California Environmental Protection Agency	GLOBAL COMPONENT	EXECUTIVE ORDER U-L-059-0015
	TECHNOLOGIES	New Off-Road Large Spark-Ignition
Om Air Resources Board	CORPORATION	Engines Above 19 Kilowatts

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapters 1 and 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following new large spark-ignition engines and emission control systems produced by the manufacturer are certified for use in off-road equipment as described below. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY NAME	ENGINE DISPLACEMENT (liters)	FUEL TYPE		
2018	JNFXB04.546D	4.5	Dual Fuel, Gasoline or LPG		
DURABILITY HOURS		IAL FEATURES & CONTROL SYSTEMS	TYPICAL EQUIPMENT USAGE		
5000	Body Injection (LPG)	on (Gas and Dual Fuel), Throttle , Three-Way Catalytic Converter, ed Oxygen Sensor	Forklift		
	NE MODELS /er in kilowatt, kW)	See Attachment			

The following are the hydrocarbon plus oxides of nitrogen (HC+NOx) and carbon monoxide (CO) exhaust certification emission standards (Title 13, California Code of Regulations, (13 CCR) Section 2433(b)(1)) and certification emission levels for this engine family in grams per kilowatt-hour (g/kW-hr). Engines within this engine family shall have closed crankcases in conformance with 13 CCR Section 2433(b)(3).

(g/kW-hr)	HC+NOx	со		
Exhaust Standards	0.8	20.6		
Certification Levels	0.5	6.5		

The following is the evaporative hydrocarbon emission standard (13 CCR Section 2433(b)(4)) and certification emission level for this engine family in grams per gallon of fuel tank capacity (g/gallon).

<b>Evaporative Certification Method</b>	HC Certification Level (g/gallon)	HC Certification Standard (g/gallon)		
Design Based	N/A	0.2		

BE IT FURTHER RESOLVED: That for the listed engines for the aforementioned model-year, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with 13 CCR Section 2433(c) (certification and test procedures), 13 CCR Section 2434 (emission control labels), and 13 CCR Sections 2435 and 2436 (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 ALCA day of June 201

day of June 2017. ette Hebert, Chief

Memissions Compliance, Automotive Regulations and Science Division

ATTACHMENT PS lot 2

4-6-059-0015 RC1 9/20/17

Model Year: 2018 Manufacturer Name: <u>Global Component Technologies Corporation</u> Engine Family: <u>JNFXB04.546D</u> OFF-ROAD LSI ENGINE SUPPLEMENTAL INFORMATION

S12. MODEL SU		rB45) (u		erisk (*) to					
S13.	S14.	S15.		S16.	S17.	S18.	S19.	S20.	
Engine Model		Sales Codes				Batad	Batad	Peak	Peak
	Engine	(Check ALL			Eng. Displ.	Rated Power	Rated Speed	Torque	Torque
	Code	appropriate)			(Liters)	(kW)	(RPM)	(Nm)	Speed
		Calif.	49-	50-	(Litera)	()		(isin)	(RPM)
		Only	State	State					(
TB45 N-2				v	4.478	71.7	2450	279.5	1600
	(Gasoline)			v	4.478	68.4	2450	276.1	1600
*TB45 N-3	(LPG)			v	4.478	71.7	2450	279.5	1600
TB45 M-1				v	4.478	63.7	2450	263.4	1600
TB45 M-2				v	4.478	70.2	2450	279.0	1600
TB45 M-3	(Gasoline)			v	4.478	63.7	2450	263.4	1600
	(LPG)			v	4.478	70.2	2450	279.0	1600
TB45 K-1				v	4.478	60.6	2400	273.0	1600
TB45 K-2				v	4.478	61.1	2400	274.5	1440
TB45 K-3	(Gasoline)			v	4.478	60.6	2400	273.0	1600
	(LPG)			V	4.478	61.1	2400	274.5	1440
TB45 T-1				v	4.478	64.8	2450	265.8	1600
TB45 T-2				V	4.478	65.7	2450	268.5	1470
TB45 T-3	(Gasoline)			v	4.478	64.8	2450	265.8	1600
	(LPG)			V	4.478	65.7	2450	268.5	1470

ATTACHMENT By Zofz

U-L-059-0015

Model Year: <u>2018</u> Manufacturer Name: <u>Global Component Technologies Corporation</u> Engine Family: <u>JNFXB04.546D</u> OFF-ROAD LSI ENGINE SUPPLEMENTAL INFORMATION

4

Page: <u>RC(</u> 9/28/17 Issued: <u>01/27/2017</u> Revised: <u>09/08/2017</u>, E.O.#: <u>U-L-059-0015</u>.

S12. MODEL SUMMARY (For GK45) (Use an asterisk (\*) to identify worst-case engine model used for certification testing.)

S13. Engine Model	S14. Engine Code	S15. Sales Codes (Check ALL appropriate)		S16. Eng. Displ. (Liters)	S17. Rated Power (kw)	S18. Rated Speed (RPM)	S19. Peak Torque (Nm)	S20. Peak Torque Speed	
		Calif. Only	49- State	50- State	(2.1.0.0)				(RPM)
GK45 N-2				v	4.451	71.4	2450	285.5	1600
	(Gasoline)			v	4.451	70.3	2450	282.4	1600
GK45 N-3	(LPG)			v	4.451	71.4	2450	285.5	1600
GK45 M-1				v	4.451	67.2	2450	276.1	1600
GK45 M-2				v	4.451	69.4	2450	279.8	1600
	(Gasoline)			v	4.451	67.2	2450	276.1	1600
GK45 M-3	(LPG)			v	4.451	69.4	2450	279.8	1600
*GK45 K-1				v	4.451	59.6	2400	277.8	1600
GK45 K-2				v	4.451	63.8	2400	281.5	1600
	(Gasoline)			v	4.451	59.6	2400	277.8	1600
GK45 K-3	(LPG)			v	4.451	63.8	2400	281.5	1600
GK45 T-1				v	4.451	64.8	2450	265.8	1600
GK45 T-2				v	4.451	65.7	2450	268.5	1470
	(Gasoline)			v	4.451	64.8	2450	265.8	1600
GK45 T-3	(LPG)			v	4.451	65.7	2450	268.5	1470
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