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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 17353-2024

**Protective devices against unauthorized use for motorcycles
and mopeds**

摩托车和轻便摩托车防盗装置

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 Directives for standardization - Part

1. Rules for the structure and drafting of standardizing documents. This document replaces GB 17353-2014 Protective devices against unauthorized use for motorcycles and mopeds. Compared with GB 17353-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The terms "positioning device", "electronic key", "circular error probable" and their definitions are added (see 3.2.2, 3.6, and 3.10);
- b) The definition of "key" is modified (see 3.5; see 2.4 of the 2014 edition);
- c) The requirement that the engine or motor cannot be started for Class II and Class III

locking devices is added (see Chapter 4);

d) The requirements for the installation location of the vehicle locks are deleted (see 4.4 of the 2014 edition);

e) The requirement of independent key operation is modified (see 5.1.2; see 4.2 of the 2014 edition);

f) The requirements that the protective device shall meet when being designed are modified (see 5.2.1; see 4.1 of the 2014 edition);

g) The exemption requirements of electronic keys are added (see 5.2.1);

h) The requirements for the electronic key locking system code are added (see 5.2.5);

1 Scope

China's mandatory national standard for the anti-theft devices of motorcycles and mopeds. A motorcycle is the easiest motor vehicle to steal - it can be lifted by two people, it has no doors to force, and it is normally parked in the open - which is why an anti-theft device is required equipment rather than an accessory. The device is normally a steering lock: a bolt that engages the steering head when the bars are turned to full lock and the key removed, so the machine cannot be wheeled in a straight line. The standard specifies what it must resist, and the tests are written in the language of the attack rather than of the mechanism - the torque applied to the handlebars, the impact on the lock, the attempt to pick or drill the cylinder, and the time and tools involved - together with the requirement that the lock cannot engage while the machine is moving.

This document specifies the classification, requirements, test methods and identical type judgment of protective devices for motorcycles and mopeds. This document applies to locking devices and positioning devices with protective functions installed on motorcycles and mopeds (hereinafter referred to as "vehicles") as original components.

2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for referenced documents with dates, only the versions corresponding to the dates are applicable to this document; for referenced documents without dates, the latest versions (including all amendments) are applicable to this document.

GB/T 24553 Motorcycles and mopeds - Limitative device to steering and maximum wheel steer angle - Requirements and measurement methods

GB/T 29259 Road vehicle - Electromagnetic compatibility terminology

3 Terms and definitions

The terms and definitions defined in GB/T 29259 and GB/T 39267 and the following apply to this document.

3.1 protective function The function of preventing unauthorized use of the vehicle or tracing the location information when the vehicle is moved without authorization.

3.2 protective device Devices designed to prevent unauthorized use or removal of a vehicle, in two forms.

3.3 steering The steering control mechanism (steering handle or steering wheel), steering column, steering linkage plate and all steering components that directly affect the effectiveness of the protective device.

3.4 combination Variations of specially designed and manufactured locking systems.

3.5 mechanical key A mechanical component that is used only to lock and unlock one or more locking systems on the same vehicle.

3.8 circular error probable; CEP In a certain plane, the radius of the circle with the true value as the center contains 50% of the two-dimensional scattered points. [Source: GB/T 39267-2020, 5.1.17]

3.9 electromagnetic immunity An electromagnetic phenomenon during which vehicles, electrical and electronic systems/components resist electromagnetic disturbances and avoid performance degradation. [Source: GB/T 29259-2012, 3.8]

3.10 reporting function The function of reporting positioning information at a fixed period according to the established protocol.

4 Locking device classification

There are four categories of locking devices.

5.1 General requirements

5.1.1 The vehicle shall be equipped with at least one type of locking device from Class I to Class IV.

5.2 Locking device requirements

5.2.1 The locking device shall meet the following design requirements.

5.2.2 The requirements of 5.2.1a)–5.2.1c) can be met by the independent operation of a mechanical key or an electronic key.

5.2.3 The mechanical key used for the locking device shall have at least 1000 different combinations. If the total annual production of vehicles is less than 1000, the number of key combinations shall be equal to the total annual production of the model. Among all vehicles of the same model, the occurrence rate of a certain combination shall not be greater than 1/1000.

5.2.7 The locking device shall be designed to eliminate any accidental locking that may endanger safety when the vehicle is in motion.

5.2.8 For Class I, Class II and Class III locking devices, the steering locking torque test shall be carried out according to the method in 6.2. It shall not cause any steering damage that endangers safety.

5.2.9 For Class I, Class II and Class III locking devices, their design shall ensure that when locked, the angle between the steering and the left or right side of the straight line direction of the vehicle is not less than 20° when measured in accordance with the method described in GB/T 24553.

5.3 Positioning device requirements

5.3.1 The positioning device shall have real-time positioning and reporting functions. When the vehicle position is moved without authorization, the terminal shall be able to provide real-time longitude, latitude and other positioning status information.

5.3.2 During the driving of a vehicle equipped with a positioning device, the device shall not cause the vehicle's steering, transmission mechanism, or power mechanism to be locked or stop operating.

5.3.3 The structure and environmental adaptability of the vehicle on which the positioning device is installed shall meet the following design conditions.

5.3.4 When the elevation mask angle is 15°, the test is carried out according to the method in 6.6.2. The positioning device accuracy shall meet the requirements of static and dynamic horizontal positioning accuracy better than 10 m (CEP 95%) and vertical positioning accuracy better than 15 m (CEP 95%). The positioning performance test of the positioning device shall be carried out according to 6.6.

6.1 Lock cylinder torque test

6.1.1 Put the locking device of the test vehicle in the locked position.

6.2 Steering locking torque test

6.2.1 Set the locking device of the test vehicle to the steering lock position.

6.2.2 Install the test fixture on the vehicle's steering handle or steering wheel and tighten it with screws. Ensure that the test fixture is symmetrical on both sides during installation.