



DEPARTMENT OF THE NAVY
NAVAL UNDERSEA WARFARE CENTER DIVISION
610 DOWELL STREET
KEYPORT, WASHINGTON 98345-7610

5200
Ser 53DLA/02056
12 July 2002

From: Commander, Naval Undersea Warfare Center Division, Keyport

Subj: PROPOSED REVISION FOR MIL-DTL-6458D, CHAIN ASSEMBLIES,
SINGLE LEG, AIRCRAFT CARGO TIE DOWN (PROJECT NO. 1670-1003)

Encl: (1) MIL-DTL-6458E, Proposed
(2) MIL-DTL-6458D of 15 December 1995

1. On behalf of Defense Supply Center Richmond (DSCR), Naval Undersea Warfare Center (NUWC) Division, Keyport is submitting enclosure (1), for your review and comment and/or concurrence in accordance with Standardization Manual DOD 4120.24-M.

2. Major changes in this revision include new dimensional requirements and new drawings of the hook and chain assembly. In addition, obsolete references were replaced.

3. Please provide your comments, suggested changes, and/or concurrence in time for them to be received not later than 45 calendar days from the date of this letter. Concurrence will be assumed if a reply is not received by this deadline. If your activity does not have an interest in the subject document, a response of "no interest" would be appreciated. Please forward your replies to the following addressee:

Mail: Commander
Naval Undersea Warfare Center Division
Attention: Mr. Mike Rice, Code 53DLA
Lead, Standardization Support Team
610 Dowell Street
Keyport, WA 98345
E-mail: DLA_STL@kpt.nuwc.navy.mil
Fax: (360) 396-7124

4. Comments or suggested changes that are not editorial in nature should include justification. Department of Defense (DoD) activities must identify their comments as either "essential" or "suggested", and should forward their comments to their departmental custodian in time for the consolidated departmental reply to be prepared, submitted and received by the deadline. Appropriate supporting data (test data, etc.) should be submitted with essential comments as relevant. Non-DoD activities should indicate whether they are commenting from the standpoint of a "user" or a "manufacturer".

Subj: PROPOSED REVISION FOR MIL-DTL-6458D, CHAIN ASSEMBLIES,
SINGLE LEG, AIRCRAFT CARGO TIE DOWN (PROJECT NO. 1670-1003)

5. The DSCR point of contact is Mr. Craig Hammond, DSCR-VBD,
commercial (804) 279-5019, DSN 695-5019, fax (804) 279-6011 or
e-mail Craig.Hammond@dscr.dla.mil.

//Signed//
R. J. SIMONIS
By direction

Distribution:

Commander, Defense Supply Center Richmond, Attn: DSCR-VBD
(G. Pobiak), 8000 Jefferson Davis Highway, Richmond, VA
23297-5610

US Army Soldier Systems Center, Natick Soldier Center,
Attn: AMSSB-REO-S(N) (T. Yablonicky), Natick, MA 01760-5062

Commander, Code 4.1.4, Attn: T. O'Mara, Highway 547,
Lakehurst, NJ 08733-5100

AFMC LSO/LGISA, Attn: Acquisition Documents Branch (C. Snyder),
74 Washington Avenue N STE 8, Battle Creek, MI 49017-3094

Commander, US Army Aviation and Missile Command,
Attn: AMSAM-RD-SE-TD-ST (B. Smith), Redstone Arsenal, AL
35898-5000

Commander, US Army Aviation and Missile Command,
Attn: AMSAM-RD-SE-TD-ST (V. Caylor), Redstone Arsenal, AL
35898-5000

OC-ALC/TICLA, Attn: O. Hudson, 3001 Staff Drive, Tinker AFB, OK
73145-5990

Commander, 311/HSW/YACS, Attn: Lt. M. Garza, 7909 Lindbergh
Landing, Brooks Air Force Base, San Antonio, TX 78235

Commander, Defense Supply Center Richmond, Attn: DSCR-JRTB
(B. Hine), 8000 Jefferson Davis Highway, Bldg. 32-K,
Richmond, VA 23297-5610

Commander, Defense Supply Center Richmond, Attn: DSCR-JAT
(M. Wright), 8000 Jefferson Davis Highway, Bldg. 32-M,
Richmond, VA 23297-5610

Weissenfels USA, Inc., Attn: S. Lister, 45 High Point Avenue,
Portsmouth, RI 02871

Columbus McKinnon Corporation, Attn: S. Rogers/C.C. McKinnon,
140 John James Audubon Parkway, Amherst, NY 14228-1197

REVIEWING DECISION:

DATE: _____

Yes/No _____ Concur

Yes/No _____ With Comment(s), (see attached)

Approved by: _____
Supv. Signature and Office Symbol

NOTE: This draft, dated 12 July 2002 and prepared by Defense Supply Center Richmond (GS1), has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES. (Project No. 1670-1003)

INCH-POUND

MIL-DTL-6458E
PROPOSED
SUPERSEDING
MIL-DTL-6458D
15 December 1995

DETAIL SPECIFICATION

CHAIN ASSEMBLIES, SINGLE LEG, AIRCRAFT CARGO TIE DOWN

This specification is approved for use by all departments and agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers two types of aircraft cargo tie down chain assemblies. The type I chain assembly is to be used in conjunction with MIL-DTL-25595, type I, styles A and B cargo tie down adjusters. The type II chain assembly is to be used in conjunction with MIL-DTL-25595, type II, styles A and B cargo tie down adjusters.

1.2 Classification. Chain assemblies covered by this specification are of the following types:

Type I - 10,000 pound capacity (see 6.2).

Type II - 25,000 pound capacity (see 6.2).

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.

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be of use in improving this document should be addressed to: Defense Supply Center Richmond, ATTN: DSCR-VBD, 8000 Jefferson Davis Highway, Richmond, VA 23297-5610, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 1670

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

2.2 Government documents.

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

STANDARDS

DEPARTMENT OF DEFENSE

- MIL-STD-130 - Identification Marking of U.S. Military Property.
- MIL-STD-810 - Environmental Engineering Considerations and Laboratory Tests.
- MIL-STD-889 - Dissimilar Metals.

(Unless otherwise indicated, copies of the above and standards are available from the Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. Electronic copies of military standards may be obtained from [http://astimage.daps.dla.mil/quicksearch/.](http://astimage.daps.dla.mil/quicksearch/))

2.3 Non-government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of documents that are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of the documents not listed in the DoDISS are the issues of documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- ASTM A 304 - Standard Specification for Carbon and Alloy Steel Bars Subject to End-Quench Hardenability Requirements (DoD adopted).
- ASTM A 322 - Standard Specification for Steel Bars, Alloy, Standard Grades (DoD adopted).
- ASTM A 331 - Standard Specification for Steel Bars, Alloy, Cold-Finished (DoD adopted).

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. Electronic copies may be obtained from [http://www.astm.org/.](http://www.astm.org/))

AMERICAN WELDING SOCIETY (AWS)

- AWS B1.11 - Guide for the Visual Examination of Welds.

(Application for copies should be addressed to the American Welding Society, 550 N.W. LeJeune Road, P.O. Box 351040, Miami, FL 33135. Electronic copies may be obtained from [http://www.aws.org/.](http://www.aws.org/))

SOCIETY OF AUTOMOTIVE ENGINEERS, INC.

SAE-AMS-H-6875 - Heat Treatment of Steel Raw Materials (DoD adopted).

(Application for copies should be addressed to Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001. Electronic copies may be obtained from <http://www.sae.org/>.)

2.4 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 takes precedence. Nothing in this specification, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.3.

3.2 Materials.

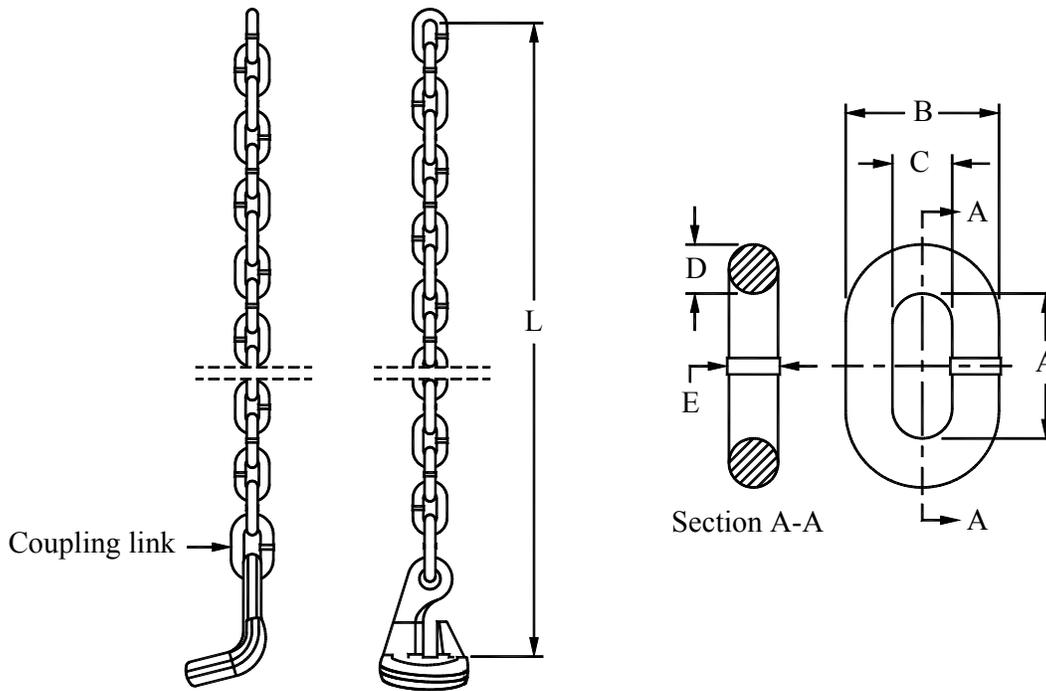
3.2.1 Metals. Metals shall be suitably treated to resist corrosion due to fuels, salt fog (spray), or atmospheric conditions likely to be met in storage or normal service. The chain shall be made of an alloy steel conforming to ASTM A 304, ASTM A 322, ASTM A 331, or equivalent, and heat treated to produce a chain of high tensile strength and resistance to impact loads.

3.2.2 Heat treatment. Heat treatment of steel parts shall be in accordance with SAE-AMS-H-6875.

3.2.3 Dissimilar metals. Unless suitably protected against electrolytic corrosion, dissimilar metals shall not be used in intimate contact with each other. Dissimilar metals are defined in MIL-STD-889.

3.3 Chain assembly. The chain assembly shall be of the welded-link type consisting of a length of chain, a coupling link, and a hook constructed so that it forms a single unit without detachable parts. The chain assembly shall meet the strength, weight, and dimensional requirements specified in figure 1.

3.4 Hook. The hook shall be a grab type with dimensions as shown in figure 2 and shall engage chain links of the size specified in figure 1. The hook shall be designed to permit fastening of one chain assembly to another of the same type to form a single branch system of two chain assemblies connected in series for extension purposes when used in this manner. The hooks shall meet the design strength requirements of the chain assemblies and shall not reduce the strength of the chain assembly into which it has been attached.

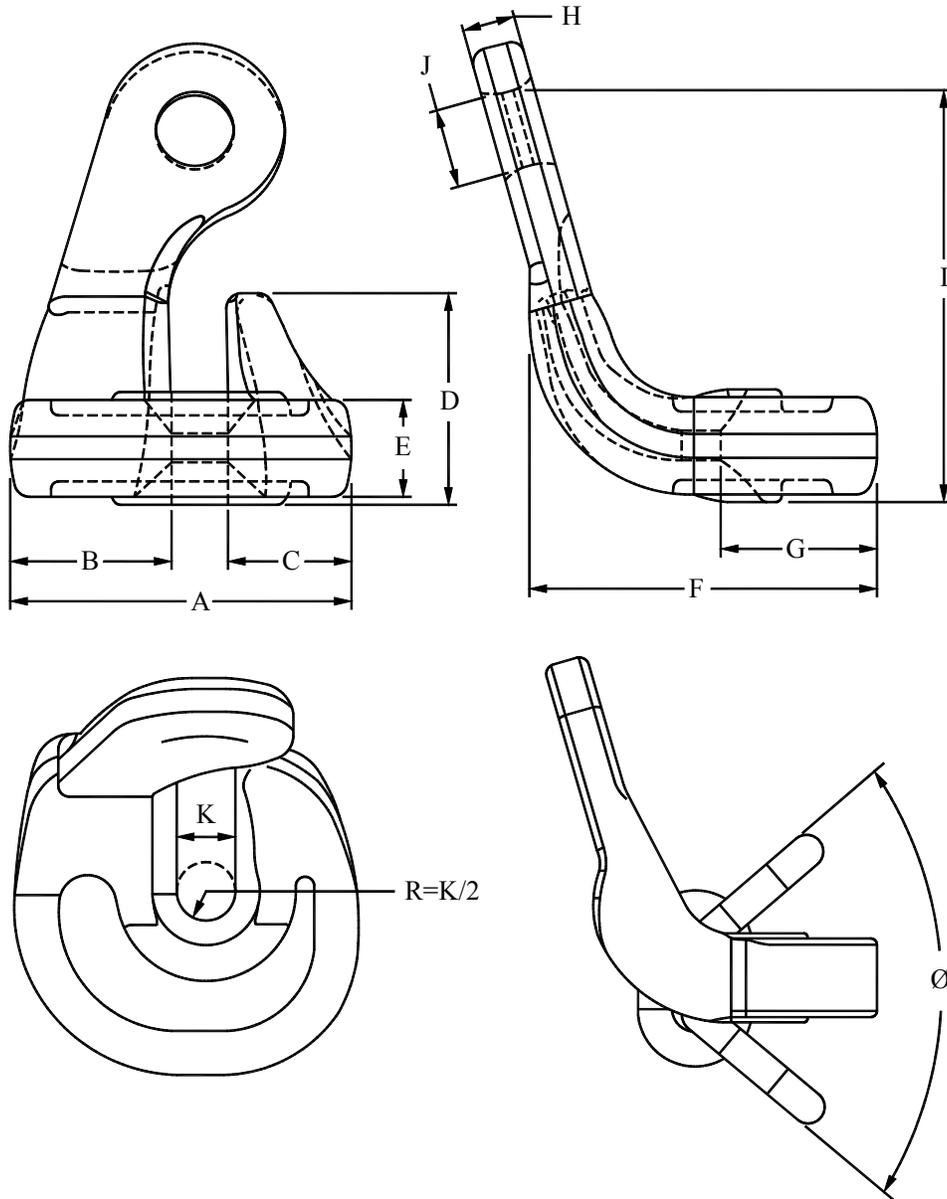


Chain assembly			
Type	Design Strength (lbs.)	Max. Weight (lbs.)	Min. Length (inches)
I	14,100	8	108
II	35,250	24	108

Coupling link dimensions (inches)													
Type	Inside length - A			Width				Bar size diameter - D			Weld diameter - E		
				Outside - B		Inside - C							
	Nominal	Min.	Max.	Min.	Max.	Min.	Max.	Nominal	Min.	Max.	Nominal	Min.	Max.
I	1.020	0.961	1.079	–	1.220	0.453	–	0.354	0.346	0.362	–	–	0.394
II	1.496	1.488	1.503	–	1.889	0.669	–	0.519	0.511	0.519	–	–	0.560

Chain link dimensions (inches)													
Type	Inside length - A			Width				Bar size diameter - D			Weld diameter - E		
				Outside - B		Inside - C							
	Nominal	Min.	Max.	Min.	Max.	Min.	Max.	Nominal	Min.	Max.	Nominal	Min.	Max.
I	0.923	0.923	0.941	–	0.964	0.374	0.394	0.281	0.275	0.281	–	–	0.307
II	1.456	1.417	1.503	–	1.500	0.550	–	0.472	0.464	0.472	–	–	0.502

Figure 1. Chain assembly – strength, weight, and dimensional requirements.



Type	A	B	C	D	E	F	G	H	I	J	K	R	Ø
I	2.266	1.047	0.844	1.359	0.650	2.250	1.031	0.359	2.657	0.515	0.375	0.188	50°
II	3.425	1.368	1.368	1.968	1.102	3.780	1.673	0.590	3.661	0.866	0.610	0.305	75°

Tolerances: A + 0/- 0.04 inch; B, C, D, E, G and I approximate; F maximum; H + 0.04/- 0 inch; J and K + 0.028/- 0; Ø approximate.

Figure 2. Grab hook dimensional requirements.

3.5 Performance.

3.5.1 Proof load. When tested as specified (see 4.5.2), the type I chain assembly shall be capable of withstanding proof loads of 10,000 pounds and the type II chain assembly shall be capable of withstanding proof loads of 25,000 pounds. There shall be no evidence of failure, permanent deformation, or subsequent malfunction of parts.

3.5.2 Ultimate load. When tested as specified (see 4.5.3), the type I chain assembly shall be capable of withstanding ultimate loads of 14,100 pounds and the type II chain assembly shall be capable of withstanding ultimate loads of 35,250 pounds. Deformation, without rupture or visible cracks, will be permitted provided the chain remains flexible after removing the applied load.

3.5.3 Environmental characteristics. The chain assembly shall be fully operational and show no evidence of corrosion when subjected to the salt fog (spray) testing (see 4.5.5).

3.6 Interchangeability. All parts having the same manufacturer's part number shall be functionally and dimensionally interchangeable.

3.7 Finish. All steel parts with the exception of corrosion resistant steel shall be treated with a metallic-type coating that will provide a cathodic protective coating to the base metal. This protective coating shall not crack, peel, or flake during normal usage and shall withstand any adverse conditions to which the chain assembly will be subjected in accordance with this specification. The protective coating shall in no way prevent compliance with the performance requirements of this specification.

3.8 Identification of product. The chain assembly shall be identified by means of a metal tag permanently attached to the end link of the chain. The identification tag shall be marked in accordance with MIL-STD-130 and contain as a minimum the national stock number (NSN), contract number, and contractor's name or manufacturer's code. This tag shall be constructed with sufficient durability to provide identification and not become detached for the service life of the chain.

3.9 Workmanship. The chain assembly shall be free from injurious imperfections that may impair appearances and serviceability. The welded chain shall be free from all surface discontinuities in accordance with AWS B1.11. Dimensions and tolerances not specified shall be consistent with standard industry practice.

4. VERIFICATION

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

- a. First article inspection (see 4.3).
- b. Conformance inspection (see 4.4).

4.2 Test conditions. Unless otherwise specified, all tests required by this specification shall be made at standard ambient conditions in accordance with MIL-STD-810.

4.3 First article inspection. The first article inspection shall consist of all tests specified in section 4.5.

4.3.1 First article sample. The first article test sample shall consist of two chain assemblies of the type required that are representative of the production chain assemblies. The test samples shall undergo all of the tests specified in section 4.5 at a laboratory designated by the plant under the supervision of the procuring activity.

4.4 Conformance inspection. Conformance inspection shall be in accordance with MIL-STD-1916 and shall consist of the individual tests (see 4.5.1 and 4.5.2) for each unit produced, as well as the periodic sampling tests (see 4.4.2) if required by the procuring activity (see 6.2).

- a. Individual tests.
- b. Periodic sampling tests.

4.4.1 Individual tests. Each chain assembly shall be subjected to the examination of product (see 4.5.1 and 4.5.2).

4.4.2 Periodic sampling tests. The periodic sampling tests shall be in addition to the individual tests and shall consists of the tests specified in 4.5.3 and 4.5.4. The manufacturer shall select the type of sampling plan (i.e. attribute, variable, or continuous) in accordance with MIL-STD-1916. The sample size shall be selected in accordance with verification level I of MIL-STD-1916.

4.4.3 Rejection and retest. Failure of any item being tested and inspected will postpone final acceptance until the cause of rejection has been investigated and corrected for the entire contract quantity. Other than marking and minor workmanship issues as determined by the government, items that have been tested and failed shall be discarded and not be reworked or delivered as part of any end item lot. If a new production lot is required, the lot will be tested using a tightened sample size in accordance with verification level II of MIL-STD-1916.

4.5 Test methods.

4.5.1 Examination of product. Each chain assembly shall be inspected to determine compliance with the requirements specified herein with respect to material, dimensions, weight, protective coating, weld quality, marking, and workmanship.

4.5.2 Proof load test. Each chain assembly shall be tested with the static load specified in 3.5.1 applied to the grab hook and chain links for 30 seconds without permanent deformation or damage when wrapped around a 6 inch diameter bar and the hook fastened into a link maintaining an included angle of 30 ± 5 degrees.

4.5.3 Ultimate load test. Each sample chain assembly shall be subjected to the design strength test in accordance with the procedure in 4.5.2, except that the static load requirements shall be as specified in 3.5.2.

4.5.4 Hook test. Each sample chain assembly of the same type shall be joined as specified in 3.4 and subjected to a load equivalent to the design strength. The hook and adjoining links shall be examined under full load for positive engagement. There shall be no evidence of slippage or impending failure of the hook, coupling link, or chain.

4.5.5 Salt fog (spray) test. The first article sample chain assembly shall be subjected to salt fog (spray) test in accordance with MIL-STD-810. After completion of the test, the chain assembly shall show no evidence of rust or corrosion (see 3.5.3).

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the inventory control point's packaging activity within the military department or defense agency, or within the military department's system command. Packaging data retrieval is available from the managing military department's or defense agency's automated packaging files, CD-ROM products, or by contracting the responsible packaging activity.

6. NOTES

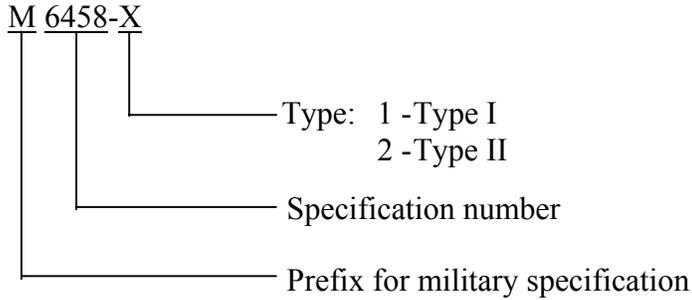
(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The chain assemblies covered by this specification are to be used in conjunction with MIL-DTL-25595 cargo tie down adjusters for securing vehicles and equipment in cargo type aircraft during flight.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type of chain assembly required (see 1.2).
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3).
- d. When first article is required (see 3.1).
- e. When periodic sampling tests are required (see 4.4).
- f. Type of packaging required (see 5.1).

6.3 Part or identifying number (PIN). The PIN to be used for chain assemblies acquired to this specification is created as follows:



6.4 Subject term (key word) listing.

coupling link
hook
steel alloy

6.5 Changes from the previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army - GL
Navy - AS
Air Force - 99

Preparing Activity:
DLA - GS1
(Project 1670-1003)

Review Activities:
Army - AV
Air Force - 71

INCH-POUND

MIL-DTL-6458D
15 December 1995
SUPERSEDING
MIL-C-6458C
13 November 1989

DETAIL SPECIFICATION

CHAIN ASSEMBLIES, SINGLE LEG, AIRCRAFT CARGO TIE DOWN

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

1. SCOPE

1.1 Scope. This specification covers two Types of aircraft cargo tie down chain assemblies.

1.2 Classification. Chain assemblies covered by this specification are of the following types:

Type I - 10,000 pound capacity (see 6.3)

Type II - 25,000 pound capacity (see 6.3)

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are needed to meet the requirements specified in sections 3, 4, and 5 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, 4, and 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, and standards. The following specifications and standards 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 for Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-H-6875

Heat Treatment Of Steels, Process for

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: The Resource and Logistics Services Division, SA-ALC/TILDD, Kelly AFB, TX 78241-6425 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 1670

DISTRIBUTION STATEMENT A. Approved for public release, distribution is unlimited.

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-130	Identification Marking Of US Military Property
MIL-STD-810	Environmental Test Methods and Engineering Guidelines
MIL-STD-889	Dissimilar Metals

(Unless otherwise indicated, copies of federal and military specifications, and standards are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Ave, Philadelphia, PA 19111-5094)

2.3 Non-Government publications. The following document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A304	Steel. Sheet. Cold Rolled. Subject to End-Quench Hardenability Requirements
ASTM A322	Steel Bars, Alloy, Standard Grades
ASTM A331	Steel Bars, Alloys, Cold Finished

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia PA 19103.)

AMERICAN WELDING SOCIETY (AWS)

AWS B1.11	Guide for the Visual Inspection of Welds
-----------	--

(Application for copies should be addressed to the American Welding Society, 550 N.W. LeJeune Road, P.O. Box 351040, Miami, FL 33135.)

2.4 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 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.3.

3.2 Component parts. Each chain assembly shall consist of a length of chain, a coupling link and a hook.

3.3 Materials.

3.3.1 Metals. Metals shall be suitably treated to resist corrosion due to fuels, salt or spray, or atmospheric conditions likely to be met in storage or normal service. The chain shall be made of a alloy steel conforming to ASTM A304, ASTM A322, ASTM A331 or equivalent and heat treated to produce a chain of high tensile strength and resistance to impact loads.

3.3.2 Heat treatment. Heat treatment of steel parts shall be in accordance with MIL-H-6875.

3.3.3 Dissimilar Metals. Unless suitably protected against electrolytic corrosion, dissimilar metals shall not be used in intimate contact with each other. Dissimilar metals are defined in MIL-STD-889.

3.4 Design and construction. The chain assembly shall be of the welded-link type and constructed so that it forms a single unit without detachable parts.

3.4.1 Chain. The chain shall be constructed using the electric welding process.

3.4.2 Coupling Link. The coupling link shall be constructed using the electric welding process. The dimensions of the coupling link may be of the next larger nominal trade size than those of the specified chain links in Table I for the purpose of attaching the hook.

3.4.3 Hook. The hook shall be a grab type with dimensions as shown in figure I and shall engage chain links of the size specified in Table I.

3.4.3.1 Design. The hook shall be designed to permit fastening of one chain assembly to another of the same type to form a single branch system of two chain assemblies connected in series for extension purposes when used in this manner. The hooks shall meet the design strength requirements as specified in Table I and shall not reduce the strength of the chain assembly into which it has been attached.

3.5 Performance.

3.5.1 Proof load. When tested as specified (see 4.5.2) the chain assembly shall be capable of withstanding proof loads of 10,000 pounds for the type I and 25,000 pounds for the type II without any evidence of failure, permanent deformation or subsequent malfunction of parts.

3.5.2 Ultimate load. When tested as specified (see 4.5.3) the chain assembly shall be capable of withstanding ultimate loads of 14,100 pounds for the Type I and 35,250 pounds for the Type II. Deformation, without rupture or visible cracks will be permitted provided the chain remains flexible after removing the applied load.

3.5.3 Environmental characteristics. The chain assembly shall be capable of satisfactory operation when subjected to the salt spray testing (see 4.5.5).

3.6 Interchangeability. All parts having the same manufacturer's part numbers shall be functionally and dimensionally interchangeable.

3.7 Dimensions.

3.7.1 Length. The minimum length of the chain assembly shall be as specified in Table I.

3.7.2 Link size. The maximum actual bar size of the links shall be as specified in Table I.

3.7.2.1 Maximum weld diameter. Maximum weld diameter dimensional restriction, as specified in Table I, applies only to that portion of the weld protrusion which affects mating of the chain with the opening in the grab hook.

3.7.2.2 Link dimension. The link dimensions, after the proof load has been applied, shall be as specified in Table I.

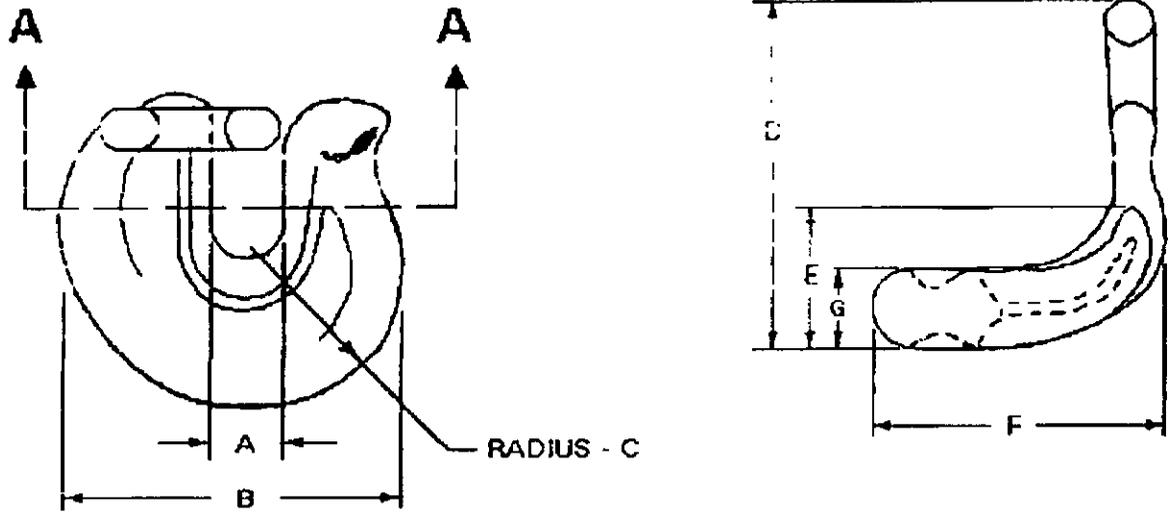
3.8 Weight. The maximum weight of the chain assembly shall be as specified in Table I.

MIL-DTL-6458D

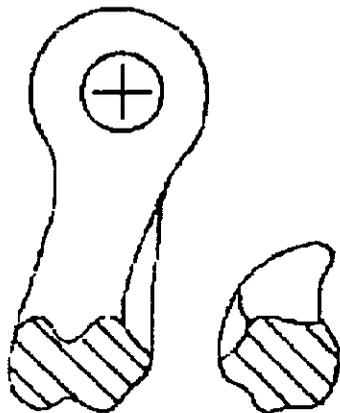
TABLE I Physical characteristics

CHAIN ASSEMBLY				LINK DIMENSIONS (INCHES)					
TYPE	DESIGN STRENGTH (POUNDS)	MAX WEIGHT (POUNDS)	MIN LENGTH (INCHES)	ACTUAL BAR SIZE	MAX OUTSIDE LENGTH	MAX OUTSIDE WIDTH	MIN OUTSIDE WIDTH	MIN INSIDE LENGTH	MAX WELD DIA
I	14,100	8	108	0.281	*1.521	*0.975	-	*0.825	0.329
II	35,250	24	108	0.469	*2.407	*1.515	*1.475	*1.383	0.547

* AFTER PROOF LOAD



DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G
TOLERANCES	+ 1/32	MAX	APPROXIMATE				MAX
TYPE I	3/8	2 1/4	1	3	1 5/16	2 5/16	1
TYPE II	5/8	3 7/16	1 5/8	4 1/4	1 3/4	3 1/2	1 3/8



SECTION **A - A**

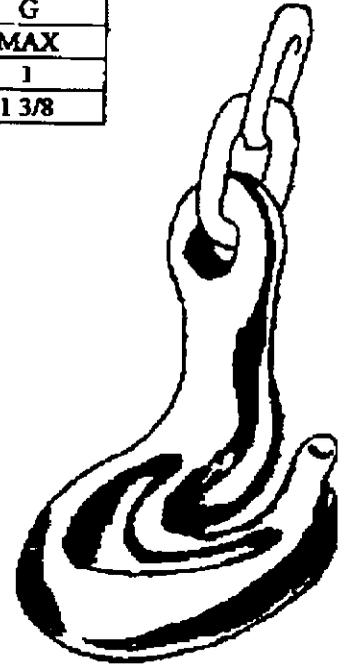


FIGURE 1. Grab hook

3.9 Finish. All steel parts with the exception of corrosion resistant steel, shall be treated with a metallic-type coating which will provide a cathodic protective coating to the base metal. This protective coating shall not crack, peel, or flake during normal usage and shall withstand any adverse conditions to which the chain assembly will be subjected in accordance with this specification. The protective coating shall in no way prevent compliance with the performance requirements of this specification.

3.10 Identification of product. The chain assembly shall be identified by- means of a metal tag permanently attached to the end link of the chain. The identification tag shall be marked in accordance with MIL-STD-130 and contain as a minimum Federal Stock Number contract number and contractor's name or manufacturer's code. This tag shall be constructed with sufficient durability to provide identification and not become detached for the service life of the chain.

3.11 Workmanship. The workmanship shall be in accordance with high quality manufacturing practices common to this type of equipment. Particular attention shall be given to the welding, and heat-treating processes. The chain assembly shall be free from injurious imperfections that may impair appearance or serviceability. The welded chain shall be free from all surface discontinuities in accordance with AWS B1.1. Dimensions and tolerances not specified, shall be consistent with the best shop practices. Dimensional tolerances shall not affect performance, operation or interchangeability of the chain assembly.

3.12 Reclaimed material. The use of reclaimed material shall be encouraged to the maximum extent possible.

4 VERIFICATION

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

- a. First article inspection (see 4.3)
- b. Conformance inspection (see 4.4)

4.2 Test conditions. Unless otherwise specified, all tests required by this specification shall be made at standard ambient conditions per MIL-STD-810.

4.3 First article inspection. The first article inspection shall consist of all tests specified (see 4.5)

4.3.1 First article sample. The first article test sample shall consist of two chain assemblies of the type required which are representative of the production chain assemblies. The sample shall be tested at a laboratory designated by the plant under the supervision of the procuring activity (see 6.1).

4.4 Conformance inspection. Conformance inspection shall consist of:

- a. Individual tests.
- b. Periodic sampling.

4.4.1 Individual tests. Each chain assembly shall be subjected to the examination of product (see 4.5.1 and 4.5.2).

4.4.2 Periodic sampling. Two chain assemblies shall be selected at random from each one hundred or fraction thereof produced and shall be subjected to the tests specified (see 4.5.1, 4.5.2, 4.5.3 and 4.5.4). Failure of any item being tested and inspected will postpone final acceptance until the cause of rejection has been investigated and corrected for entire contract quantity. Those items tested under this requirement shall be discarded and not be reworked or delivered as part of any end item lot.

MIL-DTL-6458D

4.5 Test methods.

4.5.1 Examination of product. Each chain assembly shall be inspected to determine compliance with the requirements specified herein with respect to material, dimensions, weight, protective coating, weld quality, marking, and workmanship.

4.5.2 Proof load test. Each chain assembly shall be tested with the static load as specified (see 3.5.1) applied to the grab hook and chain links for 30 seconds without permanent deformation or damage when wrapped around a six inch diameter bar and the hook fastened into a link maintaining and included angle of 30 ± 5 degrees.

4.5.3 Ultimate load test. Each sample chain assembly shall be subjected to the design strength in accordance with the procedure in 4.5.2 except that the static load requirements shall be as specified (see 3.5.2).

4.5.4 Hook test. Each sample chain assembly of the same type shall be joined as specified (see 3.4.3) and subjected to a load equivalent to the design strength. The hook and adjoining links shall be examined under full load for positive engagement. There shall be no evidence of slippage or impending failure of the hook, coupling link or chain.

4.5.5 Salt spray test. The first article sample chain assembly shall be subjected to salt spray test in accordance with method 509.3 of MIL-STD-810. After completion of the test, the chain assembly shall show no evidence of rust or corrosion.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DOD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contracting the responsible packaging activity.

6. NOTES

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

6.1 Intended use. The chain assemblies covered by this specification are to be used for securing vehicles and equipment in cargo type aircraft during flight. The Type I chain assembly is to be used in conjunction with the Type MB-1 cargo tie down. The Type II chain assembly is to be used in conjunction with the Type MB-2 cargo tie down.

6.2 Acquisition requirements. Procurement documents shall specify the following.

- a. Title, number, and date of this specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3)
- c. Type of chain assembly required (see 1.2 and 6.3).
- d. When first article is required (see 3.1).

6.3 Part or Identifying Number (PIN). The PIN will be constructed as follows:

M 6458- (see TABLE II for dash number)

TABLE II. Type P/N conversion

Type	PIN
I	M6458-1
II	M6458-2

6.4 Subject term (key word) listing.

Equipment
Heat treatment
Hook
Links
Metal
Steel alloy
Vehicles

6.5 Changes from the previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodian:
Air Force-99
Navy - AS
Army - GL

Preparing activity
Air Force - 82

Agent:
Air Force 99

Review activities:

Project 1670-0786

Army - AV