

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-13-96

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 1996 model-year Caterpillar, Inc. diesel-cycle engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Diesel

<u>Engine Family</u>	<u>Engine Displacement Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
TCP893EZDARK	14.6 (893)	Turbocharger Charge Air Cooler Engine Control Module

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:

<u>Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
1.3	15.5	5.0	0.10

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

<u>Engine Family</u>	<u>Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
TCP893EZDARK	0.3	1.3	4.5	0.09

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.).

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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 2nd day of November 1995.



R. B. Summerfield
Assistant Division Chief
Mobile Source Division

E.O. # A-13-96

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

Manufacturer	Caterpillar Inc.		Engine Family	TCP893EZDARK		
Displacement	14.6	/	Liters	893	/	Cubic Inches
Maximum Rated Power:	550		HP @	1800	RPM	Engine Configuration: 16
Ignition: Compression	X		Compression with Glow Plug			Spark
Fuel Type (s): Dedicated		Flex-Fuel	Dual-Fuel	Diesel	X	M100 M85
		CNG	LNG	LPG	Other (specify)	
Diesel Cert Fuel: 13CCR 2282		40 CFR 86.1313-90		40 CFR 86.1313-94		X
Primary Intended Service Class:	LHD		MHD	HHD	X	Urban Bus
Exhaust ECS (incl. MFI, TC, CAC)	CAC, ECM, TC					

(Use abbreviations per SAE J1930 SEP91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm ³ /stroke (lbs/hr)	Fuel Pump & Injector Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX / Catalytic Converter Part No.
3406E - 1	550 @ 1800	292 (176.7)	1171149	1307115	---	---
3406E - 2	550 @ 1800	292 (176.7)	1171149	1307118		
3406E - 3	500 @ 1800	265 (160.5)	1171149	1303205		
3406E - 4	500 @ 1800	262 (158.5)	1171149	1303202		
3406E - 5	475 @ 1800	251 (151.9)	1171149	1286579		
3406E - 6	475 @ 1800	246 (149.7)	1171149	1286574		
3406E - 7	455 @ 1800	241 (145.9)	1170484	1303197		
3406E - 8	455 @ 1800	237 (143.8)	1170484	1303194		
3406E - 9	435 @ 1800	230 (139.4)	1170484	1303172		
3406E - 10	435 @ 1800	227 (137.3)	1170484	1303169		
3406E - 11	410 @ 1800	225 (136.4)	1170483	1286577		
3406E - 12	410 @ 1800	222 (134.2)	1170483	1286573		
3406E - 13	375 @ 1800	206 (124.8)	1170483	1307134		
3406E - 14	375 @ 1800	206 (124.8)	1170483	1307138		
3406E - 15	355 @ 1800	193 (117.1)	1170483	1307126		
3406E - 16	355 @ 1800	193 (117.1)	1170483	1307130		
3406E - 17	355 @ 1800	193 (117.1)	1170483	1307122		
3406E - 18	330 @ 1800	182 (110.4)	1183847	1299307		
3406E - 19	310 @ 1800	174 (105.2)	1183847	1299298		
3406E - 20	310 @ 1800	174 (105.2)	1183847	1299301		
3406E - 21	310 @ 1800	174 (105.2)	1183847	1299304		

ISSUE DATE	08 SEPT 95						
REVISION NUMBER							
REVISION DATE							

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

Manufacturer	<u>Caterpillar Inc.</u>	Engine Family	<u>TCP893EZDARK</u>
Displacement	<u>14.6 /</u>	Liters	<u>893 /</u> Cubic Inches
Maximum Rated Power:	<u>500</u>	HP @ <u>1800</u>	RPM Engine Configuration: <u>16</u>
Ignition: Compression	<u>X</u>	Compression with Glow Plug	<u>Spark</u>
Fuel Type (s): Dedicated	<u>Flex-Fuel</u>	Dual-Fuel	Diesel <u>X</u> M100 <u>M85</u>
	<u>CNG</u> <u>LNG</u> <u>LPG</u>	Other (specify)	
Diesel Cert Fuel: 13CCR 2282	<u>40 CFR 86.1313-90</u>	<u>40 CFR 86.1313-94</u>	<u>X</u>
Primary Intended Service Class:	<u>LHD</u>	<u>MHD</u>	<u>HHD</u> <u>Urban Bus</u>
Exhaust ECS (incl. MFI, TC, CAC)	<u>CAC, ECM, TC</u>		

(Use abbreviations per SAE J1930 SEP91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm ³ /stroke (lbs/hr)	Fuel Pump & Injector Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX / Catalytic Converter Part No.
3406E - 18	355 @ 1800	193 (117.1)	1170483	1307126	---	---
3406E - 19	355 @ 1800	193 (117.1)	1170483	1307130	---	---
3406E - 20	355 @ 1800	193 (117.1)	1170483	1307122	---	---
3406E - 21	355 @ 1800	193 (117.1)	1170483	1343001	---	---
3406E - 22	330 @ 1800	182 (110.4)	1183847	1299307	---	---
3406E - 23	310 @ 1800	174 (105.2)	1183847	1299298	---	---
3406E - 24	310 @ 1800	174 (105.2)	1183847	1299301	---	---
3406E - 25	310 @ 1800	174 (105.2)	1183847	1299304	---	---

ISSUE DATE	08 DEC 95						
REVISION NUMBER	1	2					
REVISION DATE	22 JAN 96	23 JAN 96					