

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)
2016	GJDXL09.0301	9.0	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			Crane, Tractor, Loaders, Dozer, Pump, Compressor, Generator Set, 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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	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	--	0.37	--	--	0.01	--	--	--
		CERT	0.003	0.14	--	0.04	0.004	--	--	--

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 22nd day of December 2015.

Annette Hebert
 Annette Hebert, Chief
 Emissions Compliance, Automotive Regulations and Science Division

LO#: U-R-004-0518

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Engine Model Summary Form

Manufacturer: John Deere Power Systems
 Engine category: Nonroad CI
 EPA Engine Family: GJDXL08.0301
 Mfr Family Name: 450HCA
 Process Code: New Submission

1. Engine code	2. Engine Model	3. kW@RPM (SAE Gross)	4. Fuel Rate: mm/stroke@peak kW (for diesel only)	5. Fuel Rate: (kg/hr)@peak kW (for diesels only)	6. Torque (Nm) @RPM (SEA Gross)	7. Fuel Rate: mm/stroke@peak torque	8. Fuel Rate: (kW/hr)@peak torque	9. Emission Control Device Per SAE J1930
6090HDW18A	6090	272@2100	174.0@2100	55.9@2100	1621@1500	227.1@1500	52.1@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HDW18B	6090	224@2100	144.9@2100	46.5@2100	1425@1500	201.1@1500	46.2@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HDW19	6090	224@2100	144.9@2100	46.5@2100	1425@1500	201.1@1500	46.2@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HDW20	6090	272@2100	174.0@2100	55.9@2100	1621@1500	227.1@1500	52.1@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HDW22	6090	228@1800	168.9@1800	46.5@1800	1425@1500	201.1@1500	46.2@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09A	6090	317@2200	200.9@2200	67.6@2200	1685@1600	234.4@1600	57.3@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09B	6090	298@2200	186.3@2200	62.7@2200	1685@1600	234.4@1600	57.3@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09C	6090	317@2100	207.5@2100	66.6@2100	1750@1600	246.5@1600	60.3@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09D	6090	298@2000	200.7@2000	61.4@2000	1685@1500	233.2@1500	53.5@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09E	6090	280@2200	173.8@2200	58.4@2200	1671@1600	232.6@1600	56.9@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09F	6090	280@2200	174.0@2200	58.5@2200	1671@1600	232.6@1600	56.9@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09G	6090	280@2000	187.9@2000	57.4@2000	1685@1600	232.9@1500	53.4@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09H	6090	261@2200	160.3@2200	53.9@2200	1563@1600	214.3@1600	52.4@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09I	6090	261@2200	160.3@2200	53.9@2200	1563@1600	215.3@1600	52.7@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09J	6090	261@2000	172.7@2000	52.8@2000	1685@1500	233.1@1500	53.4@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09K	6090	242@2200	148.7@2200	50.0@2200	1450@1500	200.1@1500	45.9@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09L	6090	242@2200	149.5@2200	50.3@2200	1450@1500	201.1@1500	46.1@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09M	6090	242@2000	160.5@2000	49.1@2000	1595@1500	223.5@1500	51.3@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09N	6090	224@2200	137.5@2200	46.3@2200	1341@1500	184.9@1500	42.4@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09O	6090	224@2200	138.0@2200	46.4@2200	1341@1500	184.6@1500	42.3@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09P	6090	224@2000	148.8@2000	45.5@2000	1477@1500	204.1@1500	46.8@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09Q	6090	205@2200	126.6@2200	42.6@2200	1228@1500	170@1500	39.0@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09R	6090	205@2200	125.6@2200	42.3@2200	1228@1500	168.9@1500	38.7@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09S	6090	205@2000	136.9@2000	41.9@2000	1351@1500	186.1@1500	42.7@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09T	6090	187@2200	116.9@2200	39.3@2200	1120@1500	153.6@1500	35.2@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09U	6090	187@2200	117.2@2200	39.4@2200	1120@1500	153.7@1500	35.2@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09V	6090	187@2000	125.5@2000	38.4@2000	1232@1500	168.8@1500	38.9@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09A	6090	326@1800	245.0@1800	67.4@1800				EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09B	6090	297@1800	219.2@1800	60.3@1800				EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09C	6090	273@1800	202.1@1800	55.6@1800				EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09D	6090	237@1800	174.0@1800	47.9@1800				EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HFC09E	6090	345@1800	265.5@1800	73.1@1800				EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HD16A	6090	320@2200	202.8@2200	68.2@2200	1750@1600	246.6@1600	60.3@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HD16B	6090	258@2200	158.9@2200	53.5@2200	1621@1500	227.1@1500	52.1@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HD16C	6090	258@2200	159.8@2200	53.8@2200	1621@1500	225.3@1500	51.7@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HN007	6090	258@2200	157.8@2200	53.1@2200	1621@1500	225@1500	51.6@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HPRNT4	6090	345@2200	215.6@2200	72.5@2200	1843@1600	268.7@1600	65.2@1600	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HT012	6090	282@1900	196.0@1900	56.9@1900	1621@1500	225@1500	51.6@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HT014	6090	282@1900	196.0@1900	56.9@1900	1621@1500	225@1500	51.6@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC
6090HTJ18	6090	283@2000	188.5@2000	57.7@2000	1621@1500	225.6@1500	51.7@1500	EGR EC PTOX OC SCRC NH3OC DFI TC CAC