

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-428  
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</u>		<u>Exhaust Emission Control Systems</u> <u>(Special Features)</u>
	<u>Liters</u>	<u>(Cubic Inches)</u>	
K1G2.0W5JFG5	2.0	(121)	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</u> <u>(Grams per Mile)</u>	<u>Carbon Monoxide</u> <u>(Grams per Mile)</u>	<u>Nitrogen Oxides</u> <u>(Grams per Mile)</u>
0.39	7.0	0.4

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

<u>Hydrocarbons</u> <u>(Grams per Mile)</u>	<u>Carbon Monoxide</u> <u>(Grams per Mile)</u>	<u>Nitrogen Oxides</u> <u>(Grams per Mile)</u>
0.26	3.9	0.2

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 16<sup>th</sup> day of February, 1988.



K. D. Drachand, Chief  
Mobile Source Division

## AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer: General Motors Corporation      Executive Order No.: A-6-428  
 Engine Family: K1G2.0W5JFG5      Evaporative Family:  
 Engine Displacement Liters (Cubic Inches) - Type: 2.0 (121)-I4  
 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

Fuel 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

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(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-K1G2.0W5JFG5-Index 1A	002	Table of Contents
17-K1G2.0W5JFG5-1A	01-26-88	Supplemental Data Sheet
17-K1G2.0W5JFG5-2A	01-26-88	Supplemental Data Sheet
17-K1G2.0W5JFG5-3A	002	Supplemental Data Sheet
17-K1G2.0W5JFG5-4A	002	Supplemental Data Sheet
17-K1G2.0W5JFG5-5A	01-26-88	Certification Review Sheet

NOTES:

- (1) If two test weights are listed, the lower weight will be used for testing.
- (2) Letter derivative codes are the same as corresponding numeric codes except as indicated.

ISSUED: 01-26-88

0181V/

REV. NO.: 001  
002 (RC K1-106)

(For CARB Use Only)  
(1989)AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
GASOLINE-FUELED PASSENGER CARS

Executive Order No. A-6-428

## VEHICLE MODELS:

1 2 2 7 (EXAMPLE)Digit 1  
Selling Division1-Chevrolet  
2-Pontiac  
3-Oldsmobile  
4-Buick  
6-CadillacDigit 2 - Body DesignationA-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 ChassisDigit 3  
Trim LevelDigits 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   X   Mid        Rear       Drive: FWD   X   RWD        4WD Full Time        4WD Part Time       

ISSUED: 01-26-88

REV. NO.:

0181V/

17-K1G2.0W5JFG5-3A

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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): 2.0 (121)

Type: I4

Executive Order No. A-6-428

ENG CODE	VEH MODELS	TRANS TYPE	ETW	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (CFI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
51	1JC37	M5	2750	16084841	17088026	17087145	25103080
	1JC69		2875				
	3JC27		2750				
	3JC69						
	4JS27						
	4JS69						
	1JC35		2875				
	3JC35						
	4JS35						
52	4JS27		2750				
	1JC37						
	1JC69						
	3JC27						
	3JC69						
	4JS69						
	3JC35		2875				
	1JC35						
	4JS35						
53	1LT69		3000	16084861			25103078
	1LT68						
	1LV37						
54	1LT69						
	1LT68						
	1LV37						

ISSUED: 01-26-88

REV. NO.: 001  
002  
003  
004

PW010-5

17-K1G2.0W5JFG5-4A

(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): 2.0 (121)

Type: I4

Executive Order No. A-6-428

ENG CODE	VEH MODELS	TRANS TYPE	ETW	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (CFI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
61	1JC37 1JC69 3JC27 4JS27 1JC35 3JC35 3JC69 4JS35 4JS69	A3	2750    2875	16084831	17088026	17087145	25103080
61A				16137021			
62	1JC35 1JC37 1JC69 3JC27 3JC69 4JS27 4JS69 3JC35 4JS35		2750      2875	16084831			
62A				16137021			
63	1LT69 1LT68 1LV37		3000	16084851			25103078
63A				16137041			
64	1LT69 1LT68 1LV37			16084851			
64A				16137041			

ISSUED: 01-26-88

REV. NO.: 001  
002

0181V/