

Automotive Transmission Terminology—SAE J645c

SAE Recommended Practice
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The following listed definitions are intended to establish terminology and criteria for describing the various kinds of automotive transmissions. A specific arrangement may be described by a combination of several of these definitions.

Transmission is a device for transmitting power at a multiplicity of speed and torque ratios.

Mechanical Transmission—A transmission in which the speed and torque ratios are obtained by gears or other mechanical elements.

Countershaft Transmission—A mechanical transmission in which gears are mounted on parallel shafts.

Common types of countershaft transmissions are:

Sliding Gear Countershaft Transmission—A countershaft transmission in which ratios are obtained by axial relocation of gears to mesh with other gears.

Constant Mesh Countershaft Transmission—A countershaft transmission in which gears are constantly in mesh. Ratios are obtained by engagement of positive or friction means.

Synchronized Countershaft Transmission—A constant mesh countershaft transmission in which means are provided for synchronizing the speeds of engaging elements.

Planetary Transmission—A mechanical transmission using planetary gears.

Hydrodynamic Transmission—A transmission using a fluid coupling or torque converter.

Hydrostatic Transmission—A transmission using a positive displacement pump to drive a positive displacement motor.

Automatic Transmission—A transmission in which ratio changes are effected automatically without manual assist.

Semiautomatic Transmission—A transmission in which some of the functions of normal ratio changes are effected automatically.

Manually Shifted Transmission—A transmission in which ratio changes are effected manually.

Power Assisted Shift Transmission—A transmission in which the effort of manual ratio change or selection is accomplished or assisted through the application of hydraulic, pneumatic, or electric power.

φ **Overdrive Transmission**—A transmission which provides a speed ratio wherein the output speed is greater than the input speed.

φ **Split Torque Drive Transmission**—A transmission which comprises two or more parallel torque paths. The individual paths may be any of several types such as mechanical, hydrodynamic, hydrostatic, or electrical.

φ **Lock-Up Torque Converter**—A hydrodynamic torque converter using a clutch to provide a direct mechanical drive.

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