State of California AIR RESOURCES BOARD

EXECUTIVE ORDER A-10-422 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 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:

Engine Family	Displacement <u>Liters (Cubic Inches)</u>		Exhaust Emission Control Systems	
LFM07.5BSA7	7.5	(460)	Exhaust Gas Recirculation Heated Oxygen Sensor Three-Way Catalyst Secondary Air Injection Multipoint Electronic Fuel Injection	

Engine models and codes are listed on attachments.

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

Hydrocarbons _gm/bhp-hr	Carbon Monoxide gm/bhp-hr	Nitrogen Oxides gm/bhp-hr
1.1	14.4	6.0

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

Engine Family	Hydrocarbons _gm/bhp-hr	Carbon Monoxide <u>gm/bhp-hr</u>	Nitrogen Oxides am/bhp_hr
LFM07.5BSA7	0.5	<u>10.7</u>	4.4

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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 $\frac{13^4}{13^4}$ day of July, 1989.

K. D. Drachand, Chief Mobile Source Division

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1990 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET HEAVY DUTY ENGINES

urer ______ Ford Motor Company ______ Engine Family ______ LFM07.5BSA7______ Mar

Liter (CID) _____7.5L (460 CID) _____ Eng. Type ____ V-8_____

Emission Control Sys. (Special Features) ______ EGR/AIP/TWC/HOS/EPFI_____

Engine Code	Maximum Rated HP at RPM	Rated Torque at RPM	Ign. System (ECU)	Fuel System	EGR Valve	Catalyst
			Part No. -12A650-	Part No. -9F593-	Part No. -9F483-	Part No. -5E212-
8-97A-R10	218 @ 3600	363 @ 1800	E8TF-BLB	E8TE-BC	E7TE-GA	E8TA-LA
8-98A-R10	91	**	E8TF-BMB	11	P1	
9-98A-R00 R/C 7.5-HD-2	99	N	E9TF-RA	ł	n	11
Comments:	See page one for	abbreviations and	evaporative em	ission family	identificati	on .

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1990 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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VA-Vacuum Advance VR-Vacuum RetardEM-Engine Modification SPL-Smoke Puff Limiter or Throttle DelayFuel Injection MPFI-Mechanical Por Fuel InjectionVR-Vacuum RetardSPL-Smoke Puff Limiter or Throttle DelayMPFI-Mechanical Por Fuel InjectionTOC-Trap Oxidizer, Continual TOP-Trap Oxidizer, Periodical DBC-Dual Bed CatalystSFI-Sequential Fue InjectionDBC-Dual Bed Catalyst OC-Oxidation CatalystDID-Diesel Injecti DirectWUOC-Warm-Up Oxidation Catalyst WUTWC-Warm-Up Three-Way CatalystDIP-Diesel Injecti OC-Oxidation CatalystWUTWC-Warm-Up Three-Way Catalyst OS-Oxygen Sensor HOS-Heated Oxygen SensorIC-Intercooler or Aftercooler ValveFuel System CFI, EPFI, MPFI, SFI, DID, DIP, HOS, OS nV-nVenturi CarburetorDIP, HOS, OS Diagnostics	Manufacturer <u>Ford Motor Compa</u>		
ABBREVIATIONS Ignition System Exhaust Emissions Control System Special Features CA-Centrifugal Advance AIP-Air Injection Pump Special Features ECU-Electronic Control Unit AIP-Air Injection Valve Special Features EXAC-Electronic Ignition EGR-Exhaust Gas Recirculation Injection or Throttle Body VA-Vacuum Advance FM-Engine Modification EPFI-Electronic Por Fuel Injection VR-Vacuum Retard SPL-Snoke Purf Limiter or Throttle Delay Freehanical Por Fuel Injection TOC-Trap Oxidizer, Continual TOC-Trap Oxidizer, Continual SFI-Sequential Fuel TOC-Trap Oxidizer, Continual DID-Diesel Injecti DID-Diesel Injecti DBC-Dual Bed Catalyst WUCC-Warm-Up Oxidation Catalyst DID-Diesel Injecti WUCC-Warm-Up Steamor Sc.Supercharger Intercooler CFI, EFFI, MPFI, SFI, DID, DIP, HOS, OS NV-Nventuri Carburetor Valve OBD-On-Board VeHICLE MODELS: E250/E350/Stripped or Cutaway F250/F350 MIL-Malfunction Engine: Front XXX Mid Rear Emissions Engine: Front XXX Mid Rear	Evaporative Family	Engine TypeV-8	
Ignition SystemExhaust Emissions Control SystemSpecial FeaturesCA-Centrifugal Advance ECU-Electronic Control Unit EI-Electronic IgnitionAIP-Air Injection Pump AIV-Air Injection Valve EGR-Exhaust Gas RecirculationCFI-Central Fuel Injection or Throttle Body Injection Control (Diesel Only)CFI-Central Fuel Injection or Throttle Delay TOC-Trap Oxidizer, Continual TOP-Trap Oxidizer, Continual TOP-Trap Oxidizer, Continual TOP-Trap Oxidizer, Continual TOP-Trap Oxidizer, Continual TOC-Trap Oxidizer, Continual DBC-Dual Bed Catalyst WUWC-Warm-Up Oxidation Catalyst WUWC-Warm-Up Three-Way Catalyst OS-Oxygen Sensor HOS-Heated Oxygen SensorCFI-Central Fuel Injection or Throttle Body Injection SFI-Sequential Fue Injection SFI-Sequential Fue S		Liters (CID) 7.5L	(460)
CA-Centrifugal Advance ECU-Electronic Control Unit EI-Electronic Ignition ESAC-Electronic Ignition ESAC-Electronic Spark Advance Control VA-Vacuum Advance VR-Vacuum Retard VR-Vacuum Retard AIP-Air Injection Pump AIV-Air Injection Valve EGR-Exhaust Gas Recirculation EIC-Electronic Injection Control (Diesel Only) EM-Engine Modification SPL-Smoke Puff Limiter or Throttle Delay TOC-Trap Oxidizer, Continual TOP-Trap Oxidizer, Continual TOP-Trap Oxidizer, Periodical DBC-Dual Bed Catalyst WUCC-Warm-Up Oxidation Catalyst WUTC-Warm-Up Oxidation Catalyst WUTC-Warm-Up Oxidation Catalyst WUTC-Warm-Up Oxidation Catalyst WUTC-Warm-Up Oxidation Catalyst OS-Oxygen Sensor HOS-Heated Oxygen Sensor PV-Nventuri Carburetor VV-Variable Venturi Carburetor VV-Variable Venturi Carburetor VEHICLE MODELS: E250/E350/Stripped or Cutaway F250/F350 Engine: Front XXX Mid Rear	ABBREVIATIONS		
ECU-Electronic Control Unit AIV-Air Injection Valve Injection or ESAC-Electronic Ignition EGR-Exhaust Gas Recirculation Injection or ESAC-Electronic Spark Advance Control (Diesel Only) EPFI-Electronic Por VA-Vacuum Advance EM-Engine Modification SPI-Smoke Puff Limiter or MPFI-Mechanical Por VR-Vacuum Retard TOC-Trap Oxidizer, Continual TOP-Trap Oxidizer, Periodical DBC-Dual Bed Catalyst 0C-Oxidation Catalyst WUCC-Warm-Up Oxidation Catalyst DID-Diesel Injection WUWC-Warm-Up Three-Way Catalyst DIP-Diesel Injection WUWC-Warm-Up Three-Way Catalyst SC-Supercharger CCI, EPFI, MPFI, SFI, DID, DIP, HOS, OS NV-Nventuri Carburetor NL-Malfunction VEHICLE MODELS: E250/E350/Stripped or Cutaway F250/F350 Engine: Front XXX Mid Rear Rear	Ignition System	Exhaust Emissions Control System	<u>Special Features</u>
Fuel System CCV-Combustion Charveloc Fuel System Valve OBD-On-Board Diagnostics NV-nVenturi Carburetor MIL-Malfunction VV-Variable Venturi Carburetor Indicator Ligh VEHICLE MODELS: E250/E350/Stripped or Cutaway F250/F350 Engine: Front XXX Mid Rear	ECU-Electronic Control Unit EI-Electronic Ignition ESAC-Electronic Spark Advance Control VA-Vacuum Advance	AIV-Air Injection Valve EGR-Exhaust Gas Recirculation EIC-Electronic Injection Control (Diesel Only) EM-Engine Modification SPL-Smoke Puff Limiter or Throttle Delay TOC-Trap Oxidizer, Continual TOP-Trap Oxidizer, Periodical DBC-Dual Bed Catalyst OC-Oxidation Catalyst TWC-Three-Way Catalyst WUOC-Warm-Up Oxidation Catalyst WUTWC-Warm-Up Three-Way Catalyst OS-Oxygen Sensor	Injection or Throttle Body Injection EPFI-Electronic Port Fuel Injection MPFI-Mechanical Port Fuel Injection SFI-Sequential Fuel Injection DID-Diesel Injection Direct DIP-Diesel Injection Prechamber TC-Turbocharger SC-Supercharger IC-Intercooler or
F250/F350 Engine: Front XXX Mid Rear	CFI, EPFI, MPFI, SFI, DID, DIP, nV-nVenturi Carburetor	HOS, OS	CCV-Combustion Cham Valve OBD-On-Board Diagnostics
		pped or Cutaway	
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