

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-8-457  
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

GENERAL MOTORS CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-3;

IT IS ORDERED AND RESOLVED: That the following General Motors Corporation 1989 model-year gasoline engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

<u>Engine Family</u>	<u>Displacement Liters (Cubic Inches)</u>		<u>Exhaust Emission Control Systems (Special Features)</u>
KGM04.8ABA8	4.8	(292)	Air Injection-Pump
KGM05.7AGA9	5.7	(350)	Air Injection-Pump Exhaust Gas Recirculation
KGM07.4AGA9	7.4	(454)	Air Injection-Pump
	7.0	(427)	Exhaust Gas Recirculation
	6.0	(366)	
KGM05.7BLA4	5.7	(350)	Exhaust Gas Recirculation Oxidation Catalyst Oxygen Sensor (Central Fuel Injection)

Engine models and codes are listed on attachments.

The following are the certification emission standards for these engine families:

<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>
1.9	37.1	6.0

The following are the certification emission values for these engine families:

<u>Engine Family</u>	<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>
KGM04.8ABA8	0.8	18.2	5.4
KGM05.7AGA9	0.9	25.0	4.2

<u>Engine Family</u>	<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>
KGM07.4AGA9	1.4	33.7	5.3
KGM05.7BLA4	0.5	9.5	2.8

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

Engines 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 attachments.

Executed at El Monte, California this 14<sup>th</sup> day of July, 1988.

  
K. D. Drachand, Chief  
Mobile Source Division

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

GASOLINE HEAVY DUTY ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 457

Engine Families: KGM04.8ABA8  
KGM05.7AGA9  
KGM07.4AGA9  
KGM05.7BLA4

Engine CID (Liters) - Type: 292 (4.8), 350 (5.7), 366 (6.0), 427 (7.0), 454 (7.4)

ABBREVIATIONS:

Ignition System

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

Fuel System

CFI, CL, DID, DIP, EFI, MFI  
nV-nVenturi Carburetor

GM Abbreviations

A/C-Air Conditioning  
FC-Forward Control  
HD-Heavy Duty  
CID-Cubic Inch Displacement  
TBI-Throttle Body Injection  
RWD-Rear Wheel Drive  
4x2-Two Wheel Drive  
4x4-Four Wheel Drive  
6x4-Four Wheel Drive

Exhaust Emission Cont System

AIP-Air Injection Pump  
AIV-Air Injection Valve  
CL-Closed Loop  
DBC-Dual Bed Catalyst  
EGR-Exhaust Gas Recirculation  
EIC-Electronic Injection Control  
EM-Engine Modification  
OC-Oxidation Catalyst System  
OS-Oxygen Sensor  
HOS-Heated Oxygen Sensor  
SPL-Smoke Puff Limiter or Throttle Delay  
TOC-Trap Oxidizer, Continual  
TOP-Trap Oxidizer, Periodical  
TR-Thermal Reactor  
TWC-Three-Way Catalyst System

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  
TC-Turbocharger

Engine: Front (all Vehicles)

Drive: See Chassis Type (Page 2), all 4x2 vehicles are RWD.

ISSUED: 05-23-88

REV. NO.:

2/2W/

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-457

Engine Family: KGM04.8ABA8

Exhaust Emission Control System: AIP

Liter (CID): 4.8L (292)

ENG MODEL (ENG CODE)	MAXIMUM RATED HP AT RPM	RATED TORQUE AT RPM	IGNITION SYS (DISTRIBUTOR) MFR PART NO.	FUEL SYSTEM (CARBURETOR) MFR PART NO.	EGR VALVE MFR PART NO.	CATALYST MFR PART NO.
L25 (1)	125 @ 4000	215 @ 800	Delco Remy 1103719	Rochester 17086096, 17086101	NA	NA

ISSUED: 05-23-88

REV. NO.:

2W/

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 457

Engine Family: KGM05.7AGA9

Exhaust Emission Control System: AIP/EGR

Liter (CID): 5.7 (350)

ENG MODEL (ENG CODE)	MAXIMUM RATED HP AT RPM	RATED TORQUE AT RPM	IGNITION SYS (DISTRIBUTOR) MFR PART NO.	FUEL SYSTEM (CARBURETOR) MFR PART NO.	EGR VALVE MFR PART NO.	CATALYST MFR PART NO.
LF5 (2)	170 @ 3800	280 @ 2400	Delco Remy 1103606	Rochester 17088079	17088093	NA
LF5 (3)	170 @ 3800	280 @ 2400	Delco Remy 1103606	Rochester 17088080	17088093	NA

SUED: 05-23-88

REV. NO.:

6272W/

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 457

Engine Family: KGM07.4AGA9

Exhaust Emission Control System: AIP/EGR

Liter (CID): 7.4L (454), 7.0L (427), 6.0L (366)

ENG MODEL (ENG CODE)	MAXIMUM RATED HP AT RPM	RATED TORQUE AT RPM	IGNITION SYS (DISTRIBUTOR) MFR PART NO.	FUEL SYSTEM (CARBURETOR) MFR PART NO.	EGR VALVE MFR PART NO.	CATALYST MFR PART NO.
L86 (1) 366 CID	205 @ 3800	320 @ 2800	Delco Remy 1103751	Rochester 15625765	17088094	NA
L43 (2) 427 CID	225 @ 3800	355 @ 2400	Delco Remy 1103752	Rochester 15625766	17088094	NA
LE8 (1) (3) 4 CID	230 @ 3800	370 @ 2800	Delco Remy 1103717	Rochester 17085212, 17085004	17085919	NA

ISSUED: 05-23-88

REV. NO.:

272W/

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 457

Engine Family: KGM05.7BLA4

Exhaust Emission Control System: EGR/OC/OS (CFI)

Liter (CID): 5.7 (350)

ENG MODEL (ENG CODE)	MAXIMUM RATED HP AT RPM	RATED TORQUE AT RPM	IGNITION SYS (ECU) MFR PART NO.	FUEL SYSTEM (TBI) MFR PART NO.	EGR VALVE MFR PART NO.	CATALYST MFR PART NO.
L05 (1)	190 @ 4000	300 @ 2400	16084551, 16136031	Rochester 17089045	17087185	AC 25103516
L05 (2)	190 @ 4000	300 @ 2400	16084601	Rochester 17089046	17087185	AC 25103516