

	<b>mitsubishi heavy industries, LTD.</b>	<b>EXECUTIVE ORDER U-R-035-0230</b> New Off-Road Compression-Ignition Engines
--	--	---

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-02-003;

**IT IS ORDERED AND RESOLVED:** That the following compression-ignition engine and emission control system 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)
2008	8MVXL01.3DDD	1.1, 1.3, 1.5	Diesel	3000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Indirect Diesel Injection			Tractor, Generator and Industrial Equipment	

The engine models and codes are attached.

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

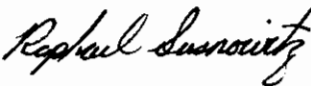
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
8 ≤ KW < 19	Tier 4	STD	N/A	N/A	7.5	6.6	0.40	20	15	50
		CERT	--	--	5.7	2.2	0.26	7	4	14

**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 16<sup>th</sup> day of August 2007.

  
for Annette Hebert, Chief  
Mobile Source Operations Division

# Engine Model Summary Template

ATTACHMENT 1 OF 1

U-R-035-0230

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
8MVXL01.3DDD	3IRL2N	3IRL2N	18.9@1800	26.7	7.9	55.2@1800	26.7	7.9	IDI
8MVXL01.3DDD	S3L-W414R	S3L	20.4@2500	22.1	9.1	47.7@1800	24.5	7.3	IDI
8MVXL01.3DDD	S3L-W414RH	S3L	20.4@2500	22.1	9.1	47.7@1800	24.5	7.3	IDI
8MVXL01.3DDD	S3L-W461TM	S3L	22.7@2700	24.0	10.7	47.7@1800	24.5	7.3	IDI
8MVXL01.3DDD	S3L2-W461CG	S3L2	18.9@1800	26.7	7.9	55.2@1800	26.7	7.9	IDI
8MVXL01.3DDD	S3L2-W461DG	S3L2	18.9@1800	26.7	7.9	55.2@1800	26.7	7.9	IDI
8MVXL01.3DDD	S3L2-W461R	S3L2	18.9@1800	26.7	7.9	55.2@1800	26.7	7.9	IDI
8MVXL01.3DDD	S3L2-W461ML	S3L2	18.9@1800	26.7	7.9	55.2@1800	26.7	7.9	IDI
8MVXL01.3DDD	S3L2-W461WM	S3L2	18.9@1800	26.7	7.9	55.2@1800	26.7	7.9	IDI
8MVXL01.3DDD	S3L2-W462SD	S3L2	18.9@1800	26.7	7.9	55.2@1800	26.7	7.9	IDI
8MVXL01.3DDD	S3L2-W463KL	S3L2	23.3@2200	27.5	10.0	57.8@1800	27.7	8.2	IDI
8MVXL01.3DDD	S3L2-W411RH	S3L2	23.7@2500	24.3	10.0	57.1@1800	27.6	8.2	IDI
8MVXL01.3DDD	S3L2-G2400	S3L2	24.7@2400	26.2	10.4	61.2@1800	29.2	8.7	IDI
8MVXL01.3DDD	S4L2-Y361CG	S4L2	24.7@1800	25.5	10.1	72.0@1800	25.5	10.1	IDI
8MVXL01.3DDD	S4L2-Y361DG	S4L2	24.7@1800	25.5	10.1	72.0@1800	25.5	10.1	IDI
8MVXL01.3DDD	S4L2-Y362SD	S4L2	24.7@1800	25.5	10.1	72.0@1800	25.5	10.1	IDI
8MVXL01.3DDD	S4L2-Y361WM	S4L2	24.7@1800	25.5	10.1	72.0@1800	25.5	10.1	IDI
8MVXL01.3DDD	S4L2-Y361ML	S4L2	24.7@1800	25.5	10.1	72.0@1800	25.5	10.1	IDI

## Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
8MVXL01.3DDD	S3L2-E331AC	S3L2	24.1@2100	29.0	10.0	59.8@1800	28.5	8.4	IDI
8MVXL01.3DDD	S3L-W461GT	S3L	22.7@2700	24.0	10.7	47.7@1800	24.5	7.3	IDI
8MVXL01.3DDD	S3L2-W431NSA	S3L2		29.0	10.0		28.5	8.4	

## Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
8MVXL01.8DDD	S3L2-Y361GT	S3L2	26.7@2700	27.0	12.0	58.6@1800	29.0	8.6	IDI
8MVXL01.8DDD	S3L2-Y361TMA	S3L2	28.6@2800	28.0	12.9	59.4@1800	29.0	8.6	IDI