

Semi Automatic and Automatic gearbox technology

Identifying which type of gearbox used to be pretty simple... a Manual or an Automatic. With technology evolving year on year, identification has become a little more complicated. Manual gearboxes have evolved too but the differences are few and far between. However, it is a different matter when it comes to automatics with large variants out in the market. See below a quick guide to identify the key differences between some of the most popular automatic and semi automatic technologies out in the UK market today.

Automated manual

**Also known as semi auto, sequential, robotised manual. Popular vehicles include the Peugeot 3008 and the Citroen C4.*

This mechanism has two important elements, the hydraulic system and the electric control unit. The automated manual system is a regular manual gearbox (with clutch, flywheel etc) that is operated electronically (no clutch pedal). When the gearbox changes gear, the car automatically disengages the drive, switches to the intended gear and then re engages the drive with no actuation needed from the driver.

Continuously Variable Transmission (CVT)

**Also known as Belt and pulley or CVT. Popular vehicles: Honda HRV*

The traditional CVT transmission uses a system of two variable pulleys connected by a belt. The system consists of a pulley attached by two cups, one attached to the engine and the other attached to the transmission shaft. The pulleys are connected by a belt. The pulleys are moveable, coming closer together and pushing further apart utilising high and low motions which changes the diameter of the pulley and varies the transmission ratio. The traditional CVT belt and pulley transmission has evolved over the last few years with advancing technologies, one being the 'torodial' CVT. The torodial CVT uses rotating disks and power rollers to replace the pulley.

Traditional automatic

**Also known as torque converter. Popular vehicles: Ford Fiesta*

Traditional automatic gearboxes use something called a torque converter which replaces the conventional clutch system using the resistance of hydraulic fluid to transmit drive from the engine through to the gearbox. Due to the hydraulic interface automatics are able to change gear smoothly without the need for the driver to lift off the accelerator.

Dual clutch automatic

**Also known as twin clutch, DSG, power shift. Popular vehicles: VW Golf, Passat*

As the name suggests the dual clutch automatic gearbox utilises two clutches and is operated electronically. One clutch will control the odd numbered gears and the other clutch will operate the even gears. As the vehicle accelerates through the gears the gearbox simultaneously lines up the next or previous gear in anticipation of either, a slowdown in speed or a continuation of acceleration.

