File

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-329-2
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 1998 model-year Daewoo Motor Co. exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Transitional Low-Emission Vehicle (TLEV)

Fuel Type: Gasoline

Engine Family: WDWXV01.6D01 Displacement: 1.6 Liters (98 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 TLEV 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	0.125	3.4	0.4	0.015	10.0
100,000	0.156	4.2	0.6	0.018	n/a

Reactivity Adjustment Factor (RAF) for NMOG Mass Emission: 0.98

The certification exhaust emission values set forth for non-methane organic gases (NMOG) reflect application of a 0.98 RAF for 1998 model-year TLEVs. The TLEV 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	0.097	1.7	0.1	0.001	7.0
100,000	0.116	2.3	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 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 11th day of December 1997.

John Kourkoli for
R. B. Summerfield, Chief
Mobile Source Operations Division

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

Engine Family WDWXV01.6D01
Evaporative Family: WDWXE0072B0N
ORVR: NUBIRA-No

Exh Std: TLEV
Fuel Type Gasoline
Evaporative Emission Test Procedure: Federal
NMOG Test Procedure: Std
Engine Config. In-Line 4
Valves per Cylinder 4
Rated HP: Nubira 105.1 HP @ 5800 RPM

Veh Class: Pass Car
Exh Emission Test Fuel(s): CBG
Service Accum: Mod AMA
R/L Test Proc: Pt Source
Displacment: 1.598 Liters/1598 cc/97.5 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.
2	Nubira 1.6 - NB	M5(M79)	3000	7.1	96350585	17097086	MCC: 25312599 UCC: 96350079
2	Nubira 1.6 - HB	M5(M79)	2875	7.1	96350585	17097086	MCC: 25312599 UCC: 96350079
2	Nubira 1.6 - WGN	M5(M79)	3125	7.3	96350585	17097086	MCC: 25312599 UCC: 96350079
12	Nubira 1.6 - NB	A4(ML4)	3000	7.1	96350585	17097086	MCC: 25165021 UCC: 96350079
12	Nubira 1.6 - HB	A4(ML4)	3000	7.0	96350585	17097086	MCC: 25165021 UCC: 96350079
12	Nubira 1.6 - WGN	A4(ML4)	3125	7.3	96350585	17097086	MCC: 25165021 UCC: 96350079

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