

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-398
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 1988 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>
J2G2.3WBXEW4	2.3 (138)	Three-Way Catalyst Oxygen Sensor (Electronic Fuel Injection) (On-Board Diagnostics)

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>
0.39	7.0	0.7

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>
0.28	1.1	0.2

BE IT FURTHER RESOLVED: That the listed models were 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 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 listed vehicle models also comply with 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 13th day of March, 1987.



K. D. Drachand, Chief
Mobile Source Division

17-J2G2.3W8XEN4-1A

(For CARB Use Only)

(1988)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer: General Motors Corporation

Executive Order No.: A-6-398

Engine Family: J2G2.3W8XEN4

Evaporative Family: J80-2H

Engine Displacement Liters (Cubic Inches) - Type: 2.3 (138) I4

Exhaust Emission Control System (Special Features): OS/TWC (EFI)(OBD)

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

CI, CL, DID, DIP, EFI, MFI
W-Venturi Carburetor
WV-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
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
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
TR-Thermal Reactor
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
DID-Diesel Injection-Direct
DIP-Diesel Injection-Prechamber
EFI-Electronic Fuel Injection
IC-Intercooler/Aftercooler
MFI-Mechanical Fuel Injection
OBD-On Board Diagnostics
TC-Turbocharger

ISSUED: 02-27-87

REV. NO.: 001

0254T/25T

17-J2G2.3W8XE4-2A

(For CARB Use Only)
(1988)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
GASOLINE-FUELED PASSENGER CARS

Executive Order No. A-6-398

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
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	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: 02-27-87

REV. NO.:

0254T

(For CARB Use Only)

(1988)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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

Liters (CID): 2.3 (138)

Type: I4

Executive Order No. A-6-398

ENG CODE	VEH MODELS	TRANS TYPE	ETW	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (EFI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
1,1A,1C	2NW69	A3	3125	16059103	17087066, 17087296	NA	25100635, 25100948
	4NC69						
	4ND69						
	2NE27						
	2NV27						
	2NW27						
	2NE69						
	2NV69						
	3NT27						
	3NF69						
	3NT69						
	4NJ27						
	4NM27						
3NF27							
1B,1D	2NW69	A3	3125	16084653	17087066, 17087296	NA	25100635, 25100948
	4NC69						
	4ND69						
	2NE27						
	2NV27						
	2NW27						
	2NE69						
	2NV69						
	3NT27						
	3NF69						
	3NT69						
	4NJ27						
	4NM27						
3NF27							

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: 02-27-87

REV. NO.: 001
002
003

(For CARB Use Only)

(1988)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

PASSENGER CARS X LIGHT DUTY TRUCKS ___ MEDIUM DUTY VEHICLES ___ GAS X DIESEL ___

Liters (CID): 2.3 (138)

Type: I4

Executive Order No. A-6-398

ENG CODE	VEH MODELS	TRANS TYPE	ETW	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (EFI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
1E,1G	2NW69	A3	3125	16085123	17087066, 17087296	NA	25100635, 25100948
	4NC69						
	4ND69						
	2NE27						
	2NV27						
	2NW27						
	2NE69						
	2NV69						
	3NT27						
	3NF69						
	3NT69						
	4NJ27						
	4NM27						
3NF27							
1F	2NW69	A3	3125	16085163	17087066, 17087296	NA	25100635, 25100948
	4NC69						
	4ND69						
	2NE27						
	2NV27						
	2NW27						
	2NE69						
	2NV69						
	3NT27						
	3NF69						
	3NT69						
	4NJ27						
	4NM27						
3NF27							

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: 003

REV. NO.: 005

0254T/25T

(For CARB Use Only)

(1988)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

PASSENGER CARS X LIGHT DUTY TRUCKS ___ MEDIUM DUTY VEHICLES ___ GAS X DIESEL ___

Liters (CID): 2.3 (138)

Type: I4

Executive Order No. A-6-398

ENG CODE	VEH MODELS	TRANS TYPE	ETH	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (EFI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
1H	2NW69 4NC69 4ND69 2NE27 2NV27 2NW27 2NE69 2NV69 3NT27 3NF69 3NT69 4NJ27 4NM27 3NF27	A3	3125 3000 3125 3000 3125 3000 3125 3000	16086043	17087066, 17087296	NA	25100635, 25100948
1J	2NW69 4NC69 4ND69 2NE27 2NV27 2NW27 2NE69 2NV69 3NT27 3NF69 3NT69 4NJ27 4NM27 3NF27	A3	3125 3000 3125 3000 3125 3000 3125 3000	16088403	17087066, 17087296	NA	25100635, 25100948

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: 006

REV. NO.: 007

54T/25T

17-J2G2.3W8XE4-3.3A

(For CARB Use Only)

(1988)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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

Liters (CID): 2.3 (138)

Type: I4

Executive Order No. A-6-398

ENG CODE	VEH MODELS	TRANS TYPE	ETW	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (EFI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
2,2A,2B	2NW69		3125	16069653	17087296	NA	25100635
	4NC69						25100948
	4ND69						
	2NW27						
	2NE69		3000				
	2NV69						
	3NF69						
	3NT69						
	4NJ27						
	4NM27						
	2NE27						
	2NV27						
	3NF27						
3NT27							
2C	2NW69		3125	16085133	17087296	NA	25100635
	4NC69						25100948
	4ND69						
	2NW27						
	2NE69		3000				
	2NV69						
	3NF69						
	3NT69						
	4NJ27						
	4NM27						
	2NE27						
	2NV27						
	3NF27						
3NT27							

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: 004

REV. NO.: 006

U254T/25T

(For CARB Use Only)

(1988)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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

Liters (CID): 2.3 (138)

Type: I4

Executive Order No. A-6-398

ENG CODE	VEH MODELS	TRANS TYPE	ETH	IGN SYSTEM	FUEL SYSTEM	EGR VALVE PART NO.	CATALYST PART NO.
				(ECU) PART NO.	(EFI) PART NO.		
2D	2NW69		3125	16088373	17087296	NA	25100635
	4NC69						25100948
	4ND69						
	2NW27						
	2NE69		3000				
	2NV69						
	3NF69						
	3NT69						
	4NJ27						
	4NM27						
	2NE27						
	2NV27						
	3NF27						
	3NT27						

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: 007

REV. NO.:

54T/25T