



SURFACE VEHICLE RECOMMENDED PRACTICE

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Automatic Transmission Functions—Terminology

RATIONALE

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1. SCOPE

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

2. REFERENCES

There are no referenced publications specified herein.

3. DEFINITIONS

3.1 FRICTION LAUNCH

The use of a friction driving member in launching a vehicle from a standing position.

3.2 FLUID LAUNCH

The use of a hydrodynamic or hydrostatic drive unit in launching a vehicle from a standing position.

3.3 ELECTRIC LAUNCH

The use of an electric drive unit in launching a vehicle from a standing position.

3.4 BLENDED LAUNCH

The simultaneous use of any two or three of the above Launch modes.

3.5 CONVERTER CLUTCH ENGAGEMENT

The transition from hydrodynamic to mechanical drive normally accomplished through the application of a friction element.

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3.6 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.

3.7 UPSHIFT

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

3.8 DOWNSHIFT

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

3.9 POWER SHIFT

A shift which occurs without interruption of torque.

3.10 TORQUE BREAK OR TORQUE INTERRUPT SHIFT

A shift which occurs while the torque is interrupted.

3.11 OVERLAP SHIFT

A shift when the applying element already has taken enough capacity to fully transmit the input torque and starts to move the input speed towards the on-coming gear ratio. The releasing element still has a certain capacity acting as an internal resistance load to the transmission for a short interval before reducing the capacity to zero.

3.12 UNDERLAP SHIFT

A shift during which the releasing clutch slips due to the torque transmitted being higher than the clutch torque capacity for a short interval before the applying element can hold the transmitted torque and move the input speed to the next gear ratio.

3.11 FREEWHEEL OR NON-SYNCHRONOUS 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.

3.12 MANUAL SHIFT

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

3.13 AUTOMATIC SHIFT

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

3.14 INHIBITED SHIFT

A shift which is automatically prevented under certain predetermined conditions of operation.

3.15 BACKOUT SHIFT

An upshift which occurs with a reduction in throttle opening with vehicle in motion.

3.16 COASTDOWN SHIFT

A downshift which occurs with closed throttle and vehicle decelerating.