

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-10-321
Relating to Certification of New Motor Vehicles

FORD MOTOR COMPANY

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 1987 model-year Ford Motor Company exhaust emission control systems are certified as described below for gasoline-powered light-duty trucks and medium-duty vehicles:

<u>Engine Family</u>	<u>Displacement Cubic Inches (Liters)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
HFM5.0T5HAGX	302 (5.0)	Air Injection - Pump Three-Way Catalyst Oxidation Catalyst Oxygen Sensor Exhaust Gas Recirculation (Electronic Fuel Injection)

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

The following are the emission standards for this engine family:

<u>Equivalent Inertia Weight</u>	<u>Hydrocarbons Grams per Mile</u>	<u>Carbon Monoxide Grams per Mile</u>	<u>Nitrogen Oxides Grams per mile</u>
4000-5999	0.50	9.0	1.0

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

<u>Equivalent Inertia Weight</u>	<u>Hydrocarbons Grams per Mile</u>	<u>Carbon Monoxide Grams per Mile</u>	<u>Nitrogen Oxides Grams per Mile</u>
4000-5999	0.34	7.2	0.7

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 Administrative Code, 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 1981 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 Administrative Code, Section 1965) 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 regulations (Title 13, California Administrative Code, Section 2035 et seq.).

Vehicles 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 attachment.

Executed at El Monte, California this 11th day of August, 1986.

Bob Cross for
K. D. Drachand, Chief
Mobile Source Division

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Manufacturer Ford Motor Company Engine Family HFM5.0T5HAGX
 Evaporative Family 7HM Engine Type V8
 Liters (CID) 5.0L (302)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance
 ✓ EEC-Electronic Engine Control
 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
 ✓ CL-Closed Loop
 ✓ EGR-Exhaust Gas Recirculation
 EM-Engine Modification
 OC-Oxidation Catalyst System
 SPL-Smoke Puff Limiter or Throttle Delay
 TOC-Trap Oxidizer, Continual
 TOP-Trap Oxidizer, Periodical
 TR-Thermal Reactor
 ✓ TWC-Three-Way Catalyst System

Special Features

CCV-Combustion Chamber Valve
 CFI-Central Fuel Injection
 DID-Diesel Injection-Direct
 DIP-Diesel Injection-Prechamber
 ✓ EFI-Electronic Fuel Injection
 IC-Intercooler or aftercooler
 MFI-Mechanical Fuel Injection
 TC-Turbocharger

Fuel System

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

VEHICLE MODELS:

F-150 4x2 RC SWB, LWB SC LWB	Bronco 4x4
F-250 4x2 RC LWB	E-150-Van RV SWB, LWB SV LWB
F-150 4x4 RC SWB, LWB SC LWB	E-150-Bus CW LWB
F-250 4x4 RC LWB	E-250-Van RV LWB SV LWB

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Passenger Cars Light-Duty Trucks Medium-Duty Vehicles Gas Diesel

Manufacturer Ford Motor Company Engine Family HEM5.0T5HAGX

Liter (CID) 5.0 (302) Eng. Type V8

Emission Control Sys. (Special Features) AIP/CL/EGR/COC/TWC (EFI, EEC)

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)#	Trans. Type	Equiv. Test Weight	Ign. System (ECU) EEC Part No.	Fuel System Fuel Injector Assembly Part No.	EGR Valve Part No.	Catalyst Part No.
		<u>A4-4</u>		<u>-12A650-</u>	<u>-9F593-</u>	<u>-9F483-</u>	<u>-5F250-</u>
754SROOA/N	F-150 4x2 RC SWB	AOX071	4000 4250*	E7TE-AYA	E5TE-AB E5TE-BB	E7TE-DC	E7TE-GA
	RC LWB		4250				
	SC SWB		4500				
	SC LWB		4500 4750*				
	F-250 4x2 RC LWB		4500				
754RROOA/N	F-150 4x4 RC SWB		4500	E7TF-AXA			
	F-150 4x4 RC LWB		4500				
	F-150 4x4 SC LWB		4750 5000*				
With Air Conditioning.		# See Attached Page <u>546</u>					

Notes: See page one for abbreviations and evaporative emission family identification.
 * See refer to manufacturer's HP list for correct dyno test HP settings based on model and

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Passenger Cars _____ Light-Duty Trucks x Medium-Duty Vehicles x Gas x Diesel _____

Manufacturer Ford Motor Company Engine Family HFM5.0T5HAGX

Liter (CID) 5.0 (302) Eng. Type V8

Emission Control Sys. (Special Features) AIP/CL/EGR/COC/TWC (EFI, EEC)

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp) #	Trans. Type L-4	Equiv. Test Weight	Ign. System (ECU)	Fuel System	EGR Valve	Catalyst
				EEC Part No.	Fuel Injector Assembly Part No.	Part No.	Part No.
54RRO0A/N 54RR05A/N	F-250 4x4 RC LWB	AOX071	4750/5000	E7TF-AXA -12A650-	E5TE-AB E5TE-BB -9F593-	E7TE-DC -9F48s-	E7TA-GA -5F250-
54RR10A/N 54RR11A/N	Bronco 4x4		5000 5250*	E7TF-AXB (R11)			E7TA-JA
54TR12A/N	E-150 RV SWB		4250 4500*	E7TF-AZA			E7VA-ABA
	RV LWB		4500 4750*	E7TF-AZC (R12)			
	E-150 SV LWB		4750 5000*				
	E-150 CW LWB		5000 5250				

See Attached Page

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Passenger Cars _____ Light-Duty Trucks X Medium-Duty Vehicles X Gas X Diesel _____

Manufacturer Ford Motor Company Engine Family HFMS.0T5HAGX

Liter (CID) 5.0L (302) Eng. Type V8

Emission Control Sys. (Special Features) AIP/CL/EGR/COC/TWC (EFI, EEC)

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp) #	Trans. Type L-4	Equiv. Test Weight	Ign. System (ECU) EEC Part No. -12A650-	Fuel System Fuel Injector Assembly Part No. -9F593-	EGR Valve Part No. -9F483-	Catalyst Part No. -5F250-
754TROOA/N 754TR12A/N	E-250 RV LWB	AOX071	5000 5250*	E7TF-AZA E7TF-AZC (R12)	E5TE-AB E5TE-BB	E7TE-FA	E7UA-ABA
	E-250 SV LWB		5250 5500*				
754TR10A/N	E-150 RV SWB		4250/ 4500*	E7TF-AXA			
	RV LWB		4500/ 4750*				
	SV LWB		4750/ 5000*				
	CW LWB		5000/ 5250*				
	E-250 RV LWB		5000/ 5250*				
	SV LWB		5250/ 5500*				

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Passenger Cars _____ Light-Duty Trucks x Medium-Duty Vehicles x Gas x Diesel _____

Manufacturer Ford Motor Company Engine Family HFM5 OTSHAGX

Liter (CID) 5.0 (302) Eng. Type V8

Emission Control Sys. (Special Features) AIP/CL/EGR/COC/TWC (EFI, EEC)

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)#	Trans. Type L-4	Equiv. Test Weight	Ign. System (ECU) EEC Part No. -12A650-	Fuel System Fuel Injector Assembly Part No. -9F593-	EGR Valve Part No. -9F483-	Catalyst Part No. -5F250-
754SROOA/N 754SR05A/N	F-150 4x2 RC SWB	AOX071	4000 / 4250 4250*	E7TF-AYA	E5TE-AB E5TE-BB	E7TE-DC	E7TE-GA
754SR10A/N 754SR11A/N	RC LWB SC SWB SC LWB		4250 4500 4500 4750*	E7TF-AYB (R11)			
	F-250 4x2 RC LWB		4500 / 4750				
754RROOA/N 754RR05A/N	F-150 4x4 RC SWB		4500	E7TF-AXA			
754RR10A/N 754RR11A/N	F-150 4x4 RC LWB F-150 4x4 SC LWB		4500 / 4750 4750 / 5000 5000*	E7TF-AXB (R11)			

*With Air Conditioning.

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1987 DPA SETTINGS

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TRUCKLINE	ETW	Non A/C		A/C	
		DPA	CDT	DPA	CDT
F-150 (4x2)	3750	14.5	12.51	15.9	11.66
	3875	14.5	12.93	15.9	12.05
	4000	14.5	13.34	15.9	12.44
	4250*	14.5	14.18	15.9	13.22
	4500	14.8	14.35	16.2	13.37
	4750*	14.8	15.15	16.2	14.11
F-150 (4x4)	4250	15.9	12.35	17.3	11.68
	4500	15.9	13.07	17.3	12.37
	4750	15.9	13.80	17.3	13.05
	5000*	15.9R	14.53	17.3R	13.74
		18.6B	12.23	20.0B	11.59
F-250 (4x2) LDT RC	4250	14.9	13.58	16.3	12.68
	4500	14.9	14.38	16.3	13.43
	4750*	14.9R	15.18	16.3R	14.18
		18.0B	12.77	19.4B	12.04
HDT SC	5250	20.0(CB)	---	21.5(CB)	---
F-250 (4x4) LDT RC	4750	17.2	12.50	18.6	11.79
	5000*	17.2R	13.16	18.6R	12.41
	5250				
	5500*	20.0B	12.53	21.4B	11.90
HDT SC	5500	20.0(CB)	---	21.5(CB)	---
Bronco	4750				
	5000*	14.2R	15.35	15.6R	14.32
	5250*	17.2B	12.51	18.6B	11.88
F-350 (4x2) SRW	5500	20.0(CB)	---	21.5(CB)	---
	6000	22.0(CB)	---	23.5(CB)	---
	6000	26.8(CB)	---	28.2(CB)	---

1987 DPA SETTINGS

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TRUCKLINE	ETW	Non A/C		A/C	
		DPA	CDT	DPA	CDT
F-350 (4x2) CC DRW (4.9L)	7000* 84.6 sq. ft.	32.4	9.34	33.8	9.07
CC DRW (4.9L)	8000* 50.4 sq. ft.	24.1	12.41	25.5	11.99
F-350 (4x4) SRW	6000	20.0(CB)	---	21.5(CB)	---
E-150	4250	15.2	12.45	16.6	11.62
	4500	15.2	13.18	16.6	12.30
	4750	15.2	13.91	16.6	12.98
	5000	15.2	14.65	16.6	13.67
	5250*	15.2	15.38	16.6	14.35
	5500	19.5(CB)	---	21.0(CB)	---
E-250 SVL	4750	15.9	12.70	17.3	11.91
	5000	15.9	13.37	17.3	12.54
	5250	15.9	14.04	17.3	13.16
	5500*	15.9R	14.71	17.3R	13.79
		18.0B	12.57	19.4B	11.96
	6000*	18.0B	13.71	19.4B	13.05
CWL	5000				
	5500				
	6000	19.5(CB)	---	21.0(CB)	---
E-350 SWL	6000	20.0(CB)	---	21.5(CB)	---
CA SC SRW/DRW	7000* 77.9 sq. ft.	33.0	10.03	34.4	9.71

NOTES: (CB) - Cookbook
 (E) - Estimated
 * - Actual Coastdown Data

R - Radial Tire
 B - Bias Tire