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State of California AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-11-16

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 Corp. 1999 model-year engines with rated power between 175 and 750 horsepower and exhaust emission control systems are certified as described below in heavy-duty off-road equipment:

Typical Equipment Usage:

Crane, Loader, Tractor, Dozer, Pump, Compressor, and Generator Set

Fuel Type:

Diesel

Engine Family		acement Cubic Inches	Exhaust Emission Control Systems and Special Features
XX9XL0359ABA (A403)	5.9	359	Charge Air Cooler 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 matter (PM) certification exhaust emission standards in grams per brake horsepower-hour (g/hp-h), and the opacity-of-smoke emission standards in percent (%) during acceleration (Accel), lugging (Lug), and peak (Peak) modes for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

<u>Exhaus</u>	st Emiss	ions (g/	Smoke Opacity (%)			
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM_</u>	<u>Accel</u>	Lug	<u>Peak</u>
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx, and PM exhaust emissions certification values in grams per brake horsepower-hour, and the opacity-of-smoke emissions certification values in percent for this engine family are:

<u>Exhau</u>	st Emis	sions (g/hp-h)	<u>Smoke Opacity</u>		
THC	<u>co</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<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, Sections 2425 et seq.).

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

Executed at El Monte, California this 24 day of November 1998.

R. B. Summerfield, Chief Mobile Source Operations Division

LARGE ENGINE MOLEL SUMMARY

Manufacturer: Case Corporation

Process Code: New Submission

1. Engine Code 2. Engine Model 3. BHP@RPM (SAE Gross) mn/stroke @ peak HP (tor diesel only) 6. Fuel Rate: (bs/hr) @ peak HP (SEA Gross) 7. Fuel Rate: mn/stroke@peak torque 7. Fuel Rate: mn/stroke@peak torque 8. Fuel Rate: (bs/hr)@peak torque CPL 1889 FR 90001 FR 9898 6TA-590 200@2500 185@2500 91 77. 1 593@1500 112 56.8 FR 9898 6TA-590 185@2500 85 71.9 550@1500 104 52.5 CPL 2072 FR 90080 6TA-590 174@2500 78 65.8 458@1500 88 43.7 CPL 1962 FR 90338 6TA-590 168@2200 84 62.0 541@1500 101 51.0 FR 90018 6TA-590 165@2200 81 60.4 512@1500 97 48.9 FR 90337 6TA-590 150@2200 74 55.0 493@1500 96 48.5 FR 90020 6TA-590 150@2200 75 55.8 466@1500 89 45.1	9.Emission Contr 9 Device Per SAE J19		7 Fuel Rate						
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