

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-13-58  
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

CATERPILLAR, INC.

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 Caterpillar, Inc. 1991 model-year diesel engines 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</u> |                       | <u>Exhaust Emission Control Systems</u>                 |
|----------------------|---------------------|-----------------------|---|
|                      | <u>Liters</u>       | <u>(Cubic Inches)</u> |   |
| MCT0403FZE3          | 6.6                 | (403)                 | Smoke Puff Limiter<br>Charge Air Cooler<br>Turbocharger |

Engine models and codes are listed on attachments.

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

| <u>Hydrocarbons</u><br><u>gm/bhp-hr</u> | <u>Carbon</u><br><u>Monoxide</u><br><u>gm/bhp-hr</u> | <u>Nitrogen Oxides</u><br><u>gm/bhp-hr</u> | <u>Particulates</u><br><u>gm/bhp-hr</u> |
|---|--|--|---|
| 1.3                                     | 15.5   | 5.0  | 0.25                                    |

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

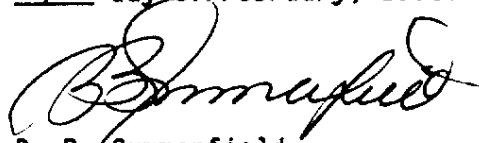
| <u>Engine Family</u> | <u>Hydrocarbons</u><br><u>gm/bhp-hr</u> | <u>Carbon</u><br><u>Monoxide</u><br><u>gm/bhp-hr</u> | <u>Nitrogen Oxides</u><br><u>gm/bhp-hr</u> | <u>Particulates</u><br><u>gm/bhp-hr</u> |
|----------------------|---|--|--|---|
| MCT0403FZE3          | 0.2                                     | 1.3  | 4.4  | 0.21                                    |

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 (Health and Safety Code Section 43205.5 and Title 13, California Code of Regulations, 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 and attachments.

Executed at El Monte, California this 4<sup>th</sup> day of February, 1991.



R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

## 1991 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

## HEAVY-DUTY DIESEL ENGINES

Manufacturer Caterpillar Inc. Engine Family MCT0403FZE3  
 Liter (CID) 6.6 (403) Engine Type 16  
 Emission Control Sys. and (Special Features) SPL (TC,CAC )

(Use abbreviations per SAE J1930 JUN 88)

| Engine Model<br>(Eng. Code) | Fuel Pump*<br>MFR. P/N | Injector<br>MFR. P/N | Rated HP<br>@ RPM | Fuel Rate<br>@ Gated HP<br>mm <sup>3</sup> /stroke | Part. Trap/<br>Catalyst<br>MFR. P/N |
|-----------------------------|------------------------|----------------------|-------------------|--|-------------------------------------|
| 3116<br>(A)                 | 7E6193                 | 7E6396               | 290 @ 2600        | 130  | ---                                 |
| (B)                         | 7E6193                 | 7E6396               | 225 @ 2600        | 98   | ---                                 |

\*Basic Fuel Pump 4P2995

(Reference Page No. 16.04-0403FZE-1).

Revisions:

1991 MODEL-YEAR CERTIFICATION REVIEW SHEET  
HEAVY-DUTY ENGINE

Manufacturer Caterpillar Inc. Engine Family MCT0403FZE3  
 Fuel Type Diesel Engine Code Types: CA     49S     50S X 0.0  
 Liter (CID) 6.6 (403) Valves/Cyl. 4 Engine Type 16  
 Exhaust Control System & Special Features SPL(TC,CAC)

(Use abbreviations per SAE J1930 JUN 88)

|  | <u>Section/Page</u>                      |   | <u>Section/Page</u>           |
|--|--|---|-------------------------------|
| 1 Authorized Representative                  | <u>01.01.01.00</u>                       | 10 Projected Sales  | <u>16.00.00.00 Appendix A</u> |
| 2 Fuel, Test Equipment<br>Procedures & Route | <u>04.00.00.00</u>                       | 11 Gen. Std., Increase in Em.,<br>Safety, Mtg. All Reqts. St. | <u>16.01.00.00</u>            |
| 3 Emiss. Warranty Statement (St.)            | <u>06.04.00.00 &amp;<br/>16.05.01.00</u> | 12 Prod. Eng. Same as Test Eng.St.                            | <u>16.01.00.00</u>            |
| 4 Maint: Cert/Req'd Recm'd                   | <u>06.00.00.00</u>                       | 13 Emiss. Label Durability St.                                | <u>07.00.00.00</u>            |
| 5 Emiss. Label/Vac. Hose Diag.               | <u>07.00.00.00</u>                       | 14 EPA Certificate  | <u>                    </u>   |
| 6 Engine Parameters                          | <u>10.00.00.00</u>                       |   |                               |
| 9 Exhaust Control System                     | <u>16.05.01.00</u>                       |   |                               |
| 15 Test Engine Information                   | <u>Dur. MY</u>                           | <u>Emiss. MY</u>  |                               |
| C/D MY OR C/A                                | <u>12.00.00.00</u>                       | <u>12.00.00.00</u>  |                               |
| Engine Logs                                  | <u>12.02.00.00</u>                       | <u>12.02.00.00</u>  |                               |
| Zero Hour Books                              | <u>12.01.00.00</u>                       | <u>12.01.00.00</u>  |                               |
| Maint. Logs & Engr. Eval.                    | <u>12.03.00.00</u>                       | <u>12.03.00.00</u>  |                               |

Projected Emissions (1)

| Engine Code | Displ. CID | Test Engine I.D. | Test Loc. | MNHC | THC | CO  | NOx | PART |
|-------------|------------|------------------|-----------|------|-----|-----|-----|------|
| A           | 403        | 7SF02132         | *         | ---- | 0.2 | 1.3 | 4.4 | 0.21 |

(1) The emission data engines above comply with stds. of: -- 1.3 15.5 5.0 0.25  
 and includes deterioration factors of: -- 0 0 0.28 0.014

\* Caterpillar Inc., Peoria, Illinois

Useful Life: 185,000 Miles Maximum GVWR:                     

Remarks Medium Heavy Duty Engine. Engines are for the military and  
sales figures are unknown for California

Application Processed by H. W. Moore Date 1/22/91 Reviewed by M. Bodanoff Date 1/25/91