

Propane

A "New" Option



PROPANE
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Industry Revival

- Two organizations that are unifying the industry
- New marketing efforts
- Superior products
- Higher oil prices

Just When You Think It Can't Get Worse...

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...It Does!



Propane Industry

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Propane Education and Research Council

PERC Promotes safe, efficient use of odorized propane through investments in research, safety and consumer initiatives (created 1998)

National Propane Gas Association

Membership is comprised of small businesses and large corporations engaged in all segments of the industry from retail marketing and appliances to manufacturers of equipment

Goals of PERC

- Improve consumer and employee safety
- Fund research and development of new and more efficient propane equipment
- Expand public awareness of propane and its many uses and benefits
- Help ensure success of our partners

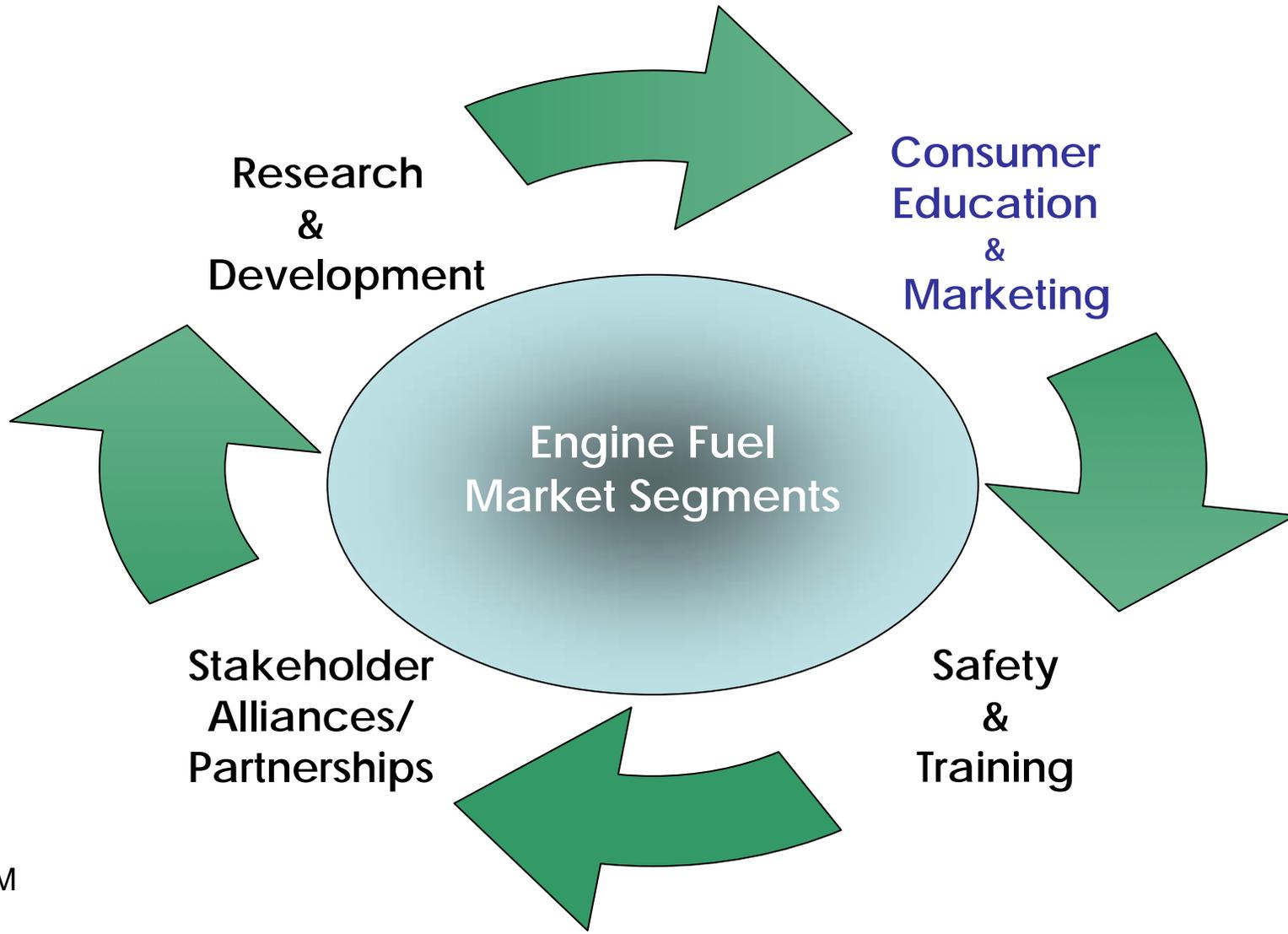
Outreach Efforts

Brian Feehan
Aka, "Dr. Evil"
Managing Director
Engine Fuel Programs

Greg Zilberfarb
Aka, "Mini-me"
Commercialization and
Outreach Manager



Engine Fuel Advisory Committee



Propane Industry Overview

Production

Occurs naturally in natural gas and crude oil production

90% domestically produced

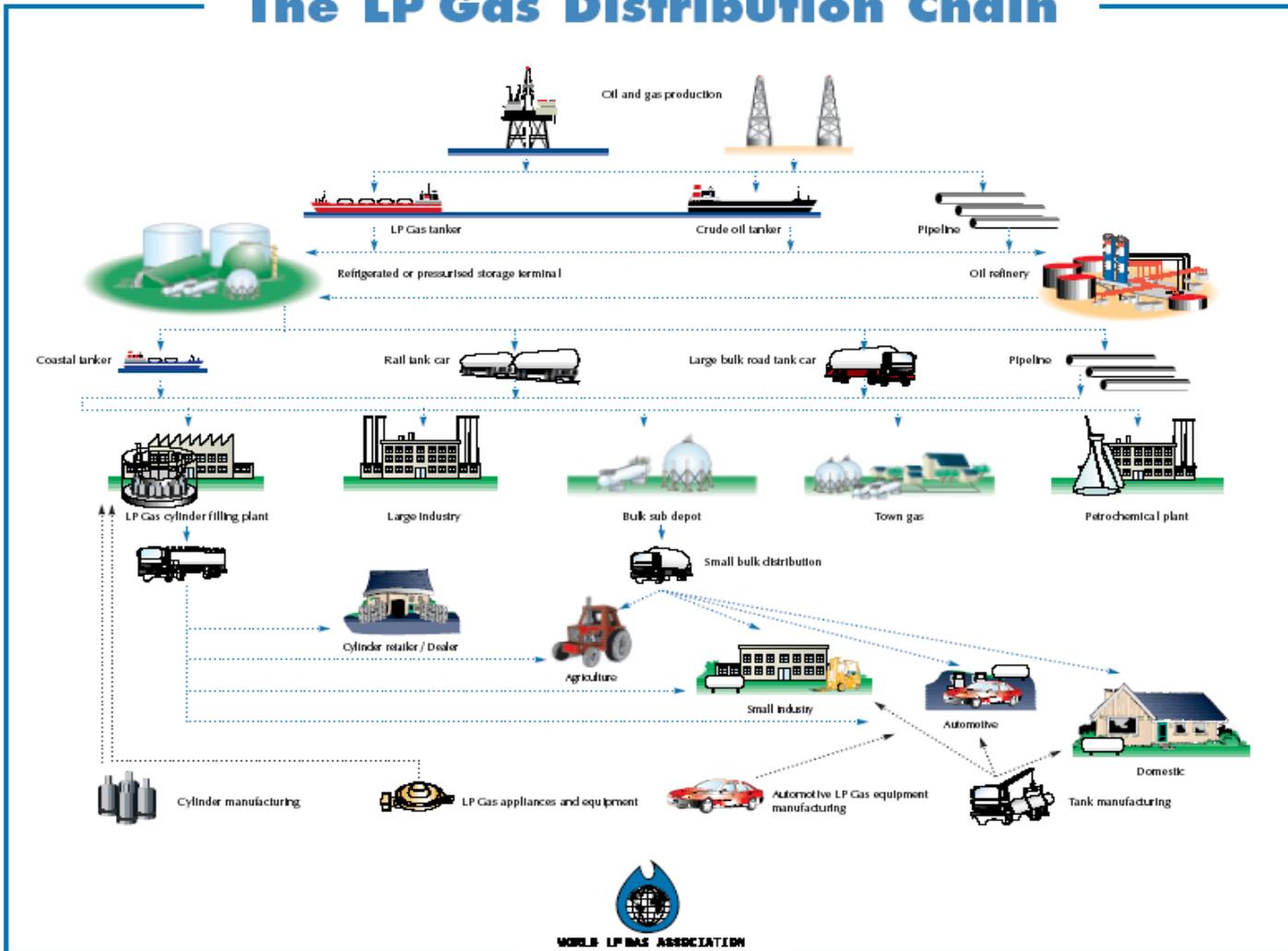
Service Orientated Industry

Specialized in serving client needs

Many family owned and operated businesses that provide superior customer service

Propane Distribution

The LP Gas Distribution Chain



Products

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Propane forklifts.
Cleaner, greener and ready for tomorrow.

- Forklifts
- Mowers
- Ground Service Equipment
- Light Duty Trucks
- Medium Duty Trucks
- School Buses



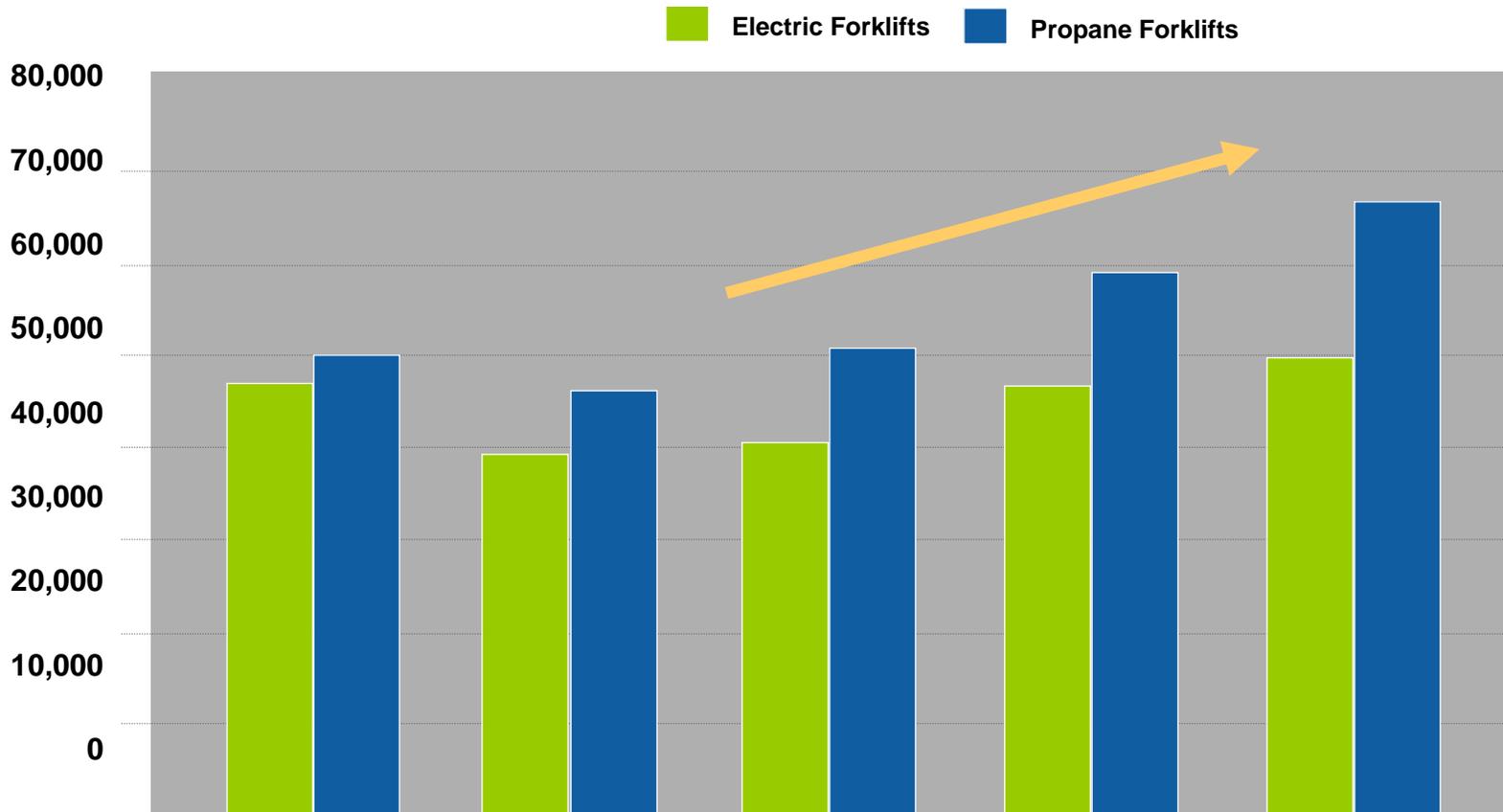
Forklifts



Propane forklifts.
Cleaner, greener and ready for tomorrow.

Forklift Trends

6% increase in propane forklifts 2006



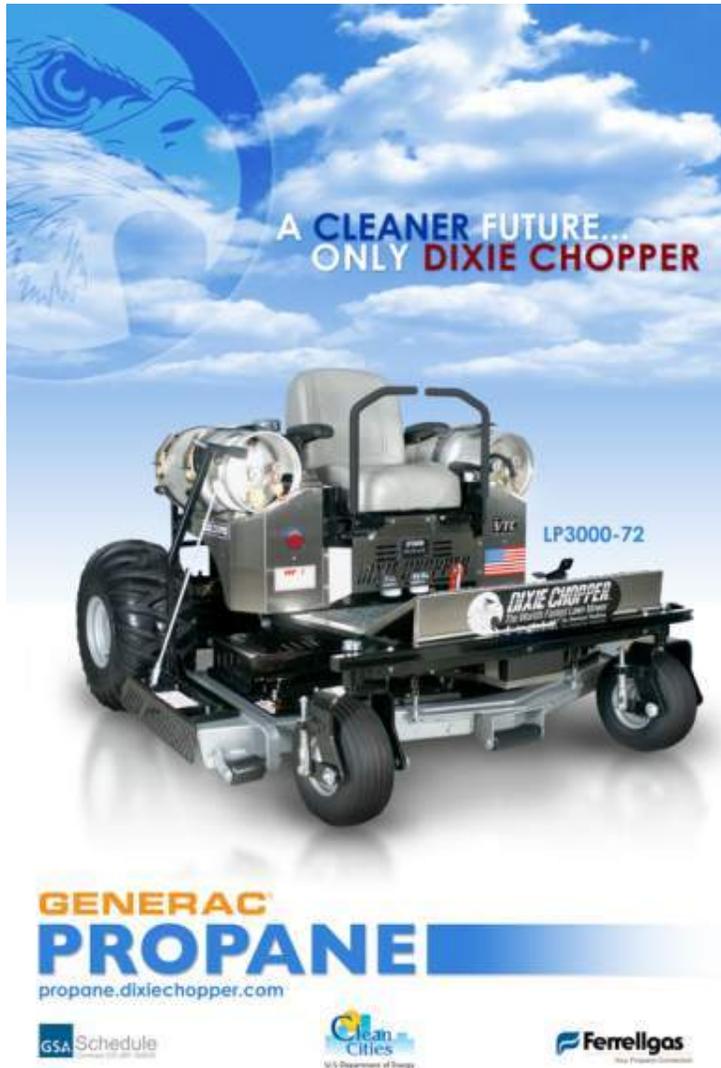
The initial total investment required of a propane forklift is lower than comparable electric or diesel-powered forklifts, and they are cheaper to operate and maintain.

-AND-

Propane forklifts qualify for the \$0.50 per gallon energy tax credit.

Propane Lawn Mowers

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A CLEANER FUTURE...
ONLY DIXIE CHOPPER

LP3000-72

GENERAC
PROPANE
propane.dixiechopper.com

GSA Schedule
Clean Cities
U.S. Department of Energy
Ferrellgas
Propane Distributor

The advertisement features a black and silver Dixie Chopper LP3000-72 lawn mower with two propane tanks mounted on the back. The background is a blue sky with white clouds and a stylized blue graphic of a person's face. The text 'A CLEANER FUTURE... ONLY DIXIE CHOPPER' is prominently displayed. Below the mower, the website 'propane.dixiechopper.com' is listed. At the bottom, logos for GSA Schedule, Clean Cities (U.S. Department of Energy), and Ferrellgas (Propane Distributor) are included.



Envirogard

Off-Road Topline Results

Commercial Mower

- Supported OEM marketing efforts with media campaigns to promote propane commercial mowers

Standby Generators

- Built productive relationships with OEMs (i.e., Generac, Briggs & Stratton)
- Coordinated efforts with PERC Builder and Homeowner Subcommittees
 - Earned media reach exceeded 30 million people
 - 30-second commercial aired in the fall of 2006

Tug Technologies GSE 4.2L Engine Development Program

- OEM development program
- Ford Industrial 2007 4.2L engine
- US EPA & CARB certification
- Dedicated propane
- Tugs qualify for \$0.50 tax credit!
- *Pending Final Contract Approval*



New Roush Dedicated Propane F-150

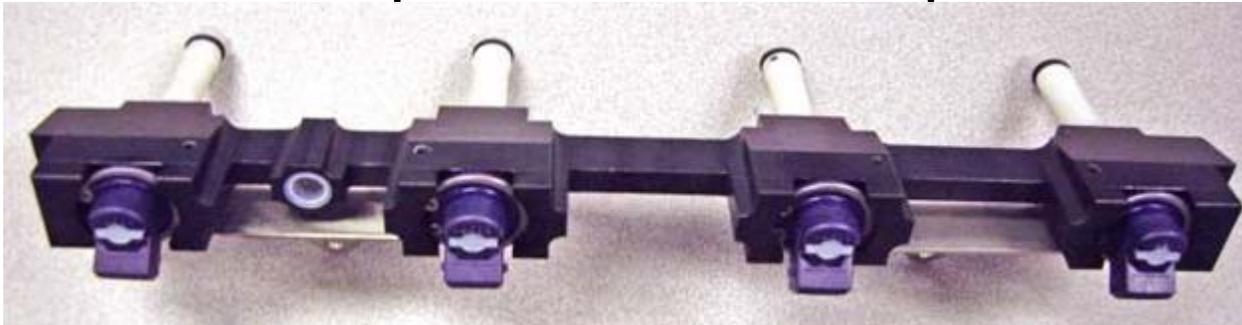
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FUEL RAIL

- System is a return system.
- Integrated Pressure/temperature sensor mount is required.
- Built in service port on rails for evacuating pressure in lines or measuring pressure.
- Siemens DEKA II Injector bottom feed injector
- 200 - 250 psi working pressure
- System and seals compatible with HD-5 Propane



Tank Options

65 Gallon (50 usable)
In-Bed Tank

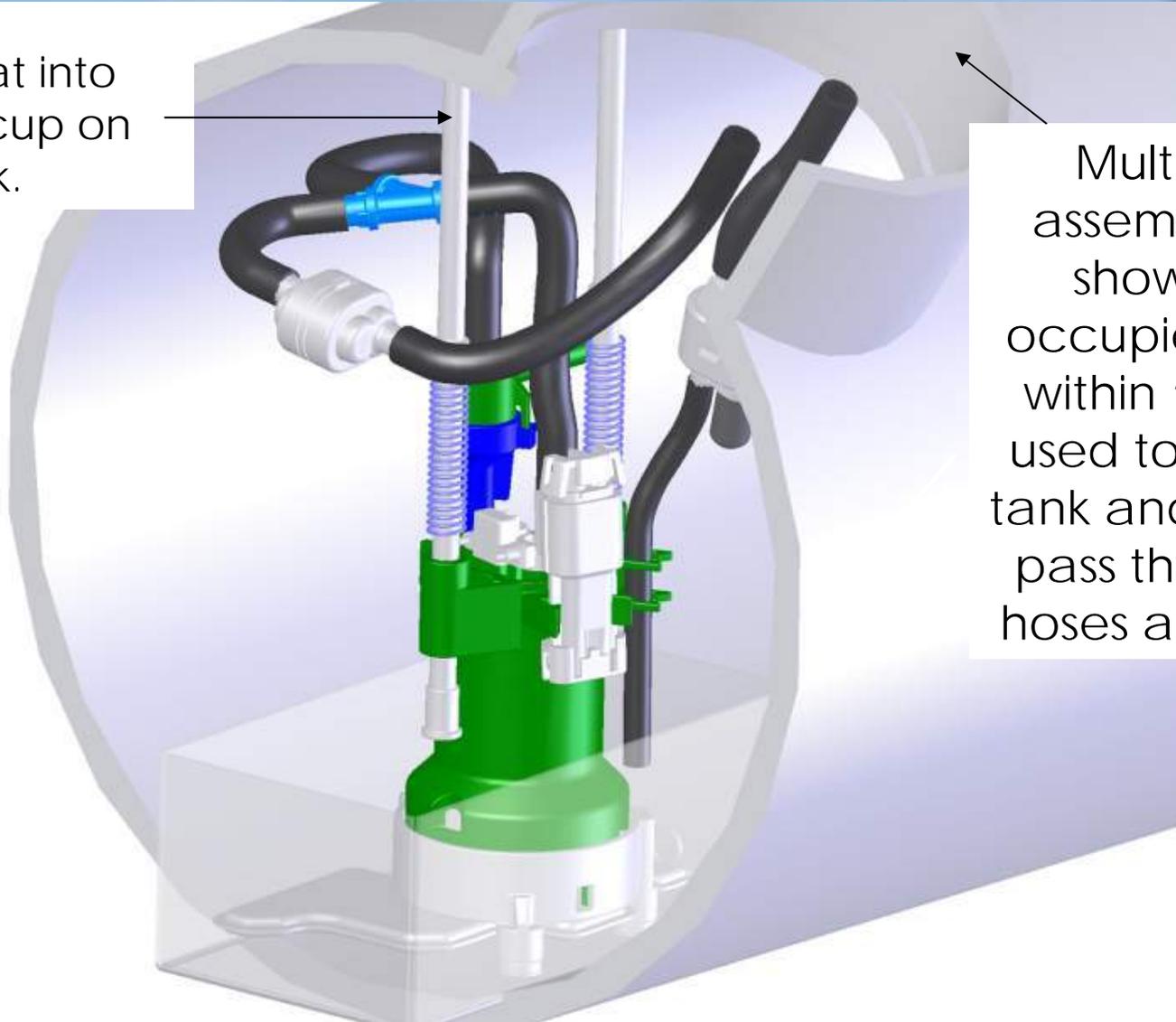


24 Gallon (20 usable)
Toroidal Tank



FUEL PUMP INSTALLATION

Rods seat into
welded cup on
tank.



Multivalve
assembly (not
shown but
occupies space
within "ring")
is used to seal
the tank and to
allow pass
through of
hoses and wiring

Program Update

- Vehicle Launch *any day now*
- Manufacturing capacity upgrade investment
- Sold with other ROUSH RPP products
- Multifaceted marketing program established



Roush F-150 Program

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E-Newsletter

Texas Road Show (August 2007)

- Austin
- Dallas-Fort Worth
- Houston
- San Antonio
- El Paso

Demo Vehicles



Propane F-150 E-Newsletter

ROUSH®

May 1 2007		NAFA Workshop Just Announced!	
Roush Dedicated Propane F-150 Newsletter			
in this issue		Dear Brian,	
<ul style="list-style-type: none">• Show Schedule• Propane Workshop at NAFA Conference		JUST ANNOUNCED! An exciting Propane Workshop has been added to this year's NAFA Conference.	
Show Schedule		Join us Saturday, May 5th from Noon - 2:00 pm for a free and informative session on propane and see how easy it is to incorporate propane powered vehicles into your fleet.	
If you can't join us this Saturday, you can see the Roush Dedicated Liquid Propane Injection F-150 at the following shows.		We'll even provide a free lunch!	
<ul style="list-style-type: none">• WPGA (Western Propane Gas Association) Convention & Trade Show 5/18/2006 - 5/20/2006 in Reno, NV• TPGA (Texas Propane Gas Association) Convention & Trade Show, Austin, Texas August 5-8, 2007		Propane Workshop at NAFA Conference	
Find out more....			
Quick Links...		Propane Workshop 12 - 2:00 p.m. Saturday May 5,	
<ul style="list-style-type: none">• Calculate your fuel savings using propane!• Propane Vehicle Incremental Tax Credit• Propane Fuel Tax Credit• Propane Fueling Infrastructure Tax Credit		2007	
Join our mailing list!		Lunch will be served at Noon	
1101490684210	<input type="text" value="oi"/>	George R. Brown Convention Center, Room 320AB	
<input type="button" value="Join"/>		Did you know the propane industry is introducing several new dedicated propane-powered vehicles this year all using Liquid Propane Injection (LPI) technology? LPI technology provides power, performance and clean emissions! You will hear presentations on the new Vision school bus built by Blue Bird Corporation, a GM 8.1 LPI medium duty engine platform and a Roush F-150 LPI truck built by Roush.	
		Additionally, you will hear about new propane off-road products including commercial lawn mowers and forklifts and we'll show you how economical it is to fuel and use clean burning propane!	
		Those in attendance will have a chance to get a close look at the Roush F-150 LPI, which will be on display during the workshop.	
		Attend this workshop to find out how propane is the right option for your fleet.	
		Please RSVP to Mary Cetrone at mcetrone@asgren.com if you are planning to attend the Propane Workshop and Luncheon. LPI is a trademark of CleanFuel USA	
email: greg@propanetruck.us			
phone: 703-779-4890			
web: http://www.propanetruck.us			

Roush F-150 Website



ROUSH F-150 LIQUID PROPANE INJECTION

Contact Us Links Home

Newsletter Sign In
Sign up for our Email Newsletter

Home
FAQs
Tax Credit Guidance
Links
Advanced Search
Contact Us
Dealer Information

Latest News

[Liquid Propane Injection F-150](#)
[Show Schedule](#)
[Where Can I Buy It?](#)
[Gasoline vs. Propane](#)
[Truck Specifications](#)

Popular

[Gasoline vs. Propane](#)
[Will this truck operate on gasoline too?](#)
[What makes this truck different from the other propane trucks that have been on the market before?](#)
[When can I buy it?](#)
[Is this an OEM vehicle?](#)

Liquid Propane Injection F-150

Written by Greg Ziberforth
Friday, 23 March 2007

Roush dynamometer test results have confirmed projections – no loss in horsepower or torque when converting the engine from gasoline to liquid propane injection. Using liquid injection provides increased air charge and a cold dense mixture into the combustion chamber, resulting in the expected horsepower and torque values.

A new design billet fuel rail with industry standard DEKA II injectors is being installed on the development and emission data test vehicles prior to starting the EPA and CARB certification process. This design combines the high strength of billet aluminum with the precise control of liquid injection.

Based on customer surveys and discussions, the Roush liquid propane injection F150 will be equipped with either the standard underbody fuel tank or an extended range in-bed tank. The standard tank version will be introduced at the Alternative Fuel Conference in Anaheim, California on April 2, 2007. The optional in-bed tank will be first shown at the NLPG Convention in Atlanta on April 14, 2007.

[Roush Announces Details of Production Vehicle](#)
Written by Greg Ziberforth
Thursday, 22 March 2007

[Find Out How Much You Can Save by Using Propane!](#)
Written by Greg Ziberforth
Thursday, 22 March 2007

Roush dynamometer test results have confirmed projections – no loss in horsepower or torque when converting the engine from gasoline to liquid propane injection. Using liquid injection provides increased air charge and a cold dense mixture into the combustion chamber, resulting in the expected horsepower and torque values.

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WWW.PROPANETRUCK.US

Additional Roush Program Tactics



NASCAR/Builder Program

- Host PROPANE Exceptional Energy® and Roush sponsored hospitality tents at NASCAR events

NASCAR Race Dates Proposed:

- Texas motor speedway
- California motor speedway
- Atlanta motor speedway

Promote Roush at other key events

- (e.g., Clean Cities, state fairs)

Marketing and Advertising Materials

- Work with Roush to develop print advertising campaign to reach fleet managers and buyers – make campaign available through “Partnership with States” program

Media Coverage

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Cummins B5.9 LPG Plus

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OEM Availability

School / Shuttle / Transit

El Dorado National
Bluebird

Refuse – Specialty

TYMCO (sweeper)
Ottawa (yard spotter)

Medium-Duty Chassis

Freightliner Custom Chassis



*Working on exhaust
treatment to update
emissions.*

GM 8.1 L LPI System

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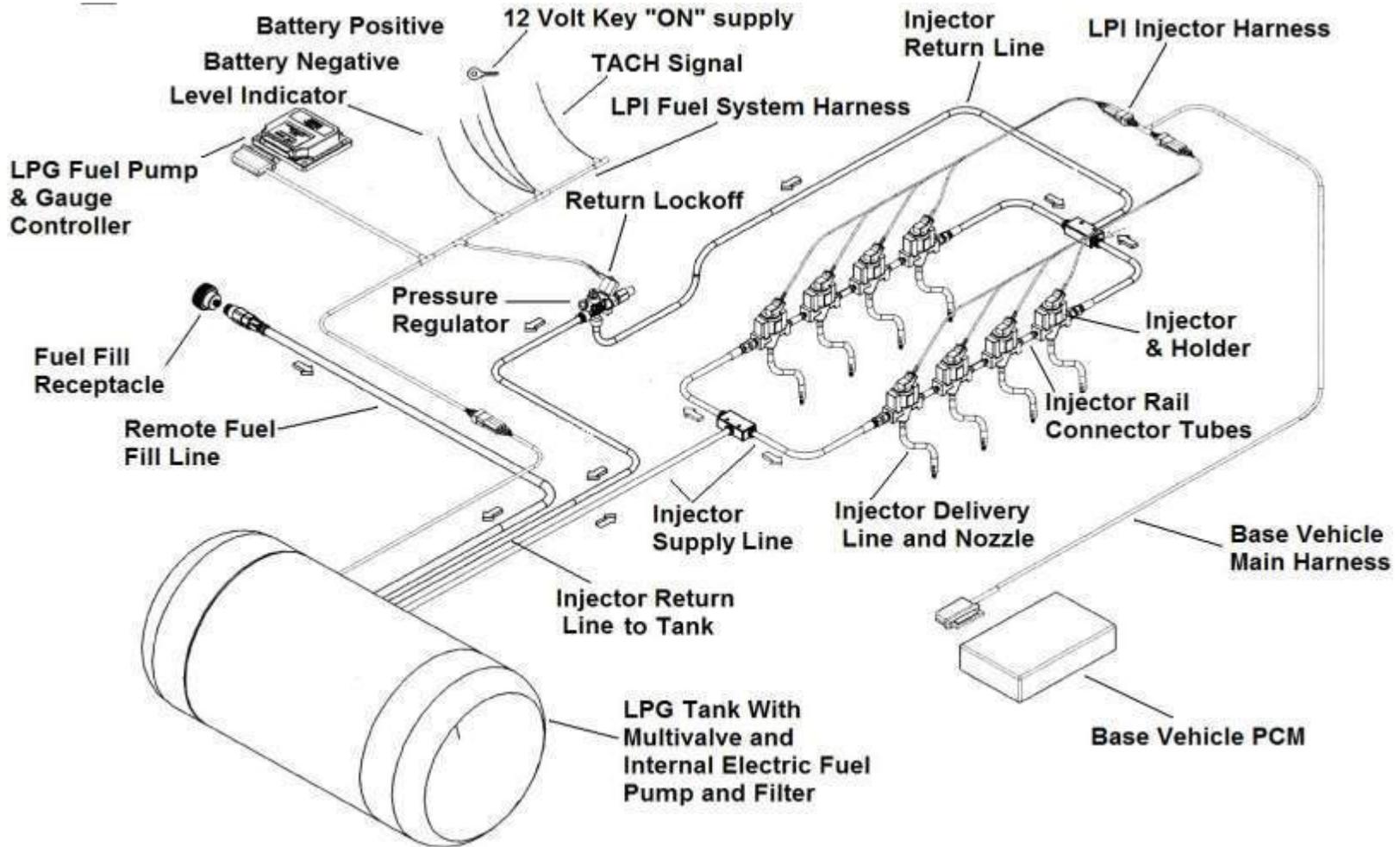


GMC 4500-8500

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Quality Engineered



“LPI Delivers Propane to the Intake Port as a Liquid”

Benefits:

- *Vaporization occurs at the intake port, cooling the air/fuel charge and increasing air/fuel density providing power equal to or better than the gasoline engine equivalent.*
- *Vaporization creates a cooling effect reducing valve and upper cylinder temperatures and prolonging engine life.*
- *Heavy End fallout from the fuel during vaporization provides valve and upper cylinder lubrication.*

New Blue Bird Propane Vision

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Blue Bird Marketing Program

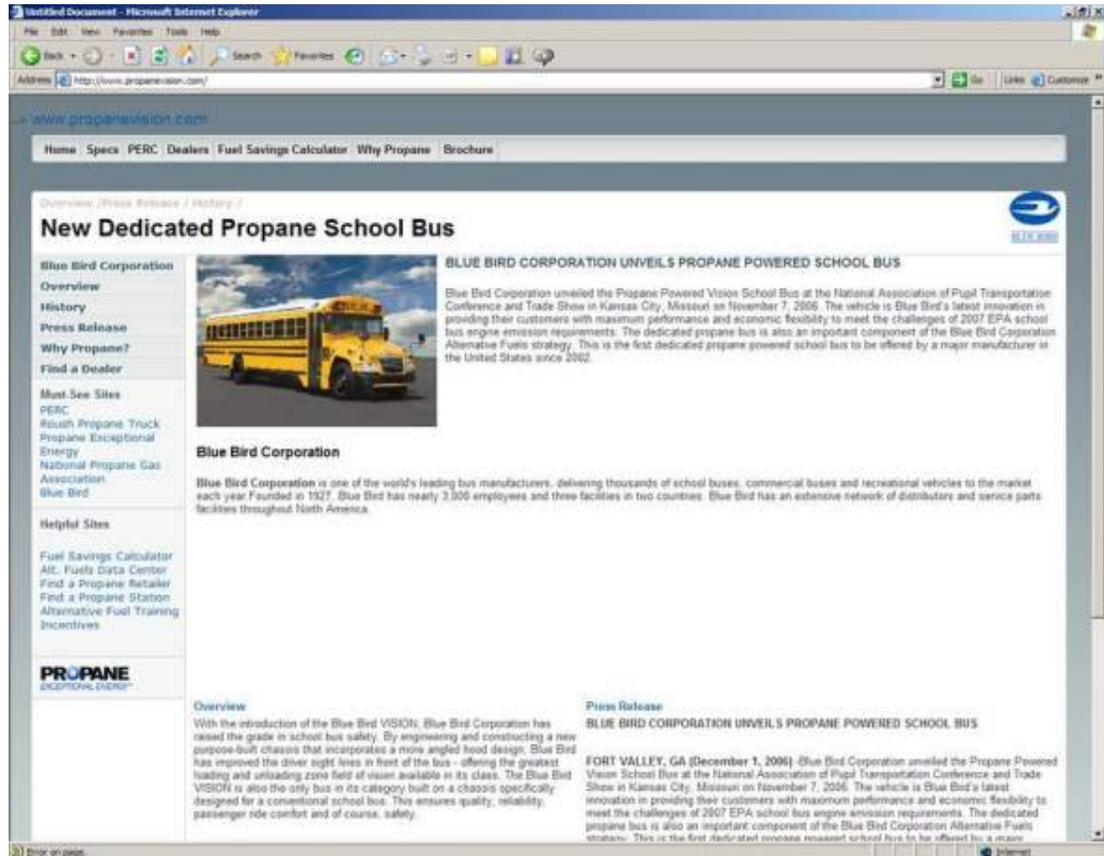
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1. Deep Dive Analysis
2. Texas Road Show
(August/September 2007)
3. Media Coverage
 - School Transportation News
 - School Bus Fleet
 - School Planning & Management



Joint Marketing Activities

- Literature
- Print Advertising
- Trade Shows
- Web
- Demos
- Others



Blue Bird – Propane Powered Vision Launch Kit

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Overall Elements to include:

- Back to School Backpack with Bus and *Propane Exceptional Energy* logo
- Back to School Lunch Box with Bus & *Propane Exceptional Energy* logo
- Dealer Kit (3-ring binder)



Blue Bird – Propane Powered Vision Launch Kit

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The kit will consist of various sections

Section 1: Overview

- Intro letter by Blue Bird
- Program Overview – History
- Infrastructure
- Competitive Landscape for Alternative Fuels



Blue Bird – Propane Powered Vision Launch Kit

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Section 2: About Propane

- Why Propane?
- Fact Sheet: Propane – A Safe Fuel
- Safety facts about propane in relation to the school bus
- Propane FAQ's



Blue Bird – Propane Powered Vision Launch Kit

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Section 3: Selling

- Pricing and strategies for selling
- Production plan update
- Four-page product brochure/pocket folder
- Tax credits & incentives
- Federal funding/grant options



Blue Bird – Propane Powered Vision Launch Kit

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Section 4: Technical Specifications

- Product Overview
- Vehicle Components
- Specification Card
- Service Information
- Warranty Information



Blue Bird – Propane Powered Vision Launch Kit

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Section 5: Additional Resources

Contacts Page

CD

- To Include – Photos, Artwork, Ads
- Sales Training Manual
- Data Book
- Brochure
- Specification Card
- Fleet Calculator



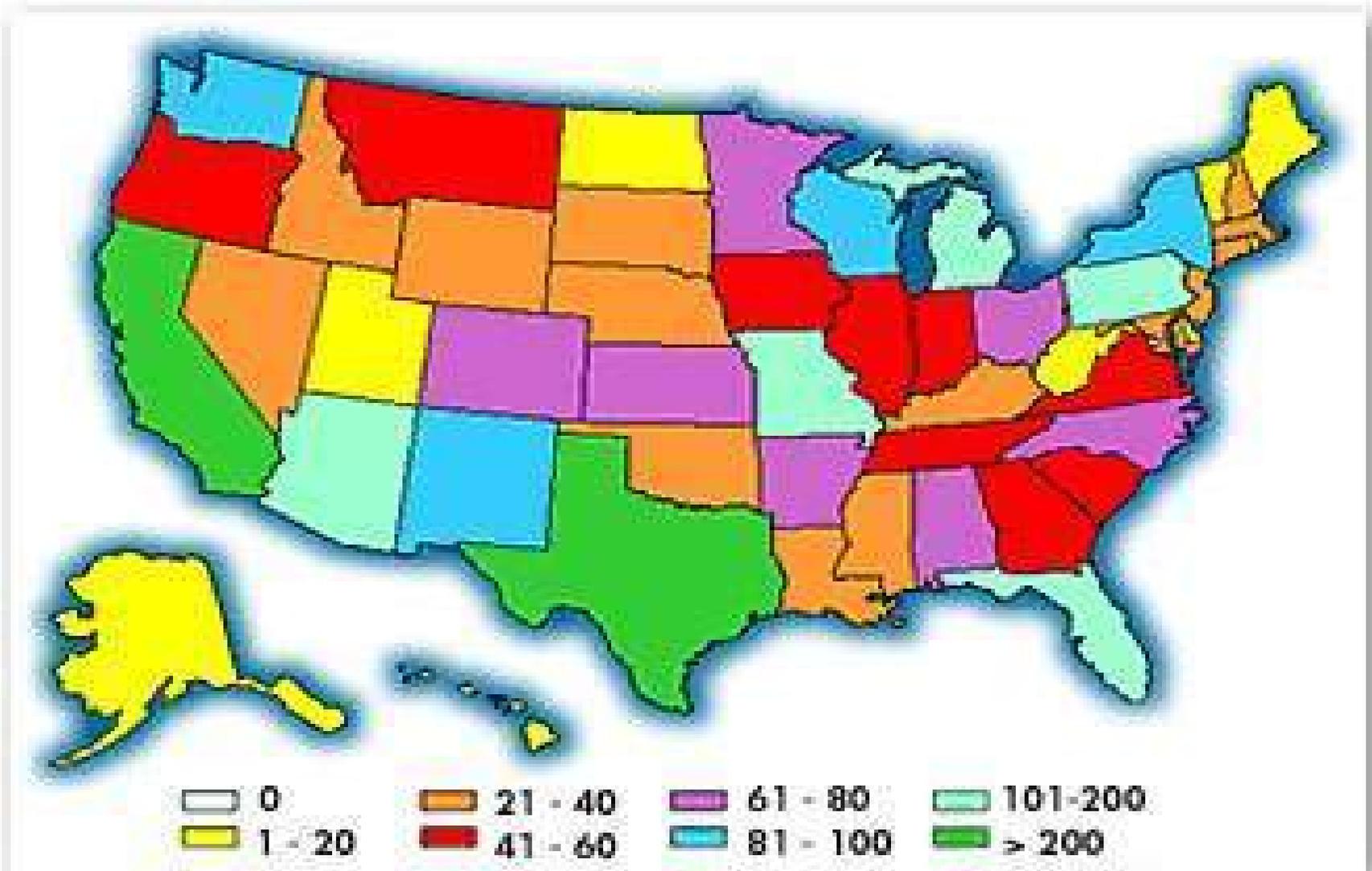
Blue Bird Vision 8.1L LPI

BLUE BIRD PROPANE VISION SPECIFICATIONS™	
Engine	333 hp @ 4400 rpm
Torque	422 lb.-ft. @ 3600 rpm
Transmission	Allison Automatic 2500 PTS
Fuel Range	Approx. 300 Miles
Brakes	Four-wheel, hydraulic and air brake systems available. Anti-lock brakes on all four wheels comes standard on all systems.
Tires	11R22.5G
Capacity	47 - 77 Passengers
Wheelbases	189 in. - 273 in.
Emergency Exits	As required by federal and state specifications.
Floor	Plywood subfloor over 14 gauge steel floor with rubber flooring and ribbed rubber aisle.
Accessories	<ul style="list-style-type: none">• 5 lb. Fire Extinguisher• First Aid Kit• Triangular Warning Device• Body Fluid Kit

Propane Infrastructure

Over 2500 Propane Fueling Stations in the USA

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Propane Infrastructure

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- Economical and Cost Efficient
- Industry Partnerships
- Modern Fleet Management Systems
- Portable (as fleets change)
- Dispensers Placed at Customer Sites



Quick, Easy Installation

- System skids can be relocated
- Skid package reduces on-site construction costs and installation timing
- Small footprint:
12' X 6'
or a parking space



Two 1000 gallon propane tanks.

~\$25,000, \$35,000 with Fuel Management

Public Access Stations

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Propane's Advantages

- Domestically Produced
- Environmentally Friendly
- Clean Emissions
- Safe
- Economically Efficient
- Infrastructure Availability
- Performance Characteristics
(range/power)
- Vehicle Options

Greg Zilberfarb

greg@propanetruck.us

703-779-4890



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