State of California AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-162

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

CUMMINS ENGINE COMPANY, 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 Cummins Engine Company, 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 or Liquid Natural Gas (CNG or LNG)

Engine Family	<u>Liters</u>	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
TCE611EBCAAW (433D)	10	611	Charge Air Cooler Turbocharger Powertrain Control Module Oxidation Catalytic Converter Heated Oxygen Sensor

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>	Oxides	
1.2	15.5	5.0	0.10

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	
TCE611EBCAAW (433D)	0.5	5.9	2.4	0.03

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.).

CUMMINS ENGINE COMPANY, INC.

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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 $\frac{22}{2}$ day of June 1996.

Summerfield R.

Assistant Division Chief Mobile Source Division

E.O.# A-21-162

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

Displacement: 10Liters 611Cubic Inches Maximum Rated Power: 300HP @2100RPM Engine Configuration: L6Spark_X Ignition: Compression Compression with Glow Plug DieseLM100M85	Manufacturer <u>Cummins Engine Company, Inc.</u> Engine Family (433D) TCE611EBCAAW						
Ignition: Compression_ Compression with Glow Plug_ Spark X Fuel Type(s): Dedicated_ Flex-Fuel_ Dual-Fuel_ Diesel_ M100_ M85_ CNG X LNG X LPG_ Other (specify)							
Fuel Type(s): Dedicated Flex-Fuel Dual-Fuel Diesel M100 M85 CNG X LNG X LPG Other (specify) 40 CFR 86.1313-90 40 CFR 86.1313-94 Diesel Cert Fuel: 13 CCR 2282 40 CFR 86.1313-90 40 CFR 86.1313-94 Primary Intended Service Class: LHD MHD HHD_X Urban Bus Exhaust ECS (include.MFI, TC, CAC): MHD Ecm/PCM EGR PTOX / Engine Model Rated HP @ Rated HP & Injector ECM/PCM Valve Catalytic L10-300G 300 @ 2100 N/A 39222724 N/A 3928277 L10-280G 280 @ 2100 N/A 3922724 N/A 3928277	Maximum Rated Power: 300 HP @ 2100 RPM Engine Configuration: 1-6						
CNGX LNGX LPG_ Other (specify)							
Diesel Cert Fuel: 13 CCR 2282 40 CFR 86.1313-90 40 CFR 86.1313-94 Primary Intended Service Class: LHD MHD HHD_X Urban Bus Exhaust ECS (include.MFI, TC, CAC):	Fuel Type(s): DedicatedFlex-Fuel Dual-Fuel Diesel M100					M100_	M85_
Primary Intended Service Class: LHD MHD HHD_X Urban Bus Exhaust ECS (include.MFI, TC, CAC): HO2S, OC (TC, CAC), PC M Urban Bus Image: Bagine Model (Eng Code) Rated HP Fuel Rate Fuel Pump ECM/PCM EGR PTOX / Catalytic Image: Code) @ RPM Fuel Rate Fuel Pump ECM/PCM Part No. Part No. Catalytic L10-300G 300 @ 2100 N/A 3922724 N/A 3928277 L10-280G 280 @ 2100 N/A 3922724 N/A 3928277							
Exhaust ECS (include.MFI, TC, CAC): HO2S, OC (TC, CAC), PCM (use abbreviations per SAE J1930 SEP91) Engine Model (Eng Code) Rated HP @ RPM Fuel Rate (Bs/hr) Fuel Pump & Injector Part No. ECM/PCM Part No. EGR Valve Part No. PTOX / Catalytic Converter Part No. L10-300G (2111) 300 @ 2100 N/A 3922724 N/A 3928277 L10-280G 280 @ 2100 N/A 3922724 N/A 3928277							
(use abbreviations per SAE J1930 SEP91)Engine Model (Eng Code)Rated HP @ RPMFuel Rate @ Rated HP mm3 / stroke (lbs/hr)Fuel Pump & Injector Part No.ECM/PCM Part No.EGR Valve Catalytic Converter Part No.L10-300G (2111)300 @ 2100N/A3922724N/A3928277L10-280G280 @ 2100N/A3922724N/A3928277	Primary Intended Service C	lass: LH	D	MHD_	HHE	<u>x</u>	Urban Bus_
Engine Model (Eng Code)Rated HP @ RPM@ Rated HP mm3 / stroke (lbs/hr)& Injector Part No.ECM/PCM Part No.Valve Part No.Catalytic Converter Part No.L10-300G (2111)300 @ 2100N/A3922724N/A3928277L10-280G280 @ 2100N/A3922724N/A3928277	Exhaust ECS (include.MFI	, TC, CA	c): <u>HO2S,</u>			30 SEP91)	
(2111) L10-280G 280@ 2100 N/A 3922724 N/A 3928277	-		@ Rated HP mm3 / stroke	& Injector	1	Valve	Catalytic Converter
	_	2100		N/A	3922724	N/A	3928277
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