

## EXECUTIVE SUMMARY

### 2011

#### Highlights:

1. ROUSH CleanTech has been working with the Propane Education & Research Council (PERC) and Ford Motor Company since 2006 to develop liquid propane autogas fuel systems for a variety of light- and medium- duty Ford commercial vehicles. These vehicles include the F-150, F-250 and F-350 pickup truck series; the F-450 and F-550 chassis cab series; the E-150, E-250 and E-350 passenger and cargo van series; the E-350 and E-450 cutaway series; and the Blue Bird Propane Powered Vision school bus.
2. ROUSH CleanTech propane autogas fuel systems offer the same horsepower, torque and towing ratings as their gasoline-powered equivalents. This is a significant development in that previous generation vapor systems compromised these performance categories.
3. Propane autogas significantly reduces greenhouse gas emissions (24%), nitrogen oxide emissions (20%) and carbon monoxide emissions (60%) vs. gasoline engine operation.
4. Fleet customers are seeing a significant reduction in operating costs when converting from gasoline to propane autogas. In addition, if a fleet has their own propane autogas fueling station, they can take advantage of a federal tax credit of \$0.50 per gallon of fuel pumped. There are federal tax credits and funding available for the installation of on-site fueling infrastructure, as well.
5. More than 90% of the propane used in the United States is produced domestically. Not only does this ensure consistent supply, it also helps reduce our dependence on foreign oil.
6. ROUSH CleanTech maintains the 5 year / 60,000 mile limited warranty, and the propane autogas powered vehicles can be serviced by a national network of ROUSH CleanTech service centers using standard Ford diagnostic equipment.
7. The cost of adding propane autogas fueling infrastructure is inexpensive. Many of the over 3,500 propane marketers across the country will install infrastructure for no cost, in return for a fueling contract for your fleet.
8. ROUSH CleanTech fuel systems are in compliance with all CARB, EPA, NHTSA, FMVSS and NFPA safety regulations.
9. There are more than 15 million vehicles worldwide that are powered by propane autogas, making it the third most common engine fuel behind gasoline and diesel.
10. Worldwide use of propane autogas has shown that, based on per capita use, it has one of the best safety records of any motor fuel - conventional or alternative. Propane autogas tanks are 20 times more puncture resistant than conventional fuel tanks.

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### PRODUCT OVERVIEW:

**Ford Ship-Thru available for first vehicle delivery**

#### Ford E-150 / E-250 / E-350

(5.4L V8) 2009 - 2012

##### Fuel Capacity

Mid-Ship Tank: 25 gal. usable  
Extended Range: 46 gal. usable

##### MSRP:

Mid-Ship Tank: **\$11,300**  
Extended Range Tank: **\$11,500**

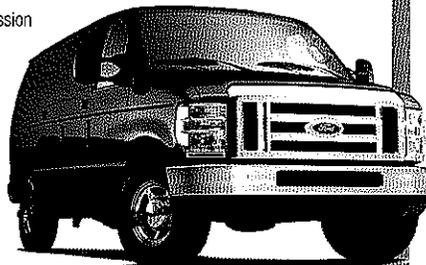
##### Applications

Extended or Regular  
Cargo Van, Club Wagon, SRW Cutaway (S3H)  
All rear-axle configurations  
4-speed automatic transmission



##### Tech. Specs

EPA & CARB Approved  
GVWR: < 10,000  
Requires "91G"  
Gaseous Fuels Prep



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#### Ford E-450 DRW Cutaway

(6.8L V10) 2009 - 2012

##### Fuel Capacity

Aft-Axle Tank: 41 gal. usable

##### MSRP:

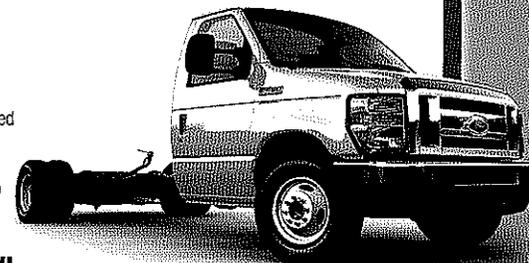
Aft-Axle Tank: **\$14,900<sup>1</sup>**

##### Applications

158" or 176" wheelbase  
5-speed automatic transmission

##### Tech. Specs

EPA & CARB Approved  
GVWR: < 14,500  
Requires "91G"  
Gaseous Fuels Prep



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<sup>1</sup>2012 MY Pricing Only. \$13,900 MSRP for 2009 - 2011 MY

#### Ford F-250 / F-350

(6.2L V8) 2012

##### Fuel Capacity<sup>1</sup>

Under-Bed Tank: 22 gal. usable  
In-Bed Tank: 43 gal. usable

##### MSRP:

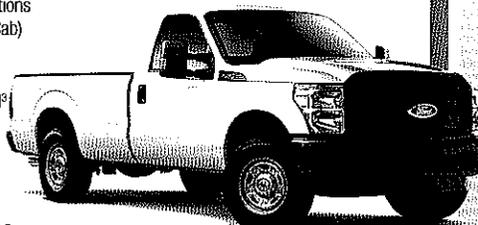
Under-Bed Tank: **\$11,345<sup>2</sup>**  
In-Bed Tank: **\$10,295<sup>2</sup>**

##### Applications

4x4 or 4x2  
All bed configurations  
All body configurations  
All rear axle configurations  
(including Chassis Cab)

##### Tech. Specs

EPA & CARB Approved<sup>3</sup>  
GVWR: ≤ 13,300  
Requires "98F"  
Gaseous Fuels Prep



**AVAILABLE Q2, 2012**

<sup>1</sup>Final Tank Specs TBD <sup>2</sup>Directional Pricing <sup>3</sup>At Launch

#### Ford F-450 / F-550

(6.8L V10) 2011 - 2012

##### Fuel Capacity<sup>1</sup>

Aft-Axle Tank: 20 gal. usable  
Aft-Cab Tank: 50 gal. usable  
In-Bed Tank: 41 gal. usable

##### MSRP:

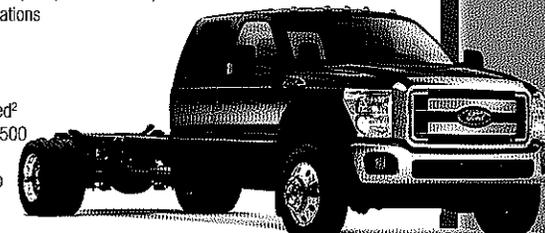
Multi-Tank: **TBD, based on tank configuration**

##### Applications

4x4 or 4x2  
All bed configurations  
All body configurations (except chassis cab)  
All rear axle configurations

##### Tech. Specs

EPA & CARB Approved<sup>2</sup>  
GVWR: 16,500 - 19,500  
Requires "98G"  
Gaseous Fuels Prep



**AVAILABLE 2012**

<sup>1</sup>Final Tank Specs TBD <sup>2</sup>At Launch

**800.59.ROUSH**

# THE ZERO COMPROMISE ALTERNATIVE FUEL SOLUTION

## ROUSH CLEANTECH SHIP THRU CODE:

**31P D9D** (E-150 / E-250 / E-350 / E-450 Cutaway)

**31P D9E** (F-250 / F-350 / F-450 / F-550)

### Blue Bird Vision

(6.8L V10) 2012

#### Fuel Capacity

Under-Floor Tank: TBD

#### MSRP:

Under-Floor Tank: < \$8,000\*  
(incremental cost compared to diesel)

#### Applications

Blue Bird Vision  
Blue Bird MFSAB / Activity Bus

#### Tech. Specs

EPA & CARB Approved  
Up to 77 Passengers  
GVWR: 33,000 lbs.



AVAILABLE Q1, 2012

\* Directional Pricing

### Micro Bird G5

(6.8L V10) 2009 - 2012

#### Fuel Capacity

Aft-Axle Tank: 41 gal. usable

#### MSRP:

Aft-Axle Tank: **Contact Your Local  
Blue Bird/Micro Bird  
Dealer For Pricing**

#### Applications

158" or 176" wheelbase  
5-speed automatic transmission

#### Tech. Specs

EPA & CARB Approved  
Up to 30 Passengers  
GVWR: 14,500



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### Ford F-250 / F-350

(5.4L V8) 2009 - 2010

#### Fuel Capacity

In-Bed Tank: 55 gal. usable

#### MSRP:

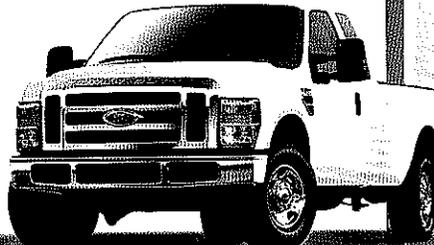
In-Bed Tank: \$11,045

#### Applications

4x4 or 4x2  
All bed configurations  
All body configurations (except chassis cab)  
All rear axle configurations

#### Tech. Specs

EPA & CARB Approved  
GVWR: 8,800 - 11,400



RETROFITS AVAILABLE!

### Ford F-150

(5.4L V8) 2007.5 - 2008

#### Fuel Capacity

In-Bed Tank: 46 gal. usable

#### MSRP:

In-Bed Tank: \$8,095

#### Applications

4x4 or 4x2  
All bed & cab configurations  
All rear axle configurations  
Not for use on Lariat, King Ranch, Harley-  
Davidson packages

#### Tech. Specs

EPA Approved  
GVWR: ≤ 8,500



RETROFITS AVAILABLE!

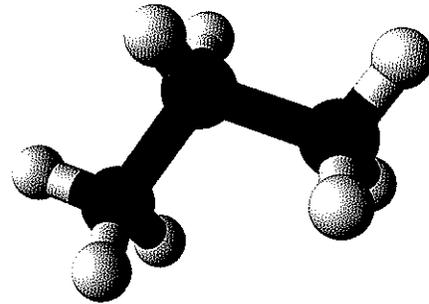
[ROUSHcleantech.com](http://ROUSHcleantech.com)

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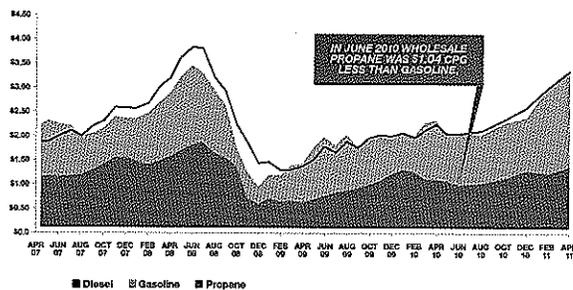
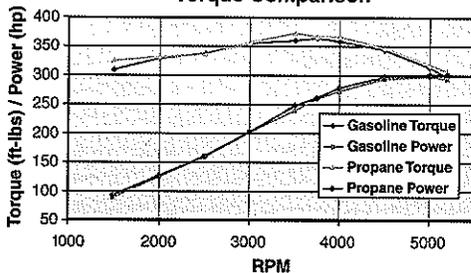
### About Propane:

1. Propane autogas is an approved alternative fuel listed in both the Clean Air Act of 1990 and the National Energy Policy Act of 1992 and 2005.
2. Propane is nontoxic and insoluble in water. Because it is released as a gas, it doesn't spill, pool, or leave a residue.
3. Propane is produced domestically - over 90% of it comes from United States production - and it is ready to meet today's energy needs more cleanly and efficiently than any other fuels currently available.
4. Propane autogas exhaust emits 60 to 70% less smog-producing hydrocarbons than gasoline, according to studies by the Southwest Research Institute. Their research also found that propane autogas cuts emissions of toxins and carcinogens like benzene and toluene by up to 96%, compared to gasoline.
5. Compared to gasoline, propane autogas yields up to 24% fewer greenhouse gas emissions, about 20% less nitrogen oxide, and as much as 60% less carbon monoxide.
6. Propane autogas, on average, costs around 40% less per gallon than gasoline.
7. There are over 3,000 public propane autogas fueling stations in the U.S. today.
8. In 2010, Turkey and Poland pumped more propane autogas than gasoline.
9. Propane autogas has an octane rating of 105.
10. Propane / air mixture won't ignite until temperatures reach 940° F, as compared to gasoline which ignites at 430° F.



Propane Molecule (C<sub>3</sub>H<sub>8</sub>)

Gasoline/Propane Power and Torque Comparison



# THE ZERO COMPROMISE ALTERNATIVE FUEL SOLUTION

## Liquid Propane Autogas Technology

The ROUSH CleanTech liquid propane autogas fuel system delivers propane to the engine in liquid form. This ensures there is no loss in horsepower or torque, or any drop in performance. Propane is generally released from a standard fuel nozzle location.

Liquid propane autogas technology was developed with the end user in mind. It's why we call the ROUSH CleanTech liquid propane autogas fuel system **THE ZERO COMPROMISE ALTERNATIVE FUEL SOLUTION.**

### Safety:

1. Propane is a liquid under pressure, 100 – 200 psig, but vaporizes immediately upon being released from the cylinder or in the event of a fuel line rupture. It is heavier than air and seeks out lower lying places in a leak situation, while dispersing harmlessly into the atmosphere.
2. In the unlikely case of a vehicle fuel line rupture, there are electronically operated solenoids and excess flow valves that close and immediately stop the release of propane autogas. ROUSH CleanTech has made sure the design of the fuel delivery system meets all NFPA 58 guidelines, ensuring that the fuel doesn't become a factor in any type of accident situation; whether it be a roll-over, side, front, or rear impact collision.
3. The ROUSH CleanTech propane autogas fuel tank is a standard ASME rolled steel construction with stamped end caps, and is one of the strongest parts of the vehicle.
4. ROUSH CleanTech liquid propane autogas powered trucks and vans meet or exceed all Environmental Protection Agency (EPA) and Federal Motor Vehicles Safety Standards (FMVSS).

### Dedicated vs. Bi-Fuel:

No bi-fuel system is offered that maintains the factory vehicle warranty, or is recognized by OEM manufacturers like the ROUSH CleanTech liquid propane autogas system.

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### Propane GAS Act:

#### Background:

*The Propane Green Autogas Solutions Act of 2011 (the Propane GAS Act) would extend for five years the federal alternative fuel tax credits for propane used as a motor fuel ("autogas"), for vehicles burning propane autogas, and for the propane autogas refueling infrastructure.*

Propane alternative fuel tax incentives were created in 2005 to stimulate a propane autogas vehicle market. The goal of this market is to reduce U.S. reliance on foreign oil while reducing environmental impacts associated with gasoline and diesel fuel use. For these tax credits to continue to have a meaningful effect, they must be in place for a defined period of time rather than extended from year-to-year. Congress should not wait to act until the credits are about to expire because market uncertainty regarding the credits undermines the effectiveness of the incentives and discourages the kind of investment that Congress wants the private sector to make in alternative fuels.

#### Tax Credits Included in Legislation:

- Propane Fuel Credits: The 2005 Highway Bill included a \$.50 / gallon credit for propane sold for use in motor vehicles. This credit expires at the end of 2011.
- Propane Vehicle Credits: The 2005 Energy Bill included a tax credit to consumers who purchase propane vehicles. The amount of credit the consumer receives varies depending on vehicle weight and emissions. This credit is currently expired.
- Propane Infrastructure Credits: The 2005 Energy Bill provided a tax credit amounting to 30% of the cost of a fueling station, not to exceed \$30,000 per station. This credit expires at the end of 2011.

The Propane GAS Act would extend these tax credits for 5 years.

#### Status:

Two versions of the Propane GAS Act have been introduced; one in the U.S. Senate (S. 1120) and one in the U.S. House of Representatives (H.R. 2014). At the time of the publication of this document, it is pending in both the Ways and Means and Finance committees.

If you support the Propane GAS Act, contact your Senator or Representative and ask them to become a cosponsor of the Propane GAS Act.

To find the contact information for your elected officials, visit:  
[www.usa.gov/Contact/Elected.shtml](http://www.usa.gov/Contact/Elected.shtml)

# THE ZERO COMPROMISE ALTERNATIVE FUEL SOLUTION

## Incentives:

### Alternative Fuel Excise Tax Credit - \$.50 / Gallon

A tax credit in the amount of \$0.50 per gallon is available for propane autogas.

For an entity to be eligible to claim the credit they must be liable for reporting and paying the federal excise tax on the sale or use of the fuel in a motor vehicle. Tax exempt entities such as state and local governments that dispense qualified fuel from an on-site fueling station for use in vehicles qualify for the incentive.

For more information and the full description of how to qualify, see IRS Publication 510 and IRS Forms 637, 720, 4136, and 8849, which are available via the IRS Web site.

Under current law, this incentive expires December 31, 2011.

(Reference H.R. 4853, 2010, Section 704; and 26 U.S. Code 6426)

### Alternative Fuel Infrastructure Tax Credit - 30% up to \$30,000

A tax credit in the amount of 30% of the cost, not to exceed \$30,000, is available to help off-set the cost for the installation of propane autogas refueling infrastructure.

Fueling station owners who install qualified equipment at multiple sites are allowed to use the credit towards each location.

For more information and the full description of how to qualify, see IRS Form 8911 and/or Form 3800, which are available via the IRS Web site.

Under current law, this incentive expires December 31, 2011.

(Reference H.R. 4853, 2010, Section 711; and 26 U.S. Code 30C and 38B)

### ADDITIONAL STATE INCENTIVES:

[http://www.afdc.energy.gov/afdc/fuels/propane\\_laws.html](http://www.afdc.energy.gov/afdc/fuels/propane_laws.html)

### ADDITIONAL FEDERAL INCENTIVES:

<http://www.afdc.energy.gov/afdc/laws/laws/US/tech/3254>



NOTE: ROUSH CleanTech provides no representations, assurances or guarantees to you regarding federal, state, local and other tax incentives. This Executive Summary does not constitute tax advice. You are strongly advised to consult with your tax advisor regarding the specific federal, state, local, and other tax incentives.

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# THE ZERO COMPROMISE ALTERNATIVE FUEL SOLUTION

### Refueling:

A number of resources exist for finding publically accessible refueling infrastructure near you:

U.S. Department of Energy:

- [http://www.afdc.energy.gov/afdc/stations/find\\_station.php](http://www.afdc.energy.gov/afdc/stations/find_station.php)

Heritage Propane:

- <http://www.heritagepropane.com/retail.asp>

AmeriGas:

- [http://www.amerigas.com/contact/location\\_finder.htm](http://www.amerigas.com/contact/location_finder.htm)

Ferrellgas:

- <http://www.ferrellgas.com/Locations/>

### Coming Soon:

ROUSH CleanTech product development includes fuel system applications for the following vehicles:



Ford F-650  
(6.8L V10)



Ford F-59 Strip Chassis  
(6.8L V10)



Ford F-150  
(3.7L V6)



Ford Transit

### Upfitter Partners:



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