

ICS 43.060

CCS T12



PRC Automotive Industry Standard

QC/T 1263-2025

Automobile engines—Round wire retaining rings for piston pin bore

Issued: December 17, 2025

Effective: July 1, 2026

Ministry of Industry and Information Technology

Issued

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Foreword

This document is drafted in accordance with the provisions of GB/T 1.1-2020 Directives for Standardization—Part 1: Rules for Structure and Drafting of Standardizing Documents.

This document is proposed and administered by the National Technical Committee of Automotive Standardization (SAC/TC 114).

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This document is issued for the first time.

Automobile engines—Round wire retaining rings for piston pin bore

1 Scope

This document specifies the terms and definitions, types and designations of components, technical requirements and test methods, inspection rules, as well as marking, packaging, transportation and storage of wire retainers for piston pin bores of automotive engines (hereinafter referred to as "retainers").

This document applies to round wire retainers for piston pin bores of automotive engines with a nominal diameter ranging from 10 mm to 40 mm.

2 Normative References

The contents of the following documents are indispensable provisions of this document through normative reference in the text. For dated referenced documents, only the edition corresponding to that date applies to this document; for undated referenced documents, the latest edition (including all amendments) applies to this document.

GB/T 2828.1 Sampling Procedures for Inspection by Attributes—Part 1: Sampling Plans for Lot-by-Lot Inspection Indexed by Acceptable Quality Level (AQL)

GB/T 4357-2022 Cold-Drawn Carbon Spring Steel Wires

GB/T 18983-2017 Quenched and Tempered Spring Steel Wires

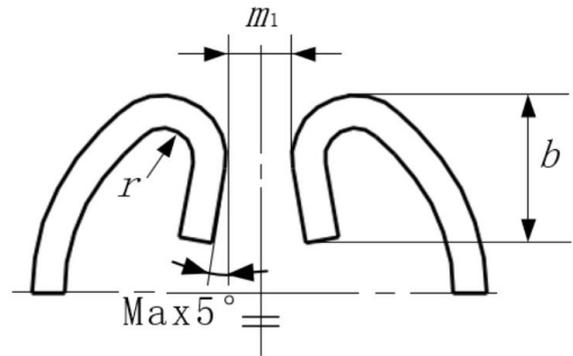
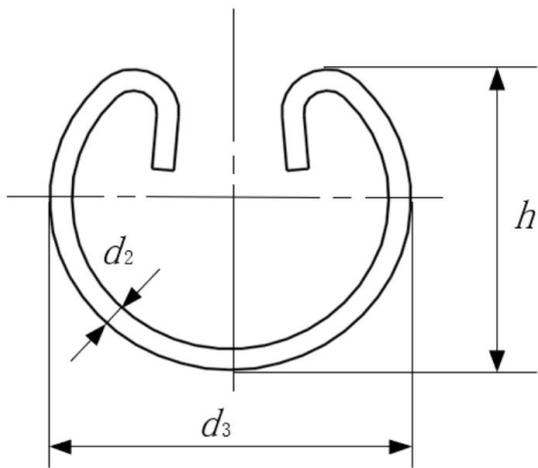
JB/T 14615-2024 Internal Combustion Engines—Piston Motion Assemblies—Cleanliness Limits and Determination Methods

3 Terms and Definitions

There are no terms and definitions to be defined in this document.

4 Types and Designations of Components

The main types of wire retainers for piston pin bores of automotive engines include Type A and Type C. The main types and dimensions of Type A retainers shall comply with Figure 1; those of Type C retainers shall comply with Figure 2. The key structure and dimensions of retainer grooves for piston pin bores shall comply with Figure 3. Other retainers with similar structures may be classified with reference to this document.



Explanation of Index Numbers

d_2 — Nominal diameter of steel wire

d_3 — Outer diameter of retainer in free state

h — Height of Type A retainer in the opening direction under free state

r — Inner diameter of hook - shaped part of Type A retainer

m_1 — Opening size when the retainer is compressed to the nominal diameter d_1 of the pin bore

b — Length of hook - shaped part of Type A retainer