

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-31-32

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

HINO MOTORS, LTD.

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-45-9;

IT IS ORDERED AND RESOLVED: That the following 1996 model-year Hino Motors, Ltd., diesel-cycle engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Diesel

<u>Engine Family</u>	<u>Engine Displacement Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
THM3.8C7DARW	3.8 (234)	Turbocharger Charge Air Cooler Engine Control Module

Engine models and codes are listed on attachments.

The following are the certification exhaust emission standards for this engine family 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	0.10

The following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour:

<u>Engine Family</u>	<u>Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
THM3.8C7DARW	0.6	2.2	4.8	0.09

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.).

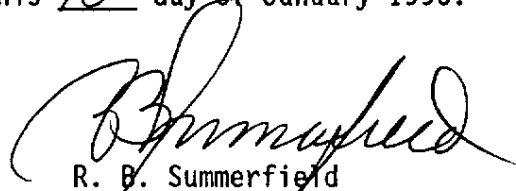
HINO MOTORS, LTD.

EXECUTIVE ORDER A-31-32  
(Page 2 of 2)

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 10<sup>th</sup> day of January 1996.



R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

01.00.00, 199 6 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET Page 1  
HEAVY-DUTY DIESEL-STANDARD ENGINES

Manufacturer: HINO MOTORS, LTD. Engine Family: THM3.8C7DARW  
 Displacement: 3.839 /            Liters 234 /            Cubic Inches  
 All Eng Codes in Eng Family: CA            49S            50S x Strokes/Cycle: 4 Valves/Cylinder: 2  
 Ignition: Compression x Compression with Glow Plug            Spark             
 Fuel Type(s): Dedicated x Flex-Fuel            Dual-Fuel            Bi-Fuel            Diesel x CNG             
                   LNG            LPG            M85            M100            Other (specify)             
 Diesel Cert Fuel: 13 CCR 2282            40 CFR 86.1313-90            40 CFR 86.1313-94 x  
 Maximum Rated Power: 150 HP @ 2,800 RPM Engine Configuration: I-4  
 Exhaust ECS (e.g., OC, EGR, PTOX, IFI, TC, CAC): TC, CAC, ECM  
 (Use abbreviations per SAE J1930 SEP91)

Engine Model (Eng Code)	Rated HP @ RPM	Fuel Rate @ <sub>3</sub> Rated HP mm <sup>3</sup> / stroke (lbs/hr)	Fuel Pump & Injector Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX / Catalytic Converter Part No.
W04C-TM	150 @ 2,800	91.0 (55.5)	Fuel Pump; Zexel Corp.  Mech T/M: 696 (22000-8391)  Auto T/M: 697 (22000-8401)  Injector: Zexel Corp.  Nozzle & holder set: 4M (23600-2671)  Nozzle holder: - (23620-2321)  Nozzle assy: 998 (23640-2251)  ( ):Hino Inventory No.	ECM; Injection pump control computer assy: 89560-2671	-	-

Date Issued:

Revisions: