Инструкция выполнения: Выполнить перевод текста «How does automatic transmission work?». Выполненное задание предоставить преподавателю Королевой Александре Андреевне на адрес электронной почты. Эл.почта: evseeva14alex@gmail.com. Работа может быть выполнена в формате txt, doc, docx или фотография, выполненной работы на бумажном носителе.

«How does automatic transmission work?»

In order to understand the principle of operation of an automatic transmission, we will conditionally distribute it into three parts: hydraulic, electronic and mechanical. As you might guess, the mechanical part is directly responsible for gear shifting. Hydraulic transmits torque and creates an effect on the mechanical. Electronic - this is the brain that is responsible for switching modes (selector) and feedback from vehicle systems.

As you know, the heart of the car is the engine, in the case of the gearbox it is also appropriate. The transmission must convert the power and torque of the engine in such a way as to provide the necessary conditions for the movement of the vehicle. Most of this hard work is done by a torque converter (aka “donut”) and planetary gears.

The torque converter, depending on the speed of the wheels and the load, changes the torque automatically and performs the function of the clutch (as in a mechanical box). The torque converter, in turn, consists of a pair of vane machines - a centripetal turbine and a centrifugal pump, and a guide apparatus-reactor is located between them.

The turbine and pump are as close as possible, and their wheels have a shape that provides a continuous circle of circulation of working fluids. Due to this, the torque converter has minimal overall dimensions and minimal energy loss during the flow of liquids from the pump to the turbine. The engine crankshaft is connected to the pump wheel, and the gearbox shaft with a turbine. In view of this, there is no rigid connection between the driven and driving elements in the torque converter, the working fluid flows transfer energy from the engine to the transmission, which is discarded from the pump blades to the turbine blades.