State of California AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-10-9

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

KOMATSU DRESSER CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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 Komatsu Dresser Corporation 1998 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Crane, Tractor, Dozer, and Pump

Fuel Type: Diesel

Engine Family	Liters (Cubic Inches)	Exhaust Emission Control Systems and Special Features
WKDXL0359ABA (A403)	5.9 (359)	Turbocharger

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 total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matters (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

Exhaust	Emissions	(q/bhp-hr	(g/bhp-hr) Smoke Opacity ((*)
THC	<u>co</u>	<u>XOX</u>	<u>PM</u>	<u>Accel</u>	Lug	Peak
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

Exhaust	t Emissi	on (a/p	np-hr)	Smoke	Opacity	(*)
THC	CO	NOX	PM	<u>Accel</u>	Lug	<u>Peak</u>
0.3	0.6	5.1	0.1	6	1	22

BE IT FURTHER RESOLVED: That the listed engine models comply with the "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 the "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, Section 2425 et seq.).

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

Executed at El Monte, California this 3/4 day of December 1997.

Mobile Source Characters Die

Rachel Sunsait

Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

Manufacturer: Komatsu	Komatsu			Process Cod	Process Code: New Submission	ssion		
EPA Engine Far	EPA Engine Family: WKDXL0359ABA	359ABA		Manufacture	Manufacturer Family Name:	A403		
1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (bs/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
CPL 2063 FR 9897	SA6D102E-1	185@2200	86	69.0	580@1500	111	56.3	
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CPL 1962 FR 90019	SA6D102E-1	166@2100	48	59.4	463@1500	88	45.0	1-€···Э-7