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:

Engine Family	Displacement Liters	(Cubic Inches)	Exhaust Emission Control Systems (Special Features)
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 7.0 6.0	(454) (427) (366)	Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst (Throttle Body Electronic Fuel Injection)

Engine models and codes are listed on attachments.

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

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

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

Engine Family	Hydrocarbons gm/bhp-hr	Carbon Monoxide gm/bhp-hr	Nitrogen Oxides gm/bhp-hr
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 16th day of February, 1989.

K. D. Drachand, Chief
Mobile Source Division

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(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
LGM06.0AGA8
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.

ISSUED: 12-12-88 REV. NO.:

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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:	LGM04.8ABA7	LGM06.0AGA8	LGM07.4BLA3
Vehicle Models (Series)	Engine CID Values Appear Below		
Forward Control - G Models			
Hi-Cube Van/Magnavan - G30			454
Cutaway Van/Vandura Spl - 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	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		262	350
RV20/30			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.
[redacted]	150 @ 4000	230 @ 2400	[redacted]	[redacted]	[redacted]	[redacted]
LB4 (3)			16126551 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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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.
LS0 (1) 6.0L	205 @ 4000	325 @ 2400	16126581 16126591 16126601 16126611 16133661 16138561	Rochester 17090004	17090002	25103516
LR0 (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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