

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)
2015	FHZXL2.57V43	2.574	Diesel	5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Mechanical Direct Injection, Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Periodic Trap Oxidizer			Crane, Loader, Tractor, Dozer, Pump, Compressor, Generator	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NO_x), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NO_x), 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):

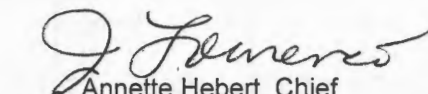
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NO _x	NMHC+NO _x	CO	PM	ACCEL	LUG	PEAK
19 ≤ kW < 37	Tier 4 Final	STD	N/A	N/A	4.7	5.5	0.03	N/A	N/A	N/A
		CERT	--	--	4.3	0.7	0.002	--	--	--

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 12th day of January 2015.


 Annette Hebert, Chief
 Emissions Compliance, Automotive Regulations and Science Division

Detailed engine models summarization of the engine family FHZXL2.57V43

Attachment 1 of 3

U-R-034-0302
1/7/15



EPA Engine Family Name	Engine Model	Engine Code	Rated power (kW)	Rated Speed (RPM)	Maximum Torque (N*m)	Speed at Maximum Torque (RPM)	Fuel Rate at Maximum Torque (mm3/stroke)	Fuel Rate at Rated Speed (mm3/stroke)	Emission Control System
FHZXL2.57V43	3M43	vs-3M43-3150	36,6	3150	145	1600	46,5	44,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-3000	36,6	3000	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2950	36,5	2950	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2900	36,2	2900	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2850	35,8	2850	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2800	35,5	2800	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2750	35,4	2750	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2700	35,2	2700	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2650	35,1	2650	145	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2600	34,9	2600	145	1600	46,5	45,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2550	34,3	2550	145	1600	46,5	45,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2500	34,1	2500	145	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2450	33,6	2450	145	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2400	33,2	2400	145	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2350	32,7	2350	145	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2300	35,1	2300	152	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2250	34,4	2250	152	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2200	34,0	2200	152	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2150	33,4	2150	152	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2100	32,7	2100	152	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2050	32,0	2050	152	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-2000	31,4	2000	152	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-1950	30,6	1950	152	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-1900	29,7	1900	152	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-1850	29,3	1850	152	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43	vs-3M43-1800	28,4	1800	152	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-3150	35,8	3150	143	1600	46,5	44,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-3000	35,8	3000	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2950	35,7	2950	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2900	35,4	2900	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2850	35,1	2850	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2800	34,8	2800	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2750	34,7	2750	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2700	34,5	2700	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2650	34,4	2650	143	1600	46,5	44,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2600	34,2	2600	143	1600	46,5	45,0	DDI/ECM/EGR/DOC/DPF

Detailed engine models summarization of the engine family FHZXL2.57V43

Attachment 2053

U-R-034-0302
1/7/15



EPA Engine Family Name	Engine Model	Engine Code	Rated power (kW)	Rated Speed (RPM)	Maximum Torque (N*m)	Speed at Maximum Torque (RPM)	Fuel Rate at Maximum Torque (mm3/stroke)	Fuel Rate at Rated Speed (mm3/stroke)	Emission Control System
FHZXL2.57V43	3M43Z	vs-3M43Z-2550	33,7	2550	143	1600	46,5	45,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2500	33,5	2500	143	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2450	33,0	2450	143	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2400	32,6	2400	143	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2350	32,1	2350	143	1600	46,5	46,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2300	34,5	2300	150	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2250	33,9	2250	150	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2200	33,5	2200	150	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2150	32,9	2150	150	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2100	32,2	2100	150	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2050	31,5	2050	150	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-2000	30,9	2000	150	1750	48,0	49,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-1950	30,2	1950	150	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-1900	29,3	1900	150	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-1850	28,9	1850	150	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3M43Z	vs-3M43Z-1800	28,0	1800	150	1750	48,0	49,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-3150	34,0	3150	134	1600	43,5	42,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-3000	34,0	3000	134	1600	43,5	42,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2950	33,8	2950	134	1600	43,5	42,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2900	33,7	2900	134	1600	43,5	42,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2850	33,6	2850	134	1600	43,5	42,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2800	33,4	2800	134	1600	43,5	42,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2750	33,2	2750	134	1600	43,5	43,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2700	33,0	2700	134	1600	43,5	43,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2650	32,8	2650	134	1600	43,5	43,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2600	32,6	2600	134	1600	43,5	43,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2550	32,3	2550	134	1600	43,5	43,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2500	31,7	2500	134	1600	43,5	43,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2450	31,3	2450	134	1600	43,5	43,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2400	30,9	2400	134	1600	43,5	43,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2350	30,2	2350	134	1600	43,5	43,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2250	32,3	2250	139	1750	46,5	48,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2200	31,6	2200	139	1750	46,5	48,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2150	31,0	2150	139	1750	46,5	48,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2100	30,3	2100	139	1750	46,5	48,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-2050	29,5	2050	139	1750	46,5	48,5	DDI/ECM/EGR/DOC/DPF

Detailed engine models summarization of the engine family FHZXL2.57V43

Attachment 3 of 3

U-R-03A-0302
1/7/15



EPA Engine Family Name	Engine Model	Engine Code	Rated power (kW)	Rated Speed (RPM)	Maximum Torque (N*m)	Speed at Maximum Torque (RPM)	Fuel Rate at Maximum Torque (mm3/stroke)	Fuel Rate at Rated Speed (mm3/stroke)	Emission Control System
FHZXL2.57V43	3L43C	vs-3L43C-2000	29,0	2000	139	1750	46,5	48,5	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-1950	28,4	1950	139	1750	46,5	48,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-1900	27,6	1900	139	1750	46,5	48,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-1850	26,9	1850	139	1750	46,5	48,0	DDI/ECM/EGR/DOC/DPF
FHZXL2.57V43	3L43C	vs-3L43C-1800	26,3	1800	139	1750	46,5	48,0	DDI/ECM/EGR/DOC/DPF