

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-10-332  
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

FORD MOTOR COMPANY

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 Ford Motor Company 1987 model-year diesel engines have shown compliance with the transient test procedures and standards and are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

<u>Engine Family</u>	<u>Displacement Cubic Inches (Liters)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
HFM07.8FPA3	474 (7.8)	(Diesel Injection - Direct) (Intercooler) (Turbocharger)

Engine models and codes are listed on attachments.

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

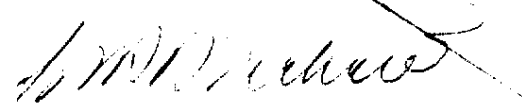
<u>Engine Family</u>	<u>Hydrocarbons gm/bhp-hr</u>	<u>Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>	<u>Particulates gm/bhp-hr</u>
HFM07.8FPA3	0.9	2.1	5.7	0.5

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 Administrative Code, Section 2036).

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.

Executed at El Monte, California this 20<sup>th</sup> day of April, 1987.

  
K. D. Drachand, Chief  
Mobile Source Division

Manufacturer FORD Engine Family HFMD7.8FPA3  
 Evaporative Family NA Engine Type I6  
 Liters (CID) 7.8 (474)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance  
 ECU-Electronic Control Unit  
 EI-Electronic Ignition  
 ESAC-Electronic Spark Advance Control  
 VA-Vacuum Advance  
 VR-Vacuum Retard

Exhaust Emissions Control System

AIP-Air Injection-Pump  
 AIV-Air Injection-Valve  
 DBC-Dual Bed Catalyst  
 EGR-Exhaust Gas Recirculation  
 EIC-Electronic Injection Control  
 EM-Engine Modification  
 OC-Oxidation Catalyst  
 OS-Oxygen Sensor  
 HOS-Heated Oxygen Sensor  
 SPL-Smoke Puff Limiter or Throttle Delay  
 TOC-Trap Oxidizer, Continual  
 TOP-Trap Oxidizer, Periodical  
 TWC-Three-Way Catalyst  
 WUOC-Warm-Up Oxidation Catalyst  
 WUTWC-Warm-Up Three-Way Catalyt

Special Features

CCV-Combustion Chamber Valve  
 CFI-Central Fuel Injection or Throttle Body Injection  
 DID-Diesel Injection-Direct  
 DIP-Diesel Injection-Prechamber  
 EFI-Electronic Fuel Injection  
 IC-Intercooler or Aftercooler  
 MFI-Mechanical Fuel Injection  
 OBD-On-Board Diagnostics  
 TC-Turbocharger

Fuel System

CFI, CL, DID, DIP, EFI, MFI  
 nV-nVenturi Carburetor

ENGINE  
 VEHICLE MODELS: SEE PG.2

Engine: Front                      Mid.                      Rear                      NA  
 Drive: FWD                      RWD                      4WD Full Time                      4WD Part Time                      NA

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HEAVY-DUTY DIESEL ENGINES

Manufacturer Ford Motor Company Engine Family HFM07.8FPA3  
 Liter (CID) 7.8L (474) Eng. Type I6  
 Emission Control Sys. and (Special Features) (DID, ~~MFI~~, TC, IC)

Engine Model	Fuel Injection Pump Mfr. Part Number Bosch	Injector Mfr. Part Number Bosch	Maximum Rated HP at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)
195C	E5HN-9A543-BA CB	E5HN-9F593-BA	195 @ 2600	97	509 @ 1600	102

ate of Issue 042087

Revisions: