

# Thou shalt not idle



ENVIRONMENTAL CONCERNS, FUEL PRICES AND THE LAW ARE MAKING APUS WISE INVESTMENTS.

**O**wner-operators are seeking out auxiliary power units not only because lawmakers across the country are cracking down on idling trucks, but because they're better for the environment, save on fuel and prevent engine and oil wear. In an eTrucker.com poll, two-thirds of respondents say they avoid idling in various ways, including use of APUs.

Owner-operator Barry McCauley of Durham, N.C., says he averaged 6 miles per gallon in his 2007 Volvo 780 in early 2007 but boosted that number to 8.5 mpg by summer by driving more carefully and eliminating all idling with the help of a new Thermo King TriPac APU. "I have zero idling with my truck, and I only use the TriPac for temperature control," McCauley says.

About three-fourths of fleets are looking aggressively at anti-idling technology for a variety of reasons, says Brian Dennehy, vice president of marketing and communications for Espar, a leading maker of in-cab heaters.

"The interest is huge," agrees Amy Egerter, marketing and communications manager for RigMaster. "With fuel being 20 to 40 percent of costs for some small fleets, they would be foolish not to be looking at what's available," especially when many jurisdictions are levying fines in the thousands of dollars for exceeding idling limits, she says.

APUs use only 0.1 to 0.3 gallon per hour vs. a gallon an hour or more for idling the main engine, Egerter says. As fuel prices get higher, the payback time on using anti-idle technology gets shorter. Owner-operators wanting to eliminate idling can choose among various technical approaches:

### **Direct-fired heat**

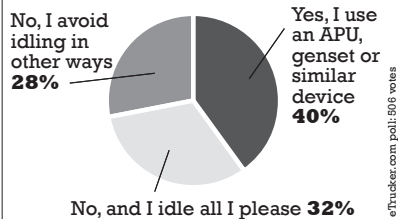
One approach simply is to equip the truck with a direct fuel-fired coolant and/or cab heater, a cheaper and more lightweight option than an APU. This may be a solution to the idling problem in Northern climates or in day cabs operat-

ing in applications where overnight air conditioning isn't needed.

Direct-fired cab heaters draw only 1 amp. Coolant heaters draw a little more than twice that, 2.3 amps, because they need to operate an integral water pump as well as the motor the heater uses to drive fuel and air into the burner. In either case, supplying the heaters with electric power overnight would not be a challenge in any truck with a reasonable battery capacity. Just in case, Espar's units have a number of sensors, including an integral low-voltage cutoff set at 10.5 volts, Dennehy says, to ensure that a user doesn't exhaust the truck's battery.

Using a direct-fired cab heater can be a way to reduce the weight and size of an APU by taking a good deal of the electrical load off the generator or thermal load off the engine. It can save fuel, too. The Airtronic D2 bunk heater is an integral part of Thermo King's TriPac. Both systems are engineered into a seamless

## Does your truck have an anti-idling device installed?



unit; the driver has to operate only one thermostat.

### Auxiliary power units

An APU has the advantage of providing air conditioning, heat and power in a single unit, but this can be more costly, says Espar's Dennehy. So a chief deciding factor normally is how much you can save by using the APU for overnight air conditioning.

Another bonus: An APU engine's waste heat is used instead of being thrown away. For example, the Willis APU's engine has no independent cooling system, but is connected directly to that of the truck engine. It generates enough BTUs to warm the cab and sleeper to 68 degrees, even when the outside temperature is well below freezing. The unit's three-cylinder Kubota diesel normally operates at only 1,100 rpm, which minimizes noise and wear, but rpm can be brought up to 2,400 when necessary.

In the winter, the driver can use the standard cab and sleeper blowers, vents and controls to heat the sleeper cab. The APU's 120-amp DC alternator will replace the battery power used for this purpose. A separate DC motor and clutch are integrated into the fan drive. When the engine is off, the fan clutch is disengaged, allowing it to freewheel. The APU engine's waste heat warms the engine until the controls start the electric motor and then cycle the fan on and off to maintain temperature.

In the summer, the APU uses the truck air conditioner's condenser and its own direct-driven compressor. It runs at 2,400 rpm and can supply 33,000 BTUs of cooling. Because the integration includes the fan controls and separate motor, the fan can run and cool both the engine and air-conditioning

condenser, reacting to both cooling system temperature and condenser pressure. The Willis APU uses its own engine waste heat and air-conditioner compressor, therefore it needs no large AC generator.

### Generators

Whereas APUs are integrated into the truck's cooling and air-conditioning systems, generator sets – better known as gensets – are not.

RigMaster's system, for example, is "completely independent from the truck," Egerter says. It contains its own Perkins or Caterpillar diesel engine, a 6-kilowatt AC 120-volt generator and a 60-amp alternator. Installed in the sleeper is a separate heating and air-conditioning unit. If the truck's air conditioner were to fail, no sweat: The driver could run the APU and its engine-driven air-conditioning compressor and separate air-conditioning system while driving.

Carrier Transcold's ComfortPro uses its 4-kilowatt, 110-volt AC generator to power a separate air-conditioning unit in the sleeper, says Eduardo Andrade, business manager for special products. This allows use of a hermetically sealed compressor, eliminating drive belts, the clutch and the shaft seal, which are all high-maintenance parts, Andrade says.

### Insulate yourself

Many APUs are based on motor-home gensets and air conditioners, but Willis incorporates only heavy-duty parts in its units, says Will Watson, vice president of sales and marketing for Auxiliary Power Systems.

RigMaster's Caterpillar engine has a design rpm of 3,600, even though it runs at only 2,700, which minimizes stress, Egerter says.

When determining BTU requirements for heat and air conditioning, consider how well the cab and sleeper are insulated, says Carrier's Andrade. In fact, many owner-operators add extra layers of insulation to their cab interiors as a simple first step toward declaring independence from idling.

## TRUCK DEALER'S VIEW

**EDDIE WALKER**  
Fort Worth, Texas



### Accessories that sell

An owner-operator can add several accessories to a truck to increase its value at trade-in, says Eddie Walker, co-owner of Best Used Trucks in Fort Worth, Texas, and

president of the Used Truck Association. Some are not flashy, but they are important to maximizing resale. Here are his top suggestions:

**SEATS** are the most important because that is where the driver spends virtually all his working hours. "That is his comfort," Walker says. An uncomfortable, ripped or broken seat makes a truck less appealing at trade.

**STEERING WHEELS** shouldn't be damaged, so worn ones need to be replaced. "Drivers tend to like wood-grain steering wheels, and customers will comment on a nice steering wheel because it is one of the first things they see," Walker says. Like a seat, the steering wheel is something the driver makes contact with throughout the day, so its importance cannot be overestimated.

**LIGHTS** that are functional, clean and tasteful add value, but don't overdo them. "If you are going to put something on a truck to make it look different, I would say choice of lights on the exterior, cab and sleeper is the most important," Walker says.

**MUDFLAPS AND HANGERS** – whether rear flaps, quarter flaps or front flaps – are important for truck value, Walker says.

**BUMPERS** take away value when they're dented, bent or otherwise worn. Adding a chrome bumper can add value, Walker says.

### ANTI-IDLING DEVICE

**SPECS.** The anti-idling devices included in the spec listings represent the products from each manufacturer that are most popular with owner-operators. Consult a dealer for information on other models; contact information begins on Page 6. ■