

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-194-7  
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

IVECO B.V.

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 Orders G-45-3;

IT IS ORDERED AND RESOLVED: That the following IVECO B.V. 1988 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds.

Engine Family	Displacement		Exhaust Emission Control Systems (Special Features)
	Liters	(Cubic Inches)	
JVE0238FAAX	3.9	(238)	Smoke Puff Limiter (Diesel Injection - Direct) (Intercooler) (Turbocharger)
JVE0358EAA1	5.9	(358)	Smoke Puff Limiter (Diesel Injection - Direct) (Turbocharger)

Engine models and codes are listed on attachments.

The following are the emission standards for these engine families:

Hydrocarbons <u>gm/bhp-hr</u>	Carbon Monoxide <u>gm/bhp-hr</u>	Nitrogen Oxides <u>gm/bhp-hr</u>	Particulates <u>gm/bhp-hr</u>
1.3	15.5	6.0	0.60

The following are the certification emission values for these engine families:

Engine Family	Hydrocarbons <u>gm/bhp-hr</u>	Carbon Monoxide <u>gm/bhp-hr</u>	Nitrogen Oxides <u>gm/bhp-hr</u>	Particulates <u>gm/bhp-hr</u>
JVE0238FAAX	0.7	2.8	4.6	0.46
JVE0358EAA1	0.7	2.3	5.0	0.46

IVECO B.V.

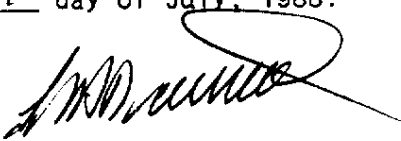
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BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

Engines 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 14<sup>th</sup> day of July, 1988.



K. D. Drachand, Chief  
Mobile Source Division

Manufacturer IVECO B.V. Engine Family JVE0238FAAX  
 Evaporative Family NA Engine Type I4  
 Liters (CID) 3.9 (238)

**ABBREVIATIONS**

Ignition System

CA-Centrifugal Advance  
 ECU-Electronic Control Unit  
 EI-Electronic Ignition  
 ESAC-Electronic Spark Advance Control  
 VA-Vacuum Advance  
 VR-Vacuum Retard

Exhaust Emissions Control System

AIP-Air Injection-Pump  
 AIV-Air Injection-Valve  
 DBC-Dual Bed Catalyst  
 EGR-Exhaust Gas Recirculation  
 EIC-Electronic Injection Control  
 EM-Engine Modification  
 OC-Oxidation Catalyst  
 OS-Oxygen Sensor  
 HOS-Heated Oxygen Sensor  
 SPL-Smoke Puff Limiter or Throttle Delay  
 TOC-Trap Oxidizer, Continual  
 TOP-Trap Oxidizer, Periodical  
 TWC-Three-Way Catalyst  
 WUOC-Warm-Up Oxidation Catalyst  
 WUTWC-Warm-Up Three-Way Catalyt

Special Features

CCV-Combustion Chamber Valve  
 CFI-Central Fuel Injection or Throttle Body Injection  
 DID-Diesel Injection-Direct  
 DIP-Diesel Injection-Prechamber  
 EFI-Electronic Fuel Injection  
 IC-Intercooler or Aftercooler  
 MFI-Mechanical Fuel Injection  
 OBD-On-Board Diagnostics  
 TC-Turbocharger

Fuel System

CFI, CL, DID, DIP, EFI, MFI  
 nV-nVenturi Carburetor

VEHICLE MODELS:

EURO 12-11

Engine: Front   x   Mid.        Rear         
 Drive: FWD        RWD   x   4WD Full Time        4WD Part Time

Manufacturer IVECO B.V. Engine Family JVEO358EAA1  
 Evaporative Family NA Engine Type I6  
 Liters (CID) 5.9 (358)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance  
 ECU-Electronic Control Unit  
 EI-Electronic Ignition  
 ESAC-Electronic Spark Advance Control  
 VA-Vacuum Advance  
 VR-Vacuum Retard

Exhaust Emissions Control System

AIP-Air Injection-Pump  
 AIV-Air Injection-Valve  
 DBC-Dual Bed Catalyst  
 EGR-Exhaust Gas Recirculation  
 EIC-Electronic Injection Control  
 EM-Engine Modification  
 OC-Oxidation Catalyst  
 OS-Oxygen Sensor  
 HOS-Heated Oxygen Sensor  
 SPL-Smoke Puff Limiter or Throttle Delay  
 TOC-Trap Oxidizer, Continual  
 TOP-Trap Oxidizer, Periodical  
 TWC-Three-Way Catalyst  
 WUOC-Warm-Up Oxidation Catalyst  
 WUTWC-Warm-Up Three-Way Catalyt

Special Features

CCV-Combustion Chamber Valve  
 CFI-Central Fuel Injection or Throttle Body Injection  
 DID-Diesel Injection-Direct  
 DIP-Diesel Injection-Prechamber  
 EFI-Electronic Fuel Injection  
 IC-Intercooler or Aftercooler  
 MFI-Mechanical Fuel Injection  
 OBD-On-Board Diagnostics  
 TC-Turbocharger

Fuel System

CFI, CL, DID, DIP, EFI, MFI  
 nV-nVenturi Carburetor

VEHICLE MODELS:

EURO 10-14AS, 12-14, 15-14, 18-14, 23-16, 23-16T

Engine: Front X Mid. \_\_\_\_\_ Rear \_\_\_\_\_  
 Drive: FWD \_\_\_\_\_ RWD X 4WD Full Time \_\_\_\_\_ 4WD Part Time \_\_\_\_\_

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1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

Manufacturer IVECO B.V. Engine Family JVE0238FAAX  
 Liter (CID) 3.9 (238) Eng. Type I4  
 Emission Control Sys. and (Special Features) EM, SPL (TC, DID, IC)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)
8040.45.261 .263 .264 .267 .271 .273 .274 .277	Robt. Bosch 482-4342	Robt. Bosch 482-2812	105@ 2700	68.7 (41.22)	232@ 1600	76.9 (27.3)

Date of Issue \_\_\_\_\_ Revisions: \_\_\_\_\_

1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

Manufacturer IVECO B.V. Engine Family JVEO358EAA1  
 Liter (CID) 5.9 (358) Eng. Type I6  
 Emission Control Sys. and (Special Features) EM, SPL (TC, DID)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm <sup>3</sup> /stroke (lbs/Hr)
8060.25.221	Robt. Bosch 482-4346	Robt. Bosch 482-2812	155 @ 2700	68.9 (61.7)	354 @1600	77.3 (41.2)
8060.25.241 .243 .244 .246 .247	Robt. Bosch 482-4345	Robt. Bosch 481-2812	135 @ 2700	62.0 (56.2)	347 @1600	71.1 (37.9)

Date of Issue \_\_\_\_\_ Revisions: