



# Tapping into power on the road

## Inverters open up new opportunities for truck drivers to use shorepower on the road

Special to Land Line Magazine

**F**or years OOIDA Member Justin Lee and his wife have relied on inverters to convert standard DC power from their truck batteries to AC power to run their appliances and air conditioners. But Lee grew frustrated because the units were undersized for the load demands he had and wore out quickly. They would have to be replaced after a couple of years.



Justin and Kenda Lee

About a year ago, after doing exhaustive research, Lee purchased a Xantrex Technology 3000-watt Freedom SW Inverter/Charger.

“My wife cooks a lot in our truck, and I didn’t want to have to start the truck for her to cook like we had to do with smaller inverters.”

– OOIDA Member Justin Lee

The unit received positive reviews from other users, delivered the wattage rated for the model, offered the size he wanted for the future when he planned to expand his tractor, and allowed him to combine with a generator when extra power was needed.

“My wife cooks a lot in our truck, and I didn’t want to have to start the truck for her to cook, like we had to do with smaller inverters,” says Lee, whose company, Lovelee Inc., is leased to Landstar Ranger. “We also like to run a stand-alone 12,000-BTU

air conditioner that’s designed to work with a Xantrex inverter when we’re cooking and when we are in warm climates.”



Dewey Ballinger

Dewey Ballinger also has used inverters for several years. About a year ago, the OOIDA life member switched to a Xantrex Prowatt SW Inverter 2000 because of

the true sine wave unit’s compact size, engineering capability to handle all of his electric appliance needs, and affordable price.

“I’m running the inverter all the time until I get home,” says Ballinger, who’s leased to CRST Malone and is based in Frazeyburg, OH.

Both owner-operators combine their inverters with an auxiliary power source – either a generator or an auxiliary power unit – to provide AC power without the truck idling. They burn a fraction of the amount of fuel they’d consume if idling, and they can take advantage of shorepower when available.

Lee runs a 3,000-watt Onan QD3200 diesel generator through the inverter/charger to meet his power needs. He estimates the generator burns a fifth to a fourth of a gallon of diesel an hour compared with up to a gallon an hour when idling. That combination will come in handy after the Lees complete a planned stretching of their 2002 Freightliner Columbia to accommodate a 150-inch sleeper.

Lee, who lives in Pangburn, AR, recommends owner-operators consider the following points in deciding which inverter unit is right for them:

**Proper size:** Assess your load requirements to determine how much wattage you’ll need. If you run multiple appliances such as a TV, microwave, computer or electric stove simultaneously, you should choose a unit that’s powerful enough to accommodate those loads. Xantrex advises doing an inventory of what appliances you want to run concurrently, total up their wattages, and add 50 percent more for future appliances you may want to run. Then shop for a unit with the wattage that can meet that demand.

Some devices such as motors require high power when started, though most inverters have a fairly high surge rating to provide needed power at startup. “I didn’t want to have to turn off one thing to run something else,” Lee says.

**Electric needs:** For items such as a CPAP machine for dealing with sleep apnea, an inverter with true sine wave designation may be better equipped to provide a steady power flow. True or pure sine wave produces AC power similar to what’s available from a utility power grid. A modified sine wave inverter delivers AC power that will operate most electronics and is cheaper than a true sine wave inverter.

However, some devices such as a laptop, plasma TV or sensitive medical equipment may not run properly with a modified sine unit.

Ballinger says he sleeps well knowing his true sine wave inverter ensures uninterrupted power for his CPAP machine. Lee adds, "One of the things I like in the cab is running an electric blanket, which I found I couldn't run with a modified type of inverter."

**Installation:** Though it is recommended to install units at the OEM's factory or at an authorized dealer, both Lee and Ballinger, a former mechanic, successfully installed their units themselves. Lee estimates he and his wife spent four to five hours installing it themselves. "We had to go to a welder's shop to get the right length and size cable to connect to the batteries," Lee says.

**Battery choice:** Inverters work best using deep-cycle wet, gel or Advanced Glass Matt (AGM) batteries with an inverter-charger. Deep-cycle batteries are designed specifically for deep discharge and fast recharge. Also, use the same type battery in battery banks and don't mix old batteries with new ones.

**Shorepower access:** If you want to reduce idling, shorepower access is vital. The Lees seek out

shorepower on the road at truckstops and at RV parks. The Xantrex unit has an RV isolator switch that accommodates both a shorepower connection and the Lees' generator. One of Ballinger's major customers allows him to plug in to a power source when he picks up loads about twice a month. His Dynasys APU has a built-in shorepower connection that charges his batteries.

**Low-voltage disconnect:** To save your batteries, you may want to choose an inverter with a low-voltage disconnect feature. With this feature, the unit will shut down when the batteries drop to a pre-set voltage reading. Without it, your batteries may not be ready when you need them.

**Battery charging:** A charger feature will charge your truck batteries sufficiently for the next start.

**Safety:** Lee was considering another brand of inverter, but chose Xantrex in part because of its Underwriters Laboratories certification. The UL designation provides a measure of confidence since it certifies that a product's components, assembly and testing meet independent safety standards. **LL**



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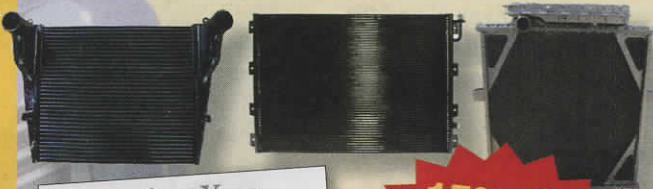
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