

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-9-10

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

MITSUBISHI MOTORS CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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 Mitsubishi Motors Corporation 1999 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Loader, Generator

Fuel Type: Diesel

<u>Engine Family</u>	<u>Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
XMTXL11.9D6B	11.9 (729)	Turbocharger Charge Air Cooler

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 total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

<u>Exhaust Emissions (g/bhp-hp)</u>				<u>Smoke Opacity (%)</u>		
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

<u>Exhaust Emissions (g/bhp-hr)</u>				<u>Smoke Opacity (%)</u>		
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
0.4	1.2	6.3	0.3	13	10	38

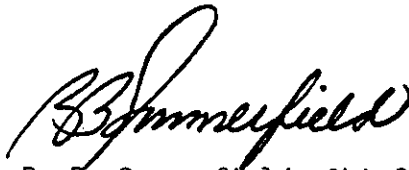
BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle 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, Section 2425 et seq.).

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

Executed at El Monte, California this 17<sup>th</sup> day of February 1998.



R. B. Summerfield, Chief  
Mobile Source Operations Division

# LARGE ENGINE MODEL SUMMARY

12/16/97

EO: U-R-9-10

Manufacturer: Mitsubishi Motors Corporation

Process Code: New Submission

EPA Engine Family: XMTXL11.9D6B

Manufacturer Family Name: N/A

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
6D24TCEB-US9	6D24-TCEB	298 @ 1800	174	104.4	922 @ 1200	189	75.6	EM,TC,CAC
6D24TCEA-US9	6D24-TCEA	308 @ 2000	172	114.7	901 @ 1400	181	84.5	EM,TC,CAC
6D24TCEE-US9	6D24-TCEE	308 @ 2000	172	114.7	901 @ 1400	181	84.5	EM,TC,CAC
6D24TCEC-US9	6D24-TCEC	315 @ 2000	175	116.7	908 @ 1400	185	86.3	EM,TC,CAC
6D24TCED-US9	6D24-TCED	329 @ 2200	164	120.3	904 @ 1500	182	91.0	EM,TC,CAC
6D24TCEF-US9	6D24-TCEF	315 @ 2000	175	116.7	908 @ 1400	185	86.3	EM,TC,CAC