

Automotive

Off Road

**Heavy
Duty**

Power
Gen



Idle Reduction: Benefits Without the Sacrifices

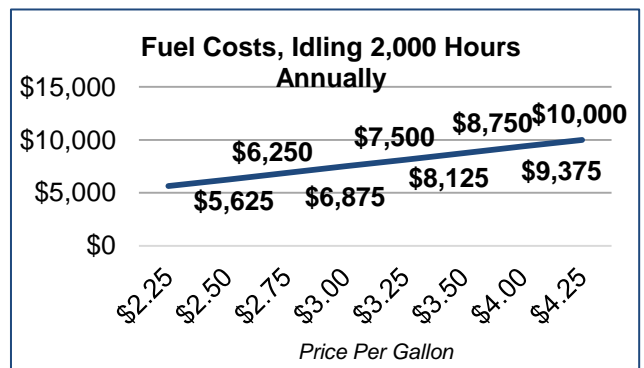
Predicament

The laws requiring drivers to get uninterrupted rest can interfere with anti-idling regulations. Most long-haul carriers are aware of anti-idling regulations and realize the benefits of idle reduction, including fuel savings, reduced maintenance and increased engine life. Yet, many fleets with sleeper trucks have not implemented sufficient idle reduction policies and technologies. Some fleets have tried one or more idle reduction approaches that provided inadequate performance, often leaving drivers uncomfortable and unrested. Fleets that have utilized diesel auxiliary power units (APUs) are incurring extra costs and downtime as a result of ever-increasing needs for diesel particulate filter (DPF) maintenance on the APU.

Long-haul carriers can also be faced with a conflict regarding idle reduction between fleet management and drivers. Fleet managers are motivated by idle reduction benefits, such as reduced fuel consumption and engine wear. Drivers need their rest. And rest only happens when they're comfortable. To safely meet off-duty hours of service requirements without suitable idle reduction methods, drivers may be obligated to idle and risk getting fines.

The Facts

The American Trucking Associations states that one hour of idling per day for one year results in the equivalent of 64,000 miles in engine wear. Trucks idle an average of 1,800 to 2,500 hours per year, which results in fuel costs of \$5,000 to \$10,000.



The Right Solution

Stricter environmental and idling regulations and new technologies are driving more fleets to take multipronged approaches. The initial cost of some idle reduction technologies may be an obstacle for many fleets. Cost of ownership, including fuel and maintenance savings, needs to be considered when investigating in technologies. Below are several alternatives:

The Basics

- Insulation
- Window glazing
- Reflective paint
- Screens in windows
- Fans
- Parking in the shade in the summer and south-facing in the winter

Idle Time Monitoring

- Idle time data is collected using telematics/GPS
- Identifies idling patterns and determines solutions
- Monitors drivers for noncompliance

Cooling Technologies

- Devices may be heavy
- Typical battery life is two years
- May provide cooling for only eight hours
- May require a larger alternator

Heating Technologies

- Operates on fuel
- Draws fuel from the vehicle's fuel tank

Automatic Start/Stop Systems

- Turns the engine on and off as necessary to maintain sleeper-cab temperature and battery charge
- Can be loud and disruptive to driver's sleep
- Does not eliminate idling, excess fuel use, engine wear or emissions
- May operate against compliance with strict anti-idling regulations

Electrified Parking Spaces/Shore Power

- Limited availability
- Drivers may not choose if they have to pay out of pocket and request reimbursement

Diesel Auxiliary Power Units (APUs)

- For 2010 or newer trucks, particulate matter (PM) emissions from a diesel APU will be higher than the truck engine’s emissions
- Doesn’t eliminate idling and can consume up to 600 gallons of diesel per year
- Needs frequent and costly maintenance
- Requires an expensive upgrade to be CARB-compliant
- Can be loud and disrupt driver’s sleep
- Return on investment is nearly equal to product life

Battery or Electric APUs

- Often preferred over diesel-powered systems
- Doesn’t consume fuel
- Lower cost of ownership and maintenance
- Some brands provide higher power and performance during a 10-hour break
- Return on investment is 26 months

Idle Free® eAPU Outperforms

- Idle Free® has four eAPU models to meet the requirements of every fleet
- Standard shore power on all models
- Does not use truck batteries to achieve 10-hour run time
- Batteries recharge in four to six hours of driving
- Uses a coolant heater, which preheats the engine for cold starts
- Reefer Link® offers constant power from refrigerated trailers

Return on Investment Comparison

| | Electric APU | Diesel APU |
|---------------------------|---------------------|-------------------|
| Purchase Price, Installed | \$11,000 | \$11,000 |
| CARB Compliance | Included | \$2,000 |
| Total Cost | \$11,000 | \$13,000 |
| Product Life | 4 Years | 4 Years |
| Fuel Costs* | \$0 | \$5,625 |
| Maintenance Cost** | \$1,000 | \$4,000 |
| Battery Replacement | \$1,000 | \$0 |
| Total Cost of Ownership | \$13,000 | \$22,625 |
| Payback | 26 Months | 46 Months |

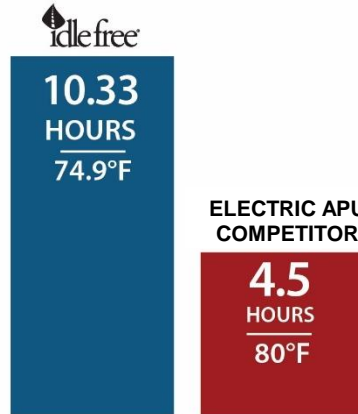
*\$2.25/gallon, 2,500 idling hours
**4-year truck serviceable life

Idle Free Third-Party Laboratory Tests

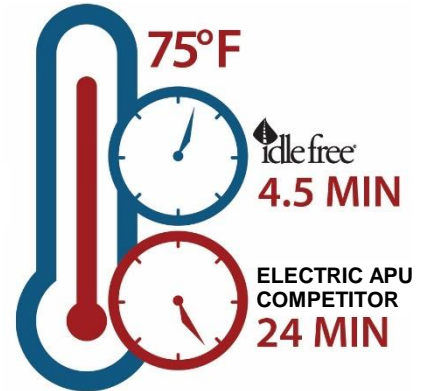
(TMC 432A specifications compliant)

- Met 10-hour requirement while maintaining an average temperature of 74.9°F (23.83°C) with an ambient temperature of 100°F (37.78°C)
- Faster bunk area cooldown

Run Time Comparison



Bunk Cooldown Comparison



Summary

Fleets that do not have a suitable idle reduction solution are wasting resources, including profits, and impacting the safety of drivers as well as the public. Every fleet has different idle reduction needs.

A combination of common sense methods, such as parking orientation based on the climate, idle monitoring technologies and a quality Idle Free® eAPU system meets or exceeds requirements for most long-haul carriers and drivers. The right idle reduction approach benefits fleets, drivers and the environment:

- Decreased engine maintenance costs
- Increased engine life
- Driver health and safety
- Recruit and retain top drivers
- Reduced noise levels
- Lower emissions of toxic pollutants and carbon dioxide
- Diminished dependency on oil imports

For case studies and more information about Idle Free® eAPU products or for assistance developing your idle reduction plan, contact Phillips and Temro at 1-800-328-6108, email sales@IdleFreeSystems.com, or visit IdleFreeSystems.com.

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