

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 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.

[70 FR 38051, July 1, 2005, as amended at 70 FR 75965, Dec. 22, 2005]

§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 nonconti-

ental 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 (1964) (incorporated by reference, see §571.5) when tested in accordance with S4.3, except that "the critical area" specified in paragraph 3.1 of SAE Recommended Practice J902 (1964) 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 (1964) 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 (1964) or SAE Recommended Practice J902a (1967) (both incorporated by reference, see §571.5) 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 specified in paragraph (a) of this section is not used),

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(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; 77 FR 755, Jan. 6, 2012]

§ 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 any SAE Standard or SAE Rec-

ommended Practice referred to in this standard.

Daylight opening means the maximum unobstructed opening through the glazing surface, as defined in paragraph 2.3.12 of section E, "Ground Vehicle Practice," of SAE Aerospace-Automotive Drawing Standards (1963) (incorporated by reference, see § 571.5).

Glazing surface reference line means the line resulting from the intersection of the glazing surface and a horizontal plane 635 millimeters above the seating reference point, as shown in Figure 1 of SAE Recommended Practice J903a (1966) (incorporated by reference, see § 571.5).

Overall width means the maximum overall body width dimension "W116", as defined in section E, "Ground Vehicle Practice," of SAE Aerospace-Automotive Drawing Standards (1963) (incorporated by reference, see § 571.5).

Plan view reference line means—

(a) For vehicles with bench-type seats, a line parallel to the vehicle longitudinal centerline outboard of the steering wheel centerline 0.15 times the difference between one-half of the shoulder room dimension and the steering wheel centerline-to-car-centerline dimension as shown in Figure 2 of SAE Recommended Practice J903a (1966) (incorporated by reference, see § 571.5); or

(b) For vehicles with individual-type seats, either—

(i) A line parallel to the vehicle longitudinal centerline which passes through the center of the driver's designated seating position; or

(ii) A line parallel to the vehicle longitudinal centerline located so that the geometric center of the 95 percent eye range contour is positioned on the longitudinal centerline of the driver's designated seating position.

Shoulder room dimension means the front shoulder room dimension "W3" as defined in section E, "Ground Vehicle Practice," of SAE Aerospace-Automotive Drawing Standards (1963) (incorporated by reference, see § 571.5).

95 percent eye range contour means the 95th percentile tangential cutoff specified in SAE Recommended Practice J941 (1965) (incorporated by reference, see § 571.5).

S4. *Requirements.*