## **EXHAUST EMISSION DATA SHEET**

## MQ POWER GENERATOR SET

Model: DCA180SSJU4F



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 DeereBore:4.17 in.(106 mm)Model:6068HFG05Stroke:5.0 in.(127 mm)Type:4- Cycle, in-line, 6 Cylinder, DieselDisplacement: 415 cid (6.8 liters)

Aspiration: Turbocharger Air Cooler, Electronic Direct Injection Compression Ratio:

ECM, EGR, DOC, SCR

PERFORMANCE DATA

SAE Gross HP @ 1800 RPM (60 Hz) 257
Rated Load Fuel Consumption (gal/Hr) 10.1
Rated Load Exhaust Gas Flow (cfm) 961
Rated Load Exhaust Gas Temperature (°F) 756

United States EPA - Mobile Off-Highway Tier 4

Limits -

174≤ ~ ≤751 BHP

17.2:1

Criteria Pollutant	Emission Requirements	Certified Engine Emissions
NOx (Oxides of Nitrogen as NO2)	0.298 gr/bhp-hr	0.044 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	0.014 gr/bhp-hr
NMHC + NOx	N/A gr/bhp-hr	N/A gr/bhp-hr

EPA Engine Family: JJDXL06.8312
EPA Certificate of Conformance: JJDXL06.8312-025
ARB Executive Order: U-R-004-0558
Effective Date: Model Year 2018

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.

Date: 2/7/18



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2018 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: JJDXL06.8312-025

**Effective Date:** 10/04/2017

**Expiration Date:** 12/31/2018

Issue Date: 10/04/2017

 $\frac{Revision\ Date:}{N/A}$ 

Model Year: 2018

Manufacturer Type: Original Engine Manufacturer

**Engine Family:** JJDXL06.8312

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.

The actual engine power may lie outside the limits of the Emissions Power Category shown above. See the certificate application for details.

EXECUTIVE ORDER U-R-004-0558 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-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)		
2018	JJDXL06.8312	6.8	Diesel	8000		
	FEATURES & EMISSION		TYPICAL EQUIPMENT	APPLICATION		
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 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):

POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)				OPACITY (%)			
			NMHC	NOx	NMHC+NOx	СО	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	0.02	0.06		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 September 2017.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

**Engine Model Summary Form** 

Manufacturer:

John Deere Power Systems

Engine category:

Nonroad CI

EPA Engine Family: Mfr Family Name:

1. Engine code

6068HFG05A

6068HFG05B

6068HFG05C

6068HFG05D

6068HFG06A

6068HFG06B

**6068HPRNT7** 

6068HFG06C

350HCF

Process Code:

**New Submission** 

2. Engine Model

6068

6068

6068

6068

6068

6068

6068

6068

160@1800

165@1500

160@1500

216@1800

197@1500

248@1800

JJDXL06.8312

9/12/2017

AHaehment: Page 10f1
E0H: U-R-004-0558

mm/stroke@peak torque

8. Fuel Rate:

(kW/hr)@peak torque

Device Per **SAE J1930** 

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

EGR OC SCRC NH3OC DFI TC CAC ECM EGR OC SCRC NH3OC DFI TC CAC ECM

EGR OC SCRC NH3OC DFI TO CAC ECM

EGR OC SCRC NH3OC DFI TC CAC ECM

4. Fuel Rate: 5. Fuel Rate: mm/stroke@peak kW 3. kW@RPM (kg/hr)@peak kW (SAE Gross) (for diesel only) (for diesels only) 192@1800 143.5@1800 39,5@1800 32.9@1800 119.4@1800 145.4@1500 33,4@1500 142.3@1500 32.6@1500 241@1800 180.4@1800 49.7@1800 159.8@1800 44@1800 176.6@1500 40.5@1500 184.6@1800 50.8@1800

6. Torque (Nm)

@RPM

(SEA Gross)