

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-482  
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) of 8,501 to 14,000 pounds:

| <u>Engine Family</u> | <u>Displacement<br/>Liters (Cubic Inches)</u> |       | <u>Exhaust Emission Control Systems<br/>(Special Features)</u>   |
|----------------------|---|-------|--|
| LGM04.3BLA3          | 4.3   | (262) | Exhaust Gas Recirculation<br>Oxygen Sensor<br>Oxidation Catalyst<br>(Throttle Body Electronic<br>Fuel Injection) |
| LGM05.7BLA3          | 5.7   | (350) | Exhaust Gas Recirculation<br>Oxygen Sensor<br>Oxidation Catalyst<br>(Throttle Body Electronic<br>Fuel Injection) |
| LGM07.4BLA3          | 7.4   | (454) | Exhaust Gas Recirculation<br>Oxygen Sensor<br>Oxidation Catalyst<br>(Throttle Body Electronic<br>Fuel Injection) |

Engine models and codes are listed on attachments.

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

| <u>Hydrocarbons<br/>gm/bhp-hr</u> | <u>Carbon<br/>Monoxide<br/>gm/bhp-hr</u> | <u>Nitrogen Oxides<br/>gm/bhp-hr</u> |
|-----------------------------------|--|--------------------------------------|
| 1.1                               | 14.4                                     | 6.0                                  |

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

| <u>Engine Family</u> | <u>Hydrocarbons<br/>gm/bhp-hr</u> | <u>Carbon<br/>Monoxide<br/>gm/bhp-hr</u> | <u>Nitrogen Oxides<br/>gm/bhp-hr</u> |
|----------------------|-----------------------------------|--|--------------------------------------|
| LGM04.3BLA3          | 0.5                               | 8.5                                      | 4.1                                  |
| LGM05.7BLA3          | 0.4                               | 6.3                                      | 3.0                                  |
| LGM07.4BLA3          | 0.4                               | 10.4                                     | 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-6-482

Engine Families: LGM04.3BLA3  
~~LGM04.3BLA3~~  
LGM05.7BLA3  
~~LGM05.7BLA3~~  
LGM07.4BLA3

Engine CID (Liters) - Type: 262 (4.3), ~~289 (4.9)~~, 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  
EAC-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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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE VEHICLES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 482

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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HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-482

Engine Family: LGM04.3BLA3

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

Liter (CID): 4.3 (262)

| ENG MODEL<br>(ENG CODE) | MAXIMUM<br>RATED HP<br>AT RPM | RATED<br>TORQUE<br>AT RPM | IGNITION SYS<br>(ECU)<br>MFR<br>PART NO. | FUEL SYSTEM<br>(TBI)<br>MFR<br>PART NO. | EGR VALVE<br>MFR<br>PART NO. | CATALYST<br>MFR<br>PART NO. |
|-------------------------|-------------------------------|---------------------------|--|---|------------------------------|-----------------------------|
| LB4<br>(1)              | 155 @ 4000                    | 230 @ 2400                | 16126541                                 | Rochester<br>17090008<br>17091028       | 17087026                     | 25103516                    |
| LB4<br>(2)              |                               |                           | 16126551<br>16135821<br>16143911         |   |                              |                             |

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE VEHICLES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 482

Engine Families:

~~LGM7.4BLA3~~

~~LGM7.4BLA3~~

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         | <del>366</del> | 366      |
| C7D042, C7D064 | <del>366</del> | 366, 427 |

School Bus

|        |                |     |
|--------|----------------|-----|
| B6P042 | <del>366</del> | 366 |
| S7T042 | <del>366</del> | 366 |

Forward Control Chassis

|        |                |     |
|--------|----------------|-----|
| P4T042 | <del>366</del> |     |
| P6T042 | <del>366</del> | 366 |

Pickup

|        |  |     |
|--------|--|-----|
| CK20CC |  | 454 |
| R20    |  | 454 |
| CKRV30 |  | 454 |

Suburban

|     |  |     |
|-----|--|-----|
| R20 |  | 454 |
|-----|--|-----|

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HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 482

Engine Family: LGM05.7BLA3

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

Liter (CID): 5.7 (350)

| ENG MODEL<br>(ENG CODE) | MAXIMUM<br>RATED HP<br>AT RPM | RATED<br>TORQUE<br>AT RPM | IGNITION SYS<br>(ECU)<br>MFR<br>PART NO. | FUEL SYSTEM<br>(TBI)<br>MFR<br>PART NO. | EGR VALVE<br>MFR<br>PART NO. | CATALYST<br>MFR<br>PART NO. |
|-------------------------|-------------------------------|---------------------------|--|---|------------------------------|-----------------------------|
| L05<br>(1, B)           | 190 @ 4000                    | 300 @ 2400                | 16084551                                 | Rochester<br>17089045                   | 17087185                     | 25103516                    |
| L05<br>(2, 0)           |                               |                           | 16084601                                 | Rochester<br>17089046                   |                              |                             |
| L05<br>(5)              |                               |                           | 16136031                                 | Rochester<br>17089045                   |                              |                             |

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Manufacturer: General Motors Corporation

Executive Order No.: A-6-482

Engine Family: LGM05.7BLA3

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

Liter (CID): 5.7 (350)

| ENG MODEL<br>(ENG CODE) | MAXIMUM<br>RATED HP<br>AT RPM | RATED<br>TORQUE<br>AT RPM | IGNITION SYS<br>(ECU)<br>MFR<br>PART NO. | FUEL SYSTEM<br>(TBI)<br>MFR<br>PART NO. | EGR VALVE<br>MFR<br>PART NO. | CATALYST<br>MFR<br>PART NO. |
|-------------------------|-------------------------------|---------------------------|--|---|------------------------------|-----------------------------|
| L05<br>(1)              | 190 @ 4000                    | 300 @ 2400                | 16084551                                 | Rochester<br>17089045                   | 17087185                     | 25103516                    |
| L05<br>(2)              |                               |                           | 16084601                                 | Rochester<br>17089046                   |                              |                             |
| L05<br>(5)              |                               |                           | 16136031                                 | Rochester<br>17089045                   |                              |                             |

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HDG-SDS

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 482

Engine Family: LGM07.4BLA3

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

Liter (CID): 7.4 (454), ~~7.0 (430)~~

| ENG MODEL<br>(ENG CODE) | MAXIMUM<br>RATED HP<br>AT RPM | RATED<br>TORQUE<br>AT RPM | IGNITION SYS<br>(ECU)<br>MFR<br>PART NO.                                | FUEL SYSTEM<br>(TBI)<br>MFR<br>PART NO. | EGR VALVE<br>MFR<br>PART NO. | CATALYST<br>MFR<br>PART NO. |
|-------------------------|-------------------------------|---------------------------|---|---|------------------------------|-----------------------------|
| <del>L50<br/>6.0L</del> | <del>285 @ 4000</del>         | <del>325 @ 2400</del>     | <del>16126501<br/>16126591<br/>16126601<br/>16126611<br/>16126661</del> | <del>Rochester<br/>17090004</del>       | <del>17090002</del>          | <del>25103516</del>         |
| <del>L50<br/>7.4L</del> | <del>240 @ 4000</del>         | <del>375 @ 2000</del>     | <del>16126621<br/>16126631</del>  | <del>Rochester<br/>17090005</del>       |                              |                             |
| → L19<br>(3.0)<br>7.4L  | 230 @ 3600                    | 385 @ 1600                | 16075521  | Rochester<br>17090015                   | 17087189                     | 25103516*                   |
| → L19<br>(4.0)<br>7.4L  |                               |                           |   | Rochester<br>17090016                   |                              | 25103516                    |

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

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HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-482

Engine Family: LGM07.4BLA3

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

Liter (CID): 7.4 (454)

| ENG MODEL<br>(ENG CODE) | MAXIMUM<br>RATED HP<br>AT RPM | RATED<br>TORQUE<br>AT RPM | IGNITION SYS<br>(ECU)<br>MFR<br>PART NO. | FUEL SYSTEM<br>(TBI)<br>MFR<br>PART NO. | EGR VALVE<br>MFR<br>PART NO. | CATALYST<br>MFR<br>PART NO. |
|-------------------------|-------------------------------|---------------------------|--|---|------------------------------|-----------------------------|
| L19<br>(3)<br>7.4L      | 230 @ 3600                    | 385 @ 1600                | 16126841<br>16151331                     | Rochester<br>17090015                   | 17087189                     | 25103516*                   |
| L19<br>(4)<br>7.4L      |                               |                           | 16126831<br>16151341                     | Rochester<br>17090016                   |                              | 25103516*                   |

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

ISSUED: 005

REV. NO.: 007, 008, 009, 010

HDG-SDS

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