

§ 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]

§ 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.

S4.2 Each passenger car windshield defrosting and defogging system shall meet the requirements of section 3 of SAE Recommended Practice J902, "Passenger Car Windshield Defrosting Systems," August 1964, when tested in accordance with S4.3, except that "the critical area" specified in paragraph 3.1 of SAE Recommended Practice J902 shall be that established as Area C in accordance with Motor Vehicle Safety Standard No. 104, "Windshield Wiping and Washing Systems," and "the entire windshield" specified in paragraph 3.3 of SAE Recommended Practice J902 shall be that established as Area A in accordance with § 571.104.

S4.3 *Demonstration procedure.* The passenger car windshield defrosting and defogging system shall be tested in accordance with the portions of paragraphs 4.1 through 4.4.7 of SAE Recommended Practice J902, August 1964, or SAE Recommended Practice J902a, March 1967, applicable to that system, except that—

(a) During the first 5 minutes of the test:

(1) For a passenger car equipped with a heating system other than a heat exchanger type that uses the engine's coolant as a means to supply the heat to the heat exchanger, the warm-up procedure is that specified by the vehicle's manufacturer for cold weather starting, except that connection to a power or heat source external to the vehicle is not permitted.

(2) For all other passenger cars, the warm-up procedure may be that recommended by the vehicle's manufacturer for cold weather starting.

(b) During the last 35 minutes of the test period (or the entire test period if the 5-minute warm-up procedure speci-

fied in paragraph (a) of this section is not used),

(1) For a passenger car equipped with a heating system other than a heat exchanger type that uses the engine's coolant as a means to supply the heat to the heat exchanger, the procedure shall be that specified by the vehicle's manufacturer for cold weather starting, except that connection to a power or heat source external to the vehicle is not permitted.

(2) For all other passenger cars, either—

(i) The engine speed shall not exceed 1,500 r.p.m. in neutral gear; or

(ii) The engine speed and load shall not exceed the speed and load at 40 kilometers per hour in the manufacturer's recommended gear with road load;

(c) A room air change of 90 times per hour is not required;

(d) The windshield wipers may be used during the test if they are operated without manual assist;

(e) One or two windows may be open a total of 25 millimeters;

(f) The defroster blower may be turned on at any time; and

(g) The wind velocity is at any level from 0 to 3 kilometers per hour.

(h) The test chamber temperature and the wind velocity shall be measured, after the engine has been started, at the forwardmost point of the vehicle or a point 914 millimeters from the base of the windshield, whichever is farther forward, at a level halfway between the top and bottom of the windshield on the vehicle centerline.

[36 FR 22902, Dec. 2, 1971, as amended at 40 FR 12992, Mar. 24, 1975; 40 FR 32336, Aug. 1, 1975; 50 FR 48775, Nov. 27, 1985; 59 FR 11006, Mar. 9, 1994; 60 FR 13642, Mar. 14, 1995]

§ 571.104 Standard No. 104; Windshield wiping and washing systems.

S1. *Scope.* This standard specifies requirements for windshield wiping and washing systems.

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

S3. *Definitions.* The term *seating reference point* is substituted for the terms *manikin H point*, *manikin H point with seat in rearmost position* and *H point* wherever any of these terms appear in