

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-20-42
Relating to Certification of New 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 1985 model-year diesel engines have shown compliance with the optional transient 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 Cubic Inches (Liters)</u> | <u>Exhaust Emission Control Systems (Special Features)</u> |
|----------------------|---|--|
| FSZ0235DAA3 | 235 (3.9) | Engine Modification (Diesel Injection - Direct) |
| FSZ0235EAA6 | 235 (3.9) | Engine Modification (Diesel Injection - Direct) (Turbocharged) |
| FSZ0353DAB1 | 353 (5.8) | Engine Modification (Diesel Injection - Direct) |
| FSZ0353EAB4 | 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> |
|----------------------|-----------------------------------|--|--------------------------------------|
| FSZ0235DAA3 | 1.1 | 4.9 | 4.4 |
| FSZ0235EAA6 | 0.6 | 2.5 | 4.8 |
| FSZ0353DAB1 | 1.1 | 3.9 | 4.8 |
| FSZ0353EAB4 | 0.5 | 1.8 | 4.3 |

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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 19th day of December, 1984.



K. D. Drachand, Chief
Mobile Source Division

| | | | |
|---------------|--|---------------------|--|
| Manufacturer | <u>ISUZU MOTORS LIMITED</u> | Executive Order No. | <u>A-20-42</u> |
| Engine Family | <u>FSZ0235DAA3, FSZ0235EAA6</u> <u>FSZ0353DAB1, FSZ0353EAB4</u> | Evaporative Family | <u>NA</u> |
| | | Engine CID (Liters) | <u>235 (3.851)</u> <u>353 (5.785)</u> |

ABBREVIATIONS

| <u>Ignition System</u> | <u>Exhaust Emissions Control System</u> | <u>Special Features</u> |
|---------------------------------------|---|---------------------------------|
| CA-Centrifugal Advance | AIP-Air Injection-Pump | CCV-Combustion Chamber Valve |
| EEC-Electronic Engine Control | AIV-Air Injection-Valve | CFI-Central Fuel Injection |
| EI-Electronic Ignition | CL-Closed Loop | DID-Diesel Injection-Direct |
| ESAC-Electronic Spark Advance Control | EGR-Exhaust Gas Recirculation | DIP-Diesel Injection-Prechamber |
| VA-Vacuum Advance | EM-Engine Modification | EFI-Electronic Fuel Injection |
| VR-Vacuum Retard | OC-Oxidation Catalyst System | IC - Intercooler |
| | TOC-Trap Oxidizer Continual | MFI-Mechanical Fuel Injection |
| | TOP-Trap Oxidizer Periodical | TC-Turbocharged |
| | TR-Thermal Reactor | |
| | TWC-Three-Way Catalyst System | |

Fuel System

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

VEHICLE MODELS: NA

DRIVE SYSTEM: NA Engine/ NA -Wheel Drive

1985 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINES

E.O. #A-20-42

Manufacturer ISUZU MOTORS LIMITED Page 2
 Engine Family FSZ0235DAA3 CID(Liter)-Type 235 (3.851) - L4
 ECS 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 | 894403270 |

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1985 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINES

E.O #A-20-42

Manufacturer ISUZU MOTORS LIMITED

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Engine Family FSZ0235EAA6

CID(Liter)-Type 235(3.851)-L4

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. |
|--------------|---|-------------------------------------|--------------------------|--|--------------|
| 4BD1TH | DIESEL KIKI CO., LTD. 8941699192 8941573532 8941778750 | DIESEL KIKI CO., LTD. 1153001420 | 100 BHP 3000 RPM | 68.9 mm ³ /stroke | 894178690 |

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HEAVY-DUTY DIESEL ENGINES

E.O. #A-20-42

Manufacturer ISUZU MOTORS LIMITED Page 4
 Engine Family FSZ0353DAB1 CID(Liter)-Type 353 (5.785) - L6
 ECS 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 | DIESEL KIKI CO., LTD 1153001340 | 126 HP 3200 RPM | 53.2 mm ³ /stroke | 185886231 |

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HEAVY-DUTY DIESEL ENGINES

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Manufacturer ISUZU MOTORS LIMITED

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Engine Family FSZ0353EAB4

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 | DIESEL KIKI CO., LTD 1153001420 | 155 HP 3000 RPM | 68.5 mm ³ /stroke | 185886233 |

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