

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-11-11

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

CASE 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 Case 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

<u>Engine Family</u>	<u>Liters</u>	<u>(Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
WX9XL0505AAA (A412)	8.3	(505)	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>
0.3	0.6	5.5	0.2	5	2	11

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 31st day of December 1997.

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

LARGE ENGINE MODEL SUMMARY

11/20/97

Manufacturer: **Case Corporation** Process Code: **New Submission**

EPA Engine Family: **WX9XL0505AAA** Manufacturer Family Name: **A412**

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 J1903

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 J1903
CPL 1943 FR 9873	6T-830	205@2200	106	78.9	636@1500	125	63.4	TC
FR 9871	6T-830	190@2200	98	73.0	590@1500	116	58.5	TC
FR 9870	6T-830	185@2200	96	71.0	575@1500	110	55.8	TC
FR 90225 CPL 2060	6T-830	170@2200	92	68.0	520@1500	105	52.9	TC
FR 90168	6T-830	178@2000	100	67.5	626@1500	124	62.7	TC
FR 90117	6T-830	150@2200	80	59.1	475@1500	85	43.2	TC