

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:

<u>Engine Family</u>	<u>Displacement Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
K1G2.5V5TPG5	2.5 (151)	Exhaust Gas Recirculation Oxygen Sensor Three-Way Catalyst (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 (Grams per Mile)</u>	<u>Carbon Monoxide (Grams per Mile)</u>	<u>Nitrogen Oxides (Grams per Mile)</u>
0.41	7.0	0.4

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

<u>Hydrocarbons (Grams per Mile)</u>	<u>Carbon Monoxide (Grams per Mile)</u>	<u>Nitrogen Oxides (Grams per Mile)</u>
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

ED: 01-26-88

REV. NO.: 001

0179V/

17-K1G2.5V5TPG5-Index 1A

(For CARB Use Only)

(1989)

SECTION 17

C-P-C SUPPLEMENTAL DATA AND CERTIFICATION REVIEW SHEETS

<u>Section and Page No.</u>	<u>Rev. No. or Date</u>	<u>Item</u>
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)

0179V/10V

(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 DivisionDigit 2 - Body Designation1-Chevrolet
2-Pontiac
3-Oldsmobile
4-Buick
6-CadillacA-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 ChassisDigit 3
Trim LevelDigits 4 & 5 - Body Style07-2Dr 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 Coupe47-2Dr 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.:

(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 1AW27 2AF69 3AJ69 3AJ37 3AM37 3AM69 4AH37 4AH69 4AL37	A3	3125	16081961	17088083	17084743	25102754
	4AL69 1AW35		3250				
	2AF35 3AJ35 3AM35 4AH35 4AL35		3375				

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.

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REV. NO.:

U179V/

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 3NT27 4NJ27 4NM27 2NE27 3NF69 3NT69 2NE69 4ND69 4NC69	A3	2875 3000 3125	16082011	17088083	17084743	25101504
3A				16125961			
5	2PE37		3000	16082031	17088084		25101512
6	2PE37						
7	2WP37 2WJ37 2WK37 3WH47 3WS47 4WJ57 4WB57 4WD57		3375	16056502	17089073		25102755

ISSUED: 01-26-88

REV. NO.: 003

0179V/10V

(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.
10	2NE27 3NF27 3NT27	M5	2875	16082021	17088083	17084743	25101504
	2NE69 3NF69 3NT69		3000				
10A				16125971			
12	2PE37			16082041	17088084		25101512
13	2PE37		2875				
21	1AW19 1AW27 2AF69 3AJ69 3AJ37 3AM37 3AM69 4AH37 4AH69 4AL37 4AL69 1AW35 2AF35 3AJ35 3AM35 4AH35 4AL35	A3	3125	16121532, 16121222	17089098		25102754
			3250				
			3375				

ISSUED: 01-26-88

REV. NO.: 002
003

0179V/10V