EXECUTIVE ORDER U-R-004-0505 New Off-Road Compression-Ignition Engines

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-14-012;

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)	
2015	FJDXL06.8309	4.5, 6.8	Diesel	8000	
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION		
Charge Air Cooler, Oxidation Catalyst, Electronic Direct Injection, Electronic Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer, Turbocharger, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst			Loaders, Tractor, Dozer, Pump, Compressor, Generator Se Other Industrial Equipment		

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	EMISSION		EXHAUST (g/kw-hr)			OPACITY (%)				
POWER	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL					0.01			<u>:</u> _
		CERT	0.02	0.06		0.1	0.003			

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).

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 _____ day of July 2015.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

Il/alin for Annette Hebert

EO#: U-R-004-0505 R/c

12-21-2015

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Engine Model Summary Form

190@2400

224@2400 235@2400 224@2100

190@2100 190@2100

Engine category: Nonroad CI EPA Engine Family: FJDXL06.8309 Mfr Family Name: Process Code:

6068

6068

6068

1. Engine code # 6068HE053 # 6068HE054 6068HPRNT6

6068RW430

6068RW431

6068RW434 6068RW435

Running Change mm/stroke@peak kW (for diesel only) (kg/hr)@peak kW (for diesels only) @RPM (SEA Gross) 3. KW@RPM 2. Engine Model (SAE Gross)

41.0@2400

47.0@2400 50,5@2400 45.7@2100

39.3@2100 39.3@2100

1000@1600

1245@1600

1245@1600

1245@1600

1025@1600 1025@1600

7. Fuel Rate:	9. Emission Control			
mm/stroke@peak	8. Fuel Rate:	Device Per		
torque	(kW/hr)@peak torque	SAE J1930		
140.1@1600	34.3@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		
174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		
188.8@1600	48.2@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		
174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		
174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		
142.7@1600	34.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		
142.7@1600	34.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		
174.1@1600 174.1@1600 142.7@1600	42.6@1600 42.6@1600 34.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM EGR PTOX OC SCRC NH3OC DFI TC CAC ECM EGR PTOX OC SCRC NH3OC DFI TC CAC ECM		

* New Patings being added

pen R/C

111.9@2400 128.1@2400

137.6@2400 142.4@2100

122.5@2100