

 CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY AIR RESOURCES BOARD	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0398-1 New Off-Road Compression-Ignition Engines
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Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 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-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2010	ACPXL78.1T2E	69.0, 78.1	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Smoke Puff Limiter, Engine Control Module			Generator	

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
kW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	N/A	N/A	N/A
		FEL	N/A	N/A	5.6	N/A	0.15	N/A	N/A	N/A
		CERT	--	--	5.3	1.2	0.12	--	--	--

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.


BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

This Executive Order hereby cancels and replaces Executive Order U-R-001-0398 dated December 10, 2009.

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

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 30th day of August 2010.


 Annette Hebert, Chief
 Mobile Source Operations Division

08-16-2010

Engine Family	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
ACPXL78.1T2E	Cert,1	3516C	3634@1800	757.3	1223.1	10595@1800	NA	NA	etc, EM,DI,TC,ECM, SPL
ACPXL78.1T2E	11	3516C	3273@1800	678.8	1096.4	9540@1800	NA	NA	EM,DI,TC,ECM
ACPXL78.1T2E	2	3516C	3319@1800	692.1	1117.9	9677@1800	NA	NA	EM,DI,TC,ECM
ACPXL78.1T2E	3	3516C	2997@1800	632.3	1021.4	8738@1800	NA	NA	EM,DI,TC,ECM
ACPXL78.1T2E	7	3516C	3004@1800	681.9	1101.4	8758@1800	NA	NA	EM,DI,TC,ECM
ACPXL78.1T2E	8	3516C	3279@1800	629.9	1017.4	9560@1800	NA	-NA	EM,DI,TC,ECM