

Steps for increasing fleet productivity

MAXIMIZING FLEET PRODUCTIVITY starts with getting the most out of your vehicles. To a large degree, the best approach is driven by the type of fleet you operate and its drive cycles. In many cases, you may find that different techniques are required for individual groups of trucks within your fleet.

Making sure that you are using the right size vehicle for each application is a good starting point for optimizing vehicle productivity. If your trucks are fully loaded at the start of the day, but have to come back for a second load before the end of the shift, you may want to consider using larger trucks. This could save time and reduce total vehicle mileage. On the other hand, if your trucks start with a partial load and do not need to return during the day, consider using smaller, more fuel-efficient vehicles. Another right-sizing opportunity is to replace three trucks that operate in the same general area with two larger trucks. You may be able to equip the larger trucks with material-handling devices to speed up cycle times, making it possible to accomplish the same tasks in the same amount of time with one less vehicle.

If you are experiencing excessive downtime and on-the-road breakdowns, your trucks may be overloaded or improperly designed for the application. This not only destroys your fleet's productivity, it is also dangerous and expensive. Take the time to learn how to properly match your trucks to your application before buying another vehicle.

TRUCK BODY AND EQUIPMENT DESIGNS

Specialized truck bodies, mounted equipment and other accessories

Fuel Economy Techniques

ACCORDING TO ISUZU COMMERCIAL TRUCK OF AMERICA, INC., reducing emissions and fuel consumption is a vital aspect of fleet management. Fleet managers can vastly improve their mileage by applying these valuable fuel-saving techniques.

1 STARTING FROM A STANDING STOP

Accelerate slowly up to 1,000-1,500 engine rpm, before shifting. Fuel consumption is at the lowest level when the engine runs in this rpm range. The accelerator pedal should be depressed 1/2 to 2/3 of the way. The difference between sharp acceleration and steady acceleration is 14 percent in fuel savings.

2 STEADY-SPEED DRIVING

Keep engine rpm just above the point where the engine stalls. Varying speed by more than three miles per hour with repeated acceleration and deceleration diminishes fuel economy up to 27 percent. Using the cruise control improves fuel economy because it eliminates speed variances.

3 FUEL-EFFICIENT SPEEDS

The most fuel-efficient speed is between 25 and 38 miles per hour. Generally, drive in the highest gear possible when going more than 28 miles per hour. High speeds are big fuel wasters; fuel economy increases 20 percent by reducing vehicle speed from 62 to 50 miles per hour.

4 NUMBER OF STOPS

The amount of fuel consumed for standing starts is equivalent to driving up an incline at full power. To save fuel, reduce the number of stops by adjusting the time of arrival so that the light has already changed to green. Try as much as possible to keep tire rotation from stopping.

5 TIRE INFLATION

Fuel economy is reduced 8 percent when tires are under-inflated by only 20 percent. Always maintain proper tire pressure. Tubeless radial tires offer the lowest rolling resistance and can increase fuel economy 13 percent compared to bias tires.

6 PROPER ENGINE MAINTENANCE

A clogged air cleaner can reduce fuel economy up to 5 percent. Improper fuel injection timing also reduces fuel economy by 5 percent, as well as increasing heat loads and lowering engine reliability. Using summer engine oil with a 40-50 SAE viscosity in the winter can also reduce mileage; always change to an appropriate oil for a particular season, or use a multi-grade oil.



Information provided by Isuzu Commercial Truck of America, Inc. For more information about how to help your operation improve fuel economy, visit www.isuzucv.com.

designed to make work trucks more productive are constantly being developed and improved. If you haven't updated your components in a while, you may not be using the best components available for your application. Before you buy another truck, make a detailed review of your current and projected work truck requirements, then determine if there are newer products available that could improve your trucks' productivity.

If you are not currently using specialized bodies or equipment, see what's available. A combination of increasing labor costs and the availability of new components may make it worthwhile to upgrade to more specialized truck bodies and equipment. Take the time to research what's available. This may mean talking to your local truck equipment provider, doing research on Web sites, and/or attending a truck equipment trade show where you can compare what's new from a number of manufacturers all in one place.

REDUCING STATIONARY FUEL CONSUMPTION

One measure of productivity is the quantity of assets used to perform a specific task. This may be measured in hours of labor per unit, total cost per unit, or in the case of a work truck gallons of fuel burned per task. The Department of Energy has estimated that the typical Class 6 / 7 work truck has an equivalent fuel economy of around 6 miles per gallon. In many cases, a significant portion of that fuel is burned in non-productive operation (idling) or while

operating engine-driven auxiliary equipment (PTO operation). Anything you can do to reduce this type of engine operation will have a direct impact on your fleet's productivity. In addition, many cities, counties and even states have implemented idling restrictions for commercial vehicles. Expect even more areas to adopt these restrictions in the future.

Many newer trucks can be programmed to automatically shut down the engine after a specified period of idling. Aftermarket systems are also available, as well as systems that will automatically start an engine during PTO operations when there is a demand for power and then shut it down after a specified period of no demand. In some operating cycles, these systems can produce significant reductions in non-productive engine operation.

The need for auxiliary power at a job site does not necessarily mean that you have to operate your truck's engine for extended periods of time. Many soft hybrid technologies provide auxiliary power on demand. These include electric PTOs (E-PTOs), battery-powered static inverters to provide commercial-quality AC electric power (120- and 240-volt) and auxiliary engine-driven systems. Auxiliary engine power systems are available to provide commercial-quality electricity, welding capabilities, hydraulic power and compressed air.

In addition to the auxiliary engine-driven systems mentioned above, electric-powered (battery) systems are also available to support cab heating and cooling for shorter periods of time. Fuel-fired sys-

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tems maintain not only cab heat, but also keep the engine water jacket warm and even pre-warm hydraulic fluids. These systems are very effective in cold climates and can maintain acceptable temperatures for extended periods of time while consuming a small fraction of the fuel that would be burned by operating the truck's engine.

BEYOND THE TRUCK

Looking beyond the truck itself, anything you can do to make your drivers more productive will help them accomplish more work in the same period of time. In certain operating and drive cycles, the use of telematics (including GPS systems) can significantly increase productivity. At the same time, some systems will allow you to monitor vehicle operation and identify potential problems before they result in on-the-road failures.

Electronic data collection and management systems allow for almost instantaneous collection and tracking of data in areas such as inventory control, job-specific component selection, and pickup and delivery. These technologies include radio frequency identification (RFID), optical bar code scanning, GPS location interface, and computer-generated parts picking lists. All of these systems are designed to improve inventory control and reduce the amount of time crews spend performing administrative functions. This, in turn, means less time chasing forgotten materials and more actual productive time.

These technologies have proven effective and their cost has lowered, making them affordable to almost any company that could benefit from their use.

There is no denying the fact that "green" is in. Many fleets have incorporated some type of mandate or purchasing philosophy to increase the green elements within their operations. Many of the same steps that improve fleet productivity also can contribute to greening your fleet. Using smaller vehicles, improving fuel utilization, reducing idle time and using lighter-weight equipment for upfits all contribute to reducing fuel consumption and greenhouse gas emissions. ■

Robert "Bob" Johnson is director of fleet relations for the National Truck Equipment Association, www.ntea.com.

Keeping Up With Technology

FLEET MANAGERS are faced with a seemingly impossible task when it comes to staying current on all of the new technologies found on today's vehicles. There is literally not a single component on a new truck, truck body or unit of truck-mounted equipment that has not been touched by technology in recent years. These changes can impact the way you operate, maintain and repair your fleet. They can also affect how you design and specify your vehicles. However, to properly adjust to these new technologies, you must first be aware of them and understand how they impact your fleet.

Advances in electronics and integrated technologies like hybrids and vehicle emissions systems have been getting most of the headlines in recent years. But behind all the glamour, there has been a revolution in materials, manufacturing processes and vehicle and equipment design. Fleets are now part of a "high-tech" industry that requires constant efforts from fleet managers and maintenance personnel to stay current.

➤ UNDERSTANDING NEW TECHNOLOGY

To keep up with current and future changes, make sure you are aware of new technology; understand how it impacts your operations; and know how to use, maintain and repair the components that utilize the new technology. One thing you don't have to do is fully understand how new technology works. Some industry professionals become so involved in studying how a new technology operates that they either lose site of the real objectives — learning how to use, maintain and repair it — or just give up in frustration.

➤ BECOMING AWARE OF NEW TECHNOLOGY

Some technological advances, such as diesel engine emissions systems, have received so much attention that it would be almost impossible to find a fleet manager who has not heard about them. However, to become aware of the more mundane changes in vehicle and equipment technologies, you need to make a conscious effort.

Once you become aware of a new technology, determine how it will impact your operations. In many cases, you will have no say as to whether or not you adopt a new technology — it will just come with the vehicle (like electronic power train control systems), and it will be your responsibility to learn what you need to know. In other cases, the new technology may be optional. In this instance, a sales representative may tell you that the new technology is the greatest thing since sliced bread and that you cannot live without it. But remember, you know more about your business than anyone else. A new technology may be wonderful in the proper application, but this may not be yours.

If you think a new product or technology may have an application in your business, learn about it and then make your own decision as to whether it should be implemented. In many cases, new technologies also mean increased acquisition costs, so you will need to factor in the life-cycle cost benefits of the proposed innovation. Many industry trade shows offer extensive educational opportunities to learn more about these new technologies through formal educational seminars and the opportunity to talk one-on-one with manufacturer representatives, engineers and technical experts on the show floor.

➤ IMPLEMENTING NEW TECHNOLOGY

Whether a new technology comes to you by default (already on the vehicle) or through your own decision to implement it, be sure to determine how it will impact your daily operations, maintenance practices and repair requirements. Also, educate the employees impacted by the technology as necessary and acquire any new tools and test equipment needed to properly work with the technology. Lack of training and understanding are among the biggest reasons a new technology is resisted in a fleet application. For example, when electronic ignition systems were first introduced in regular production vehicles, aftermarket vendors actually sold kits to replace the electronic systems with conventional breaker point systems. Inside of three years, as people grew to understand the benefits of the electronic systems, these kits disappeared from the market. If your workers know the benefits and how to work with the new technology, you'll likely have minimal problems. —Robert "Bob" Johnson