

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-10-711  
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 Order G-45-9;

IT IS ORDERED AND RESOLVED: That 1997 model-year Ford Motor Company exhaust emission control systems are certified as described below for light-duty trucks:

Emission Standard Category: Transitional Low-Emission Vehicle (TLEV)

Fuel Type: Gasoline

Engine Family: VFM4.028G2EK Displacement: 4.0 Liters (244 Cubic Inches)

Exhaust Emission Control Systems and Special Features:

- Three Way Catalytic Converters (two)
- Dual Heated Oxygen Sensors
- Heated Oxygen Sensor
- Exhaust Gas Recirculation
- Sequential Multiport Fuel Injection

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

The non-methane organic gases (NMOG), carbon monoxide (CO), oxides of nitrogen (NOx), and formaldehyde (HCHO) TLEV certification exhaust emission standards for this engine family in grams per mile are:

<u>Loaded Vehicle Weight (lbs.)</u>	<u>Miles</u>	<u>NMOG</u>	<u>CO</u>	<u>NOx</u>	<u>HCHO</u>	<u>CO (20°F)</u>
3751-5750	50,000	0.160	4.4	0.7	0.018	12.5
	100,000	0.200	5.5	0.9	0.023	n/a

Reactivity Adjustment Factor (RAF) for NMOG Mass Emission: 0.98

The certification exhaust emission values set forth for NMOG reflect application of a 0.98 RAF for 1997 model-year TLEVs. The TLEV certification exhaust emission values for this engine family in grams per mile are:

<u>Loaded Vehicle Weight (lbs.)</u>	<u>Miles</u>	<u>NMOG</u>	<u>CO</u>	<u>NOx</u>	<u>HCHO</u>	<u>CO (20°F)</u>
3751-5750	50,000	0.081	1.0	0.2	0.002	3.8
	100,000	0.086	1.4	0.3	0.003	n/a

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the aforementioned exhaust emission standards based on its submitted plan to comply with the fleet average NMOG exhaust mass emission requirements as set forth 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 under the submitted NMOG fleet average compliance plan, if the manufacturer incurs a NMOG debit for the aforementioned model year based on the projected NMOG fleet average exceeding the value required by the above-referenced standards and test procedures, all incurred NMOG debits by the manufacturer shall be equalized as required by the standards and test procedures.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the 50,000-mile evaporative emission standards applicable to 1980 through 1994 model-year vehicles in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles," and the listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That, based on the evaporative emission phase-in compliance schedule submitted by the vehicle manufacturer, the listed vehicle models shall not be subject to the running loss and useful life standards set forth in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model 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" for the aforementioned model year (Title 13, California Code of Regulations, Section 2235).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high-altitude requirements and highway emission standards, and with the California Inspection and Maintenance emission standards in place at the time of certification, 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 Emission Control Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

BE IT FURTHER RESOLVED: That the vehicle manufacturer has demonstrated compliance with the exhaust emission standards at 50 degrees Fahrenheit 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 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 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 provisions (Title 13, California Code of Regulations, 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 27<sup>th</sup> day of June 1996.



R. E. Summerfield  
Assistant Division Chief  
Mobile Source Division

**1997 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET**  
**PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES**

Manufacturer: Ford Motor Company                      Exhaust Engine Family: VFM4.028G2EK

Evap Standard: 50K X    Useful Life with R/L \_\_\_\_\_    Evap Family: VFM1045AYPBA

Exhaust Std: Tier 0 \_\_\_ Tier 1 \_\_\_ TLEV X LEV \_\_\_ ULEV \_\_\_ ZEV \_\_\_ ; EPA Tier 0 \_\_\_ Tier 1 \_\_\_

Vehicle Class(es): PC \_\_\_ LDT1 \_\_\_ LDT2 X MDV1 \_\_\_ MDV2 \_\_\_ MDV3 \_\_\_ MDV4 \_\_\_ MDV5 \_\_\_

Single Cert Std for Multi-Class Eng Fam: N/A (specify N/A, LDT1, MDV1, MDV2, MDV3, MDV4)

Exh Cert Fuel(s): Indo \_\_\_ Ph2 X Diesel: 13 CCR 2282 \_\_\_ or 40 CFR 86.113-90 \_\_\_ or -94 \_\_\_  
M85 \_\_\_ CNG \_\_\_ LPG \_\_\_ Other (specify) \_\_\_\_\_

Fuel Type(s): Dedicated \_\_\_ Flex-Fuel \_\_\_ Dual-Fuel \_\_\_ Gasoline X Diesel \_\_\_ M85 \_\_\_  
CNG \_\_\_ LNG \_\_\_ LPG \_\_\_ Other (specify) \_\_\_\_\_

Hybrid: Type A \_\_\_ B \_\_\_ C \_\_\_, APU Cycle (e.g., Otto, Diesel, Turbine) \_\_\_\_\_

Engine Config: V-6                      Liter (CID): 4.0 (244.1)

Engine: Front X Mid. \_\_\_ Rear \_\_\_ Drive: FWD \_\_\_ RWD X 4WD-FT \_\_\_ 4WD-PT X

Exhaust ECS & Special Features: SFI/2HO2S/EGR/TWC(2)/HO2S  
(Use abbreviations per SAE J1930, Sep 91)

Engine Code (California)	Vehicle Models	Trans. Type A-Automatic M-Manual	ETW	DPA	Ignition (PCM) Part No. <u>-12A650-</u>	EGR System Part No. <u>-9D475-</u>	Catalyst Part No. <u>-5E212-</u>
758TR00A	Ranger 4x2 SKS	L5	3875	12.3	F77F-AAA	F37E-CA	F77A-LB
	B-Series 4x2 SKS	L5	3875	12.3			/
	Ranger 4x4 RKL	L5	4000	14.1&			
	Ranger 4x4 RKS	L5	3875*	14.1&			
	Ranger 4x4 SKS	L5	4250	14.1&			
	B-Series 4x4 RKL	L5	4000	14.1&			
	B-Series 4x4 RKS	L5	4000	14.1&			
	B-Series 4x4 SKS	L5	4250	14.1&			
758TR00N	Ranger 4x2 SKS	L5	3875	11.2			
	B-Series 4x2 SKS	L5	3875	11.2			
	Ranger 4x4 RKL	L5	4000	12.8#			
	Ranger 4x4 RKS	L5	3875	12.8#			
	Ranger 4x4 SKS	L5	4250	12.8#			
	B-Series 4x4 RKL	L5	4000	12.8#			
	B-Series 4x4 RKS	L5	3875	12.8#			
	B-Series 4x4 SKS	L5	4250	12.8#			

\* Ford elects to conduct certification tests in the next higher ETW.  
& If tire is P215/75R15 use DPA of 13.6.  
# If tire is P215/75R15 use DPA of 12.4.

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**1997 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET**  
**PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES**

Manufacturer: Ford Motor Company Exhaust Engine Family: VFM4.028G2EK  
 Evap Standard: 50K X Useful Life with R/L \_\_\_\_\_ Evap Family: VFM1045AYPBA  
 Exhaust Std: Tier 0 \_\_\_ Tier 1 \_\_\_ TLEV X LEV \_\_\_ ULEV \_\_\_ ZEV \_\_\_ ; EPA Tier 0 \_\_\_ Tier 1 \_\_\_  
 Vehicle Class(es): PC \_\_\_ LDT1 \_\_\_ LDT2 X MDV1 \_\_\_ MDV2 \_\_\_ MDV3 \_\_\_ MDV4 \_\_\_ MDV5 \_\_\_  
 Single Cert Std for Multi-Class Eng Fam: N/A (specify N/A, LDT1, MDV1, MDV2, MDV3, MDV4)  
 Exh Cert Fuel(s): Indo \_\_\_ Ph2 X Diesel: 13 CCR 2282 \_\_\_ or 40 CFR 86.113-90 \_\_\_ or -94 \_\_\_  
 M85 \_\_\_ CNG \_\_\_ LPG \_\_\_ Other (specify) \_\_\_\_\_  
 Fuel Type(s): Dedicated \_\_\_ Flex-Fuel \_\_\_ Dual-Fuel \_\_\_ Gasoline X Diesel \_\_\_ M85 \_\_\_  
 CNG \_\_\_ LNG \_\_\_ LPG \_\_\_ Other (specify) \_\_\_\_\_  
 Hybrid: Type A \_\_\_ B \_\_\_ C \_\_\_, APU Cycle (e.g., Otto, Diesel, Turbine) \_\_\_\_\_  
 Engine Config: V-6 Liter (CID): 4.0 (244.1)  
 Engine: Front X Mid \_\_\_ Rear \_\_\_ Drive: FWD \_\_\_ RWD X 4WD-FT \_\_\_ 4WD-PT X  
 Exhaust ECS & Special Features: SFI/2HO2S/EGR/TWC(2)/HO2S  
 (Use abbreviations per SAE J1930, Sep 91)

Engine Code (California)	Vehicle Models	Trans. Type A-Automatic M-Manual	ETW	DPA	Ignition (PCM) Part No. -12A650-	EGR System Part No. -9D475-	Catalyst Part No. -5E212-
758TR05A	Ranger 4x2 SKS	L5	3875	12.3	F77F-AAA	F37E-CA	F77A-LB
	B-Series 4x2 SKS	L5	3875	12.3			
	Ranger 4x4 RKL	L5	4000	14.1&			
	Ranger 4x4 RKS	L5	3875	14.1&			
	Ranger 4x4 SKS	L5	4250	14.1&			
	B-Series 4x4 RKL	L5	4000	14.1&			
	B-Series 4x4 RKS	L5	3875*	14.1&			
	B-Series 4x4 SKS	L5	4250	14.1&			
758TR05N	Ranger 4x2 SKS	L5	3875	11.2			
	B-Series 4x2 SKS	L5	3875	11.2			
	Ranger 4x4 RKL	L5	3875	12.8#			
	Ranger 4x4 RKS	L5	3875	12.8#			
	Ranger 4x4 SKS	L5	4250	12.8#			
	B-Series 4x4 RKL	L5	4000	12.8#			
	B-Series 4x4 RKS	L5	3875	12.8#			
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 # If tire is P215/75R15 use DPA of 12.4.

ENGINE FAMILY: VFM4.028G2EK 20.09.17.02 - 2  
 ISSUED: 11/19/96  
 REVISED:

**1997 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET**  
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Manufacturer: Ford Motor Company      Exhaust Engine Family: VFM4.028G2EK

Evap Standard: 50K X    Useful Life with R/L \_\_\_\_\_    Evap Family: VFM1045AYPBA

Exhaust Std: Tier 0 \_\_\_ Tier 1 \_\_\_ TLEV X LEV \_\_\_ ULEV \_\_\_ ZEV \_\_\_ ; EPA Tier 0 \_\_\_ Tier 1 \_\_\_

Vehicle Class(es): PC \_\_\_ LDT1 \_\_\_ LDT2 X MDV1 \_\_\_ MDV2 \_\_\_ MDV3 \_\_\_ MDV4 \_\_\_ MDV5 \_\_\_

Single Cert Std for Multi-Class Eng Fam: N/A (specify N/A, LDT1, MDV1, MDV2, MDV3, MDV4)

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M85 \_\_\_ CNG \_\_\_ LPG \_\_\_ Other (specify) \_\_\_\_\_

Fuel Type(s): Dedicated \_\_\_ Flex-Fuel \_\_\_ Dual-Fuel \_\_\_ Gasoline X Diesel \_\_\_ M85 \_\_\_  
CNG \_\_\_ LNG \_\_\_ LPG \_\_\_ Other (specify) \_\_\_\_\_

Hybrid: Type A \_\_\_ B \_\_\_ C \_\_\_ APU Cycle (e.g., Otto, Diesel, Turbine) \_\_\_\_\_

Engine Config: V-6      Liter (CID): 4.0 (244.1)

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Engine Code (California)	Vehicle Models	Trans. Type A-Automatic M-Manual	ETW	DPA	Ignition	EGR	Catalyst
					(PCM) Part No.	System Part No.	Part No.
758TR10A	Ranger 4x2 SKS	L5	3875	12.3	F77F-AAA	F37E-CA	F77A-LB
	B-Series 4x2 SKS	L5	3875	12.3			
	Ranger 4x4 RKL	L5	4000	14.1&			
	Ranger 4x4 RKS	L5	3875*	14.1&			
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	Ranger 4x4 RKS	L5	3875	12.8#			
	Ranger 4x4 SKS	L5	4250	12.8#			
	B-Series 4x4 RKL	L5	4000	12.8#			
	B-Series 4x4 RKS	L5	3875	12.8#			
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ENGINE FAMILY: VFM4.028G2EK

20.09.17.02 - 3

ISSUED: 11/19/96

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