California Environmental Protection Agency Air Resources Board

GLOBAL COMPONENT TECHNOLOGIES CORPORATION

EXECUTIVE ORDER U-L-059-0011 New Off-Road Large Spark-Ignition 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 ENGINE FAMILY NAME		ENGINE DISPLACEMENT (liters)	FUEL TYPE		
2017 HNFXB02.548D		2.5	Dual Fuel, Gasoline or LPG		
		IAL FEATURES & I CONTROL SYSTEMS	TYPICAL EQUIPMENT USAGE		
Multiport Fuel Injection (Gas and Dual Fuel), Throttle Body Injection (LPG), Three-Way Catalytic Converter, Heated 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	co
Exhaust Standards	0.8	20.6
Certification Levels	0.4	5.6

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).

Evaporative Certification Method	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

day of March 2016.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

ATTACHMENT B 1.72

U-L-059-0011 RC29/28/17

Model Year: 2017

Manufacturer Name: Global Component Technologies Corporation

Engine Family: HNFXB04.546D

OFF-ROAD LSI ENGINE SUPPLEMENTAL INFORMATION

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Issued: 01/20/2016 Revised: 09/08/2017 E.O.#: U-L-059-0012

S12 MODEL SUMMARY (For TB45) (Use an asterisk (*) to identify w

S13. Engine Model	S14. Engine Code	TB45) (Use an asterisk (*) to 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	(Elloro)	.(***)	()	(1311)	(RPM)
TB45 N-2				V	4.478	71.7	2450	279.5	1600
-T045 N 0	(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				٧	4.478	70.2	2450	279.0	1600
TD45 M 2	(Gasoline)			٧	4.478	63.7	2450	263.4	1600
TB45 M-3	(LPG)			٧	4.478	70.2	2450	279.0	1600
TB45 K-1				٧	4.478	60.6	2400	273.0	1600
TB45 K-2				٧	4.478	61.1	2400	274.5	1440
	(Gasoline)			٧	4.478	60.6	2400	273.0	1600
TB45 K-3	(LPG)			٧	4.478	61.1	2400	274.5	1440
TB45 T-1				٧	4.478	64.8	2450	265.8	1600
TB45 T-2				٧	4.478	65.7	2450	268.5	1470
	(Gasoline)			٧	4.478	64.8	2450	265.8	1600
TB45 T-3	(LPG)			V	4.478	65.7	2450	268.5	1470
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Model Year: __2017___ Manufacturer Name: __Global Component Technologies Corporation Engine Family: __HNFXB04.546D_ OFF-ROAD LSI ENGINE SUPPLEMENTAL INFORMATION

U-L-059-0011 RC29/2017

S13. Engine Model	S14. Engine Code	GK45) (Use an asterisk (*) to S15. Sales Codes (Check ALL appropriate)		S16. Eng. Displ. (Liters)	S17. Rated Power (kW)	S18. Rated Speed (RPM)	Peak Torque (Nm)	S20. Peak Torque Speed	
		Calif. Only	49- State	50- State	(2.10.5)	(,,,,	(** ***)	()	(RPM)
GK45 N-2	·			V	4.451	71.4	2450	285.5	1600
OKAENA	(Gasoline)			٧	4.451	70.3	2450	282.4	1600
GK45 N-3	(LPG)			٧	4.451	71.4	2450	285.5	1600
GK45 M-1				٧	4.451	67.2	2450	276.1	1600
GK45 M-2				٧	4.451	69.4	2450	279.8	1600
GK45 M-3	(Gasoline)			V	4.451	67.2	2450	276.1	1600
GN45 WI-3	(LPG)	•		٧	4.451	69.4	2450	279.8	1600
*GK45 K-1				V,	4.451	59.6	2400	277.8	1600
GK45 K-2				٧	4.451	63.8	2400	281.5	1600
OKAE K 2	(Gasoline)			V	4.451	59.6	2400	277.8	1600
GK45 K-3	(LPG)			٧	4.451	63.8	2400	281.5	1600
GK45 T-1				٧	4.451	64.8	2450	265.8	1600
GK45 T-2				V	4.451	65.7	2450	268.5	. 1470
OKAE T 2	(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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