State of California AIR RESOURCES BOARD

EXECUTIVE ORDER A-243-8 Relating to Certification of New Heavy-Duty Motor Vehicle Engines

VOLVO TRUCK CORPORATION

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 Volvo Truck Corporation 1989 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

| Engine Family | | splacement (Cubic Inches) | Exhaust Emission Control Systems (Special Features) |
|---------------|------|------------------------------|---|
| KVT0409FPA6 | 6.7 | (409) | Smoke Puff Limiter (Diesel injection - Direct) (Intercooler) (Turbocharger) |
| KVT0586FPA7 | 9.6 | (586) | Smoke Puff Limiter (Diesei Injection - Direct) (Intercooler) (Turbocharger) |
| KVT0730FPA3 | 12.0 | (730) | Smoke Puff Limiter (Diesel Injection - Direct) (Intercooler) (Turbocharger) |

Engine models and codes are listed on attachments.

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

| Hydrocarbons gm/bhb-hr | Carbon Monoxide gm/bhp-hr | Nitrogen Oxides | Particulates gm/bho-hr |
|---------------------------|---------------------------------|-----------------|---------------------------|
| 1.3 | 15.5 | 6.0 | 0.60 |

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

| Engine Family | Hydrocarbons gm/bhp_hr | Carbon Monoxide gm/bhp-hr | Nitrogen Oxldes gm/bhp-hr | Particulates gm/bhp-hr | |
|---------------|---------------------------|---------------------------------|------------------------------|---------------------------|--|
| KVT0409FPA6 | 0.9 | 3.5 | 5.4 | 0.54 | |
| KVT0586FPA7 | 0.4 | 1.8 | 5.1 | 0.36 | |
| KVT0730FPA3 | 0.6 | 1.7 | 5.8 | 0.47 | |

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 and attachments.

Executed at El Monte, California this 26

day of September, 1988.

K. D. Drachand, Chief Mobile Source Division

ા પ્રાપ્ય કરવા માટે તાલ કરાય કર્યા કે હોલ્ટેનો ફોફ્ટે કરી જો કર્યું હોલ્ટિક માટે જો એ પ્રેસિંગે હોલ માટે મારે કરે કે સ્થાન કરાય છે.

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| rėr <u>Volvo Truc</u> | k Corporation | 1 E | ngine Famil | y <u>KVT0409</u> F | PA6 |
|) 409 CID | | Eng | . Type | L-6 | |
| Control Sys. an | nd (Special F | eatures)_ | SPL, (DID, | IC, TC) | |
| • | | | • | | |
| Fuel | | | | Mandana | |
| Pump | Injector | Maximum | | e Rated | Fuel Rate |
| Mfr. Part Number | | | (lbs/Hr) | at RPM | mm ³ /stroke (lbs/Hr) |
| Parak | Danah | 225 | 112 | 605 | 125 |
| 477138 | 421479 | 2400 | (88.5) | 1400 | (57.1) |
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| sue | | Re | evisions: | | |
| | rer Volvo Truc 2) 409 CID Control Sys. an Fuel Injection Pump Mfr. Part Number Bosch 477138 | 1989 AIR RESOURCES REAVY-DU Per Volvo Truck Corporation 409 CID Control Sys. and (Special F Fuel Injection Pump Mfr. Part Number Bosch 477138 Bosch 477138 Bosch 421479 | 1989 AIR RESOURCES BOARD SUPPLED HEAVY-DUTY DIESEL For Volvo Truck Corporation Engineer May and (Special Features) Fuel Injection Pump Mfr. Part Number At RPM Bosch Bosch 225 477138 421479 2400 | 19 89 AIR RESOURCES BOARD SUPPLEMENTAL DATHEAVY-DUTY DIESEL ENGINES Per Volvo Truck Corporation | 19 89 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET HEAVY-DUTY DIESEL ENGINES rer Volvo Truck Corporation Engine Family KVT0409F D) 409 CID Eng. Type L-6 Control Sys. and (Special Features) SPL, (DID, IC, TC) Fuel Injection Pump Mfr. Rated HP Rated HP Part Number at RPM Bosch Bosch 477138 Bosch 421479 2400 (88.5) 113 605 1400 |

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| mission C | ontrol Sys. ar | nd (Special F | eatures) | SPL, (DID, IC, | , (0) | | | | |
| | | | | | | | | | |
| | Fuel Injection | | _ | | Maximum | Suml Date | | | |
| Engine | թսոր Mfr. | | Rated HP | Fuel Rate | Torque | Fuel Rate mm ³ /strok | | | |
| Model | Part Number | Part Number | at RPM | (lbs/Hr) | at RPM | (lbs/Hr) | | | |
| TD102FCQ | Bosch | Bosch | 300 | 163 | 955 | 187 | | | |
| | 422983 | 422954 | 2100 | (111.8) | 1200 | (73.3) | | | |
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| | | 19 <u>89</u> AI | R RESOURCES HEAVY-DU | BOARD SUPPI TY DIESEL I | _EMENTAL ENGINES | DATA | SHEET - | 140 | <u>り</u> |
| lanufactur | ėr V | olvo Tr <u>uck</u> | c Corporation | E | ngine F | amily _ | KVT0730FF | A3 | |
| iter (CID |) | 730 CID | | Eng | . Type | | L-6 | | |
| | | | nd (Special F | | | | | | |
| | | | · | | · | | | T - * | |
| Enginė Model | ln | Fuel jection Pump Mfr. t Number | | Rated HP | | Rate troke Hr} | Maximum Rated Torque at RPM | mm ³ / | Rate strok s/Hr) |
| TD122FEQ | | Bosch 478057 | Bosch 422954 | 340 1800 | 203 (119. | 3) | 1170 1200 | 222 (87. | |
| TD122FGQ | | Bosch 478056 | Bosch 422954 | 355 2100 | 194 (133. | | 1170 1200 | 222 (87 | |
| TD122FJQ | 1 | Bosch 478223 | Bosch 422954 | 345 1900 | 199 (123. | | 1170 1200 | 222 (87 | |
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