

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-20-72  
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

ISUZU MOTORS LIMITED

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102, and 43103 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-45-3;

IT IS ORDERED AND RESOLVED: That the following Isuzu Motors Limited 1988 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

<u>Engine Family</u>	<u>Displacement Liters (Cubic Inches)</u>		<u>Exhaust Emission Control Systems (Special Features)</u>
JSZ0396FAB0	6.494	(396)	Engine Modification (Diesel Injection - Direct) (Turbocharger) (Intercooler)

Engine models and codes are listed on attachments.

The following are the emission standards for this engine family:

<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>	<u>Particulates gm/bhp-hr</u>
1.3	15.5	6.0	0.60

The following are the certification emission values for this engine family:

<u>Engine Family</u>	<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>	<u>Particulates gm/bhp-hr</u>
JSZ0396FAB9	0.4	2.3	4.6	0.49

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

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

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 28<sup>th</sup> day of December, 1987.



K. D. Drachand, Chief  
Mobile Source Division

Manufacturer ISUZU MOTORS LIMITED Engine Family JSZ0396FAB0  
 Evaporative Family NA Engine Type L6  
 Liters (CID) 6.494 (396)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance  
 ECU-Electronic Control Unit  
 EI-Electronic Ignition  
 ESAC-Electronic Spark Advance Control  
 VA-Vacuum Advance  
 VR-Vacuum Retard

Exhaust Emissions Control System

AIP-Air Injection-Pump  
 AIV-Air Injection-Valve  
 DBC-Dual Bed Catalyst  
 EGR-Exhaust Gas Recirculation  
 EIC-Electronic Injection Control  
 EM-Engine Modification  
 OC-Oxidation Catalyst  
 OS-Oxygen Sensor  
 HOS-Heated Oxygen Sensor  
 SPL-Smoke Puff Limiter or Throttle Delay  
 TOC-Trap Oxidizer, Continual  
 TOP-Trap Oxidizer, Periodical  
 TWC-Three-Way Catalyst  
 WUOC-Warm-Up Oxidation Catalyst  
 WUTWC-Warm-Up Three-Way Catalyt

Special Features

CCV-Combustion Chamber Valve  
 CFI-Central Fuel Injection or Throttle Body Injection  
 DID-Diesel Injection-Direct  
 DIP-Diesel Injection-Prechamber  
 EFI-Electronic Fuel Injection  
 IC-Intercooler or Aftercooler  
 MFI-Mechanical Fuel Injection  
 OBD-On-Board Diagnostics  
 TC-Turbocharger

Fuel System

CFI, CL, DID, DIP, EFI, MFI  
 nV-nVenturi Carburetor

VEHICLE MODELS:

Engine: Front \_\_\_\_\_ Mid. \_\_\_\_\_ Rear \_\_\_\_\_  
 Drive: FWD \_\_\_\_\_ RWD \_\_\_\_\_ 4WD Full Time \_\_\_\_\_ 4WD Part Time \_\_\_\_\_

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HEAVY-DUTY DIESEL ENGINES

Manufacturer ISUZU MOTORS LIMITED Engine Family JSZ0396FAB0  
 Liter (CID) 6.494 (396) Eng. Type L6  
 Emission Control Sys. and (Special Features) EM (DID, IC, TC)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)
6BG1X	DIESEL KIKI CO., LTD. 1156022153 1156024170 1156024180 1156024190 1156024200 1156024210 1156024220 1156024230 1156024240 1156024250 1156024260 1156024270 1156024280 1156024290	DIESEL KIKI CO., LTD. 1153002190	185 HP 2800 RPM	81.6 mm <sup>3</sup> /stroke (76.3 lbs/hr)	398 lb-ft 1700 RPM	79.7 mm <sup>3</sup> /stroke (45.2 lbs/hr)

Date of Issue \_\_\_\_\_ Revisions: \_\_\_\_\_