File

| California Environmental Protection Agency AIR RESOURCES BOARD | GENERAL MOTORS CORPORATION | EXECUTIVE ORDER A-006-1120 New On-Road Heavy-Duty Engines |
|---|---|---|

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code (HSC) Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order G-45-9;

**IT IS ORDERED AND RESOLVED:** That the following engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR | ENGINE FAMILY | ENGINE SIZE (liter) | FUEL TYPE | STANDARDS & TEST PROCEDURE | INTENDED SERVICE CLASS |
|---|---|---|---|---|---|
| 2003 | 3GMXH08.1502 | 8.1 | Gasoline | Otto | Heavy-Duty |

| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | ENGINE MODELS / CODES (rated power in horsepower, hp) |
|---|---|
| SFI, TWC, 2HO2S, EGR | L18 / 10 (225 hp), L18 / 20 (295 hp) |
| ABBREVIATIONS: OC=oxidizing catalyst TWC=three-way catalyst O2S=oxygen sensor HO2S=heated O2S SFI=sequential multiport fuel injection TC/SC=turbo/super charger CAC=charge air cooler PCM=powertrain control module ECM=engine control module EGR=exhaust gas recirculation 2 (prefix)=parallel 2(suffix)=in series | |

The following are the exhaust emission standards, or family emission limit(s) (FEL) as applicable, and certification levels for this engine family for hydrocarbons (HC) or non-methane hydrocarbons (NMHC), oxides of nitrogen (NOx), or NMHC+NOx, carbon monoxide (CO), particulate matter (PM), and formaldehyde (HCHO) in grams per brake horsepower-hour (g/bhp-hr) (Title 13, California Code of Regulations, (13 CCR) Section 1956.1 (urban bus) or 1956.8 (other than urban bus)): (The emission standards and certification levels for default operations permitted under 13 CCR Section 1956.1 or 1956.8 are in parentheses.)

| * = not applicable [g/bhp-hr] | HC | NMHC | NOx | NMHC+NOx | CO | PM | HCHO |
|---|---|---|---|---|---|---|---|
| (DIRECT) STANDARD | * | * | * | 1.5 | 37.1 | * | * |
| CORPORATE AVERAGE STANDARD | * | * | * | * | * | * | * |
| FAMILY EMISSION LIMIT (FEL) | * | * | * | * | * | * | * |
| CERTIFICATION LEVEL | * | * | * | 0.7 | 4.5 | * | * |

**BE IT FURTHER RESOLVED:** That certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

**BE IT FURTHER RESOLVED:** That at the manufacturer's request, the listed engine models have been certified to the Option 1 federal NMHC+NOx standard as set forth in 40 CFR Section 86.005-10(f).

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1965 (emission control labeling), and 2035 et seq. (emission control system warranty).

Engines certified under this Executive Order shall conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this 29th day of November 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division