State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-16-243
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 2000 model-year Mazda Motor Corporation exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Ultra-Low-Emission Vehicle (ULEV)

Fuel Type: Gasoline

Engine Family: YTKXV02.0VJM Displacement: 2.0 Liters (121 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 ULEV 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 | 0.040 | 1.7 | 0.2 | 0.008 | 10.0 |
| 100,000 | 0.055 | 2.1 | 0.3 | 0.011 | 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 2000 model-year ULEVs. The ULEV 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 | 0.035 | 0.4 | 0.1 | 0.001 | 3.0 |
| 100,000 | 0.035 | 0.4 | 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 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 28th day of June 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

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Manufacturer Mazda Motor Corporation Exh Eng Fam: YTKXV02.0VJM Evap Fam: YTKXR0125BFD

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

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

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 ___ CNG ___ LPG ___ M85 ___ Other (specify) Phase II

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

Evaporative Emission Test Procedure : California X Federal ___

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 : 2.0 / ___ Liters 121.5 / ___ Cubic Inches

Valves per Cylinder : 4 Rated HP : 125 @ 5500 RPM

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

Exhaust ECS (e.g., MFI, EGR, TC, CAC) : HO2S/WU-TWC/TWC/EGR/SFI

(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. |
|---|---|---|---|---|---|---|---|
| JFSD2AAA | 626 | M5 | 3125 | 6.5 | Distrubutor: N.A. | EGR Control Valve: FP34 | FS1N |
| JFSD2AAY | | | | 7.2 | ECU: FS1N, FS1J | | |
| JFSDTAAA | | A4 | 3250 | 6.5 | Distrubutor: N.A. | | |
| JFSDTAAY | | | | 7.2 | ECU: FS1P, FS1K | | |

| | | | |
|---|---|---|---|
| HC (g/mi) | --- | / --- | / --- |
| NMOG (g/mi) | 0.040 | / 0.055 | / --- |
| Non-methane HC (g/mi) | --- | / --- | / --- |
| CO (g/mi) | 1.7 | / 2.1 | / --- |
| 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) | 8 | / 11 | / --- |
| CST -HC | --- | / --- | / --- |
| CST -CO | --- | / --- | / --- |
| NMOG (g/mi) for 50°F | 0.08 | / --- | / --- |
| HCHO (mg/mi) for 50°F | 16 | / --- | / --- |

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|---|---|---|---|---|---|
| Issue Date April 23, 1999 | | | | | |
| Rev. No. | | | | | |
| Date | | | | | |