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

GB/T 5374-2023

Test method of reliability for motorcycles and mopeds

摩托车和轻便摩托车可靠性试验方法

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Foreword

This document was issued on 17 March 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 October 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 5374-2023 covers the reliability test for motorcycles and mopeds - the conditions a machine is run under, the procedure it is run through, and the way the failures that turn up are converted into a reliability result. It fixes the terms and the test conditions first, then the procedure, which begins with the measurement and adjustment of the vehicle's dimensional and mass parameters before any distance is covered. Test data processing sets out the failure statistics and the reliability statistics drawn from them, and a reporting clause fixes what is written down. The appendices carry the routine operation, the principle by which a failure is classified, a proving-ground road test specification correlated with customer usage, the daily inspection items and the driving record kept while the test runs, and the forms those records go on. Classification is where the disputes happen: whether a fault counts against the vehicle, and how heavily, moves the result more than the riding does, and without a shared rule two laboratories testing the same model come back with different

numbers. Of use to motorcycle manufacturers and their component suppliers, test laboratories and proving grounds, and the authorities and fleet buyers who read the reports.

This document specifies the test conditions, test procedure, test data processing and test report for the reliability test of motorcycles and mopeds.

This document applies to the reliability test of motorcycles and mopeds (unless otherwise specified, hereinafter referred to as "motorcycles").

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB 4569, Limit and measurement method of noise emitted by stationary -
Motorcycles and mopeds

GB/T 5359.1, Term for motorcycles and mopeds - Part 1: Types of vehicles

GB/T 5373, Measuring method of dimensions and masses parameter for motorcycles
and mopeds

GB/T 5378, Methods of road test for motorcycles and mopeds

GB/T 7031, Mechanical vibration - Road surface profiles - Reporting of measured
data

GB 7258, Technical specifications for safety of power-driven vehicles operating on
roads

GB 14622, Limits and measurement methods for motorcycle pollutant discharge
(China stage IV)

GB 15742, Performance requirements and test methods of horn for motor vehicles

GB 15744, The limits and measurement methods of fuel consumption for
motorcycles and mopeds

GB 16169, Limit and measurement method of noise emitted by accelerating -
Motorcycles and mopeds

GB 18176, Limits and measurement methods for emissions of pollutants from mopeds (CHINA IV)

GB/T 18387, Limits and test method of magnetic and electric field strength from electric vehicles

GB 20073, Performance and measurement method for braking of motorcycles and mopeds

GB 24155, Safety specifications for electric motorcycles and electric mopeds

GB/T 24156, Electric motorcycles and electric mopeds - Power performance - Test methods

GB/T 24157, Test methods of range and indication for the state of charge for electric motorcycles and electric mopeds

GB 34660, Road vehicles - Requirements and test methods of electromagnetic compatibility

JTG B01, Technical standard of highway engineering

QC/T 903, Fault-types for motorcycles and mopeds

3 Terms and definitions

Terms and definitions determined by GB/T 5359.1, and the following ones are applicable to this document.

3.1 Reliability

The ability of motorcycles to ensure specified functions and technical and economic indicators under specified conditions of use and within a specified period of time.

3.2 Customer usage correlation

Reproduce the working load of the target user on the proving ground or on the test bench.

3.3 General reliability test

Reliability test carried out according to certain specifications on general roads.

3.4 Accelerated reliability test

Reliability test - with a certain strengthening factor - that is carried out on the proving

ground or on the test bench according to customer usage correlation.

4.2.4 Before the performance test, the vehicle under test shall be run-in and maintained according to the instruction manual or the manufacturer's product technical documents. During the test, the parts and assemblies shall not be adjusted or replaced at will, and detailed driving inspection records shall be made.

4.2.5 If the driving range of electric motorcycles and electric mopeds (hereinafter referred to as "electric motorcycles") is too short (less than 30 km), the battery pack can be replaced for testing, which shall be recorded.

4.3 Test conditions for termination

If any of the following situations is found during the test, the test shall be terminated.

- a) Steering, braking and other systems cannot ensure driving safety.
- b) The frame or its welds are broken, de-soldered or otherwise damaged, so that the test cannot be continued.
- c) The assembly to be assessed in the test is severely damaged and needs to be replaced.

4.4 Test road

4.4.1 The driving road for the reliability test shall generally include:

- a) Urban road: main streets of communication in large and medium-sized cities; the unevenness of the road surface shall be above grade C specified in GB/T 7031;
- b) Expressway: multi-lane highway - meeting the requirements of JTG B01 - that is exclusively for motor vehicles to drive in different directions and lanes, and where all access and exit are controlled;
- c) Ordinary highway: in line with the requirements of the national primary and secondary highway, of wide and straight road surface, and good vision;
- d) Mountain road: average slope greater than 4%, unevenness of road surface above grade C specified in GB/T 7031.

4.4.2 The reliability test can be carried out on a closed road in the proving ground, or on a road section with small traffic flow, which is convenient for driving speed and is