File

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-328-2
Relating to Certification of New Motor Vehicles

IMPCO TECHNOLOGIES, INC.

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That 1998 model-year Impco Technologies, Inc. exhaust emission control systems are certified as described below for medium-duty vehicles:

Fuel Type: Dual-Fuel Compressed Natural Gas (CNG) or Gasoline (Indolene)

Engine Family: WTJXT05.7187 Displacement: 5.7 Liters (350 Cubic Inches)

Exhaust Emission Control Systems and Special Features:

Exhaust Gas Recirculation
Dual Three Way Catalytic Converters
Dual Heated Oxygen Sensors (two)
Sequential Multiport Fuel Injection (Gasoline)
Throttle Body Fuel Injection (CNG)

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The certification exhaust emission standards for this engine family in grams per mile are:

Test Weight (lbs.)	Miles	Non-Methane Hydrocarbons	Carbon Monoxide	Nitrogen Oxides
5751-8500	50,000	0.39	5.0	1.1
	120,000	0.56	7.3	1.53

The certification exhaust emission values for this engine family in grams per mile are: (The values in parentheses are for gasoline.)

Test Weight (lbs.)	Miles	Non-Methane Hydrocarbons	Carbon Monoxide	Nitrogen Oxides
5751-8500	50,000	0.09 (0.24)	3.2 (2.8)	0.7 (0.4)
	120,000	0.10 (0.25)	3.7 (3.3)	0.78 (0.56)

BE IT FURTHER RESOLVED: That the manufacturer shall not be subject to the phase-in requirement as specified in Title 13, California Code of Regulations, Section 1960.1(h)(2), Endnote (10)(d) applicable to small-volume manufacturers of medium-duty vehicles.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the running loss and useful life standards applicable to 1995 and subsequent model-year vehicles in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles," and the listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" for the aforementioned model year (Title 13, California Code of Regulations, Section 2235).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high-altitude requirements and highway emission standards, and with the California Inspection and Maintenance emission standards in place at the time of certification, as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Emission Control and Smog Index Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines" (Title 13, California Code of Regulations, Section 1968.1) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2035 et seq.).

Vehicles 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 attachment.

Executed at El Monte, California this 28th day of January 1998.

R. B. Summerfield, Chief
Mobile Source Operations Division

E.O.# A-328-2

1998 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES Page 1

anufacturer: IMPCO Technologies, Inc. Exh Eng Fam: WTJXT05.7187 Evap Fam: WTJXE0111909
All Eng Codes in Eng Fam: CA___ 49S___ 50S X AB965___ ORVR: YES___ NO X
Exh Std: CA Tier-1 X TLEV___ LEV___ ULEV___ SULEV___; US EPA Tier-1___
Veh Class(es): PC___ LDT1___ LDT2___ MDV1___ MDV2___ MDV3 X MDV4___ MDV5___
Single Cert Std for Multi-Class Eng Fam: N/A (specify:N/A,LDT1,MDV1,MDV2,MDV3,MDV4)
Fuel Type(s): Dedicated___ Flex-Fuel___ Dual-Fuel X Bi-Fuel___ Gasoline X Diesel___
CNG X LNG___ LPG___ M85___ Other (specify)___
Exh Emiss Test Fuel(s): Indo X CBG___ CNG X LPG___ M85___ Other (specify)___
Diesel: 13 CCR 2282___ 40 CFR 86.113-90___ 40 CFR 86.113-94___
Evaporative Emission Test Procedure: California___ Federal X
Service Accum: Std AMA___ Mod AMA___ Mfr ADP___ Other(specify): ADF(CNG); C/A GM DF(GAS)
NMOG Test Procedure: N/A X Std___ Equiv___ R/L Test Proc: SHED X Pt Source___
Engine Configuration: V8 Displacement: 5.7 / Liters 350 / Cubic Inches
Valves per Cylinder: 2 Rated HP 215 HP @ 4500 RPM (CNG); 255 HP @ 4600 RPM (GAS)
Engine: Front X Mid___ Rear___ Drive: FWD___ RWD X 4 WD-FT___ 4WD-PT___
Exhaust ECS (e.g., MFI, EGR, TC, CAC): 2TWC / 2HO2S(2) / EGR / SFI / TBI
(use abbreviations per SAE J1930 JUN93)

Engine Code (also list CA/49ST/ 50ST)	Vehicle Models	Trans. (M5, A4, etc.)	ETW or Test Wt.	DPA or RLHP	Ignition (ECM/PCM) Part No.	EGR System Part No.	Catalytic Converter Part No.
01 (50ST)	GM Sierra Chevrolet Silverado	A4	7000	15.5	16214835(BNSA)/ 16215972PB-OPER 16232618-ENG 16216110-TRANS	17096309, 25312788	25160620