



## Range Extending Trailers

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The Long Ranger range-extending trailer converts an electric vehicle to hybrid mode for long trips. The efficient, high specific-output, gasoline-fueled, trailer-mounted generator maintains battery charge, allowing unlimited driving range at speeds up to 75 mph.

The Long Ranger is proven over more than 20,000 highway miles. 20-kW DC output allows sustained high-speed driving without range restrictions. Emissions are controlled with a closed loop fuel control system and a zero-evaporative-emissions sealed fuel tank.



### [More Pictures](#)

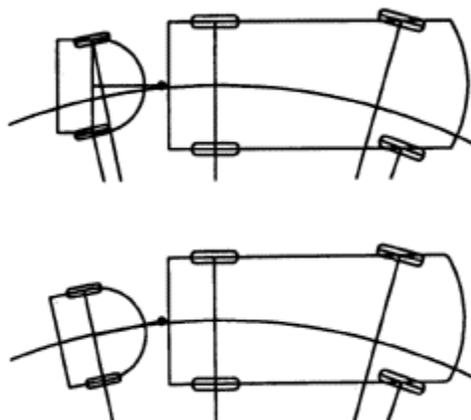
The intelligent BackTracker trailer steering maintains trailer-to-vehicle alignment during backing to avoid jack-knifing. Steering control algorithms enhance high-speed stability allowing reduced trailer and tongue length. Small, light, and short for easy towing, parking, hookup, and storage. Manual start/stop control is available from inside the vehicle

The backtracker system keeps the trailer in line with the vehicle while turning - even going backwards!

Conventional trailers must articulate as the



in this video clip (416 Kb)  
[\(get QuickTime\)](#)



vehicle turns -  
 and are prone  
 to jack-knifing  
 when backing  
 up

**[Low-Emission Range Extender for Electric Vehicles](#)** - paper presented at the SAE Future Transportation Conference in 1997 summarizing the technology in AC Propulsion's Backtracker hybrid Trailer.

### Specifications

Output Power	20 kW DC up to 7000 ft elevation
Output Voltage	240 - 390 volts
Maximum Output Current	60 amps
Dimensions	length: 48", 1220 mm (from hitch) width: 48", 1220 mm height: 30", 760 mm
Fuel	high-octane unleaded gasoline
Fuel Capacity	9.5 gallons (40 liters)
Engine	Kawasaki 500cc 2 cyl DOHC 4-valve/cyl, liquid-cooled
Emissions Control	Closed loop fuel control, dual catalyst, sealed pressurized fuel tank
Operating Speed	7000 rpm
Drive	direct
Alternator	proprietary design
Controls	electronic servo governor, remote start and stop
Maximum Speed	60 - 80 mph, 100 - 130 km/h (varies without battery discharge with vehicle)
Highway Fuel Economy	30 - 35 mpg, 7.8 - 6.7 l/100 km (varies with vehicle)

Total Trailer Weight 350 lb, 160 kg

Trailer Chassis chrome-moly tubular frame with  
torsion-arm suspension

BackTracker Trailer Intelligent trailer steering uses a  
Alignment Control for proprietary sensor to maintain  
Backing and High- trailer-to-vehicle alignment, avoiding  
Speed Stability jack-knifing while backing, and  
enhancing stability

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