State of California AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-35-4 Relating to Certification of New Off-Road Compression-Ignition Engines

MITSUBISHI HEAVY INDUSTRIES, LTD.

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-45-9;

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:

Model Year: 2001

Typical Equipment Usage: Tractor and Generator

Fuel Type: Diesel

	Engine		
Engine Family 1MVXL01.3AAA	Displacement (liters) 1.1, 1.3 and	Useful Life (hours) 3000	Emission Control Systems and Special Features Indirect Diesel Injection
(S3L2)	1.5	0000	maneet bleset injection

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values for hydrocarbons (HC), oxides of nitrogen (NOx), or non-methane hydrocarbons plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) (units are expressed in grams per kilowatt-hour (g/kw-hr)), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

Engine Power	Emission Standard		Exhaust Emissions (g/kw-hr)						Smoke Opacity (%)		
Rating (kw)	<u>Category</u>		<u>HC</u>	<u>NOx</u>	NMHC+NOx	<u>Ç0</u>	<u>PM</u>	Accel	Lug	<u>Peak</u>	
8 <u><</u> KW<19	Tier 1	Standard	N/A	N/A	9.5	6.6	0.80	20	15	50	
		Certification			5.3	0.7	0.23	4	4	6	

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels— 1996 and Later Off-Road Compression-Ignition Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 and 2426).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this

day of February 2001

R. B. Summerfield, Chief

Mobile Source Operations Division

Engine Model Summary Form

ATTACHMENT

Manufacturer:

Mitsubishi Heavy Industries,Ltd

Engine category:

Nonroad CI

EPAEngine Family: 1MVXL01.3AAA

Mfr Family Name: \$3L2

Process Code:

New Submission

U-R-35-4

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.Em Device	ission Control Per SAE J1930
S3L2-W263ES	\$3L2	23,3@2200	27.7	10.0	59.3@1800	28.8	8.5	Λ	ĦМ
S3L2-W264ES	\$3L2	24.4@2400	26.7					<u> </u>	EM
S3L2-W261DG	S3L2	18.9@1800	27.1	- man a de la company de l La company de la					EM .
S3L2-W262SD	S3L2	18.9@1800	27.1					 -	
S3L2-W261W	S3L2	18.9@1800	27.1		ti da Alam managangan mang di sanggan di ada malajada , a managan dan Alam managan sang pang pan T	The state of the s			EM
S3L2-W261CG	S3L2	18.9@1800	27.1	eres o a como o de la como de la				Thr	·· [
S3L-W214R	S3L	20.3@2500	22.1		:				EM
S3L-W214RH	S3L	20.3@2500	22.1		411				EM .
S3L-W261DG	S3L	15.2@1800	22.4						EM
\$3L-W261LG	S3L	15.2@1800	22.4						EM
S4L-W261DG	S4L	21.5@1800	23.0	9.1	62.2@1350	23.2	0.0		EM
S4L-W261LG	S4L	21.5@1800	23.0		02.2@1000		6.9		EM
S3L2-Y261KT	S3L2	24.7hp@2600	24.2	and the control of the state of				√-	ΕM
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