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LANDLINE

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**Mexican trucks
by end of '07?**

**OOIDA's Johnston:
Prepare for
the backlash**

**Ontario, Quebec
Speed limiters
on the horizon?**

**Cave driving
Going underground**

**Fuel fever
'Hot fuel' action**



Payoff for key-off?

NEW DAY NEW WAY



The Official Publication of the
Owner-Operator Independent
Drivers Association



COMPLIMENTS OF
THERMO KING
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August/September 2007 issue



THE KING OF COOL

It might not look like an ATM. But its hybrid technology is good for plenty of green.

Save \$500 per month*
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Every second you idle, you're lowering profits. But not when you have the Thermo King TriPac APU. Because the TriPac features hybrid technology, it runs only when needed. That means you'll burn less fuel, help the environment, and save a whole lot of green.

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*Costs based on 2,500 idling hours annually and a fuel cost of \$2.80 per gallon. Tractor idling fuel cost of 1.0 gph. Costs based on fuel consumption only.

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Climate Control Technologies

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As sure as the sun comes up each day, we are on a necessary path toward new ways of conserving our natural resources and protecting our air quality. By virtue of transportation being "all things engine," trucking is among the first of the nation's industries to be challenged with how to accomplish this.

We've got a long way to go, and as the song says, a short time to get there. It's not going to be easy or cheap. But for individual truckers, there is a payoff for key-off. New driving habits, new technology and new rules are only the beginning.

In this special section, we'll answer some of your questions and bring you updated info on equipment, maintenance, rules, incentives and more.

NEW DAY NEW WAY

This section was researched and written by the Land Line staff, with contributions from Senior Technical Editor Paul Abelson, Senior Editor Jami Jones, Managing Editor Sandi Soendker, Contributing Writer Jeff Barker and OOIDA State Legislative Affairs Specialist Rene Hill. Special thanks to State Legislative Editor Keith Goble, Staff Editor Aaron Ladage, Staff Writer Clarissa Kell-Holland, Copy Chief Coral Beach and Art Director Debbie Johnson. More thanks to the Siefkes Group, ATRI, EPA and the California Air Resources Board.

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CHOICES

choices

Truckers have a heck of a lot more key-off power and comfort options than they did 'back in the day'

By Paul Abelson
senior technical editor

Thirty-five years ago, in the days of cheap fuel, no emissions controls and regulated rates, idle reduction was not important to truckers. It was more important to assure your truck started in the morning and that your batteries did not run down.

Very few trucks had generators or auxiliary power units and fewer still had fuel-fired heaters. Those were the only idle-reduction devices available "back in the day."

Since then, a steady revolution has changed trucks and equipment.

Engine technology, developed primarily for emissions control, uses high-pressure fuel injection with electronically controlled, multi-event fuel injection to virtually assure starting.

As long as there is electricity to turn the engine and fuel that flows, modern diesels will crank at minus 20 degrees and below. Synthetics and new 0W-20 oils assure lubrication at those temperatures.

So, without the excuse of needing to idle to assure that the engine will fire, engine idling is no longer a necessity for some.



However, driver comfort has become a major consideration with engines off. There are numerous idle-reduction technologies available for today's truckers. Some date back decades, while others are just emerging.

APUs and gen sets

APUs and generators rely on small diesel engines to do what needs to be done without running the big engine. Burning only a fifth of the diesel that the main engine does, both families of equipment provide cab and engine heat, as well as cooling the cab. They also generate electricity for hotel loads such

as refrigerators, TVs and other entertainment systems, cooking, lighting and communications.

APUs drive air conditioners and other accessories mechanically. They have their own alternators and air conditioner compressors, and some have pre-oilers, air compressors and other useful devices.

Generators use a small engine to drive a device that converts mechanical energy to electricity. That, in turn, is used to run resistance heaters or heat pumps, air conditioners, battery chargers and other hotel loads.

Depending on engine size – most are two- or three-cylinder – and the number of accessories, prices range from about \$3,000 for a simple generator without accessories to more than \$11,000 with every accessory possible. They weigh about 400 pounds, give or take 20 to 30 pounds.

While there has been a great deal of growth in popularity of these idle-reduction devices, strict emissions controls may present major problems for their manufacturers.

Led by California, some states are planning regulations on all diesel emissions, including generators and APUs. Engine manufacturers can feed the exhaust from their proprietary

units through the diesel particulate filter, or DPF for short, of their own engines as long as they have engineered and certified the installation with EPA.

Third-party suppliers cannot tap into the exhaust system, because it is unlawful to interfere in any way with a certified exhaust system. Smaller manufacturers of generators and APUs may have to purchase DPFs from specialist suppliers.

Truckers with aftermarket units may have to buy aftermarket DPFs, certified by the manufacturers for each make and model of generator or APU. Still under development and not yet required, current guesstimates are that small engine DPFs may run from \$2,000 to \$3,000.

Fuel the fire

Fuel-fired heaters do not provide summer cooling, but are the most energy- and cost-efficient heating devices. They are experiencing very rapid sales growth, both as stand-alone devices and in combination with cooling equipment. They cost \$1,200 and up.

These heaters draw diesel from the vehicle's tanks, finely atomize it and burn it with a continuous flame in a furnace-like combustion chamber. The chamber is surrounded by air blown through the furnace or by engine coolant pumped by the heater's integral cooling pump. Because the burn is continuous, emissions are extremely low.

Fuel-fired coolant heaters warm the engine and use OEM heat exchangers and cab fans for occupants' winter comfort. They burn a tenth of a gallon per hour or less. Air heaters are thermostatically controlled, cycling from high to low heat as needed. Air

heaters often use less than a gallon of fuel in two nights.

Battery power

Battery power has improved greatly in just the past decade. Absorbed glass mat designs and gel-type electrolytes provide long life and deep-cycle capabilities. Equipment weights of battery packs are comparable to APUs. Prices vary with air conditioners and numbers of batteries. A system that provides about 10 hours of cooling may cost \$3,000 to \$6,000.

As battery technology improves through hybrid vehicle development, we'll see nickel metal hydride batteries that weigh less than lead-acid, with prices getting more competitive.

Deep-cycle battery power allows suppliers to integrate fuel-fired heaters and electric air conditioning. Quite a few truck makers have introduced these electric-diesel hybrid idle-reduction units.

They can also be plugged into shore power, which will extend operating time indefinitely without requiring the main engine to be turned on. Plugging in provides power for hotel loads and keeps batteries topped off. It also can keep engines warm if they have immersion-type, 110-volt plug-in block heaters.

Shore power provides electricity directly to these heaters and appliances that run on household current. When batteries are the sole power source, inverters change the 12-volt direct current to 110-volt or 120-volt alternating current.

The un-common cold

Cold storage is being developed to replace regular air conditioning for

engine-off operation. Systems are already available that chill special compounds while the engine and air conditioner are running. With

the engine off, electricity from the batteries powers blowers that move air over the compounds to maintain comfortable temperatures in pre-cooled cabs.

Wired for power

Truck stop electrification is among the technologies being encouraged by the Department of Energy and the EPA. A growing number of truck stops have a portion of their spaces equipped with IdleAire. These systems can heat, cool, provide entertainment and Internet services and have plug-ins for electric power.

However, with more and more trucks having onboard idle-reduction systems and more truckers with computers and other entertainment systems, many truck stops, as well as shippers/receivers and trucking company yards, are being electrified with simple shore power – plug-in household current similar to that used by RVs and boats.

Many truck manufacturers now offer integrated HVAC systems and electric hybrid units. From cities to states, governments are getting serious about reducing idling, and the industry is reacting accordingly. In the next few years, there will be an increasing number of optional electric-diesel hybrid idle-reduction systems or manufacturer-integrated, emissions-certified generators and APUs. **LL**

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MORE bang for your buck

Maintenance is essential to the optimum performance, long life and big return on your APU investment.

By Jeff Barker
contributing writer

After a hard day's work, most anyone in his or her right mind looks forward to some time to relax in a comfortable environment just before bedtime and then get a good, quiet night's rest.

While anti-idling laws are becoming the norm, more truck operators are embracing the benefits of auxiliary power units. Regardless of what brand or type of APU you get or already have, how well it performs and how reliable it is depends on how well the unit is maintained.

Oil and filter changes

Most APU engines out there can usually run 250 to 500 hours between oil and filter changes on non-synthetic oil, depending on the manufacturer's recommended interval. In some situations, you may be able to schedule this to coincide with a 10,000 to 15,000-mile chassis lube interval on your truck and get it done at the same time.

While many truck operators have changed to synthetic oil in their trucks' engines, it's advisable to check with both the APU manufacturer and with the manufacturer of its engine to be sure this will not void the warranty.

Be aware of some truck lube shops out there, as many will charge you the high cost for servicing a reefer unit just to change the oil and filter in your APU. Ask them about this before committing to having this work done, or do it yourself if possible.

Fuel filter replacement

It makes good sense to replace the

fuel filter at the same time the engine oil and filter is changed. However, if you're extending oil drains, stick with the manufacturer's recommendation on changing the fuel filter.

Air filter replacement

Depending on what kind of environment the APU is used in, the interval for replacing the air filter will vary. If it's used in dusty areas, it will need to be changed more often. If you're running the APU engine and see blue smoke from the exhaust, chances are good that the air filter is clogged and it's beginning to suck oil from the crankcase. Replace the air filter immediately.

Belt replacement

Some APUs, depending on design, are user-friendly enough to where the belts can be easily replaced on the road with a few simple tools. Others may require a few hours of your time – not to mention a few scraped knuckles – and/or may best be replaced by a mechanic who is familiar with those particular units.

In most cases, it's a good rule of thumb to inspect these belts closely at least once a week and replace them once a year, no matter if they appear bad or not. While the belts are removed, check the condition of any belt tensioners and idler pulleys the unit may have. Check the water pump on the engine for leaks, and check for play in the impeller shaft where the pulley is bolted to it.

When working on an APU engine, especially near the belts, it's important to disconnect the APU battery cables to prevent the possibility of an accidental

Have the parts available

It's a good idea to carry certain maintenance items for your APU, as they may not always be readily available. After all, things can get a bit toasty if you're parked in El Centro, CA, on a 115-degree day and your APU decides to chunk an A/C compressor drive belt, or if the thing won't start because of a clogged fuel filter.

It would also be infuriating to wait a while to get to a shop, only to find out they don't have the filters or whatever other common maintenance item you needed to get it going, wouldn't it? Of course, while an auto parts store may usually carry some items needed, the questions remain as to whether you can get there with your truck, and if they're open when you need the parts. Truck stop repair shops can get pricey, and they may not have what you need, either.

Here's a recommended list of commonly needed APU maintenance items:

- Two oil filters
- Two fuel filters
- Two air filters – These can be the hardest filters to obtain. In many cases they may have to be ordered directly from the APU manufacturer.
- One set of belts – Many APUs will have one belt that drives the water pump and the alternator, and if it has an engine-driven compressor and/or an integral generator it will have at least one, if not two more – unless it has a serpentine belt design using one belt to run everything.
- Bunk air filter, if equipped.

It's also recommended you make a list of the parts numbers for these items so replacements can be located easier.

engine startup that could cause injury or – not to be dramatic, but rather very serious – death.

Coolant hoses

The coolant hoses can usually last about four years between replacement, but the hose clamps need to be snugged down at least once a year – preferably in late autumn – so the chance of a cold water leak in the approaching winter season is reduced.

A/C system

It wouldn't hurt to get the A/C system operating pressures checked some time in the spring after the A/C has seen limited use in the winter months. The refrigerant pressures need to be at near-perfect levels so the system can keep the cab and sleeper cool when in use on hot days and nights.

During the winter months, it will help keep the A/C system lubricated if it's run once every two weeks.

Heating system

If you run your heater for about 30 minutes during the summer months to prevent the heater control valves from becoming stuck, you will be glad you did when winter hits.

The weekly checklist

Inspecting your APU thoroughly once a week may help you catch a minor problem before it becomes something worse later on. Here's a list of common items to check.

- **Frame mounting brackets.** These can often become loose from vibration and in some cases can crack or break, especially if they're made of aluminum.
- **Battery cables and wiring harnesses.** Be sure they're tight and secure to where they're out of harm's way and won't rub on anything. Make sure all connections are clean. Spraying a coating of battery terminal protector on exposed connections once they're cleaned will help avoid corrosion.
- **Fuel supply and return lines.** Be sure there aren't any cracks or dry-rotting in

the rubber lines and that no fuel leaks exist. Be sure that they're not rubbing on anything.

- **A/C refrigerant lines and condenser coil.** The rubber A/C refrigerant lines need to be securely mounted with either rubber-lined clamps or heavy-duty nylon cable ties so they can't rub on anything or allow vibration at the fittings. If a line comes loose it can result in a broken fitting or create another problem. If your A/C system experiences a sudden loss of refrigerant pressure, that can allow contamination to take place. If that happens, the entire system will need to be flushed before it can be recharged once the leak is repaired. If refrigeration oils are exposed to air and moisture for even a short period they become acidic and can destroy the A/C system.
- **Condenser fins.** Make sure the fins in the condenser coil are clean, do not allow high-pressure water spray to get near them. This can bend the fins on the condenser coil and harm its efficiency.
- **Exhaust system.** Be sure it's securely mounted and pointed away from the underside of the sleeper, preferably toward the rear of the truck so it doesn't go under the sleeper of your truck or others nearby.
- **Engine shutdown protection system.** If your APU engine runs hot or suddenly loses oil pressure, you want it to automatically shut down before it self-destructs. This can be checked by:

WORD TO THE WISE

With the number of APUs being used on the rise coupled with the fact that most of them use a side-exit exhaust, it makes very good sense to keep a working carbon monoxide alarm in your sleeper to wake you before it's too late should exhaust fumes become a problem.

- **Oil pressure:** If possible, turn the APU system on without starting the APU engine for about a minute. If it shows a "warning" while disengaging the fuel solenoid on the engine, then it works.
- **Coolant temperature:** Connect a jumper wire with alligator clips between the coolant temperature sensor – if it has an open, accessible connection – and a good ground point, such as an unpainted metal surface, and then start the APU engine. If it shuts down a short time later, then it's working. **LL**

Editor's note: This article is for information purposes only. If you're not sure about performing the work yourself, it's advisable to seek the help of a competent professional.

Jeff Barker is an OOIDA member and a former certified diesel mechanic. He may be reached at truckmaintenancestuff@yahoo.com.

Making the payment

Recently, at The Truck Show Las Vegas, there was a lot of good news from many manufacturers of idle-reduction devices. Because of their high initial cost, the device makers have teamed with financial service companies to provide lease and finance programs that let you make payments from money you've already saved. Check with your idle-reduction device supplier to see what's available.

And, while you're shopping around, you may want to see what your personal bank can do in way of a loan or what some other independent financing can do for you.

FINANCING OPTIONS

Lease Corporation of America
1-800-800-8098
leasecorp.com

US Equipment Finance
(405) 691-2288
usequipmentfinance.com

See the incentive roundup on Page 94.

IDLING LAWS

An advisory of local, county and state laws

By Land Line and OOIDA staff

When it comes to idling restrictions in this U.S., there's an underlying problem that has nothing to do with the rules themselves. The problem is, there can be huge differences in the rules between states, counties and even cities, creating an unsolvable jigsaw puzzle that even the cleverest truckers can't solve on their own.

Although the Environmental Protection Agency's SmartWay program has offered up model legislation that can be adopted, it's not required by law, meaning one city can develop idling time limits, fines and exemptions that are completely different from the town one county over – or across the country, for that matter.

Because of this constantly shifting patchwork, it's nearly impossible to develop a comprehensive, nationwide compendium of idling rules and regulations. However, here are some of the most common locations and rules you're likely to encounter while out on the road.

ARIZONA

Maricopa County

Time limit: 5 minutes

Fines

- \$100 first violation
- \$300 second violation

Exemptions

- Traffic or adverse weather conditions
- Emergency or law enforcement purposes
- Power takeoff involving cargo or work functions
- Conform to manufacturers' specifications
- Maintenance or diagnostics
- HOS compliance

CALIFORNIA

Statewide

Time limit: 5 minutes

Fines

- Minimum \$100

Exemptions

- Resting in sleeper berth beyond 100 feet of residential units (exemption ends January 2008)
- Traffic conditions
- Queuing beyond 100 feet of residential units
- Adverse weather conditions or mechanical difficulties
- Vehicle safety inspection
- Service or repair
- Power takeoff involving cargo or work functions
- Prevent safety or health emergency
- Emergency vehicles

City of Sacramento

Time limit

- 5 minutes
- Prohibits reefer operation within 100 feet of residential or school areas unless loading or unloading

Fines

- Not less than \$100 and not more than \$25,000 per violation

Exemptions

- Traffic conditions/control
- Traffic conditions
- Vehicle safety inspection
- Service or repair
- Conform to manufacturers' specifications
- Power takeoffs involving cargo or work functions
- Prevent safety or health emergency
- HOS compliance at truck/rest stop

Placer County (NE of Sacramento)

Time limit

- 5 minutes
- Prohibits reefer operation within 100 feet of residential or school areas unless loading or unloading

Fines

- \$50 minimum

Exemptions

- Traffic conditions/control
- Traffic conditions
- Vehicle safety inspection
- Service or repair
- Conform to manufacturers' specifications
- Power takeoffs involving cargo or work functions
- Prevent safety or health emergency
- HOS compliance at truck/rest stop
- Operate intermittent equipment
- Attainment areas where air meets EPA quality standards

COLORADO

City of Aspen

Time limit

- 5 minutes within any 1 hour

Fines

- \$1,000 maximum and/or 1 year imprisonment

Exemptions

- Safety reasons
- To achieve an engine temperature of 120 degrees and an air pressure of 100 pounds per square inch

Denver: City and County

Time limit

- 10 minutes in any 1-hour period

Fines

- Not more than \$999 and/or one year imprisonment

Exemptions

- Less than 20 degrees for previous 24-hour period
- Less than 10 degrees
- Emergency vehicles
- Traffic conditions
- Being serviced
- Auxiliary equipment

CONNECTICUT

Statewide

Time limit: 3 minutes

Fines

- Not more than \$5,000 per week

Exemptions

- Traffic conditions or mechanical difficulties
- Ensure safety or health of driver/passengers
- Auxiliary equipment

- Conform to manufacturers' specifications
- Less than 20 degrees
- Maintenance
- Queuing to access military installation

DELAWARE

Statewide

Time limit

- 3 minutes
- 15 minutes if 32 degrees to minus 10 degrees
- No limit if less than minus 10 degrees

Fines

- \$50 to \$500 per offense

Exemptions

- Traffic conditions or mechanical difficulties
- Conform to manufacturers' specs
- Repair
- Emergency vehicles
- Using auxiliary equipment/power takeoff
- Power during sleeping or resting beyond 25 miles of truck stop with available electrified equipment
- Vehicle safety inspections

GEORGIA

City of Atlanta

Time limit

- 15 minutes
- 25 minutes if below 32 degrees

Fines

- \$500 minimum

Exemptions

- To perform needed work
- Traffic conditions
- Natural gas or electric vehicles

HAWAII

Statewide

Time limit

- 3 minutes for start up/cool down

Fines

- \$25 to \$2,500 per day

Exemptions

- Adjustment or repair
- Auxiliary equipment or power takeoff

ILLINOIS

Statewide

Time limit

- Cannot leave running unattended

Fines

- Not more than \$500

Exemptions

- None

Chicago and

East St. Louis

Time limit

- 10 minutes per hour while stationary
- 30 minutes per hour while waiting to weigh, load or unload

Fines

- \$50 for first offense
- \$150 for subsequent offenses in 12-month period

Exemptions

- Waiting in a line of vehicles that regularly and periodically moves forward
- Less than 32 degrees
- More than 80 degrees
- Operation of defrosters, heaters, air conditioners, or other equipment necessary to prevent a safety or health emergency
- Use of auxiliary equipment required to accomplish the intended use of the vehicle, such as controlling cargo temperature, loading, unloading or mixing

MARYLAND

Statewide

Time limit: 5 minutes

Fines

- Not less than \$500

Exemptions

- Traffic conditions or mechanical difficulties
- Heating, cooling and auxiliary equipment
- Conform to manufacturers' specifications

MASSACHUSETTS Statewide

Time limit: 5 minutes

Fines

- Not less than \$100 for first offense
- Not more than \$500 for each succeeding offense

Exemptions

- Being serviced
- Delivery for which power is needed and alternatives unavailable
- Associate power needed and alternatives unavailable

MINNESOTA

City of Minneapolis

Time limit

- None in residential areas from 10 p.m. to 6 a.m., including reefers

Fines

- \$700 maximum and/or 90 days imprisonment

Exemptions

- Permitted construction equipment
- Compliance with traffic signals or signs
- Emergency or law enforcement purposes

City of Owatonna

Time limit

- 15 minutes each 5 hours in residential areas

Fines

- \$1,000 maximum and/or 90 days imprisonment

Exemptions

- None

City of St. Cloud

Time limit

- 5 minutes, West Germain Street from 8th to 10th Avenues

Fines

- Not more than \$200

Exemptions

- None

MISSOURI

City of St. Louis

Time limit: 10 minutes

Fines

- up to \$500 and/or up to 90 days imprisonment

Exemptions

- Emergency vehicles

St. Louis County

Time limit

- 3 consecutive minutes

Fines

- Maximum \$1,000 and/or 1 year imprisonment

Exemptions

- Operating a loading, unloading, or processing device
- Emergency vehicles

NEVADA

Statewide

Time limit: 15 minutes

Fines

- \$100 to \$500 for first offense
- \$500 to \$1,000 for second offense
- \$1,000 to \$1,500 for third offense
- \$1,500 to \$2,500 for fourth and more offenses within a three-year period

Exemptions

- Variance has been issued
- Emergency vehicles
- Snow removal equipment
- Repair or maintain other vehicles
- Traffic congestion
- Maintenance at repair facility
- Emission contained and treated per control officer
- To perform specific task

Clark County

Time limit: 15 minutes

Fines

- Not more than \$10,000

Exemptions

- Variance has been issued
- Emergency vehicles
- Repair or maintain other vehicles
- Traffic congestion
- Emission contained and treated per control officer
- To perform a specific task
- Maintenance at repair facility

Washoe County

Time limit: 15 minutes

Fines

- Not more than \$250 for first offense
- Not less than \$250 or more than \$500 for subsequent offenses

Exemptions

- Emergency vehicles
- Snow removal equipment
- Repair or maintain other vehicles
- Traveling on public rights-of-way

- To perform specific task
- Maintenance at repair facility

NEW HAMPSHIRE

Statewide

Time limit

- 5 minutes if more than 32 degrees
- 15 minutes if 32 degrees to minus 10 degrees

Fines

- To be determined

Exemptions

- Traffic conditions
- Emergency vehicles
- Power takeoff
- Maintenance or diagnostics
- Defrost windshield
- Less than 10 degrees

NEW JERSEY

Statewide

Time limit

- 3 minutes
- 15 minutes if stopped for more than 3 hours
- 30 minutes if permanently assigned

Fines

- \$200 for first offense
- \$400 for second offense
- \$1,000 for third offense
- \$3,000 for subsequent offenses

Exemptions

- Traffic conditions
- To perform needed work
- Waiting or being inspected
- Emergency vehicles
- Being repaired
- Connecting, detaching or exchanging trailers
- Sleeping or resting in a sleeper-berth in non-residential zone unless equipped with auxiliary heating/cooling

NEW YORK

Statewide

Time limit: 5 minutes

Fines

- Not less than \$375 or more than \$15,000 for first offense
- Not more than \$22,500 for subsequent offenses

Exemptions

- Traffic conditions
- Auxiliary power or maintenance
- Emergency vehicles
- Within mines or quarries
- Parked for more than 2 hours and less than 25 degrees
- State inspections
- Farm vehicles

City of New Rochelle

Time limit: 5 minutes

Fines

- Up to \$50 and/or 15 days in jail for first offense
- Up to \$100 and/or 45 days in jail for second offense within 18 months
- Up to \$250 and/or 90 days in jail for subsequent offenses within 18 months

Exemptions

- Traffic conditions
- Auxiliary power or maintenance
- Emergency vehicles
- Within mines or quarries
- Parked for more than 2 hours and less than 25 degrees
- State inspections
- Farm vehicles

New York City

Time limit: 3 minutes

Fines

- \$50 to \$500 and/or 20 days jail time for first offense
- \$100 to \$1,000 and/or up to 30 days jail time for second
- \$400 to \$5,000 and/or up to 4 months for subsequent offenses

Exemptions

- Emergency vehicles
- Operate loading, unloading or processing device

PENNSYLVANIA Allegheny County

Time limit: 5 minutes

- 20 minutes per hour if less than 40 degrees or more than 75 degrees

Fines

- Warning for first offense
- \$100 for second offense
- \$500 for subsequent offenses

Exemptions

- Traffic conditions
- Queuing

- Cool down/warm up per manufacturers' recommendations
- Sleeping/resting in truck
- Safety inspections
- Ensure safe operation
- Emergency vehicles
- Power accessory or service equipment
- Repair or diagnostics

City of Philadelphia

Time limit

- 2 minutes except on layovers
- 5 minutes if less than 32 degrees
- 20 minutes if less than 20 degrees

Fines

- \$300

Exemptions

- None

RHODE ISLAND Statewide

Time limit

- 5 consecutive minutes in any 60-minute period

Fines

- Up to \$100 for first offense
- Up to \$500 for subsequent offenses

Exemptions

- Traffic
- Required by law to stop
- Operating defrosting, heating or cooling equipment for the health or safety of the driver or passengers
- Operate auxiliary equipment
- Maintenance or inspection
- Auxiliary power units

TEXAS

Cities of Austin, Bastrop, Elgin, Lockhart, Round Rock and San Marcos

Counties of Bastrop, Caldwell, Hays, Travis and Williamson

Time limit

- 5 minutes from April to October

Fines

- Varies by jurisdiction

Exemptions

- 14,000 pounds GVW or less
- Traffic conditions
- Emergency or law enforcement
- To perform needed work

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- Maintenance or diagnostics
- Defrost windshield
- HOS compliance

UTAH

Statewide

Time limit

- Cannot leave running unattended

Fines

- Not more than \$750 and/or not more than 90 days imprisonment

Exemptions

- None

City of Salt Lake City

Time limit: 15 minutes

Fines

- Up to \$1,000 and/or no more than 6 months jail time for first offense
- Up to \$2,500 and/or not more than 1 year jail time for subsequent offenses within 2 years

Exemptions

- Reefer unit if more than 500 feet from any residence
- To heat/cool sleeper berth if more than 500 feet from any residence
- Emergency vehicles

VIRGINIA

Statewide

Time limit

- 10 minutes in commercial or residential urban areas

Fines

- Not more than \$25,000

Exemptions

- Auxiliary power

District of Columbia

Citywide

Time limit

- 3 minutes
- 5 minutes if less than 32 degrees

Fines

- \$500
- Doubles for each subsequent violation

Exemptions

- Power takeoff LL

This list is a compilation of information from: the American Trucking Research Institute that was updated in December 2006; the EPA; and California Air Resources Board. This information is intended to be a general overview and may not be complete. It should not be relied upon as a complete source of state, county and local restrictions.





Professor Paul: Can't you just build your own?

By Paul Abelson
senior technical editor

Q: All these states are making new laws making us have APUs. I bet big business is lobbying the states so they can sell more. I can't afford one. Can I build my own?

A: The earliest truck-mounted APUs were almost all home-built. Owner-operators welded channel iron into frames and mounted them behind the cabs. They used small car 4-cylinder engines from wrecking yards.

Chevy Vega aluminum engines were popular because they were light, cheap and available. At around \$80 each, they became throwaways, to be replaced, not repaired if they broke. Heavy-duty alternators and air conditioner compressors were moved from engine to engine. The cooling systems were plumbed into the engine's cooling system, so no fan or radiator was needed.

Today, that can still work.

Instead of gasoline engines, older Volkswagen diesels are showing up in wrecking yards. The car diesels are heavy, though. Lightweight diesel generators are available in catalogs and industrial supply houses.

But, and this but is an important one, starting in 2008, California will issue citations if APUs and generators do not meet the strict emissions standards for the 2007 diesel engines. That means they must

If you're not able to afford a brand-name, idle-reduction product, even the most expensive units have a payback under two years.

have diesel particulate filters. And what California does is usually soon followed by other states.

There are no DPFs for retrofit commercially available for small diesels, at least not yet.

Cummins can route its APU through the main Cummins engine DPF because the manufacturer designed and certified them to work together. But it's illegal for anyone

other than those authorized by the factory to tap into an exhaust system certified to 2007 standards.

And, even though pre-2007 truck engines won't have to be retrofitted with exhaust treatment, California *will* require pre-2007 APUs and generators to meet standards that require DPFs.

These technical difficulties led to the growth of hybrid climate control units. They use fuel-fired heaters – Espar has three models certified for California – coupled with deep-cycle batteries powering electric air conditioners. If you build such a unit, use a battery isolator because deep-cycle batteries charge at different rates than starting batteries.

As for you not being able to afford a brand-name idle reduction product, even the most expensive units have a payback under two years; some, as short as nine months.

With a savings of more than \$100 a week in fuel alone, it may be worthwhile to get a short-term loan or a lease-purchase plan. Payments come out of savings. There are also government grant and assistance programs available. See more on Page 88 of this special section. **LL**

Paul Abelson may be reached at truckwriter@anet.com.

Anti-idling INCENTIVES

By Land Line and OOIDA staff

A roundup of current programs

OOIDA gets plenty of questions like this: “Does my state have any type of grant or loan program to help me buy some kind of idle-reduction system for my truck?” That’s not a simple question to answer. A grant or loan could fall under a number of different state or federal agencies and there’s no official “master list.”

Last year, when we researched this information, we knew it would be a tough project. Tough? Getting this information from some states was like asking state officials if anyone had seen Woody Allen’s latest movie. Some were on top of it, others who didn’t get around much said, “Woody who?”

Here’s our latest list of where and how truckers can get money for anti-idling technology.

NATIONWIDE

SmartWay Innovative Financing

- Funds available for state agencies to start anti-idling programs
- Savings calculator available online

Web site: epa.gov/smartway/documents/420f06016.pdf

Phone: (202) 343-9269

STATE-BY-STATE

ARKANSAS

ADEQ Small Business Loan Program

- Co-sponsored by OOIDA, SmartWay and Arkansas Department of Environmental Quality
- Loans up to \$45,000 at 80 percent of prime interest rate, with loan terms up to 10 years

Web site: www.adeq.state.ar.us

Phone: 1-888-233-0326

CALIFORNIA

Carl Moyer Memorial Air Quality Standards Attainment Program

- More than \$100 million given out since program’s start in 1998
- Technology must meet the program’s emissions standards
- At least 75 percent of miles run must be in California

Web site: arb.ca.gov/msprog/moyer/moyer.htm

Phone: 1-800-242-4450

MINNESOTA

MPCA Small Business Environmental Improvement Loan Program

- Co-sponsored by OOIDA, SmartWay and Minnesota Pollution Control Agency
- Loans up to \$50,000 available at an interest rate of 4 percent or one-half of prime interest rate, whichever is greater, with loan terms up to seven years

Web site: www.pca.state.mn.us/programs/sbomb_loan.html

Phone: In Minnesota 1-800-985-4247; outside the state, call (651) 297-8615

NEW JERSEY

The New Jersey Trucker’s Challenge Grant Program

- Total of \$750,000 available
- 50 percent of cost for APU up to maximum of \$3,500
- 75 percent of the cost for bunk heater up to a maximum of \$750
- 100 percent of the cost of an APU or bunk heater, plus a tailpipe emission control device up to a maximum \$17,000
- At least 50 percent of the miles run are in New Jersey

Web site: njmta.org/events.dws

Phone: (732) 254-5000

NORTH CAROLINA

Mobile Source Emissions Reduction Grants

- Broad program aimed at reducing

emissions in all mobile sources including buses and trucks

• Must utilize EPA-approved technologies
Web site: ncair.org/motor/ms_grants
Phone: (919) 733-1498

OREGON

Everybody Wins Program

- \$500,000 total from the EPA’s SmartWay program
- Provides zero-interest financing for purchase of anti-idling technology

Web site: rapa.org/projects/everybody_wins Phone: (541) 736-1056

PENNSYLVANIA

Pennsylvania Small Business Advantage Grant Program

- Aimed at all small businesses
- Provides 50 percent of matching grants, up to \$7,500, for qualified technology

Web site: www.depweb.state.pa.us/enintech/cwp/view.asp?a=1413&q=503219

Phone: (717) 772-5160

TEXAS

Emissions Reduction Incentive Grants

- Grants limited to residency in specific counties listed on Web site
- Funds can be used for lease, purchase, replacement or retrofit of anti-idling technology

Web site: terpgrants.org

Phone: (512) 239-2474

WISCONSIN

Wisconsin Diesel Truck Idling Reduction Grant Program

- \$250,000 designated specifically for small fleets of 50 or fewer trucks
- Reimbursement of 70 percent of the equipment cost and installation
- Trucks must be headquartered in Wisconsin

Web site: commerce.wi.gov/BD/BD-CA-Diesel-Grant-Program.html

Phone: (608) 267-9214 **LL**

Editor’s note: As of press time, legislation was pending in Wisconsin that could impact the Wisconsin incentive program. Watch landlinemag.com for updates.



THERMO KING

DEALER LOCATIONS

NAME	ADDRESS	LOCATION	PHONE
Thermo King Western Calgary, Inc.	6213 29th Street S. E. Calgary T2C 1R3	Alberta Canada	(403) 236-1020
Thermo King Western, Inc.	15825 118 Avenue Edmonton T5V 1B7	Alberta Canada	(780) 447-1578 (800) 661-4706
Thermo King Western Calgary, Inc.	466 Avenue & 82 Street High River T1V 1P3	AlbertaCanada	(403) 236-1020
Thermo King Lethbridge, Inc.	913 36 Street N. Lethbridge T1H 6L5	Alberta Canada	(403) 394-2492
Thermo King British Columbia, Inc.	68 Fawcett Road Coquitlam V3K 6V5	British Columbia Canada	(604) 526-4414
Accent Refrigeration	670 Sumas Street Victoria V8T 4S6	British Columbia Canada	(250) 478-8885
Thermo King of Mid Canada	450 Lucas Av, Mail to: P.O. Box 32 Station L, R3H 0Z4 Winnipeg R3C 2E6	Manitoba Canada	(204) 694-1368, (800) 428-9806
Maritime Thermo King, Inc.	100 Urquhart Avenue Moncton E1H 2R5	New Brunswick Canada	(506) 858-8849
Maritime Thermo King, Inc.	146 Lower Truro Road Truro B2N 6S8	Nova Scotia Canada	(902) 895-8842
Thermo King of Toronto	6243 Netherhart Road Mississauga L5T 1G5	Ontario Canada	(905) 564-2800
Scarborough Transport Refrigeration	5060 Benson Drive Burlington L7L 5N6	Ontario Canada	(905) 335-2886, (905) 632-1625
Thermo King of Kitchner-Waterloo	#2 Forfar Avenue Kitchener N2B 2Z6	Ontario Canada	(519) 743-9771
Thermo King of London	580 Clarke Road London N5V 3K5	Ontario Canada	(519) 452-1094
Thermo King of Ottawa	2410 Stevenage Dr. Ottawa K1G 3W3	Ontario Canada	(613) 738-0504 Montreal Thermo King
Refrigeration, Inc.	2700 Jacques Cartier Boulevard E. Quebec Longueuil J4N 1L5	Quebec Canada	(450) 267-7412
Thermo King Quebec, Inc.	5185 John Molson Quebec City G1X 3X4	Quebec Canada	(418) 653-0863
Cummins Western Canada, LLP	110 Kress Street Mail to: P.O. Box 98 Regina S4P 2Z5	Saskatchewan Canada	(306) 721-9710
Cummins Western Canada, LLP	3001 Faithfull Avenue Mail to: P.O. Box 7679 Saskatoon S7K 4R4	Saskatchewan Canada	(306) 933-4022
Frisan S.A. de C.V.	Carretera Panamericana Sur Km. 118.3-L4 El Potrerito Aguascalientes CP 20290 Ags.	Mexico	011 52 (449) 929-5050. 011 52 (449) 929-5052
Laguna Thermo King	S.A. de C.V. Blvd. Ejercito Mexicano Km 4.2 Gomez Palacio 35070 DGO	Mexico	011 52 (871) 714-2008, 001 52 (871) 714-9472
Thermo King de la Ciudad de Mexico	Eucalipto Mz. 13-A Col. Industrial Tabla Honda Tlanepantla 54126 Edo. De	Mexico	011 52 (55) 804-2900
Thermo King de Occidente	S.A. de C.V. Colmena No. 1116, Mercado de Abastos Guadalajara CP 44550 Jalisco	Mexico	011 52 (33) 3682-0682
Thermo King de Guadalupe	Padre Severiano Mtz No. 4315 Col. Linda Vista Guadalupe 64440 N.L.	Mexico	011 52 (81) 8334-7766, 011 52 (81) 8334-1463
Thermo King de Monterrey	Av Tres No. 675 Col. Central de Carga Monterrey 67129 N.L.	Mexico	011 52 (81) 8394-5555
Refriger SA de CV	Ciruelos 137-103 Col. Jurica Queretaro 76100 Oro.	Mexico	011 52 (442) 218-4968
Thermo King de Culiacan	Culzada H.C. Militar 5081 Mercado de Abastos Reynaldo Sonzalez 454 ote. Colonia Chapultepec. Culiacan, Sinaloa 80040, Mexico Culiacan 80290 Sinaloa	Mexico	011 52 (667) 749-1249, 011 52 (667) 718-7151
Servi Climas Yucatan S.A. de C.V.	Calle 5-C #332 X 0-C y Av. Xcumpich Col. Xcumpich Merida 97204 Yucatan CP	Mexico	011 52 (999) 981-3906
Thermo King of Chihuahua	Av. De Las Industrias #7311 Chihuahua 31110 Chihuahua	Mexico	011 52 (614) 417-3300, 011 52 (614) 488-8260
Thermo King del Centro	K. 3.5 Carretera Irapuato-La Piedad Irapuato 36568	Mexico	011 52 (462) 623-6088, 011 52 (462) 623-6089
Thermo King de Hermosillo	Bldv. Garcia Morales #914 Col. La Manga Hermosillo 83220 Sonora	Mexico	011 52 (662) 261-0363, 011 52 (662) 128-0279
Thermo King de Occidente suc.	Carr. A Nogales Carr. A Nogales #9050 Guadalajara CP 44550 Jalisco	Mexico	
Thermo King de Zapopan S. de R.L.de C.V.	Prolongacion Ave. Vallarta 650-A Col. Idigena San Juan de Ocotan Zapopan 45019 Jalisco	Mexico	011 52 (33) 682-0104
Serviclimas de Yucatan,	S.a. de C.V. Av. Blvd. Luis Donald Colosio Km. 8.5 Cancun 77500 Quitana Roo	Mexico	011 52 (998) 882-0156
Pacific Power Products	8001 Petersburg Street Anchorage 99507	AK	(907) 522-3434, (907) 229-1539
Thermo King of Birmingham	3657 Richard Arrington, Jr. Blvd. North Birmingham 35234	AL	(205) 591-2424
Thermo King of Mobile	1002 Springhill Ave. Mail to: P.O. Box 1424, 36633 Mobile 36604	AL	(251) 432-8454
Thermo King of Montgomery	280 Sixth Street North Montgomery 36104 AL	AL	(334) 263-5782
Thermo King of Dothan	520 Ross Clark Circle N.E. Dothan 36303	AL	(334) 673-9288
Tri-State Thermo King, Inc.	38 Furniture Road Russellville 72802	AR	(479) 968-1947
Tri-State Thermo King, Inc.	4726 Thibault Road P.O. Box 190256, Zip 72219 Little Rock 72206	AR	(501) 490-1979
Transport Refrigeration of NW Arkansas, Inc.	715 N. Bloomington Lowell 72745	AR	(479) 659-5318
Thermo King West, Inc.	2239 North Black Canyon Highway Phoenix 85009	AZ	(602) 415-9378
Thermo King West, Inc.	4521 East Rex Street Tucson 85706	AZ	(520) 440-2972
Thermo King West, Inc.	2651 W. Oatman Road Kingman 86413	AZ	(928) 718-0378S
Thermo King Fresno	2410 S. Railroad Ave. Mail to: P.O. Box 2367, Zip 93745 Fresno 93706	CA	(559) 496-3500
T. K. Services, Inc.	6118 Alcoa Ave. Los Angeles 90058	CA	(323) 585-1271 (Sales)
Thermo King of Salinas, Inc.	1144 Terven Ave. Salinas 93901	CA	(831) 422-5792
T. K. Services, Inc.	5410 Eastgate Mall San Diego 92121	CA	(858) 452-7690
T. K. Services, Inc.	2161 Adams Avenue San Leandro 94577	CA	(510) 562-0651
Thermo King of Bakersfield	234 Mt. Vernon Avenue Mail to: P.O. Box 70397, Zip 93387 Bakersfield 93307-3984	CA	(661) 324-7377
T. K. Services, Inc.	14080 Valley Blvd. Fontana 92335	CA	(909) 350-1010
T. K. Services, Inc.	3970 Commerce Drive West Sacramento 95691	CA	(916) 372-0862
T. K. Services, Inc.	1950 E. Miner Avenue Stockton 95205	CA	(209) 933-9212
Thermo King Modesto	6400 Taylor Ct. Turlock 95382	CA	(209) 669-7999
Thermo King of Denver, Inc.	4990 Monaco Street Commerce City 80022	CO	(303) 289-2291
Thermo King of Hartford	7 Shoham Road Mail to: P.O. Box 538 East Windsor O6088	CT	(860) 627-9015
Thermo King of Southern Connecticut, Inc.	126 Quinpiac Ave. Mail to: P.O. Box 809 North Haven 06473	CT	(203) 865-2026
Thermo King Chesapeake	Route 13, 9101 Elm Street Seaford 19973	DE	(302) 628-4170
Thermo King of North Florida	2733 Pickettville Road Jacksonville 32220	FL	(904) 388-6692

NAME	ADDRESS	LOCATION	PHONE
Thermo King of Miami	4333 N.W. 27th Avenue Miami 33142	FL	(305) 633-0585
Thermo King of Orlando	4949 N. Orange Blossom Trail Orlando 32810	FL	(407) 293-7158
Thermo King of Palm Beach, LLC	6870 N. Military Trail Riviera Beach 33407	FL	(561) 845-0406
Gulf Coast Thermo King	7802 Hwy 301 North Tampa 33637	FL	(813) 985-8502
Thermo King of Fort Myers	1891 Ortiz Avenue Fort Myers 33905	FL	(239) 337-5006
Thermo King of Fort Pierce	702 S. Market Avenue Fort Pierce 34982	FL	(772) 465-2530
Thermo King of Haines City	1006 Commerce Avenue Haines City 33844	FL	(863) 422-7527
Thermo King of Pompano	1201 Hammondville Road Pompano Beach 33069	FL	(954) 942-7969
Thermo King of Tallahassee	4897 Capital Circle N.W. Tallahassee 32303-6824	FL	(850) 562-1181
Thermo King of Doraville	2490 Weaver Way Doraville 30340	GA	(770) 368-4108
Thermo King of North Georgia	300 Resaca Beach Blvd Mail to: 2400 E. 23rd Street, Chattanooga, TN 37407 Resaca 30735	GA	(706) 629-3330
Thermo King Atlanta	4490 Thurman Road Mail to: P.O. Box 1305, Forest Park, GA 30298 Conley 30288	GA	(404) 361-4019
Thermo King of Southwest Georgia	400 Rockhouse Road East Highway I-75, Exit 97 Cordele 31015	GA	(229) 273-9480
Thermo King of Southeast Georgia, Inc.	1234 Dean Forest Rd. Savannah 31405	GA	(912) 234-9040
Thermo King Hawaii	2308 Pahounui Drive Honolulu 96819	HI	(808) 847-0238
Thermo King-Des Moines Co.	4975 Hubbell Avenue Des Moines 50317-4754	IA	(515) 262-9317
Thermo King Quad Cities, Inc.	1270 E. 12th Street Dubuque 52001-2330	IA	(563) 556-8100
Thermo King Christensen	4325 South York Street Sioux City 51106	IA	(712) 252-4696
Thermo King Intermountain, LLC	665 W. Amity Road Mail to: P.O. Box 170168, Boise, ID 83717-0168 Boise 83705	ID	(208) 947-0028
Illinois Auto Central	4750 South Central Avenue Chicago 60638	IL	(708) 563-2700
Thermo King Quad Cities, Inc.	3900 81st Avenue West Mail to: P.O. Box 6157, Rock Island, IL 61204-6157 Rock Island 61201	IL	(309) 787-6177
Capital City Thermo King	3410 Remington Street Springfield 62707	IL	(217) 525-6011
Peoria Thermo King	1945 N. Morton Avenue Morton 61550	IL	(309) 263-8783
Thermo King Rock Falls	2400 Route 40 Mail to: P.O. Box 6157, Rock Island, IL 61204-6157 Rock Falls 61071	IL	(815) 626-6881
Thermo King of Indiana, Inc.	2926 Lillian Street Elkhart 46514	IN	(574) 264-1221
Thermo King of Indiana, Inc.	7924 Burch Park Road Evansville 47725	IN	(812) 867-0141
Great Lakes Thermo King	6601 Shepard Avenue Portage 46368	IN	(219) 787-9333
Thermo King of Indiana, Inc.	2275 Patrick Henry Way New Haven 46774	IN	(260) 493-0046
Thermo King of Indiana, Inc.	817 South Tibbs Ave. Mail to: P.O. Box 42388, Zip: 46242-0388 Indianapolis 46241	IN	(317) 247-4002
Thermo King of Indiana, Inc.	3405 Industrial Parkway Jeffersonville 47130	IN	(812) 282-5022
Central States Thermo King, Inc.	400 Shawnee Avenue Mail to: P. O. Box 5205, Zip 66119 Kansas City 66105	KS	(913) 371-0868
Central States Thermo King, Inc.	6350 N. Broadway Wichita 67219	KS	(316) 744-2061
Central States Thermo King, Inc.	111 Roseport Elwood 66024	KS	(913) 365-5358
Central States Thermo King, Inc.	2802 W. Jones Ave. Garden City 67846	KS	(620) 276-0900
Transport Specialists, Inc.	371 Cutter Hill Lexington 40509	KY	(859) 263-3312
Thermo King of Shreveport, Inc.	8469 West Antoine Loop Shreveport 71129	LA	(318) 688-5665
Sumrall Transport Refrigeration Service, LLC	334 Buttenworth Street New Orleans 70121	LA	(504) 733-9581
TS Refrigeration Service, Inc.	7387 Industrial Avenue Baton Rouge 70805	LA	(225) 924-1652
Mass. Truck Refrigeration Services, Inc.	47 Sword Street Auburn 01501	MA	(508) 767-1616
Boston Thermo King Sales & Service	1709 Montello Street, Bldg A Brockton 2301	MA	(508) 521-6032
Thermo King Chesapeake	7430 Montevideo Road Jessup 20794	MD	(410) 796-8921
Thermo King of Northern Maine	422 Perry Road Bangor 04401	ME	(207) 945-6451
Thermo King of Portland	42 Wallace Ave. South Portland 04106	ME	(207) 775-6328
Thermo King Michigan, Inc.	955 76th Street S.W. Byron Center 49315	MI	(616) 878-4900
Thermo King Michigan, Inc.	11711 N. Telegraph Road Detroit 48239-1412	MI	(313) 532-3006
Grand Traverse Diesel Service, Inc	194 Memorial S. Commons Traverse City 49684	MI	(231) 943-4488
Thermo King Sales & Service of Albert Lea	2317 Consul Street Albert Lea 56007	MN	(507) 377-1631
Thermo King Sales & Service, Inc.	1951 Old Highway 8 St. Paul 55112	MN	(651) 633-2820
Thermo King of Missouri	1030 County Line Road Sikeston 63801	MO	(573) 472-2833
Thermo King of Springfield, Inc.	1353 Northwest Bypass Springfield 65803	MO	(417) 862-1901
Central States Thermo King of St. Louis, LLC	2900 Chouteau Avenue St. Louis 63103-2904	MO	(314) 771-6666
Mid Missouri Thermo King	11085 Hwy. 00 Mail to: P.O. Box 216 Boonville 65233	MO	(660) 882-6030
Thermo King of Jackson, Inc.	454 Highway 49 South, Mail to: P.O. Box 5618, Zip 39288-5618 Jackson 39218	MS	(601) 939-3213
Gulfport Thermo King Service, Inc.	2510 20th Street Mail to: P.O. Box 3177, Gulfport, MS 39505 Gulfport 39501	MS	(228) 863-7399
D & D Transport Refrigeration Service, Inc.	6428 Laurel Frontage Road, Mail to: P.O. Box 30737, Zip 59107 Billings 59101	MT	(406) 656-6290
Thermo King Central Carolinas, LLC	6633 Statesville Road Charlotte 28269	NC	(704) 596-2652, (800) 532-0085 (NC)
Thermo King Sales & Service, Inc.	62 Robinhood Road Mail to: P.O. Box 70, Benson NC 27504-0070 Dunn 28334	NC	(910) 892-7757, (800) 487-6246
Thermo King of Raleigh	3740 Centurion Drive Garner 27529	NC	(919) 773-2003
Thermo King of Wilson	6463 Flowers Road I-95 exit 116 Wilson 27893-9637	NC	(252) 291-5045, (800) 849-2333
Triad Thermo King	6301 Burnt Poplar Road Greensboro 27409	NC	(336) 855-7756
Thermo King of Fargo	3141 - 39th Street S.W. Fargo 58104-8600	ND	(701) 282-2990, (800) 856-3346
Cummins Npower, LLC	4728 Gateway Dr. Grand Forks 58203	ND	(701) 775-8197
Fleet Service, Inc.	3017 34th Street NW Mandan 58554	ND	(701) 663-5480
Thermo King Christensen	7508 F Street (Office & Parts) 7514 F Street (Service) Omaha 68127	NE	(402) 331-6116
Thermo King Christensen	2504 S. North Road Grand Island 68803	NE	(308) 381-7331
DDA Services, Inc.	137 Harvey Road Londonderry 3102	NH	(603) 647-4838
Thermo King East, Inc.	650 Dell Road Carlstadt 07072	NJ	(201) 939-4822
CSTK East, LLC	122 Forest Grove Road Vineland 8360	NJ	(856) 692-1050
Thermo King West, Inc.	1901 Broadway N. E. Albuquerque 87102	NM	(505) 342-9378

NAME	ADDRESS	LOCATION	PHONE
T. K. Services, Inc.	355 Sage Street Mail to: T.K. Services, 6118 Alcoa Avenue, Los Angeles CA 90058 Reno 89512	NV	(775) 323-5333
T. K. Services, Inc.	3451 Losee Road No. Las Vegas 89030	NV	(702) 649-0077
Upstate Thermo King of Albany	9 Norman Drive Albany 12205	NY	(518) 432-9757
Upstate Thermo King of Binghamton	127 W.Service Road Binghamton 13901	NY	(607) 772-0015
Thermo King of Long Island	19 Seabro Avenue Amityville 11701-1201	NY	(631) 789-9006
Thermo King of Middletown	441 County Route 56 Middletown 10940	NY	(845) 342-3013
Upstate Thermo King, Inc.	1023 Buffalo Road Rochester 14624	NY	(585) 328-7710
Upstate Thermo King of Syracuse, Inc.	6408 Collamer Road, Rte. 298 East Syracuse 13057	NY	(315) 463-9241
Mohawk Thermo King	50 North America Drive West Seneca 14224	NY	(716) 677-5700
Transport Specialists, Inc.	12130 Best Place Cincinnati 45241	OH	(513) 771-2220
Thermo King of Delphos	801 West Fifth Street Mail to: P.O. Box 220 Delphos 45883	OH	(419) 695-6060
Transport Specialists-Central, Inc.	4300 Lyman Drive Hilliard 43026	OH	(614) 876-8588
Thermo King Sales & Service, Inc.	2811 Brecksville Road Richfield 44286	OH	(800) 486-9670
Transport Specialists, Inc.	705 West Leffel Lane Springfield 45506	OH	(937) 322-8447
T.R.A.C. Thermo King	7010 Truck World Blvd. Hubbard 44425	OH	(330) 534-8830, (800) 628-9269
Thermo King of Ohio	3835 Rockland Circle Millbury 43551	OH	(419) 837-2108
Central States Thermo King of Oklahoma, Inc.	9929 S. W. 8th Street Oklahoma City 73128	OK	(405) 577-2222
Mid-Continent Thermo King, Inc.	2228 West Skelly Drive Tulsa 74107	OK	(918) 446-1431
Thermo King Northwest, Inc.	3235 NE 230th Street Fairview 97024	OR	(503) 907-1120, (888) 729-0196
Motor Truck Equipment Co.	198 Kost Road Mail to: P.O. Box 1922 Carlisle 17013	PA	(717) 766-8000
Thermo King of Pittsburgh, Inc.	13031 Route 30 North Huntington 15642	PA	(724) 863-1555
CSTK East, LLC	7301 Holstein Ave. Mail to: P.O. Box 16999, Zip 19142 Philadelphia 19153	PA	(215) 365-7700
CSTK East, LLC	617 Grammes Lane Allentown 18104	PA	(610) 395-2045
CSTK East, LLC	1250 Mid Valley Drive Jessup 18434	PA	(570) 383-4174
Ocean State Thermo King	38 Shun Pike Johnston 02919	RI	(401) 943-7550
Thermo King Columbia, Inc.	2716 Shop Road Mail to: P.O. Box 9007, Zip 29290 Columbia 29209	SC	(803) 695-8880
Thermo King of Greenville	161 Old Sulpher Springs Road Greenville 29607	SC	(864) 297-1860, (800) 849-391
Thermo King of Florence	302 East Camp Ground Road Florence 29501	SC	(843) 665-1946
Thermo King of Charleston	935 Commerce Circle Mail to: P.O. Box 90434, Zip 29410 N. Charleston 29406	SC	(843) 744-5040
Rapid Refrigeration	111 Poplar Avenue Rapid City 57701	SD	(605) 341-2431
Thermo King of Sioux Falls, Inc.	1709 N. Cliff Ave. Sioux Falls 57103-0145	SD	(605) 334-5162
Thermo King of Chattanooga, Inc.	2400 E. 23rd Street P.O. Box 71826 Chattanooga 37407	TN	(423) 622-2159
Thermo King of Knoxville	7126 Strawberry Plains Pike Knoxville 37914	TN	(865) 522-4154
Tri-State Thermo King, Inc.	1420 Stonebrook Street Mail to: P.O. Box 16031, Zip 38186 Memphis 38116	TN	(901) 332-7344
Tri-State Thermo King, Inc.	18 Fairfield Avenue Mail to: P.O. Box 101011, Zip 37224-1011 Nashville 37210	TN	(615) 244-2996
Amarillo Thermo King, Inc.	2100 S. Eastern Street Mail to: P.O. Box 32012, Zip 79120 Amarillo 79118	TX	(806) 376-5837
Thermo King of Dallas	3323 Jane Lane Dallas 75247	TX	(214) 638-3050
Thermo King West, Inc.	1377 N. Horizon Boulevard El Paso 79927-4835	TX	(915) 852-7201
Thermo King of Fort Worth	2490 East Long Avenue Fort Worth 76106	TX	(817) 831-4261
Thermo King of Houston	772 McCarty Street Houston 77029	TX	(713) 671-2700
Thermo King of Lubbock	4008 Avenue A Lubbock 79404	TX	(806) 763-6311
San Antonio Thermo King, Inc.	5807 Dietrich Road Mail to: P.O. Box 200444 San Antonio 78220	TX	(210) 661-4611
Riley Truck Service	2900 North U.S. Highway 69 North Lufkin 75904	TX	(936) 634-9345
Stewart & Stevenson Power, Inc.	11120 West Highway 80 East Mail to: P.O. Box 2848, Zip 79760 Odessa 79765	TX	(432) 563-4800
Thermo King of Austin	4820 East 7th Street Austin 78702	TX	(512) 386-9025
Thermo King of South Texas	4403 North Hwy 281 Edinburg 78539	TX	(956) 289-1901
Thermo King of Laredo	13513 Regional Drive Laredo 78045-9402	TX	(956) 722-8053
Thermo King of East Texas	2010 Highway 67 West Mt. Pleasant 75455	TX	(903) 577-3600
Thermo King Intermountain, LLC	1038 South 300 West Mail to: P.O. Box 25428, Zip 84125 Salt Lake City 84101	UT	(801) 363-1963
Thermo King Central Virginia, Inc.	10394 Sliding Ridge Road Ashland 23005	VA	(804) 550-5666
Truck Thermo King, Inc.	3650 South Main Street Mail to: P.O. Box 1828 Harrisonburg 22801	VA	(540) 434-7004
Truck Refrigeration Repair, Inc.	1160 Lance Road Norfolk 23502	VA	(757) 461-1551
Thermo King of Roanoke, Inc. Division of Thermo King Central Carolinas, LLC	1738 Granby Street N. E. Roanoke 24012	VA	(540) 343-1528
Thermo King of Emporia	180 Pleasant Shade Drive Emporia 23005	VA	(434) 336-1666
Thermo King Northwest, Inc.	913 South Central Ave. Kent 98032	WA	(253) 850-8133, (800) 678-2191
Thermo King Northwest, Inc.	910 N. Thierman Road Mail to: P.O. Box 11855 Spokane 99212	WA	(509) 321-0290
Mobile Fleet Services, Inc.	1231 South Wenatchee Ave. Mail to: P.O. Box 2688 Wenatchee 98801	WA	(509) 665-8383
Mobile Fleet Services, Inc.	2003 E. Viola Ave. Mail to: P.O. Box 10828, Zip 8909-1828 Yakima 98901	WA	(509) 575-8888
Transport Refrigeration, Inc.	301 Lawrence Drive De Pere 54115	WI	(920) 339-5700, (800) 236-7728 (in WI)
Transport Refrigeration, Inc.	29 Transport Court Madison 53704	WI	(608) 244-5608
Badger Trailer & Equipment Corp.	2738 North Sylvania Avenue Yorkville 53126	WI	(262) 835-9901 Mountaineer Thermo King
Badger Truck Refrigeration, Inc.	6302 Texaco Drive Eau Claire 54703	WI	(715) 874-6811
Badger Trailer & Equipment Corp.	415 South Third Street Milwaukee 53204	WI	(414) 271-8273, (800) 236-4157 (in WI)
Transport Refrigeration, Inc.	5226 Harding Avenue Plover 54467	WI	(715) 344-1808, (800) 344-1286 (in WI)
Division of Thermo King Central Carolinas, LLC	2252 Roxalana Road Dunbar 25064	WV	(304) 744-7344
Thermo King West, Inc.	11235 Highway 30 Mail to: 2702 West Encanto Blvd, Phoenix AZ 85009 Cheyenne 82009	WY	(307) 637-5258