

§ 571.102 Standard No. 102; Transmission shift lever sequence, starter interlock, and transmission braking effect.

S1. *Purpose and scope.* This standard specifies the requirements for the transmission shift lever sequence, a starter interlock, and for a braking effect of automatic transmissions, to reduce the likelihood of shifting errors, starter engagement with vehicle in drive position, and to provide supplemental braking at speeds below 40 kilometers per hour.

S2. *Application.* This standard applies to passenger cars, multipurpose passenger vehicles, trucks, and buses.

S3. *Requirements.*

S3.1 *Automatic transmissions.*

S3.1.1 *Location of transmission shift lever positions on passenger cars.* A neutral position shall be located between forward drive and reverse drive positions. If a steering-column-mounted transmission shift lever is used, movement from neutral position to forward drive position shall be clockwise. If the transmission shift lever sequence includes a park position, it shall be located at the end, adjacent to the reverse drive position.

S3.1.2 *Transmission braking effect.* In vehicles having more than one forward transmission gear ratio, one forward drive position shall provide a greater degree of engine braking than the highest speed transmission ratio at vehicle speeds below 40 kilometers per hour.

S3.1.3 *Starter interlock.* The engine starter shall be inoperative when the transmission shift lever is in a forward or reverse drive position.

S3.1.4 *Identification of shift lever positions.*

S3.1.4.1 Except as specified in S3.1.4.3, if the transmission shift lever sequence includes a park position, identification of shift lever positions, including the positions in relation to each other and the position selected, shall be displayed in view of the driver whenever any of the following conditions exist:

(a) The ignition is in a position where the transmission can be shifted.

(b) The transmission is not in park.

S3.1.4.2 Except as specified in S3.1.4.3, if the transmission shift lever sequence does not include a park posi-

tion, identification of shift lever positions, including the positions in relation to each other and the position selected, shall be displayed in view of the driver whenever the ignition is in a position in which the engine is capable of operation.

S3.1.4.3 Such information need not be displayed when the ignition is in a position that is used only to start the vehicle.

S3.1.4.4 Effective September 23, 1991, all of the information required to be displayed by S3.1.4.1 or S3.1.4.2 shall be displayed in view of the driver in a single location. At the option of the manufacturer, redundant displays providing some or all of the information may be provided.

S3.2 *Manual transmissions.* Identification of the shift lever pattern of manual transmissions, except three forward speed manual transmissions having the standard “H” pattern, shall be displayed in view of the driver at all times when a driver is present in the driver’s seating position.

[36 FR 22902, Dec. 2, 1971, as amended at 54 FR 29045, July 11, 1989; 56 FR 12471, Mar. 26, 1991; 60 FR 13642, March 14, 1995]

EFFECTIVE DATE NOTE: At 70 FR 38051, July 1, 2005, § 571.102 was revised, effective Dec. 28, 2005. For the convenience of the user, the revised text is set forth as follows:

§ 571.102 Standard No. 102; Transmission shift position sequence, starter interlock, and transmission braking effect.

S1. *Purpose and scope.* This standard specifies the requirements for the transmission shift position sequence, a starter interlock, and for a braking effect of automatic transmissions, to reduce the likelihood of shifting errors, to prevent starter engagement by the driver when the transmission is in any drive position, and to provide supplemental braking at speeds below 40 kilometers per hour (25 miles per hour).

S2. *Application.* This standard applies to passenger cars, multi-purpose passenger vehicles, trucks, and buses.

S3. *Requirements.*

S3.1 *Automatic transmissions.*

S3.1.1 *Location of transmission shift positions on passenger cars.* A neutral position shall be located between forward drive and reverse drive positions.

S3.1.1.1 *Transmission shift levers.* If a steering-column-mounted transmission shift lever is used, movement from neutral position to forward drive position shall be clockwise. If the transmission shift lever sequence includes a park position, it shall be located

at the end, adjacent to the reverse drive position.

S3.1.2 Transmission braking effect. In vehicles having more than one forward transmission gear ratio, one forward drive position shall provide a greater degree of engine braking than the highest speed transmission ratio at vehicle speeds below 40 kilometers per hour (25 miles per hour).

S3.1.3 Starter interlock. Except as provided in S3.1.3.1 through S3.1.3.3, the engine starter shall be inoperative when the transmission shift position is in a forward or reverse drive position.

S3.1.3.1 After the driver has activated the vehicle's propulsion system:

(a) The engine may stop and restart automatically when the transmission shift position is in any forward drive gear;

(b) The engine may not automatically stop when the transmission is in reverse gear; and

(c) The engine may automatically restart in reverse gear only if the vehicle satisfies (1) and (2):

(1) When the engine is automatically stopped in a forward drive shift position and the driver selects Reverse, the engine restarts immediately whenever the service brake is applied.

(2) When the engine is automatically stopped in a forward drive shift position and the driver selects Reverse, the engine does not start automatically if the service brake is not applied.

S3.1.3.2 Notwithstanding S3.1.3.1, the engine may stop and start at any time after the driver has activated the vehicle's propulsion system if:

(a) The vehicle's propulsion system can propel the vehicle in the normal travel mode in all forward and reverse drive gears without the engine operating; and

(b) If the engine automatically starts while the vehicle is traveling at a steady speed and steady accelerator control setting, the engine does not cause the vehicle to accelerate.

S3.1.3.3 If the transmission shift position is in Park, automatically stopping or restarting the engine shall not take the transmission out of Park.

S3.1.4 Identification of shift positions and of shift position sequence.

S3.1.4.1 Except as specified in S3.1.4.3, if the transmission shift position sequence includes a park position, identification of shift positions, including the positions in relation to each other and the position selected, shall be displayed in view of the driver whenever any of the following conditions exist:

(a) The ignition is in a position where the transmission can be shifted; or

(b) The transmission is not in park.

S3.1.4.2 Except as specified in S3.1.4.3, if the transmission shift position sequence does not include a park position, identification of shift positions, including the positions in relation to each other and the position se-

lected, shall be displayed in view of the driver whenever the ignition is in a position in which the engine is capable of operation.

S3.1.4.3 Such information need not be displayed when the ignition is in a position that is used only to start the vehicle.

S3.1.4.4 All of the information required to be displayed by S3.1.4.1 or S3.1.4.2 shall be displayed in view of the driver in a single location. At the option of the manufacturer, redundant displays providing some or all of the information may be provided.

S3.2 Manual transmissions. Identification of the shift lever pattern of manual transmissions, except three forward speed manual transmissions having the standard "H" pattern, shall be displayed in view of the driver at all times when a driver is present in the driver's seating position.

§ 571.103 Standard No. 103; Windshield defrosting and defogging systems.

S1. *Scope.* This standard specifies requirements for windshield defrosting and defogging systems.

S2. *Application.* This standard applies to passenger cars, multipurpose passenger vehicles, trucks, and buses.

S3. *Definitions.* *Road load* means the power output required to move a given motor vehicle at curb weight plus 180 kilograms on level, clean, dry, smooth portland cement concrete pavement (or other surface with equivalent coefficient of surface friction) at a specified speed through still air at 20 degrees Celsius, and standard barometric pressure (101.3 kilopascals) and includes driveline friction, rolling friction, and air resistance.

S4. *Requirements.* (a) Except as provided in paragraph (b) of this section, each passenger car shall meet the requirements specified in S4.1, S4.2, and S4.3, and each multipurpose passenger vehicle, truck, and bus shall meet the requirements specified in § 4.1.

(b) Each passenger car, multipurpose passenger vehicle, truck, and bus manufactured for sale in the noncontinental United States may, at the option of the manufacturer, have a windshield defogging system which operates either by applying heat to the windshield or by dehumidifying the air inside the passenger compartment of the vehicle, in lieu of meeting the requirements specified by paragraph (a) of this section.

S4.1 Each vehicle shall have a windshield defrosting and defogging system.