

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)
2019	KJDXL06.8309	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			Crane, Loaders, Tractor, 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 (NO_x), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NO_x), 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	NO _x	NMHC+NO _x	CO	PM	ACCEL	LUG	PEAK
75 ≤ kW < 560	Tier 4 Final	OPTIONAL STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	--	--	--	--	0.01	--	--	--
		CERT	0.02	0.06	--	0.1	0.003	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part I-D" adopted October 20, 2005 and last amended October 25, 2012.

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.

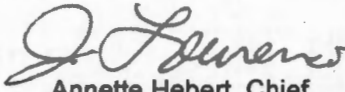
BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

BE IT FURTHER RESOLVED: That the manufacturer has elected to include engine models in this engine family which are identified for "emergency vehicle use only". These "emergency vehicle use only" engines are exempt from requirements imposed pursuant to California law and the regulations adopted pursuant thereto for motor vehicle pollution control devices per California Vehicle Code Section 27156.2. The manufacturer must clearly label these engines for "emergency vehicle use only" on the engines' emission control label.

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 10th day of December 2018.


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

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11/27/18

FO#: U-R-004-0567

Engine Model Summary Form

Manufacturer: John Deere Power Systems
 Engine category: Nonroad CI
 EPA Engine Family: KJDXL06.8309
 Mfr Family Name: 350HCD
 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
4045CC550A	4045	117@2200	118.6@2200	26.1@2200	697@1500	151.7@1500	22.6@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045CC550B	4045	108@2200	107.3@2200	23.5@2200	619@1500	132.8@1500	18.4@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045CC550C	4045	91@2200	93.3@2200	20.5@2200	562@1500	119.8@1500	18@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HAC07A	4045	104@2200	87@2200	23@2200	640@1500	96@1500	17.5@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HAC07B	4045	86@2200	71.6@2200	18.9@2200	508@1500	90.9@1500	16.4@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
4045HAC09	4045	117@2200	118.3@2200	25.9@2200	669@1500	144.1@1500	17.5@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HE053	4045	129@2400	120@2400	29.3@2400	730@1500	158@1500	24.1@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HE064	4045	116@2200	98.6@2200	26@2200	667@1500	122.6@1600	23.5@1600	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HL505	4045	122@2100	125.1@2100	28.8@2100	670@1500	143.6@1500	21.9@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HL506	4045	135@2100	138.6@2100	29.7@2100	730@1500	167.8@1500	24.1@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HL555	4045	122@2100	125.1@2100	28.8@2100	670@1500	143.6@1500	21.9@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HL556	4045	135@2100	138.6@2100	29.7@2100	730@1500	167.8@1500	24.1@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HLC07A	4045	76@2400	82.9@2400	18.1@2400	420@1500	78.1@1500	13.7@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HLC09-A	4045	120@2400	113.8@2400	27.6@2400	697@1500	151.2@1500	23.1@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HLC09-B	4045	112@2400	103.8@2400	25.4@2400	645@1500	139.6@1500	21.9@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HN054	4045	129@2400	120@2400	29.4@2400	730@1500	158@1500	24.1@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HT101	4045	104@2200	102.7@2200	23@2200	555@1500	119.8@1500	18.3@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HT103	4045	104@2200	102.7@2200	23@2200	555@1500	119.8@1500	18.3@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HTJ09	4045	134@2000	140.9@2000	28.7@2000	730@1500	155.6@1500	23.8@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
4045HTJ19	4045	134@2000	140.9@2000	28.7@2000	730@1500	155.6@1500	23.8@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088DW404	6088	220@1800	161.7@1800	44.5@1800	1245@1800	174.1@1600	42.6@1800	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088DW501	6088	150@2200	96.8@2200	32.6@2200	842@1600	140.5@1600	29.1@1600	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088DW502	6088	188@2200	118.1@2200	39.7@2200	1025@1600	142.4@1600	34.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HC550A	6088	144@2200	103.3@2200	30.8@2200	846@1500	122.8@1500	27.7@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088HC550B	6088	141@2200	91@2200	30.1@2200	833@1500	120.7@1500	27.2@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088HC550C	6088	128@2200	84.2@2200	27.8@2200	745@1500	107.8@1500	24.3@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088HC550D	6088	115@2200	76.1@2200	25.2@2200	703@1500	102.36@1500	23.1@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088HC550E	6088	102@2200	66.7@2200	23@2200	640@1500	83.1@1500	21@1500	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088HDW95	6088	224@2100	142.4@2100	45.7@2100	1245@1600	174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HE055	6088	190@2400	111.9@2400	41@2400	1000@1600	140.1@1600	34.3@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HE056	6088	224@2400	128.1@2400	47@2400	1245@1600	174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-A	6088	187@2400	111@2400	40.7@2400	1025@1600	140@1600	34.2@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-AA	6088	104@2200	70.3@2200	23.6@2200	613@1600	86.5@1600	21.2@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-B	6088	187@2200	118@2200	39@2200	990@1600	140@1600	34@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-C	6088	168@2400	101@2400	37.2@2400	902@1600	125@1600	30.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-D	6088	168@2400	101@2400	37.2@2400	902@1600	125@1600	30.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-E	6088	168@2200	104@2200	35.1@2200	970@1600	136@1600	33.2@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-F	6088	168@2000	114@2000	35@2000	1003@1600	140@1500	34.1@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-G	6088	149@2400	92@2400	33.8@2400	801@1600	112@1600	27.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-H	6088	149@2400	92@2400	33.8@2400	801@1600	112@1600	27.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-I	6088	149@2200	96@2200	32.3@2200	873@1600	121@1600	29.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-J	6088	149@2000	101@2000	31@2000	960@1500	135@1500	33@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-K	6088	138@2400	87@2400	32@2400	741@1600	103@1600	25.1@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-L	6088	138@2400	87@2400	32@2400	741@1600	103@1600	25.1@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM

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 FO#: U-R-004-0567
 11-27-2018

1. Engine code	2. Engine Model	3. kW@RPM (SAE Gross)	4. Fuel Rate:		5. Torque (Nm)		8. Fuel Rate: (kW/hr)@peak torque	9. Emission Control Device Per SAE J1930
			mm/stroke@peak kW (for diesel only)	(kg/hr)@peak kW (for diesels only)	@RPM (SAE Gross)	mm/stroke@peak torque		
6088HFC08-M	6088	138@2200	89@2200	30@2200	809@1600	113@1600	27.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-N	6088	138@2000	96@2000	29@2000	890@1500	119@1500	27@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-O	6088	187@2000	125@2000	38.2@2000	1000@1500	140@1500	34.1@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-P	6088	129@2400	81@2400	29.8@2400	887@1600	99@1600	23.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-Q	6088	129@2400	81@2400	29.6@2400	887@1600	99@1600	23.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-R	6088	129@2200	86@2200	28.9@2200	756@1600	108@1600	26.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-S	6088	129@2200	86@2200	28.9@2200	756@1600	108@1600	26.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-T	6088	116@2400	73.8@2400	27@2400	619@1600	67.6@1600	21.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-U	6088	116@2400	73.8@2400	27@2400	619@1600	67.6@1600	21.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-V	6088	116@2200	77.7@2200	26.1@2200	674@1600	96.1@1600	23.5@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-W	6088	116@2200	77.7@2200	26.1@2200	674@1600	96.1@1600	23.5@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-X	6088	104@2400	68.2@2400	25@2400	555@1600	79.3@1600	19.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-Y	6088	104@2400	68.2@2400	25@2400	555@1600	79.3@1600	19.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC08-Z	6088	104@2200	70.3@2200	23.6@2200	613@1600	86.5@1600	21.2@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-A	6088	224@2400	127@2400	46.4@2400	1141@1600	160@1600	36.7@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-B	6088	224@2200	136@2200	46.3@2200	1141@1600	161@1600	39.3@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-C	6088	205@2400	116@2400	42.7@2400	1057@1600	147@1600	36@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-D	6088	205@2200	125@2200	42.1@2200	1057@1600	147@1600	36@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-E	6088	187@2400	108@2400	38.6@2400	1026@1600	143@1600	34.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-F	6088	187@2200	117@2200	39.3@2200	1023@1600	147@1600	35.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-G	6088	168@2400	101@2400	36.9@2400	995@1600	142@1600	34.7@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFC09-H	6088	168@2200	108@2200	35.6@2200	999@1600	145@1600	35.4@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFG08-A	6088	180@1800	155@1800	42.8@1800				EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFG08-B	6088	160@1800	112@1800	30.9@1800				EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFG09-A	6088	241@1800	183.6@1800	50.5@1600				EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HFG09-B	6088	216@1800	160.4@1800	44.1@1800				EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HPRNT6	6088	235@2400	137.6@2400	50.5@2400	1347@1600	188.6@1600	46.2@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HL550	6088	224@2100	142.4@2100	35.7@2100	1245@1600	174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HL555	6088	156@2100	104.6@2100	33.6@2100	842@1600	121.5@1600	29.7@1600	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088HL567	6088	190@2100	123@2100	38.5@2100	1025@1600	142.4@1600	34.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HL558	6088	190@2100	123@2100	39.5@2100	1025@1600	142.4@1600	34.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HN073	6088	190@2100	123@2100	39.5@2100	1025@1600	142.4@1600	34.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HN074	6088	224@2400	128.1@2400	47@2400	1245@1600	174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HT096	6088	190@1900	134.5@1900	39.1@1900	1025@1600	142.7@1600	34.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HT103	6088	190@2100	122.6@2100	39.4@2100	1000@1700	140.3@1700	36.5@1700	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HT118	6088	190@2100	122@2100	39.2@2100	1025@1600	145.2@1600	35.5@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HT119	6088	190@2100	122.6@2100	39.4@2100	1000@1700	140.3@1700	36.5@1700	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HT120	6088	224@1900	156.6@1900	43.5@1900	1245@1600	174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HT125	6088	161@1900	116.2@1900	33.8@1900	842@1600	140.5@1600	29.1@1600	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088HTJ08	6088	190@2000	129.1@2000	39.7@2000	1025@1500	143.1@1500	32.9@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HTJ18	6088	190@2000	129.1@2000	39.7@2000	1025@1500	143.1@1500	32.9@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HTJ28	6088	190@2000	129.1@2000	39.7@2000	1025@1500	143.1@1500	32.9@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HTJ65	6088	190@2200	117.9@2200	39.6@2200	1025@1600	145.2@1600	35.5@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HTJ88	6088	224@2200	137@2200	46.1@2200	1245@1600	174.1@1600	42.6@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088HTJ98	6088	190@2000	129.1@2000	39.7@2000	1025@1500	143.1@1500	32.9@1500	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088RW440	6088	190@2100	122.5@2100	39.3@2100	1025@1600	142.7@1600	34.9@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088RW441	6088	156@2100	104.6@2100	33.6@2100	842@1600	121.5@1600	29.7@1600	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088RW450	6088	190@2100	122.5@2100	39.5@2100	1025@1600	142.4@1600	34.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088RW451	6088	156@2100	104.6@2100	33.6@2100	842@1600	121.5@1600	29.7@1600	EGR ECM PTOX OC SCRC NH3OC DFI TC CAC
6088RW501	6088	190@2100	122@2100	39.3@2100	1025@1500	142@1600	34.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088RW502A	6088	214@2100	136@2100	43.6@2100	1200@1600	167@1600	38.3@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM
6088RW502B	6088	224@2100	142.4@2100	45.7@2100	1245@1600	174.1@1600	42.8@1600	EGR PTOX OC SCRC NH3OC DFI TC CAC ECM

