California Environmental Protection Agency D Air Resources Board

JOHN DEERE POWER SYSTEMS

EXECUTIVE ORDER U-R-004-0472 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-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)			
2013	DJDXL06.8106	4.5	Diesel	8000			
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION				
Direct Dies Elect	sel Injection, Turbocharge ronic Control Module, Sm	er, Charge Air Cooler, loke Puff Limiter	Generator Set				

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 STANDARD		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER	CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
56 <u><</u> kW < 75	Interim Tier 4 / ALT 20% NOx + NMHC and ALT 20% PM	STD	N/A	N/A	3.5	5.0	0.02	20	15	50
		FEL			4.7		0.30			
		CERT			4.1	1.4	0.20	16	6	7

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 the listed engines are conditionally certified to the Interim Tier 4 ALT NOx+NMHC standards based on the amendments to 13 CCR Section 2423, table 1b adopted by the Board on December 16, 2011. This determination is conditional on the amendments being approved by the Office of Administrative Law. If the amendments do not become effective, the manufacturer shall be required to certify this engine family pursuant to table 1b of 13 CCR Section 2423, as that table existed on December 16, 2011 within 45 days after notification by ARB or this Executive Order may be revoked and voided ab initio.

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 December 2012.

Annette Hebert, Chief

Mobile Source Operations Division

E0#: U-R-004-0472

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Engine Model Summary Form

Manufacturer: Engine category

Process Code:

John Deere Power Systems Nonroad CI

EPA Engine Family: Mfr Family Name:

DJDXL06.8106 350HAD New Submission

4. Fuel Rate: 5. Fuel Rate: 6. Torque (Nm) 7. Fuel Rate: 9. Emission Control @RPM (SEA Gross) 8. Fuel Rate: 3. kW@RPM mm/stroke@peak kW (kg/hr)@peak kW mm/stroke@peak Device Per (kW/hr)@peak torque 15.5@1600 ECSPLEM TC, CAC, DDI (for diesel only) (for diesels only) (SAE Gross) 1. Engine code 2. Engine Model torque 4045H 75.2@2300 17.64@2300 412@1600 95@1600 74.0@2300 4045HL287A 4045HF285B 74.0@2400 77.9@2400 19.07@2400 460@1600 113.9@1600 18.59@1600