

## § 571.112

$X = D \times 0.000873$ ,

Where:

X=the width of a line, in the unit of measurement D, representing 3 minutes of arc;

D=distance from center point of driver's eye location to the center of the mirror's surface; and

$0.000873$ =tangent of 3 minutes of arc.

For 9 minutes of arc:

$X = D \times 0.002618$ ,

Where:

X=the width of a line, in the unit of measurement D, representing 9 minutes of arc;

D=distance from center point of driver's eye location to the center of the mirror's surface; and

$0.002618$ =tangent of 9 minutes of arc.

(b) Photograph each cylinder through the mirror(s) that provides a view of the cylinder. Photograph each cylinder with the camera located so that the view through its film or image plane is located at any single location within the semicircle established under 13.4, [POINT A,B,C, OR D] ensuring that the image of the mirror and comparison chart fill the camera's view finder to the extent possible.

13.8 Make all observations and take all photographs with the service/entry door in the closed position and the stop signal arm(s) in the fully retracted position.

[41 FR 36025, Aug. 26, 1976, as amended at 41 FR 56813, Dec. 30, 1976; 47 FR 38700, Sept. 2, 1982; 48 FR 38844, Aug. 26, 1983; 48 FR 40262, Sept. 6, 1983; 56 FR 58516, Nov. 20, 1991; 57 FR 57015, Dec. 2, 1992; 58 FR 60402, Nov. 16, 1993; 60 FR 15692, Mar. 27, 1995; 63 FR 28929-28931, May 27, 1998; 63 FR 51000, Sept. 24, 1998]

## § 571.112 [Reserved]

## § 571.113 Standard No. 113; Hood latch system.

S1. *Purpose and scope.* This standard establishes the requirement for providing a hood latch system or hood latch systems.

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

S3. *Definitions.* *Hood* means any exterior movable body panel forward of the windshield that is used to cover an engine, luggage, storage, or battery compartment.

## 49 CFR Ch. V (10–1–02 Edition)

### S4. *Requirements.*

S4.1 Each hood must be provided with a hood latch system.

S4.2 A front opening hood which, in any open position, partially or completely obstructs a driver's forward view through the windshield must be provided with a second latch position on the hood latch system or with a second hood latch system.

## § 571.114 Standard No. 114; Theft protection.

S1. *Purpose and Scope.* This standard specifies requirements primarily for theft protection to reduce the incidence of crashes resulting from unauthorized operation of a motor vehicle. It also specifies requirements to reduce the incidence of crashes resulting from the rollaway of parked vehicles with automatic transmissions as a result of children moving the shift mechanism out of the "park" position.

S2. *Application.* This standard applies to passenger cars, and to trucks and multipurpose passenger vehicles having a GVWR of 4536 kilograms or less. However, it does not apply to walk-in van-type vehicles.

### S3. *Definitions.*

*Combination* means one of the specifically planned and constructed variations of a locking system which, when properly actuated, permits operation of the locking system.

*Key* includes any other device designed and constructed to provide a method for operating a locking system which is designed and constructed to be operated by that device.

*Vehicle type* refers to *passenger car*, *truck*, or *multipurpose passenger vehicle*, as those terms are defined in 49 CFR 571.3.

### S4. *Requirements.*

S4.1 Each truck and multipurpose passenger vehicle having a GVWR of 4536 kilograms or less and each passenger car shall meet the requirements of S4.2, S4.3, S4.4, and S4.5. However, open-body type vehicles that are manufactured for operation without doors and that either have no doors or have doors that are designed to be easily attached to and removed from the vehicle by the vehicle owner are not required to comply with S4.5.

S4.2 Each vehicle shall have a key-locking system which, whenever the key is removed, prevents:

(a) The normal activation of the vehicle's engine or motor; and

(b) Either steering or forward self-mobility of the vehicle or both.

S4.2.1 (a) Except as provided in S4.2.2 (a) and (b), the key-locking system required by S4.2 in each vehicle which has an automatic transmission with a "park" position shall, when tested under the procedures in S5.2, prevent removal of the key unless the transmission or transmission shift lever is locked in "park" or becomes locked in "park" as the direct result of removing the key.

(b) Each vehicle shall not move more than 150 mm on a 10 percent grade when the transmission or transmission shift lever is locked in "park."

S4.2.2 (a) Notwithstanding S4.2.1, provided that steering is prevented upon the key's removal, each vehicle specified therein may permit key removal when electrical failure of this system (including battery discharge) occurs or may have a device which, when activated, permits key removal. The means for activating any such device shall be covered by a non-transparent surface which, when installed, prevents sight of and activation of the device. The covering surface shall be removable only by use of a screwdriver or other tool.

(b) Notwithstanding S4.2.1, each vehicle specified therein may have a device which, when activated, permits moving the transmission shift lever from "park" after the removal of the key. The device shall either be operable:

(1) By the key, as defined in S3; or

(2) By another means, provided that steering is prevented when the key is removed from the ignition, and provided that the means for activating the device is covered by a non-transparent surface which, when installed, prevents sight of and activation of the device. The covering surface shall be removable only by use of a screwdriver or other tool.

S4.3 Except when an automatic transmission vehicle is in "park," the means for deactivating the vehicle's engine or motor shall not activate any device installed pursuant to S4.2(b) to

prevent the vehicle's steering or forward self-mobility or both.

S4.4. For each vehicle type manufactured by a manufacturer, the number of different combinations of the key-locking systems required by S4.2 shall be at least 1,000, or a number equal to the number of vehicles of that type manufactured by such manufacturer, whichever is less. The same combinations may be used for more than one vehicle type.

S4.5. A warning to the driver shall be activated whenever the key required by S4.2 has been left in the locking system and the driver's door is opened. The warning to the driver need not operate—

(a) After the key has been manually withdrawn to a position from which it may not be turned;

(b) When the key-locking system is in the "on" or "start" position; or

(c) After the key has been inserted in the locking system and before it has been turned.

S5. *Compliance Test Procedure for vehicles with automatic transmissions.*

S5.1 *Test Conditions.* (a) The vehicle shall be tested at curb weight plus 91 kg (including the driver).

(b) Except where specified otherwise, the test surface shall be level.

S5.2 *Test procedure.* (a) Move the transmission shift lever to any position where it will remain without assistance, including a position between the detent positions, except for the "park" position. Try to remove the key from each possible key position in each such shift position.

(b) Drive the vehicle forward up a 10 percent grade and stop it with the service brakes. Apply the parking brake (if present). Move the shift mechanism to the "park" position. Note the vehicle position. Release the parking brake. Release the service brakes. Remove the key. Verify that the transmission shift lever or transmission is locked in "park." Verify that the vehicle, at rest, has moved no more than 150 mm from the position noted prior to release of the brakes.

[46 FR 32253, June 22, 1981, as amended at 56 FR 12468, Mar. 26, 1991; 57 FR 2043, Jan. 17, 1992; 60 FR 13644, Mar. 14, 1995; 60 FR 30011, June 7, 1995; 60 FR 41028, Aug. 11, 1995; 62 FR 2978, Jan. 21, 1997]