State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-329-7-1
Relating to Certification of New Motor Vehicles

DAEWOO MOTOR CO.

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That 1999 model-year Daewoo Motor Co. exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Low-Emission Vehicle (LEV)

Fuel Type: Gasoline

Engine Family: XDWXV02.0D02 Displacement: 2.2 Liters (134 Cubic Inches)

Exhaust Emission Control Systems & Special Features:

Warm Up Three Way Catalytic Converter
Three Way Catalytic Converter
Heated Oxygen Sensor
Oxygen Sensor
Exhaust Gas Recirculation
Sequential Multiport Fuel Injection

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The LEV certification exhaust emission standards for this engine family in grams per mile are:

| Miles | Non-Methane Organic Gases | Carbon Monoxide | Nitrogen Oxides | Formaldehyde | Carbon Monoxide (20°F) |
|---|---|---|---|---|---|
| 50,000 | 0.075 | 3.4 | 0.2 | 0.015 | 10.0 |
| 100,000 | 0.090 | 4.2 | 0.3 | 0.018 | n/a |

Reactivity Adjustment Factor (RAF) for NMOG Mass Emission: 0.94

The certification exhaust emission values set forth for non-methane organic gases (NMOG) reflect application of a 0.94 RAF for 1999 model-year LEVs. The LEV certification exhaust emission values for this engine family in grams per mile are:

| Miles | Non-Methane Organic Gases | Carbon Monoxide | Nitrogen Oxides | Formaldehyde | Carbon Monoxide (20°F) |
|---|---|---|---|---|---|
| 50,000 | 0.058 | 0.9 | 0.1 | 0.001 | 3.7 |
| 100,000 | 0.068 | 1.4 | 0.1 | 0.001 | n/a |

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the aforementioned exhaust emission standards based on its submitted plan to comply with the fleet average NMOG exhaust mass emission requirements as set forth in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That under the submitted NMOG fleet average compliance plan, if the manufacturer incurs a NMOG debit for the aforementioned model year based on the projected NMOG fleet average exceeding the value required by the above-referenced standards and test procedures, all incurred NMOG debits by the manufacturer shall be equalized as required by the standards and test procedures.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the running loss and useful life standards applicable to 1995 and subsequent model-year vehicles in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles," and the listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the "California Refueling Emission Standards and Test Procedures for 1998 and Subsequent Model Motor Vehicles," Title 13, California Code of Regulations, Section 1978, and the listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" for the aforementioned model year (Title 13, California Code of Regulations, Section 2235).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high-altitude requirements and highway emission standards, and with the California Inspection and Maintenance emission standards in place at the time of certification, as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the vehicle manufacturer has demonstrated compliance with the exhaust emission standards at 50 degrees Fahrenheit as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Emission Control and Smog Index Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

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

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves 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.).

Vehicles 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 attachment.

Executed at El Monte, California this 31st day of March 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

**1999 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET** E.O. # A-329-7-1 Page 1

Manufacturer Daewoo Motor Co.
All Engine Codes in Engine Family: 50S

Engine Family XDWXV02.0D02
Evaporative Family: XDWXR0095A0L
ORVR: LEGANZA-Yes

Exh Std: LEV
Fuel Type Gasoline / Dedicated
Evaporative Emission Test Procedure: Federal
NMOG Test Procedure: Std
Engine Config. In-Line 4
Valves per Cylinder 4
Rated HP: LEGANZA 131.4 HP @ 5200 RPM

Veh Class: Pass Car
Exh Emission Test Fuel(s): CBG
Service Accum: Mod AMA
R/L Test Proc: Pt Source
Displacment: 2.198 Liters/2196 cc/134.1 Cubic Inches

Engine : Front x Drive : FWD x
Exhaust ECS & Special Features(incl. CARB, MPI, etc.) WU-TWC, TWC, $HO_2S$, $O_2S$, EGR, SFI

| Eng. Code/ (Cert. Std.) | Veh. Models (If Coded see Attachment.) | Trans. Type: A-Auto M-Man. | Equiv. Test Weight | RLHP | Ign. Sys. (PNME/PROM) Part No. | EGR Syst. Part No. | Catalyst Part No. |
|---|---|---|---|---|---|---|---|
| 3 | Leganza 2.2 - NB | M5(M89) | 3375 | 8.2 | 96350585 | 17097086 | MCC: 96292929<br>UCC: 96273660 |
| 13 | Leganza 2.2 - NB | A4(ML4) | 3500 | 8.4 | 96350585 | 17097086 | MCC: 96292929<br>UCC: 96273660 |

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