State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-478-1
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 1990 model-year General Motors Corporation exhaust emission control systems are certified as described below for gasoline-powered light-duty trucks:

Engine Family: L3G3.1X5XAT5 Displacement: 3.1 Liters (191 Inches$^3$)

Equipped With the Following Exhaust Emission Control Systems:

Exhaust Gas Recirculation
Oxygen Sensor
Three-way Catalyst
Throttle Body Electronic Fuel Injection
On-Board Diagnostics (Exempted)

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The following are the emission standards for this engine family:

| Loaded Vehicle Weight(lbs.) | Hydrocarbons (Grams per Mile) | Carbon Monoxide (Grams per Mile) | Nitrogen Oxides (Grams per Mile) |
|---|---|---|---|
| 0-3750 | 0.39 | 9.0 | 0.7 |
| 3751-5750 | 0.50 | 9.0 | 1.0 |

The following are the certification emission values for this engine family:

| Loaded Vehicle Weight(lbs.) | Hydrocarbons (Grams per Mile) | Carbon Monoxide (Grams per Mile) | Nitrogen Oxides (Grams per Mile) |
|---|---|---|---|
| 0-3750 | 0.11 | 1.9 | 0.1 |
| 3751-5750 | 0.15 | 2.1 | 0.1 |

BE IT FURTHER RESOLVED: That the listed models in the 0-3750 lbs. loaded vehicle weight class are 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 vehicle manufacturer is certifying the listed models in the 0-3750 lbs. loaded vehicle weight class to the optional NOx standard by providing evidence that there are sufficient projected sales of vehicles certifying to the primary NOx emission standard, or is allowed a delay in implementation under small volume manufacturer provisions, or is allowed a delay in implementation under the "in lieu" standards, or is certifying passenger cars weighing more than 5250 lbs. loaded vehicle weight.

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 Code of Regulations, 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 Code of Regulations, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the vehicle models listed have been granted an exemption from compliance with the requirements of the "Malfunction and Diagnostic System for 1988 and Subsequent Model Year[s]..." (Title 13, California Code of Regulations, 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 provisions of California Health and Safety Code Section 43205.

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order rescinds Executive Order A-6-478 issued 2-1-89.

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 18th day of June, 1989.

K. D. Drachand, Chief
Mobile Source Division

(FOR CARB USE ONLY)

# SUPPLEMENTAL DATA AND CERTIFICATION REVIEW SHEETS

| Section and Page No. | Rev. No. or Date | Item |
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| 17-L3G3.1X5XAT5-Index 1A | 003 | Table of Contents |
| 17-L3G3.1X5XAT5-1A | 12-19-88 | Supplemental Data Sheets |
| 17-L3G3.1X5XAT5-2A | 003 | Supplemental Data Sheet |
| 17-L3G3.1X5XAT5-2.1A | 003 | Supplemental Data Sheet |
| 17-L3G3.1X5XAT5-3A | 001 | Certification Review Sheet |
| 17-L3G3.1X5XAT5-4A | 003 | Certification Review Sheet |

NOTES:

(1) Please refer to manufacturer's HP lists (Attachment I) for correct dyno test HP settings based on model and equipment.

(2) If two test weights are listed, the lower weight will be used for testing.

(3) Letter derivative codes are the same as corresponding numeric codes except as indicated.

ISSUED: 12-19-88 REV. NO.: 001
002 (RC L3-008)
003 (RC L3-008)

(FOR CARB USE ONLY)

E.O. # A-6-478

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

MANUFACTURER: GENERAL MOTORS CORPORATION ENGINE FAMILY: L3G3.1X5XAT5

PASSENGER CARS___ LIGHT DUTY TRUCKS_X_ MEDIUM DUTY VEHICLES___ GAS_X_ DIESEL___

ENGINE TYPE: V6 LITER (CID): 3.1 (191) EVAP FAMILY: LBO-3B

EMISSION CONTROL SYSTEM: EGR/TWC/O2S (OBD, TBI)

ENGINE: FRONT_X_ MID___ REAR___ DRIVE: FWD_X_ RWD___ 4WD-FT___ 4WD-PT___

CERTIFICATION STANDARDS: .50 HC, 1.0 NOx DPA: SEE ATTACHMENT I

| ENG CODE | VEH MODELS (SEE PAGE 1A) | TRANS TYPE: A-AUTO M-MAN | EQUIV TEST WEIGHT | IGN SYSTEM (ECU/PROM) PART NO. | EGR SYSTEM PART NO. | CATALYST PART NO. |
|---|---|---|---|---|---|---|
| 1 | 1UM06<br>2UM06<br>3UM06 | A3 | 4000 | 16081261/<br>AKBL | 17089009 | 25104033<br>(MS 481) |
| 1A | | | | 16140611/<br>ASRJ | | |
| 1B | | | | 16148011/<br>ATYN | | |
| 2 | 1UM06<br>2UM06<br>3UM06 | | | 16081261/<br>AKBL | | |
| 2A | | | | 16140611/<br>ASRJ | | |
| 2B | | | | 16148011/<br>ATYN | | |

ISSUED: 12-19-88 REV. NO.: 001, 002, 003, 004

17-L3G3.1X5XAT5-2A
(1990)

(FOR CARB USE ONLY)

E.O. # A-6-478

# AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

MANUFACTURER: GENERAL MOTORS CORPORATION ENGINE FAMILY: L3G3.1X5XAT5

PASSENGER CARS___ LIGHT DUTY TRUCKS_X_ MEDIUM DUTY VEHICLES___ GAS_X_ DIESEL___

ENGINE TYPE: V6 LITER (CID): 3.1 (191) EVAP FAMILY: LBO-3B

EMISSION CONTROL SYSTEM: EGR/TWC/O2S (OBD, TBI)

ENGINE: FRONT_X_ MID___ REAR___ DRIVE: FWD_X_ RWD___ 4WD-FT___ 4WD-PT___

CERTIFICATION STANDARDS: .39 HC, .70 NOx DPA: SEE ATTACHMENT I

| ENG CODE | VEH MODELS (SEE PAGE 1A) | TRANS TYPE: A-AUTO M-MAN | EQUIV TEST WEIGHT | IGN SYSTEM (ECU/PROM) PART NO. | EGR SYSTEM PART NO. | CATALYST PART NO. |
|---|---|---|---|---|---|---|
| 1 | 1UM05 | A3 | 3625 | 16081261/ AKBL | 17089009 | 25104033 (MS 481) |
| 1A | | | | 16140611/ ASRJ | | |
| 1B | | | | 16148011/ ATYN | | |
| 2 | 1UM05 | | | 16081261/ AKBL | | |
| 2A | | | | 16140611/ ASRJ | | |
| 2B | | | | 16148011/ ATYN | | |

ISSUED: 003 REV. NO.: 004

17-L3G3.1X5XAT5-2.1A

(1990)