



# xcelstor<sup>®</sup> HYBRID-ELECTRIC

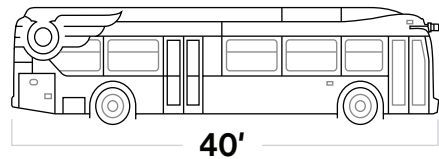
## Your sustainable and efficient mobility solution.



### Transitioning toward a zero-emission future.

Hybrid-electric buses enable the critical transition step in the evolution to zero-emission mobility. They can immediately reduce greenhouse gas emissions and are a safe and reliable way to move people through your communities while contributing to cleaner air.

Available in 40' length



New Flyer has been leading innovation in hybrid-electric mobility for over 25 years, supplying more hybrid buses to the North American industry—in more configurations—than any other manufacturer.

### Facts.



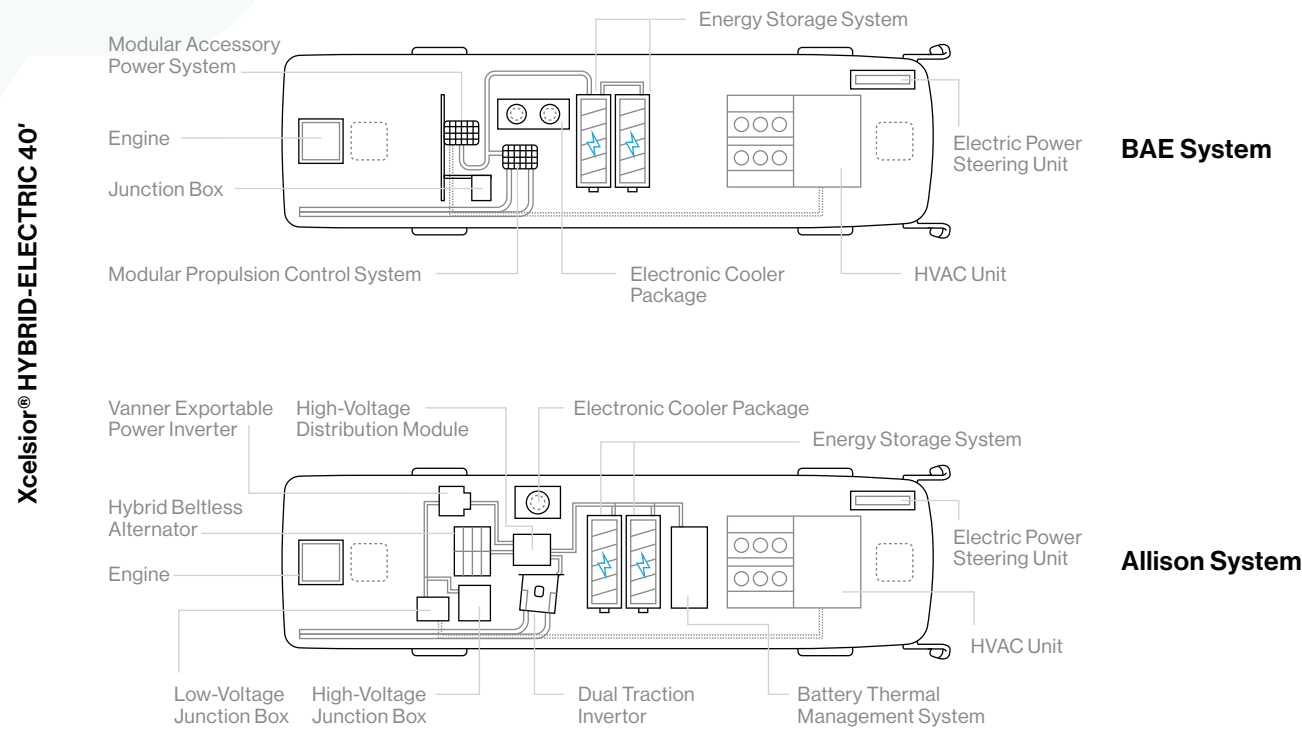
New Flyer has successfully deployed over 8,000 hybrid-electric buses throughout North America. Today, its hybrid-electric technology is built on the Xcelstor<sup>®</sup> transit bus model.



Xcelstor<sup>®</sup> hybrid-electric achieved the best fuel economy ever recorded at Altoona: 5.88 mpg, delivering up to 8% in fuel savings.

# How it works.

Hybrid buses are powered by a combination of electricity and fuel. Electric power is generated by the combustible engine and stored in hybrid batteries.



## Smart Power

From a standstill and at low speeds, vehicle acceleration is most efficiently achieved using purely electric power. As vehicle speed increases, the use of mechanical power increases while the electric motor augments acceleration power. High vehicle speeds draw on strictly mechanical power.

## Regenerative Braking

Up to 40% of the energy to accelerate the bus comes from energy saved through regenerative braking. Regenerative braking recovery is available across the entire speed range of the bus, which greatly extends brake life and reduces maintenance costs.

# Benefits.



## Battery Efficiency

Batteries have an expected life of six years and require no interim reconditioning.



## Fuel Savings

Improved fuel economy by 10-29% compared to conventional buses, dependent on route deployment.



## High Performance

Significant reductions in transmission and brake maintenance, resulting in fewer service bays, parts and required fluids.



## Quiet Ride

Better passenger experience through smoother acceleration, a quieter ride, and improved air quality.



# Innovative technologies to deliver a high-performance hybrid-electric bus.



## Innovative Power Control Systems

Allison Transmission's eGen Flex™ hybrid system uses a split-parallel architecture, allowing either the engine or electrical power system to directly power the drivetrain.

The BAE Systems next-generation GEN 3 Modular Power Control System (MPCS) features a series architecture, utilizing the engine to drive the generator, which in turn supplies electric power to the traction motor responsible for powering the drivetrain.



## Passenger Capacity

Industry-leading passenger carrying capacity.\*

<b>40' Xcelsior®</b>	
Seated	40
Standees	44
<b>Total</b>	<b>84</b>



## Green Zone Technology

Through NFI Connect™, the hybrid-electric bus uses GPS locations to automatically switch from mechanical power to electrical motor to reduce noise and emissions in specific zones.



## Performance

Weighs 8% less than previous models achieved through structure optimization and lightweight supplier components, leading to improved efficiency and lower operating costs.

Delivers up to 8% fuel savings, reducing overall cost of ownership.

\*Passenger capacity shown reflect standard configuration. Capacity may change dependent on custom design and components used.



## Enhanced Safety + Accessibility

SmartRider™ enables kneeling to variable heights and minimizes the slope difference between a low-floor ramp and the bus floor. SmartRider™ ramp achieves a 1:6 slope ratio with a self-leveling feature.



## NFI Connect™

NFI Connect™ is a proprietary, state-of-the-art telematics solution designed to give you greater and smarter oversight of your whole operation, improving bus uptime and lowering costs, without requiring more work.

## Measurements

### 40' XDE40

Length	41' 0" (12.50m) Over bumpers; 40' 2" (12.24m) Over body
Width	102" (2.6m)
Roof Height	10' 10" (3.3m) over cooling fans
Step Height	14" (356mm)
Front Step Height (Kneeled)	10" (254mm)
Interior Height – Floor to Ceiling	79" (2m) Over front and rear axle; 95" (2.4m) Mid-coach
Tire Size	305/70R22.5
Aisle Width	21" to 24" (559mm to 610mm)) (varies with seat model)
Wheelbase	283.75" (7.2m)

## Propulsion

Transmission	Allison hybrid drive; BAE HybriDrive®
Engine Options	Cummins B6.7

## Passenger Capacity (With wheelchair barrier protection)

Seats	Up to 40
Standees	Up to 44

## Accessibility

Doors	2
Wheelchair Accessibility	32" (813mm) wide, 1:6 slope NFIL or SmartRider™ ramp, front
Wheelchair Locations	2 - Front location, rear location also available (other options)

## Approach Angle

Approach/Departure/Breakover Angles	9°/9°/9°
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## Turning Radius

(Body, with aluminum wheels; \*Varies with wheel type)

Turning Radius	43.5' (13.3)*
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## Main Components

Floor	Composite at rear interior step, ACQ Plywood remainder (dB Ply used on upper deck). Tarabus, Altro, RCA
Electrical System	Parker Vansco
Cooling System	Electric cooling fans (EMP, Modine)
Fuel Tank	Polyethylene fuel tanks: 100 gallon (379 L); 125 gallon (473 L); Stainless steel tanks: 100 gallon (379 L) 125 gallon (473 L)
HVAC	Thermo King or MCC
Axles	MAN VOK 08 Front disc brakes; MAN HY-1350 Rear disc brakes; Single reduction axle



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[newflyer.com/hybrid](http://newflyer.com/hybrid)



**VIC** | VEHICLE INNOVATION CENTER

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[newflyer.com/VIC](http://newflyer.com/VIC)

