



AEROSPACE STANDARD

Society of Automotive Engineers, Inc.

TWO PENNSYLVANIA NEW YORK, N.Y. 10001

AS 692 A

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IGNITER, SPARK, AERONAUTICAL ENGINE (HIGH TENSION)

1. SCOPE

- 1.1 Scope: This specification establishes the performance, qualification, acceptance limits, and identification for aeronautical engine high tension spark igniters.
- 1.2 Classification: Spark igniters of the following gap types and outline configurations are covered by this specification.

OUTLINE CONFIGURATIONS

Class A - Flange mounted, right angle termination
Class B - Flange mounted, straight termination
Class C - Thread mounted

GAP TYPES

Type I - High voltage, air
Type II - High voltage, surface
Type III - High voltage, air surface

2. APPLICABLE DOCUMENTS

The following SAE documents of the issue in effect on the date of qualification form a part of this specification.

STANDARDS

2.1 Aerospace Standards:

- AS 422 Spark Igniter Outline, Right Angle Flange Mounting
- AS 423 Spark Igniter Outline, Flange Mounting
- Ø AS 424 Spark Igniter Outline, Threaded Mounting
- AS 453 Gasket
- AS 475 Gasket - Spark Igniter

2.2 Aerospace Recommended Practices:

- ARP 484 Spark Igniter Gap Types
- ARP 670 Terminals, Aircraft Ignition

3. REQUIREMENTS

- 3.1 Materials: Materials which are not described herein shall be of the best aeronautical quality and suitable for the purpose intended.
- 3.2 Design: This document specifically covers the performance, qualification and acceptance limits for aeronautical engine high tension spark igniters. Design details shall conform where practicable to SAE Aerospace Standards (AS) and Aerospace Recommended Practices (ARP).

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- 3.3 Gasket: When specified by the purchaser, a gasket shall be furnished with each igniter. The purchaser shall also specify the material and construction. Dimensionally, the gasket will be in accordance with AS 453 or AS 475 as applicable, unless specified otherwise by the purchaser.
- 3.4 Performance: The spark igniter shall perform satisfactorily when subjected to the tests described in this specification.
- 3.5 Identification: Each spark igniter shall be permanently and legibly marked with the following information:
- (a) The manufacturer's name, model number and applicable change letter shall appear around the circumference of the shielding barrel or shell, or on two faces of the wrenching hex, or on the mounting flange as designated on the applicable drawing.
 - (b) A manufacturing date code or batch designation shall appear near the above identification. The manufacturer may establish his own dating code when mutually agreed upon by the purchaser.
- 3.5.1 Special Identification - Similar Appearing, Non-Interchangeable Spark Igniters: When it is physically possible to install the spark igniter in an engine model other than the engine model in which the spark igniter is or will be qualified for use, the purchaser may require that an apparent physical difference from other similar appearing spark igniter models be provided in that area of the spark igniter which is external to the engine and accessible for visual inspection as installed. Such special identification may consist of, for example, color coding, knurling, ribbing, banding, etc. and shall be mutually agreed upon by the vendor and purchaser.

4. QUALIFICATION

- 4.1 Classification of Tests: The inspection and testing of spark igniters shall be classified as follows:
- (a) Qualification Tests: Qualification tests are those tests accomplished on samples submitted for qualification as a satisfactory product.
 - (b) Inspection Tests: Inspection tests are those tests accomplished on spark Igniters manufactured and submitted for acceptance under contract.
- 4.2 Qualification Tests: Qualification of a spark igniter shall consist of the following two sections:
- (a) laboratory (bench) tests
 - (h) Engine tests
- 4.2.1 Laboratory Tests: The laboratory tests may be conducted by the manufacturer under witness by the purchaser at his option. Or, the purchaser may optionally conduct the laboratory tests within his own facilities. Tests may also be conducted by a testing agency mutually agreed upon by the manufacturer and the purchaser. At least 10 spark igniters of the qualifying type shall be subjected to the following tests as described in 4.4:
- (a) Examination of product
 - (b) Gas leakage
 - (c) Insulation breakdown
 - (d) Gap breakdown (optional)