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Fleets Enjoy Fuel Efficiency Gains in New Trucks, But Express Concerns on Maintenance Costs

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New engine technologies and improved aerodynamics have yielded significant fuel efficiency gains for carriers running post-2010 heavy-duty trucks, but some fleet executives said they are encountering some new maintenance issues.

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Managers from five carriers contacted by Transport Topics all said they were extremely pleased that the 2011 and 2012 trucks in their fleets were producing better miles-per-gallon results than the trucks they replaced. And while they provided mixed reviews on the reliability of the trucks' new technology, most also said they were confident these initial bugs will be worked out easily in a short amount of time.

Gary Harold, owner of H&W Trucking Co., Mount Airy, N.C., said he purchased 10 Peterbilt 386s with Paccar engines that were built in 2012. Those trucks have achieved a half to three-quarters of a mile increase in fuel efficiency compared with the 2009 Internationals they replaced, he said.

That fuel economy gain makes a big difference, especially "when fuel is high like it has been," Harold said. "Pennies make dollars in a hurry."

However, while praising Paccar for actively helping him address problems, he told TT, "The new engines and technology have so many systems on it that it doesn't take much for a sensor to pick something up and shut the engine down."

Earlier this year, H&W had three of its 2012 trucks with fewer than 40,000 miles encounter problems in the span of about a week, Harold said.

Because of the reliability problems, Harold said, H&W has changed its purchasing habits.

"I used to put a lot more miles on them, and now, when the warranty starts running off, I'm ready to do something else because I don't want the problem myself without any backup," he said.

Meanwhile, H&W — which hauls furniture from the North Carolina area to the western states, then picks up fresh produce and brings it east on backhaul — still runs trucks with pre-2007 engines, some of which have more than a million miles.

"I've never run them that far, but I'm not having problems with them," said Harold.

Looking ahead, he said, "I'm going to take a hard look at natural-gas engines because it gets away from all this emissions stuff," Harold said. "I'm trying to learn all I can about it and see if it would work for what we do."

Jeff Robinson, senior vice president of maintenance at flatbed carrier Melton Truck Lines Inc., Tulsa, Okla., said his company has seen about a 0.2 mpg fuel-economy improvement in its 2012 trucks, compared with its 2010 trucks without the new emissions technology.

He also said the new technology on the trucks requires more maintenance.

"The trucks out now are just so sophisticated, and there's so many electronics on there," Robinson said. "You have to have a laptop with all the different software to check the engine, check the transmission, check the trucks, and so on and so forth."

The company has spent a lot of time training its technicians on the new technology, he said.

Yet despite those hurdles, Robinson said that, overall, he is equally satisfied with his company's 2011 and 2012 trucks, compared with the older-technology engines.

“I think the [newer] trucks are reliable,” he said. “We do run into some problems with the technology on the sensors and things that monitor the [diesel exhaust fluid] . . . but that’s something we just have to face, and as time goes on, the sensors are going to get more and more reliable. Overall, we’re having pretty good luck with these trucks.”

Robinson added, “Right now the trucks are 12-to-18 months old. I’m just curious to see how this technology’s going to be in four years, four-and-a-half years, when we have half a million miles. That’ll be the true test of how reliable the stuff is going to be.”

Melton runs predominantly Kenworth T660s, with a smaller number of Freightliners as well, Robinson said.

And Stuart Burton, executive director of maintenance and equipment sales at flatbed carrier Keim TS Inc., Sabetha, Kan., said his company has had its share of problems with the new emissions technology trucks, but expects the reliability to improve as time goes on.

“I believe that the older trucks seemed to be more bulletproof as far as downtime. But as software and sensors get better, I think my perception of this could change,” Burton said. “It seems to me that with every new emission goal that has to be met, the problems and downtime increase dramatically until all the unforeseen problems get worked out. Then you end up with a pretty good product.”

Fuel efficiency, however, trumps maintenance concerns when buying the newer trucks, carrier executives said.

“Fuel economy is king” when it’s time to buy new trucks, said Cameron Holzer, president of longhaul truckload carrier CRST Expedited.

The buying decision for CRST is based on the total cost of ownership of the vehicle during its three-year cycle, Holzer said. That total also includes the cost of maintenance and the price of the truck, but fuel efficiency is one of the strongest factors in the calculation, he said.

CRST Expedited is currently running 2011 and 2012 Freightliner Cascadias and Volvo 780s, which replaced Freightliner Columbias that were 3 years old at the time. The company is in the process of purchasing 2013 models to replace its 2010 trucks.

Holzer said CRST has seen about a 3% to 5% improvement in fuel economy with the 2011 to 2013 trucks compared with the trucks they replaced.

The newer Freightliners and Volvos have been “very comparable” to each other in fuel-efficiency results, he said.

CRST Expedited is a unit of CRST International, Cedar Rapids, Iowa, which ranks No. 19 on the Transport Topics Top 100 list of the largest U.S. and Canadian for-hire carriers.

Officials at regional less-than-truckload carrier A. Duie Pyle Cos., West Chester, Pa., said their company is seeing about a half a mile per gallon increase in fuel economy with its 2012 tractors — Volvo VNM42Ts and Freightliner Cascadias — compared with its 2007 Freightliner Columbias with the older engine technology.

“We’re really happy with it,” said Dan Carrano, the company’s director of maintenance.

The 2012 Volvo and Freightliner trucks are “pretty much neck and neck” in the fuel-efficiency department, with the Volvos edging out the Freightliners a little bit, he said.

That difference, though, may be a result of the automated transmissions the carrier is using with its Volvos, but not yet with its Freightliners.

“All in all, the [truck brands] in our type of application are all pretty similar [in fuel efficiency],” Carrano said. “If you spec them relatively the same, the fuel economy should be close.”

Carrano said the truck manufacturers continue to focus on improving fuel efficiency as they look ahead to upcoming regulations from the Environmental Protection Agency.

“Some of it is just the stepping stones for compliance with the new regulations coming out in 2014 and 2017 in regards to the fuel-economy standards that the government is presenting,” he said.

Carrano said reliability, not fuel economy, is the most important criterion for the new trucks purchased by A. Duie Pyle.

“Our No. 1 objective is to get the job done,” he said. If a truck is parked on the side of the road, “fuel economy is really not an issue at that point in time.”

Carrano also ranked safety enhancements ahead of fuel efficiency.

A. Duie Pyle’s operations prevent it from taking advantage of certain aerodynamic enhancements. The company can’t use tall air shields on its truck cabs, for example, because of the many clearance restrictions in its operating region in the Northeast.

The company's trucks also don't have long side fairings because "we're constantly backing into a lot of tight docks," Carrano said, unlike a truckload operation "where you can spec your truck for greater fuel efficiency, greater aerodynamics, than you can in an LTL operation."

In addition to the new equipment, part of A. Duie Pyle's improved fuel efficiency may be attributable to the company's focus on driver awareness, said Randy Swart, senior vice president at A. Duie Pyle.

"They all want to help us be as efficient as we can," he said. "As we've made them more and more aware of the things that they can do through the progressive shifting and speed control, they've helped us become more efficient."

The managers at A. Duie Pyle, which ranks No. 82 on the TT for-hire list, also said its 2010-technology trucks have been "very reliable" compared to previous model years.

"The 2010 technology trucks at this point have served us well," Carrano said.

Swart, added that "the jury's still out on the overall durability. . . . We're going to have to see what the life span of the trucks is."

Fleet managers said they have had to adapt to selective catalytic reduction technology, which requires the use of DEF and is featured in the new generation of trucks built by all but one manufacturer.

Some carriers said the new emissions-reduction technology, which complies with 2010 EPA regulations, has led to additional expenses because of the cost of DEF and increased maintenance requirements.

Melton Truck Lines' Robinson said DEF has caused some problems for users of the newer trucks. He said his company's fuel savings were "eaten up" by the cost of DEF and the purchase price of the new truck itself, which was "several thousand dollars more."

"It's almost a wash," said Robinson, who added that his company's 2012 and 2010 trucks are very similar, with the only real difference being the new SCR emissions technology.

Burton of Keim TS said his company has experienced a significant increase in miles per gallon when comparing its 2012 and 2013 tractors that use DEF with the company's older non-DEF engines.

Improving miles per gallon "is a must," given the rising costs of "everything related to keeping our fleet running," Burton said.

Keim TS is running 90 2012 Kenworth T660s, 55 with MX Paccar engines and 35 with Cummins ISX engines. The trucks with Paccar engines are getting 0.6 more miles per gallon than the company's older trucks, compared with a 0.5-mile per gallon gain for the trucks with Cummins engines.

The company is also operating 35 2013 Kenworth T660s with Cummins ISX engines, which have produced an extra 0.7 mile per gallon, and the same number of 2013 Kenworth T800s, also with Cummins ISX engines, that have improved miles per gallon by 0.6.

Keim TS has also added 15 2013 International LoneStars with MaxxForce 13-liter engines to its fleet, which are doing "a little better" than the company's older trucks but haven't accumulated many miles yet. The International trucks don't use DEF.

Burton said the company expects the MaxxForce engines to produce better fuel efficiency once they're broken in.

Keim's fuel efficiency has benefitted by working closely with its truck and engine representatives, he said.

"This helps tremendously when spec'ing engines, transmissions and rear-end ratios to get the best fuel MPG," Burton said.

In the end, though, new equipment isn't the only way to improve fuel efficiency.

Carriers can also save on fuel costs by cutting driver idling time, for example, said Holzer, of CRST Expedited.

"You can still get impressive fuel economy with older tractors," he said. "The new trucks are not a silver bullet."