

ICS 43.060



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

GB/T 6791-2025

**Road vehicles - Spark-plugs and their cylinder head housings -
Basic characteristics and dimensions
(English Translation)**

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Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part 1. Rules for the Structure and Drafting of Standardizing Documents.

This Document replaced GB/T 6791-2012 Road Vehicles - Spark-Plugs and Their Cylinder Head Housing - Basic Characteristics and Dimensions. Compared with GB/T 6791-2012, the

major technical changes of this Document are as follows besides the structural adjustments and

editorial modifications.

--- Change the scope of application of the standard from applicable to road vehicles to not limited to road vehicles (see Clause 1 of this Edition; Clause 1 of the 2012 Edition);

--- Add the term "bi-hexagon" and its definition (see 3.4 of this Edition);

--- Change the definitions of the terms "installation tightening torque" and "spark plug reach" (see 3.8 and 3.10 of this Edition; 3.8 and 3.9 of the 2012 Edition);

--- Add "General" (see 4.1 of this Edition);

--- Add "Dimensions of cup-type terminal" (see 4.3 of this Edition);

- Add "Dimensions of flat-head type terminal" (see 4.4 of this Edition);
 - Add functional description of the gasket (see 5.2 of this Edition);
 - Delete the provisions of minimum value of minor diameter for M18~M10 spark plugs (see Table 1 of the 2012 Edition);
 - Add relevant provisions of the installation tightening torque for M18x1.5 flat-seat spark plugs (see Table 3 of this Edition);
 - Add relevant provisions of the installation tightening torque for M12x1.25 conical-seat spark plugs (see Table 4 of this Edition);
 - Delete some spark plug design illustrations (see Clause 8 of this Edition), and provisions are provided in tabular form;
 - Add other design principles for flat-seat spark plugs (see Table 5 of this Edition);
 - Change the thread length to reach (see Table 6 of this Edition; Table 5 of the 2012 Edition);
- add relevant information on cup-type or flat-head terminals (see Table 6 of this Edition);
- change the additional housing dimension l12 from "1.5~6" to "0.5~6" (see Table 6 of this Edition; Table 5 of the 2012 Edition); add relevant provisions of M18x1.5 flat-seat spark plugs (see Table 6 of this Edition); and change the tolerance of l9 (see Table 6 of this Edition; Table 5 of the 2012 Edition);

Road Vehicles - Spark-Plugs and Their Cylinder Head

Housings - Basic Characteristics and Dimensions

1 Scope

This Document specifies the main characteristics and dimensions of spark plugs, including the

dimensions of the terminals and cylinder head mounting holes.

This Document applies to spark plugs for spark-ignition engines, and their application is not limited to road vehicles.

This Document does not apply to shielded or waterproof spark plugs.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates

indicated are applicable to this Document; for the undated documents, only the latest version

(including all the amendments) is applicable to this Document.

GB/T 192 General purpose metric screw threads - Profiles (GB/T 192-2025, ISO 68-1.2023, MOD)

GB/T 193 General purpose metric screw threads - General plan (GB/T 193-2003, ISO 261.1998, MOD)

GB/T 197 General purpose metric screw threads - Tolerances (GB/T 197-2018, ISO 965-1.2013, MOD)

GB/T 2516 General purpose metric screw threads - Limit deviations (GB/T 2516-2023, ISO 965-3.2021, MOD)

3 Terms and Definitions

For the purposes of this Document, the following terms and definitions apply.

3.1 Installed height; l_1

The distance from the contact point between the spark plug and the cylinder head to the top of

the high-voltage terminal, including the gasket thickness after installation to the specified torque.

NOTE: For conical-type spark plugs, the contact point refers to the reference point of the sealing surface.

3.2 Spark plug thread size

Nominal dimensions of connection threads of the spark plug and cylinder head.

NOTE: Except for M14x1.25 threads, all threads conform to the metric thread requirements specified in

GB/T 193.

3.3 Hexagon

The characteristics of the contact area between the spark plug housing and the mounting sleeve

when the spark plug is installed in the cylinder head.

3.4 Bi-hexagon

When a spark plug is installed on the cylinder head, the spark plug housing and the mounting

sleeve have the following characteristics at the contact point. there are 12 mounting contact surfaces, and the mounting sleeve shall also have 12 mounting contact surfaces.

3.5 Conical seating

The spark plug housing seals against the cylinder head using a conical seal.

NOTE: There is no gasket for the sealing surface between this type of spark plug and the cylinder head.

3.6 Flat seating

The spark plug housing seals against the cylinder head in a planar manner, with the sealing surface perpendicular to the spark plug axis.

NOTE: There is a gasket for the sealing surfaces between this type of spark plug and the cylinder head.

3.7 High voltage terminal

The connection between the spark plug and the high-voltage ignition source.

NOTE: It is abbreviated as "terminal". The connection between the high-voltage ignition source and the

spark plug terminal may be threaded, use a spring clip to connect to a fixed terminal, or use a spring-

loaded mechanical contact.

3.8 Installation tightening torque

The rotational torque that is applied to the spark plug housing to ensure a seal between the spark