EXHAUST EMISSION DATA SHEET

MQ POWER GENERATOR SET





The engine used in this generator set is certified to comply with United States EPA Tier 4 and CARB Mobile Off-Highway emission regulations.

ENGINE DATA

 Manufacturer:
 JOHN DEERE
 Bore:
 4.66 in. (118 mm)

 Model:
 6090HFG06
 Stroke:
 5.35 in. (136 mm)

 Type:
 4-Cycle, In-Line, 6-Cylinder, Diesel
 Displacement: 549 cid (9.0 liters)

Aspiration: Turbocharger, ECM, EGR, DOC, SCR Electronic Direct **Compression Ratio:** 16.0:1

Injection, Charge Air Cooler

PERFORMANCE DATA

SAE Gross HP @ 1800 RPM (60 Hz) Rated 437 Load Fuel Consumption (gal/Hr) Rated 16.7 Load Exhaust Gas Flow (cfm) Rated Load 1448 Exhaust Gas Temperature (°F) 831

United States EPA - Mobile Off-Highway Tier 4 Limits -

174≤ ~ ≤751 BHP

Date: 05/06/2020

Criteria Pollutant	Emis	sion Requirements	Certifie	d Engine Emissions
NOx (Oxides of Nitrogen as NO2)	0.298	gr/bhp-hr	0.074	gr/bhp-hr
HC (Total Unburned Hydrocarbons)	N/A	gr/bhp-hr	N/A	gr/bhp-hr
NOx + HC (Combined)	N/A	gr/bhp-hr	N/A	gr/bhp-hr
CO (Carbon Monoxide)	2.609	gr/bhp-hr	0.007	gr/bhp-hr
PM (Particulate Matter)	0.014	gr/bhp-hr	0.014	gr/bhp-hr
NMHC (Non-Methane Hydrocarbons)	0.141	gr/bhp-hr	0.002	gr/bhp-hr
NMHC + NOx	N/A	gr/bhp-hr	N/A	gr/bhp-hr

EPA Engine Family: LJDXL09.0313
EPA Certificate of Conformance: LJDXL09.0313-018
ARB Executive Order: U-R-004-0587
Effective Date: Model Year 2020

Note: Engine operation with excessive air intake or exhaust restriction beyond factory published maximum limits, or with improper service maintenance, may result in higher emission levels.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2020 MODEL YEAR CERTIFICATE OF CONFORMITY WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Deere & Company

(U.S. Manufacturer or Importer)

Certificate Number: LJDXL09.0313-018

Effective Date: 07/08/2019

Expiration Date: 12/31/2020

Issue Date: 07/08/2019

Revision Date:

N/A

Model Year: 2020

Manufacturer Type: Original Engine Manufacturer

Engine Family: LJDXL09.0313

Mobile/Stationary Indicator: Both

Emissions Power Category: 130<=kW<=560

Fuel Type: Diesel

After Treatment Devices: Diesel Oxidation Catalyst, Ammonia Slip Catalyst, Selective Catalytic

Byron J. Bunker, Division Director

Compliance Division

Reduction

Non-after Treatment Devices: Electronic Control, Electronic/Electric EGR - Cooled, Non-standard

Non-After Treatment Device Installed

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Parts 60 and 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Parts 60 and 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Parts 60 and 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 60 and 1039.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Parts 60 and 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void ab initio for other reasons specified in 40 CFR Parts 60 and 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.



JOHN DEERE POWER SYSTEMS

EXECUTIVE ORDER U-R-004-0587 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in California 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-19-095;

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)	
2020	LJDXL09.0313	9.0	Diesel	8000	
AND DESCRIPTION OF THE PARTY OF	FEATURES & EMISSION		TYPICAL EQUIPMENT		
Charge Air Cooler, Oxidation Catalyst, Electronic Direct Injection, Electronic Control Module, Exhaust Gas Recirculation, Turbocharger, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst			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 non-methane hydrocarbon (NMHC), 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, Califomia Code of Regulations, (13 CCR) Section 2423):

RATED	EMISSION		EXHAUST (g/kw-hr)				OPACITY (%)			
POWER	STANDARD		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
		CERT	0.004	0.10	_	0.01	0.02			-

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 2019.

Allen Lyons, Chief

Emissions Certification and Compliance Division

FOH: U-R-004-0587 Attack went: Page 10f1 8/30/19

Engine Model Summary Form

Manufacturer: Engine category:

John Deere Power Systems Nonroad Cl

EPA Engine Family: LJDXL09.0313 Mfr Family Name: Process Code:

450HCD New Submission

1. Engine code	2. Engine Model	3. kW@RPM (SAE Gross)	mm/stroke@peak kW	(kg/hr)@peak kW (for diesels only)	0.
6090HFG06A	6090	345@1800	263.2@1800	72.4@1800	1
6090HFG06B	6090	300@1500	269.8酉1500	61,9@1500	1
- BOOCH FOOC "	6090	326@1800	247.5@1800	68.1@1800	HAN
6090HFG08D	6090	300@1500	269.5@1500	61.8@1500	
6090HFG06E	6090	273@1800	201.3@1800	55.4@1800	
6090HFG06F	6090	273@1500	243@1500	55.7@1500	1
6090HPRNT7	6090	364@1800	277.6億1800	76.4@1800	6

8. Torque (Nm) @RPM	7. Fuel Rate: mm/stroke@peak	8. Fuel Rate:
(SEA Gross)	torque	(kW/hr)@peak torque
X		/
1		
/		

9. Emission Control Device Per SAE J1930 EGR OC BORC NINOC DE TO DAC ECM EGR OC SCRC NH3OC DFI TC CAC ECM THER OF BORD WHOOLDING CHEEDING EGR OC SCRC NH3OC DFI TC CAC ECM EGR OC SCRC NH3OC DFI TC CAC ECM EGR OC SCRC NH3OC DFI TC CAC ECM EGR OC SCRC NH3OC DFI TC CAC ECM