State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-16
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 the following Cummins Engine Company, Inc. 1979 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating greater than 8500 pounds:

Engine Family	Displacement Cubic Inches	Exhaust Emission Control Systems (Special Features)
193	1150	(Turbocharged and Aftercooled)
093E	855	(Turbocharged and Aftercooled)
172A	903	(Turbocharged)

Engine Models and Codes as listed on attachments.

Section 43200, Part 5, Division 26 of the California Health and Safety Code requires that the engine manufacturer furnish a decal with each engine sold or delivered to a vehicle manufacturer. The decal shall display the applicable model year heavy-duty engine exhaust emission standards and the following certification emission values:

Engine Family	Hydrocarbons gm/bhp-hr	Carbon Monoxide gm/bhp-hr	Nitrogen Oxides gm/bhp-hr
193	0.6	1	6.8
093E	0.4	3	6.9
172A	0.8	2	5.7

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 13 day of December, 1978.

G. C. Hass

G. C. Hass, Chief
Vehicle Emissions Control Division

1979 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer Cummins Executive Order No. A-21-16 Page 1

Engine Family See Below Engine (CID) _____

ABBREVIATIONS

Ignition System
CA-Centrifugal Advance
EI-Electronic Ignition
ESAC
VA-Vacuum Advance
VR-Vacuum Retard

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

Exhaust Emissions Control System
AI-Air Injection
CCAV-Comb. Chamber Air Valve
EFI-Electronic Fuel Injection
EGR-Exhaust Gas Recirculation
EM-Engine Modification
EEC-Electronic Engine Control
ESAC-Electronic Spark Advance Control
MFI-Mechanical Fuel Injection
OC-Oxidation Catalyst
PAI-Pulse Air Injection
TC-Turbo Charged
TR-Thermal Reactor
TWC-Three Way Catalyst (Feedback Control)
WOC-Warm-up Oxidation Catalyst

Engine Family	Model	Critical Parts List
193	KTC-450	0302
093E	NTCC-350	0328
	NTCC-290	0332
	NHTCC-290	0332
	NTCC-400	0310
172A	VT-903	0203
	VTB-903	0206

E.O. #A-21-16

1979 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins 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/stroke	Basic Initial Timing
KTC-450 (0302)	Cummins 217795 217797 3004284 3008908	3003958 3016675	450 @ 2100 & detates	237	18.5 BTDC @ .2032 inch piston travel & @ .118 inch injector push tube travel

Date of Issue - December 15, 1978.

Abbreviations

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

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

E.O. #A- 21 -16

1979 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins Page 3

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/stroke	Basic Initial Timing
NTCC-350 (0328)	Cummins 217795 217797 3004284 3008908	3018350 3018351	350 & 2100 & derates	189	19 BTDC @ .2032 inch piston travel & @ .072 inch injector push tube travel.
NTCC-290 (0332)			290 @ 2100 & derates	160	19 BTDC @ .2032 inch piston travel & @ .065 inch injector push tube travel.
NTCC-400 # (0310)		3018348 3018349	400 @ 2100 & derates	212	19 BTDC @ .2032 inch piston travel & @ .081 inch injector push tube travel.

Date of Issue - December 15, 1978
Revised - January 24, 1979

Abbreviations

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

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

E.O. #A- 21 - 16

1979 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins Page 4

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/stroke	Basic Initial Timing
VT-903 (0203)	Cummins 217794 217796 3008037 3008909	3003955 #307465	320 @ 2400 & derates	111	21 BTDC @ .2032 inch piston travel & @ .094 inch injector push tube travel
VTB-903 (0206)		3010512 #3010513	275 @ 2100 & derates	105	

Date of Issue - December 15, 1978

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R/C # 1-172A-79

Abbreviations

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

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