Transport Safety Pack

FUEL EFFICIENCY GUIDE

As fuel consumption is one of the most significant operating costs in the transport industry, truck owners and operators must continually search for practical and intelligent ways to improve fuel economy and reduce their fuel expenditure

Evidence from fleet operators and owner-drivers shows that fuel consumption accounts for over 10 per cent of the cost of operating a truck in the metropolitan and up to 30 per cent in long distance freight work; a saving of 10 per cent in fuel costs can affect profitability by up to 30 per cent.

In addition to reducing costs, lower fuel consumption helps our environment by reducing greenhouse gas emissions and improving air quality. Road vehicles produce approximately 10.5 per cent of the total greenhouse gas emissions in Australia.

While the levels of fuel consumption affect the environment and the costs of operating a truck, research suggests there is also a link between fuel consumption and road safety. Driver behaviour directly influences fuel economy. Excessive speed is the largest single factor in reduced fuel savings.

How?

You can reduce your fuel consumption in a number of ways:

- Aerodynamics- truck shape and design influence fuel consumption
- Technology – your choice of components
- Time and Distance – managing your journey
- Driver Behaviour – excessive speed burns a hole in your pocket
- Proper Maintenance – an efficient engine saves money.

Aerodynamics

At highway speeds, over half the energy used by your truck is required to overcome aerodynamic drag. You can reduce your fuel bill by reducing aerodynamic drag and minimising mechanical and rolling resistance. Choose to have a roof fairing with van trailers, chassis fairings, cab extenders and aerodynamic mirrors. Fitting aerodynamic cab deflectors can improve fuel efficiency by at least six per cent and in some cases more than 20 per cent (depending on the body fitted and the load carried). Close coupling - minimising the gap between the rear of the prime mover and trailer/body also dramatically reduces drag. A reduction of aerodynamic drag of 25 percent will reduce highway fuel consumption by 10-15 percent.

Technology

Choosing to use tyres that lower rolling resistance can mean substantial fuel savings. Install an advanced tyre-pressure monitoring system to ensure your tyres are maintained at the proper inflation pressure – underinflation costs money.

A digital fuel economy gauge will give you instantaneous fuel consumption readout. Electronic vision systems may eliminate the need for external mirrors, thus streamlining your truck to cut air drag. Use high-quality fuel to reduce fuel consumption.

Time and Distance

Better management of your journey is a great way to save fuel. It's estimated that out-of-route kilometres may cost between 3 per cent and 10 per cent of a driver's total distance traveled. Getting from A to B can be made quicker and more economical planning your trip.

Driver Behaviour

Your driving behaviour can affect how much you spend at the pump. A non-aggressive driving style with fewer stop/starts will decrease fuel consumption. You can also help to improve road safety with a non-aggressive approach that involves less overtaking and better journey pre-planning.

You can reduce your fuel bill by minimising idling. Five minutes of warm-up is generally adequate and cool-down is completed when pulling in for parking.

And remember, excessive speed is the largest single factor in reduced fuel savings.

Proper Maintenance

Keep your tyres inflated to the recommended level and check tyre wear at least once a month. Replace fuel filters at the proper intervals. Keep all axles – drive and steer – properly aligned to minimise rolling resistance. Watch your fuel quality at the pump. Avoid buying dirty fuel that causes the fuel injectors to clog or disrupt the spray pattern. Repair any body damage. Use quality synthetic or semi-synthetic oil in the engine and drive axles. Also use quality synthetic transmission fluid.

Maintaining and tuning a vehicle can reduce its emissions by up to 25 per cent.

Tips

Your fuel bill can be made lighter by choosing the most fuel efficient engine for your truck.

- Choose an engine size that meets your exact needs – every additional 5hp can increase fuel consumption by two per cent.
- An engine geared to run at 1450 rpm at 100km/h uses approximately four per cent less fuel than one geared to run at 1600 rpm at the same speed.
- Cruise control can save up to six per cent if set correctly.
- Semi-automatic and fully-automatic transmission can use the same or less fuel than manual transmissions.
- Replace your fixed drive fan with an electrically-driven thermostatically-controlled fan.

Further Information

- Visit www.vicroads.vic.gov.au and www.arrivealive.vic.gov.au

This guide has been produced by the Transport Industry Safety Group with the support of VicRoads to improve the safety of transport workers. It is one of 18 Safety Guides and other important information including the TISG's 'A Guide to Occupational Health and Safety Transport Industry' that can be downloaded from www.vta.com.au

TRANSPORT SAFETY GROUP

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