## California Environmental Protection Agency Air Resources Board

#### GLOBAL COMPONENT TECHNOLOGIES CORPORATION

EXECUTIVE ORDER U-L-059-0010 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 YEAR ENGINE FAMILY NAME  2017 HNFXB02.147D		ENGINE DISPLACEMENT (liters)	FUEL TYPE  Dual Fuel, Gasoline or LPG			
		2.1				
		IAL FEATURES & CONTROL SYSTEMS	TYPICAL EQUIPMENT USAGE			
5000	Throttle Body Inject Converter,	njection (Gas and Dual Fuel), tion (LPG), Three-Way Catalytic Heated Oxygen Sensor	Forklift			
ENGINE MODELS (rated power 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	0.5	3.8	

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 \_\_\_\_\_ day of March 2016.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

### u-L-059-0010 RCL 9/28/17

#### AMACHMENT PglofZ

Model Year: \_\_2017\_\_
Manufacturer Name: \_\_Global Component Technologies Corporation
Engine Family: \_\_HNFXB02.147D\_
OFF-ROAD LSI ENGINE SUPPLEMENTAL INFORMATION

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S12. MODEL SUMMARY (For K21) (Use an asterisk (\*) to identify worst-case engine model used for certification testing.)

S13,	S14.		S15.		S16.	S17.	S18.	S19.	S20.
Engine Model	Engine Code	((	Check Al	LL	Eng. Displ. (Liters)	Rated Power (kW)	Rated Speed (RPM)	Peak Torque (Nm)	Peak Torque Speed
		Calif. Only	49- State	50- State	(Liters)	(KVV)	(REM)	(IVIII)	(RPM)
K21 N-1				٧	2.065	34.3	2700	135.8	1800
K21 N-2				٧	2.065	37.4	2700	145.4	1800
K24 N 2	(Gasoline)			٧	2.065	34.3	2700	135.8	1800
K21 N-3	(LPG)			V	2.065	35.8	2700	145.3	1800
K21 M-1				٧	2.065	34.1	2700	135.5	1800
K21 M-2				٧	2.065	37.3	2700	145.1	1800
K21 M-3	(Gasoline)			٧	2.065	34.1	2700	135.5	1800
K21 W-3	(LPG)			٧	2.065	35.5	2700	145.0	1800
*K21 K-1				V	2.065	35.1	2700	136.4	1800
K21 K-2				٧	2.065	38.8	2700	146.2	1800
K21 K-3	(Gasoline)			V	2.065	35.1	2700	136.4	1800
N21 N-3	(LPG)			٧	2.065	37.3	2700	145.9	1800
K21 T-1				V	2.065	32.1	2700	136.0	1800
K21 T-2				٧	2.065	37.0	2700	144.9	1800
V04 T 0	(Gasoline)			٧	2.065	32.1	2700	136.0	1800
K21 T-3	(LPG)			٧	2.065	34.8	2700	144.1	1800
K21 D-2				V	2.065	37.2	2450	151.6	1600

# ATTACHMENT B Zot Z

U-L-059-0010 RC2 9/28/17

Model Year: 2017
Manufacturer Name: Global Component Technologies Corporation
Engine Family: HNFXB02.147D
OFF-ROAD LSI ENGINE SUPPLEMENTAL INFORMATION
S12. MODEL SUMMARY (For GK21) (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	(LIGIS)	(KVV)	(REW)	(Mill)	(RPM)
GK21 N-1				٧	2.065	34.3	2700	135.8	1800
GK21 N-2				٧	2.065	37.4	2700	145.4	1800
OK24 N 2	(Gasoline)			٧	2.065	34.3	2700	135.8	1800
GK21 N-3	(LPG)			V	2.065	35.8	2700	145.3	1800
GK21 M-1				V	2.065	34.1	2700	135.5	1800
GK21 M-2	·			V	2.065	37.3	2700	145.1	1800
OKO4 M O	(Gasoline)			٧	2.065	34.1	2700	135.5	1800
GK21 M-3	(LPG)			V	2.065	35.5	2700	145.0	1800
GK21 K-1	-			V	2.065	35.1	2700	136.4	1800
GK21 K-2				V	2.065	38.8	2700	146.2	1800
01/04 1/ 0	(Gasoline)			٧	2.065	35.1	2700	136.4	1800
GK21 K-3	(LPG)			V	2.065	37.3	2700	145.9	1800
GK21 T-1				V	2.065	32.1	2700	136.0	1800
GK21 T-2				V	2.065	37.0	2700	144.9	1800
0 K 0 4 T 0	(Gasoline)			V	2.065	32.1	2700	136.0	1800
GK21 T-3	(LPG)			V	2.065	34.8	2700	144.1	1800
GK21 D-2				٧	2.065	37.2	2450	151.6	1600