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| <b>NOT MEASUREMENT<br/>SENSITIVE</b> |
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**MIL-DTL-5688D**  
**30 October 1999**  
**SUPERSEDING**  
**MIL-DTL-5688C**  
**22 FEBRUARY 1999**

## DETAIL SPECIFICATION

### WIRE ROPE ASSEMBLIES; AIRCRAFT, PROOF TESTING AND PRESTRETCHING OF

This specification is approved for use by all Departments  
and Agencies of the Department of Defense.

#### 1. SCOPE

\* 1.1 Scope. This specification covers the proof testing and prestretching of wire rope assemblies.

#### 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

#### 2.2 Government documents.

2.2.1 Specifications, standards and handbooks. The following specifications, standards and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

## SPECIFICATIONS

### DEPARTMENT OF DEFENSE

|                 |  |
|-----------------|--|
| MIL-DTL-781 -   | Terminals; Wire Rope, Steel (For Swaging). |
| MIL-DTL-83420 - | Wire Rope, Flexible, For Aircraft Control  |

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Defense Printing Service Detachment Office, Building 4D (NPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

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| Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Supply Center Richmond, ATTN: DSCR-VBD, Richmond, VA 23297-5610. by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter. |
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AMSC N/A

FSC 1560

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**2.3 Order of precedence.** In the event of a conflict between the text of this document and the 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.

### 3. REQUIREMENTS

**3.1 Proof/Prestretching load.** Loads for proof load testing and prestretching of all wire rope terminal assemblies, including the entire length of the wire rope shall be as specified in table I. Proof load testing may also be used for the prestretching of the wire rope.

TABLE I. Load Values.

| Cable    |              | Carbon Steel Wire Rope<br>MIL-DTL-83420,<br>Type I and II<br>Composition A |         | Corrosion-Resistant Steel Cable<br>MIL-DTL-83420,<br>Type I and II<br>Composition B |         |
|----------|--------------|--|---------|---|---------|
|          |              | Load (lbs) <sup>1/</sup>   |         | Load (lbs) <sup>1/</sup>  |         |
| Diameter | Construction | Minimum  | Maximum | Minimum   | Maximum |
| 1/32     | 3X7          | 66   | 69      | 66  | 69      |
| 3/64     | 7X7          | 162  | 170     | 162   | 170     |
| 1/16     | 7X7          | 288  | 302     | 288   | 302     |
| 1/16     | 7X19         | 288  | 302     | 288   | 302     |
| 3/32     | 7X7          | 552  | 580     | 552   | 580     |
| 3/32     | 7X19         | 600  | 630     | 552   | 580     |
| 1/8      | 7X19         | 1,200  | 1,260   | 1,056   | 1,109   |
| 5/32     | 7X19         | 1,680  | 1,764   | 1,440   | 1,512   |
| 3/16     | 7X19         | 2,520  | 2,646   | 2,220   | 2,331   |
| 7/32     | 7X19         | 3,360  | 3,528   | 3,000   | 3,150   |
| 1/4      | 7X19         | 4,200  | 4,410   | 3,840   | 4,032   |
| 9/32     | 7X19         | 4,800  | 5,040   | 4,680   | 4,914   |
| 5/16     | 7X19         | 5,880  | 6,174   | 5,400   | 5,670   |
| 3/8      | 7X19         | 8,640  | 9,072   | 7,200   | 7,560   |

<sup>1/</sup> Unless otherwise specified, for applications using wire rope other than MIL-DTL-83420, load values shall be 60 (+5, -0) percent of the minimum breaking strength specified in the applicable wire rope specification.

### 4. VERIFICATION

**4.1 Conformance inspection.** Conformance inspection shall be conducted on each assembly. Conformance inspection shall consist of load testing.

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**4.2 Load testing.** The applicable load shall be applied for the period of time specified as follows:

| <u>Type of Cable Assembly</u>                                    | <u>Duration of Load Application (Min)</u> |
|--|---|
| Swaged Terminal <u>1/</u>  | 5 seconds                                 |
| <u>1/</u> Applies to swaged terminals conforming to MIL-DTL-781. |   |

**4.2.1 Application of load.** The load shall be applied evenly by dead load or by any suitable test machine in not less than 3 seconds. The release shall be made evenly and gradually.

**4.2.2 Rejection.** Any cable terminal assemblies showing any slippage noticeable to the unaided eye shall be rejected. A suitable marking of the cable terminal joint shall be made prior to application of the load to aid in determination of any slippage.

**4.2.3 Acceptance.** Acceptance of the cable shall be indicated on a removable tag attached to the cable.

**5. Packaging.** Not applicable.

**6. NOTES**

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

**6.1 Intended use.** This specification covers the proof testing and prestretching of wire rope assemblies.

**6.2 Subject term (key word) listing.**

Wire rope  
Terminals  
Proof load  
Swaged terminals

**6.3 Changes from previous issue.** The margins of this specification are marked with asterisks to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

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\* **Review activity:**  
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MIL-DTL-5688D

2. DOCUMENT DATE (YYYYMMDD)  
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3. DOCUMENT TITLE WIRE ROPE ASSEMBLIES; AIRCRAFT, PROOF TESTING AND PRESTRETCHING OF

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

### 5. REASON FOR RECOMMENDATION

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