## Reality versus the car manual

Engines are becoming so badly damaged by sludge that only very expensive engine cleaning and restoration will save them.

The ever-widening gaps between scheduled car servicing have unwittingly lulled the average motorist into a sense of false belief that the car's engine will somehow survive on its own and that it doesn't really matter if engine services are overlooked or totally forgotten.

- It has been left to the aftermarket workshops to educate motorists about lubrication disciplines, because it's in the aftermarket workshops where the follies of ignoring service intervals are revealed in all their black, congested horror
- Owner manuals stipulate that the engine oil be changed at recommended intervals.

❑ Maintenance Schedule for **Severe** Driving Conditions
If you primarily drive your vehicle under one or more of the conditions listed below, please follow the "Maintenance Under Severe Driving Conditions" schedule.

A: Driving in dusty conditions
B: Repeatedly driving short distances
C: Towing a trailer or caravan
D: Extensive idling
E: Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
F: Driving in high humidity or mountainous areas
G: Driving in areas which are high in salt or other corrosive materials
H: Driving on rough and/or muddy roads or in the desert
I: Driving with frequent use of brakes
J: Frequent driving in water
K: Sustained high speed driving
L: Repeated short journeys, cold engine at low temperature
M: Low speed driving (Average speed < 30 km/h)

These driving patterns could apply to almost every car on the road. Car makers call this 'severe' driving.

That means the vehicle must have oil changes more frequently than the standard service – maybe every 7,500 kilometres or six months, whichever occurs first.

The more 'severe' the driving, the more often an oil change is needed.

## How to keep your car healthy and happy

The best insurance a car owner can have against very costly repairs, even early in a new car's life, is to pay closer attention to service intervals and driving patterns.

- Adopt a competent aftermarket auto workshop that will ask about your driving patterns and keep a job card for your vehicle to ensure that an appropriate oil change service is carried out, long before sludge problems occur and therefore saving you a costly early repair or even engine replacement
- Refer to the manufacturer's manual to determine what type of oil to use in your engine, because many are different and some contain additives specific to your car.

There is no doubt that poor maintenance habits and incorrect oil choices lie at the heart of many major engine repairs, even to the point of terminal damage, requiring engine replacement.

**Don't let it happen to you.**



*The Automotive Technician*

# The good oil about oils

## Ignoring or stretching oil service intervals can be a costly mistake

An understanding of oil's role in a high tech engine and an awareness of stringent maintenance requirements, have now become more essential than any other vehicle maintenance issue.

If your oil filter looks like this, it might already be too late

**A customer care initiative from TaT**
The independent technician's network

# Oil does a lot more than just lubricate

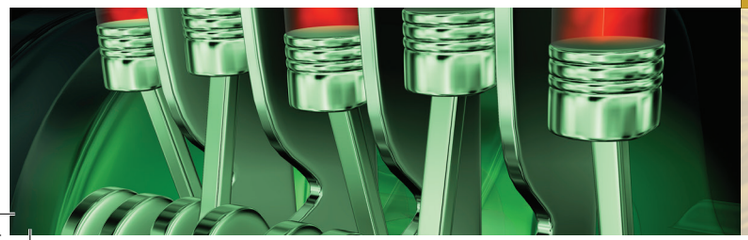
Oil circulates through the engine, mashed between the grinding gears and other moving parts.

The oil does its job by preventing extremely harmful metal-to-metal contact, but in the process, it absorbs the brunt of all that moving metal.

These conditions quickly destroy the oil's thickness, or viscosity, which is one of the oil's main qualities.

**What oil does:**

- **Separates and lubricates moving parts**
- **Reduces engine wear**
- **Prevents deposits from forming on internal engine components**
- **Suspends contaminants until they can be removed at the next oil change**
- **Cools engine parts**
- **Enhances fuel economy**
- **Protects the engine over a wide temperature range**
- **Protects the emissions systems**
- **Most technological advancements in engines rely on oil pressure and quality**



# The new killer of the modern engine is sludge

- When oil starts to break down, it is increasingly less able to do the hard work of lubricating the engine
- The oil's numerous additives and detergents evaporate, lose potency, or are simply used up
- A dirty engine littered with debris and oil deposits will lose horsepower and run less efficiently
- Dirty oil can no longer remove and prevent harmful gunk
- Oil-related engine deposits are caused by environmental contaminants in the oil, like dirt and debris and condensation, which contaminates the oil with moisture
- Impotent oil allows sludge build-up, comprised of unburned and partially burnt fuel, metal fragments from wear and dirt that find their way into the engine
- Deteriorating piston rings and seals allow partially combusted fuel to escape, which adds to build-up
- Deposits of dirt and debris are carried through the oil until they find somewhere to settle, restricting or blocking the surrounding oil flow, which causes increased engine wear
- Thick and gummy deposits are formed and harden once they settle
- Engine heat cooks the deposits solid
- Once a blockage spot is established, new build-up will settle on top of it instead of allowing the oil to flow around it
- Prime targets for deposits include the fuel injectors, piston rings and valves, all of which will interfere with the engine's operation.