

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:

<u>Families</u>	<u>Engine Size (CID)</u>	<u>Type</u>
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.

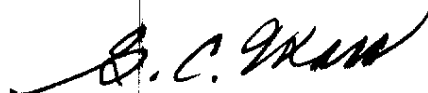
The decal shall display the applicable model year heavy-duty engine exhaust emission standards and the following recommended values:

<u>Engine Family</u>	<u>HC + NOx gm/bhp-hr</u>	<u>CO gm/bhp-hr</u>	<u>HC gm/bhp-hr</u>	<u>NOx gm/bhp-hr</u>
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, Chief  
Vehicle Emissions Control Division

## 1978 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer Cummins Executive Order No. A-21-15 Page 1  
 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

## 1978 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins Executive Order No. A-21-15 Page 2  
 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

## 1978 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins Executive Order No. A-21-15 Page 3Engine Family 093E Engine (CID) 855Emission 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

## Abbreviations

## Type

NA - Natural Aspiration

TC - Turbocharged

TCA- Turbocharged and Aftercooled

## Emission Control Systems

AC - Aftercooler

EGR - Exhaust Gas Recirculation

TD - Throttle Delay