

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-289-6

Relating to Certification of New Medium-Duty Motor Vehicle Engines

HERCULES ENGINE COMPANY

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 1995 model-year Hercules Engine Company exhaust emission control systems are certified as described below for medium-duty vehicles with a manufacturer's gross vehicle weight rating (GVWR) of 8,501 to 14,000 pounds:

Fuel Type: Compressed Natural Gas (CNG)

<u>Engine Family</u>	<u>Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
SHE3.7C9KORA (GTA 3.7)	3.7 (226)	Engine Control Module Turbocharger Charge Air Cooler

Engine models and codes are listed on attachments.

The certification exhaust emission standards for this engine family in grams per brake horsepower-hour are as follows:

<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
1.2	15.5	5.0	0.10

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

<u>Engine Family</u>	<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
SHE3.7C9KORA (GTA 3.7)	0.6	2.7	3.1	0.08

BE IT FURTHER RESOLVED: That, pursuant to Title 13, California Code of Regulations, Section 1960.1(h)(1)(3), the listed vehicle models are certified to the exhaust emission standards and test procedures applicable to 1994 model-year heavy-duty diesel-cycle engines (Title 13, California Code of Regulations, Section 1956.8).

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.).

BE IT FURTHER RESOLVED: That, based on the phase-in compliance plan submitted by the manufacturer, the listed vehicle models shall not be subject to the standards applicable to 1995 model-year medium-duty vehicles, set forth in Title 13, California Code of Regulations, Section 1960.1(h).

BE IT FURTHER RESOLVED: That the listed engine models shall not be subject to the in-use compliance provisions applicable to 1995 and subsequent model-year medium-duty vehicle engines set forth in Title 13, California Code of Regulations, Section 2139(c).

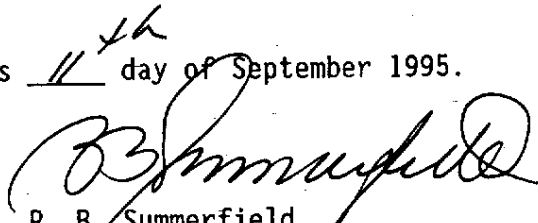
BE IT FURTHER RESOLVED: That the listed vehicle models are not subject to the "Malfunction and Diagnostic System for 1988 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles with Three-Way Catalyst Systems and Feedback Control" (Title 13, California Code of Regulations, Section 1968) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed vehicle models have been exempted from the "Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines" pursuant to Title 13, California Code of Regulations, Section 1968.1(m)(2.0) for the aforementioned model year.

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 11 day of September 1995.

  
R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

Manufacturer HERCULES ENGINE COMPANY Engine Family SHE3.7C9KORA  
Displacement: \_\_\_\_\_ / 3.7 Liters \_\_\_\_\_ / 226 Cubic Inches  
Maximum Rated Power: 130 HP @ 2800 RPM Engine Configuration: I4  
Ignition: Compression \_\_\_\_\_ Compression with Glow Plug \_\_\_\_\_ Spark X  
Cert Std: Tier-0 X Tier-1 \_\_\_\_\_ LEV \_\_\_\_\_ ULEV \_\_\_\_\_ Eng Intended Service Class: M4 10% M5 90%  
Fuel Type(s): Dedicated \_\_\_\_\_ Flex-Fuel \_\_\_\_\_ Dual-Fuel \_\_\_\_\_ Diesel \_\_\_\_\_ M100 \_\_\_\_\_ M85 \_\_\_\_\_  
                CNG X LNG \_\_\_\_\_ LPG \_\_\_\_\_ Other (specify) \_\_\_\_\_  
Diesel Cert Fuel: 13 CCR 2282 \_\_\_\_\_ 40 CFR 86.1313-90 \_\_\_\_\_ 40 CFR 86.1313-94 \_\_\_\_\_  
Exhaust ECS (incl. MFI, TC, CAC): TC; CAC; ECM  

(use abbreviations per SAE J1930 SEP91)

Engine Model (Eng Code)	Rated HP @ RPM	Fuel Rate @ 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.
GTA3.7CNG	130@2800	(43.5)	NOTE 1&2	40-2506351	NONE	NONE
<p>Notes:</p> <p>1) Ignition system - P/N 40-2507202            High Energy Capacitor Discharge            - Distributorless (DLI)            - Spark timing controlled by engine speed and manifold pressure            - Manufactured by Altronic Inc.</p> <p>2) Fuel System - 40-2506351            Gaseous fuel injection system            - Fuel introduced upstream of throttle body, but downstream of charge air cooler            - Electronically controlled            - Speed/density strategy            - Inputs: manifold pressure, engine speed, intake air temp. fuel temp. and pressure, and barometer pressure            - Manufactured by GFI Control Systems, Inc.</p>						

Date Issued:

Revisions: \_\_\_\_\_