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State of California AIR RESOURCES BOARD

EXECUTIVE ORDER A-13-94

Relating to Certification of New Heavy-Duty_Motor Vehicle Engines

CATERPILLAR, INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 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 Caterpillar, Inc. 1996 model diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Compressed Natural Gas (CNG only)

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Engine Family	<u>Liters</u>	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
TCP638FZKAEK	10.5	638	Engine Control Module Turbocharger Charge Air Cooler Oxygen Sensor Three Way Catalytic Converter Warm Up Three Way Catalytic Converter

Engine models and codes are listed on attachments.

The following are the certification exhaust emission standards for this engine family in grams per brake horsepower-hour:

Non-Methane	Carbon	Nitrogen	<u>Particulates</u>
<u>Hydrocarbons</u>	<u>Monoxide</u>	<u>Oxides</u>	
1.2	15.5	4.0	0.05

The following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour:

Engine	Non-Methane	Carbon	Nitrogen	<u>Particulates</u>
<u>Family</u>	<u>Hydrocarbons</u>	<u>Monoxide</u>	Oxides	
TCP638FZKAEK	0.7	6.3	0.7	0.02

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 2035 et seq.). · CATERPILLAR, INC.

BE IT FURTHER RESOLVED: That the listed engine family is certified for use in urban buses.

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

The Bureau of Automotive Repair will be notified by copy of this order and attachments. Executed at El Monte, California this $\frac{274}{2}$ day

day of October 1995.

mu R. B. Summerfield

Assistant Division Chief Mobile Source Division

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1996 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET HEAVY-DUTY DIESEL-STANDARD ENGINES

Manufacturer Cate		rpillar Inc.		Engine Family	TCP638FZKAEK		
Displacement	10.5	1		Liters	638 /	Cub	ic Inches
Maximum Rated Power:	250		HP @	2100	RPM	Engine Configu	ration: 16
Ignition: Compression			Comp	ression with Glow	v Plug	Spark	X
Fuel Type (s): Dedicated	······································	Flex-F	- ⁷ uel	Dual-Fuel	Diesel	M100	M85
	·····	CNG	X LNG	LPG	Other (specify)		
Diesel Cert Fuel: I3CCR 22	.82	40	CFR 86.13	13-90	40	CFR 86.1313-94	
Primary Intended Service G		- L	.HD	MHD	HHD	Urban Bus	<u> </u>
Exhaust ECS (incl. MFI,		CAC,	TC, ECM,	TWC, O2S	WU-TV	VC	

(Use abbreviations per SAE J1930 SEP91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP ft ³ /min (lbs/hr)	Carburetor Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX / Catalytic Converter Part No.
G3306	250 @ 2100	34.5 (87.8)	101-6932	101-6939		108-5436 108-5439 117-8857 (PRE-CAT

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