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:ISUZUBore:4.52in.(115mm)Model:4HK1XStroke:4.92in.(125mm)Type:4-Cycle, In-Line, 4-Cylinder, DieselDisplacement: 317cid(5.2liters)

Aspiration: Turbocharger, ECM, EGR, DOC, SCR Electronic Direct Compression Ratio: 16.5:1

Injection, Charge Air Cooler

PERFORMANCE DATA

SAE Gross HP @ 1800 RPM (60 Hz) Rated 170.8
Load Fuel Consumption (gal/Hr) Rated 7.11
Load Exhaust Gas Flow (cfm) Rated Load 512
Exhaust Gas Temperature (°F) 658

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

75 ≤ ~ ≤ 174 BHP

Criteria Pollutant	Emis	sion Requirements	Certifie	d Engine Emissions
NOx (Oxides of Nitrogen as NO2)	0.298	gr/bhp-hr	0.089	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)	3.72	gr/bhp-hr	0.037	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	0.007	gr/bhp-hr
NMHC + NOx	N/A	gr/bhp-hr	N/A	gr/bhp-hr

EPA Engine Family: NSZXL05.2RXB
EPA Certificate of Conformance: NSZXL05.2RXB-014
ARB Executive Order: U-R-006-0518
Effective Date: Model Year 2022

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.

Data And Specifications Subject To Change Without Notice Date: 4/15/21



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2022 MODEL YEAR CERTIFICATE OF CONFORMITY WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Isuzu Motors Limited

(U.S. Manufacturer or Importer)

Certificate Number: NSZXL05.2RXB-014

Effective Date: 11/03/2021

Expiration Date: 12/31/2022

4.1

Byron J. Bunker, Division Director Compliance Division **Issue Date:** 11/03/2021

Revision Date: N/A

Model Year: 2022

Manufacturer Type: Original Engine Manufacturer

Engine Family: NSZXL05.2RXB

Mobile/Stationary Indicator: Mobile **Emissions Power Category:** 56<=kW<130

Fuel Type: Diesel

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

Reduction

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

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 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 Part 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 Part 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 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 Part 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 Part 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.



ISUZU MOTORS LIMITED

EXECUTIVE ORDER U-R-006-0518

New Off-Road Compression-Ignition Engines Page 1 of 1

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)				
2022	NSZXL05.2RXB	5.193	Diesel	8000				
SPECIAL	FEATURES & EMISSION (CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION					
Air Coole Recircula	ic Control Module, Turk er, Electronic Direct Inje ation, Diesel Oxidation st Reduction-Urea, Am Catalyst	ction, Exhaust Gas Catalyst, Selective	Generator Set					

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	EMISSION			I	EXHAUST (g/kw-ł	ır)		OF	PACITY (%	o)
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
75 ≤ kW< 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.01	0.12		0.05	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>23rd</u> day of December 2021.

Allen Lyons, Chief

Emissions Certification and Compliance Division

Attachment: Engine Models FO #: U-R-006-0518 Family: NSZXL05.2RXB Attachment Last Revised: 12/2/2021

Model				Displacement	Displacement -		Peak Power -	Peak Power -	Peak Power - Fueling	Peak Power -		Peak Torque -	Peak Torque - Speed (rpm)	Peak Torque -	Peak Torque -			Special	Notes
	Code	Trim	Config		Units	Peak Power	Units	Speed (rpm)		Fuel Units	Peak Torque	Units		Fuel	Fuel Units	OBD	GHG		
3R-4HK1X	4HK1XD RBB-01	N/A	14	5.193	Liters	170.8	horsepower	1800	144.7	mm3/stroke	498.6	lb-ft	1800	144.7	mm3/stroke	N/A	N/A	N/A	N/A