State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-838-A
Relating to Certification of New Motor Vehicles

GENERAL MOTORS 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 General Motors Corporation 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: XGMXV03.4042 Displacement: 3.1 Liters (191 Cubic Inches)
3.4 Liters (208 Cubic Inches)

Exhaust Emission Control Systems & Special Features:

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 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 1999 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 | 0.076 | 1.1 | 0.1 | 0.001 | 6.4 |
| 100,000 | 0.086 | 1.2 | 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 manufacturer is certifying the listed vehicle models with a partially complying on-board diagnostic system for the aforementioned model year pursuant to Title 13, California Code of Regulations, Section 1968.1(m)(6.2) ("Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty vehicles and Engines").

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 17th day of December 1997.

R. B. Summerfield, Chief
Mobile Source Operations Division

(FOR CARB USE ONLY)

E.O. ~~#A-6-838-~~
#A-6-838-A

# AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
# GASOLINE-FUELED PASSENGER CARS

VEHICLE MODELS: 1 J C 3 7 (EXAMPLE)

**Digit 1 - Selling Division**

1 - Chevrolet
2 - Pontiac
3 - Oldsmobile
4 - Buick
6 - Cadillac
8 - Saturn

**Digit 2 - Body Designation**

C - Park Avenue
E - Eldorado
F - Camaro, Firebird/Formula
G - Riviera, Aurora
H - Bonneville, Eighty-Eight/Regency, LeSabre
J - Cavalier, Sunfire
K - Seville
Ksp - Deville, Limousine, Funeral Coach/Hearse
N - Grand Am, Alero, Skylark, Malibu, Cutlass
V - Catera
W - Grand Prix, Regal, Century, Lumina, Monte Carlo, Intrigue
Y - Corvette
Z - Saturn SC, SL, SW, EV1

**Digit 3 - Trim Level (Examples)**

B, C, D, E, F, G, H, J, K, L, M, N, P, R, S, T, U, V, W, X, Y, Z

**Digits 4 & 5 - Body Style (Examples)**

07 - 2Dr Sport Coupe
08 - 2Dr Hatchback Coupe
19 - 4Dr Sedan
27 - 2Dr (Notchback) Coupe
29 - 4Dr Sedan
35 - 4Dr Station Wagon
37 - 2DR Hardtop Coupe
47 - 2DR Hardtop Coupe
57 - 2DR Hardtop Coupe
67 - 2DR Convertible Coupe
68 - 4Dr Hatchback Sedan
69 - 4Dr (Notchback) Sedan
77 - 2Dr Hatchback Coupe
87 - 2Dr Hatchback Coupe
90 - Commercial Chassis

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E.O. #A-6-838-A

# 1999 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

MFR: GENERAL MOTORS CORP. ENGINE FAMILY: XGMXV03.4042 EVAP FAMILY: XGMXR0124912

ALL ENGINE CODES IN ENGINE FAMILY: CA ( X ) 49S ( ) 50S ( ) AB965 ( ) ORVR: YES ( X ) NO ( )

EXH STD: CA TIER-1 ( ) TLEV ( X ) LEV ( ) ULEV ( ) SULEV ( ); U.S. EPA TIER-1 ( )

VEH CLASS(ES): PC ( X ) LDT1 ( ) LDT2 ( ) MDV1 ( ) MDV2 ( ) MDV3 ( ) MDV4 ( ) MDV5 ( )

EVAP STD: USEFUL LIFE ( X )

SINGLE CERT STANDARD FOR MULTI-CLASS ENGINE FAMILY: NA

FUEL TYPE(S): DEDICATED ( X ) GASOLINE ( X ); EXH EMIS TEST FUEL(S): INDOLENE ( ) CBG ( X )

EVAP EMIS TEST PROCEDURE: CALIF ( ) FED ( X )

SERVICE ACCUMULATION: STD AMA ( ) MFR ADP ( X ); NMOG TEST PROCEDURE: NA ( ) EQUIV ( X )

R/L TEST PROCEDURE: PT SOURCE ( X )

ENGINE CONFIGURATION: I4 ( ) V6 ( X ) V8 ( ) DISPLACEMENT: 3.4 LITERS / 208 CU. IN.

VALVES / CYLINDER: 2 ( X ) 4 ( ) RATED HP: 170 @ 4800 RPM - EC 5
175 @ 4800 RPM - EC 15

ENGINE LOCATION: FRONT ( X ) DRIVE: FWD ( X ) RWD ( ) 4WD-FT ( ) 4WD-PT ( )

EXHAUST EMISSION CONTROL SYSTEM: EGR-TWC-HO2S(2)-SFI

RLHP / DPA VALUES: SECTION 08.13.02.00

| ENGINE CODE & LETTER DERIVATIVES*1 | LOC (C/F/NW) | VEH MODELS (SEE PAGE 1) | TRANS (M5,A4,ETC.) | EQUIV. TEST WEIGHT | EGR SYSTEM PART NO. | CATALYTIC CONVERTER PART NO. |
|---|---|---|---|---|---|---|
| 5 | C | 2NE37<br>2NE69<br>3NL37<br>3NL69 | A4/C | 3375 | 17096154 | 24507564,<br>24508310 |
| 15 | | 2NW37<br>2NW69 | A4/B | 3500 | | 24507575,<br>24508312 |

*1 Base engine codes are the same as letter derivatives unless otherwise noted. Refer to PCM/VCM part number page for additional engine code letter derivative information.

| CARLINE NAME | CARLINE CODE |
|---|---|
| PONTIAC GRAND AM | 07025 |
| OLDSMOBILE ALERO | 06020 |

ISSUED: ML-XP003 REVISED:

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# 1999 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

MFR: GENERAL MOTORS CORP. ENGINE FAMILY: XGMXV03.4042 EVAP FAMILY: XGMXR0133918

ALL ENGINE CODES IN ENGINE FAMILY: CA ( X ) 49S ( ) 50S ( ) AB965 ( ) ORVR: YES ( X ) NO ( )

EXH STD: CA TIER-1 ( ) TLEV ( X ) LEV ( ) ULEV ( ) SULEV ( ); U.S. EPA TIER-1 ( )

VEH CLASS(ES): PC ( X ) LDT1 ( ) LDT2 ( ) MDV1 ( ) MDV2 ( ) MDV3 ( ) MDV4 ( ) MDV5 ( )

EVAP STD: USEFUL LIFE ( X )

SINGLE CERT STANDARD FOR MULTI-CLASS ENGINE FAMILY: NA

FUEL TYPE(S): DEDICATED ( X ) GASOLINE ( X ); EXH EMIS TEST FUEL(S): INDOLENE ( ) CBG ( X )

EVAP EMIS TEST PROCEDURE: CALIF ( ) FED ( X )

SERVICE ACCUMULATION: STD AMA ( ) MFR ADP ( X ); NMOG TEST PROCEDURE: NA ( ) EQUIV ( X )

R/L TEST PROCEDURE: PT SOURCE ( X )

ENGINE CONFIGURATION: I4 ( ) V6 ( X ) V8 ( ) DISPLACEMENT: 3.1 LITERS / 191 CU. IN.

VALVES / CYLINDER: 2 ( X ) 4 ( ) RATED HP: 160 @ 5200 RPM

ENGINE LOCATION: FRONT ( X ) DRIVE: FWD ( X ) RWD ( ) 4WD-FT ( ) 4WD-PT ( )

EXHAUST EMISSION CONTROL SYSTEM: EGR-TWC-HO2S(2)-SFI

RLHP / DPA VALUES: SECTION 08.13.02.00

| ENGINE CODE & LETTER DERIVATIVES*1 | LOC (C/F/NW) | VEH MODELS (SEE PAGE 1) | TRANS (M5,A4,ETC.) | EQUIV. TEST WEIGHT | EGR SYSTEM PART NO. | CATALYTIC CONVERTER PART NO. |
|---|---|---|---|---|---|---|
| 2 | C | 2WJ69 | A4/A | 3625 | 17096154 | 24506762, 24507886, 24508103 |
| 4 | | 4WS69<br>4WY69 | | | | |

*1 Base engine codes are the same as letter derivatives unless otherwise noted. Refer to PCM/VCM part number page for additional engine code letter derivative information.

| CARLINE NAME | CARLINE CODE |
|---|---|
| PONTIAC GRAND PRIX | 07055 |
| BUICK CENTURY | 01062 |

ISSUED: ML-XP003 REVISED:

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## 1999 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

## PCM AND CALIBRATION PART NUMBERS

MFR: GENERAL MOTORS CORP. ENGINE FAMILY: XGMXV03.4042 EVAP FAMILY: XGMXR0124912

| ENGINE CODE | PCM/VCM PART NUMBER | ENGINE CALIB | OPER CALIB | TRANS CALIB |
|---|---|---|---|---|
| 5 | 16200870, 09357440 | 09356714 | NA | NA |
| 5A | | 09357044 | | |
| 5B | | 09366324 | | |
| 15 | | 16268364 | | |
| 15A | | 09366344 | | |

ISSUED: ML-XP003 REVISED: ML-XR002, ML-XR010, ML-XR047

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E.O. #A-6-838-A

## 1999 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

## PCM AND CALIBRATION PART NUMBERS

MFR: GENERAL MOTORS CORP. ENGINE FAMILY: XGMXV03.4042 EVAP FAMILY: XGMXR0133918

| ENGINE CODE | PCM/VCM PART NUMBER | ENGINE CALIB | OPER CALIB | TRANS CALIB |
|---|---|---|---|---|
| 2 | 16200870, 09357440 | 09353304 | | |
| 2A | | 09361214 | | |
| 2B | | 16241844 | | |
| 4 | | 16241874 | | |
| 4A | | 09363244 | | |
| 4B | | 09367354 | | |

ISSUED: ML-XP003 REVISED: ML-XR010, ML-XR035, ML-XR068