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Automatic Transmission Functions – Terminology – SAE J649 MAR83

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AUTOMATIC TRANSMISSION FUNCTIONS—TERMINOLOGY—SAE J649 MAR83

SAE Recommended Practice

Report of the Transmission Committee, approved January 1957, last revised by the Transmission and Drivetrain Committee March 1983.

ϕ ***Scope***—The following is a list of the most common terminology used in describing automatic transmission functions.

Friction Start—The use of a friction driving member in starting a vehicle from a standing position.

Fluid Start—The use of a hydrodynamic or hydrostatic drive unit in starting a vehicle from a standing position.

Converter Lockup (Lockout)—The transition from hydrodynamic to mechanical drive normally accomplished through the application of a friction element.

Shift—A control system actuated change in the functioning of the torque transmitting drive (this could be a gear train, a hydrodynamic or hydrostatic drive unit, electrical or friction drive mechanism, and so forth) which results in a change in torque ratio and speed ratio.

Upshift—A shift which results in a decrease in torque ratio and an increase in speed ratio.

Downshift—A shift which results in an increase in torque ratio and a decrease in speed ratio.

Power Shift—A shift which occurs without interruption of drive.

Nonpower Shift—A shift which occurs while the drive is interrupted.

Overlap Shift—A shift during which the torque transmitting elements of more than one driving ratio are engaged simultaneously for a short interval.

Freewheel Shift—A torque shift in which a one way clutch is involved as an element of one of the drive ratios from which or to which a shift is made.

Hydrodynamic Shift—A shift in which a hydrodynamic unit is either filled or emptied to affect its torque transmitting capacity.

Blade Angle Shift—A shift in which the angle of the blades of a hydrodynamic element is changed to affect its torque capacity.

Manual Shift—A shift which results from the action of the manually operated part of the control system.

Automatic Shift—A shift which results from the action of the automatically operating part of the control system.

Inhibited Shift—A manual shift which is automatically prevented under certain predetermined conditions of operation.

Overrun Shift—A shift which occurs at less than road load throttle opening with vehicle in motion.

Part Throttle Shift—A shift which is obtained at a throttle position short of full throttle.

Forced Shift—A shift which is obtained at maximum throttle position.

The ϕ symbol is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.