## State of California AIR RESOURCES BOARD

## EXECUTIVE ORDER U-R-20-10 Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

## HINO MOTORS, LTD

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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 Hino Motors, Ltd. 2000 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Excavator, Crane, Compressor

Fuel Type: Diesel

Engine Family

Liters (Cubic Inches)

Exhaust Emission Control

Systems and Special Features

YHMXL06.7HTD 6.7 (411)

Turbocharger

Indirect Fuel 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 total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

Exhaust Emissions (g/bhp-hp)				Smoke Opacity (%)			
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	Lug	Peak	
1.0	8.5	6.9	0.4	20	15	50	

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)			
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	Lug	<u>Peak</u>	
0.3	0.7	6.3	0.2	15	4	41	

BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model vear.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year.

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 2425 et seq.).

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

Executed at El Monte, California this \_\_\_\_\_\_ day of November 1999.

R. B. Summerfield, Chief

Mobile Source Operations Division

## Engine Model Sammary Form

EO: U-R-20-10

Manufacturer: Hino Motors, Ltd.

Engine category: Nonroad CI

EPA Engine Family: YHMXL06.7HTD

Mfr Family Name:

Process Code: New Submission

1. Engine Code         2. Engine Model         3.8HP@RPM         mm/stroke @ peak HP (lbs/hr) @	0	1	۰		<b>L</b>	ل ا		
2. Engine Model         3.BHP@RPM (sAE Gross)         4. Fuel Rate: formulation of peak HP (lbs/hr) @ pea	trol 193(	压	7	Æ	Ţ	<u>'</u> [	4	元;
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2. Engine Model         3.BHP@RPM (SAE Gross)         mm/stroke @ peak HP (for diesels only)         (for diesels only)         (for diesels only)         (for diesels only)         7. Fuel Rate:           AA-H07C-TD         178@2100         93         64.8         494@1600         102           AB-H07C-TD         189@2150         98         69.9         508@1600         106           AC-H07C-TD         186@2200         100         66.3         508@1600         101           AC-H07C-TD         184@2100         90         65.6         488@1600         101           AE-H07C-TD         184@2100         95         66.1         499@1600         104           AF-H07C-TE         202@2500         91         78.4         499@1600         104           AG-H07C-TE         204@2600         91         78.4         499@1600         104		1.1.1 11.1.1				H		
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	1.En	AA-I	AB-I	AC-I	AD-I	AE-I	AF-	AG-