

Ride-Along Technician

As part of the new APX™ control system, Carrier Transicold introduced Virtual Tech™, a comprehensive diagnostic application that continually monitors trailer refrigeration unit operation to help avert potential system issues.

The Virtual Tech application is like having a ride-along service technician watching the unit's performance," said Mark Fragnito, Carrier Transicold product manager, electronics. "It helps take the guesswork out of refrigeration unit service, making troubleshooting easier and faster, and improving equipment uptime in the process.



"It's a tool that will be well received by fleet managers, owner-operators and especially service technicians, who won't need extra troubleshooting hardware, testing kits and complex troubleshooting trees to diagnose problems, because it's all automatic."

In addition to monitoring unit performance in real time, it offers a technician mode that provides analytic and diagnostic information. It also records system operation data so that detailed performance reports can be downloaded for review on a computer.

Virtual Tech is included with Carrier's 2500 APX and 2100 APX systems and will be part of Carrier's 2013 models with ecoFORWARD™ technologies for EPA Tier 4 compliance.

For more information about Virtual Tech, contact your Carrier Transicold dealer.

[Dealer Locator](#)

Reducing Fuel Consumption with Smarter Refrigeration Units

Carrier Transicold's system-wide improvements known as ecoFORWARD™ technologies have led to fuel efficiency gains ranging from 5 to 20 percent for its 2013 models.

While that's good news for fleets considering new purchases, those fleets that plan to hold on to their existing equipment for years to come may discover that significant fuel efficiency gains can still be found in their current refrigeration systems, according to Carrier Transicold's Kevin Williams, product manager, trailer products.

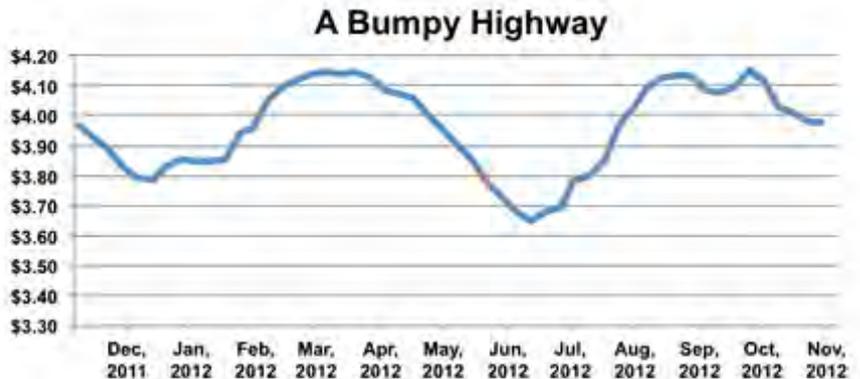
"When you compare today's refrigeration systems to previous generations, they're more fuel efficient right 'out of the box,' and that will be the case with the next generation as well," Williams said. "But depending on the unit's control system, there may be considerable untapped fuel-saving potential in current equipment - the key is knowing how to take advantage of it."



[Learn more about fuel-saving control capabilities.](#)

Seems like we've climbed these hills before!

In a year of ups and downs, [fuel prices continue their unpredictable route](#), so it's critical that refrigerated fleets achieve maximum value for every dollar spent on fuel.



U.S. average on-highway diesel prices as tracked by the Department of Energy, Energy Information Administration, Nov. 19, 2012

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Reducing Fuel Consumption with Smarter Refrigeration Units – Part 1

Trailer refrigeration systems have become progressively more fuel efficient over the years, and that trend continues for the year ahead. New models designed for 2013 and beyond are bringing the dual benefits of compliance with the latest EPA Tier 4 emissions requirements as well as significantly reduced fuel consumption. For example, Carrier Transicold's system-wide improvements known as ecoFORWARD™ technologies have led to fuel efficiency gains ranging from 5 to 20 percent for its 2013 models.

While that's good news for fleets considering new purchases, those fleets that plan to hold on to their existing equipment for years to come may discover that significant fuel efficiency gains can still be found in their current refrigeration systems.

"When you compare today's refrigeration systems to previous generations, they're more fuel efficient right 'out of the box,' and that will be the case with the next generation as well," said Carrier Transicold's Kevin Williams, product manager, trailer products. "But depending on the unit's control system, there may be considerable untapped fuel-saving potential in current equipment – the key is knowing how to take advantage of it."

Finding the Savings Within

Unleashing a refrigeration unit's full fuel-savings potential means getting to know the control system. The microprocessor controllers found in most of today's refrigeration units are essentially mini-computers. Software controls all operational aspects, but users have the ability to adjust the refrigeration performance based on their own requirements.

Unlike a home refrigerator or residential thermostat with a simple temperature control, transport refrigeration systems manage multiple variables to provide precise temperature and environmental conditions for a given cargo, with the ability to automatically react and adjust to factors such as outside temperature changes.

As an example, Williams points out that Carrier Transicold's Reefer Apps™ software suite for APX™ and Advance® controls has options to satisfy fleet needs for custom configurations, reduced operator errors and fuel savings.



The IntelliSet™ application helps balance fuel efficiency and temperature control.



The ProductShield™ application monitors temperatures outside the trailer to manage temperature inside.

One application, called IntelliSet™, allows a driver to choose commodity settings by name from a scrolling list in text form. Each user-configurable IntelliSet setting – customized from nearly 60 different operating parameters – can create the best balance of cooling and fuel economy for specific commodities or to meet individual customer specifications. Among its many customization features, IntelliSet offers two tools that are especially useful for fuel savings – ProductShield™ and Range Protect.

Safeguarding Product While Protecting the Fuel Budget

The ProductShield application monitors ambient conditions outside the trailer to efficiently manage temperature and air flow inside the trailer, ensuring maximum product quality and protection while optimizing fuel efficiency and run time.

In operation, ProductShield automatically switches between continuous-run mode and the more fuel-efficient start/stop operation, based on outside temperatures. When outside temperatures are within a predetermined range of the setpoint, the unit runs in start/stop mode, but when ambient temperatures heat up, the unit will automatically switch to continuous-run. The range at which the unit switches back and forth between modes, and thus the degree of fuel savings, can be easily adjusted by the user – a narrower stop/start range for more sensitive cargoes, and a wider range for less sensitive loads. By completely automating the function, the chance of operator error is also reduced.

In test settings and actual customer applications, Carrier Transicold has found that the ProductShield feature can generate significant payback in terms of fuel economy compared to normal continuous-run mode. That's savings that can help fuel a smart fleet's bottom line!

In a future issue of eFlash, Williams discuss Carrier's exclusive Range Protect application and other facets of trailer refrigeration efficiency.