

TOYOTA INDUSTRIAL EQUIPMENT MFG., INC.

EXECUTIVE ORDER U-L-004-0037 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	ENGINE DISPLACEMENT (liters)	FUEL TYPE		
2018 JTIĖB03.71FS		3.685	Gasoline, LPG, Gasoline-LPG Dual Fuel		
DURABILITY HOURS	SPEC	IAL FEATURES & CONTROL SYSTEMS	TYPICAL EQUIPMENT USAGE Forklift		
5000	Heate	ay Catalytic Converter, d Oxygen Sensor, port Fuel Injection			
	NE MODELS er in kilowatt, kW)	S	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	0.2	13.7	

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 October 2017.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

ATTACHMENT BISHI

Model Year: 2018

Manufacturer Name: TOYOTA INDUSTRIAL EQUIPMENT

Engine Family: <u>JTIEB03.71FS</u>

OFF-ROAD LSI ENGINE SUPPLEMENTAL INFORMATION

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

S13.	S14.	Sa	S15, ales Cod	es	S16.	S17.	S18.	S19.	S20.
Engine Model	Engine Code	(Check ALL appropriate)		Eng. Displ. (Liters)	Rated Power (kW)	Rated Speed (rpm)	Peak Torque (Nm/rpm)	Peak Torque Speed (rpm)	
		Calif. Only	49- State	50- State	(211010)	(1007)	(10)	(Titin pitty	(12111)
1FSH(G)	508			Х	3.685	69	2550	276	1600
1FS(G)	508			Х	3.685	65	2350	276	1600
1FSH (G/LP)	50S			Х	3.685	69(G) 66(LPG)	2550	276(G) 290(LPG)	1600(G) 1200-1400(LPG)
1FS(G/LP)	50S			х	3.685	65(G) 63(LPG)	2350	276(G) 290(LPG)	1600(G) 1200-1400(LPG)
1FSH(LPG)	50\$			Х	3.685	66	2550	290	1200-1400
1FS (LPG)	508			Х	3.685	63	2350	290	1200-1400