HOW TO COST-EFFECTI HIGH-M TRUCK

Better vehicle quality and the economic crisis of 2008-2009 have both impacted what most view as the traditional lifecycle for a truck fleet. **BY SEAN LYDEN**

Modern vehicles are lasting longer, and this trend offers fleets greater flexibility when considering extending the lifecycle of some of their vehicles, while keeping maintenance costs and downtime risk at manageable levels.

According to a recent report by IHS Automotive, the average age of light trucks has increased from 9.5 years in 2004 to 11.3 years in 2014. A major contributor to this rise in vehicle lifecycle is the improved quality of the vehicles being built today, the report said.

This is good news for fleets that have had to hold onto their trucks longer because of tighter budgets in recent years.

"The economic crisis that began in 2008 required businesses of all types to rethink their operations," said Chris Ransom at Verizon Networkfleet, a telematics services provider. "In the case of businesses with fleets, we saw a trend toward extending the life of vehicles rather than purchasing new ones."

And, truck OEMs have expressed more confidence in improved product quality by expanding the duration of their factory warranties, helping fleets reduce cost of unplanned maintenance.

In the early 2000s, most factory warranties, especially in the light-duty market, covered up to three year/36,000 miles, including the powertrain (engine, transmission, and drive axles). But, in recent years, light-duty truck OEMs have stepped up to cover high-ticket powertrain repairs up to five years/60,000 miles (Ford and Toyota) and five years/100,000 miles (GM and Ram).

Medium-duty trucks with diesel engines are typically backed by factory warranties covering three years, but often for unlimited miles. In some cases, medium-duty truck manufacturers are offering factory extended warranties up to five years/500,000 miles.

Despite the enhancements in vehicle quality and warranties, however, the decision to extend the lifecycle of trucks — whether in terms of a longer time frame or higher miles or both — is fraught with risks.

When trucks are kept in service too long, unplanned maintenance costs become unmanageable. Downtime begins to interrupt the business and affect service to customers, resulting in lost revenues and profits. Drivers become increasingly resentful because they have to "settle" for older trucks, negatively impacting productivity.

How can fleet managers more effectively navigate these risks to maximize the service life of their trucks — at the lowest total cost of ownership (TCO)?

Optimizing Truck Specification

For fleet managers considering taking trucks to higher-mileage replacement intervals, follow author Stephen Covey's advice and "begin with the end in mind."

Start by spec'ing and acquiring trucks that are built to do the job for the long haul. Address questions such as:

Is the truck big enough to handle the maximum payload on a consistent daily basis, with capacity to spare? An overloaded vehicle will wear and breakdown faster than when the truck is operating within its payload sweet spot.

Will the truck be driven in coastal areas or harsh winter environments, where exposure to salt accelerates corrosion in conventional steel materials? If so, consider including advanced lightweight materials

At a Glance

In addition to simply basing replacement on vehicle mileage, other factors that impact a vehicle's lifecycle include:

- Improved vehicle quality.
- Driver behavior.
- Optimal truck specs.
- Maintenance and inspections.

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— such as aluminum, fiberglass composites, and plastic composites — in the design of truck-mounted upfits to enhance corrosion resistance. This helps extend the life of the truck body and equipment to achieve a lower cost of ownership for the truck as a whole.

What terrain will the truck be operating on? On mountainous terrain, for example, the proper drive axle ratio is required to enable the truck to climb steep inclines in a way that doesn't overstress the engine and transmission.

Creating Strict PM Schedules

While spec'ing a truck to endure a high-mileage duty cycle is an important first step, it's just as critical to take care of that vehicle throughout its service life with consistent preventive maintenance (PM).

Telematics, which uses onboard GPS to automatically capture and transmit vehicle data, is becoming a valuable tool to help fleet managers keep their vehicles on an optimal service schedule.

"Telematics systems with diagnostics alerts, which are sent automatically to the manager, allow the company to pinpoint and address small issues before they become big problems that lead to long truck downtime," said Richard Pearlman, director of product management at fleet telematics provider Spireon. "Maintenance alerting and reporting ensures maintenance is scheduled and completed as needed, which is critical for keeping high-mileage vehicles running for the maximum amount of time."

The greater the number of trucks in a fleet, the more challenging it is to keep track of the PM schedules. Telematics helps make the process of capturing and analyzing vehicle data more efficient and practical.

"Without a way to capture accurate odometer and engine hour data automatically and remotely across the entire fleet, vehicles can easily miss scheduled maintenance appointments," said Ransom of Verizon Networkfleet. "Missing scheduled maintenance, especially on older vehicles, can have a negative effect on vehicle health. Performing on-time scheduled maintenance means less downtime and fewer costly repairs."

Utilizing telematics can help extend a vehicle's lifecycle by helping ensure optimal vehicle utilization.

SOURCE: VERIZON NETWORKFLEET

Working on Driver Behavior

Train drivers on proper truck operation and maintenance practices to help vehicles last longer can help keep maintenance and operational costs under control.

"When you have a driver who is hard on the brakes, you'll to replace brakes more often, which increases maintenance costs and the strain put on the vehicle," said Byron Burson, vice president of truck products at Donlen, a full-service fleet management company.

Art Liggio, president of driver training firm, Driving Dynamics Inc., recommended fleets educate drivers on instilling the following habits to ensure vehicles are able to perform at their best for higher mileage intervals:

- Accelerating and braking gently.

- Avoiding pumping the accelerator pedal.
- Using vehicle momentum to maintain cruise speed.
- Anticipating traffic ahead to minimize hard braking and acceleration.

Then, there's the issue of drivers allowing the engine to idle excessively, which not only wastes fuel (up to half a gallon of fuel per hour, according to www.FuelEconomy.gov), but it also increases engine hours, shortening the life of the truck.

This is another area where telematics can help fleet managers to maximize a vehicle's useful life by equipping them with the data they need to more effectively monitor driver performance and reinforce driving behaviors that contribute to more cost-efficient vehicle operation.

"Telematics plays a key role in managing driver behavior so that vehicles experience less wear and tear, and therefore cost less to maintain and have less downtime," said Ransom. "Many of our fleets end up driving better (less speeding, hard braking, hard acceleration, and idling). This has an immediate effect on fuel and productivity, but also has a longer-term positive impact on vehicle health."

Average Age of Passenger Cars and Light Trucks

Year	Passenger Cars	Light Trucks	Total Light Vehicles
2002	9.8	9.4	9.6
2003	9.9	9.5	9.7
2004	10	9.5	9.8
2005	10.1	9.5	9.8
2006	10.2	9.5	9.9
2007	10.3	9.6	10
2008	10.4	9.8	10.1
2009	10.5	10.1	10.3
2010	10.8	10.5	10.6
2011	11.1	10.8	10.9
2012	11.3	11.1	11.2
2013	11.4	11.3	11.4
2014	11.4	11.3	11.4

SOURCE: IHS AUTOMOTIVE

According to data from IHS Automotive, the average age of light trucks in 2014 was 11.3 years, up from an average age of 9.4 years in 2002, and the highest in the past 12 years.

HIGH-MILEAGE AND DATA DRIVEN

How can telematics systems help fleets manage high-mileage trucks more cost-effectively – to minimize operational costs and downtime? Richard Pearlman, director of product management at Spireon Fleet Services, offered these points to consider:

- **Diagnostics alerts.** Receive timely alerts to the manager to help identify and address small issues before they become big problems that lead to long truck downtime.
- **Maintenance scheduling and reporting.** Ensure that maintenance is scheduled and completed as needed to maximize vehicle life.
- **Driver performance monitoring.** Equip owners and fleet managers to identify poor or dangerous driver behaviors (such as hard braking, hard accelerating, and speeding) that cause increase wear-and-tear on the vehicle and raise insurance costs.
- **Idle-time alerts and notifications.** Reduce excessive idle time to keep costs down by reducing wasted fuel and wasted time.
- **Route dispatch and optimization.** Reduce fuel costs and extend vehicle life by directing drivers to the shortest route.

Ensuring Proper Inspections

Be vigilant with requiring drivers perform vehicle inspections before and after each use to ensure the truck is capable of optimal and safe operation.

"Unfortunately, what often happens is that fleet operators and their drivers fall into the 'checklist mentality' when using inspection checklists," said Liggio of Driving Dynamics. "What should have been identified as a concern routinely gets overlooked and that issue eventually results in increased maintenance costs and downtime. A well-designed driver safety course should include thorough and extensive 'hands-on' practice sessions to equip participants to become knowledgeable inspectors to spot any issues that could diminish vehicle life."

Being Proactive on Repairs

Minimize downtime by making the most of the time the vehicle is already taken out of service.

"If you have to replace brakes, go ahead and replace rotors rather than just turning them so the vehicle doesn't have to be down another time for this repair," recommended Burson of Donlen. "If you have a wheel bearing that's out on left side, and truck is already out of commission for that repair, go ahead and replace the bearings on the other side. This might cost you a little more up front, but it will cost a lot less down the road because you have less downtime."

Every time a truck is out of service, do a deeper inspection. You might find things that warrant replacement, such as belts, brake pads and other wear items. "Being proactive with repairs and maintenance tends to keep vehicle uptime in a better zone than waiting for failure," Burson said.

Improving Optimal Vehicle Utilization

"While high-mileage operation for many fleet vehicles is unavoidable, how those vehicles are utilized is important to long-term maintenance cost and vehicle health," said Ransom of Verizon Networkfleet. "Understanding the relative utilization of specific vehicles, for example, may help the fleet manager to smooth out that utilization so that all vehicles are being used equally, rather than burning through some vehicles faster than others. Also, understanding utilization may help with future purchasing decisions. If a part of the fleet can be replaced with a small vehicle instead of a truck, then long term maintenance costs decrease without changing how well the fleet services its end customers."

Knowing When to Say When

At some point, as unplanned maintenance expense and the risk of downtime increase, it will cost more money to keep the vehicle than replace it.

"That's when you might want to reconsider whether you want to maintain a high-mileage fleet," said Burson of Donlen. "Run lifecycle cost scenarios Is it really helping your bottom line in the long run to keep the vehicles longer?" **WT**