

POWERED BY PROPANE

Brought to
you by

LPGas

Sponsored by

ROUSH[®]
CLEANTECH

BRIAN RICHESSON

Editor in Chief
LP Gas magazine



Brought to
you by



Sponsored by



TODD MOUW
Vice President
Sales and Marketing
Roush CleanTech



Brought to
you by



Sponsored by





Liquid Propane Autogas

Product Introduction & Overview



09.04.14

Enterprise Brand Portfolio

ROUSH[®]

ROUSH Industries

OEM manufacturing, engineering, prototyping and design



Roush Fenway Racing

Dominant NASCAR Sprint Cup racing team



ROUSH Performance

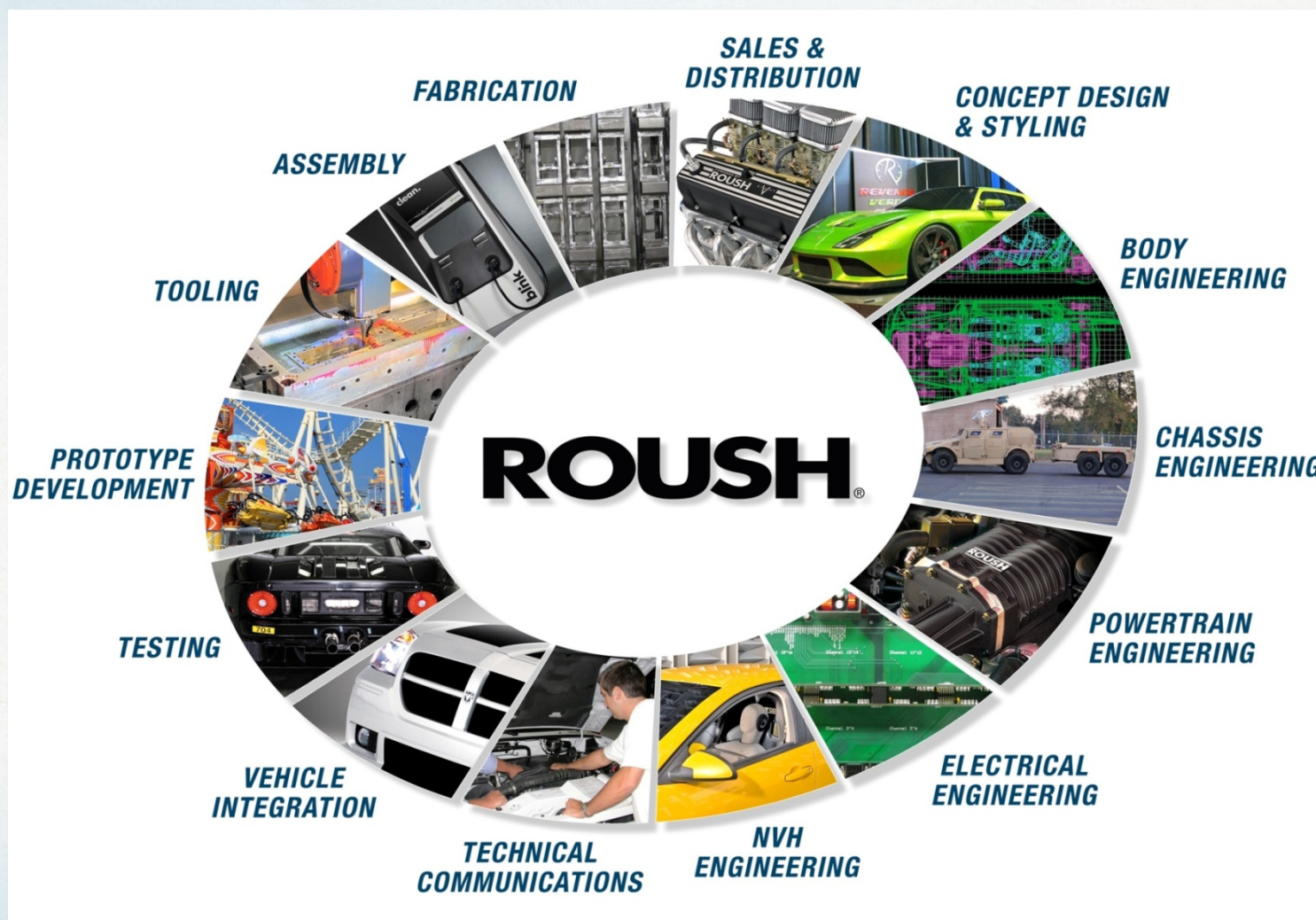
Industry leading high performance vehicles

ROUSH[®]
CLEANTECH

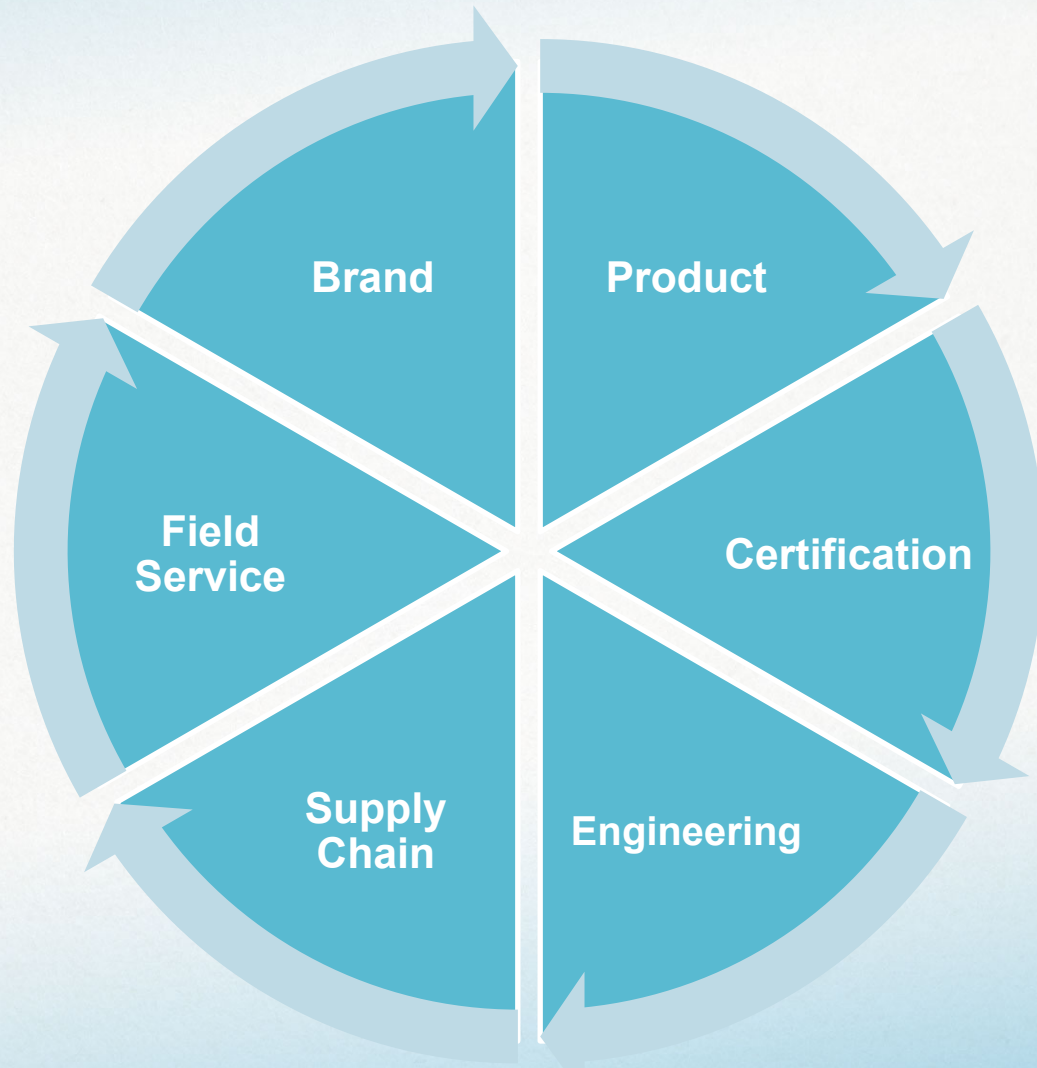
ROUSH CleanTech

Propane autogas powered commercial vehicles.

Wheel of Capability



Our Foundation



Outside the Propane Industry



AmeriGas
America's Propane Company

ANTHEM
PROPANE EXCHANGE

 **Ferrellgas**

 **Alliance
AutoGas**
POWERED BY PROPANE

 **SUPERIOR
ENERGY
SYSTEMS
LTD.**

Kamps
PROPANE

8,140

vehicles sold since 2007



297,271,440

gallons of propane
autogas used



240,837,565

gallons of gasoline
displaced





PRODUCT OVERVIEW

Pickups | Vans & Wagons | Cutaway Vans
Chassis Cab | School Bus

Model Years

2013- 2015

Engine Size

6.8L V10 (3V)

Applications

All cab configurations.

All wheelbase configurations.

6-speed automatic transmission.

Fuel Tank Capacity

Short Tanks (Clean CA): 45 gallons (usable)

Long Tanks (Non-Clean CA): 83 gallons (usable)

Technical Specifications

EPA and CARB approved.

GVWR: < 30,000 lbs.

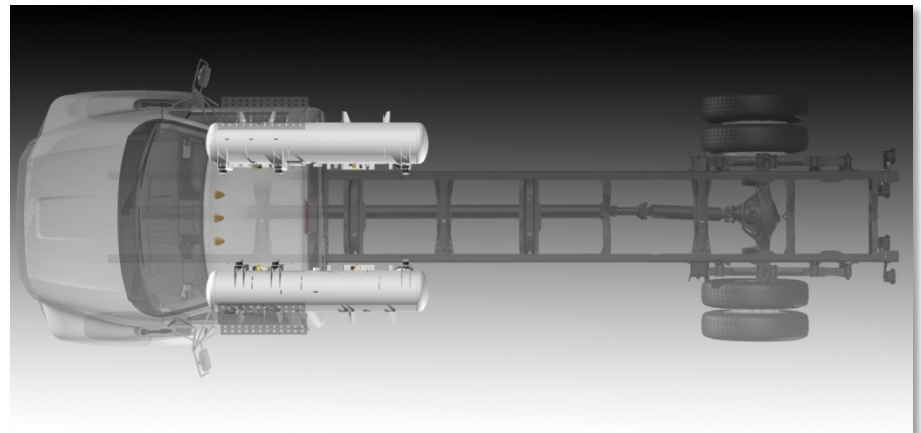
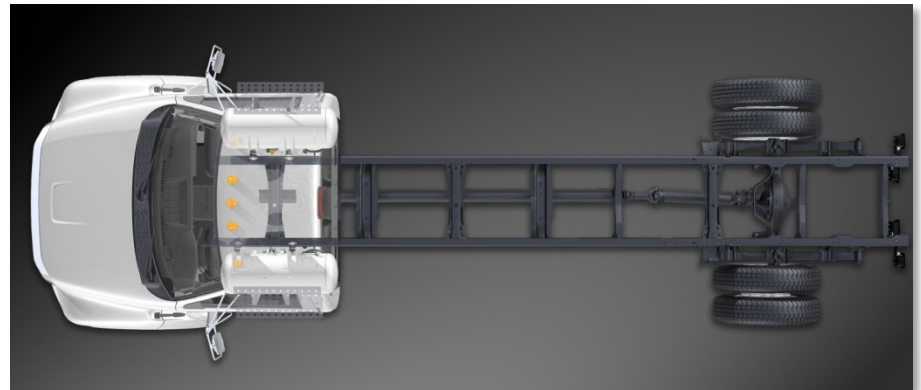
Requires "98G" gaseous fuels prep. package.

Pricing

Short Tanks (Clean CA): \$21,900

Long Tanks (Non-Clean CA): \$22,500

Ford F-650 Chassis Cab



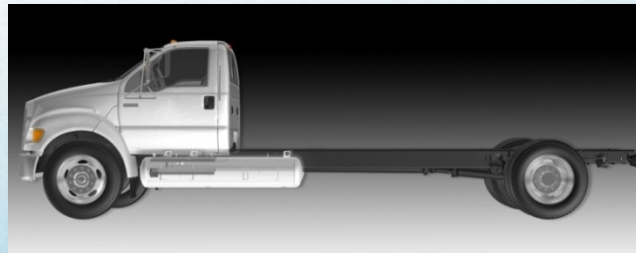
Tank Specifications: F-650

Short Tanks	
Usable gallons	45
Length	46.0"
Width	22.5"
Height	18.5"
Fuel system weight (dry)	414 pounds



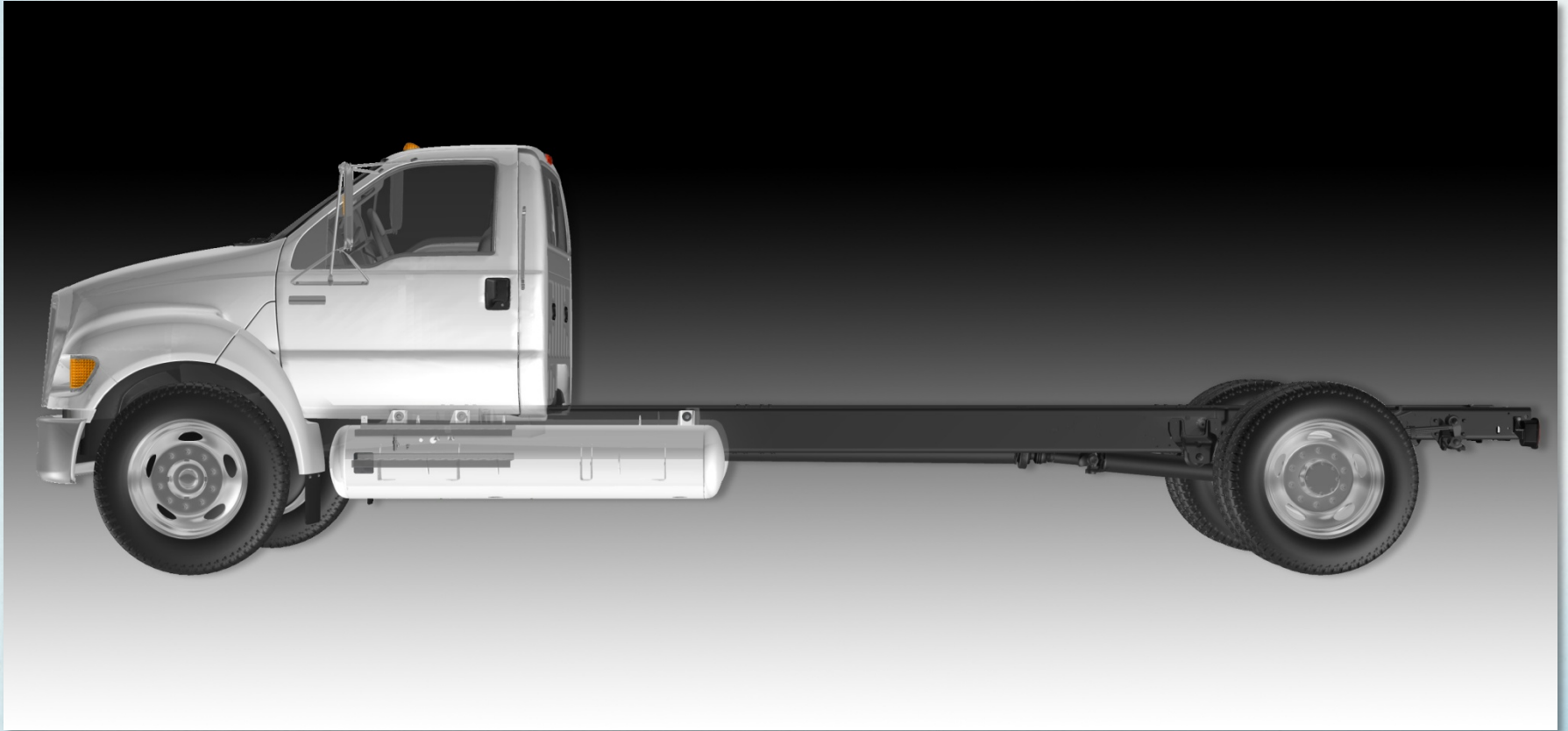
Tank Specifications: F-650

Long Tanks	
Usable gallons	83
Length	86.0"
Width	22.5"
Height	18.5"
Fuel system weight (dry)	614 pounds
Special considerations	VSO frame punch code 194" WB: Y3M
	VSO frame punch code 218" WB: Y3N





Coming Soon: Single Tank Option



- Up to 33,000 GVWR (37,000 GCWR).
- Hydraulic brakes:
 - Typically for Class 1-7 vehicles.
 - Same quality as air brakes.
 - Less expensive than air brakes.
 - Less moving parts than air brakes.
- 6-speed transmission:
 - Capable of up to 1,200 ft-lbs of input shaft torque.
 - Lower warranty than any heavy duty transmission Ford has produced.

Propane-Powered Applications



Model Years

2012- 2015

Engine Size

6.8L V10 (3V)

Applications

All cab configurations.

All wheelbase configurations.

5-speed automatic transmission.

Fuel Tank Capacity

Aft-Cab*: 52 gallons (usable)

Bus: 65 gallons (usable)

Technical Specifications

EPA and CARB approved.

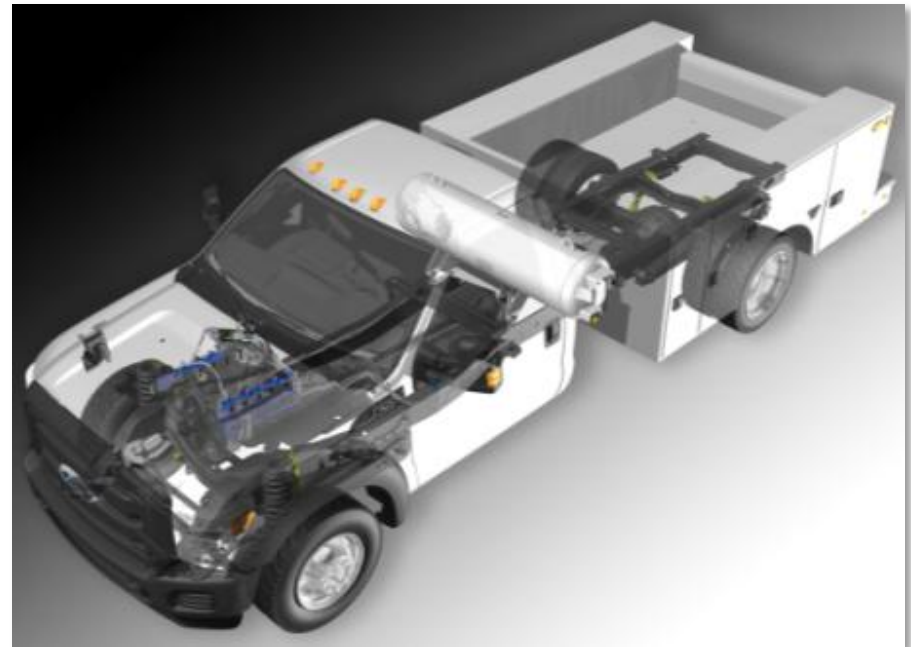
GVWR: < 16,500 – 19,500 lbs.

Requires "98G" gaseous fuels prep. package.

Order Availability

Shuttle: Q1, 2013 (distributed through GAS only).

Ford F-450 / F-550 Chassis Cab



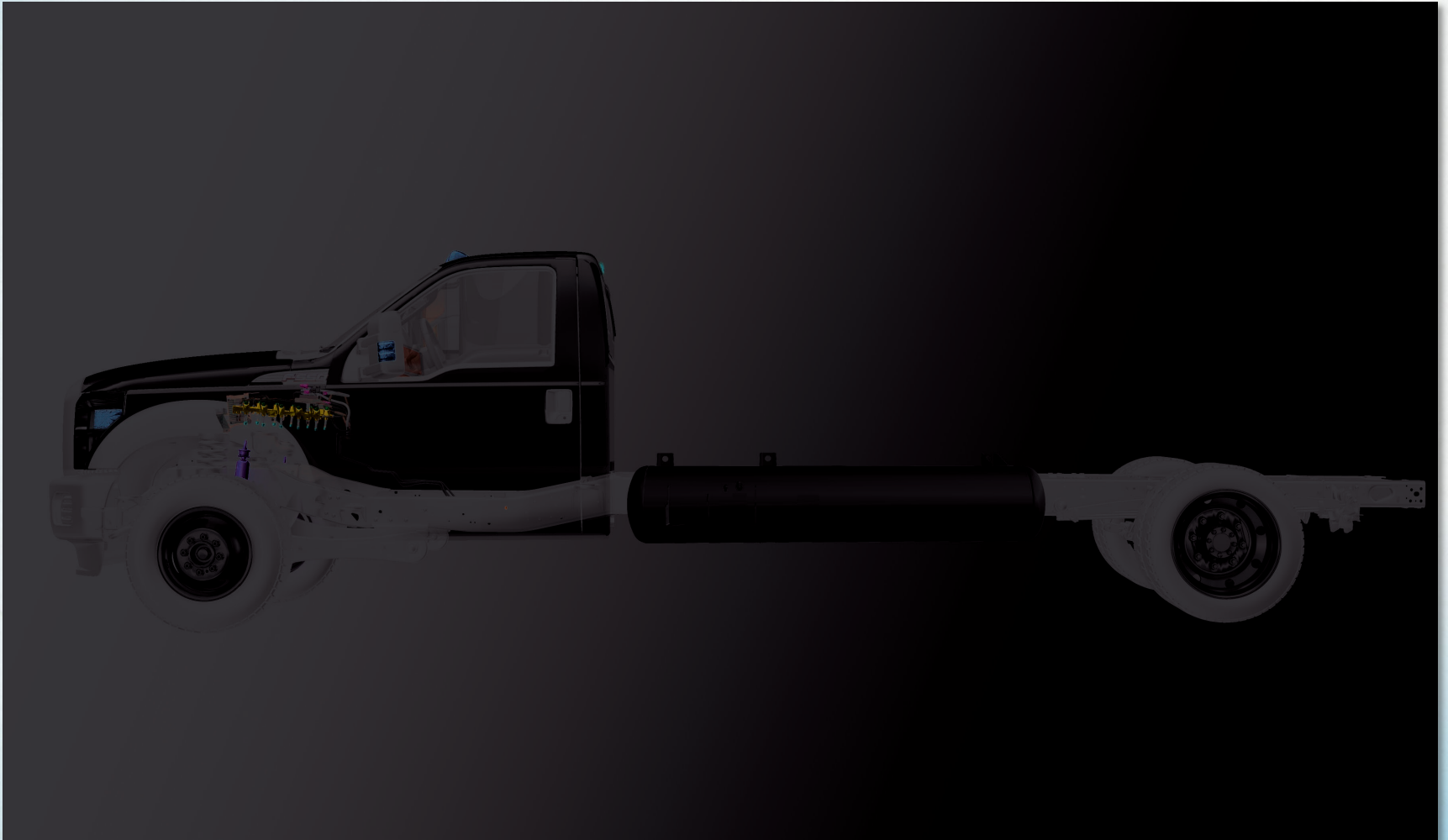
Tank Specifications: F-450 / F-550

Aft-Cab	
Usable gallons	52
Length	73.0"
Width	23.4"
Height	25.5"
Fuel system weight (dry)	303 pounds
Special Considerations	At least 25.5" of clearance required between the cab and body for the tank.





Coming Soon: Saddle Mount



Tank Specifications: F-450 / F-550

Single Saddle Mount	
Usable gallons	50
Length	86.0"
Width	22.5"
Height	18.5"
Fuel system weight (dry)	272 pounds
Special Considerations	Available on 120" CA only.



- Order banks open **Sept. 2014**
- Delivery begins **Feb. 2015**

Model Years

2012 - 2015

Engine Size

6.2L V8 (3V)

Applications

4x2 or 4x4.

6.75 ft., 8 ft., bed delete.

Fuel Tank Capacity

Under-bed: 21 gallons (usable).

*Not available on 6.75' bed.

In-bed: 38 gallons (usable)

Technical Specifications

EPA and CARB approved.

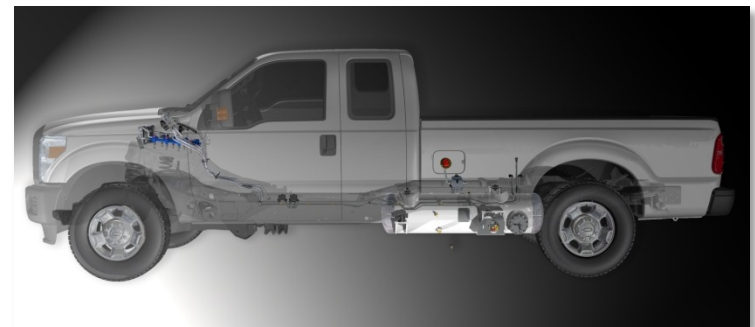
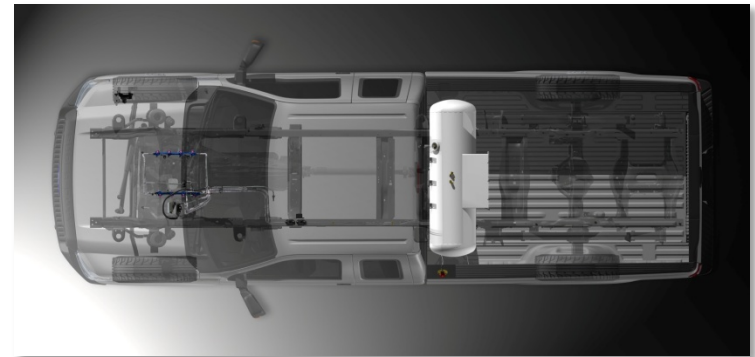
Requires "98F" gaseous fuels prep. package.

Pricing

Under-bed: \$11,450

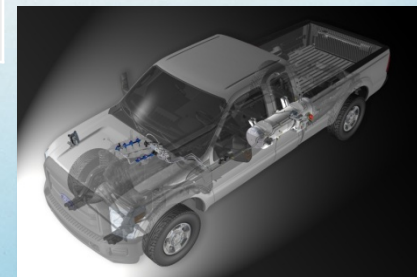
In-bed: \$10,495

Ford F-250 / F-350 Pickup Truck



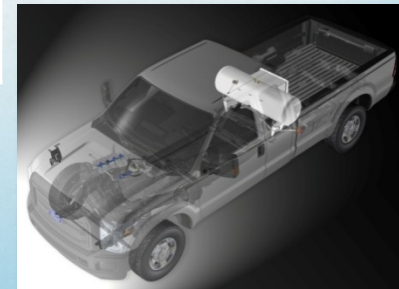
Tank Specifications: F-250 / F-350

Under-Bed	
Usable gallons	21
Length	60.9"
Width	17.3"
Height	14.6"
Fuel system weight (dry)	255 pounds
Special Considerations	Not available on chassis cab.
	8 ft. bed only.
	Available on pickup and bed delete.



Tank Specifications: F-250 / F-350

In-Bed	
Usable gallons	38
Length	46.9"
Width	25.5"
Height	22.4"
Fuel system weight (dry)	285 pounds
Special Considerations	Available on pickup, bed delete and chassis cab.
	Knapheide service body only.





THE OPPORTUNITY:

Increase Propane Gallon Sales

Model Years

2013 - 2015

Engine Size

6.8L V10 (3V)

Applications

All rear-axle configurations.

5-speed automatic transmission.

Fuel Tank Capacity

Aft-axle: 65 gallons (usable)

Technical Specifications

EPA and CARB approved.

GVWR F-53: < 26,000 lbs.

GVWR F-59: < 22,000 lbs.

Requires "98G" gaseous fuels prep. package.

Order Availability

Available from Green Alternative Systems.

Pricing

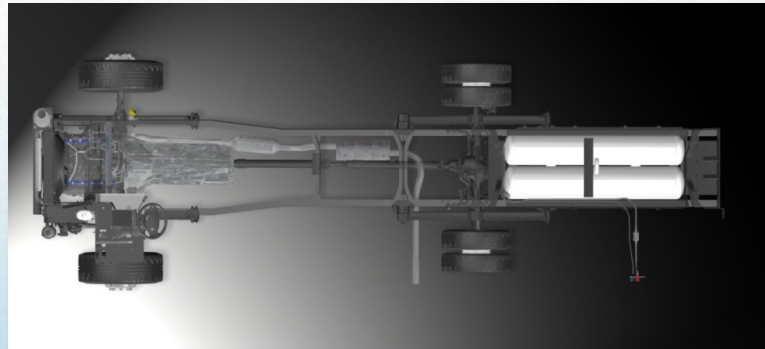
Aft-axle: \$16,900

Ford F-53 / F-59 Strip Chassis



Tank Specifications: F-53 / F-59

Mid-Ship	
Usable gallons	65
Length	75.8"
Width	22.3"
Height	15.0"
Fuel system weight (dry)	324 pounds
Special Considerations	At least 78.5" of clearance required after the rear axle.



Model Years

2012 - 2015

Engine Size

6.8L V10 (2V)

Applications

158" / 176" / 186" / 190" / 208" wheelbases.

5-speed automatic transmission.

Fuel Tank Capacity

Aft-axle: 41 gallons (usable)

Technical Specifications

EPA and CARB approved.

GVWR: < 14,500 lbs.

Requires "91G" gaseous fuels prep. package.

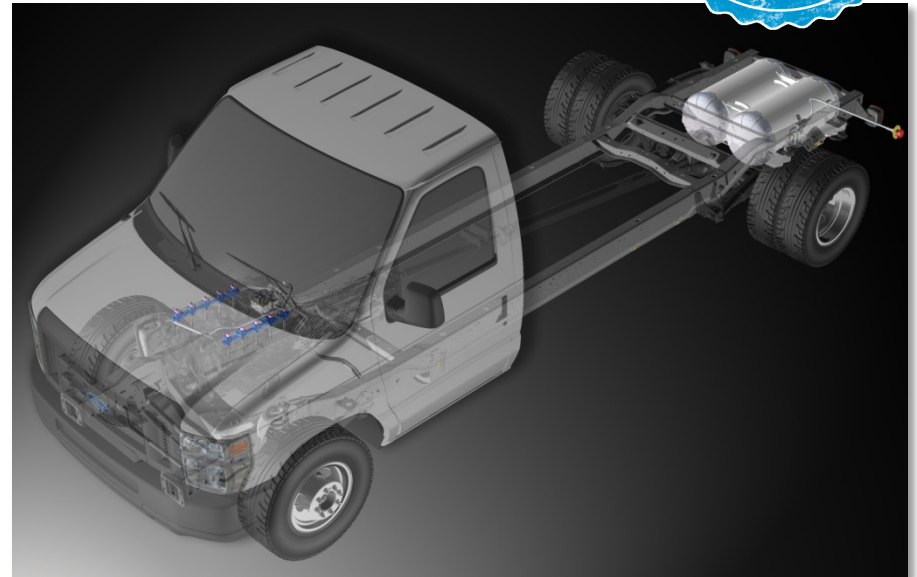
Order Availability

Ford Ship Through.

Pricing

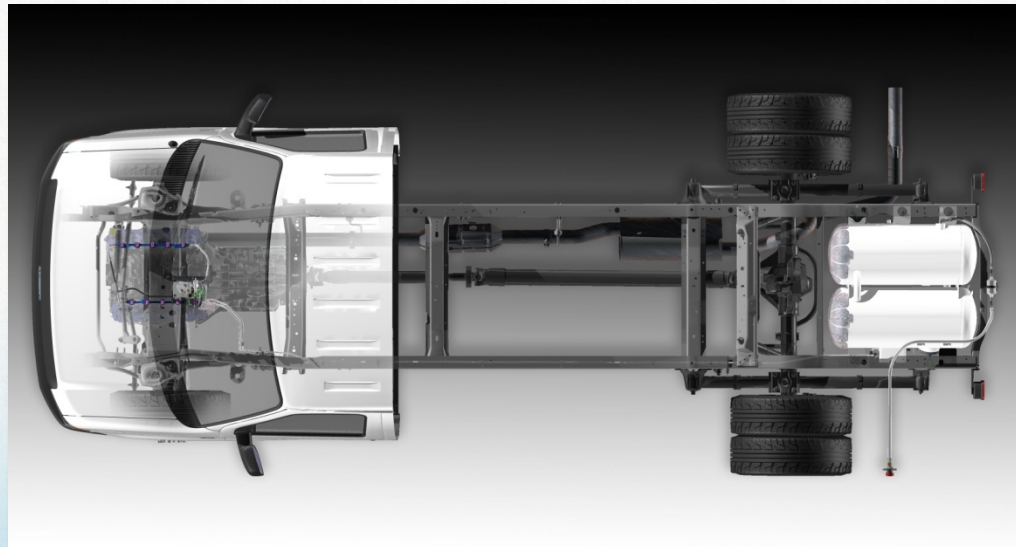
Aft-axle: \$15,900

Ford E-450 Cutaway & Strip Chassis



Tank Specifications: E-450

Aft-Axle	
Usable gallons	41
Length (in)	42.0"
Width (in)	39.1"
Height (in)	16.3"
Fuel system weight (dry)	268 pounds





Ford Transit



Blue Bird Vision (Type C)

Model Years

2015

Engine Size

6.8L V10 (3V)

Applications

6-speed automatic transmission.

Fuel Tank Capacity

Standard: 67 gallons (usable)

Extended: 93 gallons (usable)

Technical Specifications

EPA and CARB approved.

GVWR: 33,000 lbs.

Up to 77 passengers

Order Availability

Blue Bird dealers



BLUE BIRD



Tank Specifications: Blue Bird

Standard	
Usable gallons	67
Gallon capacity	70
Length	75.8"
Width	22.3"
Height	15.0"
Fuel system weight (dry)	324 pounds



Tank Specifications: Blue Bird

Extended	
Usable gallons	93
Gallon capacity	100
Length	110.0"
Width	22.3"
Height	15.0"
Fuel system weight (dry)	450 pounds





Model Years

2015

Engine Size

6.8L V10 (2V)

Applications

158" / 176" / 186" / 190" wheelbase configurations.

Chiller required for vehicles operating in temps $\geq 110^{\circ}\text{F}$.

5-speed automatic transmission.

Fuel Tank Capacity

Aft-Axle: 41 gallons (usable)

Technical Specifications

EPA and CARB approved.

GVWR: 14,500 lbs.

Up to 30 passengers

Order Availability

Blue Bird dealers

Micro Bird G5 (Type A)





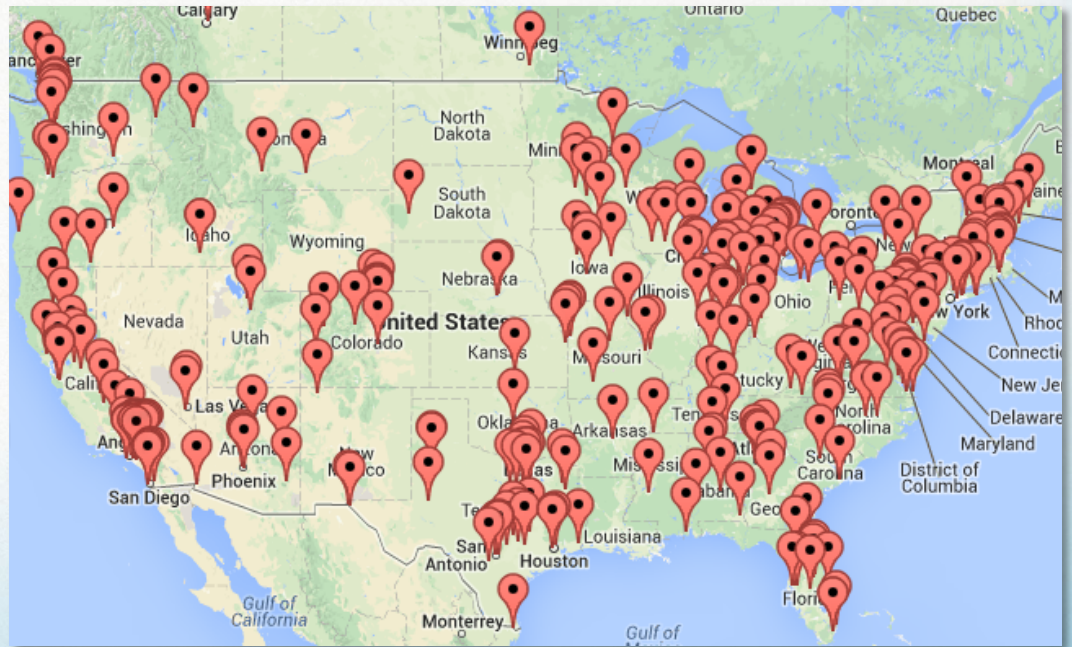
SERVICE & WARRANTY

Training, Basic Coverage
and Special Tools

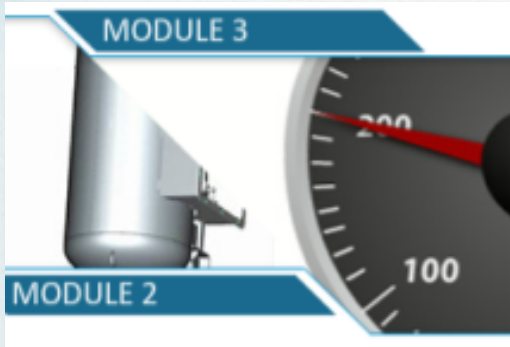
- National footprint:
 - Over 380 locations in every customer deployment area (both United States and Canada).

- Training program:
 - System overview.
 - Service diagnostics.
 - Repair procedures.
 - Warranty claim process.
 - Service manual review.
 - Contact information.

- Web-based training.



Product Training



Installation Support



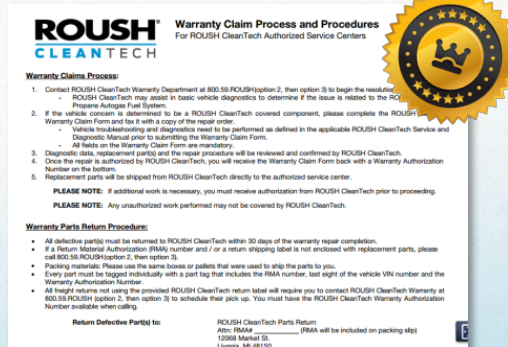
Technical Hotline



Field Support



Warranty Support



Field Data Analysis

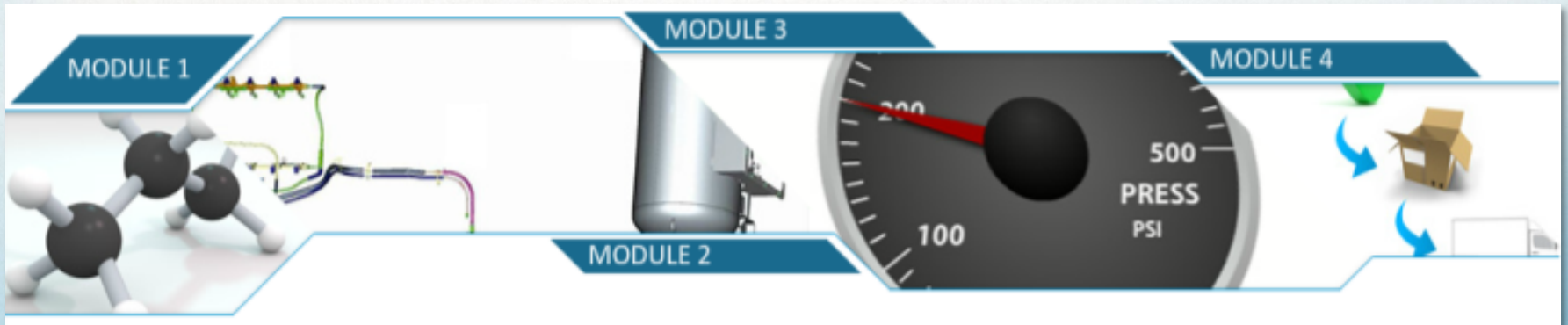


Service Technician Course:

- A. Propane as an Autogas.
- B. Propane Autogas Fuel System Overview.
- C. System Diagnostics.
- D. Basic Warranty Information.

Service Manager/Advisor Course:

- A. Propane as an Autogas.
- B. Propane Autogas Fuel System Overview.
- C. Detailed Warranty Process.



Savings Calculation (vs. Diesel – no DEF)

Capital Costs	Diesel (6.7L V8)	Propane (6.8L V10)	Savings (Costs)
Base Ford Vehicle Purchase Price	\$60,830.00	\$53,660.00	
ROUSH CleanTech Propane Conversion	\$0.00	\$22,500.00	
State or Federal Incentive (if applicable)	\$0.00	\$0.00	
Total Capital Savings (or Investment)	\$60,830.00	\$76,160.00	(\$15,330.00)
Operating Costs	Diesel (6.7L V8)	Propane (6.8L V10)	Savings (Costs)
Total Vehicle Life (miles)	200,000	200,000	
Average Miles Per Gallon*	6.54	4.25	
Gallons of Fuel Over Lifetime	30,581.04	47,047.75	
Fuel Price (per gallon)**	\$3.92	\$1.50	
Fuel Tax Credit / Gallon	\$0.00	\$0.00	
Adjusted Fuel Price / Gallon	\$3.92	\$1.50	
Total Fuel Savings (or Costs)	\$119,877.68	\$70,571.63	\$49,306.05

Gross Vehicle Lifetime Savings (Loss)

\$49,306.05

Net Vehicle Lifetime Savings (Loss)

\$33,976.05

Ford F-650
 2015 (6.8L V10)



Savings Calculation (vs. Diesel – DEF)

Capital Costs	Diesel (6.7L V8)	Propane (6.8L V10)	Savings (Costs)
Base Ford Vehicle Purchase Price	\$60,830.00	\$53,660.00	
ROUSH CleanTech Propane Conversion	\$0.00	\$22,500.00	
State or Federal Incentive (if applicable)	\$0.00	\$0.00	
Total Capital Savings (or Investment)	\$60,830.00	\$76,160.00	(\$15,330.00)
Operating Costs	Diesel (6.7L V8)	Propane (6.8L V10)	Savings (Costs)
Total Vehicle Life (miles)	200,000	200,000	
Average Miles Per Gallon*	6.54	4.25	
Gallons of Fuel Over Lifetime	30,581.04	47,047.75	
Fuel Price (per gallon)**	\$4.19	\$1.50	
Fuel Tax Credit / Gallon	\$0.00	\$0.00	
Adjusted Fuel Price / Gallon	\$4.19	\$1.50	
Total Fuel Savings (or Costs)	\$128,134.56	\$70,571.63	\$57,562.93

Gross Vehicle Lifetime Savings (Loss)

\$57,562.93

Net Vehicle Lifetime Savings (Loss)

\$42,232.93

Ford F-650
 2015 (6.8L V10)



Emissions Calculation

Emissions Reductions	Gasoline	Propane	Difference
Total Vehicle Life (miles)	220,000	220,000	
Average Miles per Gallon	5.00	4.25	
Gallons of Fuel Used Over Life of Vehicle	44,000.00	51,764.71	(7,764.71)
Carbon Mass per Gallon Fuel (lb. / gal.)	5.10	3.47	
Mass of CO ₂ per Gallon Fuel (lb. / gal.)	18.70	12.72	
Total lbs. of CO₂ Produced During Vehicle Life	822,606.40	658,353.88	164,252.52

Fewer lbs. of CO₂ Produced Using Propane Autogas

164,253



Ford F-650
 2015 (6.8L V10)

Private Industry Sales Contacts



Todd Mouw

VP, Sales & Marketing

Office: 734.466.6522

Cell: 248.770.4557

Email: todd.mouw@roush.com



Don Manfredi

Group Account Director

Office: 734.466.6858

Cell: 734.536.0177

Email: donald.manfredi@roush.com



Eric Bates

Director of Strategic Accounts

Airport, Bakery & Food

Cell: 602.989.5086

Email: eric.bates@roush.com



Steve Ford

Director of Business Development
Energy

Cell: 734.377.1375

Email: steve.ford@roush.com



Joe Rudolph

Director of Business Development
Beverage, Telecom

Cell: 317.407.8696

Email: joseph.rudolph@roush.com



Randy Veenhoven

Executive Director of Transit

Cell: 734.679.7638

Email: randy.veenhoven@roush.com



Steve Whaley

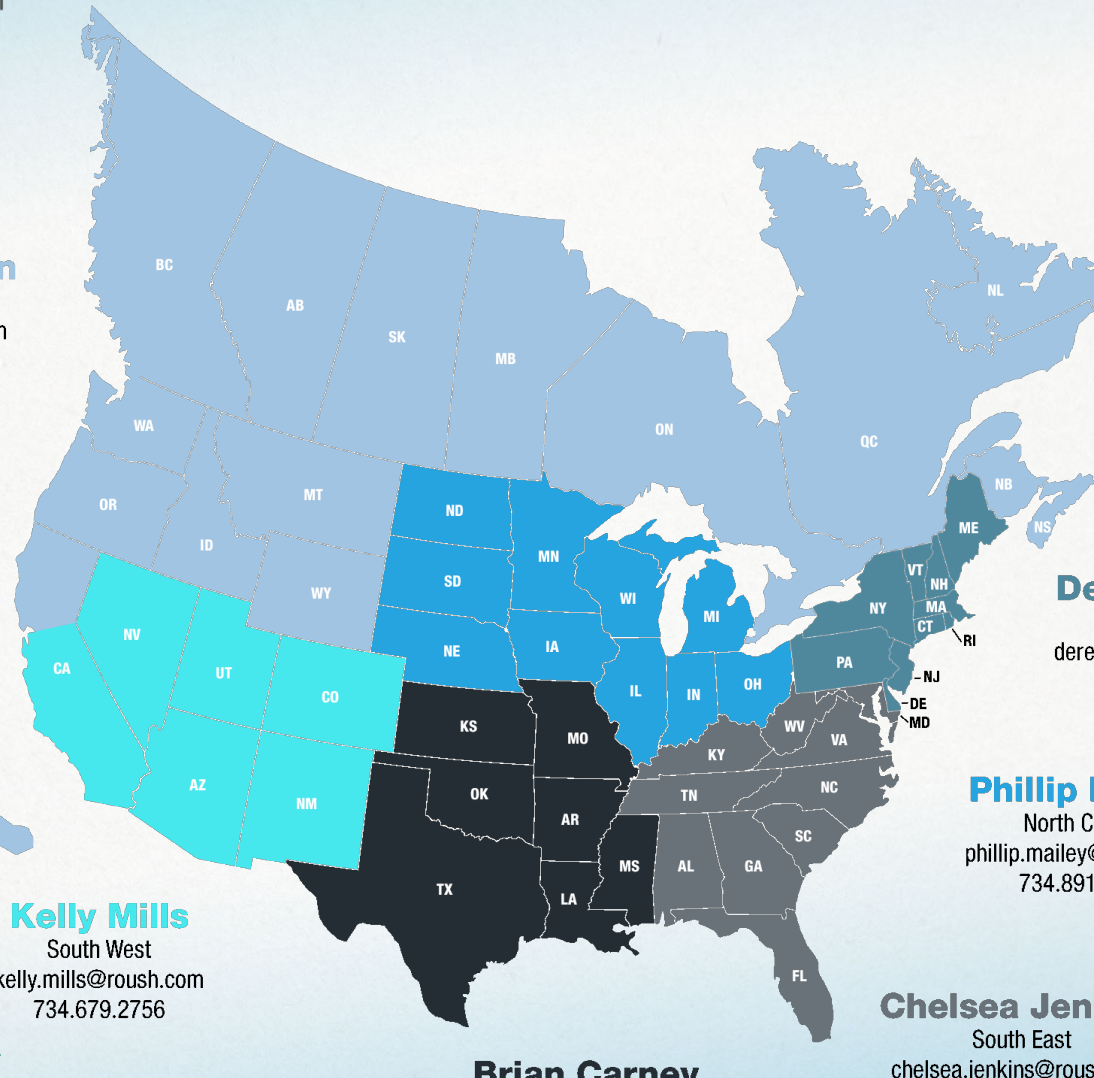
Director of Business Development
Landscape, Linen, Logistics

Cell: 864.923.5000

Email: steve.whaley@roush.com

Government / Schools Sales Contacts

Jess Henderson
North West
jess.henderson@roush.com
734.476.6707



Derek Whaley
North East
derek.whaley@roush.com
734.780.4418

Phillip Mailey
North Central
phillip.mailey@roush.com
734.891.4349

Kelly Mills
South West
kelly.mills@roush.com
734.679.2756

Brian Carney
South Central (Temporary)
brian.carney@roush.com
734.466.6219

Chelsea Jenkins
South East
chelsea.jenkins@roush.com
734.812.1965

Government / Schools Sales Contacts



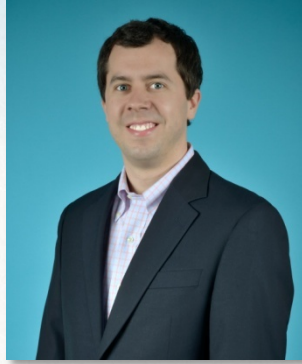
Todd Mouw

VP, Sales & Marketing

Office: 734.466.6522

Cell: 248.770.4557

Email: todd.mouw@roush.com



Brian Carney

Group Account Director

Office: 734.466.6219

Cell: 734.718.6708

Email: brian.carney@roush.com



Chelsea Jenkins

Business Development Manager

Southeast

Cell: 734.812.1965

Email: chelsea.jenkins@roush.com



Carrie Broeckelmann

Business Development Manager

South Central

Cell: 734.730.5961

Email: carrie.broeckelmann@roush.com



Jess Henderson

Business Development Manager

Northwest

Cell: 734.476.6707

Email: jess.henderson@roush.com



Phillip Mailey

Business Development Manager

North Central

Cell: 734.891.4349

Email: phillip.mailey@roush.com



Kelly Mills

Business Development Manager

Southwest

Cell: 734.679.2756

Email: kelly.mills@roush.com



Derek Whaley

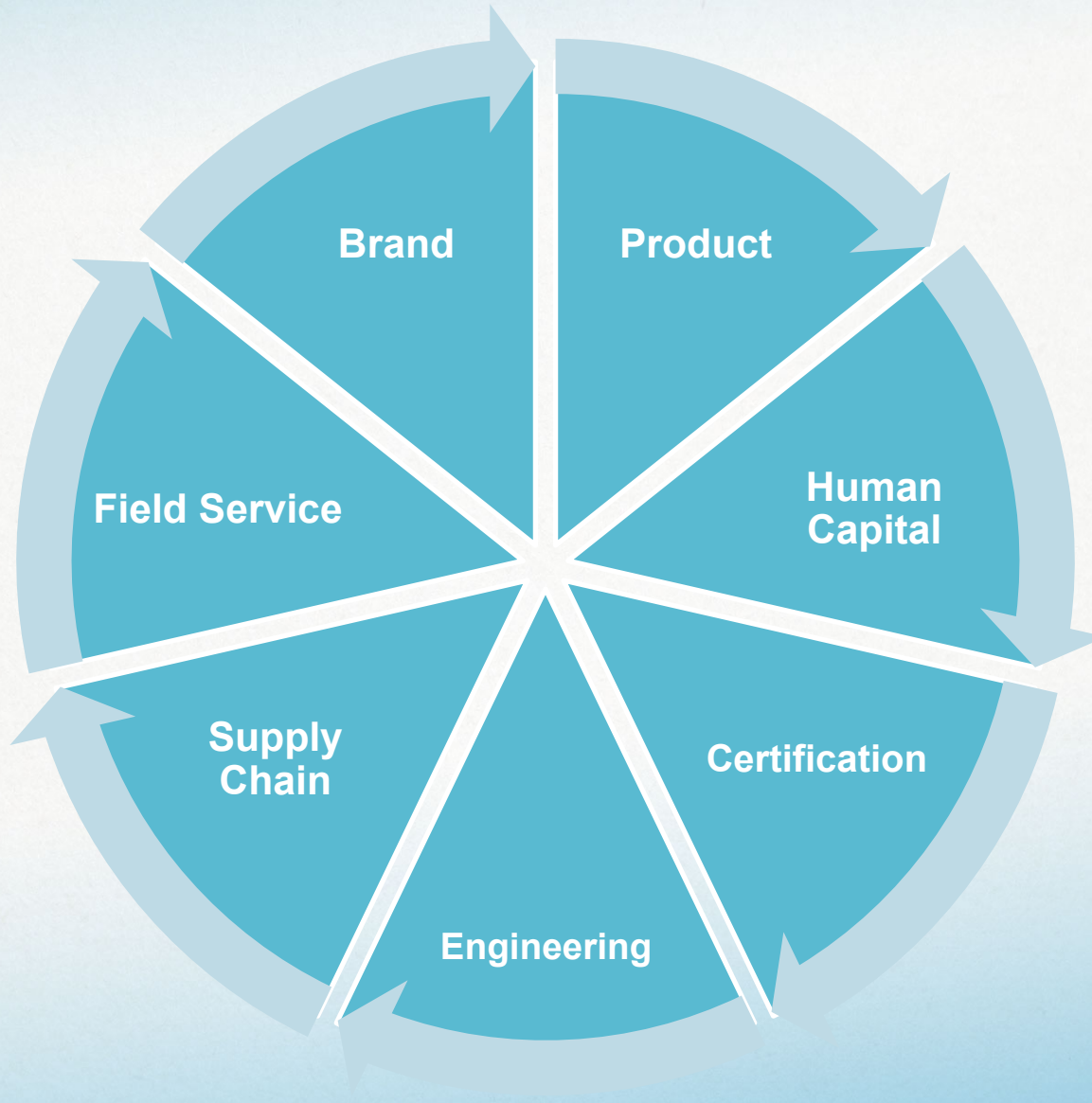
Business Development Manager

Northeast

Cell: 734.780.4418

Email: derek.whaley@roush.com

Our Foundation



CONTACT

Brian Richesson
Editor in Chief, LP Gas magazine
216-706-3748
brichesson@northcoastmedia.net

Todd Mouw
Vice President, Sales and Marketing, Roush CleanTech
734-466-6522
Todd.Mouw@roush.com

Brought to
you by



Sponsored by

