

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-20-111

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 1993 model diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

Fuel Type: Diesel

<u>Engine Family</u>	<u>Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
PSZ0235FAA8	3.9 (235)	Turbocharger Indirect Fuel Injection Charge Air Cooler Engine Modification
PSZ0396FAB5	6.5 (396)	Engine Control Module Turbocharger Charge Air Cooler

Engine models and codes are listed on attachments.

The following are the certification emission standards for these engine families in grams per brake-horsepower-hour:

<u>Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
1.3	15.5	5.0	0.25

The following are the certification emission values for these engine families in grams per brake-horsepower-hour:

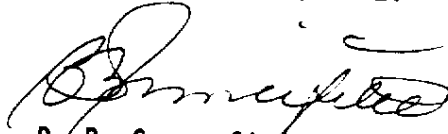
<u>Engine Family</u>	<u>Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
PSZ0235FAA8	0.3	0.8	4.0	0.19
PSZ0396FAB5	0.7	2.2	4.5	0.22

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 2035 et seq.).

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 attachments.

Executed at El Monte, California this 25<sup>th</sup> day of June, 1992.



R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

*Running change*  
7-19-93

1993 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

MHDD

Manufacturer ISUZU MOTORS LIMITED Engine Family PSZ0396FAB5  
 Liters (CID) 6.494 ( 396 ) Fuel Type DIESEL Engine Config. I-6  
 Exhaust ECS & Special Features (ECM/PCM, PTOX, IFI, etc.) ECM, DFI, CAC, TC  
 (Use abbreviations per SAE J1930 MAY91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm <sup>3</sup> /stroke (lbs/hr)	Fuel Pump & Injector P/N	ECM/PCM P/N	Part Trap/ Catalyst P/N
6BG1X (FB-1)	197HP 2800RPM	87.0 mm <sup>3</sup> /stroke (81.2 lbs/hr)	Fuel Pump 1156027903 1156028740 1156028741 1156029250 Injector 48-3640 (1153002742)	1815104890	Not applicable
6BG1XN (FB-2)	172HP 2600RPM	81.2 mm <sup>3</sup> /stroke (70.4 lbs/hr)	Fuel Pump 1156027913 1156028750 1156028751 1156029260 Injector 48-3640 (1153002742)	1815104880	Not applicable
6BG1XNN (FB-3)	163HP 2600RPM	78.4 mm <sup>3</sup> /stroke (67.9 lbs/hr)	Fuel Pump 1156027923 1156028760 1156028761 1156029270 Injector 48-3640 (1153002742)	1815104880	Not applicable

Revisions: Feed pump located inside the fuel injection pump modified by RC93H01.  
 The position of the fuel pump sensorharness clip specified by RC93H02.  
 The volume of the fuel gallery modified by RC93H03.

1993 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

10-14-92

MHDD

Manufacturer ISUZU MOTORS LIMITED Engine Family PSZ0396FAB5

Liters (CID) 6.494 ( 396 ) Fuel Type DIESEL Engine Config. I-6

Exhaust ECS & Special Features (ECM/PCM, PTOX, IFI, etc.) ECM, DFI, CAC, TC  
(Use abbreviations per SAE J1930 MAY91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm <sup>3</sup> /stroke (lbs/hr)	Fuel Pump & Injector P/N	ECM/PCM P/N	Part Trap/ Catalyst P/N
6BG1X (FB-1)	197HP 2800RPM	87.0 mm <sup>3</sup> /stroke (81.2 lbs/hr)	Fuel Pump 1156027903 1156028740 1156028741 Injector 48-3640 (1153002742)	1815104890	Not applicable
6BG1XN (FB-2)	172HP 2600RPM	81.2 mm <sup>3</sup> /stroke (70.4 lbs/hr)	Fuel Pump 1156027913 1156028750 1156028751 Injector 48-3640 (1153002742)	1815104880	Not applicable
6BG1XNN (FB-3)	163HP 2600RPM	78.4 mm <sup>3</sup> /stroke (67.9 lbs/hr)	Fuel Pump 1156027923 1156028760 1156028761 Injector 48-3640 (1153002742)	1815104880	Not applicable

Revisions: Feed pump located inside the fuel injection pump modified by RC93H01.  
The position of the fuel pump sensorharness clip specified by RC93H02.

1993 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINESLHDD

Manufacturer ISUZU MOTORS LIMITED Engine Family PSZ0235FAA8  
 Liters (CID) 3.856 ( 235 ) Fuel Type DIESEL Engine Config. I-4  
 Exhaust ECS & Special Features (ECM/PCM, PTOX, IFI, etc.) EM, IFI, CAC, TC  
 (Use abbreviations per SAE J1930 MAY91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm <sup>3</sup> /stroke (lbs/hr)	Fuel Pump & Injector P/N	ECM/PCM P/N	Part Trap/ Catalyst P/N
4BD2TC (FA-1)	129HP 3000RPM	76.0 mm <sup>3</sup> /stroke (50.7 lbs/hr)	Fuel Pump 8970461600 8970461610 8970106473 8970106483  Injector 71-1360 (8970254660)	Not applicable	Not applicable

Revisions:

1993 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

MHDD

Manufacturer ISUZU MOTORS LIMITED Engine Family PSZ0396FAB5  
 Liters (CID) 6.494 ( 396 ) Fuel Type DIESEL Engine Config. I-6  
 Exhaust ECS & Special Features (ECM/PCM, PTOX, IFI, etc.) ECM, DFI, CAC, TC  
 (Use abbreviations per SAE J1930 MAY91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm <sup>3</sup> /stroke (lbs/hr)	Fuel Pump & Injector P/N	ECM/PCM P/N	Part Trap/ Catalyst P/N
6BG1X (FB-1)	197HP 2800RPM	87.0 mm <sup>3</sup> /stroke (81.2 lbs/hr)	Fuel Pump 1156027903 1156028740 1156028741 Injector 48-3640 (1153002742)	1815104890	Not applicable
6BG1XN (FB-2)	172HP 2600RPM	81.2 mm <sup>3</sup> /stroke (70.4 lbs/hr)	Fuel Pump 1156027913 1156028750 1156028751 Injector 48-3640 (1153002742)	1815104880	Not applicable
6BG1XNN (FB-3)	163HP 2600RPM	78.4 mm <sup>3</sup> /stroke (67.9 lbs/hr)	Fuel Pump 1156027923 1156028760 1156028761 Injector 48-3640 (1153002742)	1815104880	Not applicable

Revisions: Feed pump located inside the fuel injection pump modified by RC93H01.  
 The position of the fuel pump sensorharness clip specified by RC93H02.

1993 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINESM422

Manufacturer ISUZU MOTORS LIMITED Engine Family PSZ0396FAB5  
 Liters (CID) 6.494 ( 396 ) Fuel Type DIESEL Engine Config. I-6  
 Exhaust ECS & Special Features (ECM/PCM, PTOX, IFI, etc.) ECM, DFI, CAC, TC  
 (Use abbreviations per SAE J1930 MAY91)

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm <sup>3</sup> /stroke (lbs/hr)	Fuel Pump & Injector P/N	ECM/PCM P/N	Part Trap/ Catalyst P/N
6BG1X (FB-1)	197HP 2800RPM	87.0 mm <sup>3</sup> /stroke (81.2 lbs/hr)	Fuel Pump 1156027903 Injector 48-3640 (1153002742)	1815104890	Not applicable
6BG1XN (FB-2)	172HP 2600RPM	81.2 mm <sup>3</sup> /stroke (70.4 lbs/hr)	Fuel Pump 1156027913 Injector 48-3640 (1153002742)	1815104880	Not applicable
6BG1XNN (FB-3)	163HP 2600RPM	78.4 mm <sup>3</sup> /stroke (67.9 lbs/hr)	Fuel Pump 1156027923 Injector 48-3640 (1153002742)	1815104880	Not applicable

Revisions: