

# REAL

June 2019

# Torque

## Engine Idle Time

Contact maintenance for any questions on 0800 80 80 69

### What is idling?

**Idling is when an engine is running but the vehicle is not moving. Reasons for this could be:**

- ▶ Operators are required to stop driving after a certain number of hours.
- ▶ Operators like to stay warm or cool in their truck during their downtime or while they are not driving (leaving the engine running allows the heater or air conditioner to continue to work well).
- ▶ Waiting for loading or unloading at depots.
- ▶ Being stuck in traffic for long periods.
- ▶ The type of work the truck is doing, eg. a sign-truck working on the motorway.

### Why is idling a problem?

#### Idling pollutes the air and damages the environment

- ▶ Each year, long-duration idling of truck and locomotive engines consumes over 567 billion litres of diesel fuel, emits 11 million tons of carbon dioxide, 200,000 tons of nitrogen oxides, and 5,000 tons of particulate matter (unburnt fuel) into the air. Engine idling also creates elevated noise levels.

#### Idling poses health risks, especially for drivers

- ▶ Drivers are more exposed to the vehicle's pollution while sitting in the vehicle more than when the vehicle is moving. This is because there is no airflow to vent the pollution. People who live in communities with high levels of truck travel are more likely to encounter idling trucks, which also puts them at risk of health problems from exposure to diesel pollution.

#### Idling wastes fuel and money

- ▶ A typical truck burns approximately 4 litres of diesel fuel for each hour it idles.



### Idle time reduction and cost saving benefits.

Excessive engine idling can result in loss of more than 2,500 litres of fuel annually for each truck. The average idling that is done per day often ranges from one to two hours.



#### Idling causes excessive engine wear.

- ▶ According to the American Trucking Association, engine wear from idling can increase maintenance costs by over \$2,000 per year and shorten the life of the engine.



Below is an example of an engine piston that's been exposed to long idle periods.

- ▶ Diesel engines and petrol engines run better when they are operated under-load and at the appropriate operating temperature. When not operated in these conditions, it may result in excessive wear or oil consumption, smoke, poor performance, and eventually, engine failure.

Below: Piston and liner damage attributed to excessive idle time.



While idling should be avoided, it is good practice to “warm up” your engine, especially on cold mornings, to preheat the engine and oil. This also gives the cold engine components and oil time to heat to operating temperature. The warmer engine oil in turn flows through its engine oil galleries, allowing the cylinder head components to be lubricated as they are being driven by the oil pump. This “warm up” process shouldn’t take anywhere more than 1 to 3 minutes.

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## How can we reduce unnecessary idling?

- ▶ **Idle-reduction technologies:** Operators can install technology on their fleet, such as Auxiliary Power Units or electric engine heaters, which can significantly reduce engine idling and save businesses money on fuel costs.
- ▶ **Businesses can implement anti-idling policies** that require employees to shut down engines after a certain length of time. To enforce this, there are ways to track idle time on engines to see if employees are following the rules. It can also be tracked through monitoring fuel usage.
- ▶ **Behavioural Changes:** Often idling is just simply a habit developed out of convenience. Businesses can encourage employees to change behaviours regarding excessive engine idling.
- ▶ **Automated shut down:** Some vehicle manufacturers have an automatic engine shut down after 30 seconds.
- ▶ **Awareness:** By being aware of the damage, wear, and pollution excessive idling causes.



Many modern engines that meet strict emission standards can be largely affected by high idle time, such as a truck with a DPD system. Long idling periods also causes blocked EGR coolers, DPD systems, glazed cylinder liners, and more frequent engine maintenance.

### Tips and Tricks

- ▶ If the truck doesn't need to idle, shut it down.
- ▶ If the truck has a high idle time due to its application, it should likely be serviced on engine hours, and using the correct engine oil specifications is crucial.
- ▶ Plan your trips to avoid high idling time as much as you can.
- ▶ Many truck computer downloads can give you the engine idle time and fuel burns. The results of this could shock you!



TR Tips

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