

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-13-41  
Relating to Certification of New Motor Vehicle Engines

CATERPILLAR TRACTOR CO.

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 Tractor Co. 1985 model-year heavy-duty diesel engines have shown compliance with the optional transient standards and are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating greater than 8500 pounds:

| <u>Engine Family</u> | <u>Displacement<br/>Cubic Inches (Liters)</u> |        | <u>Exhaust Emission Control Systems<br/>(Special Features)</u>  |
|----------------------|---|--------|---|
| FCT0636EPA7          | 636   | (10.4) | Engine Modifications<br>(Air Fuel Ratio Controller)<br>(Diesel Injection - Direct)<br>(Turbocharger)                      |
| FCT0638FPA7          | 638   | (10.5) | Engine Modifications<br>(Air Fuel Ratio Controller)<br>(Diesel Injection - Prechamber)<br>(Intercooler)<br>(Turbocharger) |
| FCT0893FPA7          | 893   | (14.6) | Engine Modifications<br>(Air Fuel Ratio Controller)<br>(Diesel Injection - Direct)<br>(Intercooler)<br>(Turbocharger)     |

Engine models and codes are listed on attachments.

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

| <u>Engine Family</u> | <u>Hydrocarbons<br/>gm/bhp-hr</u> | <u>Carbon<br/>Monoxide<br/>gm/bhp-hr</u> | <u>Nitrogen Oxides<br/>gm/bhp-hr</u> |
|----------------------|-----------------------------------|--|--------------------------------------|
| FCT0636EPA7          | 1.2                               | 2.3                                      | 4.5                                  |
| FCT0638FPA7          | 0.5                               | 1.7                                      | 4.6                                  |
| FCT0893FPA7          | 0.4                               | 2.4                                      | 5.1                                  |

CATERPILLAR TRACTOR CO.


EXECUTIVE ORDER A-13-41  
(Page 2 of 2)

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 Administrative Code, 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.

Executed at El Monte, California this 5<sup>th</sup> day of December, 1984

  
K. D. Drachand, Chief  
Mobile Source Division

## 1985 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer Caterpillar Tractor Co. Executive Order No. A-13-44  
 Engine Family FCT0636EPA7 Evaporative Family N/A  
 Engine CID (Liters) 636 (10.4)  
638 (10.5)  
893 (14.6)

## ABBREVIATIONS

Ignition System

CA -Centrifugal Advance  
 EEC -Electronic Engine Control  
 EI -Electronic Ignition  
 ESAC-Electronic Spark Advance Control  
 VA -Vacuum Advance  
 VR -Vacuum Retard

Fuel System

CFI, CL, DID, DIP, EFI, MFI  
 nV -nVenturi Carburetor  
 VV -Variable Venturi

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  
 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  
 MFI-Mechanical Fuel Injection  
 TC -Turbocharged  
 IC -Intercooler  
 AFRC-Air Fuel Ratio Controller

Engine Family

FCT0636EPA7

FCT0638FPA7

FCT0893FPA7

Engine Model

3208-Code B

3306

3406 - Code H

3406 - Code J

198 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINESManufacturer CATERPILLAR TRACTOR CO.Page 2AEngine Family FCT0636EPA7CID(Liter)-Type 636(10.4) V8ECS and (Special Features) EM (TC, DID, AFRC)

| Engine Model       | Fuel Injection Pump Mfr.<br>Part Number | Injector Mfr.<br>Part Number | Maximum Rated HP and RPM<br>(TORQUE) | Fuel Rate at Maximum HP<br>mm <sup>3</sup> /stroke | Label Ident.  |
|--------------------|---|------------------------------|--------------------------------------|--|---|
| 3208<br><br>CODE B | CATERPILLAR<br><br>4W5868               | CATERPILLAR<br><br>4W7016    | (590 @ 1400)<br>225 @ 2600           | (92)<br>79   | LABEL INFORMATION<br>WILL BE PROVIDED<br>WHEN THEY ARE<br>DESIGNED. |
|                    |   |                              | (550 @ 1400)<br>210 @ 2600           | (83)<br>72   |   |
|                    |   |                              | (560 @ 1400)<br>200 @ 2200           | (84)<br>76   |   |
|                    |   |                              | (500 @ 1400)<br>175 @ 2200           | (75)<br>67   |   |
|                    | TURBOCHARGER<br>7W2874<br>7W2876        |                              |                                      |  |   |

Date of Issue -

198 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

Manufacturer CATERPILLAR TRACTOR CO. Page 2B  
 Engine Family FCT0638FPA7 CID(Liter)-Type 638(10.5) 16  
 ECS and (Special Features) EM (TC, IC, DIP, AFRC)

| Engine Model | Fuel Injection Pump Mfr.<br>Part Number | Injector Mfr.<br>Part Number | Maximum Rated HP and RPM (TORQUE) | Fuel Rate at Maximum HP<br>mm <sup>3</sup> /stroke | Label Ident.  |
|--------------|---|------------------------------|-----------------------------------|--|---|
| 3306         | CATERPILLAR<br><br>7W0279               | CATERPILLAR<br><br>9N2845    | (775 @ 1400)<br>270 @ 2200        | (174)<br>151                                       | LABEL INFORMATION<br>WILL BE PROVIDED<br>WHEN THEY ARE<br>DESIGNED. |
|              |   |                              | (775 @ 1400)<br>270 @ 2100        | (174)<br>157                                       |   |
|              |   |                              | (810 @ 1400)<br>245 @ 2200        | (181)<br>137                                       |   |
|              |   |                              | (810 @ 1400)<br>245 @ 2100        | (181)<br>138                                       |   |
|              | TURBOCHARGER<br>9N1287<br>9N1289        |                              |                                   |  |   |

Date of Issue -

1985 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

Manufacturer CATERPILLAR TRACTOR CO. Page 2C  
 Engine Family FCT0893FPA7 CID(Liter)-Type 893(14.6) 16  
 ECS and (Special Features) EM(DID, TC, IC, AFRC)

| Engine Model   | Fuel Injection Pump Mfr.<br>Part Number   | Injector Mfr.<br>Part Number | Maximum Rated HP and RPM (TORQUE) | Fuel Rate at Maximum HP<br>mm <sup>3</sup> /stroke | Label Ident.  |
|----------------|---|------------------------------|-----------------------------------|--|---|
| 3406<br>CODE H | CATERPILLAR<br><br>4W2551   | CATERPILLAR<br><br>4W7018    | (1145 @ 1200)<br>300 @ 2100       | (232)<br>165                                       | LABEL INFORMATION<br>WILL BE PROVIDED<br>WHEN THEY ARE<br>DESIGNED. |
|                |   |                              | (1145 @ 1200)<br>300 @ 1800       | (232)<br>186                                       |   |
|                |   |                              | (1145 @ 1200)<br>280 @ 1600       | (232)<br>189                                       |   |
| CODE J         | TURBOCHARGER<br>4W4537<br>4W4538<br><br>CATERPILLAR<br><br>7L0007<br><br><br><br>TURBOCHARGER<br>4W5188<br>4W5189 | CATERPILLAR<br><br>4W7018    | (1325 @ 1260)<br>400 @ 2100       | (264)<br>205                                       |   |
|                |   |                              | (1395 @ 1260)<br>400 @ 2100       | (279)<br>238                                       |   |
|                |   |                              | (1325 @ 1260)<br>380 @ 1800       | (264)<br>221                                       |   |
|                |   |                              | (1325 @ 1260)<br>360 @ 1800       | (264)<br>210                                       |   |
|                |   |                              | (1325 @ 1260)<br>340 @ 1700       | (264)<br>211                                       |   |
|                |   |                              |                                   |  |   |

Date of Issue -