State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-15
Relating to Certification of New Motor Vehicle Engines

CUMMINS ENGINE COMPANY, 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 Cummins Engine Company, Inc. 1978 model-year diesel-powered engines in heavy-duty motor vehicles with manufacturer's gross vehicle weight rating greater than 8500 pounds are certified for the engine families codes and models described below:

Families	Engine Size (CID)	Type
093E	855	Turbocharged and aftercooled
193	1150	Turbocharged and aftercooled

Models and Engine Codes as listed in attachment.

Section 43200, Part 5, Division 26 of the California Health and Safety Code requires that the manufacturer affix a decal to the side window to the rear of the driver or, if there is no such window on the driver's side, to the windshield of the motor vehicle.

The decal shall display the applicable model year heavy-duty engine exhaust emission standards and the following recommended values:

Engine Family	HC + NOx gm/bhp-hr	CO gm/bhp-hr	HC gm/bhp-hr	NOx gm/bhp-hr
093E	not applicable	2	0.4	6.8
193	not applicable	1	0.6	6.7

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Department of Motor Vehicles, the California Highway Patrol, and the Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California, this 22 day of December, 1977.

G. C. Hass

G. C. Hass, Chief
Vehicle Emissions Control Division

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Engine Family See Below Engine (CID) See Below

ABBREVIATIONS

Distributor
C-Centrifugal Advance
V-Vacuum Advance
VR-Vacuum Retard
HEI-High Energy Ignition
EI-Electronic Ignition

Fuel System
EFI, FI
nV-nVenturi Carburetor
VV-Variable Venturi

Exhaust Emissions Control System
AI-Air Injection
CAI-Catalyst Air Injection
CAB-Chamber Air Bleed
DD-Dual Displacement
EFI-Electronic Fuel Injection
EGR-Exhaust Gas Recirculation
EM-Engine Modification
EFE-Early Fuel Evaporation
ESAC-Electronic Spark Advance Control
FI-Fuel Injection
OC-Oxidation Catalyst
PAI-Pulse Air Injection
RC-Reduction Catalyst
TC-Turbo Charged
TR-Thermal Reactor
TWC-Three Way Catalyst (Feedback Control)

EGR Syst. Service
I-Inspect, repair/replace as needed
R-Replace

Engine Family	Model	Critical Parts List
193	KTC-450	0302
093E	NTCC-350	0328
	NTCC-290	0332
	NHTCC-290	0332

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Engine Family 193 Engine (CID) 1150

Emission Control Systems _____ Type TCA

Engine Model (CPL)	Fuel Injection Pump Mfgr. Part Number	Injector Mfg. Part Number	Maximum Rated HP and RPM	Fuel Rate at Maximum HP MM 3/S	Basic Initial Timing
KTC-450 (0302)	Cummins	3003958 3016675	450 @ 2100 & derates	237	18.5 BTDC @ .2032 inch piston travel & @ .118 inch injector push tube travel

Comments

Date of Issue
Dec. 19, 1977
REVISED Mar. 31,1978

Abbreviations

Type
NA - Natural Aspiration
TC - Turbocharged
TCA- Turbocharged and Aftercooled

Emission Control Systems
AC - Aftercooler
EGR - Exhaust Gas Recirculation
TD - Throttle Delay

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Engine Family 093E Engine (CID) 855

Emission Control Systems _____ Type TCA

Engine Model (CPL)	Fuel Injection Pump Mfgr. Part Number	Injector Mfg. Part Number	Maximum Rated HP and RPM	Fuel Rate at Maximum HP MM 3/S	Basic Initial Timing
NTCC-350 (0328) (0308)*	Cummins	3013740 3017463 ** 3018350 ## 3010953* 3018356 ##	350 @ 2100 & derates	189	19 BTDC @ .2032 inch piston travel & @ .072 inch injector push tube travel.
NTCC-290 (0332) (0306)*		3013740 3017463 ** 3018351 ## 3011071* 3018357 ##	290 @ 2100	160	19 BTDC @ .2032 inch piston travel & @ .065 inch injector push tube travel.
NHTCC-290 (0332)		3013740	290 @ 2100	160	
NTCC-400 # (0310)		3016227	400 @ 2100 & derates	212	19 BTDC @ .2032 inch piston travel & @ .081 inch injector push tube travel.

Comments

* R/C 2-093E-078 Jan. 26, 1978
\# R/C 3-093E-078 Jan. 26, 1978
** R/C 4-093E-78 Apr. 5, 1978
\#\# R/C 8-093-78 May 12, 1978

Date of Issue

Dec. 19, 1977

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