

MIL-T-85512(AS)  
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~~SUPERSEDING~~  
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## MILITARY SPECIFICATION

### TOW BAR AND BRIDLE ASSEMBLY, TARGET, BANNER, AERIAL, TDU-32 SERIES

This specification is approved for use by Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 Scope. This specification establishes the requirements for the manufacture and acceptance of the Tow Bar and Bridle Assembly which is used with the TDU-32 series aerial banner target.

#### 2. APPLICABLE DOCUMENTS

##### 2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer, Naval Air Engineering Center, Engineering Specifications and Standards Department (ESSD) Code 93, Lakehurst, New Jersey 08733, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6920

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SPECIFICATIONS

FEDERAL

UU-T-106 Tape, Pressure-Sensitive Adhesive, Masking, Paper.

MILITARY

MIL-W-4088 Webbing, Textile Woven Nylon.  
MIL-S-5626 Steel: Chrome-Molybdenum (4140) Bars, Rods, and Re-  
forging Stock (For Aircraft Applications).  
MIL-S-6049 Steel, Chrome-Nickel-Molybdenum (8740) Bars, and Re-  
forging Stock (Aircraft Quality).  
MIL-T-6736 Tubing, Chrome-Molybdenum, 4130 Steel, Seamless and  
Welded, Aircraft Quality.  
MIL-H-6875 Heat Treatment of Steels (Aerospace Practice, Process  
for).

STANDARDS

MILITARY

MIL-STD-105 Sampling Procedures and Tables for Inspection by  
Attributes.  
MIL-STD-129 Marking for Shipment and Storage.  
MIL-STD-794 Parts and Equipment, Procedures for Packaging and  
Packing of.

2.1.2 Other Government documents, drawings, and publications. The follow-  
ing other Government documents, drawings, and publications form a part of  
this specification to the extent specified herein.

DRAWINGS

MILITARY

NAVAL AIR SYSTEMS COMMAND  
(Code Ident 30003)

DL 966AS8005 Tow Bar and Bridle Assembly.

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PUBLICATIONS

MILITARY

NAVAL SEA SYSTEMS COMMAND  
(Code Ident 10001)

WR-43

Preparation of Quality Assurance Provisions (Including Classification of Characteristics).

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.1.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 First article. When specified, a sample shall be subjected to first article inspection (see 4.4 and 6.3).

3.1.1 First article sample. Unless otherwise specified in the contract or purchase order (see 6.2.1), the first article sample shall consist of three each of the tow bar and bridle assembly. The first article sample shall be manufactured using the same methods, materials, and procedures proposed for production.

3.2 Design and construction. The tow bar and bridle assembly shall be manufactured and assembled in accordance with the drawings, and other documents listed on DL 966AS8005, and as specified herein.

3.3 Performance characteristics. The tow bar and bridle assembly shall meet the requirements of this specification and the tolerances specified on the drawings listed on DL 966AS8005.

3.4 Identification and marking. The tow bar and bridle assembly shall be marked in accordance with Drawing 966AS8005.

3.5 Workmanship. There shall be no imperfections of workmanship on the tow bar and bridle assembly to prevent the requirements specified herein from being met. All sharp edges and burrs shall be removed.

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## 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.4).
- b. Quality conformance inspection (see 4.5).

4.3 Inspection conditions. Unless otherwise specified, all inspections shall be conducted under the following standard atmospheric conditions:

- a. Room temperature: +59°F to +95°F (+15°C to +35°C).
- b. Humidity: Up to 98 percent relative.
- c. Altitude: 23 to 30 inches of mercury (Hg).

4.4 First article inspection. Unless otherwise specified in the contract or purchase order (see 6.2.1), the tow bar and bridle assembly shall be subjected to the tests specified herein at the contractor's facilities or at a testing activity designated in the contract or purchase order (see 6.2.1). Acceptance of the first article by the procuring activity shall be based upon no defects in the first article. Prior to assembling the tow bar and bridle assembly, each individual component or part listed on DL 966AS8005 shall be inspected by the contractor to assure that the requirements and tolerances specified on each drawing will be met. The contractor shall prepare a first article test report for review and approval by the procuring activity.

4.4.1 First article inspection procedures. The procedures for conducting the first article inspection shall be prepared by the contractor for procuring activity review and approval (see 6.2.2). The right is reserved by the procuring activity or Government representative to modify or require additional inspections or tests necessary to determine compliance with the specification or contract (see 6.2.2).

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4.5 Qualification conformance inspection. The contractor shall prepare quality conformance inspection procedures for review and approval by the procuring activity. Unless otherwise specified herein, the contractor shall perform all quality conformance inspections. The contractor shall conduct and show evidence of a detailed visual examination to demonstrate that the tow bar and bridle assembly is capable of being manufactured and assembled in accordance with the tolerances specified on DL 966AS8005 and as specified herein.

4.5.1 Examination of the tow bar and bridle assembly. The tow bar and bridle assembly shall be examined for conformance to all the requirements specified herein, and for conformance to the applicable drawings in respect to completeness of detail and parts.

4.5.1.1 Individual parts. Individual parts that comprise the tow bar and bridle assembly shall be examined to assure that workmanship requirements have been met and that dimensions are within the tolerances specified on the drawings.

4.5.1.2 Classification of characteristics. The tow bar and bridle assembly product characteristics to be verified by the inspections specified herein are classified critical, major or minor in accordance with WR-43. This classification is accomplished by insertion of a classification of characteristics symbol and serial number to the left of the number of the paragraph to which it applies. Critical characteristics are identified by an upper case letter "C" followed by an Arabic numeral 1 through 99. Major characteristics are identified by an upper case letter "M" followed by an Arabic numeral 101 and up. Minor characteristics are those characteristics which are not identified by any classification of characteristics symbol. Defective critical characteristics are critical defects. Defective major characteristics are major defects. Defective minor characteristics are minor defects.

4.5.1.2.1 Classification of drawing requirements. The drawing requirements shall be inspected on the basis of inspections specified herein.

4.5.1.2.2 Drawing 966AS8006 tube assembly. The tube assembly shall be inspected for the following defects:

a. Critical: None

b. Major:

(M101) Verify that the material is tubing, Chrome-molybdenum, 4130 Steel, Type I, Condition A, conforming to MIL-T-6736.

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4.5.1.2.3 Drawing 966AS8007 webbing assembly. The webbing assembly shall be inspected for the following defects:

a. Critical: None.

b. Major:

(M101) Verify the webbing material conforms to MIL-W-4088, Type XVIII.

(M102) Verify that the stitching shows no evidence of deterioration when webbing assembly is subjected to a 500 pound pull load.

(M103) Verify that the length of each webbing assembly, in the matched set, does not vary more than one-half inch.

4.5.1.2.4 Drawing 966AS8008 U bolt. The U bolt shall be inspected for the following defects:

a. Critical: None.

b. Major:

(M101) Verify that the material is steel Chrome-molybdenum (4140) Bar, Condition D conforming to MIL-S-5626 or steel: Chrome-nickel-molybdenum (8740) conforming to MIL-S-6049.

(M102) Verify that the U bolt has been heat treated to 125,000 PSI.

4.5.1.2.5 Drawing 966AS80018 V ring. The V ring shall be inspected for the following defects:

a. Critical: None.

b. Major:

(M101) Verify that the material is steel Chrome-molybdenum conforming to MIL-S-5626 or reforging stock conforming to MIL-S-6049.

(M102) Heat treat to 180,000 PSI minimum ultimate tensile strength in accordance with MIL-H-6875.

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4.6 Lot sampling. Lot sampling for quality conformance inspection shall be in accordance with MIL-STD-105, Inspection Level II Table I, single sampling plans for normal inspection (master table) Table IIA. The acceptable quality level (AQL) is 4.0 for major characteristics and 25.0 for minor characteristics for the lot size specified in the contract or purchase order (see 6.2.1).

## 5. PACKAGING

5.1 Bridle kit. Prior to packaging the Bridle Kit, part number 966AS8005-2, the webbing shall be faked and taped with tape in accordance with UU-T-106.

5.2 Packaging and packing. Unless otherwise specified in the contract or purchase order (see 6.2.1), the tow bar and bridle assembly shall be packaged and packed in accordance with MIL-STD-794, Level A.

5.3 Marking for shipment and storage. Marking for shipment and storage shall be in accordance with MIL-STD-129.

5.4 Special marking. The following information shall be placed on each package, with one inch high red letters, as to be conspicuous from all sides and not interfere with any other marking.

"DO NOT OPEN WITH SHARP INSTRUMENT"

## 6. NOTES

6.1 Intended use. The tow bar and bridle assembly is intended to be attached to the TDU-32 series aerial banner target, which is ground-drag launched and towed by an aircraft during gunnery training exercises.

6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Quantity for first article sample, if different than specified (see 3.1.1).
- c. Responsibility for inspection (see 4.1).
- d. First article inspection, if different than specified (see 4.4).
- e. Designated testing activity (see 4.4).

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- f. Lot size (see 4.5.2).
- g. Levels of packaging and packing, if different than specified (see 5.2).

6.2.2 Data requirements. When this specification is used in an acquisition which incorporates a DD Form 1423, Contract Data Requirements List (CDRL), the data requirements identified below shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved CDRL incorporated into the contract. When the provisions of DAR 7-104.9 (n) (2) are invoked and the DD Form 1423 is not used, the data specified below shall be delivered by the contractor in accordance with the contract or purchase order requirements. Deliverable data required by this specification is cited in the following paragraphs.

Paragraph No.	Data requirement title	Applicable DID No.	Option
4.4	Report, First Article Test	UDI-T-23790	-----
4.4.1	First Article Inspection Procedures	DI-T-4901	-----
4.5	Procedures, Test	UDI-T-21347	-----

(Data item descriptions related to this specification, and identified in Section 6 will be approved and listed as such in DoD 5000.19L., Vol. II, AMSDL. Copies of data item descriptions required by the contractors in connection with specific acquisition functions should be obtained from the Naval Publications and Forms Center or as directed by the contracting officer.)

6.3 First article. When a first article inspection is required, the item will be tested and should be a first article sample. The first article should consist of three each of the tow bar and bridle assembly. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, test approval of the documents first article.

Preparing activity:  
Navy - AS

(Project 6920-N098)