

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-20-47
Relating to Certification of New Motor Vehicle Heavy-Duty 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 1986 model-year heavy-duty diesel engines have shown compliance with the optional transient test procedure and standards and are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating greater than 8500 pounds:

<u>Engine Family</u>	<u>Displacement</u> <u>Cubic Inches (Liters)</u>		<u>Exhaust Emission Control Systems</u> <u>(Special Features)</u>
GSZ0235DAA2	235	(3.9)	Engine Modification (Diesel Injection - Direct)
GSZ0235EAA5	235	(3.9)	Engine Modification (Diesel Injection - Direct) (Turbocharged)
GSZ0353DAB0	353	(5.8)	Engine Modification (Diesel Injection - Direct)
GSZ0353EAB3	353	(5.8)	Engine Modification (Diesel Injection - Direct) (Turbocharged)

Engine models and codes are listed on attachments.

The following are the certification emission values for these engine families:

<u>Engine Family</u>	<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>
GSZ0235DAA2	1.1	4.9	4.4
GSZ0235EAA5	0.6	2.5	4.8
GSZ0353DAB0	1.1	3.9	4.8
GSZ0353EAB3	0.5	1.8	4.3

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).

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.

Executed at El Monte, California this 26th day of July, 1985.


K. D. Drachand, Chief
Mobile Source Division

Manufacturer ISUZU MOTORS LIMITED Executive Order No. A-20-47
 Engine Family GSZ0235DAA2, GSZ0235EAA5 Evaporative Family NA
GSZ0353DAB0, GSZ0353EAB3 Engine CID (Liters) 235 (3.851)
353 (5.785)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance
 EEC-Electronic Engine Control
 EI-Electronic Ignition
 ESAC-Electronic Spark Advance
 Control
 VA-Vacuum Advance
 VR-Vacuum Retard

Fuel System

CFI, CL, DID, DIP, EFI, MFI
 nV-nVenturi Carburetor
 VV-Variable Venturi

Exhaust Emissions Control System

AIP-Air Injection-Pump
 AIV-Air Injection-Valve
 CL-Closed Loop
 EGR-Exhaust Gas Recirculation
 EM-Engine Modification
 OC-Oxidation Catalyst System
 TOC-Trap Oxidizer Continual
 TOP-Trap Oxidizer Periodical
 TR-Thermal Reactor
 TWC-Three-Way Catalyst System

Special Features

CCV-Combustion
 Chamber Valve
 CFI-Central Fuel
 Injection
 DID-Diesel
 Injection-
 Direct
 DIP-Diesel
 Injection-
 Prechamber
 EFI-Electronic
 Fuel
 Injection
 IC - Intercooler
 MFI-Mechanical
 Fuel
 Injection
 TC-Turbocharged

VEHICLE MODELS: NA

DRIVE SYSTEM: NA Engine/ NA -Wheel Drive

1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINESLHDDManufacturer ISUZU MOTORS LIMITEDPage 2Engine Family GSZ0235DAA2CID(Liter)-Type 235(3.851) - L4ECS and (Special Features) EM (DID)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP and RPM	Fuel Rate at Maximum HP mm ³ /stroke	Label Ident.
4BD1H	DIESEL KIKI CO., LTD. 8941573502 8941573512 8941778730	DIESEL KIKI CO., LTD. 1153001340	88 BHP 3200 RPM	55.1 mm ³ /stroke	894423955

Date of Issue -

1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINESLHDDManufacturer ISUZU MOTORS LIMITEDPage 3Engine Family GSZ0235EAA5CID(Liter)-Type 235(3.851) - L4ECS and (Special Features) EM (DID, TC)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP and RPM	Fuel Rate at Maximum HP mm ³ /stroke	Label Ident.
4BD1TH	DIESEL KIKI CO., LTD. 8941699192 8941573532 8941778750	DIESEL KIKI CO., LTD. 1153001420	100 BHP 3000 RPM	68.9 mm ³ /stroke	894423957

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1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINESMHDDManufacturer ISUZU MOTORS LIMITEDPage 4Engine Family GSZ0353DAB0CID(Liter)-Type 353(5.785) - L6ECS and (Special Features) EM (DID)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP and RPM	Fuel Rate at Maximum HP mm ³ /stroke	Label Ident.
6BD1H	DIESEL KIKI CO., LTD. 1156017150 1156017160 1156017170 1156017180 1156017191 1156020080 1156020340 1156020390 1156020110 1156020120 1156020150 1156020160 1156020270 1156020280	DIESEL KIKI CO., LTD. 1153001340	126 HP 3200 RPM	53.2 mm ³ /stroke	185886289

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1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINES

MHDD

Manufacturer ISUZU MOTORS LIMITED Page 5
 Engine Family GSZ0353EAB3 CID(Liter)-Type 353(5.785) - L6
 ECS and (Special Features) EM (DID, TC)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP and RPM	Fuel Rate at Maximum HP mm ³ /stroke	Label Ident.
6BDTH	DIESEL KIKI CO., LTD. 1156014081 1156014121 1156015690 1156015870 1156015911 1156018070 1156018710 1156020360 1156020190 1156020200 1156020230 1156020240 1156020310 1156020320	DIESEL KIKI CO., LTD. 1153001420	155 HP 3000 RPM	68.5 mm ³ /stroke	185886287

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