

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-10-6

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, Loader, Dozer, Pump, Compressor, and Generator

Fuel Type: Diesel

<u>Engine Family</u>	<u>Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
WKDXL0239ABA (A382)	3.9 (239)	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):

<u>Exhaust Emissions (g/bhp-hr)</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>
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:

<u>Exhaust Emission (g/bhp-hr)</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>
0.4	0.7	6.1	0.2	13	2	31

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 31<sup>st</sup> day of December 1997.

*Raphael Summerfield*  
for R. B. Summerfield, Chief  
Mobile Source Operations Division

# LARGE ENGINE MODEL SUMMARY

11/21/97

Process Code: **New Submission**

Manufacturer: **Komatsu**

Manufacturer Family Name: **A382**

EPA Engine Family: **WKDXL0239ABA**

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mm <sup>3</sup> /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 <sup>3</sup> /stroke@peak torque	8. Fuel Rate: (lbs/hr)@peak torque	9. Emission Control Device Per SAE J1930
CPL 2302 FR 90029	S4D102E-1	110@2500	81	45.3	293@1500	84	28.3	TC
CPL 1967 FR 90128 FR 90131	S4D102E-1 S4D102E-1	105@2400 95@2200	77 73	41.7 35.9	280@1500 283@1500	85 83	28.7 28.1	TC TC
CPL 2148 FR 90390	S4D102E-1	91@2300	68	35.2	246@1300	75	22.0	TC
CPL 2456 FR 90391	S4D102E-1	86@1900	74	31.5	246@1300	78	22.9	TC
CPL 2457 FR 90392 FR 90395	S4D102E-1 S4D102E-1	75@2350 79@2500	56 57	29.7 32.1	218@1400 218@1400	66 66	20.7 20.7	TC TC
CPL 2359 FR 90127	S4D102E-1	85@2500	60	33.9	239@1500	71	23.9	TC
CPL 2144 FR 90309	S4D102E-1	93@2350	70	36.8	253@1600	75.3	27.1	TC

U-K-10-6