## JOHN DEERE POWER SYSTEMS

EXECUTIVE ORDER U-R-004-0443 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)		
2012	CJDXL04.5212	4.5	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Electronic Turbocha	c Control Module, Electrorger, Charge Air Cooler	onic Direct Injection, , Smoke Puff Limiter	Loaders, Dozer, 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):

1	EMISSION		EXHAUST (g/kw-hr)				OPACITY (%)				
	POWER CLASS	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
	37 ≤ kW < 56	Tier 4 Interim	STD	N/A	N/A	4.7	5.0	0.30	20	15	50
ľ			CERT			4.3	2.0	0.25	2	3	3

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 September 2011.

Annette Hebert, Chief

Mobile Source Operations Division

## Engine Model Summary Form

4-R-004-0443

Attachunt.

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Manufacturer:

John Deere Power Systems

Engine category:

Nonroad CI 212

EPA Engine Family:	CJDXL04.52
Mfr Family Name:	350HBD
Process Code:	Correction

1. Engine code 4045HPRNT9 4045HT072 4045HT074	2. Engine Model 4045H 4045H 4045H	3. kW@RPM (SAE Gross) 55.0@2200 55.0@2200 55.0@2200	4. Fuel Rate: mm/stroke@peak kW (for diesel only) 62.0@2200 61.0@2200	5. Fuel Rate: (kg/hr)@peak kW (for diesels only) 13.9@2200 13.7@2200 13.7@2200	6. Torque (Nm) @RPM (SEA Gross) 325@1500 316@1500 316@1500	7. Fuel Rate: mm/stroke@peak torque 78.4@1500 75.8@1500 75.8@1500	8. Fuel Rate: (kW/hr)@peak torque 12.0@1500 11.6@1500 11.6@1500	9. Emission Control Device Per SAE J1930 SPL EC EM SPL EC EM SPL EC EM
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