

Blue Bird Vision Gen 4 Propane Bus: **SETTING THE PACE FOR PROPANE**



Built to take on tomorrow.



IT ALL COMES DOWN TO THIS:

Blue Bird offers you **4th generation propane** technology that's keeping pace with environmental and fuel economy needs. The competition is just getting started.

Our Vision Gen 4 Propane bus comes with the Blue Bird commitment to passenger safety, durability, service and support – including our dedicated team of Field Service Engineers focused exclusively on school bus operations.

The extensive Blue Bird/Ford service network throughout the US and Canada assures quick turnaround on service. ROUSH CleanTech provides ongoing support through

on-site or web-based technician training. The company also makes emissions and cost-savings data available to our customers.

Talk to your Blue Bird Dealer today about expanding your fleet with the proven propane bus that continues to set the standard: **the Blue Bird Vision Gen 4 Propane bus.**



Blue Bird®, Ford® and ROUSH® CleanTech have come together to deliver a proven powertrain that's optimized for the school bus industry – and available exclusively from Blue Bird.

“ I found that the return on investment for propane looked like a much more viable option than compressed natural gas. The drivers absolutely love them and prefer to drive them. The buses perform well, are quieter for the drivers so they can actually hear the children, don't smell because of the diesel exhaust, and handle well. ”

Anthony Jackson, Director of Transportation
– Bibb County School District - Macon, GA

Blue Bird Vision Gen 4 Propane Bus

DRIVING PROPANE FORWARD

With the newest generation propane bus, Blue Bird and our proven partners are continuing to advance propane bus technology - to stay ahead of future environmental emissions standards and fuel economy needs.

While the competition is still on their “Gen 1,” the Blue Bird Vision Gen 4 Propane bus just keeps getting better in all these important ways:

Clearly the best emissions control

With virtually zero emissions, the new Blue Bird Vision Propane leads the industry in controlling emissions, thanks to our exclusive partnership with Ford and ROUSH CleanTech. Ford recently updated their control system, improving emissions performance for the 6.8 L V10 spark-ignited engine in the Vision Gen 4 Propane bus.

To reduce CO2 greenhouse gas emissions, engine speed is maintained at a max 4,000 rpm. Peak torque occurs well below this speed, while running the engine above 4,000 rpm produces significantly more CO2. This engine achieves equal torque and maintains performance metrics as it reduces harmful CO2 emissions.

“ Each of our Blue Bird Vision Propane school buses displace 40,000 gallons of diesel and emit 150,000 fewer pounds of carbon dioxide over their lifetime. We are providing clean student transportation while saving taxpayers money so we can put it back in the classroom where it counts most. ”

Pat Mitchell, Director of Transportation

– Mobile County Public Schools - Mobile, AL



Best fuel economy

In addition to Ford's control system update, the transmission shift schedule on the Blue Bird Vision Propane has been modified to optimize the new engine speed. The result: improved fuel economy.

With the new shift schedules, ROUSH CleanTech has modified the EconoShift and PowerShift calibrations. The Gen 4 Vision engine is already more efficient than the previous version, so the difference between EconoShift and PowerShift is less noticeable.

However, EconoShift further optimizes the shift schedule for even better fuel economy. Other fuel-saving improvements include:

- FEAD changes idle from 760 rpm to 680-700 rpm
- A new option: extended idle shut down after 5 minutes

The Ford powertrain also weighs up to 130 lbs. less than the competition, delivering a strong weight advantage for greater fuel efficiency.

The Blue Bird Vision Gen 4 Propane bus meets and **EXCEEDS** Federal emission standards, **ACHIEVING VIRTUALLY ZERO EMISSIONS.**

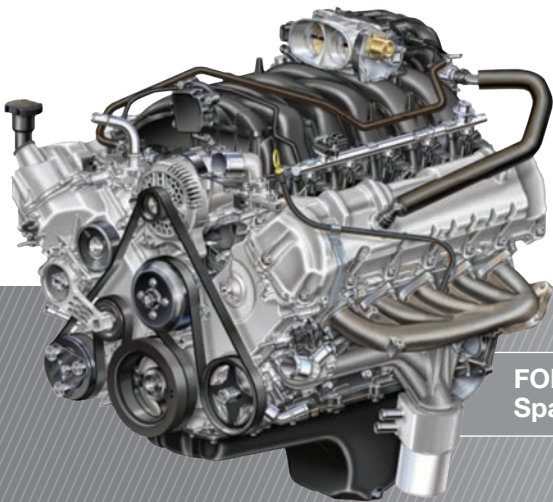
Proven powertrain with the best warranty

One of the biggest advantages of our propane bus is Blue Bird's exclusive access to a major OEM's high-volume production lineup of engines and transmissions. Blue Bird partners with Ford to give Vision buses the same rugged powertrain used by Ford Commercial Duty Trucks – optimized by ROUSH CleanTech for our bus application.

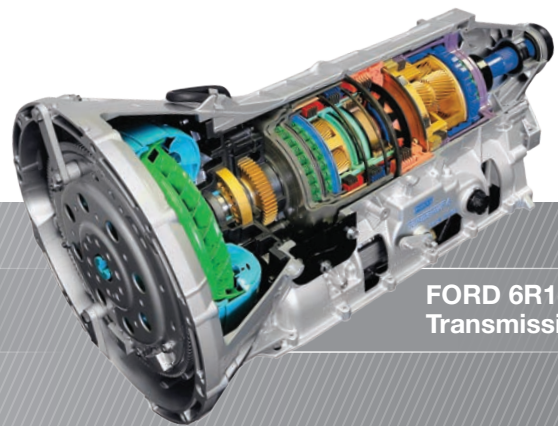
The result of this exclusive partnership is a commercial-duty bus powertrain that's robust, reliable – and takes advantage of a strong existing partnership between Ford and ROUSH CleanTech.

The Vision Gen 4 Propane's **Ford 6.8L V10 spark-ignited engine** has a long history of success. For over two decades, Ford has used modular engines, including the 6.8L, and they have proven their durability and reliability in the commercial truck market year after year. It's no wonder that this Vision Propane engine comes with a **5-year, unlimited-mile warranty** on the engine, transmission and entire fuel system.

The **Ford 6R140 transmission** is a 6-speed automatic with strong competitive advantages, including higher shift speeds, lower weight, and an all new Torque Converter with low speed lock-up capability down to 900 rpm. This converter avoids slippage and allows the engine to run smoothly and efficiently at any rpm.



**FORD 6.8L V10
Spark-ignited Engine**



**FORD 6R140
Transmission**

Proven powertrain that **meets stringent Federal and State emission standards** - plus Ford is well positioned to meet all future fuel economy and emission targets.

New Torque Converter with low speed lock-up capability.

Easy start-up and quiet engine operation

Another exclusive: ROUSH CleanTech **Front End Accessory Drive (FEAD)** includes belts for multiple A/C compressors, alternator & power steering pump. (Air brake compressor & additional AC compressor are optional.)

Tank capacity: Standard (usable) 67-gallon, optional 93-gallon and 47-gallon

“ Our propane buses are easy to maintain, create less pollution, increase financial savings and operate on a local fuel. Due to our positive experience, we plan to replace two diesel buses per year with Blue Bird propane models. ”

Barry Bryan, Director of Transportation – Bradford Area School District, Bradford, PA

In recent research*, **transportation directors**, **service managers** and **contractors** revealed the **3 most important attributes** they look for when choosing a Type C bus:

- **Safety**
- **Quality, reliability & durability**
- **Operating costs**

#1



BLUE BIRD RANKED #1 IN ALL 3 CATEGORIES.

You'll find all these attributes in the new GEN 4 VISION PROPANE BUS.

The best safety comes standard

Blue Bird is always going above and beyond when it comes to safety.

- Only Blue Bird makes these crucial safety tests standard for all Vision buses to pass:
 - **Colorado Rack and Load Test** that simulates a rollover crash to ensure structural integrity and working emergency exits.
 - **Kentucky Pole Test** simulating the striking of a utility pole that causes the roof to bend into the passenger compartment without body panel separation.
- **Superior driver visibility** is unique to the Blue Bird Vision bus - and the origin of its name.
- **Best-in-class turning radius** enhances maneuverability to reduce backing, provide more versatile routing, and reduce accidents.

No wonder Blue Bird's Vision Propane is ranked #1 in Safety* over the competition.

The best in total cost of ownership

With its simplified emissions system, proven performance and simple service strategy, the Blue Bird Vision Gen 4 Propane bus delivers lower cost training and maintenance.

- **Less training** with technical staff trained on just one platform (across propane, gasoline and CNG)
- **Ease of maintenance** resulting in lower maintenance costs
- **No costly diesel** after-treatment system
- **Fuel savings** of up to \$2,500/year (includes Fed Rebate)
- **Longer lifespan** — cleaner parts, engine and fuel system

KEY GENERATION 4 ENHANCEMENTS

Always out to move the needle, Blue Bird has Improved its Vision Propane bus in all these ways:

Better Serviceability:

- **The sending unit** was moved from outboard to inboard at the top of the tank, with an access panel in the bus floor for easy access.
- **Pre-injector filters** have a finer filter, so two filters go to one - located outside of the fuel tank, making it easier to replace or service.
- **Fuel lines** utilize an o-ring boss thread which does not require any special tools for service.
- **New optional Euro-style fill connector** is a quick adaptor connector that is more ergonomic, easier to use and better sealed – with no face shield or gloves needed.

Higher Fuel Level Reading Accuracy:

- **The new fuel level sender** improves gauge accuracy and is now accessible through the floor, providing easier service access.
- **The 80% overfill protection device** was moved to the top center inside the tank, ensuring a more complete fill.
- **SRM** is updated to improve fuel level accuracy.

Higher System Reliability:

- **Gen 4 dual fuel pumps** are infinity variable speed and adjust output based on engine need to extend the life of the pump.
- **The fuel rail pressure control module** is lighter, smaller, and now relocated to the fuel tank assisting in faster start times.
- **Fuel rails** are thinner to improve start times by up to 50%.
- **One Touch Integrated Starting System (OTIS)** performs system checks to assure proper fuel pressure is in place prior to starting the engine.

SPECIFICATIONS

CAPACITY	Multiple floor plans available with passenger seating up to 78	ENGINE	Ford® 6.8L V10 with ROUSH CleanTech Liquid Propane Autogas Fuel System, 320 hp
EXTERIOR WIDTH	96"	TIRE SIZE	11R22.5 (G) all-position radials
INTERIOR WIDTH	90 3/4"	ALTERNATOR	240, 270, and 320 amps with 12 volts
AISLE WIDTH	Varies by floor plan	BRAKES	4-wheel hydraulic disc brakes with 4-channel antilock brake system; Air drum and air disc brakes available
SKIRT LENGTH	16 1/4", 19 3/4", 25 3/4"	SUSPENSION	Soft ride front leaf spring suspension (Rating varies by capacity); Two-stage steel leaf rear spring suspension system (rating varies by capacity); Air suspension available
INTERIOR HEIGHT	77"	STEERING	Tilting & telescoping steering column
OVERALL HEIGHT	121" - 128"	FRONT AXLE	Front axle (rating varies by capacity)
WHEELBASE	169"/189"/217"/238"/252"/273"/280"	REAR AXLE	Rear axle with hypoid, single reduction gears with broad range of ratios available to optimize powertrain performance (rating varies by capacity)
OVERHANG	45" front overhang with standard steel bumper. Rear overhang varies by body length/wheelbase	WHEEL CUT	50°
FUEL TANK	Standard (usable) 67-gallon, optional 93-gallon located between frame rails in rear overhang, 47-gallon for 169" wheelbase	GVWR	Up to 33,000 lb.
ENTRANCE DOOR	27" wide x 78" high/double electric outward opening		
REAR DOOR	37" wide x 52" high		
TRANSMISSION	Ford® 6R140 - 6 speed automatic		

For more information, contact your local Blue Bird Dealer.

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