



AEROSPACE STANDARD

AS5768™**REV. A**

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Superseding AS5768

Tool, Stripper, Electrical Insulation, General Specification For

RATIONALE

AS5768A is being stabilized because the processes/product is considered mature and the committee does not anticipate future technical changes. Stabilization does not imply the process or product is unacceptable for applications for which it is designed. Any technical changes noted by a supplier or user which results in a product or requirement change will be addressed by a new revision. Qualified suppliers are maintained.

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Documents

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1. SCOPE

1.1 Specification Requirements

This specification covers design requirements, performance requirements, and methods of procurement for tools and associated accessories used to strip aerospace vehicle electrical wire and cable. Aerospace vehicle electrical wire has stranded conductors with protective plating and specialized insulation. Poor quality wire strippers or mismatched blades can compromise the performance of wiring.

1.2 Intended Use

The purpose of this specification is to define the electrical wire or cable tool's design performance, interchangeability, repeatability, and reliability. The specification establishes standard criteria for the design, manufacture and qualification of stripping tools. Wire or cable stripped by the tool shall be specified with the tool (see 3.1.1). The specification provides a system of procurement and quality control of specified wire stripping tools.

1.3 Qualification

Products procured from this specification require a supplier to be on a Qualified Product List at the time of request for purchase (see 6.4).

1.4 Part Number Structure

Unless otherwise specified in the detail specification the part number structure for the tool shall be

AS5768/Y – XXXX

2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AIR1351 Manufacturers' Identification of Aerospace Electrical and Electronic Wiring

AS5768/1 Tool, Stripper, Manually Actuated, Electrical Insulation, Round Wire, Size 10 to 30

AS5768/2 Tool, Stripper, Manually Actuated, Small Grip, Electrical Insulation, Round Wire, Size 16 to 30

2.2 NCSL Publications

Available from National Conference of Standards Laboratories, 2995 Wilderness Place, Suite 107, Boulder, CO 80301-5404, Tel: 303-440-3339, www.ncsli.org.

NCSL Z540-1 General Requirements for Calibration Laboratories and Measuring and Test Equipment

2.3 U.S. Government Publications

Application for copies is address to DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, <http://assist.daps.dla.mil/quicksearch/>.

MIL-STD-202 Department of Defense, Test Method Standard, Electronic and Electrical Component Parts

SD-6 Provisions Governing Qualification

3. REQUIREMENTS

3.1 Detail Specifications

The tool requirements shall be as specified herein and in accordance with the applicable detail specification. In the event of any conflict between the requirements of this specification and the detail specification, the latter shall govern.

3.1.1 Criteria for Tool Inclusion

The criteria for defining a tool in a detail specification is that a component document, intended to be used with the tool, must be controlled by a component preparing activity such as a user, government, or non-government standard body. It is the responsibility of the wire and cable specification preparer to determine if the specific tool can be used to strip the applicable wire or cable. After the tool has been determined to be acceptable for the wire or cable, the wire or cable preparing activity is recommended to request SAE International to establish an AS5768 detail specification (slant sheet) which should be referenced in the component specification. Requests for tools to be listed in AS5768 shall be made by the component preparing activity to SAE International (see 6.7.1).

3.1.2 Detail Specification Tool Requirements

Each detail specification shall include as a minimum the following.

- a. The detail specification shall specify the wire or cable detail specification and part number, if necessary, with the corresponding tool part number for each tool, or tool-blade combination, or other accessories. Part number shall designate all replaceable parts and removable components such as gripper pads, blades, wire stop, bench mount, and other accessories in the detail specification. Replaceable parts such as screws, springs, hardware, covers, and miscellaneous parts shall be defined in the manufacturer's instruction sheet supplied with each tool. The basic tool and accessories shall include a part number on the body of each part in the detail specification.

- b. The length of the insulation strip shall be specified for each tool or tool-blade combination, if different than specified herein (see Table 3).
- d. Detail blade dimensions are recommended to insure stripping performance characteristics, but not required. The basic tool footprint dimensions shall be definitive enough to insure replacement of the tool in a storage container without modification of the container. Accessory footprint dimensions shall be definitive enough to insure interchangeability with manufacturers.
- d. The required operation characteristics (see 3.7).
- e. The life test operating cycles (see 3.10)
- f. The Metric equivalents may be provided to the nearest 0.01 mm and shown as (x.xx). Metric equivalents are calculated based on 1-inch equals 25.4 mm.
- g. Size, weight, and power requirements of tools shall be commensurate with the tool application. Maximum size and weight (including accessories) shall be included as a requirement on each detail specification.
- h. Tools with V shaped cutting blades, other than rotating V shaped blades (see Figure 3) or shearing type blades shall not be specified.

3.2 Materials (see 5.1)

All materials shall be suitable for the fabrication/produce ability or maintenance of aerospace hardware when used on land or sea. Materials shall be specified in the detail specification.

3.3 Tool Design Characteristics Examination (5.2)

3.3.1 Manually Actuated Mechanical Wire Stripper for Round Wire Using Split Blades Design (see Figure 1 and 5.2.1)

Each blade cavity shall be cylindrical, as shown in Figure 1. If die dimension are specified as a minimum each blade profile shall be defined in relation to the dimensions of the wire, as shown in Figure 2. Tools with V shaped cutting blades shown in Figure 3 or shearing blades shall not be specified.

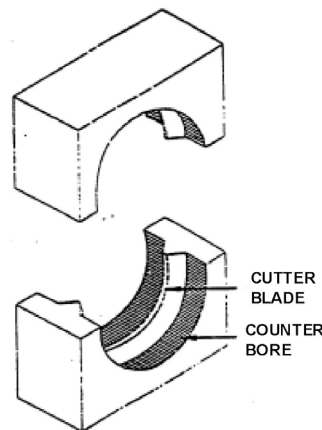


FIGURE 1 - SPLIT BLADE WIRE STRIPPER DESIGN

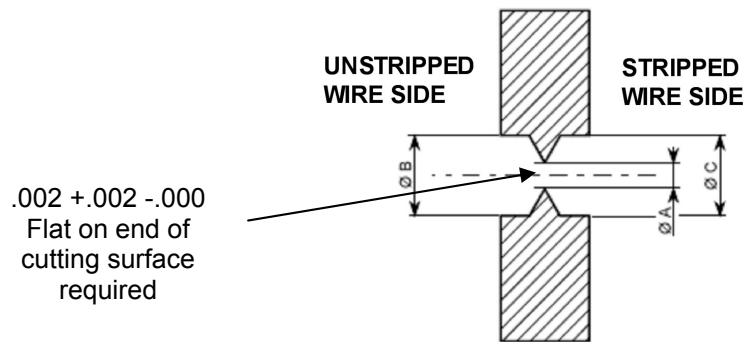


FIGURE 2 - DIMENSION REQUIREMENTS FOR SPLIT BLADE ACCESSORIES

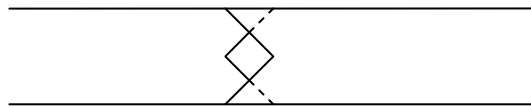


FIGURE 3 - V SHAPE (KNIFE TYPE) BLADES ACCESSORIES THAT FORM SQUARE WIRE STRIP CAVITIES (UNACCEPTABLE)

3.3.2 Manually Actuated, High Frequency Signal Cable Strippers Design Examination (see 5.2.2)

Design characteristics shall be defined in the detail specification.

3.4 Tool Assembly Instruction Examination (see 3.1.2a and 5.3)

Each tool specified with accessories shall be provided with concise and clearly written individual instructions. The tool shall be easily assembled and disassembled in accordance with the tool instruction without the use of special tools. Tool instructions shall be formatted with the following information:

- a. Title: The instructions shall include AS5768 and supplier's part numbers.
- b. Detail Tool Pictorials: The pictorials shall include AS5768 and manufacturer's part numbers.
- c. Detail Accessories Pictorials: The pictorial shall include AS5768 accessories, and manufacturers' part numbers.
- d. Safety Instructions: Instructions shall be provided on how to safely select and operate each tool.
- e. Operational Instructions: Instructions shall be provided on how to select and operate each tool. The instructions shall include applicable component part numbers that can be stripped by the tool.
- f. Maintenance Instructions: Information shall be clear, concise, and include pictorials as needed.
- g. Replaceable Part List: The instructions shall include AS5768 and manufacturer designated part numbers. All replaceable parts (see 3.1.2a) designated in the detail specification by part number shall be included in the assembly instructions. All parts that can be removed to assemble accessories shall be designated in the assembly instructions by part number or a physical description sufficient to permit replacement (i.e., screw thread and length description, etc.).
- h. Supplier Information: The instructions and tool packaging shall include address and telephone number(s) of suppliers.