

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-343-1  
Relating to Certification of New Heavy-Duty Engines and Vehicles

WESTPORT FUEL SYSTEMS INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43100, 43101, and 43102 of the Health and Safety Code; and

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

IT IS ORDERED AND RESOLVED: That the following engines and emission control systems produced by the manufacturer are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Model Year: 2001

Fuel Type: Bi-Fuel Engine [Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG)] and Diesel

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems and Special Features</u>
	<u>Liters</u>	<u>Cubic Inches</u>	
1WFSH0912XAC	14.9	912	Turbocharger Charge Air Cooler Powertrain Control Module Direct Diesel/Gaseous Fuel Injection

Engine models and codes are listed on the attachments.

BE IT ORDERED AND RESOLVED: That the following are the certification exhaust emission standards (Title 13, California Code of Regulations, Section 1956.8) and certification emission levels for this engine family in grams per brake horsepower-hour (g/bhp-hr) under the Federal Test Procedure ("FTP"):

	<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulate Matter</u>
Standards	1.2	15.5	2.5	0.10
Certification	0.4	2.0	2.4	0.05

BE IT FURTHER RESOLVED: That the listed engine models are certified to the optional lower-emission NOx standard pursuant to Title 13, California Code of Regulations, Section 1956.8(a)(1).

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2035 *et seq.*).

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 attachments.

Executed at El Monte, California this 22<sup>nd</sup> day of February 2001.

  
R. B. Summerfield, Chief  
Mobile Source Operations Division

# Engine Model Summary Form

**Manufacturer:** Westport Fuel Systems Inc.  
**Engine category:** On-highway HDDE  
**EPA Engine Family:** 1WFSH0912XAG  
**Mfr Family Name:** N/A  
**Process Code:** New Submission

1. Engine Code	2. Engine Model	3. BHP @ RPM (SAE Gross)	4. Fuel Rate: mm <sup>3</sup> /stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm <sup>3</sup> /stroke @ peak torque	8. Fuel Rate: (lbs/hr) @ peak torque	9. Emission Control Device Per SAE J1930
N/A	ISX 400 HPDI	435 @ 1600	6.6 (diesel) 304 (gas*)	3.5 (diesel) 163 (gas*)	1450 @ 1200	4.1 (diesel) 271 (gas*)	1.8 (diesel) 109 (gas*)	PCM, TC, CAC DBI

\* diesel equiv.  
 energy basis  
 diesel - 43MJ/kg  
 CNG - 49 MJ/kg

ATTACHMENT

A-343-000J