

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-436  
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 Orders G-45-3 and G-45-4;

IT IS ORDERED AND RESOLVED: That 1989 model-year General Motors Corporation exhaust emission control systems are certified as described below for gasoline-powered passenger cars:

| <u>Engine Family</u> | <u>Displacement<br/>Liters (Cubic Inches)</u> | <u>Exhaust Emission Control Systems<br/>(Special Features)</u>  |
|----------------------|---|---|
| K2G4.5W5NKA4         | 4.5 (273)                                     | Air Injection - Pump<br>Exhaust Gas Recirculation<br>Dual-Bed Catalyst<br>Oxygen Sensor<br>(Central Fuel Injection) |

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

The following are the emission standards for this engine family:

| <u>Hydrocarbons<br/>(Grams per Mile)</u> | <u>Carbon Monoxide<br/>(Grams per Mile)</u> | <u>Nitrogen Oxides<br/>(Grams per Mile)</u> |
|--|---|---|
| 0.39                                     | 7.0   | 0.7   |

The following are the certification emission values for this engine family:

| <u>Hydrocarbons<br/>(Grams per Mile)</u> | <u>Carbon Monoxide<br/>(Grams per Mile)</u> | <u>Nitrogen Oxides<br/>(Grams per Mile)</u> |
|--|---|---|
| 0.30                                     | 1.4   | 0.6   |

BE IT FURTHER RESOLVED: That the listed models are certified to the optional NOx emission standard thereby making the vehicle manufacturer subject to Section 1960.1.5 of Title 13, California Administrative Code which includes recall liability for emission control components up to 7 years or 75,000 miles if found defective by the Executive Officer.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying to the optional NOx standard by providing evidence that there are sufficient projected sales of vehicles certifying to the primary NOx emission standard, or is allowed a delay in implementation under small volume manufacturer provisions, or is allowed a delay in implementation under the "In lieu" standards, or is certifying passenger cars weighing more than 5250 lbs. loaded vehicle weight.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Gasoline-Powered Motor Vehicles".

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" (Title 13, California Administrative Code, Section 2290) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high altitude requirements and highway emission standards 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 Tune-Up Label Specifications" (Title 13, California Administrative Code, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the vehicle models listed have been granted an exemption from compliance with the requirements of the "Malfunction and Diagnostic System for 1988 and Subsequent Model Year[s]..." (Title 13, California Administrative Code, Section 1968) 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 regulations (Title 13, California Administrative Code, 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 26<sup>th</sup> day of February, 1988.

  
K. D. Drachand, Chief  
Mobile Source Division

17-K2G4.5W5NKA4-1A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer: General Motors Corporation                      Executive Order No.: A-6-436  
Engine Family: K2G4.5W5NKA4                                      Evaporative Family: KBO-2B  
Engine Displacement Liters (Cubic Inches) - Type: 273 (4.5L) - V8  
Exhaust Emission Control System (Special Features): AIP, EGR, DBC, OS (CFI)

ABBREVIATIONS:

Ignition System

CA-Centrifugal Advance  
ECU-Electronic Control Unit  
EI-Electronic Ignition  
ESAC-Electronic Spark Advance Control  
VA-Vacuum Advance  
VR-Vacuum Retard

Fuel System

CFI,DID,DIP,EPFI,HOS,MPFI,OS,SFI  
nV-nVenturi Carburetor  
VV-Variable Venturi

Other Abbreviations

A/C-Air Conditioning  
CID Cubic Inch Displacement  
ETW-Equivalent Test Weight  
FC-Forward Control  
HD-Heavy Duty  
RI-Rail & Injector  
RWD-Rear Wheel Drive  
FWD-Front Wheel Drive  
4WD-Four Wheel Drive  
TBI-Throttle Body Injection  
4x2-Two Wheel Drive  
4x4-Four Wheel Drive  
6x4-Four Wheel Drive

Exhaust Emission Control System

AIP-Air Injection Pump  
AIV-Air Injection Valve  
EGR-Exhaust Gas Recirculation  
EIC-Electronic Injection Control (Diesel Only)  
EM-Engine Modification  
DBC-Dual Bed Catalyst  
HOS-Heated Oxygen Sensor  
OC-Oxidation Catalyst  
OS-Oxygen Sensor  
SPL-Smoke Puff Limiter or Throttle Delay  
TOC-Trap Oxidizer, Continual  
TOP-Trap Oxidizer, Periodical  
TWC-Three-Way Catalyst  
WUOC-Warm-up Oxidation Catalyst  
WUTWC-Warm-up Three-Way Catalyst

Special Features

CCV-Combustion Chamber Valve  
CFI-Central Fuel Injection or Throttle  
Body Injection  
DID-Diesel Injection-Direct  
DIP-Diesel Injection-Prechamber  
EPFI-Electronic Port Fuel Injection  
IC-Intercooler/Aftercooler  
MPFI-Mechanical Port Fuel Injection  
OBD-On-Board Diagnostics  
SC-Supercharger  
SFI-Sequential Fuel Injection  
TC-Turbocharger

ISSUED: 02-18-88

REV. NO.:

0198V/

17-K2G4.5W5NKA4-Index 1A

(For CARB Use Only)

(1989)

SECTION 17.00.00.00

| <u>Section and Page No.</u> | <u>Rev. No.<br/>or Date</u> | <u>Item</u>                |
|-----------------------------|-----------------------------|----------------------------|
| 17-K2G4.5W5NKA4-Index 1A    | 005                         | Table of Contents          |
| 17-K2G4.5W5NKA4-1A          | 02-18-88                    | Supplemental Data Sheet    |
| 17-K2G4.5W5NKA4-2A          | 02-18-88                    | Supplemental Data Sheet    |
| 17-K2G4.5W5NKA4-3A          | 005                         | Supplemental Data Sheet    |
| 17-K2G4.5W5NKA4-4A          | 004                         | Supplemental Data Sheet    |
| 17-K2G4.5W5NKA4-5A          | 02-18-88                    | Certification Review Sheet |

NOTES:

- (1) See page one for abbreviations and family information.
- (2) Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment.
- (3) If two test weights are listed, the lower weight will be used for testing.
- (4) Letter derivative codes are the same as corresponding numeric codes except as indicated.

ISSUED: 02-18-88

REV. NO.: 001 (RC K2-010)  
002 (RC K2-037)  
003 (Corr. RC K2-010)  
004 (RC K2-072)  
005 (RC K2-092)

0198V/14V

17-K2G4.5W5NKA4-2A

(For CARB Use Only)  
(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
GASOLINE-FUELED PASSENGER CARS

Executive Order No. A-6-436

VEHICLE MODELS:

1 J U 2 7 (EXAMPLE)

Digit 1  
Selling Division

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

Digit 2 - Body Designation

A-Celebrity, 6000, Cutlass Ciera, Cutlass Cruiser, Century  
B-Caprice, Safari Wagon, Custom Cruiser, LeSabre/Electra Wagon  
C-Ninety-Eight Regency, Electra, DeVille, Fleetwood, Limousine  
D-Brougham  
E-Toronado, Riviera, Eldorado, Reatta  
F-Camaro, Firebird, Trans Am, Formula  
G-Monte Carlo, El Camino, Caballero  
H-Bonneville, Delta 88 Royale, LeSabre  
J-Cavalier, Sunbird, Firenze, Skyhawk, Cimarron  
K-Seville  
L-Corsica, Beretta  
N-Grand Am, Calais, Somerset/Skylark  
P-Fiero  
T-Lemans  
V-Allante  
W-Grand Prix, Regal, Cutlass Supreme  
Y-Corvette  
Z-Commercial Chassis

Digit 3  
Trim Level

Digits 4 & 5 - Body Style

|                              |                          |
|------------------------------|--------------------------|
| 07-2Dr Sport Coupe           | 47-2Dr Hardtop Coupe     |
| 08-2Dr Hatchback Coupe       | 57-2Dr Hardtop Coupe     |
| 11-2Dr Notchback Coupe/Sedan | 67-2Dr Convertible Coupe |
| 19-4Dr Sedan                 | 68-4Dr Hatchback Sedan   |
| 23-4Dr Auxiliary Seat Sedan  | 69-4Dr (Notchback) Sedan |
| 27-2Dr (Notchback) Coupe     | 77-2Dr Hatchback Coupe   |
| 33-4Dr Auxiliary Seat Sedan  | 80-2Dr Sedan Pickup      |
| 35-4Dr Station Wagon         | 87-2Dr Hatchback Coupe   |
| 37-2Dr Hardtop Coupe         | 90-Commercial Chassis    |
|                              | 97-2Dr Hardtop Coupe     |

Engine: Front

Drive: FWD

ISSUED: 02-18-88

REV. NO.:

0198V/

17-K2G4.5W5NKA4-3A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

PASSENGER CARS X LIGHT DUTY TRUCKS \_\_\_ MEDIUM DUTY VEHICLES \_\_\_ GAS X DIESEL \_\_\_

Liters (CID): 4.5L (273)

Type: V8

Executive Order No. A-6-436

| ENG CODE | VEH MODELS              | TRANS TYPE | ETW  | IGN SYSTEM (ECU) PART NO. | FUEL SYSTEM (TBI) PART NO. | EGR VALVE PART NO. | CATALYST PART NO. |
|----------|-------------------------|------------|------|---------------------------|----------------------------|--------------------|-------------------|
| 1,1A     | 6CB47<br>6CD47          | A4         | 3750 | 16084446                  | 17088032,<br>17089032      | 17089070           | 25103959          |
|          | 6CB69<br>6CS69<br>6CD69 |            | 3875 |                           |                            |                    |                   |

ISSUED: 02-18-88

REV. NO.: 001  
003  
004  
005

0198V/14V

17-K2G4.5W5NKA4-4A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

PASSENGER CARS X LIGHT DUTY TRUCKS\_\_\_ MEDIUM DUTY VEHICLES\_\_\_ GAS X DIESEL\_\_\_

Liters (CID): 4.5L (273)

Type: V8

Executive Order No. A-6-436

| ENG CODE | VEH MODELS     | TRANS<br>TYPE | ETW  | IGN SYSTEM<br>(ECU)<br>PART NO. | FUEL SYSTEM<br>(TBI)<br>PART NO. | EGR VALVE<br>PART NO. | CATALYST<br>PART NO. |
|----------|----------------|---------------|------|---------------------------------|----------------------------------|-----------------------|----------------------|
| 2,2A     | 6KS69<br>6EL57 | A4            | 3750 | 16084486                        | 17088032                         | 17089071              | 25103957             |
| 3        | 6KS69<br>6EL57 |               |      | 16120856                        |                                  |                       |                      |

ISSUED: 02-18-88

REV. NO.: 001  
002  
003

0198V/14V