State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-16-234
Relating to Certification of New Motor Vehicles

MAZDA MOTOR CORPORATION

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 Mazda Motor Corporation exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Low-Emission Vehicle (LEV)

Fuel Type: Gasoline

Engine Family: XTKXV01.8VGM Displacement: 1.8 Liters (112 Cubic Inches)

Exhaust Emission Control Systems & Special Features:

Warm Up Three Way Catalytic Converter
Three Way Catalytic Converter
Heated Oxygen Sensors (two)
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	Oxides of Nitrogen	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	Oxides of Nitrogen	Formaldehyde	Carbon Monoxide (20°F)
50,000	0.037	0.8	0.1	0.0004	3.5
100,000	0.039	0.9	0.1	0.0005	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 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 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 "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 9th day of June 1998.

R. B. Summerfield, Chief
Mobile Source Operations Division

1999 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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Manufacturer: Mazda Motor Corporation Exh Eng Fam: XTKXV01.8VGM Evap Fam: XTKXR0125BFB

All Engine Codes in Engine Family: CA X 49S ____ 50S ____ AB965 ____, ORVR: YES X NO ____

Exh Std : CA Tier-1 ____ TLEV ____ LEV X ULEV ____ SULEV ____, US EPA Tier-1 ____

Veh Class (es) : PC X LDT1 ____ LDT2 ____ MDV1 ____ MDV2 ____ MDV3 ____ MDV4 ____ MDV5 ____

Single Cert Std for Multi-Class Eng Fam : N/A (specify : N/A, LDT1, MDV1, MDV2, MDV3, MDV4)

Fuel Type (s) : Dedicated X Flex-Fuel ____ Duel-Fuel ____ Bi-Fuel ____ Gasoline X Diesel ____

CNG ____ LNG ____ LPG ____ M85 ____ Other (specify) ____

Exh Emiss Test Fuel (s) : Indo ____ CBG X CNG ____ LPG ____ M85 ____ Other (specify) ____

Diesel : 13 CCR 2282 ____ 40CFR 86.113-90 ____ 40 CFR 86.113-94 ____

Evaporative Emission Test Procedure : California ____ Federal X

Service Accum : Std. AMA X Mod AMA ____ Mfr ADP ____ Other (specify) ____

NMOG Test Procedure : N/A ____ Std X Equiv ____ R/L Test Proc : SHED ____ PT Source X

Engine Configuration : I-4 Displacement : 1.8 / ____ Liters 112.3 / ____ Cubic Inches

Valves per Cylinder : 4 Rated HP : 120 @ 6000 RPM

Engine : Front X Mid. ____ Rear ____ Drive: FWD X RWD ____ 4WD-FT ____ 4WD-PT ____

Exhaust ECS (e.g., MFI, EGR, TC, CAC) : ...S/WU-TWC/TWC/SFI/EGR/H025(2)

(Use abbreviations per SAE J1930 MAY91)

Engine Code (also list CA/ 49ST/50ST)	Vehicle Models (if coded see attachment)	Trans. Type (M5, A4 etc.)	ETW or Test Wt.	DPA or RLHP	Ignition (ECM/PCM) Part No.	EGR System Part No.	Catalyst Part No.
GFPD2AA9 No A/C	Protege	M5	2875	5.7 *1	Distrubutor:	EGR Control	ZM01
				6.3 *2	N/A	Valve:	ZM02
GFPD2AAX A/C				6.3 *1	ECU:	FP34	
				6.9 *2	ZM03		
GFPDTAA9 No A/C		A4	2875	5.7 *1	Distrubutor:		
				6.3 *2	N/A		
GFPDTAAX A/C				6.3 *1	ECU:		
				6.9 *2	ZM04		

Certification Standards (50,000 mile / 100,000 mile / 120,000 mil

HC (g/mi)	...	/ ...	/ ...
NMOG (g/mi)	0.075	/ 0.090	/ ...
NMHC (g/mi)	...	/ ...	/ ...
CO (g/mi)	3.4	/ 4.2	/ ...
NOx (g/mi)	0.2	/ 0.3	/ ...
HWFET NOx (g/mi)	0.3	/ 0.4	/ ...
Evap. (EPA : g/test)	...	/ ...	/ ...
Evap. (ARB : g/test)	...	/ 2.0	/ ...
Evap. (Abbrev : g/test)	...	/ 2.5	/ ...
Running Loss (g/test)	...	/ 0.05	/ ...
Spit Back (g/test)	...	/ ...	/ ...
ORVR (g/gallon)	...	/ 0.2	/ ...
Cold CO (g/mi)	10.0	/ ...	/ ...
Idle CO for LDT (%)	...	/ ...	/ ...
HCHO (mg/mi)	15	/ 18	/ ...
CST -HC (ppm)	...	/ ...	/ ...
CST -CO (%)	...	/ ...	/ ...
NMOG (g/mi) for 50°F	0.150	/ ...	/ ...
HCHO (mg/mi) for 50°F	30	/ ...	/ ...

Revisions: *1: 185 Tire, *2: 195 Tire

Issue Date: April 3, 1998					
Rev. No.					
Date					