State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER B-58-9

Relating to Conversion of Engines to Alternative Fuels

ROUSH INDUSTRIES INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43004 and 43006 of the Health and Safety Code and Section 10753(d) of the Revenue and Taxation 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-14-012;

IT IS ORDERED AND RESOLVED: The dedicated liquefied petroleum gas (LPG) retrofit system, manufactured by Roush Industries Inc. (Roush) of 12249 Levan Road, Livonia, MI 48150, is certified as described below for the following 2011 model-year Ford Motor Company 6.8 liter heavy-duty engine.

Fuel Type: Gasoline to LPG

Engine Family: BFMXE06.8BWX Displacement: 6.8 liter

Engine Models: E450 Incomplete

Major Retrofit System Components: See Attachment A

All emission control systems, excluding the gasoline fuel and evaporative emission control systems, and the engine manufacturer's tune-up label shall be retained. The engine shall be adjusted to Roush's tune-up specifications. The production retrofit system shall be in all material respect the same as that for which certification is granted.

The certification exhaust emission standards for this engine family in grams per brake horsepower-hour are:

		NMHC	NOx	CO	PM	HCHO
Emission Standard						
HDO	@110,000 Miles	0.14	0.20	14.4	0.01	0.01

The certification exhaust emission values for this engine family with the dedicated LPG retrofit system in grams per brake horsepower-hour are:

		NMHC	NOx	CO	PM	HCHO
Certification Levels	@110,000 Miles	0.13	0.09	5.0	0.002	0.01

BE IT FURTHER RESOLVED: The retrofit system manufacturer has submitted and the Executive Officer hereby approves the materials in the application to demonstrate certification compliance with the emission standards set forth in Section 4 of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines."

BE IT FURTHER RESOLVED: The retrofit system manufacturer has stated that the retrofit system described above is identical, as defined in Title 13, California Code of Regulations, Section 2030(c), to the alternative fuel system described in the certification application of its engine family BRIIE06.8BWX which was certified by ARB per Executive Order A-344-0020. At the request of the manufacturer, the retrofit system is certified under Section 2030(c) (expedited approval using carry-over / carry-across of data from new engine certification).

BE IT FURTHER RESOLVED: The retrofit system manufacturer has submitted and the Executive Officer hereby approves the materials in the application to demonstrate certification compliance with the on-board diagnostic system requirements in Section 6 of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines."

BE IT FURTHER RESOLVED: The retrofit system manufacturer shall provide a supplemental emission control information label, which shall be affixed in a permanent manner adjacent to the original Vehicle Emission Control Information label, and shall comply with the labeling requirements described in Section 3(e) of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines."

BE IT FURTHER RESOLVED: The retrofit system manufacturer has submitted and the Executive Officer hereby approves the materials required to demonstrate certification compliance with the warranty requirements, including warranty notification under Sections 3(f)(5) , 3(g), and 9 of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines."

BE IT FURTHER RESOLVED: The retrofit system manufacturer may be subject to in-use enforcement emission testing as described in Section 12 of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines."

BE IT FURTHER RESOLVED: The retrofit system manufacturer shall maintain a record of each engine on which the retrofit system is installed as required in Section 3(h) of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines." The manufacturer shall supply a copy of installation information upon request and annually report the annual sales by March 1 of the following calendar year.

The retrofit system certified under this Executive Order must conform to all applicable California emission regulations. Certification of the retrofit system shall not be construed as a certification to sell, offer for sale, or advertise any component of the retrofit system as an individually certified part.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this 13 day of October 2014.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

ROUSH®

Attachment A
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SECTION 6 – EXHAUST EMISSIONS PARTS LIST

- **Test Group:** BRIIE06.8BWX
- **Evaporative Family Name:** BRIIF0265LPG

Part Name	Part Number	Part Differs from OEM
PCM Assembly BR418N0500, BR418D0500 and BR418M0500	AC2A– 12A650– CC	@
Catalyst	9C24 – 5E212 – JF	
Fuel Filler Valve (Sherwood Fill Valve)	PV1855BRCN	@
Fuel Pump	PBC2-9H307-AA	@
Cylinder Head Temperature Sensor	8L3A – 6G004 - AA	
Cylinder Head Temperature Sensor	F65F – 6G004 – AB (alt)	
Camshaft Position Sensor	1W7E – 6B288 – AB	
Crankshaft Position Sensor	1W7E – 6C315 – AA	
PCV Valve	5C3E-6A666-AA	
Heated Oxygen Sensor – Upstream (2)	XL3F – 9F472 – BA	
Heated Oxygen Sensor – CMS (1)	F85F – 9G444 – BB	
Fuel Rail & Injector Assembly	PBC2-9F899-AA (LH)	@
	PBC2-9F899-BA (RH)	@
Fuel Rail Pressure Control Module	P10C2-9G866-AA	@
Pedal Position Sensor Assembly (ETC)	8C24 – 9F836 – AA	
Mass Airflow/Intake Air Temperature Sensor	3L3A – 12B579 – BA2	
Electric Throttle Body	9C3E – 9F991 – CA	
Throttle Body Position Sensor	AG1E – 9E928 – AA	
Integrated Fuel Pressure Temperature Sensor (IPTS)	P10C3-9G756-AA	@
IPTS Interface Module (Interfaces IPTS sensor to PCM via CAN)	P10C2-12A650-AA	@

TEST GROUP: BRIIE06.8BWX
ISSUED: July 30, 2010
REVISED: