

Automatics & CVT Transmissions



Many drivers don't like to change gears, so they buy a car with an automatic transmission. Modern automatics are much more efficient than those of old. However, before you buy an automatic car, there are a few things you should know:

1) Cars with automatics use more gas

Modern automatics are much better than old, but all automatics use more than their manual equivalent. The very worst are the old style ones that were fitted to big old Holdens, Fords, Jaguars and the like. You can expect a loss of something like 20% off your top speed together with a 30% increase in petrol consumption compared to a manual gearbox. It's even worse on older, smaller cars. Not only will you get lousy fuel consumption, but you'll crawl away from the lights at a snail's pace and the engine will be screaming at 100km/h.

Many small modern cars generally have automatics, and although they are much more efficient than the old ones, they will still increase your fuel consumption. A mid-1990s Volkswagen Golf with a 1.8 litre engine and a 5-speed manual gearbox will use an average of 9.3 litres per 100 kilometres. With an automatic, the same car will use 11.2 litres per 100 kilometres.

The very modern automatics typically use 5-10% more fuel.

2) Automatics on modern cars don't last as long

In the 1960s, cars with automatic transmissions often went to the wrecker's yard with the original automatic transmission still in good working order. Not any more. Whereas manual gearboxes on modern cars may not need fixing throughout the vehicle's life, most cars with automatic transmissions seem to need overhaul anywhere from 100–150,000 kilometres. This means that the car you're looking at with 90,000 km on the clock may be less than a year away from needing an expensive overhaul. On some models, especially European models, the transmission may fail long before 100,000km.

The reasons for the early failure of modern automatics are: partly that transmissions are much more lightly built than they used to be, partly that the fluids used to run them are not generally as robust as they used to be but mainly that they change gear far more often than they used to. This is necessary for fuel economy and pollution reduction, but it means that the transmission is often working hard and therefore will die young. If in doubt, get a manual car, okay?

CVT Transmissions

Back in the 1950s, some automatic transmissions had only two gears. Two-speed transmissions were a pain, because when you were going up a hill you only had two options: first or second gear; it screamed in first gear or lost power in second. Then, as you went faster, the transmission was screaming because it needed an extra gear but didn't have one.

Two-speed automatics were not only inconvenient to use, but they robbed the car's engine of much of its power and drank fuel like there was no tomorrow.

You may never notice it, but your four or five-speed automatic suffers from the same problems as the two-speed one described above: it never gets the gears quite right. That's why cars with conventional automatics never put out quite as much power as those with a manual gearbox and almost always use more fuel.

In the 1950s, a Dutch company called DAF came up with a new type of automatic transmission that solved the problems described above. Instead of having a small, fixed number of gears, DAF's gearbox simply made up the gearing as it went along; the DAF transmission could change itself internally to produce a wide range of different gears, each one perfectly suited to the road conditions and driving style of that vehicle. The *Continuously Variable Transmission* (CVT) was born.

There are no fixed gears (e.g., first, second, third, and so on) in a CVT. The transmission simply invents the right gear at the right time. In theory a CVT is the ideal gearbox.

In practice, however, most modern CVT gearboxes suffer from the same problems as their ancestors: because they don't have gears (like on the back wheel of a bicycle), many CVTs use belts instead, like the one that goes around your waist. The problem is, these transmission belts break, no matter how well they're made. When they break, the whole transmission has to come out, generally for a complete overhaul at great expense. CVT gearboxes that use chains are better, but they still break.

The carmakers knew this when they put these CVT transmissions onto the market, but they also knew that most of the CVTs wouldn't break until the vehicle was out of guarantee, meaning it wouldn't be the carmakers' problem. However, even that scam didn't work: both Nissan's and Honda's CVTs have been subject to multiple recalls, some on nearly-new vehicles. It's possible that someone will eventually figure out how to build a CVT transmission that lasts as long as a conventional manual gearbox, but we're not holding our breath. In the meantime, the evidence to date suggests that CVT transmissions can easily become a nightmare for car owners.

The fact that many CVT transmissions die young shouldn't be your problem; the easiest option is to simply **avoid CVT transmissions entirely!**

