State of California AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-35-7 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: Other Industrial Equipment

Fuel Type: Diesel

	Engine		
Engine Family	Displacement (liters)	Useful Life (hours)	Emission Control Systems and Special Features
1MVXL06.4AAB	4.2 and 6.4	8000	Direct Diesel Injection
			Turbocharger

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	Smoke Opacity (%)		
Rating (kw)	<u>Category</u>		<u> HC</u>	<u>NOx</u>	NMHC+NOx	<u>CO</u>	<u>PM</u>	<u>Accel</u>	Lug	Peak	
37 <u><</u> KW<130	Tier 1	Standard	N/A	9.2	N/A	N/A	N/A	20	15	50	
		Certification		7.8				15	7	30	

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 Sunmary Form

Manufacturer:

Mitsubishi Heavy Industries, Ltd.

Engine category:

Nonroad Cl

EPAEngine Family: 1MVXL06.4AAB

Mfr Family Name:

Process Code:

New Submission

U-R-35-7

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 J193
3066 (320C)	3066	144hp@1800	92.6	55	452ftlb@1400	95.6	44	DDITTC
S4K-T 311B	S4K-T (Cat	82.3hp@1800	79	31	274tlb@1400	91	27	
S4K-T 312B	S4K-T (Cat	87.7hp@1900	78	33	274ftlb@1400	89	27	
3066	3066	134hp@1800	81	48	441ftlb@1400	95	42	
S6K-Y1T62DG	S6K-T	134@1800	81	48	416ftlb@1400	89	41	EM
S6K-Y1T62DP	S 6K-T	122@2200	69	50	398ftlb@1400	82	38	EM
S4K-Y1T62DG	S4K-T	82.3@1800	79	31	274ftlb@1400	91	27	EM
S4K-Y1T62DP	S4K-T	83.3@2200	67	32	257ftlb@1400	81	25	EM
S6K-Y1DT65D	S6K-T	134hp@1800	81	48	416ftlb@1400	89	41	
S4K-T 312C	S4K-T	94@1950	79	34	274ft-lb@1400	82	25	
S4K-T 311C	S4K-T	82.3hp@1800	79	31	274tlb@1400	91	27	—
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