

File

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-6-9

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

ISUZU MOTORS, LTD.

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 Isuzu Motors, Ltd. 1999 model-
year engines with rated power between 175 and 750 horsepower and exhaust
emission control systems are certified as described below in heavy-duty off-
road equipment:

Typical Equipment Usage: Excavator

Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems and Special Features</u>
	<u>Liters</u>	<u>Cubic Inches</u>	
XSZXL09.8DTA (98DTA)	9.8	600	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 total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and
particulate matter (PM) certification exhaust emission standards in grams per
brake horsepower-hour (g/hp-h), and the opacity-of-smoke emission standards in
percent (%) during acceleration (Accel), lugging (Lug), and peak (Peak) modes
for this engine family are as follows (Title 13, California Code of
Regulations, Section 2423):

<u>Exhaust Emissions (g/hp-h)</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 emissions certification values in grams per brake horsepower-hour, and the opacity-of-smoke emissions certification values in percent for this engine family are:

Exhaust Emissions (g/bhp-h)				Smoke Opacity (%)		
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
0.4	1.1	6.4	0.3	15	10	23

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, Sections 2425 et seq.).

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

Executed at El Monte, California this 26th day of January 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

E.O.# U-12-6-9

1999 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY - DUTY OFF- ROAD DIESEL ENGINES

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Manufacturer: Isuzu Motors Limited Engine Family: XSZX109.8DTA
 Displacement: 495 / 495 Liters / Cubic Inch(s) 30.3 / 1851
 All Codes in Eng Fam: CA 49S 60S 8 Cert Test Procedures: ARB EPA S
 Valve / Ports per Cylinder 2 Strokes per Combustion Cycle 4
 Maximum Rated Power: 249.6 HP (186.1 kW) @ 2200 RPM
 Ignition: Compression Compression with Glow Plug Spark
 Fuel Type(s): Dedicated Flex-Fuel Dual-Fuel Diesel M100 M85
 CNG LNG LPG Other (specify)
 Diesel Cert Fuel: 40 CFR 86.1313-94 Other (specify)
 Primary Service Equipment: Hydraulic Excavator
 Exhaust ECS (e.g., OC, TWC, PTOX, IFI, TC, CAC): EM, TC
 (use abbreviations per SAE J1930 JUN 93)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm ³ / stroke (lbs / hr)	Fuel Pump & Injector Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX Catalytic Converter Part No.
98DTA- A	250 / 2200	130.6 (95.9)	Pump 115603263 (×)	N / A	N / A	N / A
98DTA- B	241 / 2000	132.3 (88.4)	115603074 (×)			
98DTA- C	174 / 2200	92.2 (67.7)	or 115603075 (×)			
98DTA- D	170 / 2000	94.1 (62.8)	Injector 115300289 (×)			

(×): Suffix any figure from 0 to 9.