State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-431
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:

| Engine Family | Displacement Liters (Cubic Inches) | Exhaust Emission Control Systems (Special Features) |
|---|---|---|
| K1G2.5V5TPG5 | 2.5 (151) | Exhaust Gas Recirculation<br>Oxygen Sensor<br>Three-Way Catalyst<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:

| Hydrocarbons (Grams per Mile) | Carbon Monoxide (Grams per Mile) | Nitrogen Oxides (Grams per Mile) |
|---|---|---|
| 0.41 | 7.0 | 0.4 |

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

| Hydrocarbons (Grams per Mile) | Carbon Monoxide (Grams per Mile) | Nitrogen Oxides (Grams per Mile) |
|---|---|---|
| 0.27 | 2.8 | 0.3 |

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 16th day of February, 1988.

K. D. Drachand, Chief
Mobile Source Division

17-K1G2.5V5TPG5-1A

(For CARB Use Only)

(1989)

# AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer: General Motors Corporation

Executive Order No.: A-6-431

Engine Family: K1G2.5V5TPG5

Evaporative Family: KAO-1C, KBO-1E

Engine Displacement Liters (Cubic Inches) - Type: 2.5 (151)

Exhaust Emission Control System (Special Features): EGR, TWC, 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

System
,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

D: 01-26-88 REV. NO.: 001

0179V/

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(1989)

# SECTION 17

## C-P-C SUPPLEMENTAL DATA AND CERTIFICATION REVIEW SHEETS


| Section and Page No. | Rev. No. or Date | Item |
|---|---|---|
| 17-K1G2.5V5TPG5-Index 1A | 003 | Table of Contents |
| 17-K1G2.5V5TPG5-1A | 001 | Supplemental Data Sheet |
| 17-K1G2.5V5TPG5-2A | 01-26-88 | Supplemental Data Sheet |
| 17-K1G2.5V5TPG5-3A | 01-26-88 | Supplemental Data Sheet |
| 17-K1G2.5V5TPG5-4A | 003 | Supplemental Data Sheet |
| 17-K1G2.5V5TPG5-5A | 003 | Supplemental Data Sheet |
| 17-K1G2.5V5TPG5-6A | 002 | 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: 01-26-88

REV. NO.: 001 (RC K1-014)
002 (RC K1-044)
003 (RC K1-048)

17-K1G2.5V5TPG5-2A

(For CARB Use Only)
(1989)

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

Executive Order No. A-6-431

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, Firenza, 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
08-2Dr Hatchback Coupe
11-2Dr Notchback Coupe/Sedan
19-4Dr Sedan
23-4Dr Auxiliary Seat Sedan
27-2Dr (Notchback) Coupe
33-4Dr Auxiliary Seat 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
80-2Dr Sedan Pickup
87-2Dr Hatchback Coupe
90-Commercial Chassis
97-2Dr Hardtop Coupe

Engine: Front (Rear for P car)

Drive: FWD (RWD for P car)

ISSUED: 01-26-88 REV. NO.:

17-K1G2.5V5TPG5-3A

(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): 2.5 (151)  Type: I4  Executive Order No. A-6-431

| ENG CODE | VEH MODELS | TRANS TYPE | ETW | IGN SYSTEM (ECU) PART NO. | FUEL SYSTEM (CFI) PART NO. | EGR VALVE PART NO. | CATALYST PART NO. |
|---|---|---|---|---|---|---|---|
| 1 | 1AW19 | A3 | 3125 | 16081961 | 17088083 | 17084743 | 25102754 |
| | 1AW27 | | | | | | |
| | 2AF69 | | | | | | |
| | 3AJ69 | | | | | | |
| | 3AJ37 | | | | | | |
| | 3AM37 | | | | | | |
| | 3AM69 | | | | | | |
| | 4AH37 | | | | | | |
| | 4AH69 | | | | | | |
| | 4AL37 | | | | | | |
| | 4AL69 | | 3250 | | | | |
| | 1AW35 | | | | | | |
| | 2AF35 | | 3375 | | | | |
| | 3AJ35 | | | | | | |
| | 3AM35 | | | | | | |
| | 4AH35 | | | | | | |
| | 4AL35 | | | | | | |

Comments: See page one for abbreviations and family information. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-26-88  REV. NO.:

0179V/

17-K1G2.5V5TPG5-4A

(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): 2.5 (151)  Type: I4  Executive Order No. A-6-431

| ENG CODE | VEH MODELS | TRANS TYPE | ETW | IGN SYSTEM (ECU) PART NO. | FUEL SYSTEM (CFI) PART NO. | EGR VALVE PART NO. | CATALYST PART NO. |
|---|---|---|---|---|---|---|---|
| 3 | 3NF27<br>3NT27 | A3 | 2875 | 16082011 | 17088083 | 17084743 | 25101504 |
| | 4NJ27<br>4NM27<br>2NE27<br>3NF69<br>3NT69<br>2NE69 | | 3000 | | | | |
| | 4ND69<br>4NC69 | | 3125 | | | | |
| 3A | | | | 16125961 | | | |
| 5 | 2PE37 | | 3000 | 16082031 | 17088084 | | 25101512 |
| 6 | 2PE37 | | | | | | |
| 7 | 2WP37<br>2WJ37<br>2WK37<br>3WH47<br>3WS47<br>4WJ57<br>4WB57<br>4WD57 | | 3375 | 16056502 | 17089073 | | 25102755 |

ISSUED: 01-26-88  REV. NO.: 003

0179V/10V

17-K1G2.5V5TPG5-5A

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(1989)

# AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

PASSENGER CARS X  LIGHT DUTY TRUCKS___  MEDIUM DUTY VEHICLES___  GAS X  DIESEL___

Liters (CID): 2.5 (151)  Type: I4  Executive Order No. A-6-431

| ENG CODE | VEH MODELS | TRANS TYPE | ETW | IGN SYSTEM (ECU) PART NO. | FUEL SYSTEM (CFI) PART NO. | EGR VALVE PART NO. | CATALYST PART NO. |
|---|---|---|---|---|---|---|---|
| 10 | 2NE27 | M5 | 2875 | 16082021 | 17088083 | 17084743 | 25101504 |
| | 3NF27 | | | | | | |
| | 3NT27 | | | | | | |
| | 2NE69 | | 3000 | | | | |
| | 3NF69 | | | | | | |
| | 3NT69 | | | | | | |
| 10A | | | | 16125971 | | | |
| 12 | 2PE37 | | | 16082041 | 17088084 | | 25101512 |
| 13 | 2PE37 | | 2875 | | | | |
| 21 | 1AW19 | A3 | 3125 | 16121532, | 17089098 | | 25102754 |
| | 1AW27 | | | 16121222 | | | |
| | 2AF69 | | | | | | |
| | 3AJ69 | | | | | | |
| | 3AJ37 | | | | | | |
| | 3AM37 | | | | | | |
| | 3AM69 | | | | | | |
| | 4AH37 | | | | | | |
| | 4AH69 | | | | | | |
| | 4AL37 | | | | | | |
| | 4AL69 | | 3250 | | | | |
| | 1AW35 | | | | | | |
| | 2AF35 | | 3375 | | | | |
| | 3AJ35 | | | | | | |
| | 3AM35 | | | | | | |
| | 4AH35 | | | | | | |
| | 4AL35 | | | | | | |

ISSUED: 01-26-88  REV. NO.: 002
003

0179V/10V