

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-11-9

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, 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>
WX9XL0359AAA (A402)	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):

<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	4.9	0.2	3	2	5

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.

*Ryszard Juszczyk*  
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: **WX9XL0359AAA** Manufacturer Family Name: **A402**

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

CPL 1948													
FR 90058	6T-590	152@2500	74	62.6	414@1600	83	44.6						TC
CPL 2071													
FR 90194	6T-590	137@2000	74	50.1	440@1600	87	46.9						TC
FR 90299	6T-590	135@2200	70	52.1	419@1600	83	44.7						TC
FR 90061	6T-590	135@2200	70	52.1	419@1600	83	44.7						TC
FR 90064	6T-590	120@2200	61	45.4	372@1600	73	39.1						TC
FR 90298	6T-590	120@2200	61	45.4	372@1600	73	39.1						TC
FR 90297	6T-590	110@2200	57	42.6	341@1600	67	36.2						TC
FR 90296	6T-590	101@2200	53	39.6	313@1500	60	30.6						TC
FR 90203	6T-590	97@2200	51	37.9	267@1700	53	30.3						TC