

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-481  
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 1990 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>
LGM04.3BLA3	4.3	(262)	Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst (Throttle Body Electronic Fuel Injection)
LGM04.8ABA7	4.8	(292)	Secondary Air Injection
LGM05.7BLA3	5.7	(350)	Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst (Throttle Body Electronic Fuel Injection)
LGM06.0AGA8	6.0	(366)	Secondary Air Injection Exhaust Gas Recirculation
LGM07.4BLA3	7.4	(454)	Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst (Throttle Body Electronic Fuel Injection)
	7.0	(427)	
	6.0	(366)	

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>
LGM04.3BLA3	0.5	8.5	4.1
LGM04.8ABA7	0.4	12.8	4.7
LGM05.7BLA3	0.4	6.3	3.0
LGM06.0AGA8	1.4	33.7	4.5
LGM07.4BLA3	0.8	12.9	4.4

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 Code of Regulations, Section 2036 and California Health and Safety Code Section 43205.5).

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 18<sup>th</sup> day of February, 1989.



K. D. Drachand, Chief  
Mobile Source Division

(FOR CARB USE ONLY)

(1990)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-481

Engine Families: LGM04.3BLA3  
LGM04.8ABA7  
LGM05.7BLA3  
LGM06.0AGAB  
LGM07.4BLA3

Engine CID (Liters) - Type: 262 (4.3), 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  
SAC-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.

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(1990)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE VEHICLES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 481

Engine Families:

LGMO4.8ABA7

LGMO6.0AGA8

LGMO7.4BLA3

Vehicle Models (Series)

Engine CID Values Appear Below

Forward Control - G Models

Hi-Cube Van/Magnavan	- G30	454
Cutaway Van/Vandura Sp1	- G30	454
Van/Vandura	- G30	454
Sportvan/Rally Wagon	- G30	454

Forward Control - P Models

Forward Control Chassis	- P20	
Step-Van/Value Van	- P20	
Forward Control Chassis	- P30	454
Motor Home Chassis	- P30	454
Step-Van/Value Van	- P30	454

Conventional Cab & Chassis

C5D042		366
C6D042	366	366
C7D042, C7D064	366	366, 427

School Bus

B6P042	366	366
S7T042	366	366

Forward Control Chassis

P4T042	292	
P6T042		366

Pickup

CK20CC		454
R20		454
CKRV30		454

Suburban

R20		454
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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE VEHICLES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 481

Engine Families:

LGM04.3BLA3

LGM05.7BLA3

Vehicle Models (Series)

Engine CID Values Appear Below

Forward Control - G Models

Hi-Cube Van/Magnavan	- G30		350
Cutaway Van/Vandura Spl	- G30		350
Van/Vandura	- G30		350
Sportvan/Rally Wagon	- G30		350

Forward Control - P Models

Forward Control Chassis	- P20		
Step-Van/Value Van	- P20		
Forward Control Chassis	- P30	262	350
Motor Home Chassis	- P30		
Step-Van/Value Van	- P30	262	350

Suburban  
RV20

350

Pickup  
CK20/30  
RV20/30

262 350  
350

Forward Control Chassis  
P4T042

262

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 481

Engine Family: LGM04.3BLA3

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

Liter (CID): 4.3 (262)

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.
<del>LB4</del> (3)	150 @ 4000	230 @ 2400	<del>1612651</del>	<del>Rochester</del> <del>17091028</del> <del>17091028</del>	<del>17091028</del>	<del>1612651</del>
LB4 (3)			1612651 16135821	Rochester 17091028		

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-481

Engine Family: LGM04.3BLA3

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

Liter (CID): 4.3 (262)

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.
LB4 (4)	150 @ 4000	230 @ 2400	16126551 16135821 16143911	Rochester 17091028 17090008	17087026	25103516

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-481

Engine Family: LGM05.7BLA3

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 (3)	190 @ 4000	300 @ 2400	16084551	Rochester 17089045	17087185	25103516
L05 (4)			16084601	Rochester 17089046		

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REV. NO.: 002



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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-481

Engine Family: LGM07.4BLA3

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

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

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.
LSO (1) 6.0L	205 @ 4000	325 @ 2400	16126581 16126591 16126601 16126611 16133661 16138561	Rochester 17090004	17090002	25103516
LRO (2) 7.0L	240 @ 4000	375 @ 2800	16126621 16126631 16138001 16138011 16141011 16141021 16141031 16155321	Rochester 17090005		
L19 (5) 7.4L	230 @ 3600	385 @ 1600	16126841 16151331	Rochester 17090015	17087189	25103516*
L19 (6) 7.4L			16126831 16151341	Rochester 17090016		25103516

\* Converter welded into tail pipe, assembly P/N: 25127704 R/V  
25127705 G  
25127831 C/K

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