@ Air Resources Board

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)		
2017	HJDXL04.5304	4.5	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Electroni Turbochar	c Control Module, Electro ger, Oxidation Catalyst, F	onic Direct Injection, Periodic Trap Oxidizer	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) 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):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
37 ≤ kW < 56	Tier 4 Final	STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		FEL					0.01			
		CERT	m=		4.4	0.1	0.001			

**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).

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 2016

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

E0#: U-R-004-0530 Attachment: Page 10f1 12/12/2016

## **Engine Model Summary Form**

Engine category: Nonroad Cl

EPA Engine Family: HJDXL04,5304 Mfr Family Name: Process Code:

350TCA New Submission

Process Code;	New Submission		4. Fuel Rate:	5. Fuel Rate;	C Tormin (blank	7, Fuel Rate:		9. Emission Control
		3. kW@RPM	mm/stroke@peak kW	(kg/hr)@peak kW	6. Torque (Nm) @RPM	mm/stroke@peak	8, Fuel Rate;	Device Per
1. Engine code	2. Engine Model	(SAE Gross)	(for diesel only)	(for diesels only)	(SEA Gross)	torque	(kW/hr)@peak torque	SAE J1930
4045TFC03A	2. Engine Wood	55@2400	63.2@2400		304@1550		11.8@1550	
*4045TFC03B	4045	55@2200	67.3@2200	15.1@2200	304@1550	74.8@1550	11.8@1550	PTOX OC TC DFI ECM
4045TFG03A	4045	75 55@1800		13.4@1800				PTOX/OCTC/DFIECM
*4045TPRNT3	4045	55@2400	60.2@2400	14,7@2400	311@1600	75,2@1600	12.3@1600	PTOX OC TO DELECM
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