tc CAC
K13	SA6D125E-2	271@2200	134	97	786@1400	153	71	EM Tc CAC
K14	SA6D125E-2	321@2050	163	110	914@1400	176	81	EM Tc CAC

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