

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-14
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>
092	855	Turbocharged
092B	855	Turbocharged
093F	855	Turbocharged and aftercooled
172A	903	Turbocharged
222	555	Turbocharged

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>
092	not applicable	3	0.3	6.6
092B	not applicable	1	0.3	6.6
093F	not applicable	2	0.3	7.0
172A	not applicable	2	0.8	5.7
222	not applicable	3	0.6	7.2

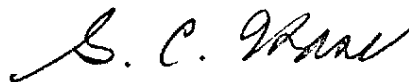
CUMMINS ENGINE COMPANY, INC.

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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 15 day of September, 1977.



G. C. Hass, Chief
Vehicle Emissions Control Division

1978 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer Cummins Executive Order No. A-21-14 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. ServiceI-Inspect, repair/replace
as needed

R-Replace

Engine Family	Model	Critical Parts List
092	NTCC-230S NTCC-230	0270
092B	NTCC-290 NHHTCC-290	0249
	NTCC-250 NTCC-250-S	0277
093F	NTCC-350	0250
172A	VT-903	0203
	VTB-903, VTB-903S	0206
222	VT-555, VT-225	5019

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

Manufacturer Cummins Executive Order No. A-21-14 Page 2
 Engine Family 092 Engine (CID) 855
 Emission Control Systems _____ Type TC

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-230-S (0270)	Cummins	AR-40117 3003945	230 @ 1800 & derates	137	19 BTDC @ .2032 inch piston travel & @ .052 inch injector push tube travel
NTCC-230			230 @ 1900 230 @ 2100 & derates	133 126	

Comments

Date of Issue

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-21-14 Page 3
 Engine Family 092B Engine (CID) 855
 Emission Control Systems _____ Type TC

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-290 (0249) NHHTCC-290 (0249) Power Torque 270 (0249)	Cummins	3007168	290 @ 1900 290 @ 2100 & derates	173 162	19 BTDC @ .2032 inch piston travel & @ .110 inch injector push tube travel
NTCC-250 (0277) DC-250-S (0277)		3007169	250 @ 2100 & derates	138	19 BTDC @ .2032 inch piston travel & @ .105 inch injector push tube travel

Comments

Date of Issue

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-21-14 Page 4

Engine Family 093F Engine (CID) 855

Emission Control Systems AC 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 (0250)	Cummins	3007167	350 @ 1900 350 @ 2100 & derates	198 186	19 BTDC @ .2032 inch piston travel & @ .105 inch injector push tube travel

Comments

Date of Issue

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-21-14 Page 5
 Engine Family 172A Engine (CID) 903
 Emission Control Systems _____ Type TC

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
VT-903 (0203)	Cummins	3003955	320 @ 2400 & derates	111	21 BTDC @ .2032 inch piston travel & @ .094 inch injector push tube travel
VTB-903, VTB 903S (0206)			275 @ 2100 & derates		

Comments

Date of Issue **September 15, 1977**
 Revised **November 21, 1977**

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-21-14 Page 6
 Engine Family 222 Engine (CID) 555
 Emission Control Systems _____ Type TC

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
VT-555, VT-225 (5019)	Cummins	3275773	220 @ 3000 & derates	66	22 BTDC @ .2032 inch piston travel & @ .071 inch injector push tube travel
Comments					
Date of Issue					

Abbreviations

Type

NA - Natural Aspiration

TC - Turbocharged

TCA- Turbocharged and Aftercooled

Emission Control Systems

AC - Aftercooler

EGR - Exhaust Gas Recirculation

TD - Throttle Delay