



FleetOwner

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Aerodynamic makeover

By Brian Straight, Managing Editor

Who says watching your competition doesn't pay off? For Normal, IL-based Nussbaum Transportation, the hope is that it will -in a big way.

Phil Braker, vice president of operations, has seen what other fleets have done to improve aerodynamics, in particular Mesilla Valley Transportation (MVT), and has tried to guide Nussbaum in the same direction. Nussbaum, a dedicated truckload carrier serving the automotive, agriculture, food, steel, paper, tires, consumer goods, and construction industries, is employing every technique possible to improve efficiency and reduce fuel consumption, Braker says. These include eliminating the left-hand spot mirror and sun visors on tractors, shifting to wide-base tires on both tractors and trailers, installing Andersen Flaps' Eco-flaps on both tractors and trailers, reducing fuel tank size from 150 gal. capacity to 125 gals., and relocating license plates on trailers to reduce drag.

Previously, Nussbaum ran only Volvos with the company's 13L engine, but that has changed as well in the past year. Braker says the company has been purchasing the aerodynamic Freightliner Cascadia sleepers with DD15 engines, with about 60 tractors purchased in 2011 and another 60 set for delivery this year, he says. The fleet includes about 200 tractors.

"The '07s are what we're trading out right now," he says. "We bought heavy in '07 ahead of the emissions change and then in 2010, we jumped in pretty heavy with testing because there [was said to be] a fuel economy gain, which there was."

And now the fleet is embarking on the installation of ATDynamics' TrailerTails and Transtex side skirts on the majority of its 450-trailer fleet, which is comprised of Wabash and Great Dane models. According to ATDynamics, the combination of the devices could improve fuel efficiency 10% or more, resulting in a reduction of diesel fuel consumption by 3 million gals. and eliminating CO₂ emissions by 22 tons.

"We've seen the tails out there; we knew MVT was running them," Braker says. "So I filled out a form online...for a risk-free test and trial."

Nussbaum ended up testing 40 TrailerTails through ATDynamics' fleet trial program, which allows a fleet to purchase up to 40 TrailerTails for testing for a predetermined time period. If the fleet determines the product is not to their liking, ATDynamics will refund the purchase price upon the return of the tails.

"I asked them how many times they have taken the tails off at the end of a test, and they said zero," Braker relates. The test lasted for about six weeks, he says, and showed more than enough benefits to warrant the major purchase.

The TrailerTail is a verified Environmental Protection Agency SmartWay device compatible with all refrigerated, dry van, drop deck and rolling tarp trailer configurations, ATDynamics says. At 4 ft. in length, the TrailerTail delivers 6.6% fuel efficiency gains at 65 mph, the company adds. The tail, made of thermoplastic panels and featuring a collapsible origami design, works independently from trailer skirts to reduce the low pressure suction drag that occurs at the rear flat surface of a long-haul trailer.

"This investment gives Nussbaum a significant competitive advantage, making it one of the most fuel-efficient and technologically advanced fleets in the Midwest," said ATDynamics CEO Andrew Smith.

QUICK PAYBACK

Braker says it's too early to make any determination as to how much the fleet will save. "We saw a benefit and believe there is enough of a benefit to go forward," he explains. "The bottom line is, once the [tails] are paid for, [they are] saving you money from there on out." Braker estimates a 14-15 month payback period for trailers that he expects will last 10 years in the fleet.

Braker says the Transtex side skirts, while not part of the official test, were also included in the purchase.

"We've been running 65 Duraplate skirts," Braker says, "so we knew the skirt was a benefit of about 0.5/gal. We liked the durability and the look of the Transtex."

The side skirts offer ground clearance of 10-13 in. Made of 4-mm thick thermoplastic composite, the skirts offer 4-7% fuel savings alone, ATDynamics says. The skirts are expected to pay for themselves in about one year.

Due to their composite makeup, the skirts give with impact before bending back to form, resulting in improved durability. They are temperature and weather resistant and come with a seven-year warranty, ATDynamics says.

"Being at the forefront of the industry has been central to Nussbaum's business strategy since its inception over 65 years ago," said Brent Nussbaum, CEO of Nussbaum. "The decision to fully retrofit our fleet with aerodynamic tails and skirts was driven by our desire to be fuel efficient and increase profitability."

The Eco-flaps are designed to reduce wind resistance to save fuel, and Braker says they are cut so as not to extend beyond the edge of the vehicles. The fleet also employs auxiliary power units and caps speeds at 63 mph. In addition, a number of driver initiatives encourage fuel-efficient driving.

As an example of its commitment to efficiency and reducing fuel and emissions, Nussbaum worked with customer Electrolux to eliminate deadhead miles. The carrier would haul heavy steel coils on flatbeds for Electrolux to manufacture into freezers. Electrolux, though, did not have outgoing freight that fit on that flatbed, resulting in deadhead miles. At the same time, outgoing freezers were hauled in van trailers, again resulting in deadhead miles getting those trailers to the Electrolux factory.

The result was the X-Duty trailer designed by Nussbaum. This dual-purpose van trailer is ruggedized to support loads 50% greater than a typical van trailer. Now, an X-Duty trailer hauls in coils and hauls out freezers, cutting transportation costs and fuel usage.

For Braker and Nussbaum, fuel efficiency is not a single goal, but a constantly moving target that requires any number of initiatives. And keeping your eyes and ears open to what your competitors are doing is but one area of exploration.



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