

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-823-1

Relating to Certification of New Medium-Duty Motor Vehicles and 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-45-9;

IT IS ORDERED AND RESOLVED: That the following 1998 model-year General Motors Corporation diesel-cycle engines are certified for medium-duty vehicles with a manufacturer's gross vehicle weight rating (GVWR) of 8,501 to 14,000 pounds:

Fuel Type: Diesel

| <u>Engine Family</u> | <u>Engine Displacement</u> Liters (Cubic Inches) | | <u>Exhaust Emission Control</u> <u>Systems and Special Features</u> |
|-----------------------|---|-------|---|
| WGMXH06.5521 (L65) | 6.5 | (395) | Turbocharger Oxidation Catalytic Converter Powertrain Control Module Indirect Fuel Injection |
| WGMXH06.5524 (L57) | 6.5 | (395) | Oxidation Catalytic Converter Powertrain Control Module Indirect Fuel Injection |

Engine models and codes are listed on attachments.

The certification exhaust emission standards for these engine families in grams per brake horsepower-hour are:

| <u>Non-Methane Hydrocarbons +</u> <u>Nitrogen Oxides</u> | <u>Carbon</u> <u>Monoxide</u> | <u>Particulates</u> |
|---|----------------------------------|---------------------|
| 3.9 | 14.4 | 0.10 |

The certification exhaust emission values for these engine families in grams per brake horsepower-hour are:

| <u>Engine Family</u> | <u>Non-Methane Hydrocarbons +</u> <u>Nitrogen Oxides</u> | <u>Carbon</u> <u>Monoxide</u> | <u>Particulates</u> |
|----------------------|---|----------------------------------|---------------------|
| WGMXH06.5521 | 3.6 | 1.2 | 0.07 |
| WGMXH06.5524 | 3.6 | 2.4 | 0.07 |

BE IT FURTHER RESOLVED: That, the listed engine models are certified to the optional standards and test procedures applicable to incomplete and diesel medium-duty vehicles of 8,501 to 14,000 pounds GVWR pursuant to Title 13, California Code of Regulations, Section 1956.8(g).

BE IT FURTHER RESOLVED: That the listed engine models and vehicle models shall be subject to the in-use compliance provision applicable to 1995 and subsequent model-year medium-duty vehicles, set forth in Title 13, California Code of Regulations, Section 2139(c).

BE IT FURTHER RESOLVED: That the listed engine models and vehicle models also comply with the "California Motor Vehicle Emission Control and Smog Index Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

BE IT FURTHER RESOLVED: That the manufacturer is certifying the listed vehicle models with a partially complying on-board diagnostic system for the aforementioned model year pursuant to Title 13, California Code of Regulations, Section 1968.1(m)(6.2) ("Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines").

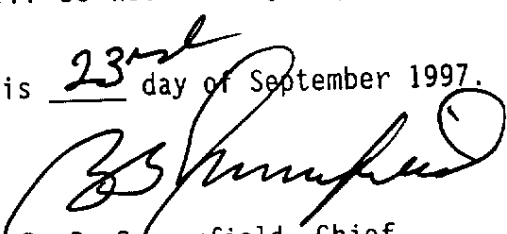
BE IT FURTHER RESOLVED: That, for the listed engine models and vehicle models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2035 et seq.).

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

Executive Order A-6-823 dated June 23, 1997, is hereby superseded and replaced by Executive Order A-6-823-1.

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

Executed at El Monte, California this 23rd day of September 1997.


R. B. Summerfield, Chief
Mobile Source Operations Division

**1998 MODEL YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
DIESEL MEDIUM-DUTY VEHICLE ENGINES
(CERTIFIED USING HEAVY-DUTY DIESEL ENGINE TEST PROCEDURES)**

MANUFACTURER: GENERAL MOTORS CORPORATION ENGINE FAMILY: WGMXH06.5524
 ENGINE CONFIG: V8 VALVES/CYL: 2 DISPLACEMENT: 6.5L 395 CUBIC INCHES
 CERT STD: TIER-1 X LEV__ ULEV__ ENGINE INTENDED SERVICE CLASS: M4__ M5__
 IN-USE STDS: FULL IN-USE X ALT IN-USE__ MAX RATED POWER: 160 HP @ 3400 RPM
 ALL ENG CODES IN ENG FAMILY: CA X 49S__ 50S__ STROKES/CYCLE: 4
 IGNITION: COMPRESSION__ COMPRESSION WITH GLOW PLUG X SPARK__
 FUEL TYPE(S): DEDICATED X FLEX-FUEL__ DUAL-FUEL__ BI-FUEL__ DIESEL X CNG__
 LNG__ LPG__ M85__ M100__ OTHER _____
 DIESEL CERT FUEL: 13 CCR 2282 X 40 CFR 86.1313-90__ 40 CFR 86.1313-94__
 CNG__ LPG__ M85__ M100__ OTHER _____
 EXHAUST ECS (E.G., OC, EGR, PTOX, IFI, TC, CAC): IFI, OC, PCM

| ENG MODEL (ENG CODE) | RATED HP @ RPM | FUEL RATE @ RATED HP MM ³ /STROKE (LBS/HR) | FUEL PUMP & INJECTOR P/N | ECM/PCM P/N | EGR VALVE P/N | PTOX/ CATALYTIC CONVERTER P/N |
|-------------------------|-------------------|--|-----------------------------|----------------------|------------------|--|
| L57 (1) | 160 @ 3400 | 50.0 (75.4) | 10233973 12558156 | 16252525 16252535 | NA | 25143901 |

ISSUED: 04-24-97

REV. NO.:

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CERT STD: TIER-1 X LEV__ ULEV__ ENGINE INTENDED SERVICE CLASS: M4__ M5__
IN-USE STDS: FULL IN-USE X ALT IN-USE__ MAX RATED POWER: 195 HP @ 3400 RPM
ALL ENG CODES IN ENG FAMILY: CA__ 49S__ 50S X STROKES/CYCLE: 4
IGNITION: COMPRESSION__ COMPRESSION WITH GLOW PLUG X SPARK__
FUEL TYPE(S): DEDICATED X FLEX-FUEL__ DUAL-FUEL__ BI-FUEL__ DIESEL X CNG__
LNG__ LPG__ M85__ M100__ OTHER _____
DIESEL CERT FUEL: 13 CCR 2282 X 40 CFR 86.1313-90__ 40 CFR 86.1313-94__
CNG__ LPG__ M85__ M100__ OTHER _____
EXHAUST ECS (E.G., OC, EGR, PTOX, IFI, TC, CAC): IFI, OC, TC, PCM

| ENG MODEL (ENG CODE) | RATED HP @ RPM | FUEL RATE @ RATED HP MM ³ /STROKE (LBS/HR) | FUEL PUMP & INJECTOR P/N | ECM/PCM P/N | EGR VALVE P/N | PTOX/ CATALYTIC CONVERTER P/N |
|-------------------------|-------------------|--|-----------------------------|----------------|------------------|--|
| L65 (3) | 195 @ 3400 | 63.1 (95.1) | 10225930 | 16240145 | NA | 25144421 |
| | | | 10233973 | 16240155 | | 25144427 |
| | | | 12558156 | 16240185 | | 25143882 |
| | | | | | | 25152218 |
| | | | | | | 25144425 |
| | | | | | | 25143891 |
| | | | | | | 25143901 |
| | | | | | | 25143188 |
| | | | | | | 15991750 |
| | | | | | | 15991751 |
| | | 15991752 | | | | |
| | | 15991753 | | | | |
| | | 15991754 | | | | |
| | | 15991755 | | | | |

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DIESEL MEDIUM-DUTY VEHICLE ENGINES
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MANUFACTURER: GENERAL MOTORS CORPORATION ENGINE FAMILY: WGMXH06.5521
 ENGINE CONFIG: V8 VALVES/CYL: 2 DISPLACEMENT: 6.5L 395 CUBIC INCHES
 CERT STD: TIER-1 X LEV__ ULEV__ ENGINE INTENDED SERVICE CLASS: M4__ M5__
 IN-USE STDS: FULL IN-USE X ALT IN-USE__ MAX RATED POWER: 195 HP @ 3400 RPM
 ALL ENG CODES IN ENG FAMILY: CA__ 49S__ 50S X STROKES/CYCLE: 4
 IGNITION: COMPRESSION__ COMPRESSION WITH GLOW PLUG X SPARK__
 FUEL TYPE(S): DEDICATED X FLEX-FUEL__ DUAL-FUEL__ BI-FUEL__ DIESEL X CNG__
 LNG__ LPG__ M85__ M100__ OTHER _____
 DIESEL CERT FUEL: 13 CCR 2282 X 40 CFR 86.1313-90__ 40 CFR 86.1313-94__
 CNG__ LPG__ M85__ M100__ OTHER _____
 EXHAUST ECS (E.G., OC, EGR, PTOX, IFI, TC, CAC): IFI, OC, TC, PCM

| ENGINE MODEL (ENGINE CODE) | RATED HP @ RPM | FUEL RATE @ RATED HP MM ³ /STROKE (LBS/HR) | FUEL PUMP & INJECTOR P/N | ECM/PCM P/N | EGR VALVE P/N | PTOX/ CATALYTIC CONVERTER P/N |
|-------------------------------|-------------------|--|----------------------------------|----------------------|------------------|--|
| L65 (4) | 195 @ 3400 | 63.1 (95.1) | 10225930 10233973 12558156 | 16240165 16240175 | NA | 25144421 |
| | | | | | | 25144427 |
| | | | | | | 25143882 |
| | | | | | | 25152218 |
| | | | | | | 25144425 |
| | | | | | | 25143891 |
| | | | | | | 25143901 |
| | | | | | | 25143188 |
| | | | | | | 15991750 |
| | | | | | | 15991751 |
| L65 (1) | 195 @ 3400 | 64.5 (97.2) | | 16244335 | | 15991752 |
| | | | | | | 15991753 |
| L65 (2) | 190 @ 3400 | 63.6 (95.8) | | 16239155 16239175 | | 15991754 |
| | | | | | | 15991755 |
| | | | | | | 15963895 |
| | | | | | | 25153008 |

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