

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-10-343  
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 1988 model-year Ford Motor Company emission control systems are certified as described below for gasoline-powered light-duty trucks and medium-duty vehicles:

<u>Engine Family</u>	<u>Displacement Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
JFM4.9T5HGG6	4.9 (300)	Air Injection - Pump Exhaust Gas Recirculation Three-Way Catalyst Oxidation Catalyst Oxygen Sensor (On-Board Diagnostics) (Electronic Port 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>Loaded Vehicle Weight</u>	<u>Hydrocarbons Grams per Mile</u>	<u>Carbon Monoxide Grams per mile</u>	<u>Nitrogen Oxides Grams per Mile</u>
3751-5750	0.50	9.0	1.0

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

<u>Loaded Vehicle Weight</u>	<u>Hydrocarbons Grams per Mile</u>	<u>Carbon Monoxide Grams per Mile</u>	<u>Nitrogen Oxides Grams per Mile</u>
3751-5750	0.21	2.1	0.5

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 1988 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 the vehicle models listed also comply with the "Malfunction and Diagnostic System for 1988 and Subsequent Model Year[s] ..." (Title 13, California Administrative Code, Section 1968) 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 23<sup>rd</sup> day of July, 1987.

  
K. D. Drachand, Chief  
Mobile Source Division

Manufacturer Ford Motor Company Engine Family JFM4.9T5HGG6  
 Evaporative Family 8HM Engine Type I6  
 Liters (CID) 4.9L (300 CID)

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

VEHICLE MODELS:

See Attached Pages

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

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19 88 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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

Manufacturer FORD MOTOR COMPANY

Engine Family JFM4.9T5HGG6

Liter (CID) 4.9L (300 CID)

Eng. Type I6

Emission Control Sys. and (Special Features) AIP/EGR/TWC/OC/OS (EFI)

Engine Code	Vehicle Models (if Coded, see Attachment)  (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU)	Fuel System EFI	EGR Valve	Catalyst
				Part No.	Part No.	Part No.	Part No.
		C5		-12A650-	-9F593-	-9F483-	-5F250-
851RRO0B	F150 - 4x2						
	RC SWB	M5X390	4000	E8TF-AAA	E67E-BB	E8TE-CA	E8TA-EA ,
	LWB	M5X572	4250	-AAB		E7TE-DA	EB, EC
		M5X390	4000				
	SC SWB	M5X390	4500				
	LWB	M5X30	4750				
	F250 4x2						
	RC LWB	M5X572	4500				
		M5X390	4500				
	F150 4x4						
	RC SWB	M5X572	4500				
		M5X390	4250				
	LWB	M5X572	4500				
		M5X390	4500				
SC SWB	M5X390	4750					
LWB	M5X390	5000					
F250 4x4							
RC LWB	M5X572	4750					

Comments: See Page One for abbreviations and evaporative emission family identification.  
 Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue \_\_\_\_\_ Revisions:

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19 88 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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

Manufacturer FORD MOTOR COMPANY

Engine Family JFM4.9T5HGG6

Liter (CID) 4.9L (300 CID)

Eng. Type I6

Emission Control Sys. and (Special Features) AIP/EGR/TWC/OC/OS (EFI)

Engine Code	Vehicle Models (if Coded, see Attachment)  (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU)  Part No.	Fuel System EFI  Part No.	EGR Valve  Part No.	Catalyst  Part No.
		C5		-12A650-	-9F593-	-9F483-	-5F250-
8-51R-ROOB	Bronco 4x4	M5X572 M5X390	5000 5000	E8TE-AAA E8TE-AAB	E67E-BB	E8TE-CA  E7TE-DA	E8TA-FA FB

Comments: See Page One for abbreviations and evaporative emission family identification.  
Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

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19<sup>88</sup> AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

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

Manufacturer FORD MOTOR COMPANY

Engine Family JFM4.9T5HGG6

Liter (CID) 4.9L (300 CID)

Eng. Type I6

Emission Control Sys. and (Special Features) AIP/EGR/TWC/OC/OS (EFI)

Engine Code	Vehicle Models (if Coded, see Attachment)  (Dyno Hp)	Trans. Type  A3	Equiv. Test Weight	Ign. System (ECU)	Fuel System EFI	EGR Valve	Catalyst
				Part No. -12A650-	Part No. -9F593-	Part No. -9F483-	Part No. -5F250-
752RR11B	F150 4x2 RC SWB	C6-029 C6-027	4000 4000	E8TF-CBA	E67E-BB	E7TE-CA E8TE-DA	E8TA-EA, EB, EC

Comments: See Page One for abbreviations and evaporative emission family identification.  
Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue \_\_\_\_\_ Revisors:

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19 88 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Passenger Cars      Light-Duty Trucks   X   Medium-Duty Vehicles   X   Gas   X   Diesel       
 Manufacturer FORD MOTOR COMPANY Engine Family JFM4.9T5HGG6  
 Liter (CID) 4.9L (300 CID) Erg. Type I6  
 Emission Control Sys. and (Special Features) AIP/EGR/TWC/OC/OS (EFL)

Engine Code	Vehicle Models (if Coded, see Attachment)  (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU)	Fuel System EFI	EGR Valve	Catalyst
				Part No.	Part No.	Part No.	Part No.
		A3		-12A650-	-9F593-	-9F483-	-5F250-
752RR10B	F150 4x2 RC SWB	C6-029	4000	E8TF-BPA	E67E-BB	E8TE-DA or E7TE-CA	E8TA-EA, EB, EC
	RC LWB	C6-027	4000				
	SC SWB	C6-029	4250				
	LWB	C6-027	4500				
		C6-027	4750				
752QR00B	F250 4x2 RC LWB	C6-027	4500	E8TF-BVA			E8UA-GA
	E150 Van RV SWB	C6-029	4500				
	LWB	C6-027	4500				
		C6-029	4500				
	SV LWB	C6-027	4500				
		C6-027	4750				
	E250 Van RV LWB	C6-027	5000				
SV LWB	C6-027	5250					
	E150 Bus CW LWB	C6-027	5250				

Comments: See Page One for abbreviations and evaporative emission family identification.  
 Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue \_\_\_\_\_ Revisions:

1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEETPassenger Cars \_\_\_\_\_ Light-Duty Trucks X Medium-Duty Vehicles X Gas X Diesel \_\_\_\_\_Manufacturer FORD MOTOR COMPANY Engine Family JFM4.9T5HGG6Liter (CID) 4.9L (300 CID) Eng. Type I6Emission Control Sys. and (Special Features) AIP/EGR/TWC/OC/OS (EPFI)

Engine Code	Vehicle Models	Trans. Type	Equiv. Test Weight	Ign. System (EUI)	Fuel System EFI	EGR Valve	Catalyst
				Part No.	Bosch Part No.	Part No.	Part No.
		C4		-12A650-	-9F593-	-9F483-	-5F250-
751RR08	F150 4x2 RC LWB	M4-632	4250	E8TF-CMA	E67E-BB	E8TE-DA or E7TE-CA	E8TA-EA, EB, EC
	F250 4x2 RC LWB		4500				
	F150 4x4 RC SWB LWB		4500 4500				
	SC SWB LWB		5000 5000				
	Bronco		5000				E8TA-FA, FB

PER RIC 4.9L -104

Comments: See Page One for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue \_\_\_\_\_

Revisions:



1988 DPA SETTINGS

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TRUCKLINE	ETW	Non A/C			A/C			
		DPA	THP	CDT	DPA	THP	CDT	
F-150 (4x2)	3750	14.5	18.5	12.51	15.9	19.9	11.66	
	3875	14.5	18.5	12.93	15.9	19.9	12.05	
	4000	14.5	18.5	13.34	15.9	19.9	12.44	
	4250*	14.5	18.5	14.17	15.9	19.9	13.22	
	4500	14.5	18.5	15.00	15.9	19.9	14.00	
	4750*	14.8	19.4	15.15	16.2	20.8	14.11	
	5000	14.8	19.4	15.95	16.2	20.8	14.85	
F-150 (4x4)	4250	15.9	21.3	12.35	17.3	22.5	11.68	
	4500	15.9	21.3	13.07	17.3	22.5	12.37	
	4750	15.9	21.3	13.80	17.3	22.5	13.05	
	5000*	15.9R	21.3	14.53	17.3R	22.5	13.74	
		18.6B	25.3	12.23	20.0B	26.7	11.59	
	5250	15.9R	21.3	15.26	17.3R	22.5	14.39	
		18.6B	25.3	12.84	20.0B	26.7	12.17	
F-250 (4x2) LDT RC	4250	14.9	19.3	13.58	16.3	20.7	12.68	
	4500	14.9	19.3	14.38	16.3	20.7	13.43	
	4750*	14.9R	19.3	15.18	16.3R	20.7	14.18	
		18.0B	23.0	12.77	19.4B	24.4	12.04	
	5000	14.9R	19.3	15.98	16.3R	20.7	14.93	
		18.0B	23.0	13.44	19.4B	24.4	12.67	
HDT SC	5250	20.0(CB)		---	21.5(CB)		---	
F-250 (4x4) LDT RC	4750	17.2	23.5	12.50	18.6	24.9	11.79	
	5000*	17.2R	23.5	13.16	18.6R	24.9	12.41	
	5250	17.2R	23.5	13.82	18.6R	24.9	13.03	
	5500*	20.0B	27.1	12.53	21.4B	28.6	11.90	
HDT SC	5500	20.0(CB)		---	21.5(CB)		---	
Bronco	4750							
	5000*	14.2	20.1	15.35	15.6	21.6	14.32	
	5250	14.2R	20.1	16.12	15.6R	21.6	15.04	
	5250*	17.2B	25.9	12.51	18.6B	27.3	11.88	
F-350 (4x2) SRW	5500	20.0(CB)		---	21.5(CB)		---	
	DRW	6000	22.0(CB)		---	23.5(CB)		---
	CC SRW	6000*	22.7	28.2	13.16	24.1	29.7	12.49
	46.2 Sq. Ft.							

1988 DPA SETTINGS

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TRUCKLINE	ETW	Non A/C			A/C		
		DPA	THP	CDT	DPA	THP	CDT
F-350 (4x2) CC DRW (4.9L)	7000* 84.6 sq. ft.	32.4	46.3	9.34	33.8	47.7	9.07
CC DRW (4.9L)	8000* 50.4 sq. ft.	24.1B 26.5R	39.8 38.4	12.41 12.87	25.5B 27.9R	41.2 40.0	11.99 12.30
F-350 (4x4) SRW	6000	20.0(CB)		---	21.5(CB)		---
E-150	4250* 4500 4750 5000 5250* 5500	16.4 15.2 15.2 15.2 15.2 15.2	21.1 21.1 21.1 21.1 21.1 21.1	12.45 13.18 13.91 14.65 15.38 16.11	17.8 16.6 16.6 16.6 16.6 16.6	22.6 22.6 22.6 22.6 22.6 22.6	11.62 12.30 12.98 13.67 14.35 15.03
E-250 Van	4750 5000 5250 5500* 6000	15.9 15.9 15.9 15.9R 19.5B(CB) 15.9R 19.5B(CB)	23.1 23.1 23.1 23.1 23.1 23.1	12.70 13.37 14.04 14.71 --- 16.05 ---	17.3 17.3 17.3 17.3R 21.0B(CB) 17.3R 21.0B(CB)	24.7 24.7 24.7 24.7 24.7 24.7	11.91 12.54 13.16 13.79 --- 15.04 ---
Club Wagon	5000 5500 6000						
E-350 SWL/SVL	6000	20.0(CB)		---	21.5(CB)		---
CA SC SRW/DRW	7000* 77.9 sq. ft.	33.0	43.1	10.03	34.4	44.6	9.71

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

R - Radial Tire  
 B - Bias Tire