California Environmental Protection Agency AIR RESOURCES BOARD	MITSUBISHI HEAVY INDUSTRIES, LTD.	EXECUTIVE ORDER U-R-035-0285 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)
2010	AMVXL01.8DDD	1.1, 1.3,1.5, 1.8	Diesel	5000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Indirect Diesel Injection	Tractor, Dozer, Generator

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
19 ≤ KW < 37	Tier 4 Interim	STD	N/A	N/A	7.5	5.5	0.30	20	15	50
		CERT	--	--	5.4	1.5	0.25	7	4	15

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 28 day of January 2010.

Annette Hebert, Chief
Mobile Source Operations Division

ATTACHMENT 1 OF 1

Engine Model Summary Template

U-R-035-0285
4/11/2010

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
AMVXL01.8DDD	S3L2-Y314R	S3L2	26.3@2600	27.0	11.6	58.6@1800	29.0	8.6	IDI
AMVXL01.8DDD	S3L2-Y314RH	S3L2	26.3@2600	27.0	11.6	58.6@1800	29.0	8.6	IDI
AMVXL01.8DDD	S3L2-Y361CUK	S3L2	26.7@2400	29.0	11.5	60.5@2200	29.0	10.5	IDI
AMVXL01.8DDD	S3L2-Y362CUK	S3L2	26.7@2400	29.0	11.5	60.5@2200	29.0	10.5	IDI
AMVXL01.8DDD	S3L2-Y331NSB	S3L2	26.7@2400	29.0	11.5	60.5@2200	29.0	10.5	IDI
AMVXL01.8DDD	S3L2-Y331NK	S3L2	26.7@2400	29.0	11.5	60.5@2200	29.0	10.5	IDI
AMVXL01.8DDD	S3L2-Y361TM	S3L2	26.7@2700	27.0	12.0	58.6@1800	29.0	8.6	IDI
AMVXL01.8DDD	S3L2-Y361DPH	S3L2	28.4@3000	27.0	13.3	53.9@2200	24.7	8.9	IDI
AMVXL01.8DDD	S3L2-Y361DPA	S3L2	28.4@3000	27.0	13.3	53.9@2200	24.7	8.9	IDI
AMVXL01.8DDD	S4L-Y362KL	S4L	25.9@2200	22.5	10.9	62.0@1800	22.3	8.8	IDI
AMVXL01.8DDD	S4L-Y361GT	S4L	28.2@2600	21.0	12.0	60.8@1800	21.6	8.5	IDI
AMVXL01.8DDD	S4L-Y362GT	S4L	28.2@2600	21.0	12.0	60.8@1800	21.6	8.5	IDI
AMVXL01.8DDD	S4L-Y361TM	S4L	29.4@2700	22.8	13.5	60.8@1800	21.6	8.5	IDI
AMVXL01.8DDD	S4L2-Y363KL	S4L2	29.5@2100	26.0	12.0	76.7@1800	26.5	10.5	IDI
AMVXL01.8DDD	S4L2-Y3N3ST	S4L2	34.9@3000	25.3	16.7	67.9@2100	24.7	11.4	IDI
AMVXL01.8DDD	S4L2-Y361TM	S4L2	35.5@2700	26.0	15.4	73.7@1800	25.7	10.2	IDI
AMVXL01.8DDD	S4L2-Y361GT	S4L2	37.9@2700	28.0	16.6	76.7@1800	26.5	10.5	IDI
AMVXL01.8DDD	S4L2-Y361DPA	S4L2	38.6@3000	26.8	17.7	71.6@2200	25.7	12.4	IDI
AMVXL01.8DDD	S4L2-Y361DPH	S4L2	38.6@3000	26.8	17.7	71.6@2200	25.7	12.4	IDI
AMVXL01.8DDD	S4L2-C3000	S4L2	41.6@3000	28.5	18.8	82.0@1800	29.4	11.6	IDI
AMVXL01.8DDD	S3L2-Y331NKA	S3L2	26.7@2400	29.0	11.5	60.5@2200	29.0	10.5	IDI
AMVXL01.8DDD	S3L2-Y331NKB	S3L2	26.7@2400	29.0	11.5	60.5@2200	29.0	10.5	IDI
AMVXL01.8DDD	S4L-Y363GT	S4L	28.2@2600	21.0	12.0	60.8@1800	21.6	8.5	IDI
AMVXL01.8DDD	S4L2-Y362GT	S4L2	37.9@2700	28.0	16.6	76.7@1800	26.5	10.5	IDI
AMVXL01.8DDD	S4L2-Y363GT	S4L2	37.9@2700	28.0	16.6	76.7@1800	26.5	10.5	IDI
AMVXL01.8DDD	S4L2-Y364GT	S4L2	37.9@2700	28.0	16.6	76.7@1800	26.5	10.5	IDI
AMVXL01.8DDD	S4L2-Y331AC	S4L2	33.0@2500	26.0	14.3	73.7@1800	25.7	10.2	IDI