

Propane

It's Taking Off-Again



The Industry Has Changed

PROPANE
EXCEPTIONAL ENERGY®



She told me we couldn't afford beer anymore and I'd have to quit.

Then I caught her spending \$65 on makeup.

And I asked how come I had to give up stuff and she didn't.

She said she needed the makeup to look pretty for me.

I told her that was what the beer was for.

I don't think she's coming back.

July 31 - Yellow

Miller
Good call

Your Itinerary

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- **Propane Industry**
- **Products**
- **Fueling**

Industry Revival

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

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

Propane Industry

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Goals of PERC

Improve consumer and employee safety

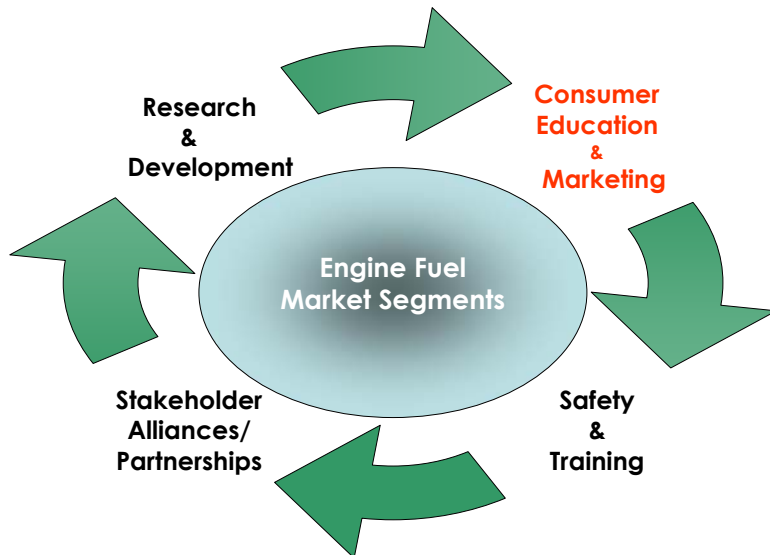
Fund research and development of new and more efficient propane equipment

Expand public awareness of propane and its many uses and benefits

Help ensure success of our partners

Engine Fuel Advisory Committee

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Propane Industry Overview

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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

Forklifts

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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.

Forklifts

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Propane forklifts.
Cleaner, greener and ready for tomorrow.

Propane Forklifts



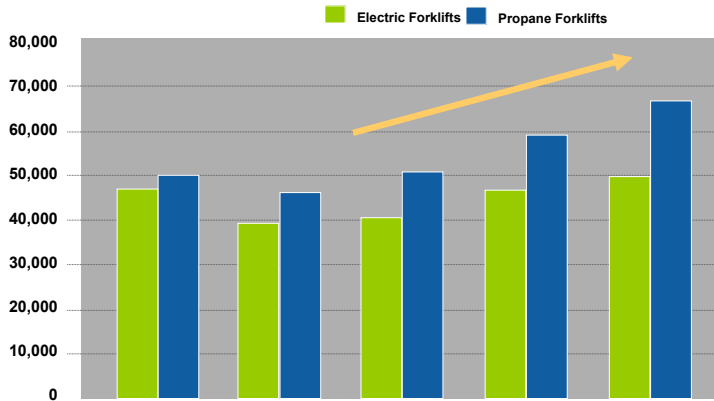
66,980 new propane lift trucks sold in 2005



Forklift Trends



12.8% increase in propane forklifts '03-'05



Propane Lawn Mowers Dixie Chopper and Enviroguard

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Dixie Chopper



Enviroguard

Tug Technologies

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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*



Roush F-150

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Roush F-150 Truck

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- Dedicated Propane
- 300 Mile Range
- \$5,500 Incremental
- All fuel underneath!
- 4x2, 4x4
- Towing
- Plow
- Available '07
- OEM



Configurations



F150 Vehicle Configurations		ROUSH.								
Specification	Units	Model								
		Regular Cab			Super			Crew		
		Style/Side	Style/Flare	Style/Side	Style/Side	Style/Flare	Style/Side	Style/Side	Style/Flare	Style/Side
Pickup box size	feet	5.5	6.5	8	5.5	6.5	8	5.5	6.5	8
Drive system		4x2 / 4x4	4x2 / 4x4	4x2 / 4x4	4x2 / 4x4	4x2 / 4x4	4x2 / 4x4	4x2 / 4x4	4x2 / 4x4	4x2 / 4x4
Wheelbase	inches	126	144.5	132.5	144.5	163	138.5	160.5	160.5	160.5
Wheelbase	mm	3198	3671	3366	3671	4143	3518	3823	3823	3823
Overall length	inches	211.2	229.8	217.8	229.8	248.4	223.8	235.8	235.8	235.8
Curb Weight	lb	4670 (est)	4800 (est)	5210 (est)	5530 (est)	5910 (est)	5640 (est)	-	7	-
GVWR - Styleside	lb	6650 / 6860	7050 / 6950	6950 / 7150	7050 / 7200	-	7050 / 7200	7050 / 7200	7050 / 7200	7050 / 7200
Max Payload - Styleside	lb	1820 / 1720	2000 / 1690	1810 / 1710	1890 / 1740	-	1780 / 1630	1670 / 1500	1670 / 1500	1670 / 1500
GVWR - Flareside	lb	6650 / 6860	-	-	7050 / 7200	-	-	-	7050 / 7200	7050 / 7200
Max Payload - Flareside	lb	1800 / 1700	-	-	1870 / 1720	-	-	-	1650 / 1480	1650 / 1480
GVWR wHD - Style	lb	-	8200 / 8200	-	8200 / 8200	-	-	-	-	-
Max Payload wHD -	lb	-	3060 / 2710	-	2710 / 2360	-	-	-	-	-
Max Trailer - 3.31 axle	lb	2400 / -	2300 / -	-	-	-	-	-	-	-
Max Trailer - 3.55 axle	lb	8000 / 7700	8800 / 8500	7700 / 7400	8600 / 8300	-	8500 / 8200	- / 8400	- / 8400	- / 8400
Max Trailer - 3.73 axle	lb	8500 / 8200	9800 / 9500	8200 / 7900	9500 / 9300	-	9500 / 9200	- / 9400	- / 9400	- / 9400
Max Trailer - 4.10 axle	lb	-	9900 / 9500	-	-	9500 / 9300	-	-	-	-
GCW - 3.31 axle	lb	7200	7200	-	-	-	-	-	-	-
GCW - 3.55 axle	lb	13000	14000	13000	14000	-	14000	14000	14000	14000
GCW - 3.73 axle	lb	13500	15000	13500	15000	-	15000	15000	15000	15000
GCW - 4.10 axle	lb	-	15300	-	-	15300	-	-	-	-
Tank Size	gallons	26	27	26	27	27	30	27	30	27
Opt Tank Size	gallons	-	35.7	-	35.7	35.7	-	35.7	-	35.7
#4 Xmember pos		1	2	2	2	4	2	2	3	3
#5 Xmember pos		1	4	2	4	6	3	5	5	5

Note: wHD denotes vehicle with Heavy Duty Payload Package

Powertrain



ENGINE DETAILS

Engine Numbers	Concept #1
Architecture	V8 SOHC
Valve Operation	Variable Cam Timing
Number of Valves	3 per cylinder
Valve sizes	31.6 mm / 27.65 mm
Cylinder Bore	90.2 mm
Crankshaft Stroke	105.8 mm
Engine Displacement	5.4 L
Compression Ratio	9.8:1
Fuel System	Port fuel injection / Liquid Propane Injection
Rated Peak Power	300 HP
Rated Peak Torque	365 FT-LBS

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



GM 8.1 L LPI System

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 **CLEANFUELUSA**
Tomorrow's Fuels Today

LPI

GMC 6500

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GM 8.1 L Propane Engine

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www.whygas.com

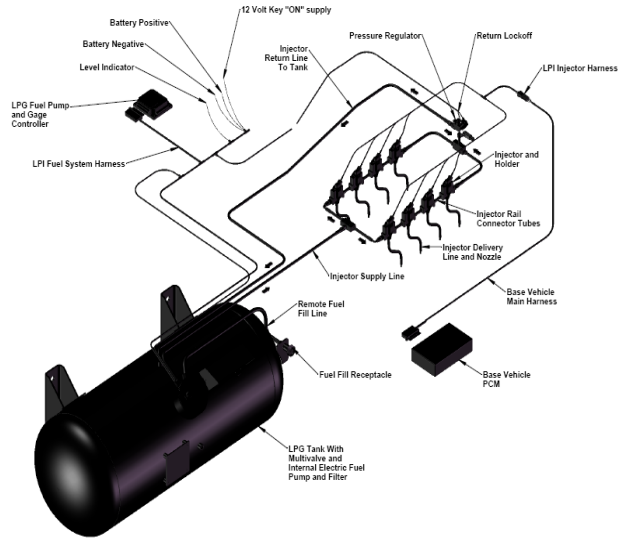
www.whygasengines.com

“General Motors Medium Duty’s new minisite, whygas.com, is the authority on all GM medium-duty truck engines. ...

...The site outlines the advantages of a gas engine, calculates how much you can save by purchasing a gas engine...”

Quality Engineered

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New Bluebird Propane Vision

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Blue Bird Builds Better Buses. 

Bluebird "Vision"

Blue Bird Vision 8.1L LPI Propane

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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

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



Public Access Stations

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Propane's Advantages

PROPANE
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- Domestically Produced**
- Environmentally Friendly**
- Safe**
- Economically Efficient**
- Infrastructure Availability**
- Performance Characteristics (range/power)**
- Vehicle Options**
- Superior Emissions**
- Worldwide Leader**

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