

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-6-35
Relating to Certification of New Off-Road Compression-Ignition Equipment Engines

ISUZU MOTORS LIMITED

Pursuant to the authority vested in the Air Resources Board (Board) by Sections 43013, 43018, 43101, 43102, 43104 and 43105 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 compression-ignition engine and exhaust emission control system produced by the manufacturer are certified as described below for use in off-road equipment:

Model Year: 2001

Typical Equipment Usage: Loader, Pump and Generator

Fuel Type: Diesel

<u>Engine Family</u>	<u>Engine Displacements (liters)</u>	<u>Durability Period (Hours)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
1SZXL01.5YNA	1.5	5000	Indirect Diesel Injection

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 exhaust emission certification standards and certification values for non-methane hydrocarbons plus oxides of nitrogen (NMHC+NO_x), carbon monoxide (CO), and particulate matter (PM) (units are expressed in grams per kilowatt-hour (g/kw-hr)), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Sections 2423(b)(1) and 2423(b)(3)(A), as amended by Board approval on January 28, 2000):

<u>Engine Power Rating (kw)</u>	<u>Emission Standard Category</u>		<u>Exhaust Emissions (g/kw-hr)</u>			<u>Smoke Opacity (%)</u>		
			<u>NMHC+NO_x</u>	<u>CO</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
19≤KW< 37	Tier 1	Standard	9.5	5.5	0.80	20	15	50
		Certification	5.1	3.2	0.71	7	9	14

BE IT FURTHER RESOLVED: That the listed engine models with rated power equal to or greater than 19 KW but less than 130 KW are **conditionally certified** to, and shall be required to comply with, all amendments to Title 13, California Code of Regulations, Sections 2420 through 2427 adopted by the Board on January 28, 2000 at its hearing "TO CONSIDER AMENDMENTS TO OFF-ROAD COMPRESSION-IGNITION ENGINE REGULATIONS: 2000 AND LATER EMISSION STANDARDS, COMPLIANCE REQUIREMENTS AND TEST PROCEDURES." The listed engine models comply with all such amendments, including, but not limited to:

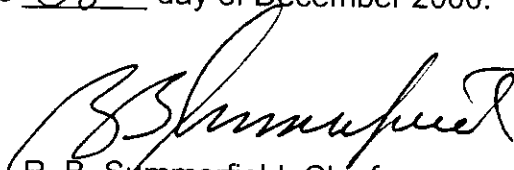
- the amended "Emission Control Labels—1996 and Later Off-Road Compression-Ignition Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year;
- the Board's amended emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 and 2426) for the listed engine models, as demonstrated by materials submitted by the manufacturer; and
- new California requirements for the Selective Enforcement Audit (SEA) for the listed engine models, as demonstrated by the manufacturer's submission of materials.

BE IT FURTHER RESOLVED: That the conditional certification described in the paragraph above is conditioned on the amendments being approved by the California Office of Administrative Law (OAL) pursuant to Government Code Section 11349.3, and where necessary, authorized by the Administrator of the U.S. Environmental Protection Agency (U.S. EPA) pursuant to Section 209(e)(2) of the Federal Clean Air Act. In the event that the OAL disapproves the amendments or the U.S. EPA decides not to authorize them, the conditional certification herein of the listed engine models with rated power equal to or greater than 19 KW but less than 130 KW shall be deemed null and void.

The conditional certification described herein is not conditioned on further U.S. EPA action on amendments determined by the Board to be within the scope of an existing U.S. EPA authorization.

Engines certified under this Executive Order must conform to the above requirements under Title 13, California Code of Regulations, Chapter 9, Article 4, and all other applicable California emission laws and regulations.

Executed at El Monte, California this 28th day of December 2000.


R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model Summary Form

ATTACHMENT

Manufacturer: **Isuzu Motors Limited**
 Engine category: **Nonroad CI**
 EPA Engine Family: **1SZXL01.5YNA**
 Mfr Family Name: **NA**
 Process Code: **New Submission**

U-R-6-35

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
3LD1NAAYB-01	3LD1	25.5@2100	31.7@2100	11.1@2100	67.9@1700	33.7@1700	9.5@1700	EM,IDI
3LD1NAAYB-02	3LD1	26.0@2200	30.1@2200	11.0@2200	69.3@1800	34.5@1800	10.3@1800	EM,IDI
3LD1NAAYB-03	3LD1	27.0@2300	30.1@2300	11.5@2300	69.3@1800	34.5@1800	10.3@1800	EM,IDI
3LD1NAAYB-04	3LD1	27.8@2400	30.1@2400	12.0@2400	69.3@1800	34.5@1800	10.3@1800	EM,IDI
3LD1NAAYB-05	3LD1	27.6@2450	29.7@2450	12.1@2450	67.0@1800	34.1@1800	10.2@1800	EM,IDI
3LD1NAAYB-06	3LD1	29.6@2600	28.3@2600	12.3@2600	69.3@1800	34.5@1800	10.3@1800	EM,IDI
3LD1NAAYB-07	3LD1	31.7@2700	31.3@2700	14.1@2700	69.0@2000	33.7@2000	11.2@2000	EM,IDI
3LD1NAAYB-08	3LD1	30.9@2800	31.1@2800	14.5@2800	69.1@2000	33.7@2000	11.2@2000	EM,IDI
3LD1NAAYB-09	3LD1	33.5@3000	34.0@3000	17.0@3000	67.2@1750	33.9@1750	9.9@1750	EM,IDI
3LD1NAAYB-10	3LD1	27.8@3000	27.9@3000	14.0@3000	62.4@1750	32.4@1750	9.5@1750	EM,IDI
3LD1NAAYA-01	3LD1	32.1@3000	30.6@3000	15.3@3000	70.1@2000	34.6@2000	11.5@2000	EM,IDI
3LD1NAAYA-02	3LD1	37.4@3400	34.5@3400	19.5@3400	72.2@1800	38.9@1800	11.7@1800	EM,IDI