EXHAUST EMISSION DATA SHEET

MQ POWER

GENERATOR SET

Model: DCA220SSJU4F3/B/PB/PD



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, ECM, EGR, DOC, SCR Electronic Direct Compression Ratio: 17.2:1

Injection, Charge Air Cooler

PERFORMANCE DATA

SAE Gross HP @ 1800 RPM (60 Hz) Rated 215
Load Fuel Consumption (gal/Hr) Rated 8.9
Load Exhaust Gas Flow (cfm) Rated Load 812
Exhaust Gas Temperature (°F) 685

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

174≤ ~ ≤751 BHP

Date: 2/10/2023

Criteria Pollutant	Emis	sion Requirements	Certifie	d 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)	2.60	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: PJDXL06.8312
EPA Certificate of Conformance: PJDXL06.8312-018
ARB Executive Order: U-R-004-0646
Effective Date: Model Year 2023

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 2023 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: PJDXL06.8312-018

Effective Date: 09/29/2022

Expiration Date: 12/31/2023

Issue Date: 09/29/2022

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

Model Year: 2023

Manufacturer Type: Original Engine Manufacturer

Engine Family: PJDXL06.8312

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.



DEERE & COMPANY

EXECUTIVE ORDER U-R-004-0646 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)					
2023	PJDXL06.8312	6.8	Diesel 8000						
SPECIAL	FEATURES & EMISSION C	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION						
Direct Inje Gas Recir	Air Cooler, Oxidation Cection, Electronic Controller Coulation, Turbocharger Controllera, Ammonia Ox	ol Module, Exhaust , Selective Catalyst	Pump, Compressor, Generator Set, O Industrial Equipment						

The engine models and codes are attached.

The following are the exhaust certification standards (STD) 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, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION			I	EXHAUST (g/kw-ł	OPACITY (%)				
	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 Final	ier 4 Final STD		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 on this <u>/8t/k</u> day of October 2022.

Robin U. Lang, Chief

Emissions Certification and Compliance Division

Jolin U. Lang

Attachment: Engine Models EO #: U-R-004-0646 Family: PJDXL06.8312 Attachment Last Revised: 10/5/2022

	Trim					Peak Power -	Peak Power -	Peak Power -	Peak Power - Fue	•	. can rorque	k Torque - Peak Torque - Peak Torque - Fue						
	1111111	Config	Displacement	Units	Peak Power	Units	Speed (rpm)	Fueling	Units	Peak Torque	Units	Speed (rpm)	Peak Torque - Fuel Units		OBD	GHG	Special	Notes
6068HFG05A		I-6	6.8	Liters	192	kilowatt	1800	143.5	mm3/stroke	1019	N-m	1800	143.5	mm3/stroke	N/A	N/A		
6068HFG05B		1-6	6.8	Liters	160	kilowatt	1800	119.4	mm3/stroke	849	N-m	1800	119.4	mm3/stroke	N/A	N/A		
6068HFG05C		1-6	6.8	Liters	165	kilowatt	1500	145.4	mm3/stroke	1050	N-m	1500	145.4	mm3/stroke	N/A	N/A		
6068HFG05D		1-6	6.8	Liters	160	kilowatt	1500	142.3	mm3/stroke	1019	N-m	1500	142.3	mm3/stroke	N/A	N/A		
6068HFG06A		1-6	6.8	Liters	241	kilowatt	1800	180.4	mm3/stroke	1279	N-m	1800	180.4	mm3/stroke	N/A	N/A		
6068HFG06B		I-6	6.8	Liters	216	kilowatt	1800	159.8	mm3/stroke	1146	N-m	1800	159.8	mm3/stroke	N/A	N/A		
6068HFG06C		I-6	6.8	Liters	197	kilowatt	1500	176.6	mm3/stroke	1254	N-m	1500	176.6	mm3/stroke	N/A	N/A		
6068HPRNT7		I-6	6.8	Liters	248	kilowatt	1800	184.6	mm3/stroke	1316	N-m	1800	184.6	mm3/stroke	N/A	N/A		
																		1
																		1
	6068HFG05D 6068HFG06A 6068HFG06B 6068HFG06C	6068HFG05D 6068HFG06A 6068HFG06B 6068HFG06C	6068HFG05D I-6 6068HFG06A I-6 6068HFG06B I-6 6068HFG06C I-6	6068HFG05D I-6 6.8 6068HFG06A I-6 6.8 6068HFG06B I-6 6.8 6068HFG06C I-6 6.8	6068HFG05D I-6 6.8 Liters 6068HFG06A I-6 6.8 Liters 6068HFG06B I-6 6.8 Liters 6068HFG06C I-6 6.8 Liters	6068HFG05D I-6 6.8 Liters 160 6068HFG06A I-6 6.8 Liters 241 6068HFG06B I-6 6.8 Liters 216 6068HFG06C I-6 6.8 Liters 197	6068HFG05D I-6 6.8 Liters 160 kilowatt 6068HFG06A I-6 6.8 Liters 241 kilowatt 6068HFG06B I-6 6.8 Liters 216 kilowatt 6068HFG06C I-6 6.8 Liters 197 kilowatt	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 1279 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 1146 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke 1254	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 N-m 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 1279 N-m 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 1146 N-m 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke 1254 N-m	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 N-m 1500 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 1279 N-m 1800 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 1146 N-m 1800 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke 1254 N-m 1500	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 N-m 1500 142.3 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 1279 N-m 1800 180.4 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 1146 N-m 1800 159.8 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke 1254 N-m 1500 176.6	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 N-m 1500 142.3 mm3/stroke 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 1279 N-m 1800 180.4 mm3/stroke 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 1146 N-m 1800 159.8 mm3/stroke 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke 1254 N-m 1500 176.6 mm3/stroke	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 N-m 1500 142.3 mm3/stroke N/A 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 1279 N-m 1800 180.4 mm3/stroke N/A 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 1146 N-m 1800 159.8 mm3/stroke N/A 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke 1254 N-m 1500 176.6 mm3/stroke N/A	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 N-m 1500 142.3 mm3/stroke N/A N/A	6068HFG05D I-6 6.8 Liters 160 kilowatt 1500 142.3 mm3/stroke 1019 N-m 1500 142.3 mm3/stroke N/A N/A 6068HFG06A I-6 6.8 Liters 241 kilowatt 1800 180.4 mm3/stroke 1279 N-m 1800 180.4 mm3/stroke N/A N/A 6068HFG06B I-6 6.8 Liters 216 kilowatt 1800 159.8 mm3/stroke 1146 N-m 1800 159.8 mm3/stroke N/A N/A 6068HFG06C I-6 6.8 Liters 197 kilowatt 1500 176.6 mm3/stroke 1254 N-m 1500 176.6 mm3/stroke N/A N/A