



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
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IN REPLY REFER TO

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Ser 05E2/37

26 Aug 15

From: Technical Warrant Holder, Ordnance Packaging, Handling, Storage and Transportation (PHST), Naval Sea Systems Command, Naval Systems Engineering Directorate (SEA05), Explosive Ordnance Engineering (EOE)

Subj: NAVSEA OP 2173/NAVAIR 19-100-1 (2 VOLUMES), THIRTEENTH REVISION, "APPROVED HANDLING EQUIPMENT FOR WEAPONS AND EXPLOSIVES", OF 1 JULY 2015

Ref: (a) NAVSEA OP 2173/NAVAIR 19-100-1, Twelfth Revision, of 1 May 2014

1. This letter issues NAVSEA OP 2173/NAVAIR 19-100-1, Thirteenth Revision, which supersedes reference (a).

2. The subject manual has been updated to provide the user with current information regarding approved Ordnance Handling Equipment (OHE). The following summarizes changes that have been incorporated during this revision:

- a. The drawing does not meet current NAVSEA specifications.
- b. The drawing does not specify test procedures.
- c. Added Adapter, Cradle, FWD Transport, TALD ADU-800/E.
- d. Added Adapter, Cradle, AFT Transport, ITALD ADU-814/E.
- e. Added Adapter, Transport, ADU-928/E.
- f. Removed Carrier, 8-inch Powder Tank, Mk 3 Mod 0, which is now obsolete and located in chapter 61.
- g. Removed Carrier, 8-inch Projectile, Mk 6 Mod 0, which is now obsolete and located in chapter 61.
- h. Removed Carrier, 8-inch Projectile, Mk 6 Mod 2, which is now obsolete and located in chapter 61.

Subj: NAVSEA OP 2173/NAVAIR 19-100-1 (2 VOLUMES), THIRTEENTH REVISION, "APPROVED HANDLING EQUIPMENT FOR WEAPONS AND EXPLOSIVES", OF 1 JULY 2015

i. Removed Carrier, 6-inch Projectile, Mk 7 Mod 1, which is now obsolete and located in chapter 61.

j. Changed Crate, Joint Modular Intermodal Container (JMIC), Assembly (part number 7516510) to obsolescent.

k. Added Dolly, VLS Canister Loader, Mk 33 Mod 1, which supersedes the now obsolescent Dolly, VLS Canister Loader, Mk 33 Mod 0.

l. Removed Truck, Powder Case, 8-inch, Mk 7 Mod 1, which is now obsolete and located in chapter 61.

m. Removed Truck, Projectile, 8-inch, Mk 9 Mod 1, which is now obsolete and located in chapter 61.

n. Removed Truck, Pallet, Hand 6,000 Pound, Mk 50 Mod 0, which is now obsolete and located in chapter 61.

3. Users are encouraged to submit any recommendations for improving this manual by using NAVSEA 4160/1, Technical Manual Deficiency/Evaluation Report (TMDER), which can be submitted electronically through the Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) website.

4. NSWC IHEODTD DET PICA G1 Engineering Agent (PHST Center) point of contact is Martin Orozco, Code G13, DSN 880-5925, Commercial (973) 724-5925, or Email: martin.orozco@navy.mil.



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SEA 05E2

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Explosives Safety Technical Manual (ESTM) DVD-ROM Distribution

**NAVSEA OP 2173 VOLUME 1/NAVAIR 19-100-1.1
(ADAPTERS THRU LATCHES)**

**THIRTEENTH REVISION
0640-LP-115-5194**

**APPROVED HANDLING EQUIPMENT
FOR
WEAPONS AND EXPLOSIVES**



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**THIS PUBLICATION SUPERSEDES NAVSEA OP 2173 VOLUME 1/NAVAIR 19-100-1.1
TWELFTH REVISION DATED 1 MAY 2014.**

PUBLISHED BY DIRECTION OF COMMANDER, NAVAL SEA SYSTEMS COMMAND

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NAVSEA OP 2173 VOLUME 1/NAVAIR 19-100-1.1 THIRTEENTH REVISION

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LIST OF EFFECTIVE PAGES

Total number of pages in this manual is 446. They are all Revision Thirteen pages. The date of issue for all pages in this manual is 1 July 2015. Change bars are included to assist the reader in identifying areas where changes to requirements/procedures have occurred.

NAVSEA TECHNICAL MANUAL CERTIFICATION SHEET

1 OF 1

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PURPOSE: TO PROVIDED THE USER WITH A COMPREHENSIVE MANUAL CONTAINING APPROVED NAVSEA/NAVAIR ORDNANCE HANDLING EQUIPMENT (OHE) AND APPLICABLE REFERENCE DATA.

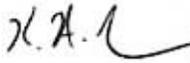
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FOREWORD

1. This document describes handling equipment approved for use with weapons and explosives. Each piece of equipment is illustrated and accompanied by a description, application and associated equipment paragraph. Technical reference data pertinent to the physical description and safe usage of the equipment is supplied. Applicable reference documents are listed in order to assist the reader in obtaining maintenance information.

2. NAVSEA OP 2173/NAVAIR 19-100-1 consists of two volumes, as follows:

[Volume 1](#) - Adapters thru Latches

[Volume 2](#) - Loaders thru Trucks

NAVAIR 11-140-25 is a supplement to NAVSEA OP 2173/NAVAIR 19-100-1.

3. A separate chapter is provided at the conclusion of volume 2 containing obsolete equipment.

4. Appendix A contains handling equipment approved for Army use only.

5. This publication is not intended to supersede, contravene, or modify any federal, state, municipal, or local laws and their supplements. If any provision of this publication appears to conflict with any other published regulation, this fact should be reported in detail using Technical Manual Deficiency/Evaluation Report (TMDER) in accordance with paragraph 1-12 of this manual.

6. This volume supersedes NAVSEA OP 2173/NAVAIR 19-100-1 Twelfth Revision, dated 1 May 2014, which should be destroyed.

7. Changes to this manual will be issued as required. Comments or suggestions relative to material to be included in such changes should be forwarded as specified in [chapter 1](#).

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CHAPTER 1

INTRODUCTION

1-1. PURPOSE OF NAVSEA OP 2173/NAVAIR 19-100-1.1. The intent of this publication is to provide the user with a comprehensive manual containing approved handling equipment and applicable reference data. This is in accordance with the [Naval Sea Systems Command \(NAVSEASYS COM\)/Naval Air Systems Command \(NAVAIRSYS COM\)](#) policy that only approved handling equipment may be used ashore, afloat or aloft for all weapons, ammunition and explosives.

1-2. SCOPE. This document is a compilation of approved NAVSEA/NAVAIR equipment designed to handle weapons, ammunition and explosives at Naval activities. The handling equipment covered includes items used with conventional weapons, guns, ammunition and explosives, surface launched weapons, air launched weapons and antisubmarine weapons. Most of the items covered are under the cognizance of the Naval Sea and Naval Air Systems Command. However, a few are under the cognizance of the Naval Facilities Engineering Command and the Naval Supply Systems Command. The NAVAIRSYS COM Aircraft and Weapon Support Equipment (AWSE) shown in this manual is provided for information purposes only. The authorization for actual use of AWSE is contained in NAVAIR 11-140-25 and the appropriate aircraft stores loading manuals.

1-3. ORGANIZATION OF PUBLICATION. The handling equipment contained in this manual is grouped into chapters according to noun-name; that is, adapters, carriers, dollies, etc., are grouped into individual chapters. Arranged in alphabetical order, the chapters comprise two volumes. Volume I contains the introductory chapter through the latches chapter. Volume II contains the loaders chapter through the truck chapter. Within each chapter, equipments with no designator are listed first, followed by equipment with NAVSEASYS COM (Mk/Mod) designators and concluding with NAVAIRSYS COM (ADU, HLK, etc.) designators. Introductory information concerning each piece of equipment is offered in order to provide a general overview of the function of each equipment group. Individual data sheets contain a descriptive paragraph followed by a current illustration of the equipment. A listing of all necessary physical and reference data immediately follows the illustration. An application section is provided as well as a summary of all items associated with the equipment. Obsolete equipment is contained in a separate chapter.

1-4. SAFETY PRECAUTIONS FOR HANDLING EQUIPMENT. The task of handling weapons ammunition and explosives is, by nature, hazardous. Accidents occurring during these operations kill and injure personnel, destroy essential supplies, damage valuable equipment and property, and reduce the speed and efficiency of the handling operation. Most accidents are avoidable provided the proper safety precautions are followed. They are caused by carelessness or unfamiliarity with the use and limitations of handling equipment, as well as laxness and failure to observe safety precautions. Accidents caused by misuse of handling equipment can be prevented by a thorough understanding of equipment operation, use and limitations. Handling equipment safety precautions are provided in: [NAVSEA OP 4](#) "Ammunition and Explosives Safety Afloat," [NAVSEA OP 5 Volume 1](#) "Ammunition and Explosives Safety Ashore,"

NAVSEA SW020-AD-SAF-010, “Explosives Safety Accidents and Lessons Learned,” and Naval Ships Technical Manual (NSTM) S9086-X6-STM-010/Ch-700 “Shipboard Ammunition Handling and Storage.” Special cautions/warnings for [NAVAIRSYSCOM](#) equipment are contained in appropriate aircraft loading manuals or the equipment operations manuals. All requirements contained in the safety manuals referenced for the subject weapons ammunition and explosives shall be observed, as appropriate, by all Naval activities afloat and ashore. In the event of a conflict between the safety precautions in this publication and those in the referenced documents, the instructions in the referenced documents shall prevail.

1-5. ORDNANCE HANDLING EQUIPMENT (OHE). OHE includes specially designed mechanical equipment used for assembling, disassembling, handling, transporting, lifting, positioning, rotating, or containing conventional weapons, ammunition, explosives and related components. While typically portable in nature and not self-propelled, OHE can serve as a link between permanent mounted and mobile lifting equipment (e.g., cranes, forklifts, etc.). OHE is used for dockside loading and offloading; intra-station handling in production, maintenance and storage areas; shipboard handling and transfer-at-sea operations. Examples include adapters, beams, carriers, dollies, hand trucks, restraint fixture slings, and stands.

1-6. WEAPONS SUPPORT EQUIPMENT (WSE). WSE includes all equipment whose primary function is support of the explosive ordnance component or weapon, and is used by organizational, intermediate, and depot level maintenance activities. WSE is divided into two categories: Weapons Handling Equipment and Weapons Test Equipment.

1-7. OBSOLESCEMENT EQUIPMENT. The word “obsolescent” appearing below an illustration indicates that the equipment can still be used for the specified purpose and replacement units or spare parts may possibly still be available in the Navy supply system. However, the item is no longer being procured (manufactured). Once an obsolescent piece of equipment is no longer available in the Navy supply system, then the applicable replacement item identified in equipment’s paragraph entitled “application” must be ordered as the replacement. An obsolescent piece of handling equipment is not considered “obsolete”, is still an in-service item, and, if applicable, shall be periodically weight tested every four years.

1-8. OBSOLETE EQUIPMENT. The word “obsolete” appearing below an illustration indicates that the equipment is no longer approved or logistically supported for use in the Navy stock system due to its age, its improvements, or revised requirements. The replacement item, if applicable, is identified in the related text in the paragraph entitled “application.”

1-9. ABBREVIATIONS FREQUENTLY USED THROUGHOUT MANUAL. The following is a compilation of frequently used abbreviations which must be understood in order to use the manual properly. These abbreviations are central to the usage of handling equipment and the understanding of maintenance tasks.

1-9.1. EIC/WUC CODES. Equipment Identification Codes (EIC) are assigned for repairable equipment only. The actual code number is assigned at Naval Sea Logistics Center (NAVSEALOGCEN) after receiving approval from NAVSEASYSYSCOM. The purpose of this code is to maintain a serial number for repair items that are expensive or stocked in great quantity. The NAVAIRSYSCOM

equivalent for EIC codes are Work Unit Codes (WUC's). A listing is found in NAVAIR 16-1-8.1.1. WUC's identify the system, sub-system assembly or component on which maintenance is performed.

1-9.2. MRC'S. Maintenance Requirement Cards (MRC's) are written by the In-Service Engineering Agent (ISEA) of a particular equipment. MRC's contain the actual steps required to perform maintenance on a particular piece of equipment. Policies governing the development of MRC's may be found in MIL-P-24534 (series). Refer to [OPNAVINST 4790.2 \(series\)](#) and [OPNAVINST 4790.4 \(series\)](#) for further policies. MRC's may be obtained from Commanding Officer, Naval Sea Logistics (NAVSEALOGCEN) Detachment San Diego, Code 05316, 4755 Railroad Way, San Diego, CA 92136-5503 or Naval Air Technical Data and Engineering Service Command (NATEC), Code 3.3A54, Naval Air Station North Island, PO Box 357031, San Diego, CA 92135-7031.

1-9.3. MIP'S. All MRC's are accompanied by Maintenance Index Pages (MIP's). MIP's offer an index of required maintenance actions detailed by MRC's covered on an MRC card. They also provide information regarding how often and who is permitted to perform maintenance tasks listed in the MRC.

1-9.4. SM&R CODES. Source Maintenance and Recoverability (SM&R) Codes are provided in order to determine exactly who may perform maintenance on a piece of equipment. The SM&R code cites the lowest level of personnel permitted to perform maintenance or use the item.

1-9.5. OR-67. An OR-67 slash sheet instruction governs the proper usage of a particular piece of handling equipment. The document is used by all activities involved in the use of Packaging, Handling, Storage, and Transportation (PHST) equipment. All physical data applicable to the particular piece of equipment is provided. Copies of OR-67's may be obtained from Director, [Naval Surface Warfare Center, Indian Head Explosive Ordnance Disposal Technology Division \(NSWC IHEODTD\) Det Picatinny](#), Code G13, Building 458, Whittemore Avenue, Picatinny Arsenal, NJ 07806-5000.

1-9.6. OR-68'S AND SPECIAL PACKAGING INSTRUCTIONS (SPI'S). OR-68's and SPI's provide container packaging procedures. These documents are referenced here when the procedures are associated with Vertical Launch System (VLS) equipments. These equipments are assembled on the VLS canisters when these canisters are converted from launcher to container. Copies of OR-68's and SPI's may be obtained from Director, [NSWC IHEODTD Det Picatinny](#), Code G13, Building 458, Whittemore Avenue, Picatinny Arsenal, NJ 07806-5000.

1-9.7. OR-99. An OR-99 instruction contains unscheduled repair procedures. This document establishes the requirements and standardizes the procedures to be followed by activities performing intermediate and depot maintenance of PHST equipment. Copies of OR-99's may be obtained from Director, [NSWC IHEODTD Det Picatinny](#), Code G13, Building 458, Whittemore Avenue, Picatinny Arsenal, NJ 07806-5000.

1-10. ARMY EQUIPMENT. A listing of equipment authorized for use with Army items is contained in [Appendix A](#).

1-11. REFERENCE DOCUMENTS. A list of documents that contain the information referenced throughout this manual and related explosives safety technical documentation is presented separately on this [DVD-ROM](#).

1-12. REPORTING DEFICIENCIES IN MANUAL. Ships, training activities, supply points, depots, Naval shipyards and supervisors of shipbuilding are requested to arrange for the maximum practical use and evaluation of NAVSEA technical manuals. All errors, omissions, discrepancies and suggestions for improvement to NAVSEA technical manuals shall be reported (hard copy or electronically) to the Commander, Naval Surface Warfare Center, Port Hueneme Division (Code 312), 4363 Missile Way, Port Hueneme, CA 93043-4307 on NAVSEA Technical Manual Deficiency/Evaluation Report, NAVSEA Form 4160/1. A copy of NAVSEA [TMDER \(Form 4160/1\)](#) is included at the end of this publication. Activities are strongly encouraged to use the internet to expedite the TMDER process by using the NSWC/PHD website at <https://nsdsa.nmci.navy.mil>. When using this website, the correct publication number for this manual must be entered as follows: OP02173(4 spaces)01000700. Do not include the parentheses. To expedite a response, submit comments, recommendations for change, or requests for clarification directly to ihdiv.estm@navy.mil. All feedback comments shall be thoroughly investigated and originators will be advised of resolution. If you prefer to submit a TMDER using a word file, [click here](#). For NAVAIR equipment discrepancies, NAVSEA Form 4160/1 shall be used in place of OPNAV 4790/66 Technical Publications Deficiency Report (TPDR). This will ensure that [NSWC IHEODTD Det Picatinny](#), as the Technical Manual Management Activity (TMMA), maintains an adequate record of all reported deficiencies.

1-13. OBTAINING COPIES OF MANUAL. Copies of this Explosive Safety Technical Manuals DVD-ROM may be obtained from [NSWC IHEODTD Det Picatinny](#), Code G13, Building 458, Whittamore Avenue, Picatinny Arsenal, NJ 07806-5000. Units afloat and ashore may reproduce hard copies or replicate additional DVD-ROMs of this manual.

1-14. DATE OF PUBLICATION. The publication date of this technical manual, and its revisions and changes, as shown on the title page, is the estimated date of distribution. However, the manual, revision, or change is effective upon receipt, regardless of the date shown on the title page.

CHAPTER 2

ADAPTERS

2-1. GENERAL. This chapter provides information on adapters used with various equipment during the handling of weapons, ammunition and explosives. Item sheets are provided detailing information about specific adapters.

2-2. DESCRIPTION

a. Adapters are used with several kinds of equipment in both shipboard and shore station activities. Adapters are used for a variety of different reasons and a number of different configurations. The adapters described in this chapter are of two different categories: (1) skid and truck adapters and (2) special adapters. Skid and truck adapters include bomb skid adapters, bomb truck adapters, missile skid adapters, trailer adapters, and weapon loader adapters. Special adapters include band adapters, container adapters, cradle arm adapters, forklift adapters, hoist adapters, hook adapters, soft belt adapters, and rail adapters.

b. Skid and truck adapters generally consist of metal frames or assemblies which are formed like cradles, racks, supports, or brackets to fit the sizes and contours of the weapons being handled. Some adapters in this category are adjustable or may be equipped with adjustable accessories to accommodate loads of varying dimensions. The adapters are generally equipped with handscrews, detent pins, or quick-release pins for easy attachment to and from the associated equipment.

c. Special adapters include a wide variety of various size assemblies that may be shaped like bands, belts, brackets, cradle arms, eyes, hooks or shackles. The assemblies may be made of metal or other material, or they may be composed of two or more materials. Some of these adapters may be fitted with attachments that enable them to be lifted by hoisting equipment. Other adapters are equipped with fork receptacles allowing use with forklift vehicles. Special adapters are usually equipped with handscrews, detent pins, or quick release pins for easy attachment to and detachment from the associated equipment.

2-3. OPERATION

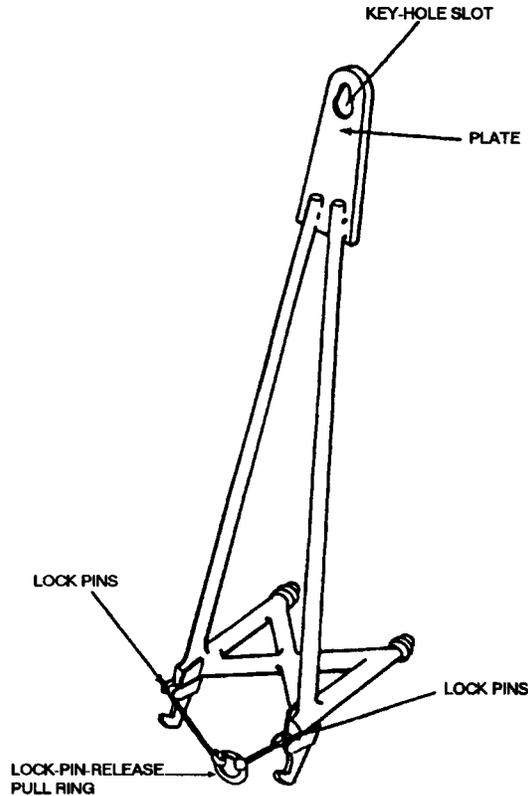
a. Skid and truck adapters are used with a variety of vehicles such as dollies, skids, trailers and trucks to transport bombs, mines, missiles, projectiles, rockets and torpedoes. These adapters are also used to transport miscellaneous ordnance items such as rocket motors, fuzes, flares and sonobuoys during various aircraft rearming procedures aboard aircraft carriers and at shore stations. These adapters are generally provided with tiedown straps or similar equipment to hold the load securely to the vehicle during transportation. Some adapters have facilities for limited vertical or horizontal movement to facilitate the positioning of a weapon for aircraft loading.

b. Special adapters have various uses which are described in detail in the sections covering individual items. Hoist adapters are used to hoist bombs or other weapons during rearming operations aboard aircraft carriers or at shore stations. Forklift or hook adapters are used to enable forklift trucks to

handle cargo that is usually handled by cranes, boom trucks, or other overhead lifting equipment. Adapters are used with handlift trucks to enable the trucks to handle large weapon containers in limited spaces in warehouses or magazines. Other special adapters are used for handling several types of weapons or weapon components and associated items during operations involving assembling, testing, inspecting, servicing, and loading both aboard ship and at shore stations.

**ADAPTER, ARMAMENT HOIST BOOM
P/N S6170-75001-012
NSN 1R 1730-00-859-3178**

DESCRIPTION. Armament Hoist Boom Adapter is a welded tubular steel structure. A plate has a keyhole slot for locking onto the fuselage clevis bolt at the top of the boom. Two hook-shaped brackets provide support for the HLU-288/E Bomb Hoist. Two lock pins located at the rear of the base secure the boom to the fuselage fittings. The lock pins are controlled by cables fastened to the lock-pin-release pull ring. When removing the boom, a pull on the lock-pin-release pull ring retracts the lock pins from the fuselage fittings.



OBSOLESCE

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	NAVAIR 01-230HL-75
EIC/WUC	22BZO
SM&R Code	None

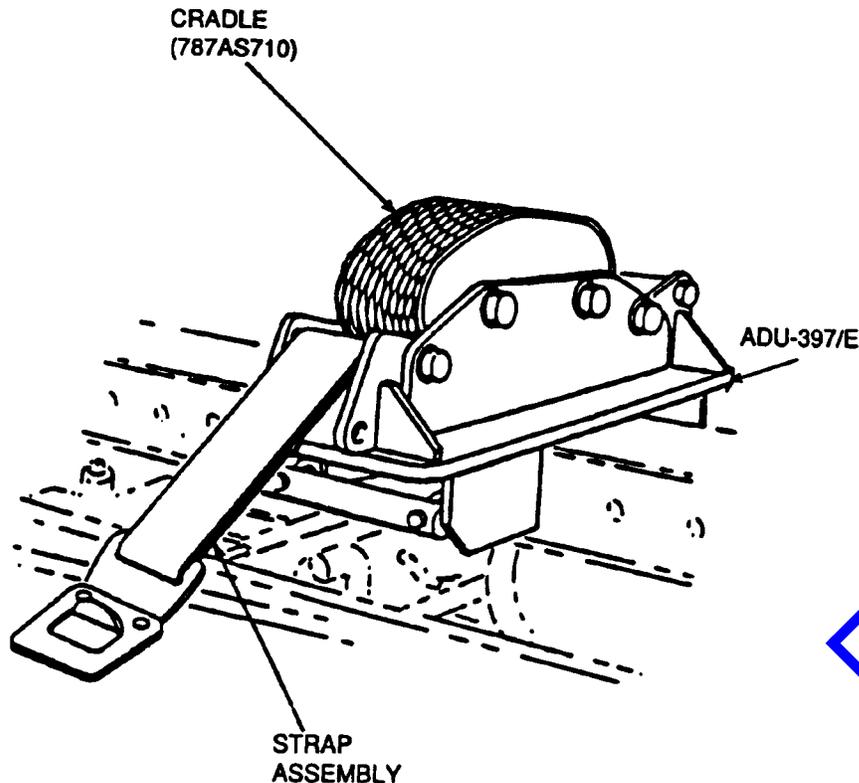
PHYSICAL DATA:	
Length	23.00 inches
Width	6.00 inches
Height	6.00 inches
Weight	6.20 pounds
SWL	2000 pounds

APPLICATION. Armament Hoist Boom Adapter is used for loading stores onto the SH-3 helicopter. The boom, in conjunction with the HLU-288/E Bomb Hoist, is used to load the Sergeant Fletcher fuel tank and Mk 46 Torpedo. Armament Hoist Boom Adapter is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E.

**ADAPTER, CRADLE, AFT
P/N 787AS710
NSN 1R 1730-01-059-2938**

DESCRIPTION. Aft Cradle Adapter consists of a convex base plate with a bonded rubber pad and mounting brackets. The mounting brackets are provided with bolts for attaching the adapter to the applicable handling equipment. No provisions have been made on the adapter for securing the load; therefore, the tiedown straps on the interfacing adapters must be used during handling, transport and loading operations.



OBSOLESCENT

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

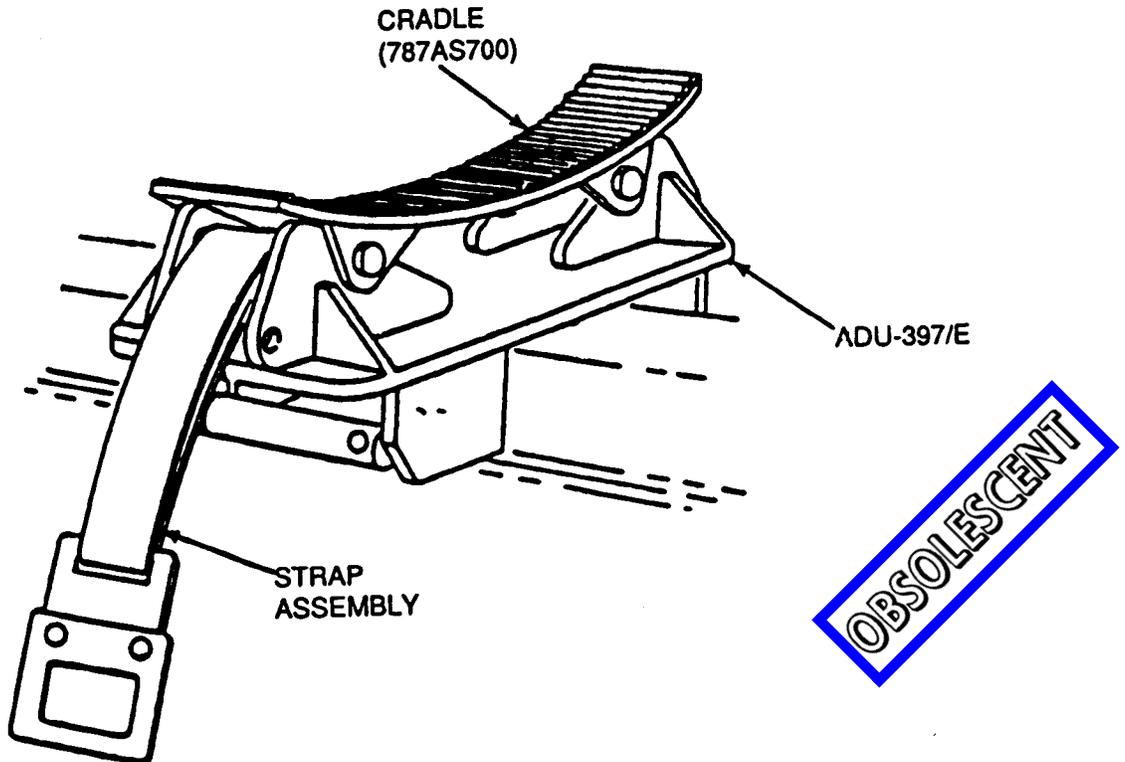
PHYSICAL DATA:	
Length	10.75 inches
Width	3.00 inches
Height	6.00 inches
Weight	.5 pounds
SWL	2000 pounds

APPLICATION. Aft Cradle Adapter is designed to replace the rollers on the ADU-397/E Roller Cradle Adapter. When used in conjunction with the Forward Cradle Adapter, and mounted on the ADU-400/E Lift Load Adapter and applicable transport vehicle, this combination provides a means of handling, transporting, and loading RMK-19/31/34 Target Reeling Machines. The Cradle Adapter is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Forward Cradle Adapter 787AS700, Roller Cradle Adapter ADU-397/E, Weapons Skid Lift Loading Adapter ADU-400/E, Trailer Adapter ADU-406/E, Munitions Transporter MHU-191/M, Munitions Trailer MHU-126A/M.

ADAPTER, CRADLE, FORWARD
P/N 787AS700
NSN 1R 1730-01-058-5633

DESCRIPTION. Forward Cradle Adapter consists of a concave base plate with a bonded rubber pad and mounting brackets. The mounting brackets are provided with bolts for attaching the adapter to the applicable handling equipment. No provisions have been made on the adapter for securing the load; therefore, the tiedown straps on the interfacing adapters must be used during handling, transport and loading operations.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

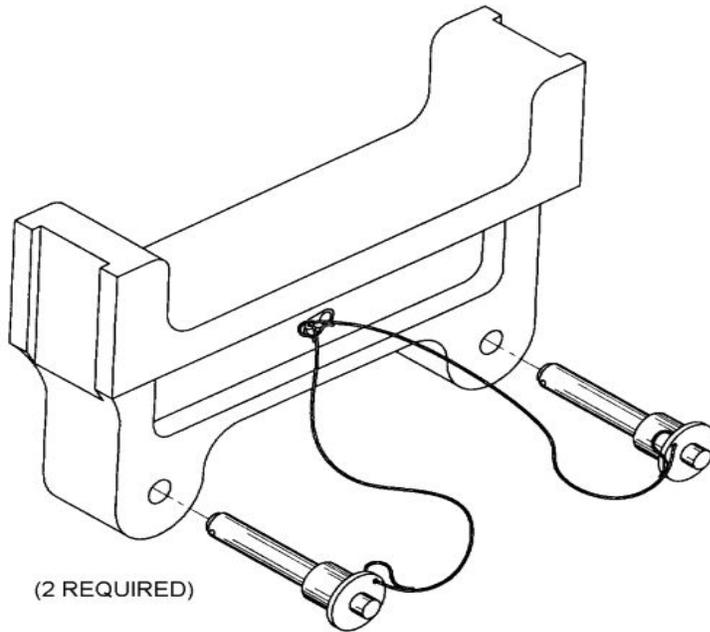
PHYSICAL DATA:	
Length	12.00 inches
Width	4.00 inches
Height	2.50 inches
Weight	4 pounds
SWL	2000 pounds

APPLICATION. Forward Cradle Adapter is designed to replace the rollers on the ADU-397/E Cradle Adapter. When used in conjunction with the Aft Cradle Adapter, mounted on the ADU-400/E Lift Load Adapter and applicable transport vehicle, this combination provides a means of handling, transporting and loading RMK-19/31/34 Target Reeling Machines. The Forward Cradle Adapter is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Aft Cradle Adapter, (P/N 787AS710), Roller Cradle Adapter ADU-397/E, Weapons Skid Lift Loading Adapter ADU-400/E, Trailer Adapter ADU-406/E, Munitions Transporter MHU-191/M, Munitions Trailer MHU-126A/M.

**ADAPTER, CRADLE, FWD TRANSPORT, TALD
 ADU-800/E
 DL 665AS900
 NSN 1RW 1730-01-442-4989**

DESCRIPTION. ADU-800/E Tactical Air-Launched Decoy (TALD) Fwd Transport Cradle Adapter consists of a square hardness, polyether urethane casting resin dow plastics all black color saddle base with a smooth, oil resistant, neoprene rubber pad equipped with two lanyards containing quick-release pins terminating at each end.



REFERENCE DATA:	
ISEA	NAWC-WD Point Mugu
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 01-1A-75
Op. Proc.	NAVAIR 11-140-6.1
	NAVAIR 11-140-25
EIC/WUC	None
SM&R Code	PAOGL

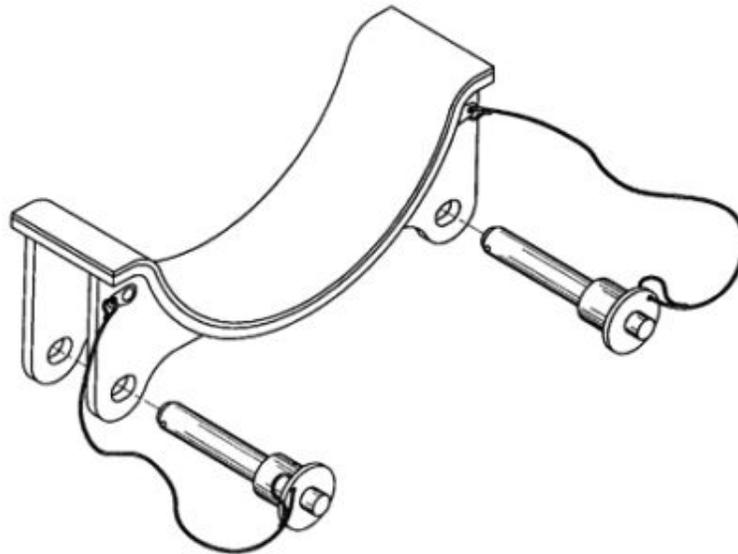
PHYSICAL DATA:	
Length	13.25 inches
Width	3.00 inches
Height	8.50 inches
Cubic	1.40 Cu. Ft
Weight	6 pounds
SWL	600 pounds

APPLICATION. The ADU-800/E TALD Fwd Transport Cradle Adapter is designed to interface with the AERO 58A (Front & Rear) Skid Adapters, which are installed on the MHU-191/M Munitions Transporter, to provide a square cradle surface to conform to the square fuselage shape of the TALD ADM-141 Air Vehicles (AV) for all series. TALD requires the use of two ADU-800/E Adapters to support the forward and aft sections of the AV. The adapter is used in conjunction with common Airborne Weapons Support Equipment (AWSE) to transport TALD to/from and beneath the applicable weapons loading stations on F-14, S-3 and F/A-18 aircraft.

ASSOCIATED EQUIPMENT. AERO 51 Series Munitions Trailer, AERO 58A Skid Adapters (front & rear), ADU-483/E Skid Adapter Assemblies (2 front/2 Rear), ADU-814/E ITALD Aft Transport Cradle Adapter, MHU-125/E Platform Skid, MHU-126 Series Small Munitions Trailer, MHU-191/M Munitions Transporter, MHU-202/M Small Munitions Trailer and A/M32K-4/A Rough Terrain Trailer.

**ADAPTER, CRADLE, AFT TRANSPORT, ITALD
 ADU-814/E
 DL 665AS910
 NSN 1RW 1730-01-444-0035**

DESCRIPTION. ADU-814/E Improved Tactical Air-Launched Decoy (ITALD) Aft Transport Cradle Adapter consists of a round aluminum alloy saddle base with a smooth black, oil resistant, neoprene rubber pad equipped with two lanyards containing quick-release pins terminating at each end.



REFERENCE DATA:	
ISEA	NAWC-WD Point Mugu
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 01-1A-75
Op. Proc.	NAVAIR 11-140-6.1
.....	NAVAIR 11-140-25
EIC/WUC	None
SM&R Code	PAOGL

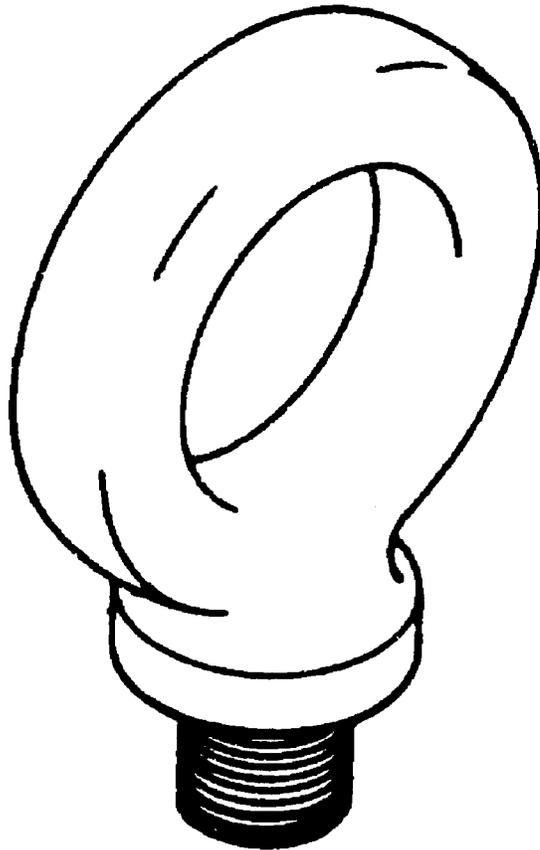
PHYSICAL DATA:	
Length	11.00 inches
Width	3.00 inches
Height	4.375 inches
Cubic	1.15 Cu. Ft.
Weight	3 pounds
SWL	600 pounds

APPLICATION. The ADU-814/E ITALD Aft Transport Cradle Adapter is designed to interface with the AERO 58A (Front & Rear) Skid Adapters, which are installed on the MHU-191/M Munitions, to provide a rounded cradle surface to conform to the round fuselage shape of the ITALD ADM-141C Air Vehicles (AV). ITALD uses one ADU-800/E Adapter to support the square forward section only and the ADU-814/E Adapter for cradling the rounded aft section of the AV. The ADU-800/E and the ADU-814/E Adapters are used in conjunction with common Airborne Weapons Support Equipment (AWSE) to transport ITALD to/from and beneath the applicable weapons loading stations on F/A-18 aircraft.

ASSOCIATED EQUIPMENT. AERO 51 Series Munitions Trailer, AERO 58 Skid Adapters (front & rear), ADU-483/E Skid Adapter Assemblies (2 front/2 Rear), ADU-800/E TALD Fwd Transport Cradle Adapter, MHU-125/E Platform Skid, MHU-126 Series Small Munitions Trailer, MHU-191/M Munitions Transporter, MHU-202/M Small Munitions Trailer and A/M32K-4/A Rough Terrain Trailer.

**ADAPTER, EYEBOLT
(MMC 1B00509)
P/N 1779848
NSN 9B 5306-00-926-5593**

DESCRIPTION. Eyebolt Adapter is constructed of steel with a one inch threaded shaft.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

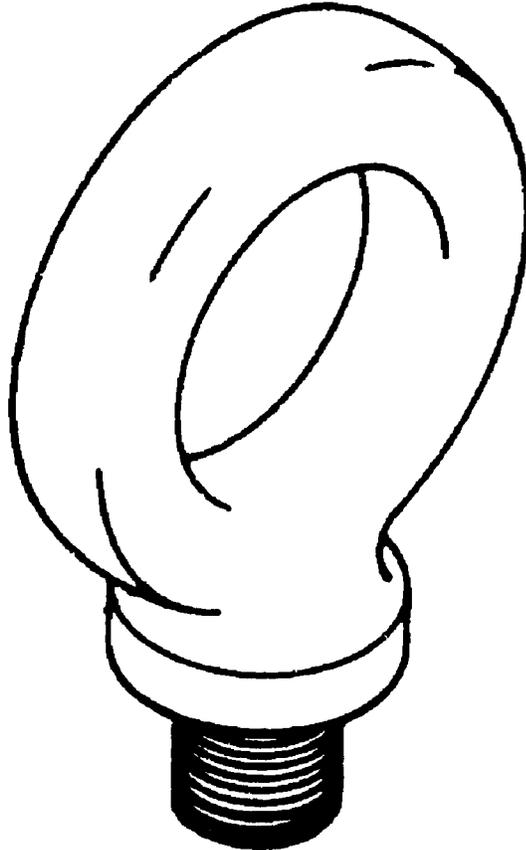
PHYSICAL DATA:	
Length	4.88 inches
Width	2.81 inches
Height	0.69 inches
Weight	1.5 pounds
SWL	760 pounds

APPLICATION. Eyebolt Adapter is used as a lifting point on the anchor section of the Mk 57 Underwater Exercise Mine. Two Eyebolt Adapters are used in conjunction with Lifting Plate (MMC 1L00517) and appropriate hoisting equipment for raising, lowering and upending operations.

ASSOCIATED EQUIPMENT. Lifting Plate (MMC 1L00517).

**ADAPTER, EYEBOLT
(MMC 1B00513)
P/N 1705491
NSN 9B 5306-00-926-5594**

DESCRIPTION. Eyebolt Adapter is constructed of steel with a one inch threaded shaft.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

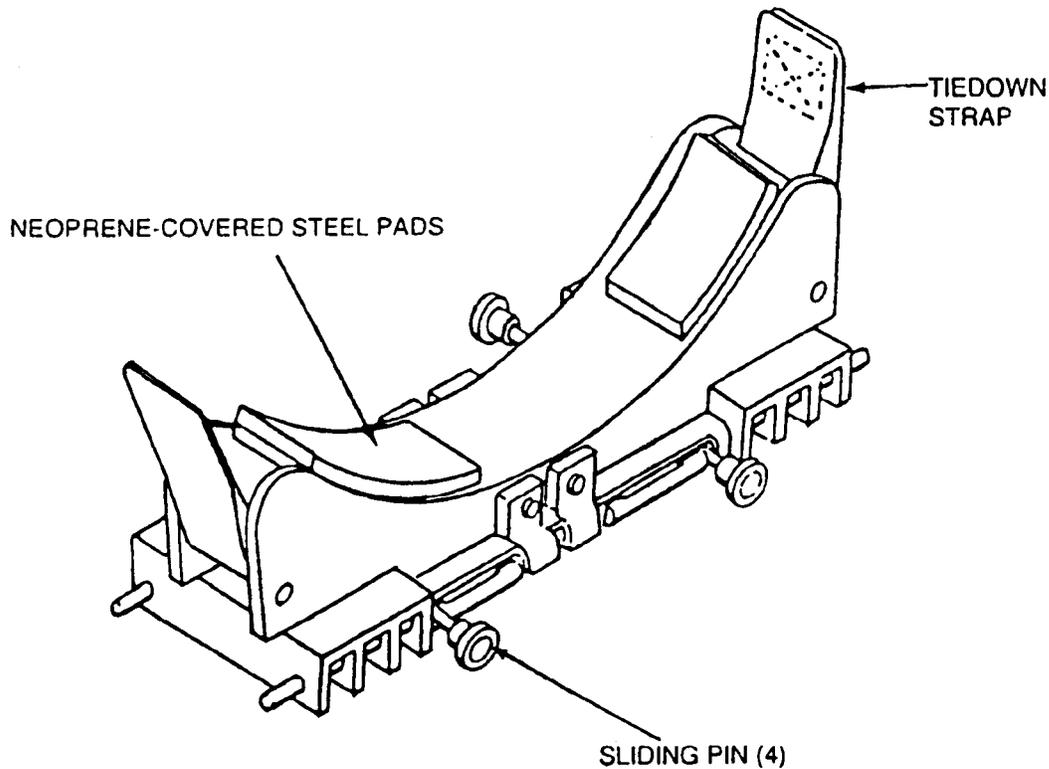
PHYSICAL DATA:	
Length	6.06 inches
Width	4.43 inches
Height	3.19 inches
Weight	3.75 pounds
SWL	2500 pounds

APPLICATION. Eyebolt Adapter is used as a lifting point on the assembled mechanism and explosive sections of the Mk 57 Underwater Exercise Mine or the explosive section for the Mk 67 (SLMM) Mine. The adapter is fastened at the aft end of the explosive section and is used as a lifting eye for hoisting and lowering operations during marriage to the anchor.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Eyebolt Adapter.

ADAPTER, FUEL TANK (F/A-18)
P/N 74D750042-1001
NSN 1R 1730-01-162-9287

DESCRIPTION. Fuel Tank Adapter is a steel frame with adjustable neoprene-covered steel pads. The pads conform to the contour of the fuel tank. The adapter is secured to a trailer or skid by four sliding pins that engage rail holes.



REFERENCE DATA:	
ISEA	NAVAIRSYSCOM
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC . . . . .	.92HEV
SM&R Code	PEOGG

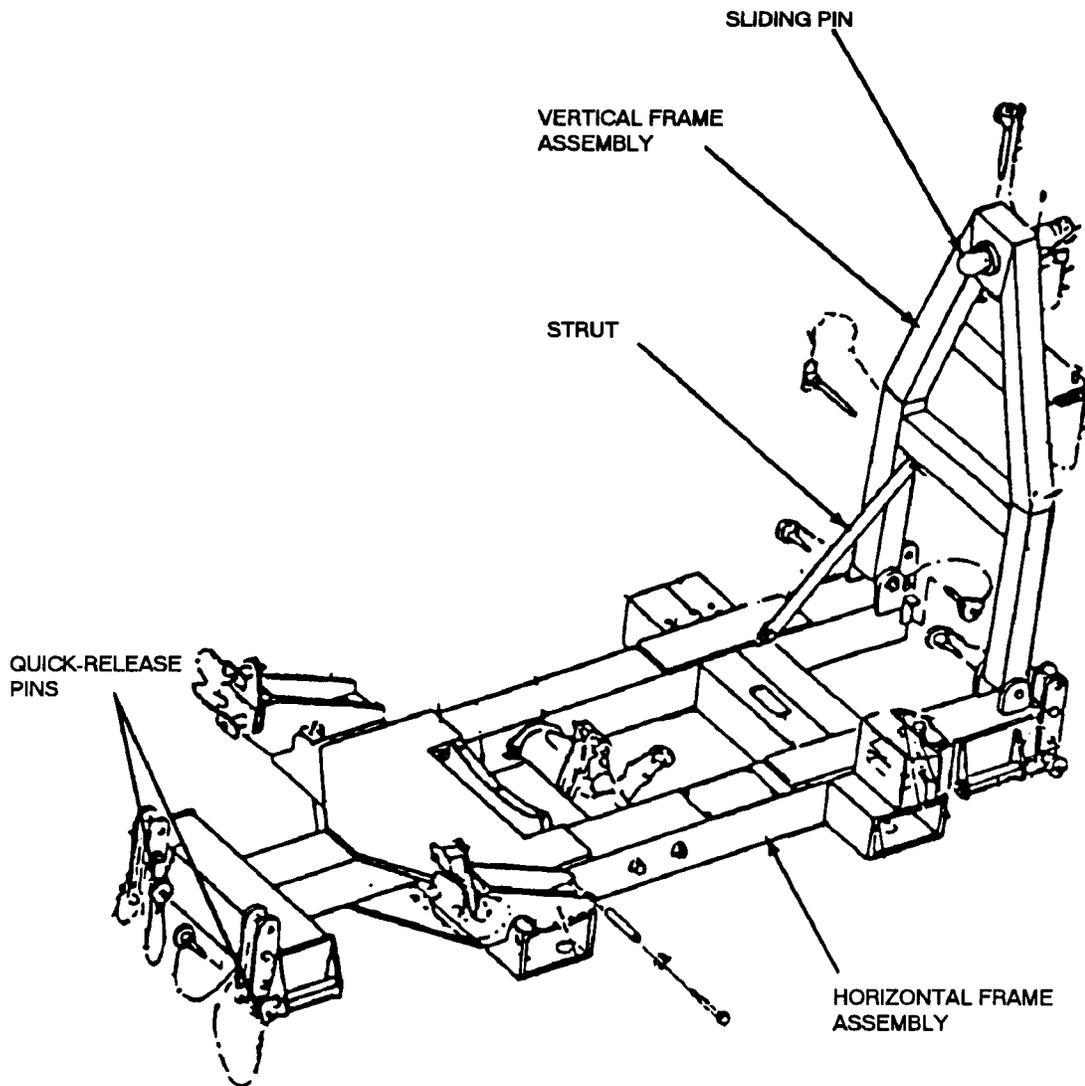
PHYSICAL DATA:	
Length	5.00 inches
Width	19.00 inches
Height	6.00 inches
Weight . . . . .	.25 pounds
SWL	2,538 pounds
	*(per pair)

APPLICATION. Fuel Tank Adapter provides a means of transporting and positioning fuel tanks, with a length of 190 inches and a diameter of 28.8 inches, under all stations of the F/A-18 aircraft. A tiedown strap with an over-center takeup buckle is provided to secure the tank. Two adapters are required for transporting one fuel tank. The adapters are also used with the AN/ALQ 170 pod and other stores with an approximate 28-inch diameter.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191E/M, Small Munitions Trailer MHU-171A/E, Munitions Trailer MHU-126A/M, Aft Height Adapter ADU-433A/E, Fwd Height Adapter ADU-434A/E and Platform Skid MHU-125A/E.

ADAPTER, GUN HANDLING (F/A-18)
P/N 74D750013-1003, P/N 74D750500-1003
NSN 1R 1730-01-109-0914, 6RD 4920-01-449-1619

DESCRIPTION. Gun Handling Adapter consists of a horizontal and a vertical frame assembly, both of which are tubular aluminum. The vertical frame assembly is attached to the horizontal frame assembly by pins which serve as hinges to allow the frame to be lowered to a stowed position when not in use and raised to the upright position when ready for use. Struts, with quick-release pins, secure the vertical frame in the upright position. Three attachment points on the horizontal frame are designed to accommodate the ammunition drum assembly while a sliding pin arrangement on the vertical frame engages the gun butt. Fork pockets are provided on the horizontal frame for fork lift type handling of the adapter. Four hinged links can be used to secure the adapter to rail type support equipment while additional fittings have been provided for use with larger shorebased trailers.



**ADAPTER, GUN HANDLING (F/A-18)
P/N 74D750013-1003, P/N 74D750500-1003
NSN 1R 1730-01-109-0914, 6RD 4920-01-449-1619**

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	92HPB
SM&R Code	PEOGG

PHYSICAL DATA:	
Length	52.00 inches
Width	24.00 inches
Height	9.00 inches
Weight	75 pounds
SWL	874 pounds

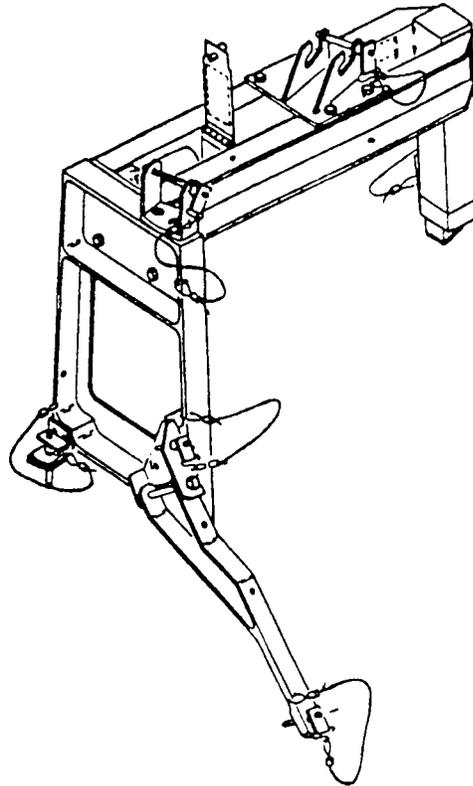
APPLICATION. Gun Handling Adapter is designed to be used in conjunction with the associated support equipment for handling, transporting and loading the M61A1 Palletized Gun System on the F/A-18 Aircraft. The adapter may also be used as a maintenance and/or temporary storage platform for the gun system. P/N 74D750013-1003 is used on F/A-18A-D; P/N 74D750500-1003 is used on F/A-18A-G models.

ASSOCIATED EQUIPMENT. Gun System Hoisting Adapter (P/N 74D750011-1001), Gun Guide Rail Adapter (P/N 74D750012-1001), Bomb Hoist HLU-288/E, Munitions Transporter MHU-191/M, Munitions Trailer MHU-126 Series, Munitions Trailer A/M 32K-4 Series, Small Munitions Trailer MHU-151/M, Weapons Loader A/S 32K-1 Series.

**ADAPTER, GUN SYSTEM HOISTING (F/A-18)
P/N 74D750011-1001**

NSN 1R 1730-01-063-9561

DESCRIPTION. Gun System Hoisting Adapter consists of an aluminum tripod structure equipped with quick-release pins which engage receptacles on the mounting surface when the adapter is in use. The bottom of the tripod legs which contact the mounting surface are equipped with nylon pads. A folding leg is provided on the adapter to increase stability during use. The legs can be retracted and stowed when not in use. Two fittings, equipped with quick-release pins, are mounted on top of the adapter to hold a manual bomb hoist boom in position.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-000AC-GSE-000
Op. Proc.....	NAVAIR AG-000AC-GSE-000
EIC/WUC.....	21GZP
SM&R Code	PEOGG

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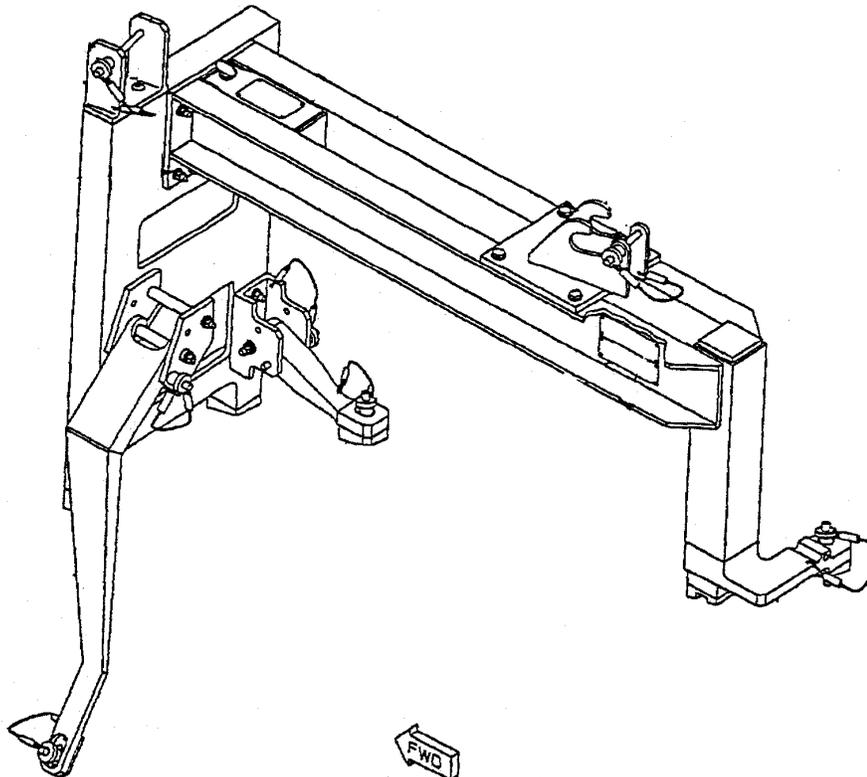
Length	25.15 inches
Width	20.00 inches
Height.....	27.00 inches
Weight	60 pounds
SWL	874 pounds

APPLICATION. Gun System Hoisting Adapter is designed to support loading and downloading of the Double Ended Gun System Pallet.

ASSOCIATED EQUIPMENT. Gun Handling Adapter (P/N 74D750013-1003 and P/N 74D50500-1003), Gun Guide Rail Adapter (P/N 74D750012-1001), Bomb Hoist HLU-288/E and Maintenance Stand B-4A.

**ADAPTER, GUN SYSTEM HOISTING (F/A-18)
P/N 74D750088-1001, -1003 AND -1005
NSN 1R 3940-01-388-9971 (-1001), 1R 3940-01-463-4391 (-1003),
1R 3940-01-493-1983 (-1005)**

DESCRIPTION. Gun System Hoisting Adapter consists of an aluminum tripod structure equipped with quick-release pins which engage receptacles on the mounting surface when the adapter is in use. The bottom of the tripod legs which contact the mounting surface are equipped with nylon pads. A folding leg is provided on the adapter to increase stability during use. The legs can be retracted and stowed when not in use. Two fittings, equipped with quick-release pins, are mounted on top of the adapter to hold a manual bomb hoist boom in position.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR AG-000EF-GSE-000
EIC/WUC .....	.21GZP
SM&R Code	PEOGG

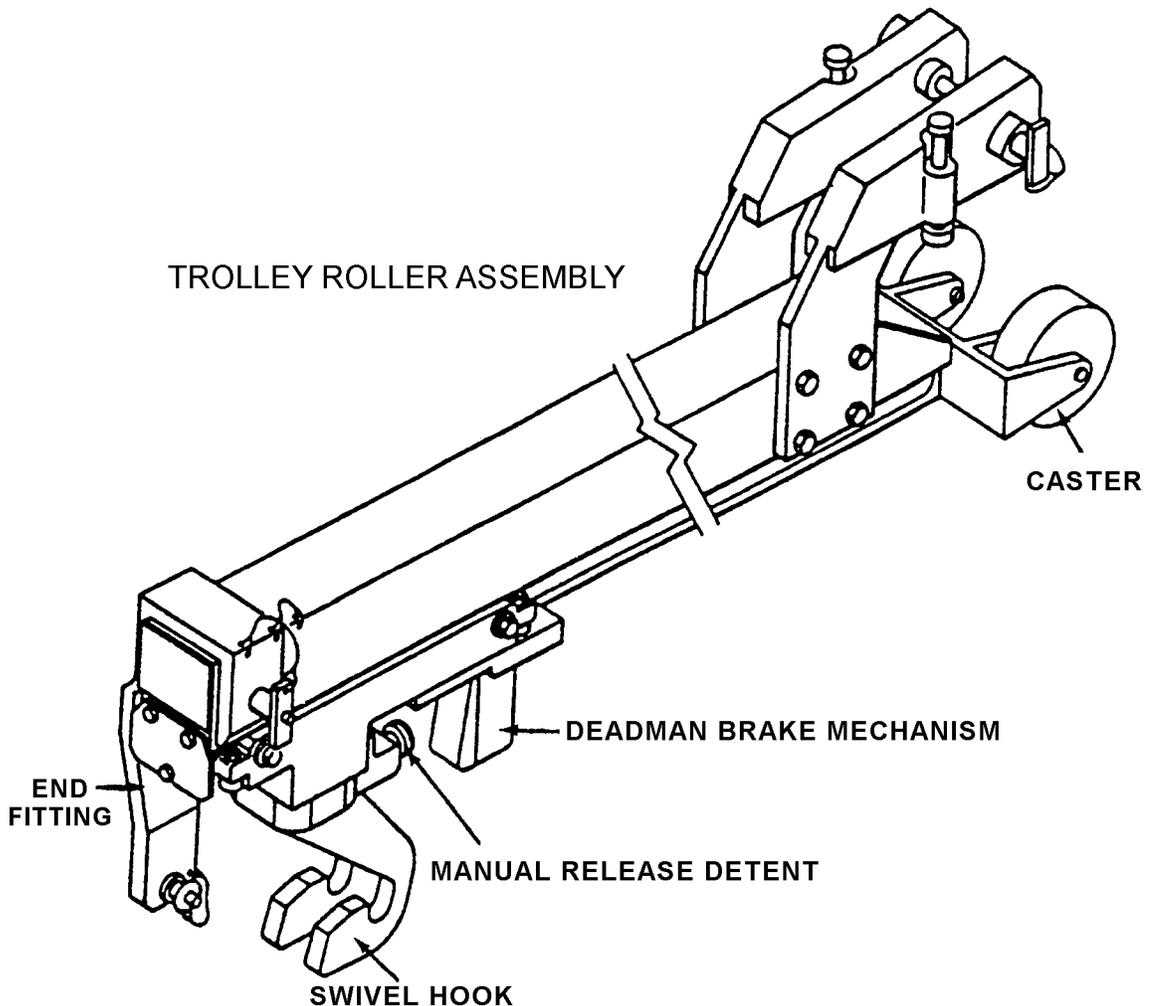
PHYSICAL DATA:	
Length	25.15 inches
Width	20.00 inches
Height	27.00 inches
Weight	60 pounds
SWL	874 pounds

APPLICATION. Gun System Hoisting Adapter is designed to support installation and removal of the M-61 Double Ended Gun System Pallet on F/A-18A/B/C/D/E/F aircraft.

ASSOCIATED EQUIPMENT. Gun Handling Adapter (P/N 74D750013-1003 and P/N 74D750500-1003), Gun Guide Rail Adapter (P/N 74D750012-1001), Bomb Hoist HLU-288/E and Maintenance Stand B-4A.

ADAPTER, HOIST
P/N 74D750030-1003
NSN 1R 1730-01-163-0294

DESCRIPTION. Hoist Adapter consists of an aluminum monorail beam assembly and a trolley roller assembly. The monorail beam is provided with special end fittings which attach to the F/A-18 aircraft fuselage station. The trigger assembly functions as a deadman brake mechanism. The trolley roller assembly permits the attachment of, and provides stand-off support for an Bomb Hoists HLU-288/E or AERO 14C. The trolley rolls along a track allowing the transfer of pods or missiles to the station being loaded. A quick release pin secures the aft end of the adapter to the aircraft through a hole in the trailing edge flap inboard hinge fitting. The forward end of the adapter is held in position by a bracket assembly which attaches to the side of the inlet duct with a quick release pin. A swivel hook with manually released detent, located under the trolley and brake, cradles the hoist-pulley shaft that supports the bomb hoist and allows it to be rotated during use. The beam is equipped with casters for manual transportation to and from the aircraft. The adapter is constructed of aluminum and steel.



**ADAPTER, HOIST
P/N 74D750030-1003
NSN 1R 1730-01-163-0294**

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC .....	.92HCP
SM&R Code	PEOGG

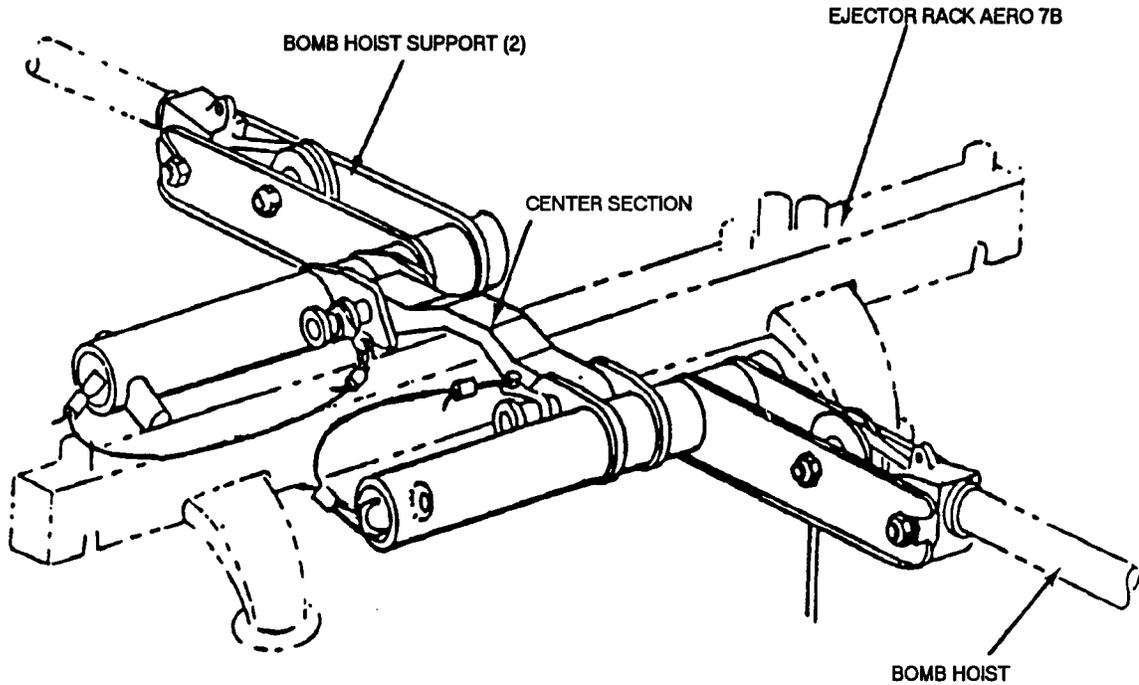
PHYSICAL DATA:	
Length	110.81 inches
Width	8.00 inches
Height	19.38 inches
Weight	60 pounds
SWL	510 pounds

APPLICATION. Hoist Adapter is used in conjunction with the various hoisting beams and adapters for the installation and removal of AN/ASS-38 Forward Looking Infrared (FLIR) imaging set pods and AIM-7 SPARROW or AIM-120 AMRAAM Missiles. Loading is accomplished by installing the hoisting adapter on the aircraft and securing the HLU-288/E or AERO 14C Bomb Hoist to the clevis on the trolley. The hoist cable is then attached to the swivel fitting on the (74D750031-1001) Hoisting Beam for hoisting the AN/ASS-38 FLIR pod or the (74D75003-1001) Missile Cradle Adapter for hoisting the AIM-7 SPARROW Missile.

ASSOCIATED EQUIPMENT. Hoisting Beam (74D750031-1001), Missile Cradle Adapter (74D750003-1001), Bomb Hoist HLU-288/E.

**ADAPTER, HOIST, CENTERLINE, (A6)
P/N 1128SME-40008-1A
NSN 1R 1730-00-414-7500**

DESCRIPTION. Centerline Hoist Adapter is a steel weldment consisting of a center section and two bomb-hoist supports that extend outward. Each of the supports houses a pulley.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 16-45-2355-1
Op. Proc.	NAVAIR 16-45-2355-1
EIC/WUC	22BZO
SM&R Code	PAOZZ

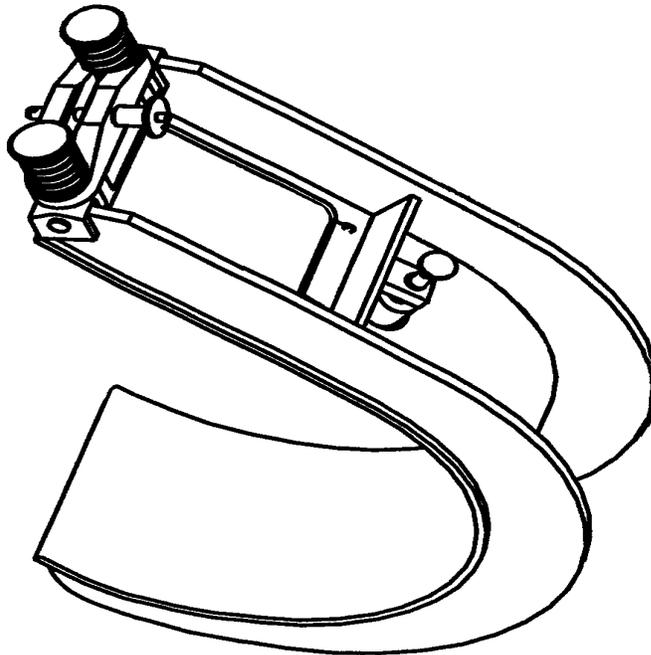
PHYSICAL DATA:	
Length	24.00 inches
Width	11.00 inches
Height	7.00 inches
Weight	10 pounds
SWL	4000 pounds

APPLICATION. Centerline Hoist Adapter is used on the fuselage station of A-6 aircraft and is secured to the AERO 7B Series Ejector Rack with adapter ball-lock pins. Two HLU-288/E Bomb Hoists are required with the adapter to load a single weapon/store using double-point, single-band arrangement. The Centerline Hoist Adapter is replaced by Centerline Hoist Adapter ADU-476/E.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E.

**ADAPTER, HOISTING, CRADLE
AN/AAS-38
P/N 3865AS200-1
NSN NOT ASSIGNED**

DESCRIPTION. The Adapter Hoisting Cradle consists of an aluminum structure with overload indication that attaches to the pick-up points on the store. The cradle surrounds and pushes against the center of gravity location on the store. The "H" bracket clevis provides a means to pin the cable fitting of a manual bomb hoist to the beam.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC .....	.92HCQ
SM&R Code .....	.PEOZZ

PHYSICAL DATA:	
Length	15.31 inches
Width	7.00 inches
Height	24.82 inches
Weight	16.50 pounds
SWL	500 pounds

APPLICATION. Adapter Hoisting Cradle provides a means of attaching the cable and fitting of Bomb Hoist HLU-288/E to the center of gravity lifting points on the Forward-Looking Infrared (FLIR) imaging pod when hoisting the pod into position on a fuselage station. Loading is accomplished by installing Hoisting Adapter (74D750030-1003) on the aircraft and securing the bomb hoist to the clevis on the trolley. The hoist-cable and fitting is attached to the "H" bracket on Adapter Hoisting Cradle, which is attached to the pod. The pod is then lifted off the support equipment with a Bomb Hoist and transported along the rail until the pod can be secured at its fuselage position with four attaching bolts. This item is to replace Hoisting Beam AN/AAS-38, P/N 74D750031-1001.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E and Hoist Adapter (74D750030-1003).

**ADAPTER, HOIST SUPPORT CABLE
P/N 905230-1
NSN NOT ASSIGNED**

DESCRIPTION. Hoist Support Cable Adapter consists of a looped cable on one end, another loop mid length and a ball end at the other end.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	22BZO
SM&R Code	PAOZZ

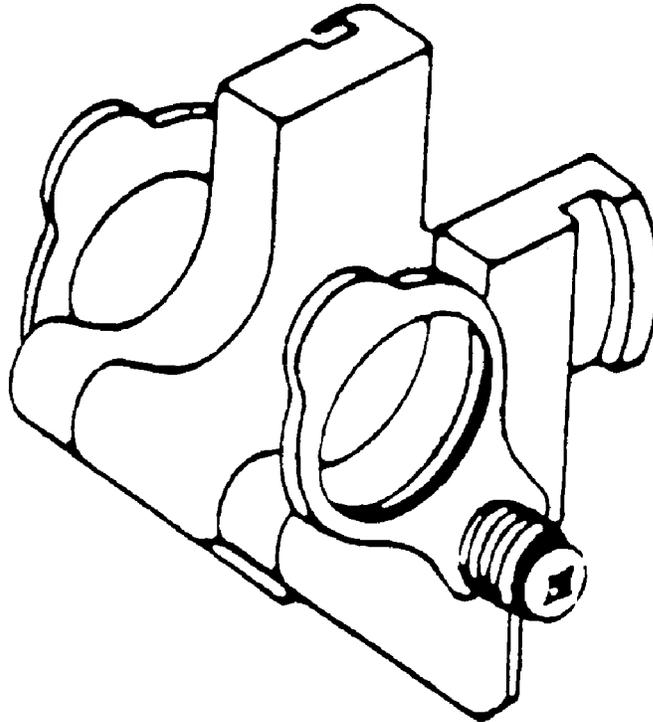
PHYSICAL DATA:	
Length	27.00 inches (approx.)
Width	N/A
Height	N/A
Weight	5 pounds
SWL	275 pounds

APPLICATION. Hoist Support Cable Adapter is used when loading bomb stations 7 and 8 of the P-3 aircraft. The cable terminal is attached and locked in the aircraft skin above the access door in the left exterior of the bomb bay. The loops are attached to the main housing of a bomb hoist, allowing the hoist to be hung and not rest on the aircraft skin.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E.

ADAPTER, HOIST "E"
P/N 919661-1
NSN 1R 1560-00-802-3984

DESCRIPTION. Hoist Adapter "E" is a steel block with machined grooves and indents which accept the boom of a bomb hoist. The adapter is attached to a bomb rack. Two spring loaded safety rings secure the hoist boom to the adapter.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 01-75PAC-75
EIC/WUC	22BZO
SM&R Code	PAOZZ

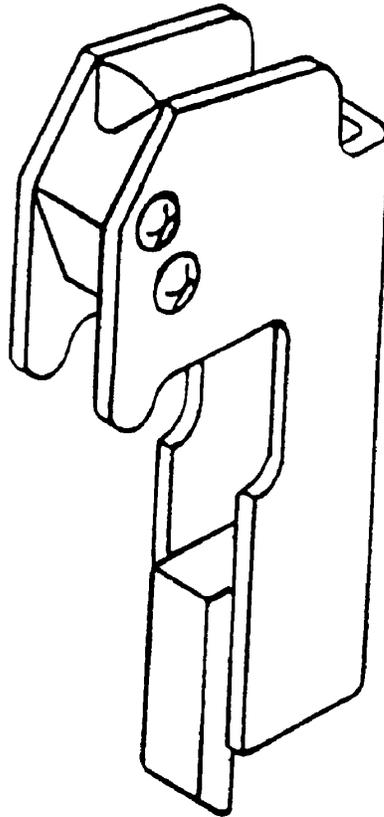
PHYSICAL DATA:	
Length	4 inches
Width	4 inches
Height	N/A
Weight	4 pounds
SWL	2240 pounds

APPLICATION. Hoist Adapter "E" is used to load weapons into the bomb bay of the P-3C aircraft. The adapter attaches to the MAU-38/A, BRU-12/A, AERO 65 Series and BRU-14/A Bomb Racks and supports the boom of Bomb Hoist HLU-288/E. The bomb hoist cable is passed over the roller and through the bomb rack frame to attach to the hoisting band.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E and Hoist "F" Adapter (P/N 908401-1).

ADAPTER, HOIST "F"
P/N 908401-1
NSN 9G 1730-00-483-8672

DESCRIPTION. Hoist Adapter "F" consists of two preformed plates with a grooved block bolted between providing a guide for the bomb hoist cable.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts . . .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC.....	22BZO
SM&R Code	PEOZZ

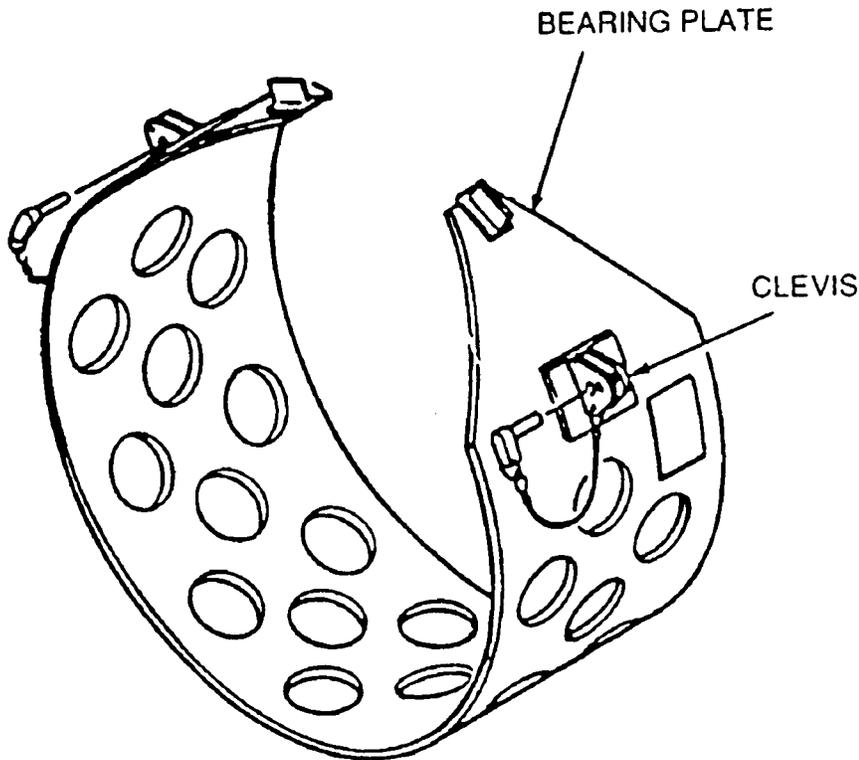
PHYSICAL DATA:	
Length	2.44 inches
Width .....	.086 inches
Height.....	5.97 inches
Weight	50 pounds
SWL	2240 pounds

APPLICATION. Hoist Adapter "F" is used in conjunction with Hoist Adapter "E" and ADU-435/E Hoisting Adapter to load weapons into the bomb bay to the P-3C aircraft. The Hoist Adapter "F" attaches to the lower rack (primary or 500-pound mine pylon) and the Hoist Adapter "E" is attached to the upper bomb rack station. A cable is routed through the upper station to the lower station through the Hoist Adapter "F" and down to the weapon/store.

ASSOCIATED EQUIPMENT. Hoist "E" Adapter (P/N 919661-1), Hoist Adapter ADU-435/E and Bomb Hoist HLU-288/E.

**ADAPTER, HOIST, (FLIR POD)
P/N 218-09818-101
NSN 1R 4920-01-063-5257**

DESCRIPTION. FLIR Pod Hoist Adapter consists of a one-piece steel, band-type weldment with clevises and bearing plates for attachment to a pod and support of Single Stores Trolleys.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	Not Required
Op. Proc.	NAVAIR 01-45AA-75
EIC/WUC	22BZO
SM&R Code	PEOGG

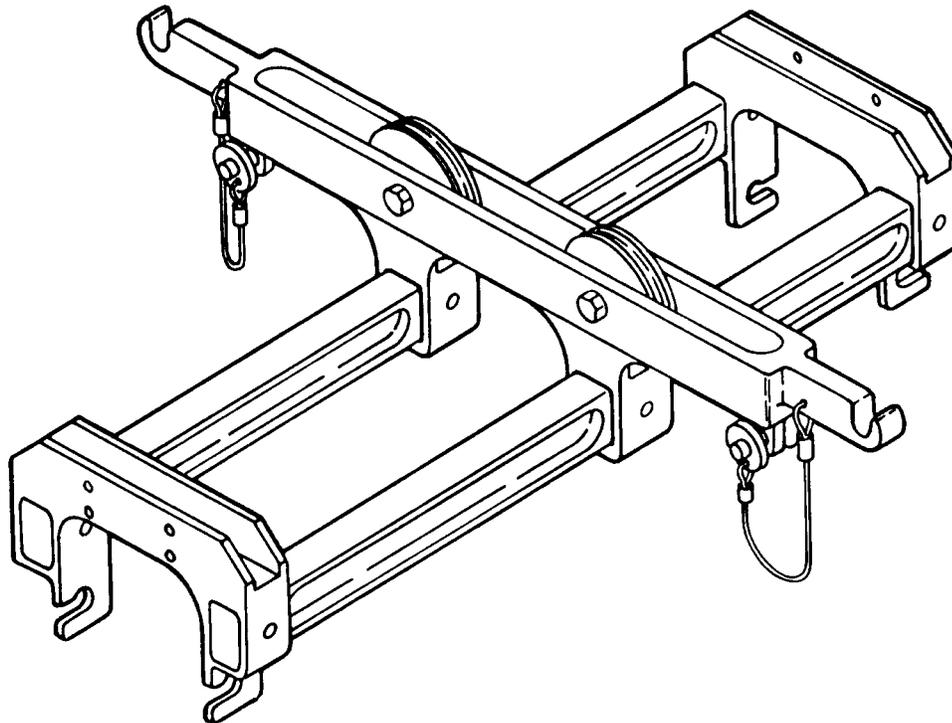
PHYSICAL DATA:	
Length	30.00 inches
Width	14.00 inches
Height	N/A
Weight	15 pounds
SWL	3000 pounds
Cube	0.25 cubic feet

APPLICATION. FLIR Pod Hoist Adapter is used in conjunction with the HLK-225A and HLK-226A Single Stores Trolleys to hoist a FLIR pod. The adapter is required to protect the soft-skinned Pod during hoisting operations. The adapter provides the necessary protection by distributing the bearing load over a broad area during hoisting.

ASSOCIATED EQUIPMENT. Single Stores Trolley HLK-225A, Single Stores Trolley HLK-226A, Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E.

**ADAPTER, HOIST, OUTBOARD PYLON
P/N 75D750004-1001
NSN 6R 1730-01-172-9384**

DESCRIPTION. Outboard Pylon Hoist Adapter consists of two beams, two bomb-hoist support assemblies, and two beam-support assemblies. Each beam is a square tube with four drilled holes which mates with a bomb-hoist support assembly. The bomb hoist support assembly consists of a yoke-shaped member with a square cutout that fits over the beam. The bomb-hoist support assembly extends out from the beam and incorporates a notch to cradle the head of the Bomb Hoist HLU-288/E.



REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc.NAVAIR 19-15BD-6 or AG-420VB-OMP-000
 EIC/WUC.....92FCC
 SM&R Code PEOGG

PHYSICAL DATA:

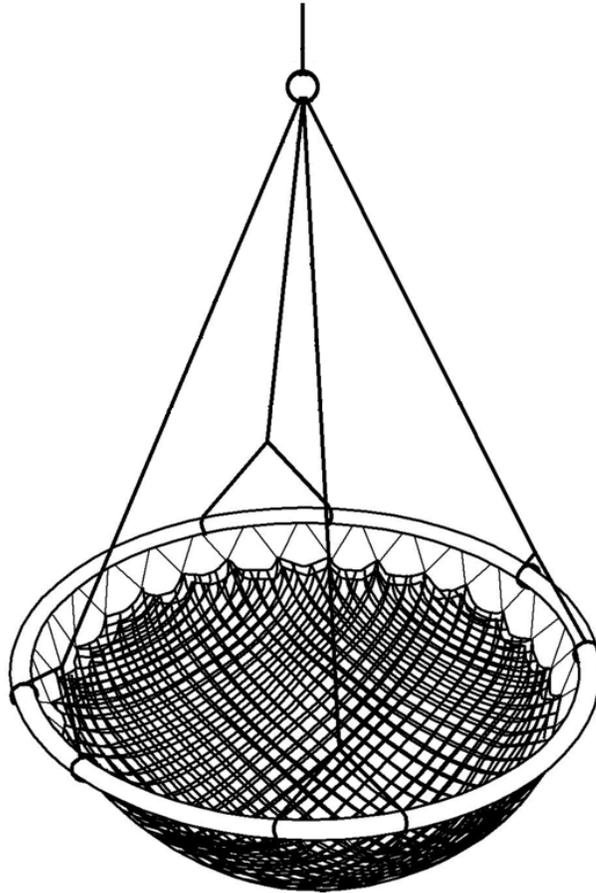
Length 21.67 inches
 Width 21.34 inches
 Height 6.08 inches
 Weight 45 pounds
 SWL 900 pounds

APPLICATION. Outboard Pylon Hoist Adapter fits over the pylon and is supported by the pylon-hoist button. Bomb Hoist HLU-288/E is attached to one side of the hoisting adapter and the hoisting cable is directed through the stores trolley and attaches to the other side of the hoisting adapter. The adapter is used for loading various stores to the AV-8B aircraft.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E and Outboard Trollies.

**ADAPTER, NET, 6-3/4-INCH DIAMETER VEHICLE
P/N 7609479
NSN NOT ASSIGNED**

DESCRIPTION. The Net Adapter is a fine mesh net with .50 inch x .50 inch centers fabricated from twisted nylon twine.



REFERENCE DATA:

ISEA	NUWCDIV Keyport
Periodic Test	Not Required
PMS/Maint. Insts	Keyport SOP #0018-06
Op. Proc.	Keyport SOP #0018-06
EIC/WUC	None
SM&R Code	None

PHYSICAL DATA:

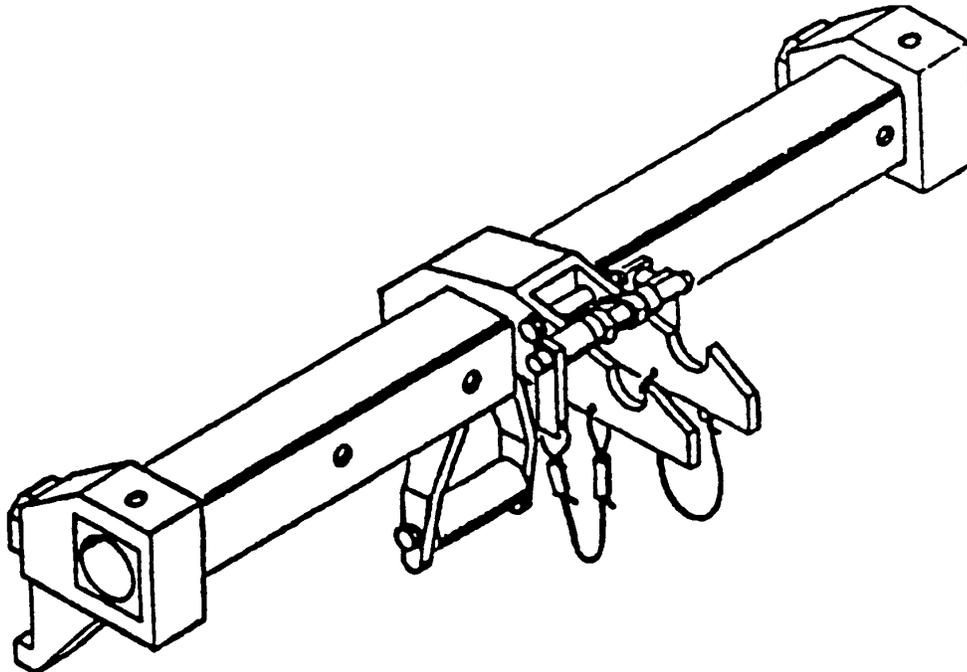
Diameter.....	15.00 feet
Weight	50.00 pounds
SWL	800 pounds

APPLICATION. The Net Adapter is installed inside the Lightweight Torpedo Retrieval Net Assembly (NAVSEA Drawing 7447766) using adjustable self-clinching tiedown straps. The adapter is non-weight bearing and acts as a positional guide during retrievals of 6-3/4 inch diameter vehicles. The net adapter is optional for Lightweight Torpedo Retrievals.

ASSOCIATED EQUIPMENT. Lightweight Torpedo Retrieval Net Assembly (NAVSEA Drawing 7447766).

**ADAPTER, WEAPON LOADING HOIST
P/N 74D750006-1001 (LH) AND P/N 74D750006-1002 (RH)
NSN'S 1R 1730-01-098-5253 (LH) and 1R 1730-01-098-5254 (RH)**

DESCRIPTION. Weapon Loading Hoist Adapter consists of two steel mounting-pad assemblies that attach over the hoist buttons on the side of the pylons. It contains a crossbar with a bracket which accepts a bomb-hoist boom and a quick-release pin for securing the terminal eye on the bomb-hoist cable. The adapter is installed on the pylon or Vertical Ejector Racks (VER's) during loading and downloading operations when manual hoists are used. A clearance slot is provided on the bomb rack to remove the cable terminal eye after loading the stores.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000 and -010
Op. Proc.	NAVAIR 19-15BD-6 or AG-420AC-S22-000
EIC/WUC.....	21GZM/21GZN
SM&R Code	PEOGG

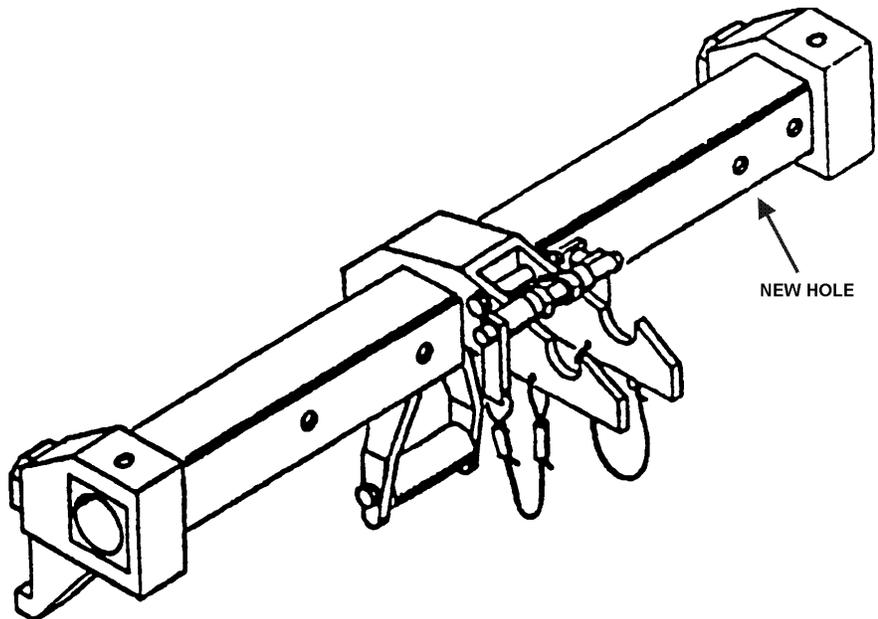
PHYSICAL DATA:	
Length	21.62 inches
Width	8.97 inches
Height	6.97 inches
Weight.....	21 pounds
SWL (each)	1250 pounds

APPLICATION. Weapon Loading Hoist Adapter provides support for the boom of an Bomb Hoists HLU-288/E or HLU-196D/E for loading and downloading. Both a left-hand adapter and right-hand adapter are required. Once the left and right-hand adapters and bomb hoist are configured and secured, the cable terminal eye on the bomb hoist is passed through the hoisting adapters on the ordnance and then pinned into the opposite side. The adapters are typically used with BRU-32 Bomb Rack Applications. Also the adapters are used on the F/A-18 and for loading PENGUIN missiles on the SH-60B.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E, Bomb Hoist AERO 14C and Bomb Hoisting Unit HLU-196D/E. These hoists are used in conjunction with various hoisting bands and trolleys.

ADAPTER, WEAPON LOADING HOIST
P/N 74D750506-1001 (LH) AND P/N 74D750506-1002 (RH)
NSN'S 1R 3940-01-459-3646 (LH) and 1R 3940-01-459-3662 (RH)

DESCRIPTION. Weapon Loading Hoist Adapter consists of two steel mounting-pad assemblies that attach over the hoist buttons on the side of the pylons. It contains a crossbar with a bracket which accepts a bomb-hoist boom and a quick-release pin for securing the terminal eye on the bomb-hoist cable. The adapter is installed on the pylon or Vertical Ejector Racks (VER's) during loading and downloading operations when manual hoists are used. A clearance slot is provided on the bomb rack to remove the cable terminal eye after loading the stores. This version adapters has a sliding end assembly that permits attachment and use on the F/A-18 E/F centerline station.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.....	NAVAIR 19-15BD-6 or AG-420AC-S22-000
EIC/WUC .....	.21GZM/21GZN
SM&R Code	PEOGG

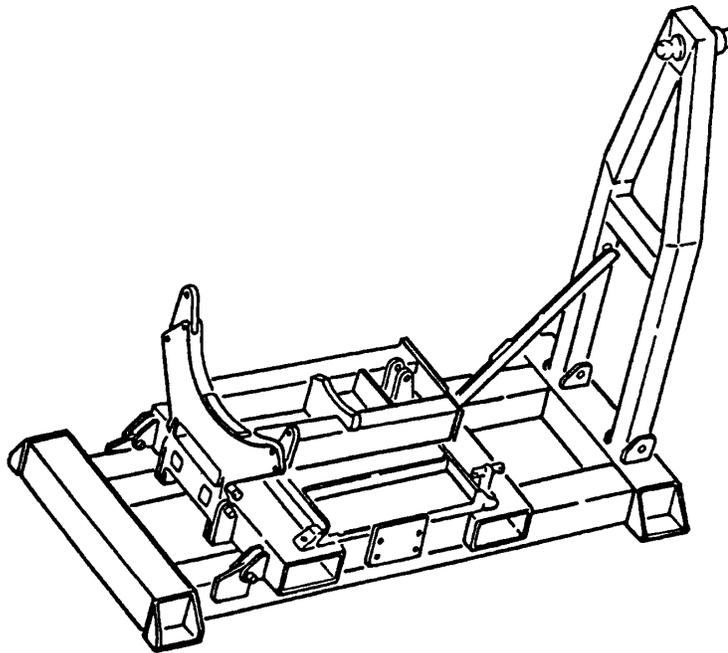
PHYSICAL DATA:	
Length	21.62 inches
Width	8.97 inches
Height.....	6.97 inches
Weight .....	.22 pounds
SWL (each)	1250 pounds

APPLICATION. Weapon Loading Hoist Adapter provides support for the boom of an Bomb Hoists HLU-288/E or HLU-196D/E for loading and downloading. Both a left-hand adapter and right-hand adapter are required. Once the left and right-hand adapters and bomb hoist are configured and secured, the cable terminal eye on the bomb hoist is passed through the hoisting adapters on the ordnance and then pinned into the opposite side. The adapters are typically used with BRU-32 Bomb Rack Applications. These adapters are backward compatible to the F/A-18 A/B/C/D aircraft and for loading PENGUIN missiles on the SH-60B.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E. These hoists are used in conjunction with various hoisting bands and trolleys.

**ADAPTER, LOADING, GUN SYSTEM (F/A-18)
P/N 74D750049-1001
NSN 6R 1730-01-163-0257**

DESCRIPTION. Gun System Loading Adapter is a steel and aluminum construction consisting of two major assemblies, the Gun System Transport Adapter and the Gun System Handling Adapter. The Transport Adapter, consisting of a horizontal base frame with a vertical A-frame, is designed to mate with the locking devices on the associated trailers and serves as an interface for mounting the Handling Adapter. Quick release pins secure the adapter to the trailer. A protruding pin on the vertical frame supports the gun system during transit and handling. Hinges allow the vertical frame to be folded to a stowed position when not in use. The Handling Adapter consists of a translating platform assembly, a cradle assembly, and fork pockets. The translating assembly allows freedom of movement during installation and removal of the gun system. The cradle assembly is contoured to support the gun system ammunition drum, mounting brackets with quick-release pins secure the load. Fork pockets are provided for use with the associated weapons loader.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-000AC-GSE-000
Op. Proc.....	NAVAIR AG-000AC-GSE-000
EIC/WUC.....	82AC1
SM&R Code	PEOHD

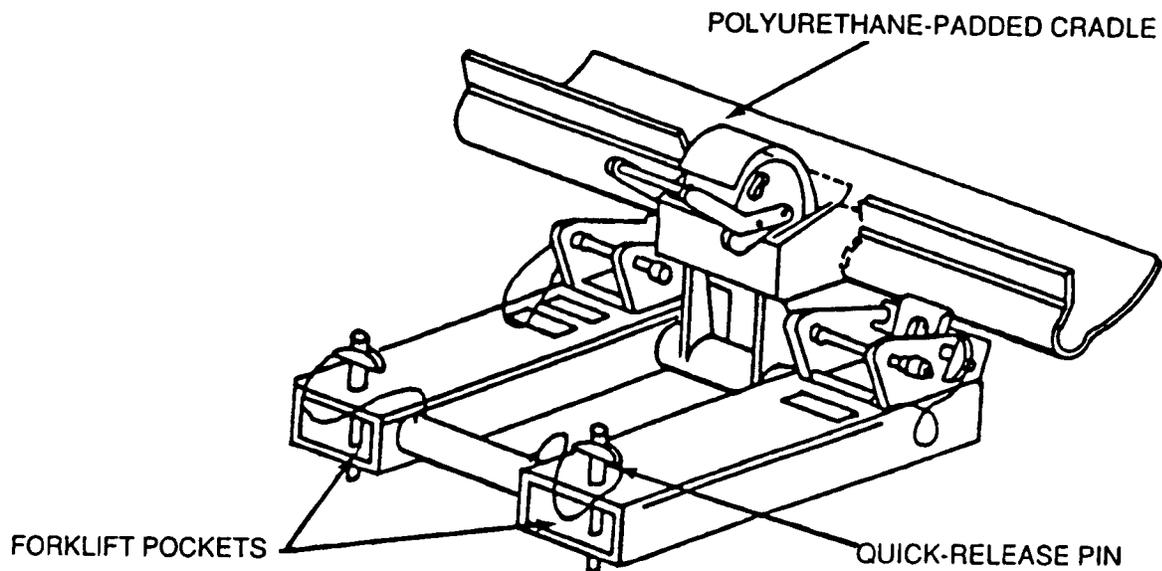
PHYSICAL DATA:	
Length	50.00 inches
Width	25.00 inches
Height.....	40.00 inches
Weight	180 pounds
SWL (1 palletized 20mm Gun System).....	873 pounds

APPLICATION. Gun System Loading Adapter is designed to be used in conjunction with the associated weapons loader, munitions trailers, and adapter to facilitate removal, installation, handling, and transporting the palletized gun system in support of the F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Rough Terrain Trailer A/M32K-4A, Small Munitions Trailer MHU-151/M and Weapons Loaders Series A/S 32K-1.

**ADAPTER, MISSILE LOADING, (AIM-7F)
P/N 74D750017-1001
NSN 6R 1730-01-085-0265**

DESCRIPTION. Missile Loading Adapter is an aluminum support with four rollers and a polyurethane-padded cradle contoured to support the SPARROW Missile AIM-7F. Two forklift pockets on the support assembly accommodate the forks of the Weapons Loader A/S32K-1E. Two quick-release pins secure the adapter to the loader. Two nylon web straps are provided on the cradle assembly to restrain the missile. The cradle assembly can be positioned through approximately 16 degrees of movement on the rollers and secured in position with two friction devices. Stops are provided to limit cradle assembly movements. Two quick-release pins secure the cradle assembly in position during transit to a loading site.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	81XCE
SM&R Code	PEOHD

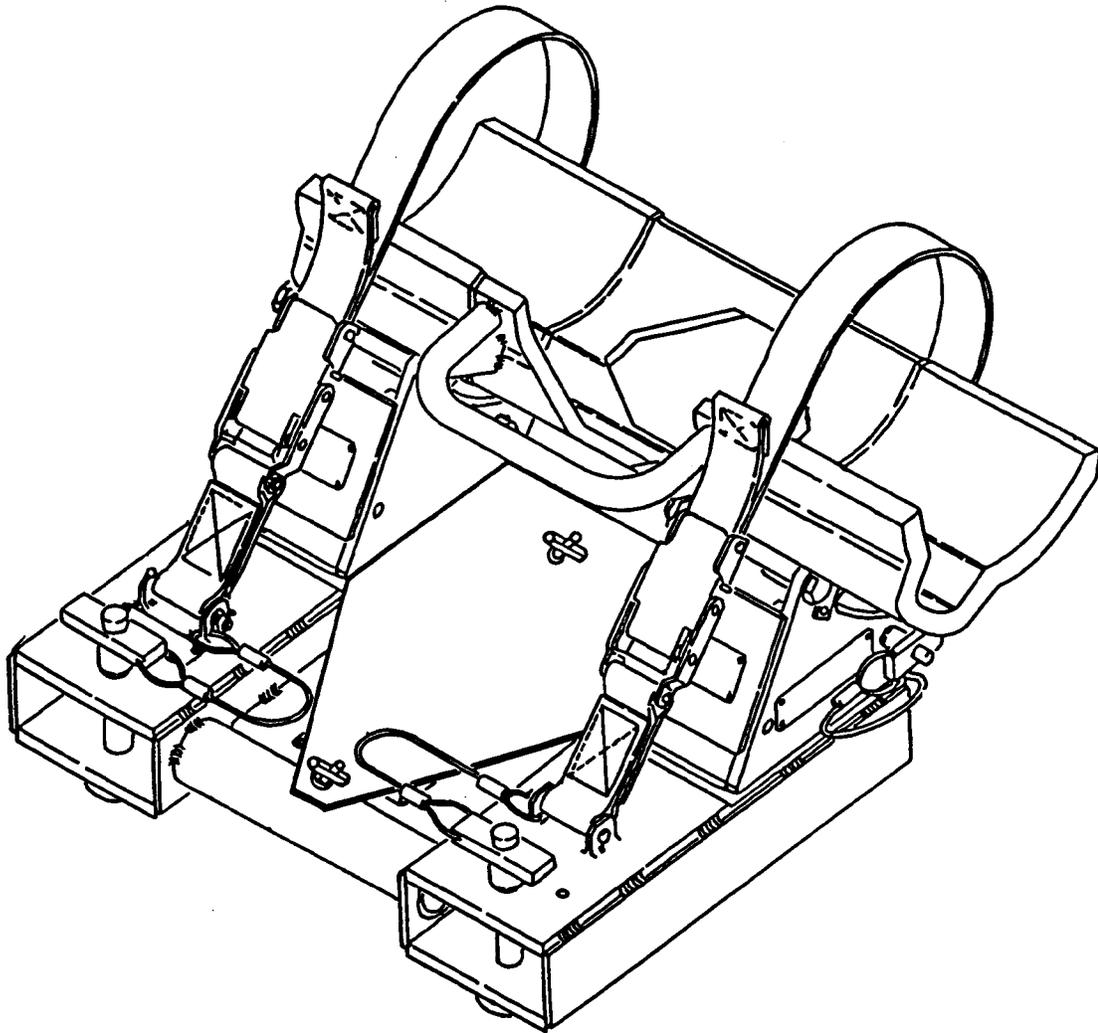
PHYSICAL DATA:	
Length	27.00 inches
Width	20.00 inches
Height	13.00 inches
Weight	50 pounds
SWL	510 pounds

APPLICATION. Missile Loading Adapter is used to load SPARROW Missiles AIM-7F on the fuselage station on the F/A-18 aircraft. The adapter is designed to be used in conjunction with the Weapons Loader A/S 32K-1 and associated trailers and equipment to support AIM-7 SPARROW handling and loading evolutions on the F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 Series and Rough Terrain Trailer AM32K-4A and Small Universal Cradle MHU-63/E, Munitions Trailer MHU-185/M, Small Munitions Trailer MHU-151/M, Guided Missile Adapter ADU-358/E, Height Adapter ADU-359/E.

**ADAPTER, MISSILE LOADING, (AIM-7F)
P/N 74D750017-1003
NSN 6R 1730-01-206-1880**

DESCRIPTION. Missile Loading Adapter is an aluminum support assembly with four rollers and a polyurethane-padded cradle contoured to support the AIM-7F SPARROW III Missile. Two forklift pockets on the support assembly accommodate the forks of the A/S32K-1E Weapons Loader. Two quick-release pins secure the adapter to the loader. Two nylon web straps are provided on the cradle assembly to restrain the missile. The cradle assembly can be positioned through approximately 16 degrees of movement on the rollers and secured in position with two friction devices. Stops are provided to limit cradle assembly movement. Two quick-release pins secure the cradle in position during transit to the loading site. A plate has been added to the adapter to increase side-to-side (YAW) motion capability.



ADAPTER, MISSILE LOADING, (AIM-7F)
P/N 74D750017-1003
NSN 6R 1730-01-206-1880

REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	81XCE
SM&R Code	PEOHD

PHYSICAL DATA:

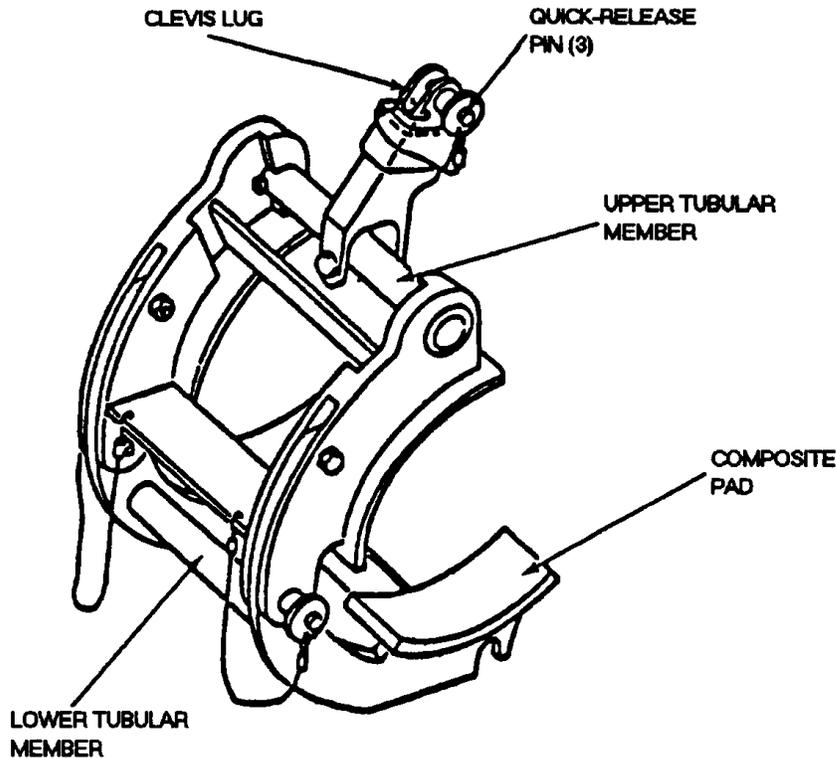
Length	2.002 inches
Width	20.00 inches
Height	13.00 inches
Weight	45 pounds
SWL	510 pounds

APPLICATION. Missile Loading Adapter is used to load the SPARROW Missile AIM-7F on the fuselage station on the F/A-18 aircraft. Also used in conjunction with the Weapons Loader A/S 32K-1 and associated trailers and equipment to support AIM-7 SPARROW handling and loading evolutions on the FA-18 aircraft.

ASSOCIATED EQUIPMENT. Weapons Loader A/S 32K-1E, Small Munitions Trailer MHU-151/M, Rough Terrain Trailer A/M32K-4A, Small Universal Cradle MHU-63/E, Guided Missile Adapter ADU-358/E, Height Adapter ADU-359/E.

**ADAPTER, MISSILE, CRADLE, (AIM-7F)
P/N 74D750003-1001
NSN 1R 1450-01-112-5053**

DESCRIPTION. Missile Cradle Adapter is a steel weldment consisting of two hinged end supports joined by a pair of steel cross members. Both end supports contain a cutout to clear the waveguide on the missile body and have riveted, rubber composite pads that bear against the missile shell to support and protect the load while hoisting. The end supports are unpinned and fitted around the missile body, and the hinged supports are locked in position using quick-release pins. The upper support has a clevis lug and quick-release pin to secure the terminal eye to the manual bomb hoist cable.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.....	NAVAIR 19-15BD-6
EIC/WUC.....	81XCD
SM&R Code	PEOGG

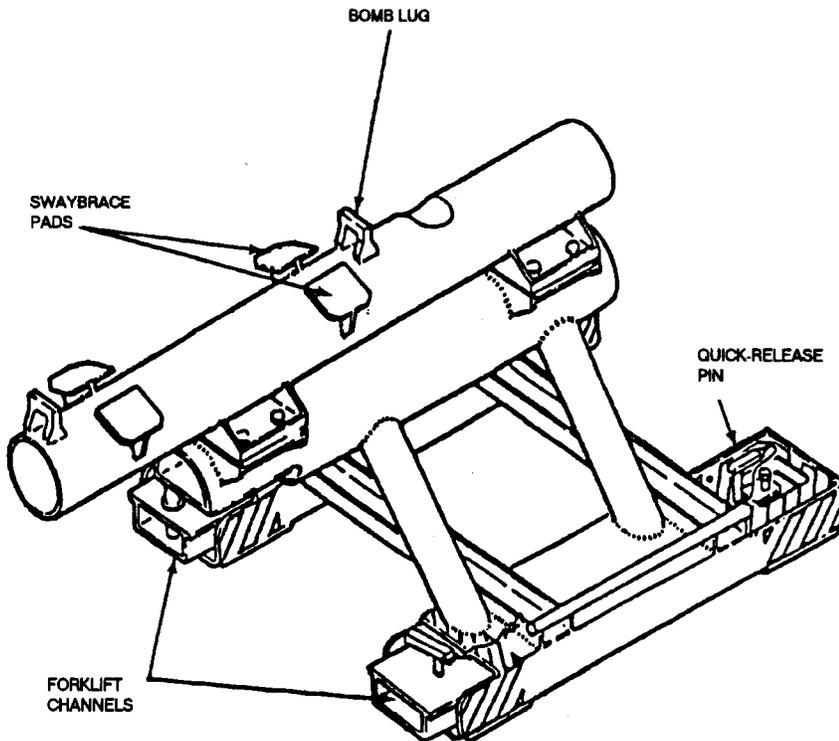
PHYSICAL DATA:	
Length	16.00 inches
Width	12.00 inches
Height.....	13.00 inches
Weight	20 pounds
SWL	510 pounds

APPLICATION. Missile Cradle Adapter is used to hoist and load the AIM-7F SPARROW Missile on fuselage stations.

ASSOCIATED EQUIPMENT. Hoisting Adapter (74D750030-1003), Transporter Adapter (74D750008-1003), Vertical Ejector Rack Support Cradle (74D750009-1001), Bomb Hoist HLU-288/E and Bomb Hoisting Unit HLU-196D/E.

**ADAPTER, PYLON, (F/A-18)
P/N 74D750040-1001
NSN 1R 1730-01-163-5372**

DESCRIPTION. Pylon Adapter is a two-section aluminum weldment designed to stand alone on the deck and support a SUU-63/A Pylon. The upper section of the adapter has bomb lugs that mate with the BRU-32/A Bomb Rack hooks and swaybrace pads that mate with the sway brace feet of the BRU-32/A Bomb Rack. The lower section is connected to the upper section using four bolts. The lower sections or base, consist of two parallel channels that accept forklift forks. Quick release pins secure the adapter to the forklift. The parallel channels provide a wide, stable base which allows the adapter with pylon to be safely transported on available trailers.



OBSOLESCE

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	.81XCM
SM&R Code	None

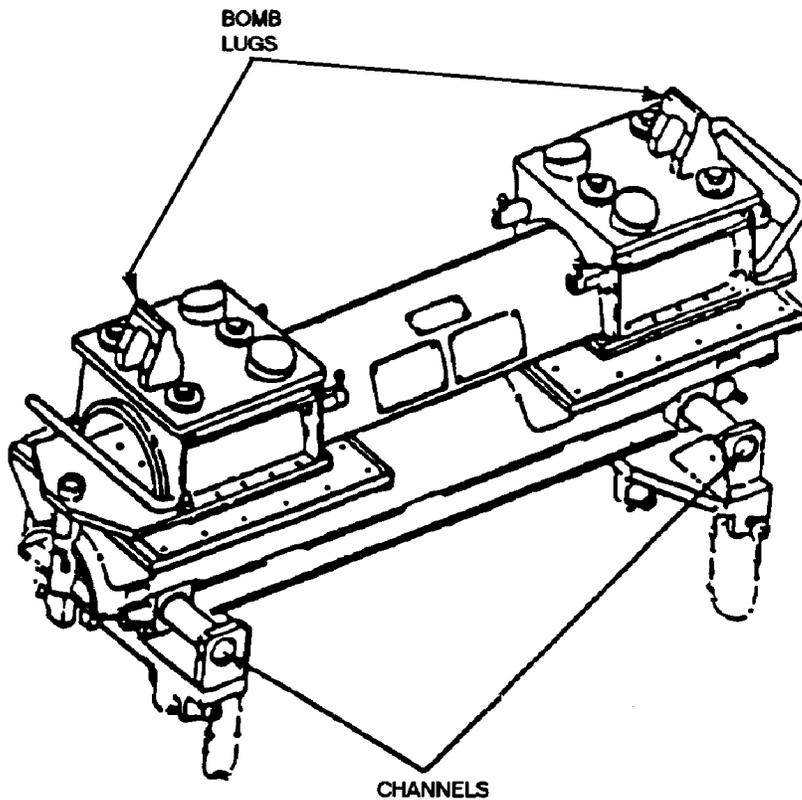
PHYSICAL DATA:	
Length	58.00 inches
Width	30.00 inches
Height	32.00 inches
Weight	160 pounds
SWL	273 pounds

APPLICATION. Pylon Adapter is used to assist in the installation and removal of the SUU-63/A Wing Pylon on F/A-18 aircraft at USMC shore stations. The adapter may be used as an organizational level maintenance stand. The adapter is obsolescent and has been superseded for procurement by Pylon Adapter (P/N 74D750068-1001).

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 Series, Rough Terrain Trailer A/M32K-4A, Munitions Trailer AERO 51 (series), Munitions Trailer MHU-151/M and Munitions Trailer MHU-185/M.

**ADAPTER, PYLON, (F/A-18)
P/N 74D750043-1001
NSN 6R 1730-01-162-9288**

DESCRIPTION. Pylon Adapter consists of a two-piece aluminum weldment. The upper section is a tubular structure with bomb lugs that mate with the BRU-32/A Bomb Rack on the pylon. The lower section consists of two channels that mate with the beam of the Lift Loading Adapter ADU-400/E and the rails of the associated skids, trailers and transporters.



OBSOLESCENT

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	81XCL
SM&R Code	None

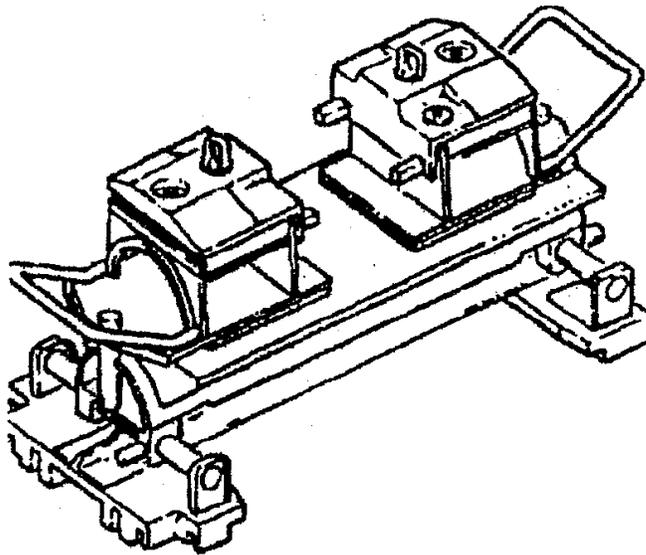
PHYSICAL DATA:	
Length	40.00 inches
Width	15.50 inches
Height	16.00 inches
Weight	100 pounds
SWL	273 pounds

APPLICATION. Pylon Adapter is used to install and remove the Pylons SUU-62/A and SUU-63/A on and from F/A-18 aircraft. The adapter can be used as an organizational level maintenance stand. The adapter is used both afloat and ashore. The adapter is obsolescent and has been superseded for procurement by the Pylon Adapter (P/N 74D7500068-1001).

ASSOCIATED EQUIPMENT. Weapons Skid Lift Loading Adapter ADU-400/E and Munitions Transporter MHU-191/M.

**ADAPTER, PYLON (F/A-18)
P/N 74D750068-1001
NSN 1R 1730-01-258-1671**

DESCRIPTION. Pylon Adapter consists of three basic sections. The lower aluminum weldment provides the interface points for mating to the skids and trailers. The center aluminum weldment provides for lateral movement on the lower section. It also provides a smooth upper surface to allow lateral and longitudinal adjustment of the upper section. The upper weldment incorporates two bomb lugs on 14 inch centers to mate with the Bomb Rack BRU-32/A in the pylon. The lugs are mounted over rubber pads to give flexibility when installing the pylon. The upper section also provides two handles to facilitate adjustment of the adapter.



REFERENCE DATA:

ISEANAWC-AD Lakehurst
Periodic Test Not Required
PMS/Maint. Insts .. NAVAIR AG-000AC-GSE-010
Op. Proc. NAVAIR AG-000AC-GSE-010
EIC/WUC81XCQ00
SM&R Code PEOGG

PHYSICAL DATA:

Length 33.00 inches
Width 15.50 inches
Height 17.00 inches
Weight 100 pounds
SWL N/A

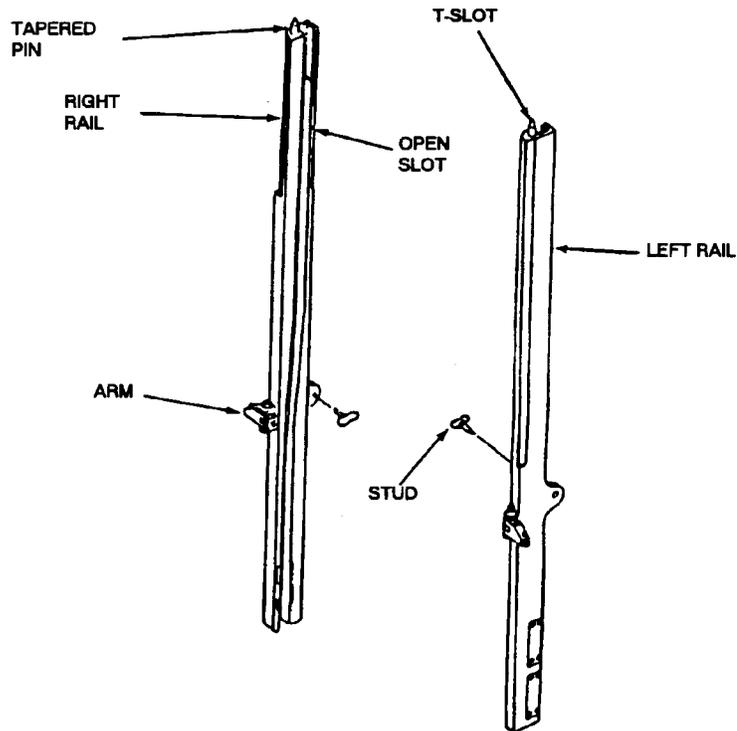
APPLICATION. Pylon Adapter provides an interface between aircraft pylon and various transporters and loaders for installation/removal of the pylon. MHU-126A/M, MHU-191/M, MHU-171A/E Series Trailer hole Nos. 8 & 27; MHU-125A/E Rail Nos. 1 & 21; ADU-400/E Beam Nos. 7 & 13; P/N 75D750005 Rail Nos. 3 & 23.

ASSOCIATED EQUIPMENT. Weapon Skid Lift Loading Adapter ADU-400/E, Munitions Transporter MHU-191/M, Rough Terrain Trailer A/M 32K-4A, Weapon Loader A/S 32K-1 (series), Platform Skid MHU-125A/E, Munitions Trailer (land) MHU-126A/M and Small Munitions Trailer MHU-151/M.

NOTE: Due to the standardization interface that exists in most weapons loading equipment, proof of the compatibility of Pylon Adapter P/N 74D750068-1001 with the noted items will be satisfied by demonstrating compatibility with Munitions Transporter MHU-191/M and Weapon Skid Lift Loading Adapter ADU-400/E.

ADAPTER, RAIL, GUN GUIDE
P/N 74D750012-1001
NSN 1R 4920-01-066-7253

DESCRIPTION. Gun Guide Rail Adapters are used during the removal and installation of the F-18 palletized gun system. The adapter consists of two machined steel rails which are attached to the aircraft structure. These rails prevent damage to aircraft components during installation and removal by restricting the roller movement as the palletized gun system is vertically displaced. A groove in the rails captures the rollers during this transition and provides approximately 0.60 inches horizontal movement of the gun system from its mounted position to the bottom nose barrel cavity opening when supported on the Bomb Hoist HLU-288/E.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	92HCB
SM&R Code	PEOGG

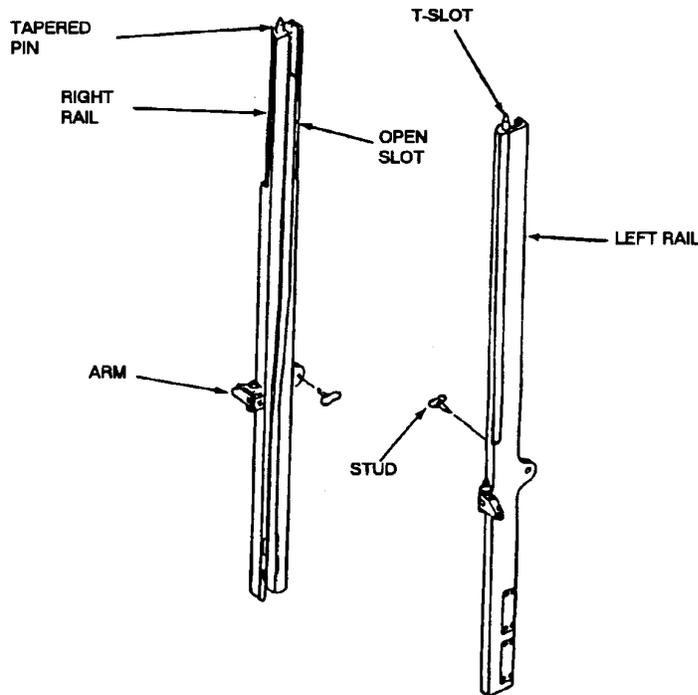
PHYSICAL DATA:	
Length	40.00 inches
Width	.6.00 inches
Height	4.00 inches
Weight (each)	22 pounds
SWL	874 pounds

APPLICATION. Gun Guide Rail Adapter is used to support installation and removal of the Palletized 20MM Gun System into F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Munitions Trailer MHU-126A/M, Small Munitions Trailer MHU-151/M, Munitions Transporter MHU-191/M, Bomb Hoist HLU-288/E, Weapons Loader A/S32K-1 (series), Gun System Hoisting Adapter (F/A-18) (P/N 74D750011-1001), Gun System Loading Adapter (F/A-18) (P/N 74D750049-1001) and Gun Handling Adapter (F/A-18) (P/N 74D750013-1001).

ADAPTER, RAIL, GUN GUIDE
P/N 74D750518-1001
NSN 6RD 1730-01-462-4761

DESCRIPTION. Gun Guide Rail Adapters are used during the removal and installation of the F-18 palletized gun system. The adapter consists of two machined steel rails which are attached to the aircraft structure. These rails prevent damage to aircraft components during installation and removal by restricting the roller movement as the palletized gun system is vertically displaced. A groove in the rails captures the rollers during this transition and provides approximately 0.60 inches horizontal movement of the gun system from its mounted position to the bottom nose barrel cavity opening when supported on the Bomb Hoist HLU-288/E.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	.92HCB
SM&R Code	PEOGG

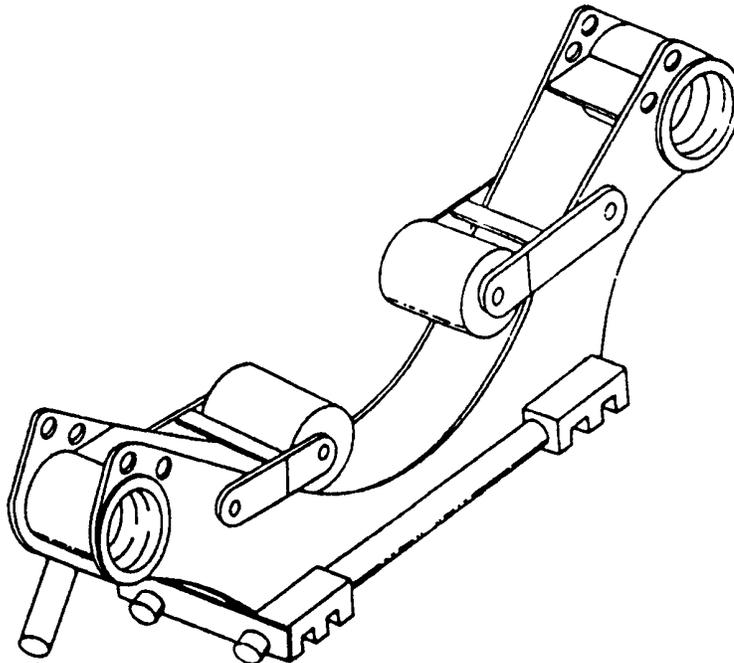
PHYSICAL DATA:	
Length	40.00 inches
Width	.60 inches
Height	4.00 inches
Weight (each)	.22 pounds
SWL	.874 pounds

APPLICATION. Gun Guide Rail Adapter is used to support installation and removal of the Palletized 20MM Gun System into F/A-18 aircraft. The 74D750012-1001 is for F/A-18 A/B/C/D aircraft while the 74D750518-1001 is backward compatible for all F-18 models with a gun.

ASSOCIATED EQUIPMENT. Munitions Trailer MHU-126A/M, Small Munitions Trailer MHU-151/M, Munitions Transporter MHU-191/M, Bomb Hoist HLU-288/E, Weapons Loader A/S32K-1 (series), Gun System Hoisting Adapter (F/A-18) (P/N 74D750011-1001), Gun System Loading Adapter (F/A-18) (P/N 74D750049-1001) and Gun Handling Adapter (F/A-18) (P/N 74D750013-1003 and P/N 74D750500-1003).

**ADAPTER, TRANSPORTER
P/N 74D750008-1003
NSN 1R 4920-01-262-1832**

DESCRIPTION. Transporter Adapter is a machined aluminum item with steel mounting brackets. The adapter allows the transport of various configurations of missile, single stores, and ordnance-loaded VER's for loading and unloading on all pylon stations of F/A-18 aircraft. The adapter arms contain holes through which Multi-Weapons Adapter ADK-362B, MER/TER rails pass to support missiles or loaded VER's when used in conjunction with the VER Support Cradle. The rails are secured to the transporter adapter with spring loaded pins. Roller assemblies are pinned to the adapter arms and used to support hard-shelled weapons. Quick-release pins are provided at the top of each arm so that Soft Belt Skid Adapters AERO 64A can be attached to support soft-shelled ordnance. Two transporter adapters are required for each trailer or skid.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	21GZV
SM&R Code	PEOGG

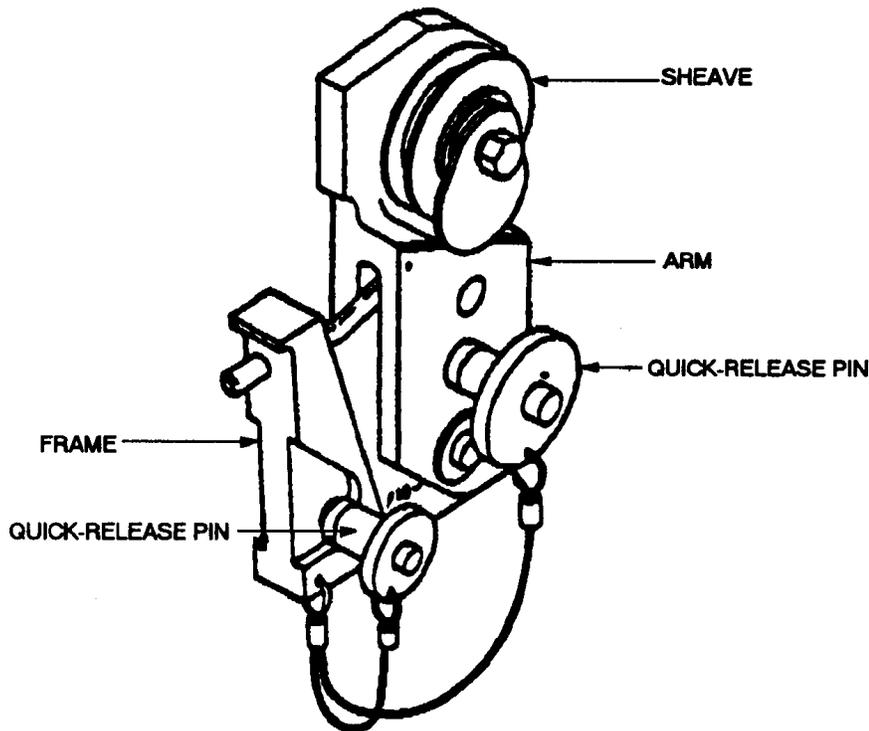
PHYSICAL DATA:	
Length	31.00 inches
Width	.5.50 inches
Height	10.48 inches
Weight	46 pounds
SWL (AERO 64A Softbelts)	2500 pounds
SWL (Weapons Cradle Rails)	2650 pounds

APPLICATION. Transporter Adapter is used to provide an interface that attaches to Munitions Transporter MHU-191/M or Munitions Trailers MHU-126A/M and MHU-202/M to permit carrying various missiles, stores, and ordnance loaded VER's for the F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Munitions Trailer MHU-126 Series, Small Munitions Trailer MHU-202/M, Soft Belt Skid Adapter AERO 64A, VER Support Cradle (P/N 74D750009-1001), Munitions Transporter MHU-191/M, Platform Skid MHU-125A/E.

ADAPTER, TROLLEY, MAVERICK MISSILE HOIST
P/N 75D750009-1001
NSN 6R 4920-01-202-7158

DESCRIPTION. Missile Hoist Trolley Adapter consists of three main parts: a bracket which mates the trolley to the missile launcher by means of a quick-release pin, an arm that attaches to the bracket by a quick-release pin and a sheave assembly at the top of the arm. The sheave serves as a pulley and hoisting point for the bomb hoist cable during loading and unloading operations. The bracket has two positioning holes and can be pinned to the arm with quick-release pins to make up either a wide or narrow configuration to adapt to various aircraft.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	.81XCP
SM&R Code	PEOGD

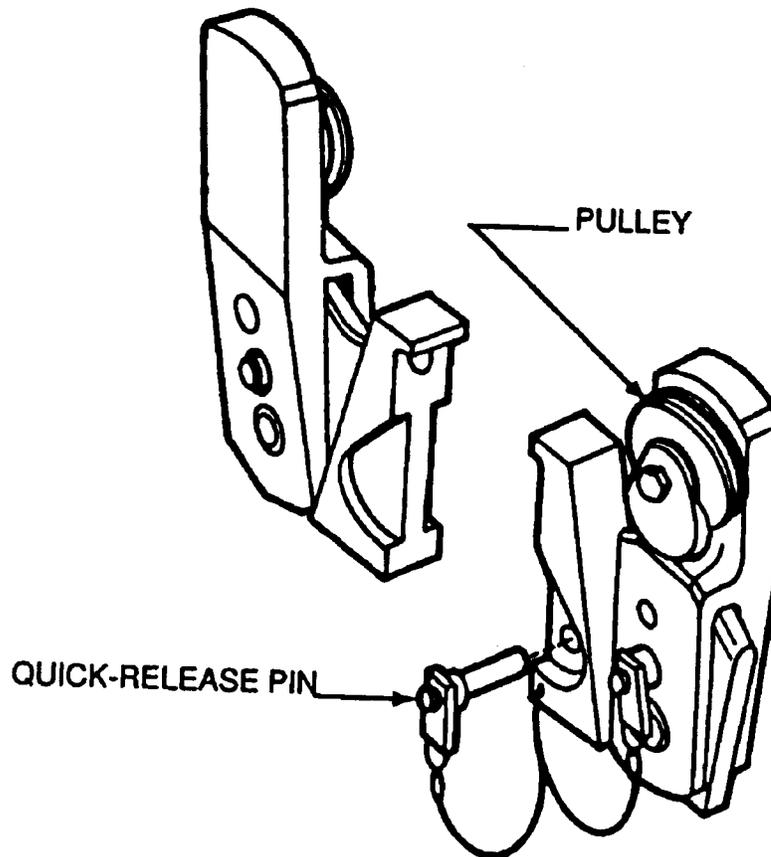
PHYSICAL DATA:	
Length	8.00 inches
Width	.500 inches
Height	3.00 inches
Weight	8 pounds
SWL (per pair)	6000 pounds

APPLICATION. Missile Hoist Trolley Adapter is used in pairs for loading and downloading entire MAVERICK Missile Launcher combination on A-6, F-18 and AV-8B aircraft.

ASSOCIATED EQUIPMENT. HLK-247-248 Hoist Adapter, HLU-196D/E Bomb Hoisting Unit and HLU-288/E Bomb Hoist.

ADAPTER, TROLLEY, MAVERICK MISSILE HOIST
P/N 74D750019-1001
NSN 6R 1730-01-100-8913

DESCRIPTION. Missile/Launcher Trolleys (AGM-65) are used in pairs for loading operations. The hoist trolleys are attached with quick-release pins to a clevis on each side of the Launcher LAU-117/A. The hoist cable of Bomb Hoists HLU-196D/E or HLU-288/E is fed through the two Missile/Launcher Trolleys and secured to the hoist adapter on the pylon.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts . . .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC.....	81XCG
SM&R Code	PEOGD

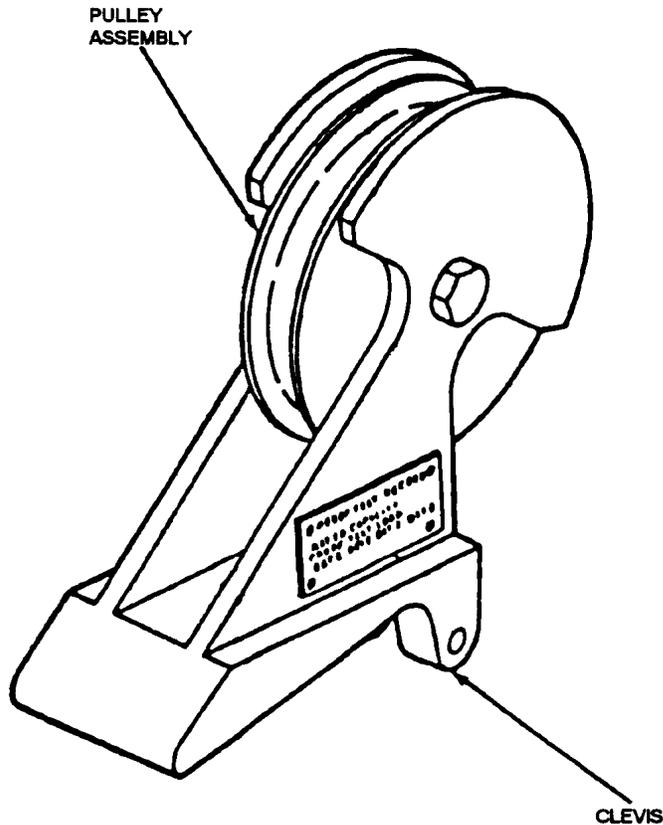
PHYSICAL DATA:	
Length	5.00 inches
Width	3.00 inches
Height.....	8.00 inches
Weight	8 pounds
SWL (per pair)	6000 pounds

APPLICATION. Missile/Launcher Trolley is used to load the (AGM-65), MAVERICK Missile to A-6, A-7 and F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Bomb Hoisting Unit HLU-196D/E and Bomb Hoist HLU-288/E.

ADAPTER, TROLLEY, OUTBOARD PYLON
P/N 75D750018-1001
NSN 1R 4920-01-182-4854

DESCRIPTION. Outboard Pylon Trolley Adapter consists of a steel frame with a centrally-located pulley assembly. One leg of the frame has a clevis with a ball-lock pin that mates with Anchor Fittings Assembly HLK-279 or Wide Band Trolley Adapter ADU-491/E. The other leg has a bearing pad that stabilizes the adapter and the hoisted load.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	92FD
SM&R Code	PEOGG

PHYSICAL DATA:	
Length	7.00 inches
Width	4.00 inches
Height	5.76 inches
Weight	4 pounds
SWL	486 pounds each

APPLICATION. Outboard Pylon Trolley Adapter provides an interface between Wide Band Trolley Adapter ADU-491/E and Bomb Hoist HLU-288/E cable for raising and lowering stores using SHOLS.

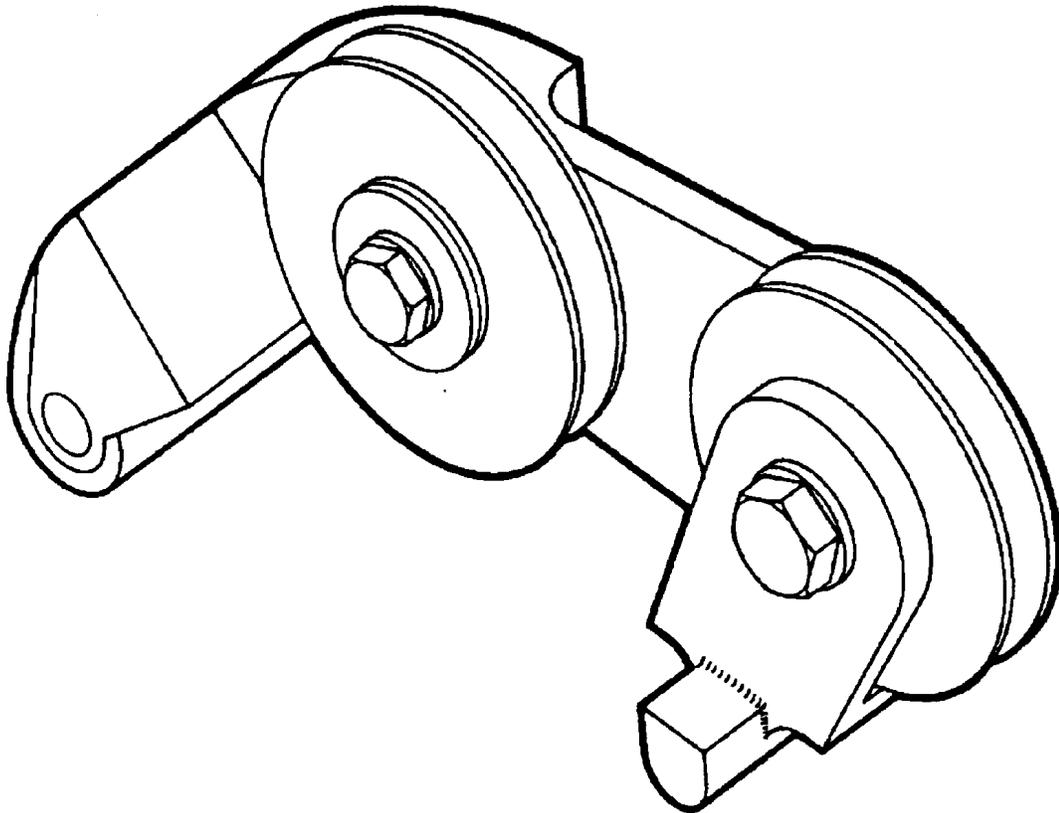
ASSOCIATED EQUIPMENT. Anchor Fitting Assembly HLK-279, Wide Band Trolley Adapter ADU-491/E, Outboard Pylon Hoist Adapter (F/A-18) (P/N 75D750004-1001), Hoisting Band HLK-275 and Bomb Hoist HLU-288/E.

ADAPTER, TROLLEY, SINGLE-STORE (VER)

P/N 74D750023-1001

NSN 1R 1730-01-092-7132

DESCRIPTION. Single Store VER Trolley Adapter consists of a steel body, a bracket assembly that includes two pulleys and a bracket that pins to Anchor Fittings Assembly HLK-279 on Hoisting Band HLK-275A. One trolley is required on each side of the weapon. The design of the trolley provides clearance between weapon and VER for engaging the suspension hooks and is used with a 10.75 to 14.00 inch diameter weapon.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC.....	81XCH
SM&R Code	PEOGG

PHYSICAL DATA:

Length	3.75 inches
Width .....	.250 inches
Height.....	8.25 inches
Weight	4.50 pounds
SWL (per pair)	1000 pounds

APPLICATION. Single Stores Trolley Adapters are used to hoist and load weapons on a VER or CVER previously installed on the aircraft.

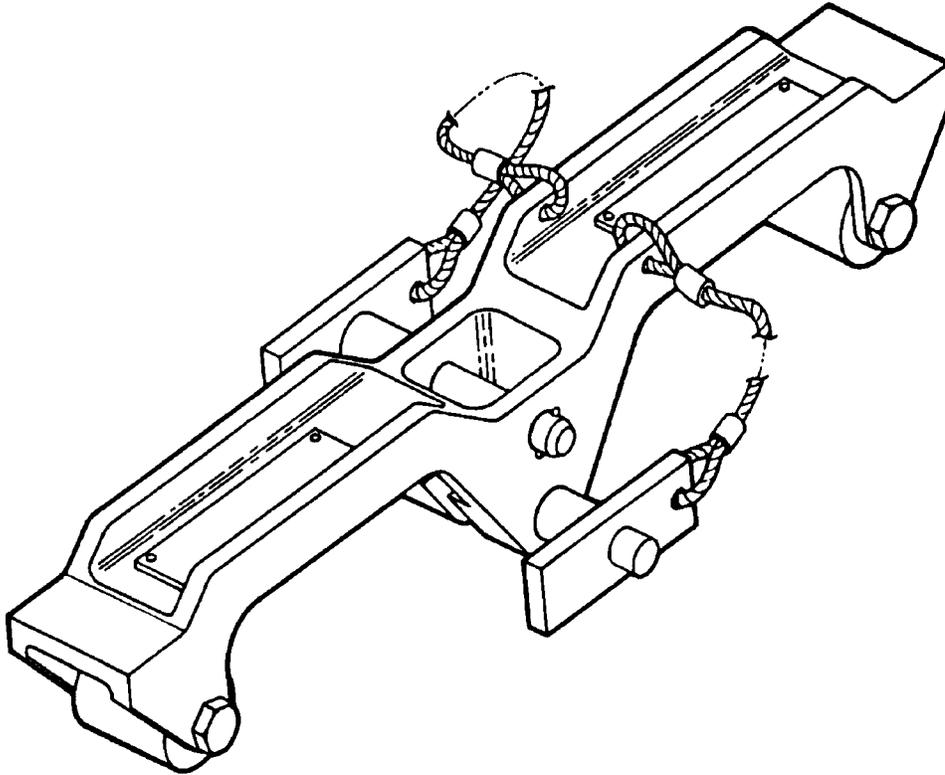
ASSOCIATED EQUIPMENT. Hoisting Band HLK-275A and Vertical Stores Support Trolley (74D750024).

ADAPTER, TROLLEY SUPPORT, SINGLE STORE (VER)

P/N 74D750024-1001

NSN 1R 4920-01-098-2301

DESCRIPTION. Single Store VER Trolley Support Adapter consists of a steel beam structure that retains two rollers. The rollers are designed to prevent the hoisting cable from contacting the VER. Two receptacles and ball-lock pins are provided to attach the cable end fittings to the support and attach the support to the VER lower fitting.



REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 or AG-420AC-S22-000
 EIC/WUC 81XCJ
 SM&R Code PEOGG

PHYSICAL DATA:

Length 13.50 inches
 Width 4.50 inches
 Height 2.75 inches
 Weight 3.5 pounds
 SWL 1000 pounds

APPLICATION. Single Store VER Trolley Support Adapter is used in conjunction with the Single Stores VER Trolley 74D750023-1001 to hoist and load weapons on a VER previously installed on the aircraft. This adapter will not work for canted VER application; therefore, Single Store VER Trolley Support Adapter (74D750024-1003) must be used.

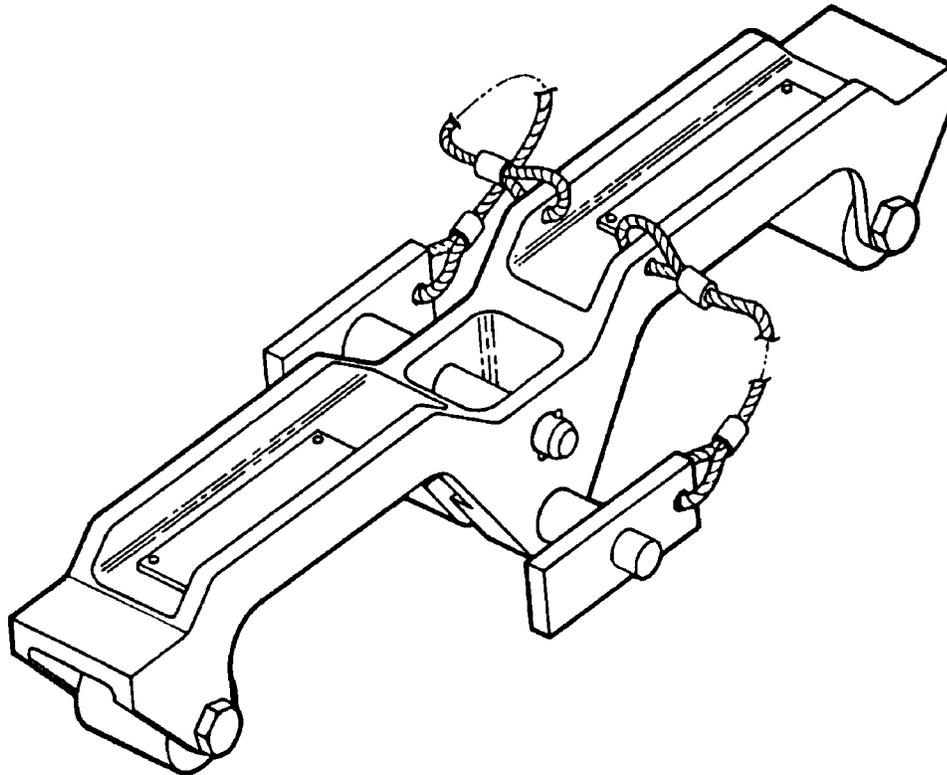
ASSOCIATED EQUIPMENT. Single Store VER Trolley Adapter (74D750023-1001), Weapon Loading Hoist Adapter (P/N's 74D750006-1001/1002) and HLU-288/E Bomb Hoist.

ADAPTER, TROLLEY SUPPORT, SINGLE STORE (VER)

P/N 74D750024-1003

NSN 1R 4920-01-317-4596

DESCRIPTION. Single Store VER Trolley Support Adapter consists of a steel beam structure that retains two rollers. The rollers are designed to prevent the hoisting cable from contacting the VER. Two receptacles and ball-lock pins are provided to attach the cable end fittings to the support and attach the support to the VER lower fitting.



REFERENCE DATA:

ISEA NAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc..... NAVAIR 19-15BD-6
 or AG-420AC-S22-000
 EIC/WUC..... 81XCJ
 SM&R Code PEOGG

PHYSICAL DATA:

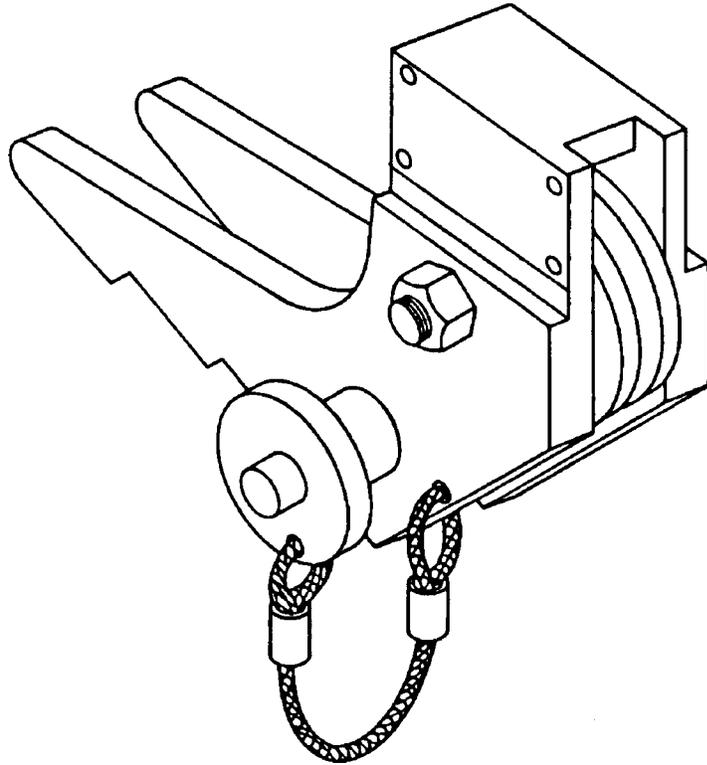
Length 13.50 inches
 Width 4.50 inches
 Height..... 2.75 inches
 Weight 3.5 pounds
 SWL 1000 pounds

APPLICATION. Single Store VER Trolley Support Adapter is used in conjunction with the 74D750023-1001 Single Stores VER Trolley to hoist and load weapons on a canted VER previously installed on the aircraft.

ASSOCIATED EQUIPMENT. Single Store VER Trolley Adapter (74D750023-1001), Weapon Loading Hoist Adapter (P/N 74D750006-1001/1002) and Bomb Hoist HLU-288/E.

**ADAPTER, TROLLEY, VER
P/N 74D750000-1001
NSN 1R 1730-01-048-5510**

DESCRIPTION. VER Trolley Adapter consists of a steel pulley and bracket assembly that individually connects to the top of the VER and is secured by quick-release pins. The design of the brackets provides clearance between pylon and VER for engaging the suspension hooks. The pulleys accommodate a 0.25 inch diameter cable.



REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. InstsNAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc.NAVAIR AG-420AC-S22-000
 or 19-15BD-6
 EIC/WUC 21GZT
 SM&R Code PEOGG

PHYSICAL DATA:

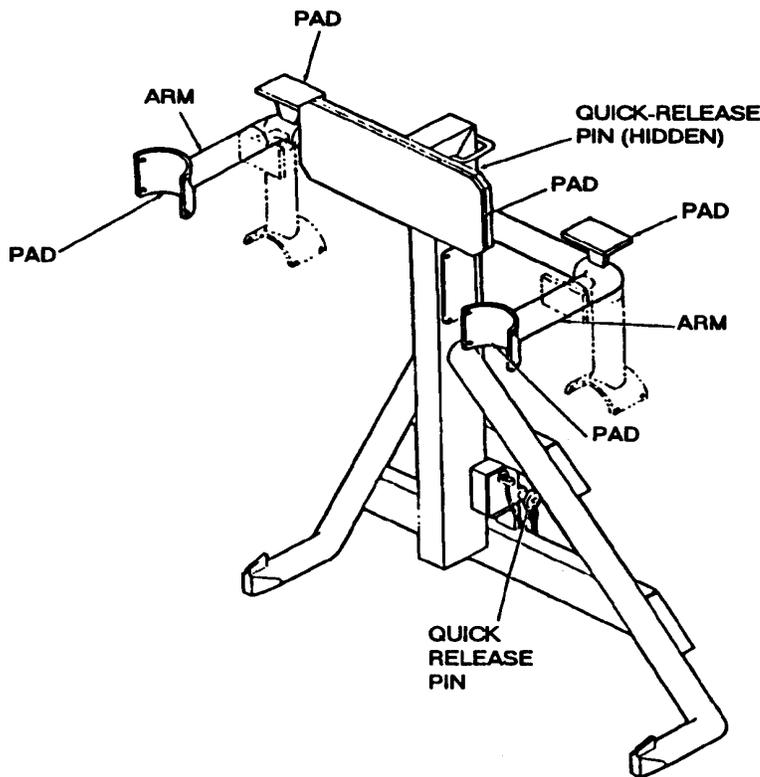
Length 6.09 inches
 Width 2.75 inches
 Height 4.05 inches
 Weight 20 pounds
 SWL (set) 2500 pounds

APPLICATION. VER Trolley Adapter is used during loading and downloading of a preload VER on to the F/A 18 Aircraft. The adapters are installed on the hoist fittings on the VER or CVER and used with bomb hoists. The adapters are used in pairs.

ASSOCIATED EQUIPMENT. Weapon Loading Hoist Adapter (P/N's 74D750006-1001/1002), Bomb Hoisting Unit HLU-196D/E and Bomb Hoist HLU-288/E.

**ADAPTER, TRUCK
MK 26 MOD 2
DL 2644932
NSN 9Z 3920-00-004-9160**

DESCRIPTION. Truck Adapter Mk 26 Mod 2 is a structural steel weldment frame with solid steel lifting prongs at either side on the bottom and tubular steel arms at either side on the top. Pads are included to prevent metal-to-metal contact between the adapter and the load. The arms may be used in a horizontal position or rotated up or down, depending upon load configuration. A quick-release pin near the top of the vertical column of the frame secures the arms in either position. A quick-release pin near the base of the column secures the adapter to the Handlift Truck Mk 45 Mods.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	Not Required
PMS/Maint. InstsMIP 7222/R10, OR-99/8967000	
Op. Proc. . . NAVSEA S9571-AA-MMA-010, OR-67/25	
EIC/WUC	8967
SM&R Code	None

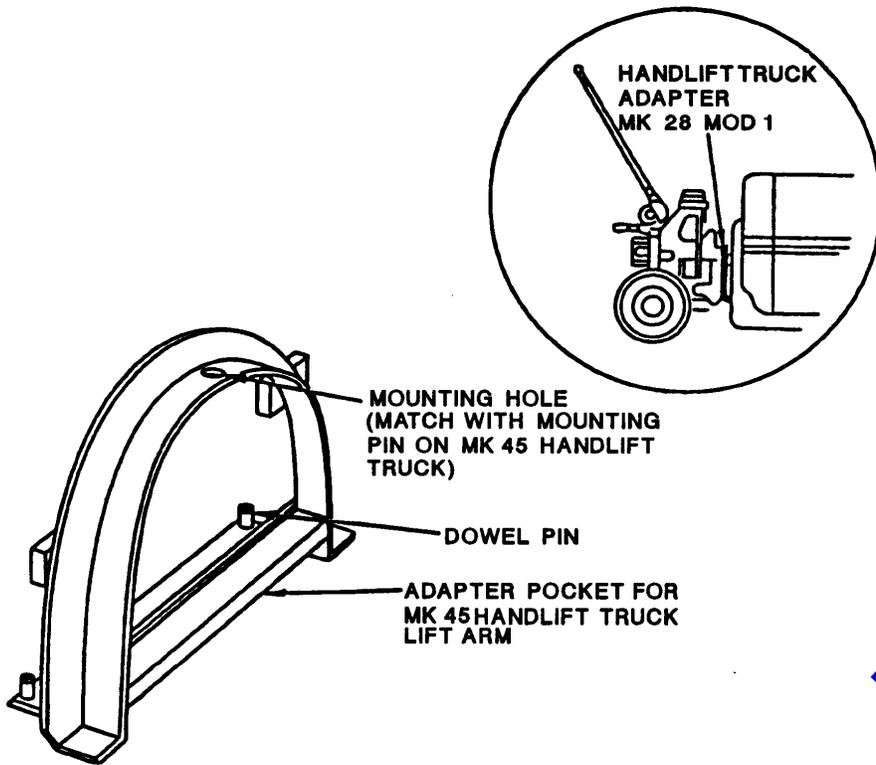
PHYSICAL DATA:	
Length	25.25 inches
Width	8.25 inches
Height	26.50 inches
Weight	36 pounds
SWL	3000 pounds

APPLICATION. Truck Adapter Mk 26 Mod 2 is used in pairs with two Handlift Trucks Mk 45 Mods 0 or 2 for moving Container Mk 372 Mods. Truck Adapter Mk 26 Mod 2 is obsolescent and is only used by FMS countries.

ASSOCIATED EQUIPMENT. Handlift Trucks Mk 45 Mods 0 and 2.

**ADAPTER, HANDLIFT TRUCK
MK 28 MOD 1
DWG 1330565
NSN 9B 4921-00-878-4371**

DESCRIPTION. Handlift Truck Adapter Mk 28 Mod 1 is a structural steel weldment that adapts to Handlift Trucks Mk 45 Mods 0 and 2 for use with certain containers having attachment features that are not compatible with the basic truck design.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	MSCTW023-AB-WHS-010, NAVSEA S9571-AA-MMA-010
EIC/WUC . . . . .	.8513
SM&R Code . . . . .	.PAOZZ

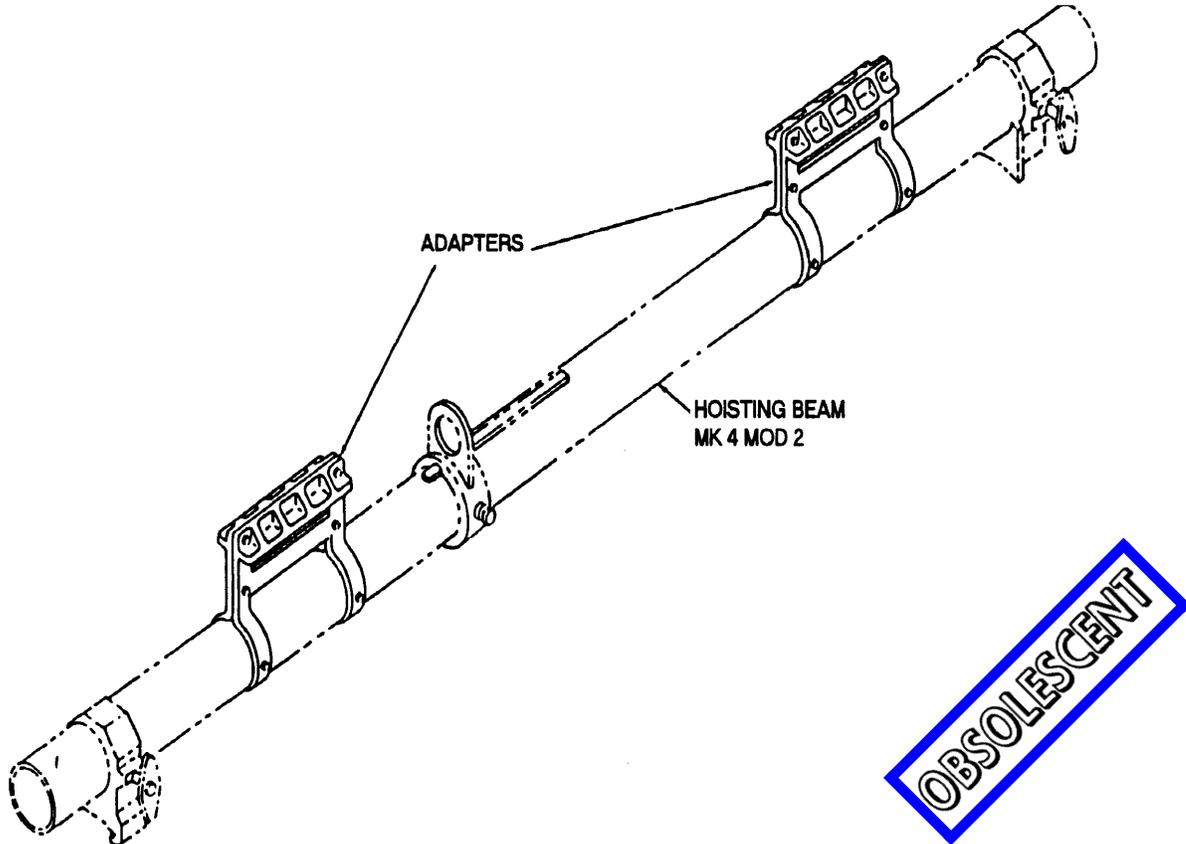
PHYSICAL DATA:	
Length	15.25 inches
Width	3.50 inches
Height	9.37 inches
Weight	15.00 pounds
SWL	1000 pounds

APPLICATION. Handlift Truck Adapter Mk 28 Mod 1 is used with Handlift Truck Mk 45 Mods 0 or 2 to lift and transport Torpedo Container Mk 197 at shore activities. Dowel pins on the adapter engage the adapter to the container. One truck equipped with the adapter is required for each end of the container. Handlift Truck Adapter Mk 28 Mod 1 is obsolescent with no replacement. They are no longer shipboard applicable.

ASSOCIATED EQUIPMENT. Handlift Trucks Mk 45 Mods 0 and 2.

**ADAPTER, FORKLIFT
MK 43 MOD 0
LD 519155
NSN NOT ASSIGNED**

DESCRIPTION. Forklift Adapter Mk 43 Mod 0 consists of two identical sides which, when bolted together, form a clamp around the hoisting beam with forklift slots projecting above the hoisting beam. The forklift adapters are secured in position by a locking bolt inserted through the adapters and hoisting beam and secured by a nut.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

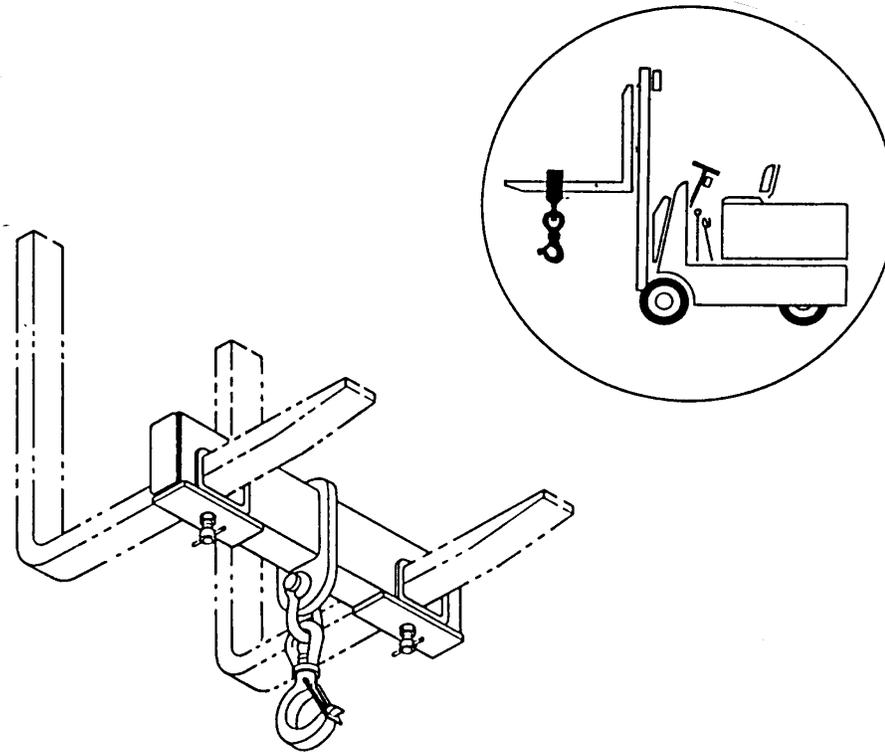
PHYSICAL DATA:	
Length	15.00 inches
Width	4.50 inches
Height	11.82 inches
Weight	14 pounds
SWL	1500 pounds

APPLICATION. Forklift Adapter Mk 43 Mod 0 is used with Hoisting Beam Mk 4 Mod 2 to allow the use of a forklift truck or other carriers with forks to handle the STANDARD (MR) Missile or DTRM. This converts the Hoisting Beam Mk 4 to a Hoisting Beam Mk 5. Forklift Adapter Mk 43 Mod 0 is obsolescent and is only used by FMS countries.

ASSOCIATED EQUIPMENT. Hoisting Beam Mk 4 Mod 2.

**ADAPTER, HOOK
MK 91 MOD 0
DL 2643315
NSN 9B 1450-00-250-8822**

DESCRIPTION. Hook Adapter Mk 91 Mod 0 consists of a welded steel beam with fork pockets and two clamping screws to permit attachment to forklift truck forks. A swivel safety hook is attached to the beam for lifting and transporting various loads.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7721/R05, OR-99/8967000
Op. Proc.....	NAVSEA S9571-AA-MMA-010, MSC TW023-AB-WHS-010, OR-67/155
EIC/WUC	896B
SM&R Code	PAOZH

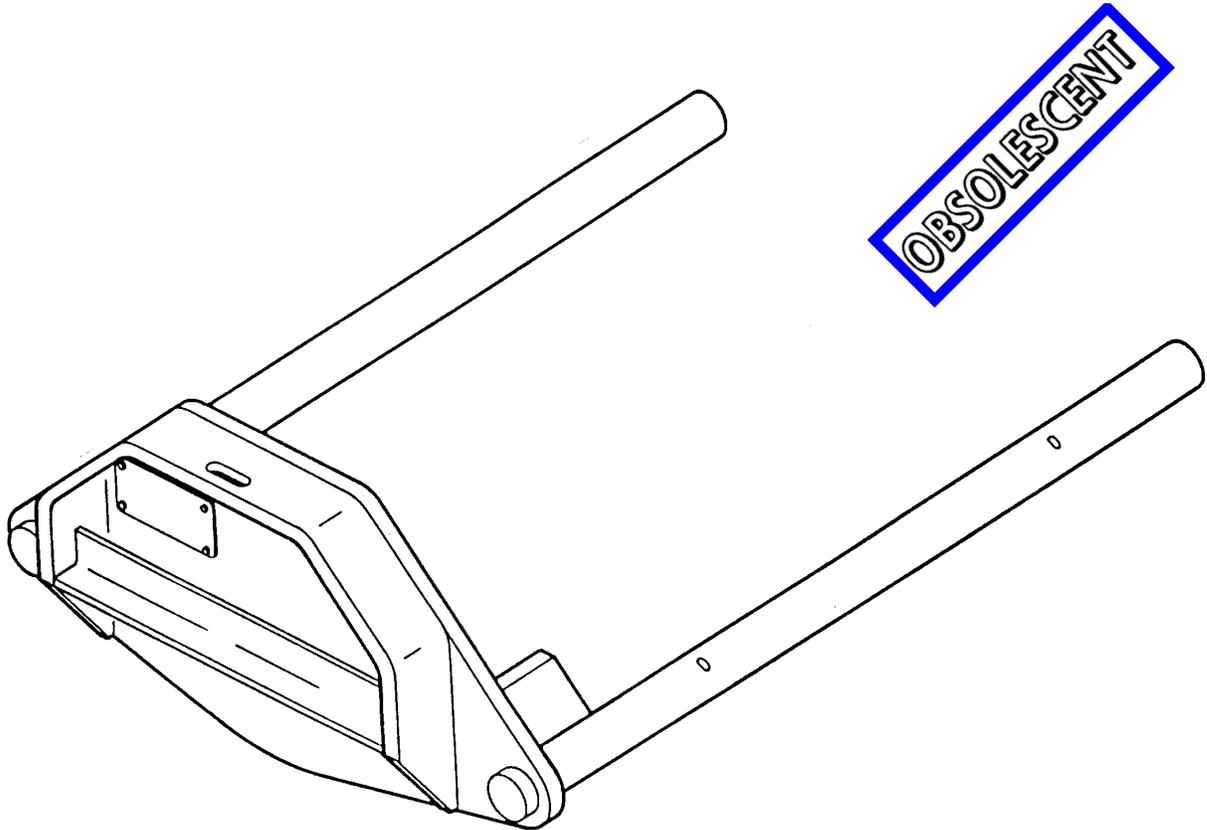
PHYSICAL DATA:	
Length	30.75 inches
Width	2.75 inches
Height	18.75 inches
Weight	33.5 pounds
SWL.....	6000 pounds

APPLICATION. Hook Adapter Mk 91 Mod 0 adapts a forklift truck to boom truck capabilities. Hook Adapter Mk 91 Mod 0 should normally be positioned on the forks 24 inches from the heel of tine. If the hook adapter cannot be installed 24 inches from the heel of the forks, special attention is necessary to ensure non-standard load centers are not exceeded. Refer to [NAVSEA SW023-AH-WHM-010](#) for information determining maximum weight for non-standard load centers.

ASSOCIATED EQUIPMENT. Hook Adapter Mk 91 Mod 0 is used with forklift trucks.

**ADAPTER, HANDLIFT TRUCK
MK 93 MOD 0
DL 2643391
NSN 9B 4921-00-499-3328**

DESCRIPTION. Handlift Truck Adapter Mk 93 Mod 0 consists of a welded aluminum plate frame with two solid aluminum rods welded to the frame. This adapter provides compatibility between Handlift Truck Mk 45 Mods 0 and 2 and Underwater Mine Crate Mk 56 Mod 0.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	OR-67/1
EIC/WUC.	8514
SM&R Code	PAOZZ

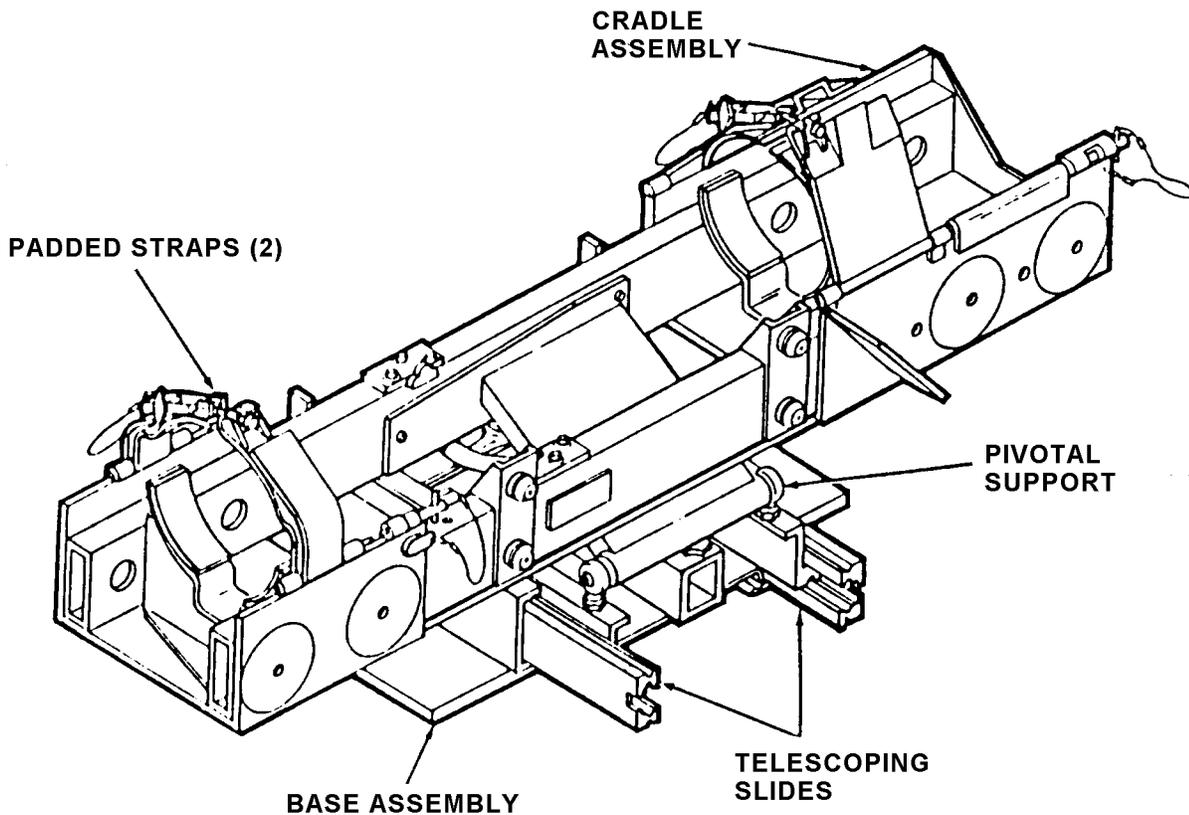
PHYSICAL DATA:	
Length	31.00 inches
Width	22.00 inches
Height.	11.34 inches
Weight (one adapter)	28 pounds
SWL	1500 pounds

APPLICATION. Handlift Truck Adapters Mk 93 Mod 0 are used in pairs with two Handlift Trucks Mk 45 Mods 0 and 2 to lift Underwater Mine Crate Mk 56 Mod 0. Handling by this method is intended to complement other means of handling in situations where there is sufficient space to accommodate maneuvering of forklift trucks, where overhead hoists are not available. Handlift Truck Adapter Mk 93 Mod 0 is obsolescent with no replacement.

ASSOCIATED EQUIPMENT. Handlift Truck Mk 45 Mods 0 and 2.

**ADAPTER, SKID
MK 111 MOD 0
DL 2643990
NSN 7H 4935-00-545-3847**

DESCRIPTION. Skid Adapter Mk 111 Mod 0 is an aluminum weldment consisting of two main assemblies: a base and a cradle. The cradle assembly is fastened to the base assembly by means of a pivotal support and a telescoping slide arrangement, the support being designed to permit vertical movement of the cradle and the slides horizontal movement. Handwheels are provided for positioning the cradle. Handknobs are provided for locking the cradle in the desired position. Two casters mounted on the base assembly support the cradle assembly during transport under full-load conditions. The load is held by padded metal straps locked with quick-release pins.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts . . .	MIP 7221/R12, OR-99/86Y9000
Op. Proc.	OR-67/12
EIC/WUC	86Y9
SM&R Code	PAODD

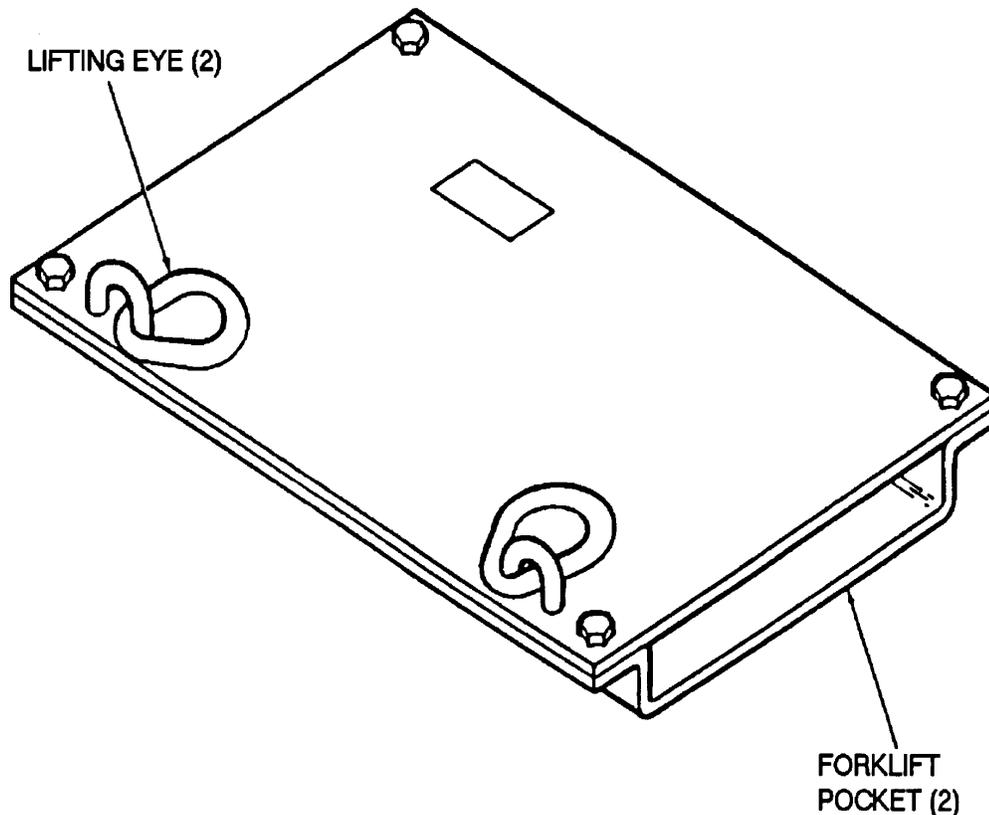
PHYSICAL DATA:	
Length	53.54 inches
Width	18.00 inches
Height	24.00 inches
Weight	190 pounds
SWL	500 pounds

APPLICATION. Skid Adapter Mk 111 Mod 0 is used on Munitions Transporter MHU-191/M for transferring SEASPARROW to and from Launcher Loader Mk 13.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M.

**ADAPTER, CRATE
MK 112 MOD 0
DL 2644678
NSN 6T 8140-00-370-9479**

DESCRIPTION. Crate Adapter Mk 112 Mod 0 consists of a pair of fork pockets and two stacking bolts. The fork pockets are steel weldments each with two lifting eyes and attaching hardware for fastening to Underwater Mine Crate Mk 55 Mods 0 and 1.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	MIL-STD-1323-209
EIC/WUC	None
SM&R Code	None
NALC	KW64

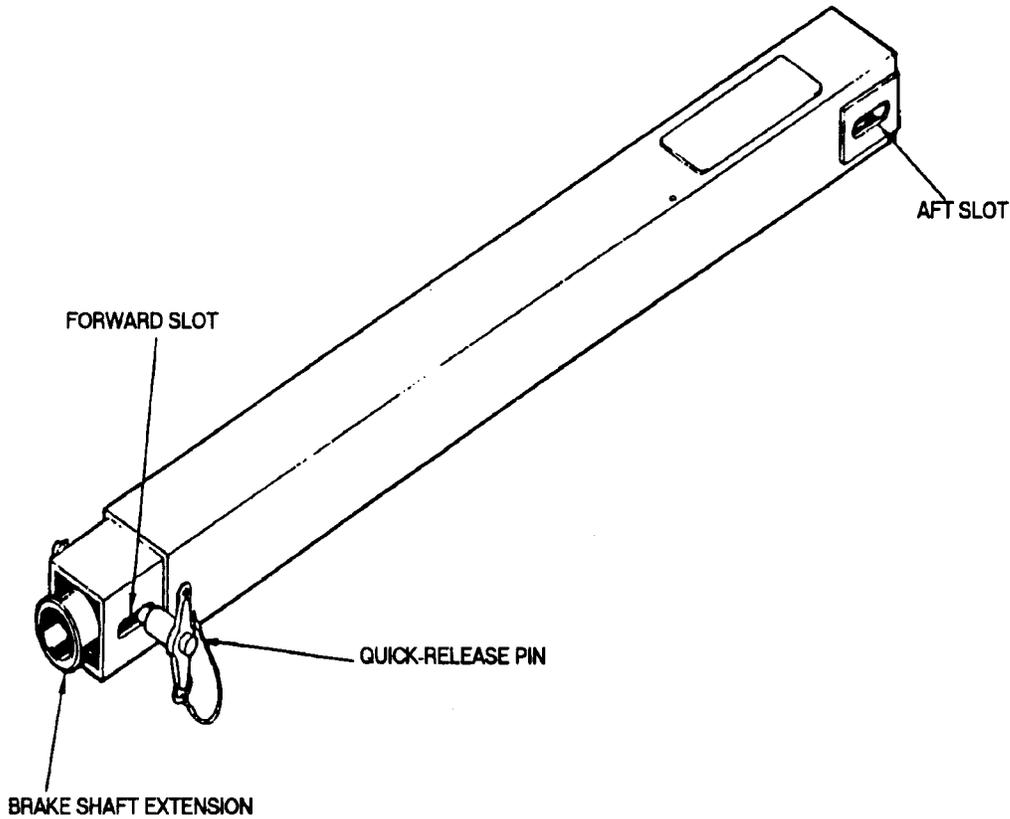
PHYSICAL DATA:	
Length	28.75 inches
Width	20.25 inches
Height	3.33 inches
Weight	150 pounds
SWL	2350 pounds

APPLICATION. Crate Adapter MK 112 Mod 0 fork pockets are bolted to the underside of Underwater Mine Crate Mk 55 Mods 0 and 1. The stacking bolts are fastened to the top outboard sides of the crate diagonally across from each other. The adapter provides standard handling and stacking capabilities for Mine Crate Mk 55 Mods 0 and 1, which it otherwise does not have.

ASSOCIATED EQUIPMENT. Mine Crate Mk 55 Mods 0 and 1.

**ADAPTER, EXTENSION
MK 130 MOD 0
DL 2645420
NSN 9B 1740-01-029-3197**

DESCRIPTION. Extension Adapter Mk 130 Mod 0 is an assembly of two lengths of steel structural tubing, one fitted inside the other, and a steel bar weldment inside the assembly. A quick-release pin is attached to the forward end of the adapter with a lanyard.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	OR-67/48
EIC/WUC	None
SM&R Code	PAHZZ

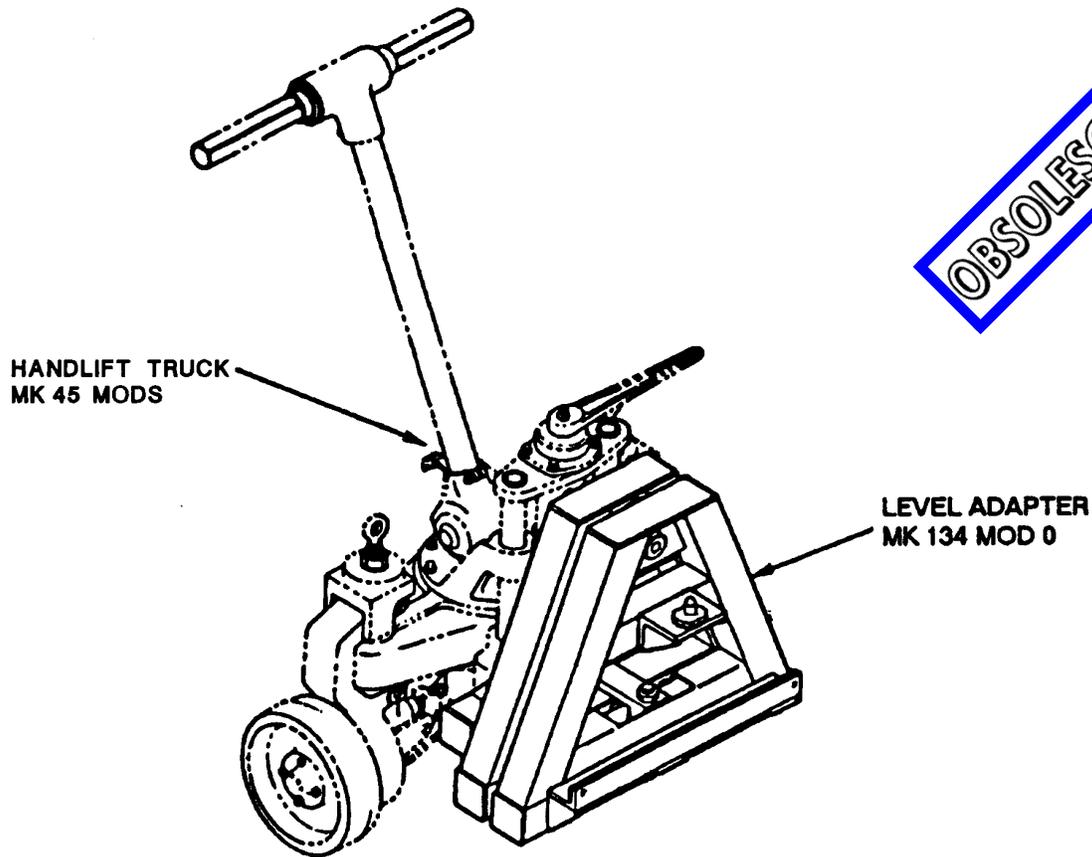
PHYSICAL DATA:	
Length	25.60 inches
Width	2.00 inches
Height	4.20 inches
Weight	13 pounds
SWL	N/A

APPLICATION. The adapter is used to extend the length of the draw bar on the Munitions Transporter MHU-191/M and thereby adapt the skid for handling Torpedo Mk 48 (all Mods) with or without TMD and the encapsulated TOMAHAWK aboard submarine tenders and shore bases. The steel-bar weldment inside the adapter assembly serves as a extension to the brake shaft in the draw bar, thus maintaining operational linkage between the draw bar and the skid's brakes.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, various skids and transporters.

**ADAPTER, LEVEL
MK 134 MOD 0
DL 5165928
NSN 7H 4921-01-071-4430**

DESCRIPTION. Level Adapter Mk 134 Mod 0 consists of two A-frames of welded steel tubing attached together by a roller and large shoulder bolt. The face of one A-frame mates directly to the ASROC Container Mk 183 and represents the lifting area of Handlift Trucks Mk 45 Mods 0 or 2.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7222/RO5
Op. Proc. ...	NAVSEA SG420-D0-MMO-010, S9571-AA-MMA-010
EIC/WUC	896H
SM&R Code	None

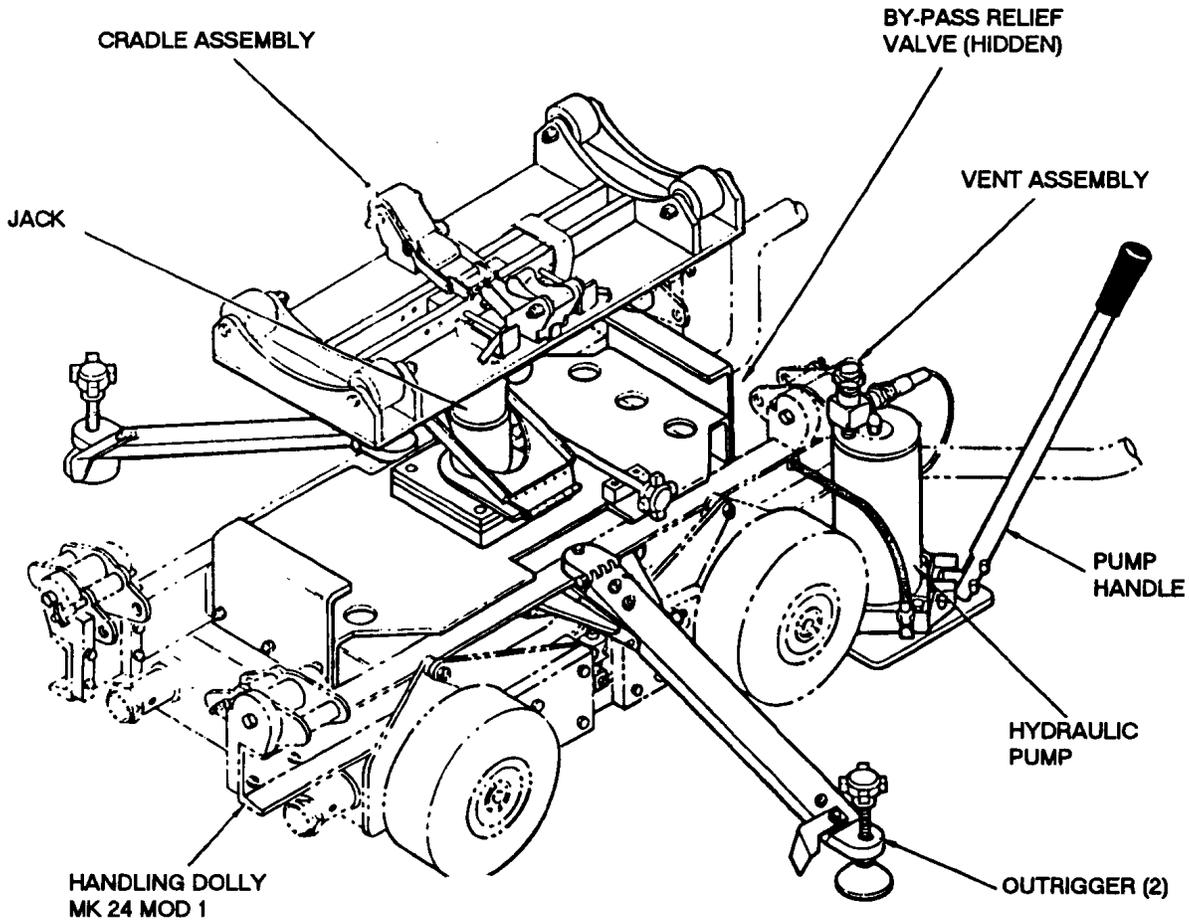
PHYSICAL DATA:	
Length	15.88 inches
Width	8.50 inches
Height	13.44 inches
Weight	50 pounds
SWL	2500 pounds

APPLICATION. Level Adapter Mk 134 Mod 0 is used on Handlift Trucks Mk 45 Mods 0 or 2 to interface with ASROC Container Mk 183 and Container Mk 608 to maintain the container level on uneven deck surface and also prevents handtruck disengagement. When moving containers, only one level adapter is required and may be installed at either end of the container. Level Adapter Mk 134 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Handlift Trucks Mk 45 Mods 0 or 2.

**ADAPTER, DOLLY, LAMPS
MK 137 MOD 0
DL 5165946
NSN NOT ASSIGNED**

DESCRIPTION. Dolly Lamps Adapter Mk 137 Mod 0 is designed to attach to Handling Dolly Mk 24 Mods 0, 1 and to convert the dollies into a dual purpose, transporter/loader. Consisting of a manually operated hydraulic pump, a jack and cradle assembly, adjustable outriggers, by-pass relief valve, and yaw and pitch controls, the adapter adds a lifting capability of eight inches, coupled with yaw and tilt stability for high sea-state conditions,



OBSOLESCE

**ADAPTER, DOLLY, LAMPS
MK 137 MOD 0
DL 5165946
NSN NOT ASSIGNED**

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/8517000, MIP 7521/R05
Op. Proc.	NAVSEA SG420-DE-MAB-010, OR-67/55
EIC/WUC	8516
SM&R Code	None

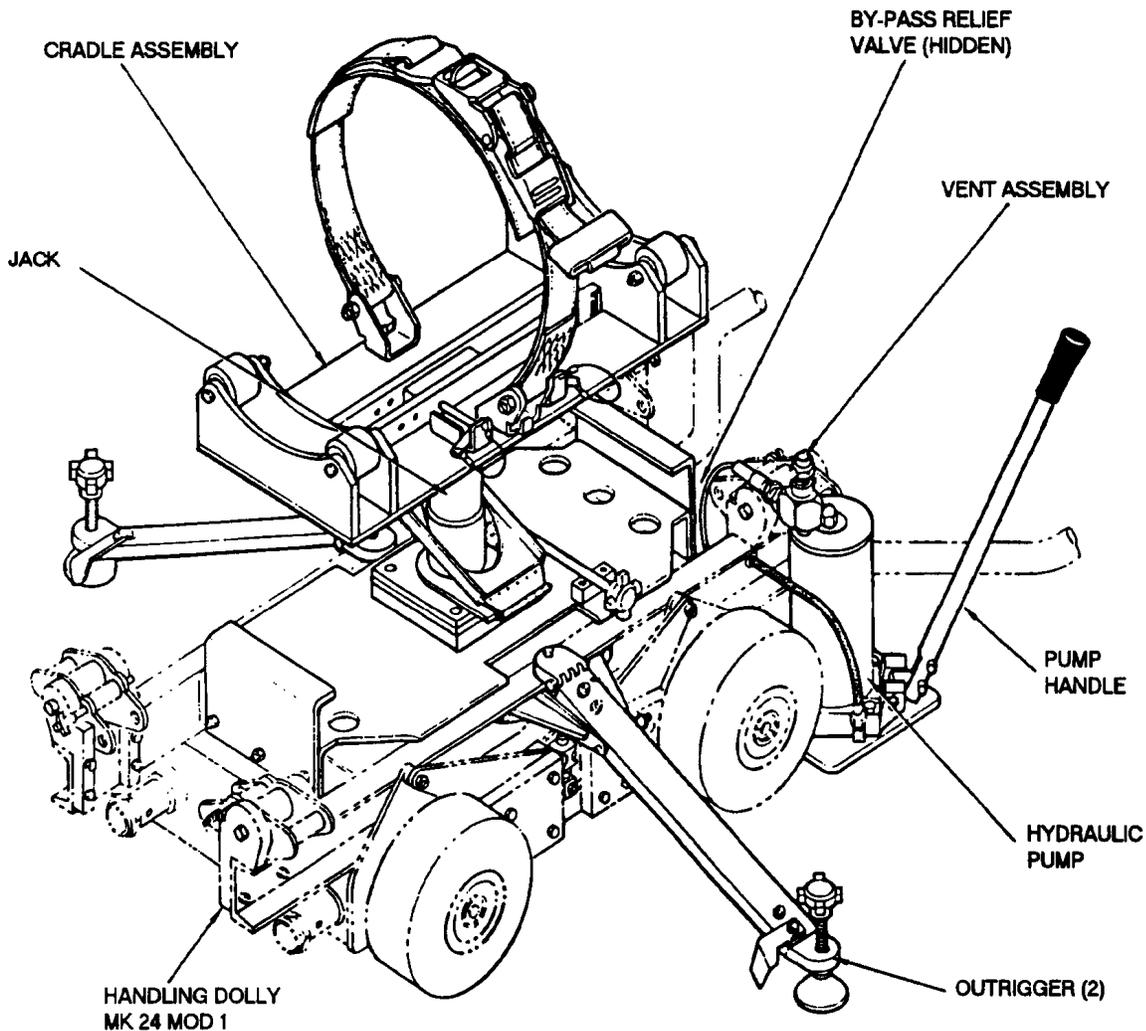
PHYSICAL DATA:	
Length	38.00 inches
Width	22.00 inches
Height	
Deck to top of rollers (down position)	15.63 inches
Deck to top of rollers (raised position)	23.63 inches
Deck to end pump handle	23.00 inches
Weight	
Assembled to Mk 24 Mod 1 Dolly with handles	273 pounds
Adapter alone	165 pounds
SWL	900 pounds

APPLICATION. Dolly Lamps Adapter Mk 137 Mod 0 is used to load Torpedoes Mk 46, Mk 50, and Mk 54 onto the SH60, HS2 and SH3 Helicopters. Dolly Lamps Adapter Mk 137 Mod 0 is obsolescent and is replaced by LAMPS Dolly Adapter Mk 137 Mod 1.

ASSOCIATED EQUIPMENT. Handling Dolly Mk 24 Mods 0 and 1.

**ADAPTER, DOLLY, LAMPS
MK 137 MOD 1
DL 5166321
NSN 7H 1730-01-062-4149**

DESCRIPTION. Dolly Lamps Adapter Mk 137 Mod 1 (also referred to as the dolly/adapter set, stock number 7H 1730-01-160-6116) is designed to attach to Handling Dolly Mk 24 Mod 1 and converts the dolly into a dual purpose, transporter/loader. Consisting of a manually operated hydraulic pump, a jack and cradle assembly, adjustable outriggers, by-pass relief valve, and yaw and pitch controls, the adapter adds a lifting capability of eight inches, coupled with yaw and tilt stability for high sea-state conditions.



**ADAPTER, DOLLY, LAMPS
MK 137 MOD 1
DL 5166321
NSN 7H 1730-01-062-4149**

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	NAVSEA SG420-DE-MAB-010, MIP 7521/R05
Op. Proc. . .	NAVSEA SG420-DE-MAB-010, OR-67/55
EIC/WUC	8516
SM&R Code	PEOGD

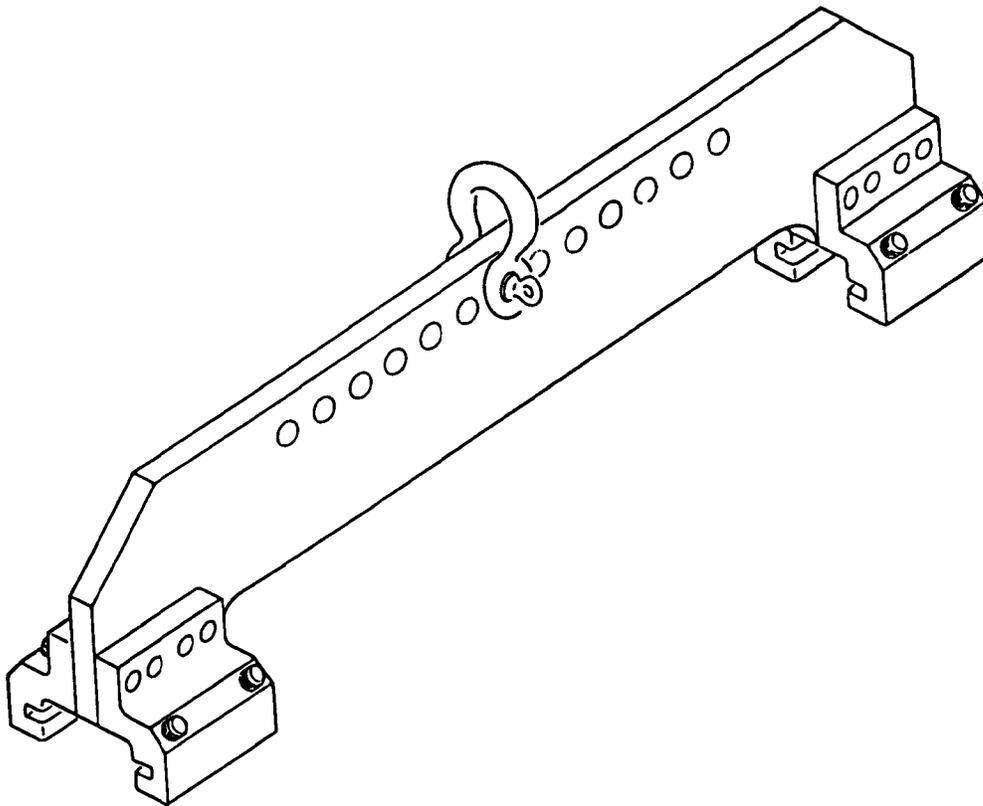
PHYSICAL DATA:	
Length	38.00 inches
Width	22.00 inches
Height	
Deck to top of rollers (down position)	15.63 inches
Deck to top of rollers (raised position)	23.63 inches
Deck to end pump handle	23.00 inches
Weight	
Assembled to Mk 24 Mod 1 Dolly with handles	292 pounds
Adapter alone	123 pounds
SWL	1,000 pounds

APPLICATION. Dolly Lamps Adapter Mk 137 Mod 1 is installed on the Handling Dolly Mk 24 Mod 1 (also referred to as the dolly/adapter set, stock number 7H 1730-01-160-6116) and is used to load Torpedoes Mk 46, Mk 50, and Mk 54 onto SH60 and SH2 Helicopters. The torpedo is loaded onto the dolly with the torpedo-room hoist. The dolly is positioned under the aircraft shackles and the outriggers are extended. The torpedo is then elevated to engage the aircraft shackle hooks.

ASSOCIATED EQUIPMENT. Handling Dolly Mk 24 Mod 1.

**ADAPTER, MISSILE HOISTING
MK 151 MOD 0
LD 497908
NSN 9C 4921-00-777-5604**

DESCRIPTION. Missile Hoisting Adapter Mk 151 Mod 0 consists of an aluminum assembly which has two lug blocks designed to engage the ASROC Missile launching lugs. Two restraining screws on each lug block secure the missile hoisting adapter to the missile launch lugs. A shackle, which serves as a lifting eye, can be located in any of 13 holes to accommodate the center of gravity of the different ASROC Missile configurations, including the Rocket-Thrown Depth Charge.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 Maint. Insts MIP 7221/R07
 Op. Proc. OR-67/61
 EIC/WUC 8515
 SM&R Code PA5ZZ

PHYSICAL DATA:

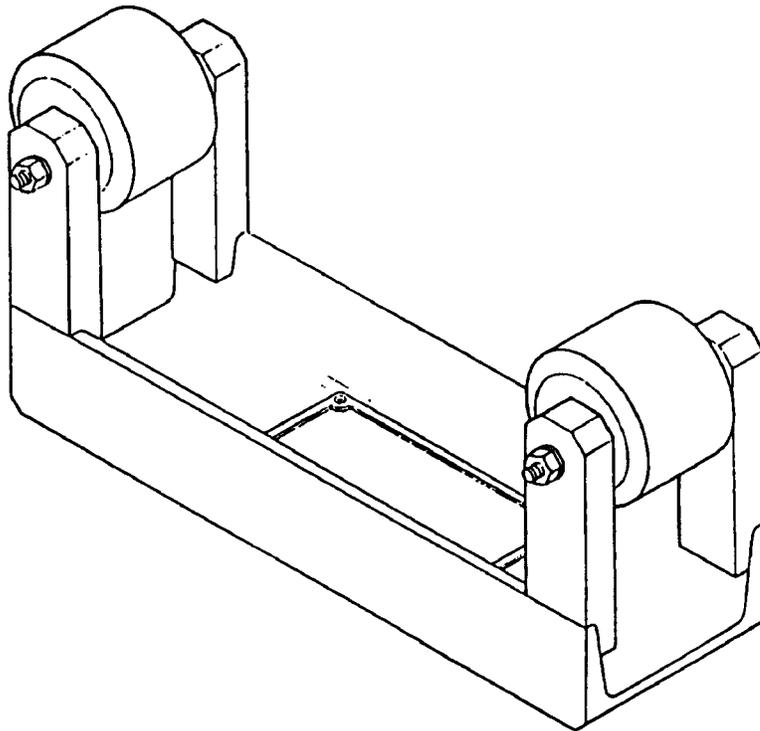
Length 36.50 inches
 Width 6.00 inches
 Height 11.00 inches
 Weight 35 pounds
 SWL 1200 pounds

APPLICATION. Missile Hoisting Adapter Mk 151 Mod 0 is used for ASROC Missile encanning/decanning, shop handling and strikedown operations.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Missile Hoisting Adapter.

**ADAPTER, ROLLER
MK 152 MOD 0
DL 5166623
NSN 3H 3010-01-142-8908**

DESCRIPTION. Roller Adapter Mk 152 Mod 0 is a steel weldment equipped with two free spinning rubber rollers designed to support a cylindrical weapon 12.75 inches in diameter. Used in pairs, the adapters are spaced 36.75 inches apart along the cylindrical axis of the weapon to interface between the weapon and a Cylinder Weapon Assembly (Dwg. 2541803) mounted on Dolly Mk 21 Mod 0. When used in pairs, the two adapters are capable of supporting up to 1600 pounds, corresponding to the SWL of the Dolly Mk 21 Mod 0.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	OR-67/83
EIC/WUC	None
SM&R Code	None

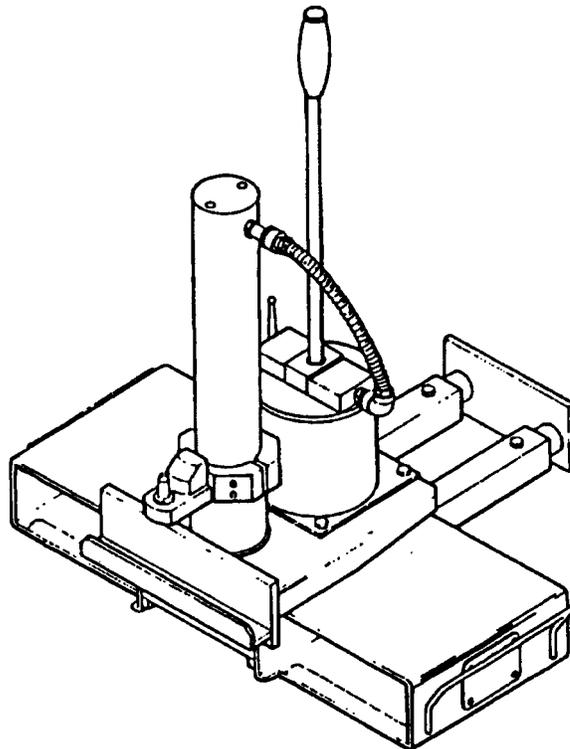
PHYSICAL DATA:	
Length	10.75 inches
Width	3.75 inches
Height	4.78 inches
Weight	6.75 pounds
SWL	800 pounds

APPLICATION. Roller Adapter Mk 152 Mod 0 is used to support torpedoes during workshop operations. The adapter enables the weapon to be rotated about its longitudinal axis to facilitate application of protective material to the torpedo skin.

ASSOCIATED EQUIPMENT. Dolly Mk 21 Mod 0 and Cylinder Adapter Assembly (Dwg. 2541803).

**ADAPTER, ENDLIFT
MK 156 MOD 0
DL 5166882
NSN 9B 3940-01-245-1358**

DESCRIPTION. Endlift Adapter Mk 156 Mod 0 consists of a hydraulic pump and cylinder assembly, container lift angle, two forklift pockets and an adjustable bumper. The container lift angle may be raised and lowered by a manually operated pump handle to mate with various weapon containers. The adjustable bumper may be positioned at 36-inch, 42-inch and 48-inch settings to accommodate appropriate pallet truck tine lengths. The other end of the container is maneuvered by a Handlift Truck Mk 45 Mods 0 or 2.



REFERENCE DATA:

ISEA PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MIP 7222/R02, OR-99/896K000
 Op. Proc. NAVSEA S9571-AA-MMA-010, SW023-AH-WHM-010, OR-67/80
 EIC/WUC 896K
 SM&R Code PAOGD

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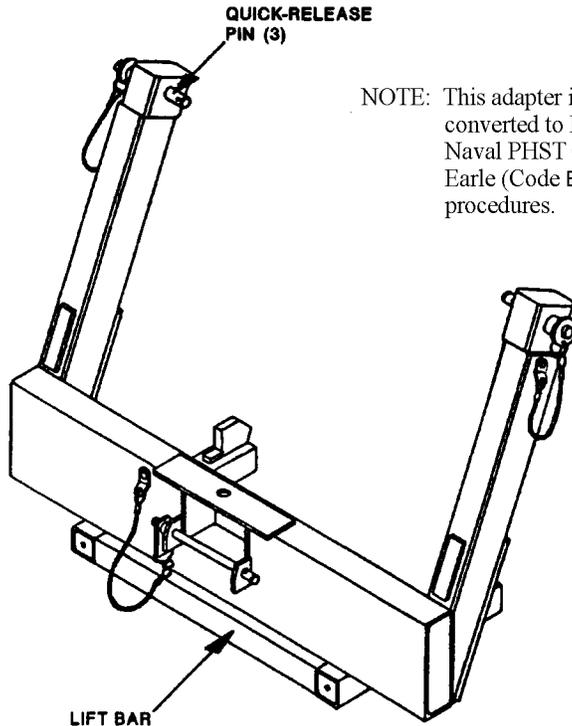
Length (retracted) 25.00 inches
 Width 31.00 inches
 Height (retracted) 32.45 inches
 Weight 176 pounds
 SWL (per adapter) 4000 pounds

APPLICATION. The endlift adapter is used as an interface between a standard pallet truck and the end of long, heavy weapon containers. For VLS Canisters, the endlift adapter is used with Handlift Truck Adapter Mk 160 Mod 1.

ASSOCIATED EQUIPMENT. Handlift Truck Adapter Mk 160 Mod 1, Electric Pallet Trucks and Handlift Truck Mk 45 Mods 0 or 2.

**ADAPTER, HANDLEFT TRUCK
MK 160 MOD 0
PL 5597790-9
NSN 8T 1450-01-224-9647**

DESCRIPTION. Handlift Truck Adapter Mk 160 Mod 0 consists of a U-shaped steel weldment, three quick release pins and lift bar.



NOTE: This adapter is required to be converted to Mod 1. Contact Naval PHST Center/NSWC Det Earle (Code E412) for disposition procedures.



REFERENCE DATA:

ISEA PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MIP 7221/H01, OR-99/86B4000
 Op. Proc. NAVSEA S9571-AA-MMA-010, OR-67/139
 EIC/WUC 86B4
 SM&R Code None
 NALC 2W24

PHYSICAL DATA:

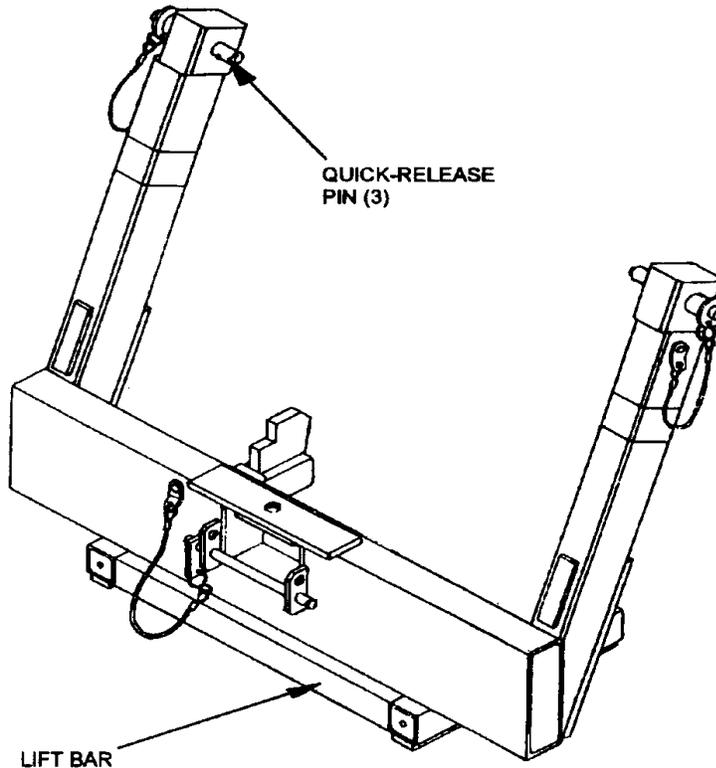
Length 32.50 inches
 Width 12.50 inches
 Height 23.00 inches
 Weight 69 pounds
 SWL (per adapter) 3700 pounds

APPLICATION. Handlift Truck Adapter Mk 160 Mod 0 will be used in shipboard and shore station environments. The Handlift Truck Adapter Mk 160 Mod 0 is used in conjunction with Handlift Truck Mk 45 Mod 2 or Endlift Adapter Mk 156 Mod 0 to facilitate handling of the Mk 13 (STANDARD), Mk 14 (VLS), Mk 15 (VLA), Mk 19 (TRAINER), Mk 21 (SM-2 Block IV) and Mk 22 (SEASPARROW) Canisters to and from the strikedown staging area. The adapter's lift bar and alignment hole attaches to a Handlift Truck Mk 45 Mod 2 or Endlift Adapter Mk 156 Mod 0 and is secured by a quick release pin. Two quick release pins of the adapter fit into the lugs located at the ends of the Mk 13, Mk 14, Mk 15, Mk 19 and Mk 22 Canisters. Handlift Truck Adapter Mk 160 Mod 0 is obsolescent and is replaced by Handlift Truck Adapter Mk 160 Mod 1.

ASSOCIATED EQUIPMENT. Handlift Truck Mk 45 Mod 2, Endlift Adapter Mk 156 Mod 0.

**ADAPTER, HANDLIFT TRUCK
MK 160 MOD 1
PL 5597790-19
NSN 8T 1450-01-352-2564**

DESCRIPTION. Handlift Truck Adapter Mk 160 Mod 1 consists of a U-shaped steel weldment, three quick release pins and a lift bar.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/H01, OR-99/86BW000
Op. Proc.....	NAVSEA S9571-AA-MMA-010, OR-67/140
EIC/WUC	86BW
SM&R Code	None
NALC	AWAE

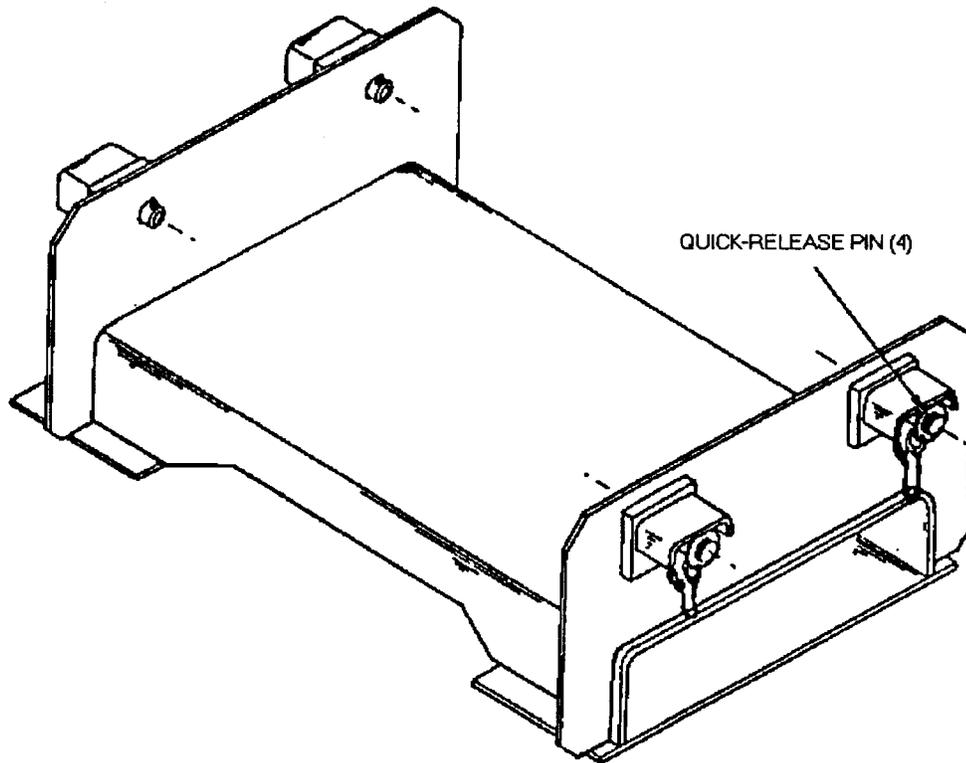
PHYSICAL DATA:	
Length	32.50 inches
Width	12.50 inches
Height.....	25.00 inches
Weight	78 pounds
SWL (per adapter)	4400 pounds

APPLICATION. Handlift Truck Adapter Mk 160 Mod 1 is used in conjunction with Endlift Adapter Mk 156 Mod 0 for TOMAHAWK Canisters Mk 14 and Mk 21 to facilitate handling to and from strikedown staging area. In addition, Adapter Mk 160 Mod 1 can be used with Handlift Truck Mk 45 Mod 2 to facilitate handling of Canisters Mks 13, 15, 19, 21 and 22. The adapter is attached to Handlift Truck Mk 45 Mod 2 or Endlift Adapter Mk 156 Mod 0 by a quick-release pin. Two upper quick release pins of Adapter Mk 160 Mod 1 fit into lugs located at the ends of VLS Canisters Mk 13, Mk 14, Mk 15, Mk 19 or Mk 21. This equipment will be used in shipboard and shore station environments.

ASSOCIATED EQUIPMENT. Handlift Truck Mk 45 Mod 2 and Endlift Adapter Mk 156 Mod 0.

**ADAPTER, CANISTER, FORKLIFT POCKET
MK 161 MOD 0
PL 5223314-9
NSN 8T 1450-01-224-9648**

DESCRIPTION. Forklift Pocket Canister Adapter Mk 161 Mod 0 consists of an aluminum weldment and four quick release pins. Two adapters are mounted on the VLS canister to permit use of a forklift truck during shore based and shipboard handling operations. Each adapter attaches to the canister by means of the four quick release pins - two on each side of the adapter.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R01, OR-99/86B1000
Op. Proc.	SPI-PHST-143; OR-68/177
EIC/WUC	86B1
SM&R Code	PA4GD
NALC	5W10

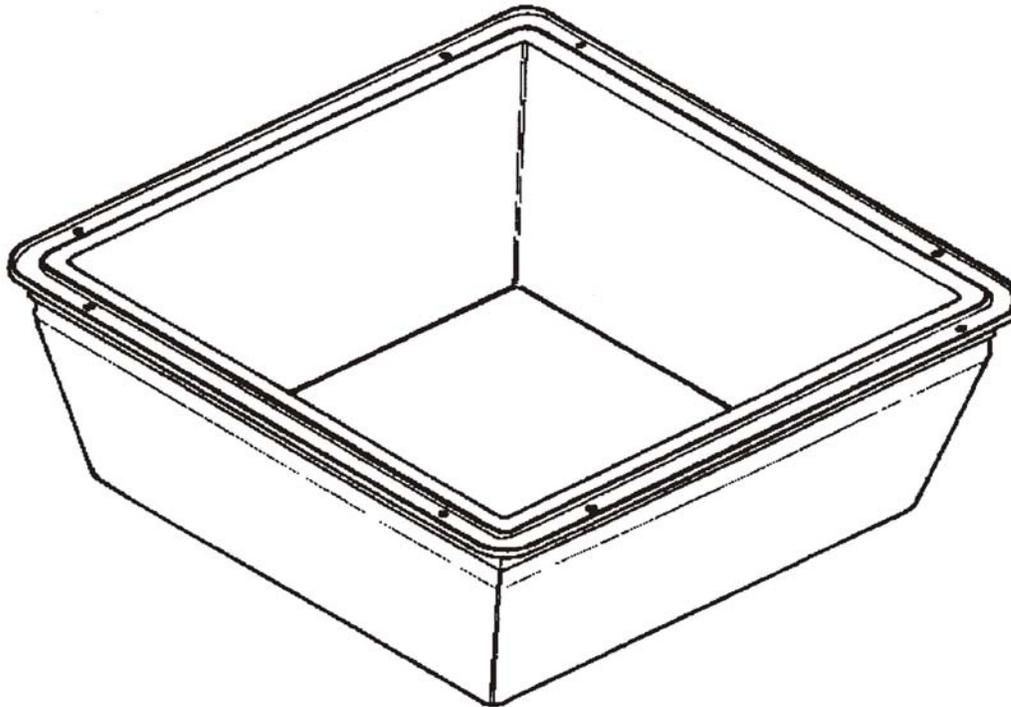
PHYSICAL DATA:	
Length	29.84 inches
Width	17.00 inches
Height	9.22 inches
Weight	25.96 pounds
SWL	N/A

APPLICATION. Forklift Pocket Canister Adapter Mk 161 Mod 0 will be used in a shore station and non-combatant ship environment.

ASSOCIATED EQUIPMENT. Forklift Trucks and VLS Canisters Mk 13, Mk 14, Mk 15, Mk 19, Mk 21, Mk 22, and Mk 25.

**ADAPTER, SILL ASSEMBLY
MK 165 MOD 0
PL 5599783-19
NSN 8T 1450-01-264-1899**

DESCRIPTION. Sill Assembly Adapter Mk 165 Mod 0 is an open, funnel-like steel weldment assembly that provides the lower mating surface for canisters installed in the Mk 41 VLS Launcher. The sill assembly adapter, which is lined with ablative material, also directs missile exhaust away from the sides of the missile cell and into the plenum. The sill assembly adapter extends down into the plenum.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts . . .	MIP 7221/R-10, OR-99/86BR000
Op. Proc.	OR-67/134
EIC/WUC	86BR
SM&R Code	None
NALC	4W68

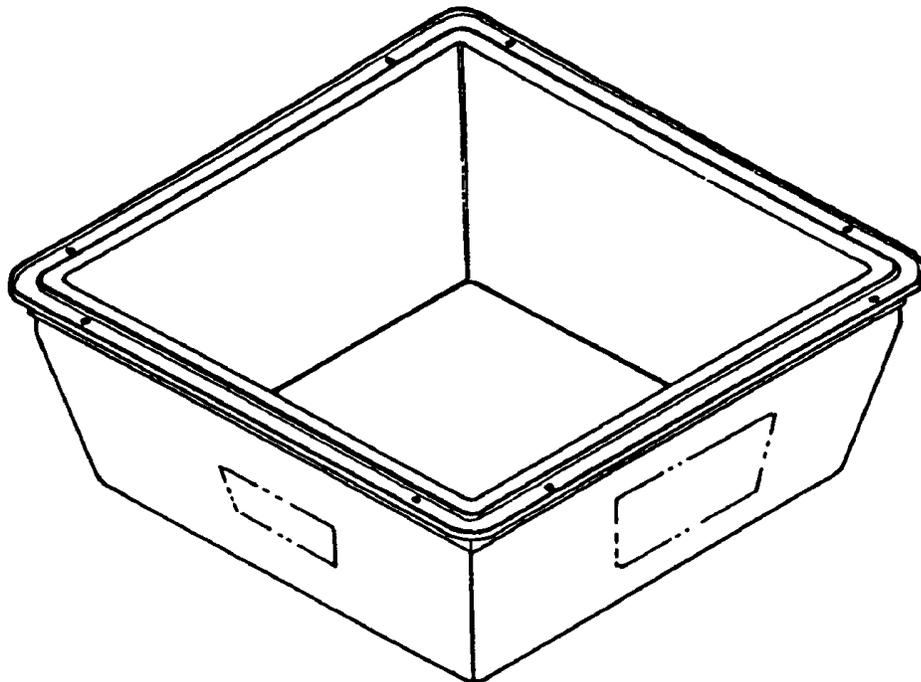
PHYSICAL DATA:	
Length	24.50 inches
Width	24.50 inches
Height	9.30 inches
Weight	113 pounds
SWL	N/A

APPLICATION. Sill Assembly Adapter Mk 165 Mod 0 is used when a Mk 14 VLS Canister is installed in the cell.

ASSOCIATED EQUIPMENT. VLS Canisters Mk 14.

**ADAPTER, SILL ASSEMBLY
MK 165 MOD 1
PL 5599783-29
NSN 8T 1450-01-392-8468**

DESCRIPTION. Sill Adapter Assembly Mk 165 Mod 1 is an open, funnel-like, steel weldment assembly that provides the lower mating surface for canisters installed in the Mk 41 VLS Launcher. The sill adapter assembly, which is lined with ablative material, also directs missile exhaust away from the sides of the missile cell and into the plenum. The sill adapter assembly extends down into the plenum. The sill adapter assembly upper gasket seals the sill adapter assembly to the canister while the lower gasket seals the sill adapter assembly to the launcher structure. Together, these seals provide for positive gas management in that cell. Both seals are attached to the upper flange (top and bottom) of the sill adapter. The Mod 1 seal withstands greater pressures than the Mod 0 and is required when a Mk 21 Canister is in the same module.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts . . .	MIP 7221/R10, OR-99/86BZ000
Op. Proc.	OR-67/178
EIC/WUC. . . . .	.86BZ
SM&R Code	PA5GD
NALC.	DWBX

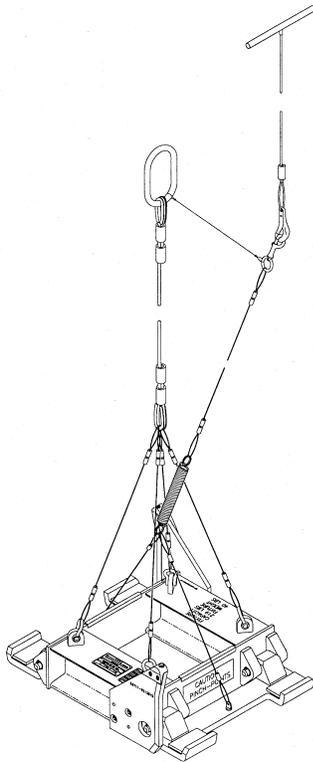
PHYSICAL DATA:	
Length	24.50 inches
Width	24.50 inches
Height.	10.00 inches
Weight	113 pounds
SWL	N/A

APPLICATION. Sill Adapter Assembly Mk 165 Mod 1 is used when the Mk 14 VLS Canisters are installed in the cell.

ASSOCIATED EQUIPMENT. VLS Canisters Mk 14.

**ADAPTER, SILL LIFT
MK 166 MOD 0
PL 5599994-19
NSN 8T 1450-01-460-1513**

DESCRIPTION. Sill Lift Adapter Mk 166 Mod 0 is a rectangular aluminum weldment. The top surface of each corner accommodates a lift point designed to accept a screw pin anchor shackle for lifting by a four leg sling. Two opposing sides are equipped with hinged lift arms to engage the bottom of the sill assembly adapter. Aluminum guide plates with rubber protective strips are attached on diagonally opposite corners for proper positioning in a sill assembly. To remove the adapter once the sill assembly adapter is in place, a lanyard is used to fold the lift arms. The lanyard can either be activated manually from above deck using the trip line extension or below deck by connecting the spring tensioned trip line to the lift link. The sill lift adapter is lifted from the cell by the single pendant attached to the four leg sling.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts . . . MIP 7221/H01, OR-99/86BS000
 Op. Proc. OR-67/135
 EIC/WUC 86BS
 SM&R Code PA5GD
 NALC CWIK

PHYSICAL DATA:

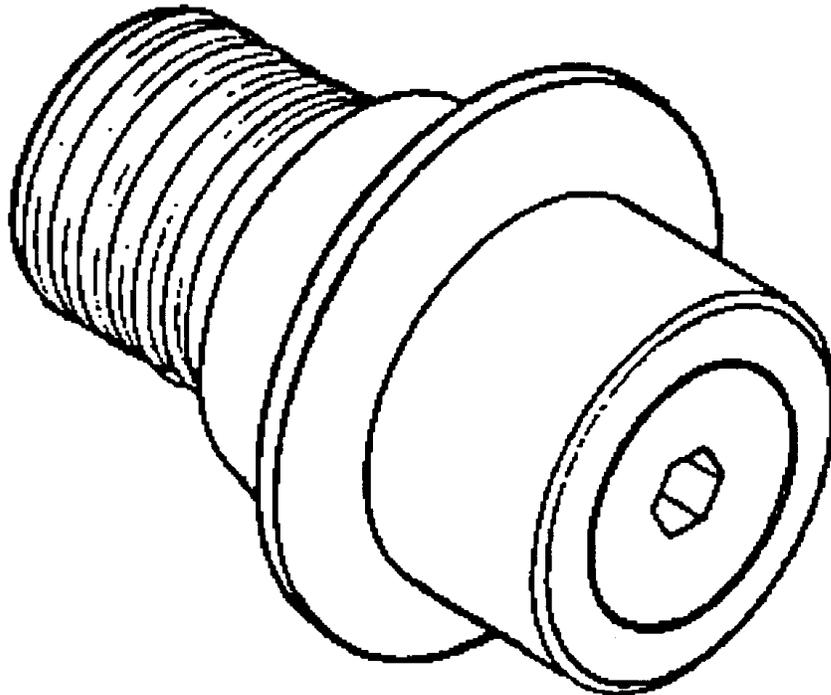
Length (lift arms extended) 21.62 inches
 Width (lift arms extended) 16.75 inches
 Height (lift arms extended) 10.0 inches
 Weight 40 pounds
 SWL 219 pounds

APPLICATION. Sill Lift Adapter is used aboard ship to install or remove a Sill Assembly Adapter Mk 165 Mods 0, 1 or Mk 170 Mod 0.

ASSOCIATED EQUIPMENT. Sill Assembly Adapter Mk 165 Mod 1 and Sill Assembly Adapter Mk 170 Mod 0.

**ADAPTER, TRUNNION BEARING ASSEMBLY
MK 167 MOD 0
DL 5917703
NSN 9G 3130-01-333-5707**

DESCRIPTION. Trunnion Bearing Assembly Adapter Mk 167 Mod 0 consists of a threaded trunnion fitted with a 2.125 inch cam follower. Two adapters are threaded into the lower end of the CLS TOMAHAWK All-Up-Round (AUR). The AUR is then positioned so that the trunnion bearing assembly adapters rest in support grooves on the CLS up-righting fixture. The trunnion bearing assembly adapters provide the pivot point when the AUR is being uprighted from the horizontal (shipping position) to the vertical (loading position) and return.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts 7221/CLS
 Op. Proc. OR-67/124,
 ' NAVSEA SW820-AD-WHS-010, -030, -040
 EIC/WUC None
 SM&R Code PAGZZ

PHYSICAL DATA:

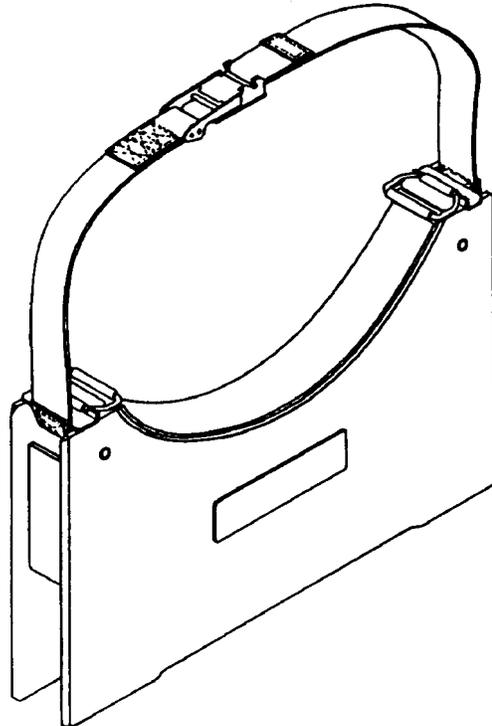
Length 2.41 inches
 Diameter 2.17 inches
 Weight 2 pounds
 SWL N/A

APPLICATION. Trunnion Bearing Assembly Adapter Mk 167 Mod 0 is used to upright and lower the CLS TOMAHAWK AUR when packaged in Shipping and Storage Skid Mk 30 Mods. Adapters are used during dockside loading and unloading evolutions.

ASSOCIATED EQUIPMENT. CLS Up-Righting Fixture Mk 26 Mods, Sling Mk 154 Mod 0 or Mk 166 Mod 0, Skid Mk 30 Mods, Fwd Cradle Support Adapter Mk 168 Mod 0, and Hook Adapter Mk 176.

**ADAPTER, SUPPORT, CRADLE, FORWARD
MK 168 MOD 0
PL 5917395
NSN 7H 1440-01-368-2086**

DESCRIPTION. Forward Cradle Support Adapter Mk 168 Mod 0 is a cradle-shaped aluminum weldment having a rubber lined support surface. The adapter is contoured to accept the CLS TOMAHAWK All-Up-Round (AUR) and is equipped with a retaining strap. The adapter is installed between the forward stacking posts on Skid Mk 30 Mods and is used to support the AUR forward end when uprighting or lowering the AUR.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MIP 7221/CLS
 Op. Proc. NAVSEA SW820-AD-WHS-010
 EIC/WUC None
 SM&R Code PAGGD

PHYSICAL DATA:

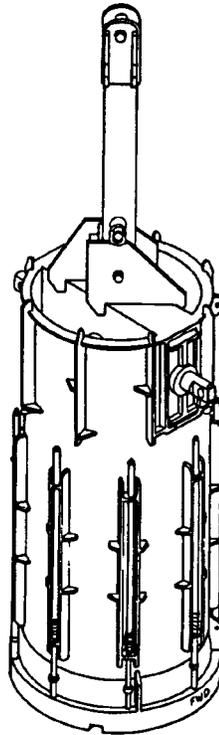
Length 30.375 inches
 Width 4.75 inches
 Height 17.50 inches
 Weight 50 pounds
 SWL N/A

APPLICATION. Forward Cradle Support Adapter Mk 168 Mod 0 is used in conjunction with CLS Up-Righting Fixture Mk 26 Mods and the Trunnion Bearing Assembly Adapter Mk 167 Mod 0 or Mk 174 Mod 0 to upright and lower the CLS TOMAHAWK AUR in Shipping and Storage Skid Mk 30 Mods. Adapters are used during dockside loading and unloading operations.

ASSOCIATED EQUIPMENT. Shipping and Storage Skid Mk 30 Mods, Trunnion Bearing Assembly Adapter Mk 167 Mod 0 or Mk 174 Mod 0 and CLS Up-Righting Fixture Mk 26 Mods.

**ADAPTER ASSEMBLY, LIFTING
MK 169 MOD 0
P/N JCM-14669
NSN NOT ASSIGNED**

DESCRIPTION. Lifting Adapter Assembly Mk 169 Mod 0 consists of a lifting arm assembly, an equalizer beam and bolt and extension rod assemblies.



REFERENCE DATA:

ISEA Naval Undersea Warfare Center, Newport
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts MIP 7221/CLS
 Op. Proc. NAVSEA SW820-AF-OMP-020
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

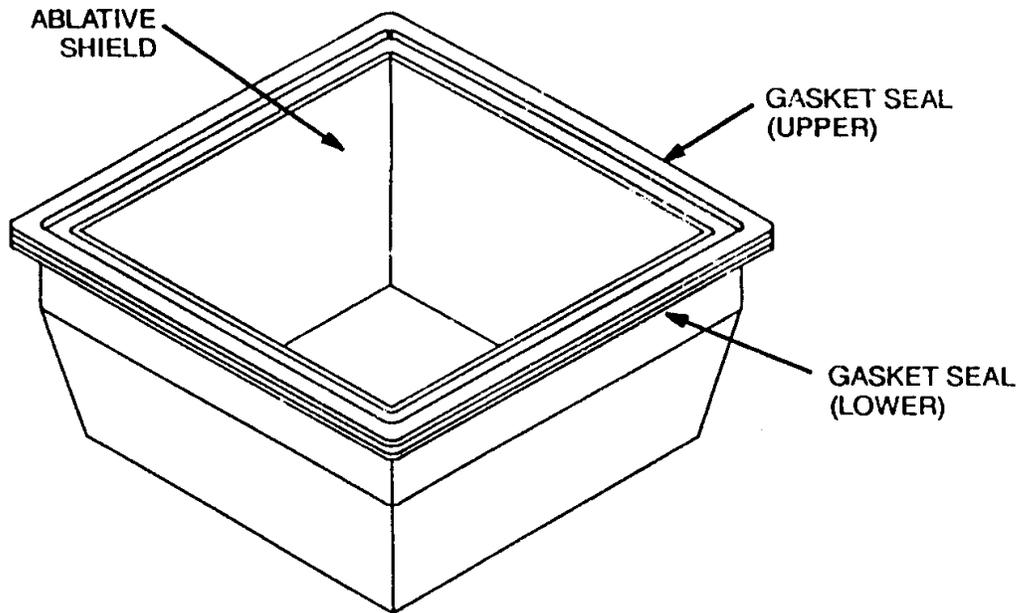
Length 54.50 inches
 Width 40.00 inches
 Height 96.00 inches
 Weight 500 pounds
 SWL (horizontal position) 3175 pounds
 SWL (vertical position) 17000 pounds

APPLICATION. Lifting Adapter Assembly Mk 169 Mod 0 is used to upend and move either an All-Up-Round (AUR), an expended CLS, or an AUR Simulator (AURS). The adapter attaches to the top of the upper flange on the CLS or AURS and provides an attachment point for the lifting crane hook during upending. Two Equalizer Beam pins on the adapter assembly fit into slots in the Missile Tube Extension/Loader (MTEL) Assembly, to align the AUR in the missile tube during on-load.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lifting Adapter Assembly Mk 160 Mod 0.

**ADAPTER, SILL ASSEMBLY
MK 170 MOD 0
PL 6658779
NSN 8T 1450-01-392-8467**

DESCRIPTION. Sill Adapter Assembly Mk 170 Mod 0 is an open, funnel-like, steel weldment assembly that provides the lower mating surface for missile canisters installed in the launcher (Canisters Mk 21 only). The sill adapter assembly, which is lined with ablative material, also directs missile exhaust away from the sides of the missile cell and into the plenum. The sill adapter assembly extends down into the plenum. The sill adapter assembly upper gasket seals the sill adapter assembly to the canister while the lower gasket seals the sill adapter assembly to the launcher structure. Together, these seals provide for positive gas management in that cell. The Sill Assembly Adapter Mk 170 Mod 0 is similar to the Sill Assembly Adapter Mk 165 Mod 1 but the Mk 170 Mod 0 is heavier and has more ablative lining.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R13, OR-99/86C5000
Op. Proc.	OR-67/176
EIC/WUC	86C5
SM&R Code	PA5GD
NALC	DWBW

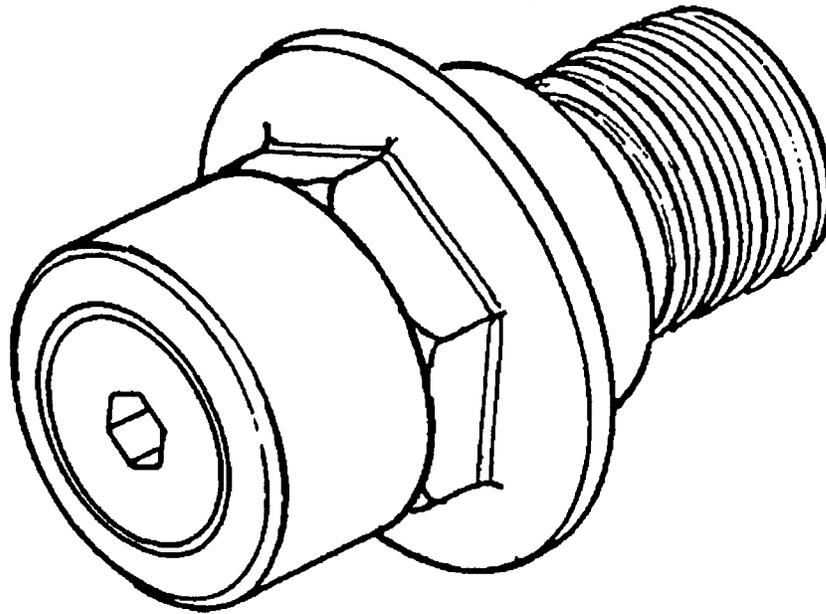
PHYSICAL DATA:	
Length	24.52 inches
Width	24.52 inches
Height	9.39 inches
Weight	161 pounds
SWL	N/A

APPLICATION. Sill Assembly Adapter Mk 170 Mod 0 is used when a Mk 21 Mods VLS Canister containing a SM-2 Block IV Missile is installed in the cell.

ASSOCIATED EQUIPMENT. Canisters Mk 21 Mods.

**ADAPTER, TRUNNION BEARING ASSEMBLY
MK 174 MOD 0
DL JCM-17863
NSN 9C 3020-01-382-9126**

DESCRIPTION. Trunnion Bearing Assembly Adapter Mk 174 Mod 0 consists of a threaded trunnion adapter fitted with a 1.50 inch diameter cam follower. Two adapters are threaded into the lower end of the CLS TOMAHAWK All-Up-Round (AUR). The AUR is then positioned so that the trunnion bearing assembly adapters rest in support grooves on the CLS up-righting fixture. The trunnion bearing assembly adapters provide the pivot point when the AUR is being uprighted from the horizontal (shipping position) to the vertical (loading position) and return.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	7221/CLS
Op. Proc.	NAVSEA SW820-AD-WHS-010
EIC/WUC	None
SM&R Code	PAGZZ

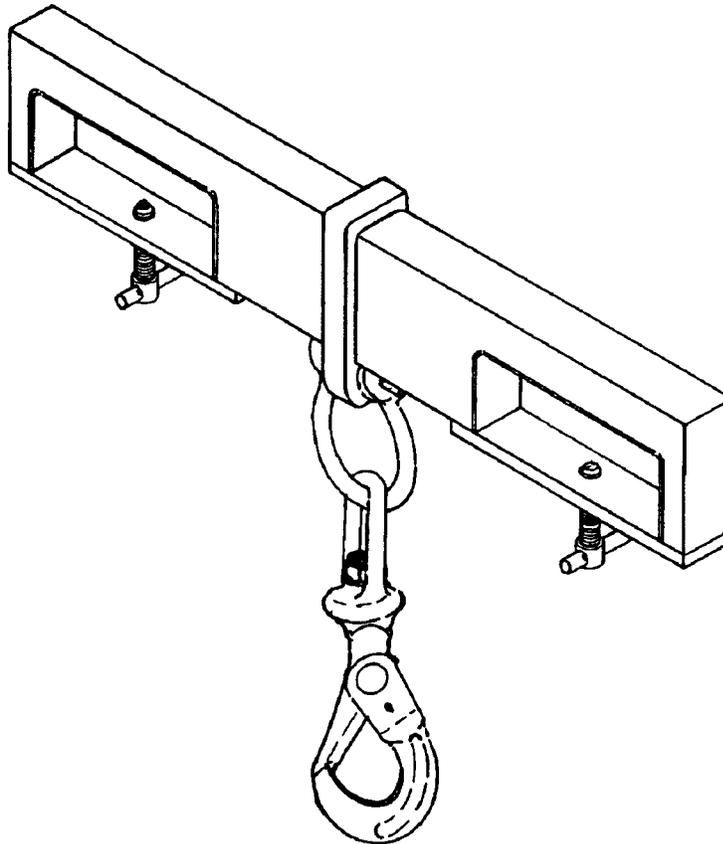
PHYSICAL DATA:	
Length	2.75 inches
Width	2.13 inches
Weight	N/A
SWL	3600 pounds

APPLICATION. Trunnion Bearing Assembly Adapter Mk 174 Mod 0 is used in conjunction with CLS Up-Righting Fixture Mk 26 Mods and Forward Support Cradle Adapter Mk 168 Mod 0 to upright and lower the CLS TOMAHAWK AUR in Shipping and Storage Skid Mk 30 Mods. Adapters are used during dockside loading and unloading operations.

ASSOCIATED EQUIPMENT. CLS Shipping and Storage Skid Mk 30 Mods, CLS Up-Righting Fixture Mk 26 Mods, Forward Support Cradle Adapter Mk 168 Mod 0, Sling Mk 154 Mod 0 or Mk 166 Mod 0, Fwd Cradle Support Mk 168 Mod 0, and Hook Adapter Mk 176 Mod 0.

**ADAPTER, HOOK
MK 176 MOD 0
DL 6213621
NSN 9B 3940-01-443-3580**

DESCRIPTION. Hook Adapter Mk 176 Mod 0 consists of a welded steel beam with fork pockets, clamping screws and a safety swivel hook.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts MIP 7221/R-08
 Op. Proc. [NAVSEA SW023-AH-WHM-010](#), OR-67/174
 EIC/WUC None
 SM&R CodePAOZZ

PHYSICAL DATA:

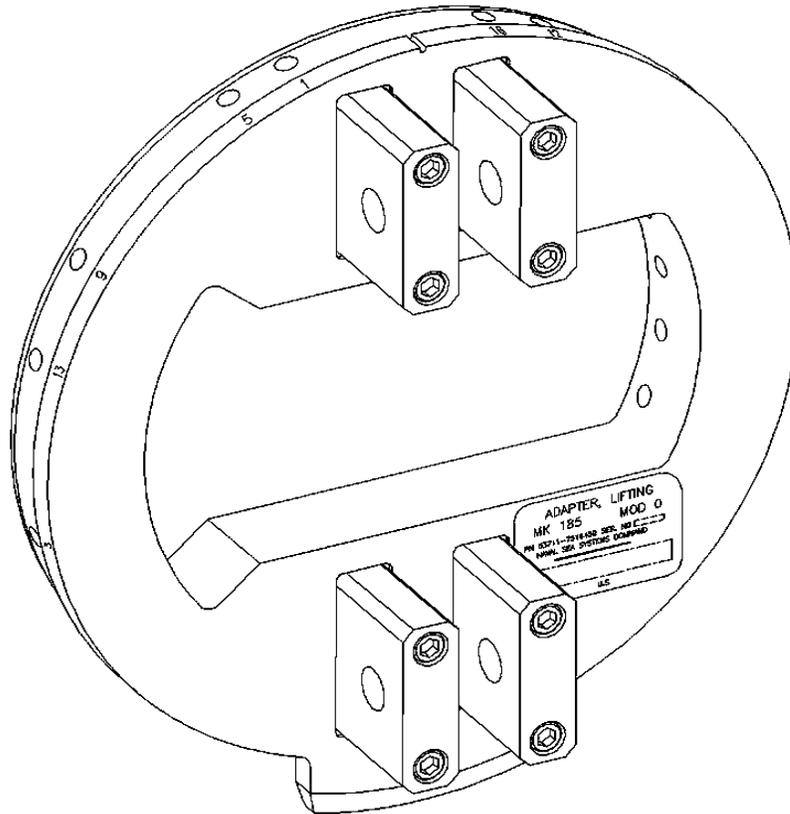
Length 30.50 inches
 Width 2.75 inches
 Height 23.00 inches
 Weight 38 pounds
 SWL 7500 pounds

APPLICATION. Hook Adapter Mk 176 Mod 0 is used to provide an over-the-center pick up point when handling the CLS or CCLS TOMAHAWK AUR. A safety swivel hook at the bottom of the beam is used for lifting and transporting the CLS TOMAHAWK AUR via a double wrapped choker sling.

ASSOCIATED EQUIPMENT. Sling Mk 154 Mod 0 and Sling Mk 166 Mod 0.

**ADAPTER, LIFTING
MK 185 MOD 0
DL 7516459
NSN 8T 1450-01-542-8634**

DESCRIPTION. Lifting Adapter Mk 185 Mod 0 is an aluminum disk consisting of one adapter plate and four clevis blocks that are secured to the adapter plate by 16 socket head cap screws.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86FL000
Op. Proc.	OR-67/211
EIC/WUC	86FL
SM&R Code	PAHZZ

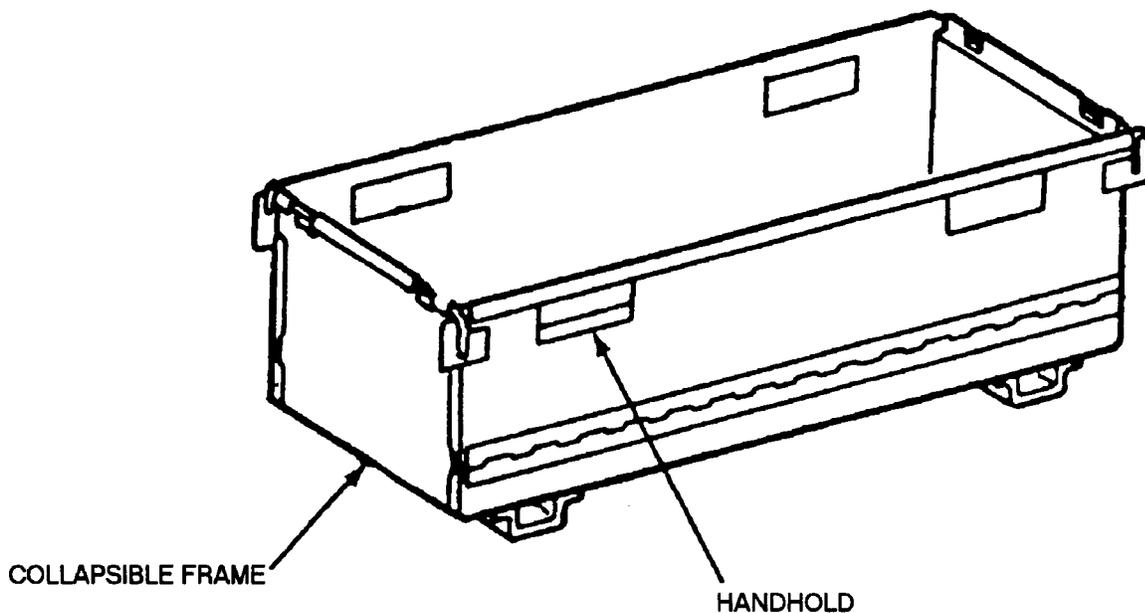
PHYSICAL DATA:	
Diameter	14.50 inches
Thickness	4.00 inches
Weight	18 pounds
SWL	600 pounds

APPLICATION. Lifting Adapter Mk 185 Mod 0 is used for packing, unpacking and handling of a STANDARD SM-3 Third Stage Element. The adapter is bolted (16 screws) to the aft end of the SM-3 Third Stage Element assembly. The adapter interfaces with Guided Missile Hoisting Beam Mk 70 Mod 0 and the Shipping and Storage Container Mk 809 Mod 0. Provisions in the container allow the adapter to be stowed in it.

ASSOCIATED EQUIPMENT. Guided Missile Hoisting Beam Mk 70 Mod 0.

**ADAPTER, BOMB SKID
AERO 9C
P/N 60A81-1
NSN 1R 1730-00-719-9516**

DESCRIPTION. Bomb Skid Adapter AERO 9C consists of an aluminum box with collapsible sides. Two chest type spring loaded handles are provided and four sliding latches securing the slides in place when in use. Spring loaded latches lock the adapter to Bomb Skid AERO 12C.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GZ8
SM&R Code	PAOZZ

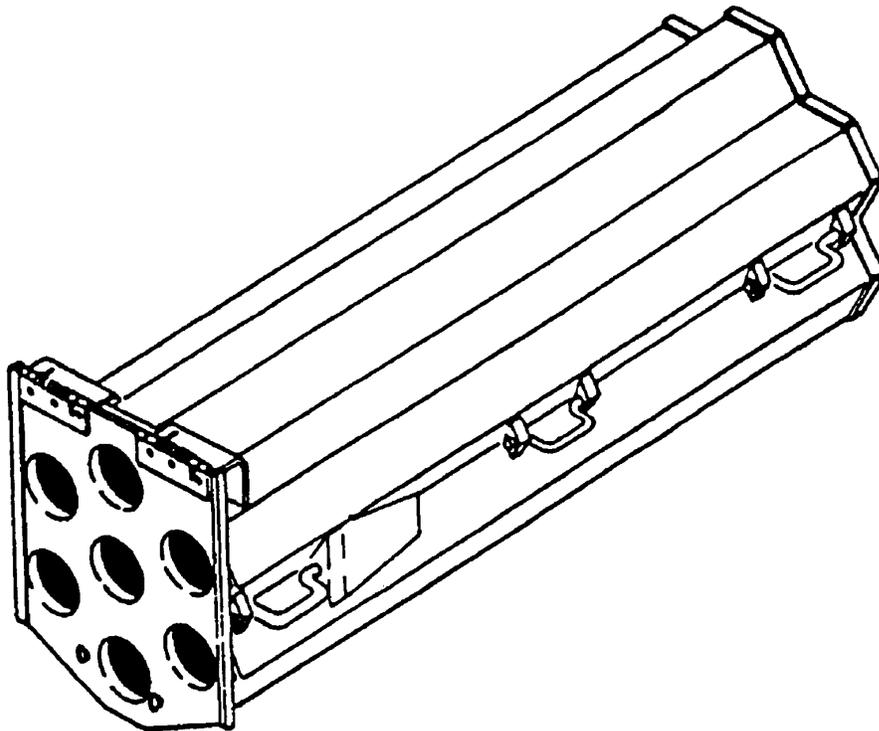
PHYSICAL DATA:	
Length	43.00 inches
Width	18.38 inches
Height	12.69 inches
Weight	.24 pounds
SWL	1000 pounds

APPLICATION. Bomb Skid Adapter AERO 9C is used with Bomb Skid AERO 12C to handle and transport miscellaneous ammunition items.

ASSOCIATED EQUIPMENT. Bomb Skid AERO 12C.

**ADAPTER, TRANSPORT AND STORAGE
AERO 39C
P/N 271AS100-15
NSN 1R 1730-01-236-2211**

DESCRIPTION. Transport and Storage Adapter AERO 39C consists of six hexagonal aluminum tubes welded together forming a seventh center hexagon with end butt plates, one welded and one hinged for loading. The welded butt plate is fitted with contoured urethane inserts to fit the nitrogen bottles for Missile Launchers LAU-7 Series. The hinged butt plate is spring loaded and the double clasped for security. Three handles on the top aid in lifting and/or carrying. A metal strip between the two bottom hex tubes provides a skid base.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC .....	.21GZW
SM&R Code	PAOGG

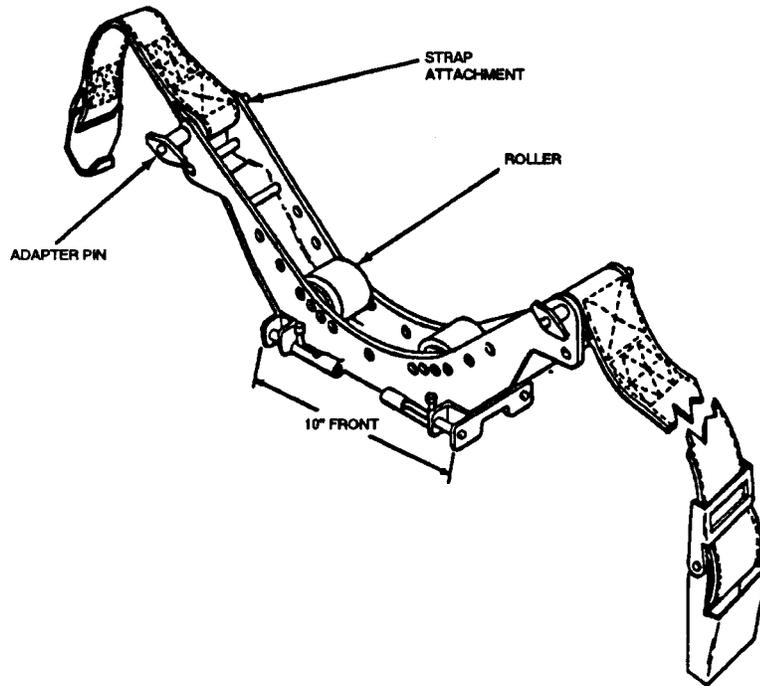
PHYSICAL DATA:	
Length	54.62 inches
Width .....	.11.75 inches
Height .....	.11.37 inches
Weight	33 pounds
SWL	138 pounds

APPLICATION. Transport and Storage Adapter AERO 39C is used with any flat surface skid or trailer to transport and store nitrogen bottles used with the LAU-7 SIDEWINDER missile launcher system. Tiedown straps are used to secure the adapter to the skid or truck.

ASSOCIATED EQUIPMENT. This adapter is used with various Navy and USMC skids, trailers and transporters, including Bomb Skid AERO 12C.

**ADAPTER, SKID
AERO 58A (FRONT)
P/N 64A114D16-1 (FRONT)
NSN 1R 1740-00-754-4804 (FRONT)**

DESCRIPTION. Skid Adapter AERO 58A (front) consists of a steel front section. The front section has a 10-inch base to fit the rails of the Munitions Transporter MHU-191/M. The adapter section has removable hard rubber rollers which support the weapon. Nylon straps are provided to hold the weapon in place. The section is attached to the skids with four spring-loaded pins which mate with the holes in the rails of the skid.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	.21GZD
SM&R Code	PEOGZ

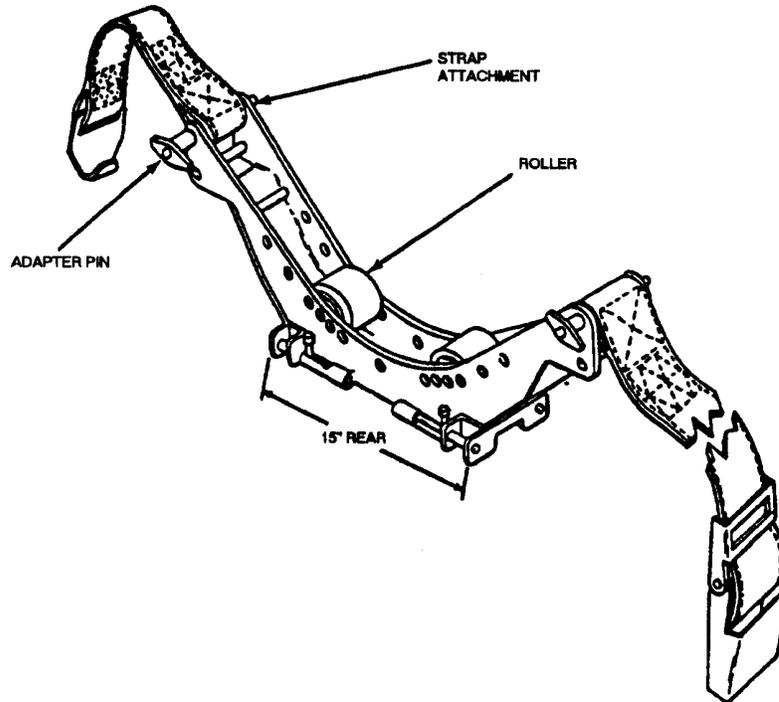
PHYSICAL DATA:	
Length	25.25 inches
Width	5.00 inches
Height	9.38 inches
Weight	18.64 pounds
SWL	2500 pounds

APPLICATION. Skid Adapter AERO 58A (front) is used with Skid Adapter AERO 58A (rear) as a set to adapt the associated rail type skids, transporters, trailers and adapters for use with a wide variety of weapons and their adapters. Six holes on each side of the adapter allow for positioning of the removable rubber rollers to accommodate a single weapon from a minimum of 8 inches up to maximum of 30.50 inches in diameter.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A (rear), Munitions Transporter MHU-191/M, Trailer Adapter AERO 87A, Munitions Trailer MHU-126 Series, Platform Skid MHU-125 Series, Small Munitions Trailer MHU-202/M and Bomb Stores Loading Lift Trailer (P/N 75D75005-1001).

**ADAPTER, SKID
AERO 58A (REAR)
P/N 64A114D17-1 (REAR)
NSN 1R 1740-00-675-6031 (REAR)**

DESCRIPTION. Skid Adapter AERO 58A (rear) consists of a steel rear section. The rear section has a 15-inch base to fit the rails of the Munitions Transporter MHU-191/M. The adapter section has removable hard rubber rollers which support the weapon. Nylon straps are provided to hold the weapon in place. The section is attached to the skids with four spring-loaded pins which mate with the holes in the rails of the skid.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GZD
SM&R Code	PEOZZ

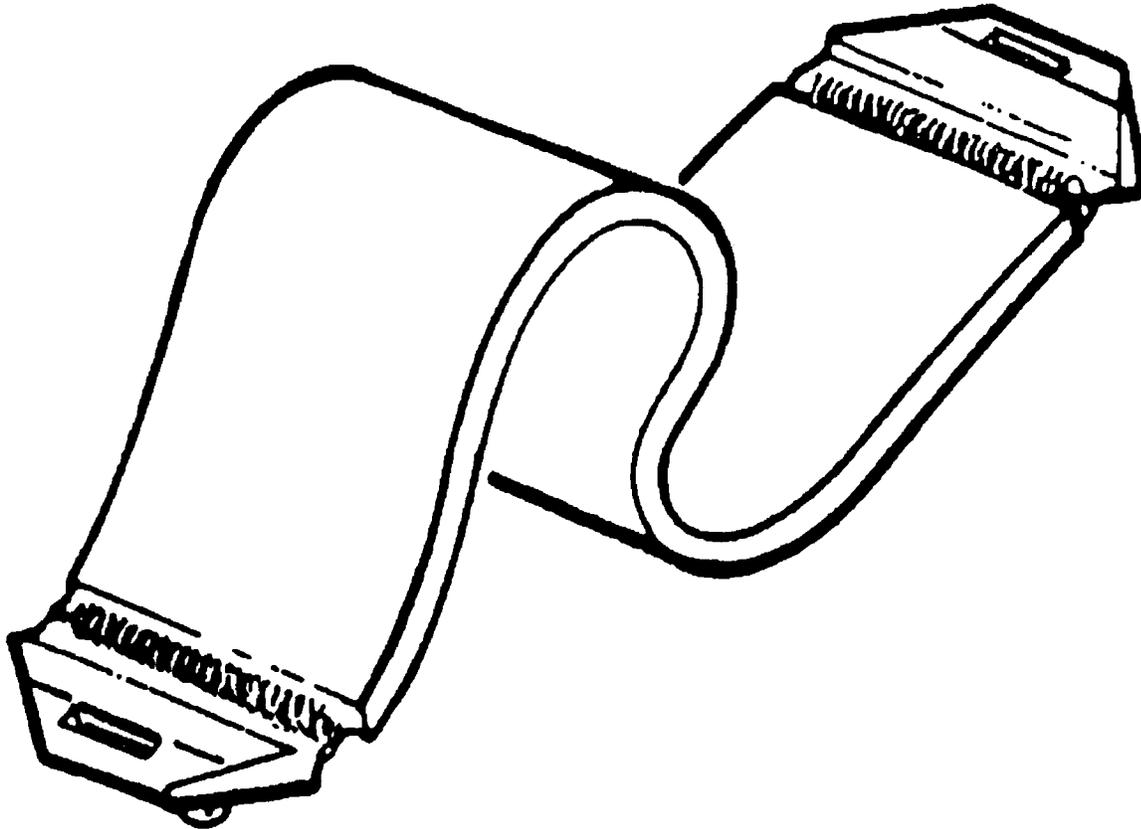
PHYSICAL DATA:	
Length	25.25 inches
Width	5.71 inches
Height	9.38 inches
Weight	19.84 pounds
SWL	2500 pounds

APPLICATION. Skid Adapter AERO 58A (rear) is used with the Skid Adapter AERO 58A (front) as a set to adapt the associated rail type skids, transporters, trailers and adapters for use with a wide variety of weapons and their adapters. Six holes on each side of the adapter allow for positioning of the removable rubber rollers to accommodate a single weapon from a minimum of 8 inches up to maximum of 30.50 inches in diameter.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A (front), Munitions Transporter MHU-191/M, Trailer Adapter AERO 87A, Munitions Trailer MHU-126 Series, Platform Skid MHU-125 Series, Small Munitions Trailer MHU-202/M and Bomb Stores Loading Lift Trailer (P/N 75D750005-1001).

**ADAPTER, SKID, SOFT BELT
AERO 64A
P/N 1567575
NSN 1R 1730-00-948-3532**

DESCRIPTION. Soft Belt Skid Adapter AERO 64A consists of a flexible neoprene-covered woven wire sling. The adapter has slots at the end for attaching tiedown straps. The adapter is also equipped with brackets for attaching it to Skid Adapter AERO 58A.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	.21GZO
SM&R Code	.PAOZZ

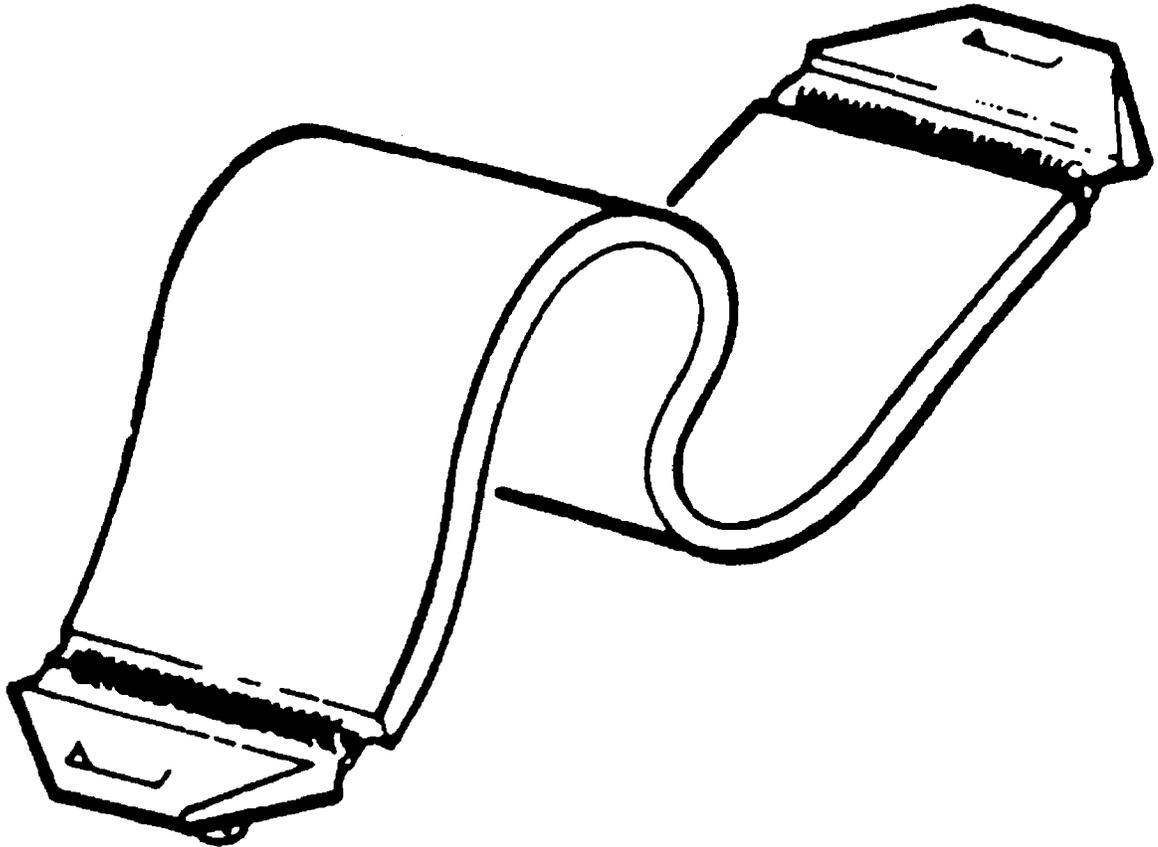
PHYSICAL DATA:	
Length	28.81 inches
Width	6.61 inches
Height	1.81 inches
Weight	14 pounds
SWL (per pair)	5000 pounds

APPLICATION. Two Soft Belt Skid Adapters AERO 64A support a soft-skin weapon or store up to 30 inches in diameter on associated skids, trailers and adapters.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A (front and rear).

**ADAPTER, SKID, SOFT BELT
AERO 64B
P/N 66A90D1
NSN 9B 1730-00-930-7681**

DESCRIPTION. Soft Belt Skid Adapter AERO 64B consists of a flexible, neoprene covered, woven wire sling. The adapter has slots at the end for attaching tiedown straps. The adapter is also equipped with brackets for attaching it to Bomb Skid AERO 12C.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GZO
SM&R Code	PAOZZ

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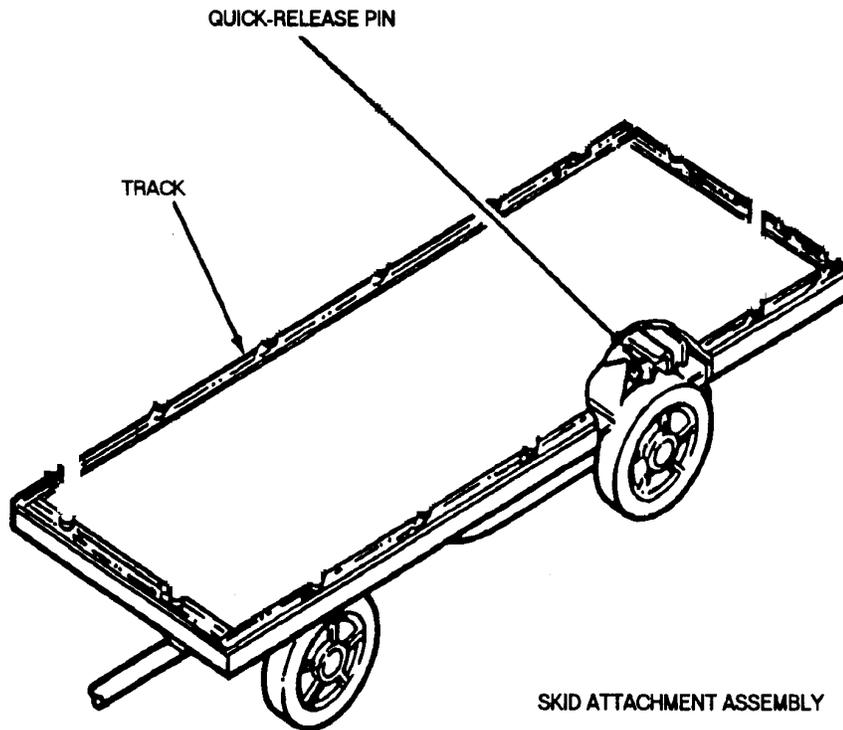
Length	26.37 inches
Width	6.16 inches
Height	2.03 inches
Weight	14 pounds
SWL (per pair)	5000 pounds

APPLICATION. Two Soft Belt Skid Adapters AERO 64B support a soft-skin weapon or store up to 20 inches in diameter on Bomb Skids AERO 12C.

ASSOCIATED EQUIPMENT. Bomb Skid AERO 12C.

**ADAPTER, SKID, FLATBED
AERO 71A
P/N 2483105
NSN 1R 1740-00-943-7946**

DESCRIPTION. Skid Flatbed Adapter AERO 71A consists of a welded aluminum angle frame and sheet aluminum deck. The adapter is secured to a weapon skid by quick-release pins.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	.21GXXG
SM&R Code	PEOGD

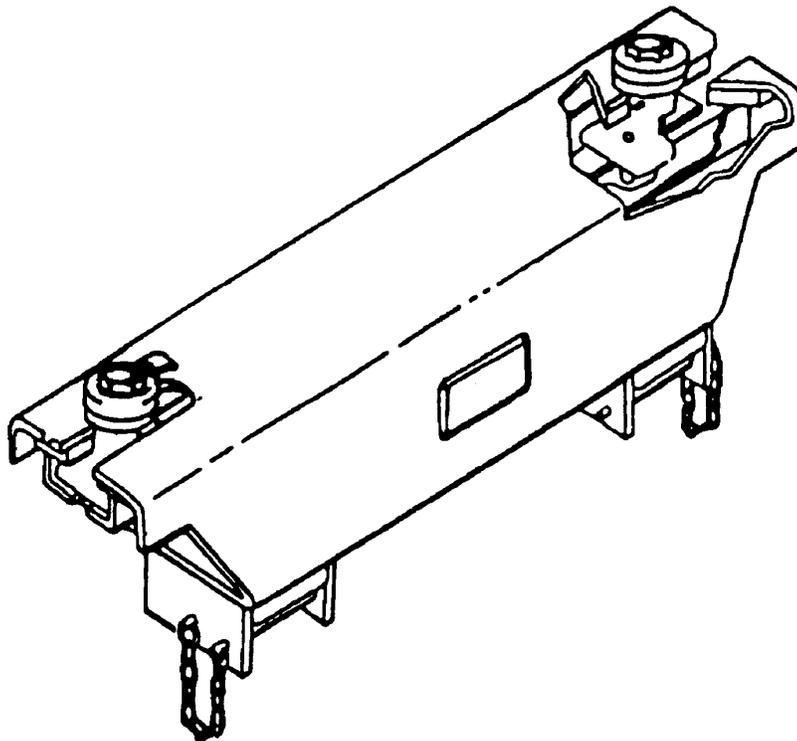
PHYSICAL DATA:	
Length	90.00 inches
Width	32.00 inches
Height (with stakes)	22.66 inches
Weight	210 pounds
SWL	4000 pounds

APPLICATION. Skid Flatbed Adapter AERO 71A is used with Skid Adapter AERO 58A on Munitions Transporter MHU-191/M to form a flatbed truck for transportation of weapons, weapons components, containers and a variety of other ordnance equipment.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Skid Adapter (Front and Rear) AERO 58A, Munitions Trailer MHU-126 Series, and Small Munitions Trailer MHU-202/M.

**ADAPTER, HEIGHT
AERO 73A
P/N 67A209F1-1
NSN 1R 1730-00-087-5682**

DESCRIPTION. Height Adapter AERO 73A consists of two hollow-square steel assemblies. At each end of the underside of each assembly is an H-shaped steel flange with quick-release locking pin to allow attachment to the mounting rails of the Munitions Transporter MHU-191/M. The top surface of each assembly has a slot with spindle arrangement that is used to clamp the height adapter to Skid Trailer Adapter AERO 74A and 75A. The height adapters are interchangeable.



OBSOLESCE

REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GX3
SM&R Code	None

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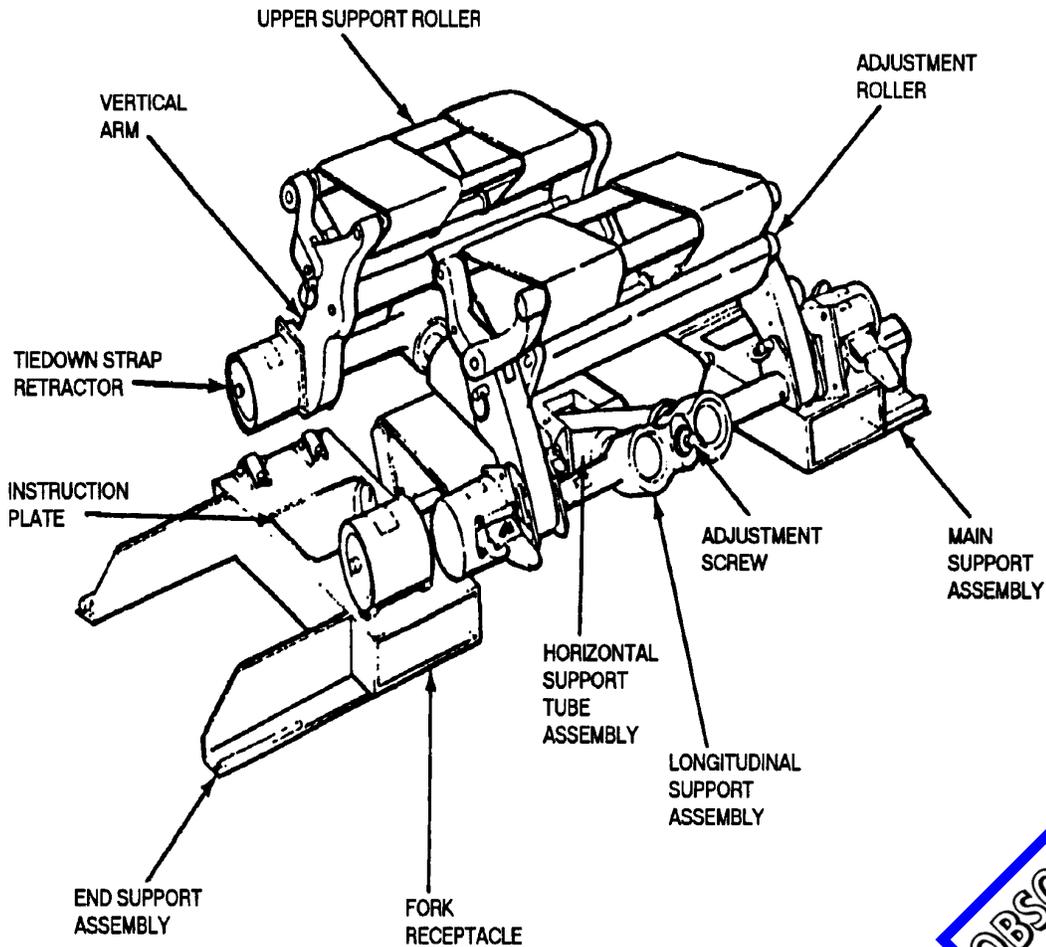
Length	24.00 inches
Width	5.00 inches
Height	9.00 inches
Weight	32 pounds
SWL (set of two)	5000 pounds

APPLICATION. Two Height Adapters AERO 73A are mounted on Munitions Transporter MHU-191/M and interface with Skid-Trailer Adapters AERO 75A and two Skid-Trailer Adapters AERO 74A for a multiple ejector rack (MER) configuration or with one Skid-Trailer Adapter AERO 74A for triple ejection rack (TER) configuration. Height Adapter is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Skid Trailer Adapter AERO 74A, Skid Trailer Adapter AERO 75A, Munitions Transporter MHU-191/M, and Munitions Trailer MHU-126A/M.

**ADAPTER, SKID-TRAILER
AERO 74A
P/N 67A311J2-1
NSN 6R 1730-00-087-5684**

DESCRIPTION. Skid-Trailer Adapter AERO 74A consists of a weapon support assembly and fork receptacles. The upper weapon support assemblies are adjustable to accommodate weapons of various diameters and lateral adjustment screws are mounted outboard of each longitudinal support assembly. Each longitudinal support assembly is mounted to the horizontal support tube and is affixed with a sliding bar which is indexed from 0 to 6 inches for accommodating MER/TER weapon clusters. The adjustment roller on each upper weapon support may be placed in either of three positions for MER/TER compatibility, using quick-release pins. The adapter is equipped with six tiedown strap retractor assemblies, three on top of each fork receptacle. The main support fork receptacle is equipped with two connecting bars that mate with sockets of Skid-Trailer Adapters AERO 75A for MER handling. The adapter may be collapsed to a height of four and one half inches for stowage.



OBSOLETE

**ADAPTER, SKID-TRAILER
AERO 74A
P/N 67A311J2-1
NSN 6R 1730-00-087-5684**

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AO-MEB-000
Op. Proc.	NAVAIR AG-000AO-MEB-000
EIC/WUC.....	21GZG
SM&R Code	PEHHD

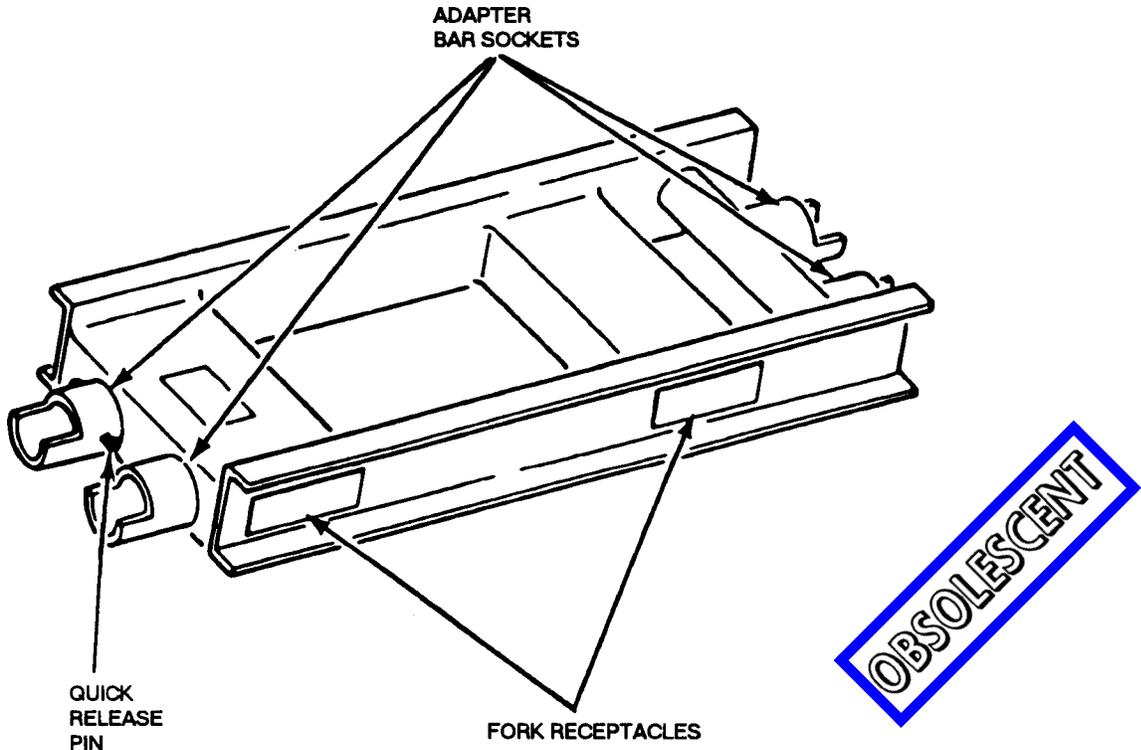
PHYSICAL DATA:	
Length	50.75 inches
Width	
Up position	35.25 inches
Collapsed	51.13 inches
Height	
Up position	17.00 inches
Collapsed.....	4.50 inches
Weight	301 pounds
SWL	3000 pounds

APPLICATION. Skid-Trailer Adapter AERO 74A is used to handle up to three hard or soft shell stores individually or when preloaded to a MER or a TER. These stores may range from 9 inches to 18.6 inches in diameter and have a maximum capacity of 1,000 pounds per store. The adapter can be transported by various skids, transporters or trailers, and the fork receptacle permit handling by various weapon loaders. Skid-Trailer Adapter AERO 74A is obsolescent and is replaced by Skid-Trailer Adapter ADU-876/E.

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 Series, Rough Terrain Trailer A/M32K-4A, Munitions Trailer AERO 51 (series), Munitions Trailer MHU-151M, Skid-Trailer Adapter AERO 75A and Height Adapter AERO 73A.

**ADAPTER, SKID-TRAILER
AERO 75A
P/N 67A311D3-1
NSN 1R 1730-00-087-5681**

DESCRIPTION. Skid-Trailer Adapter AERO 75A is a welded frame structure consisting of two rail supports and three cross pieces. Two cross pieces are box shaped to provide receptacles for forklift forks. The crossbar is tubular and provides rigidity to one end of the adapter. The adapter is equipped with four bar sockets that mate with connecting bars of the Adapter AERO 74A. The bars are secured in the sockets by two quick-release pins.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AO-MEB-000
Op. Proc.	NAVAIR AG-000AO-MEB-000
EIC/WUC	.21GZH
SM&R Code	None

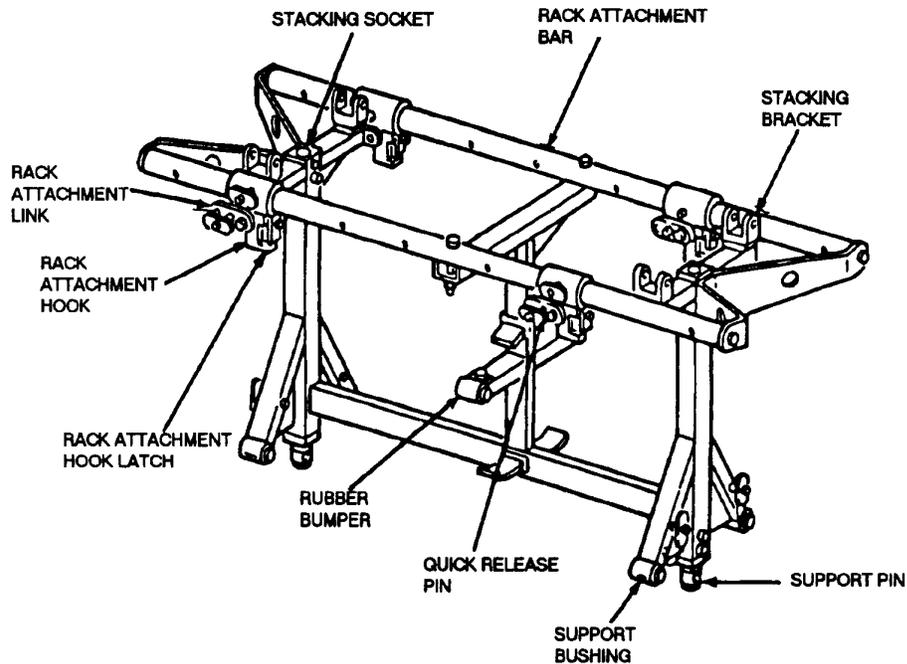
PHYSICAL DATA:	
Length	55.37 inches
Width	18.50 inches
Height	5.00 inches
Weight	130 pounds
SWL	5000 pounds

APPLICATION. Skid-Trailer Adapter AERO 75A combined with two Skid Trailer Adapters AERO 74A is used for handling six individual or preloaded hard or soft shell weapons ranging from 9 inches to 18.6 inches in diameter. The assembled unit can be transported by various skids, transporters, trailers and weapon loaders. Skid-Trailer Adapter is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Munitions Trailers AERO 51 Series, Rough Terrain Trailer A/M32K-4A, Small Munitions Trailer MHU-151/M, Weapons Loader A/S32K-1 Series, Skid-Trailer Adapter AERO 74A and Height Adapter AERO 73A.

**ADAPTER, TRANSPORT
AERO 83A
DL 2483108
NSN 1R 1730-00-966-5891**

DESCRIPTION. Transport Adapter AERO 83A consists of a tubular aluminum frame with a system of movable suspension assemblies. The adapter is equipped with four rack attachment hooks which can be adjusted to accept suspension lugs of either 14-inch or 30-inch spacing. The adapter is equipped with two tie-down straps to secure the load against a set of rubber bumpers.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GZZ
SM&R Code	PEOGG

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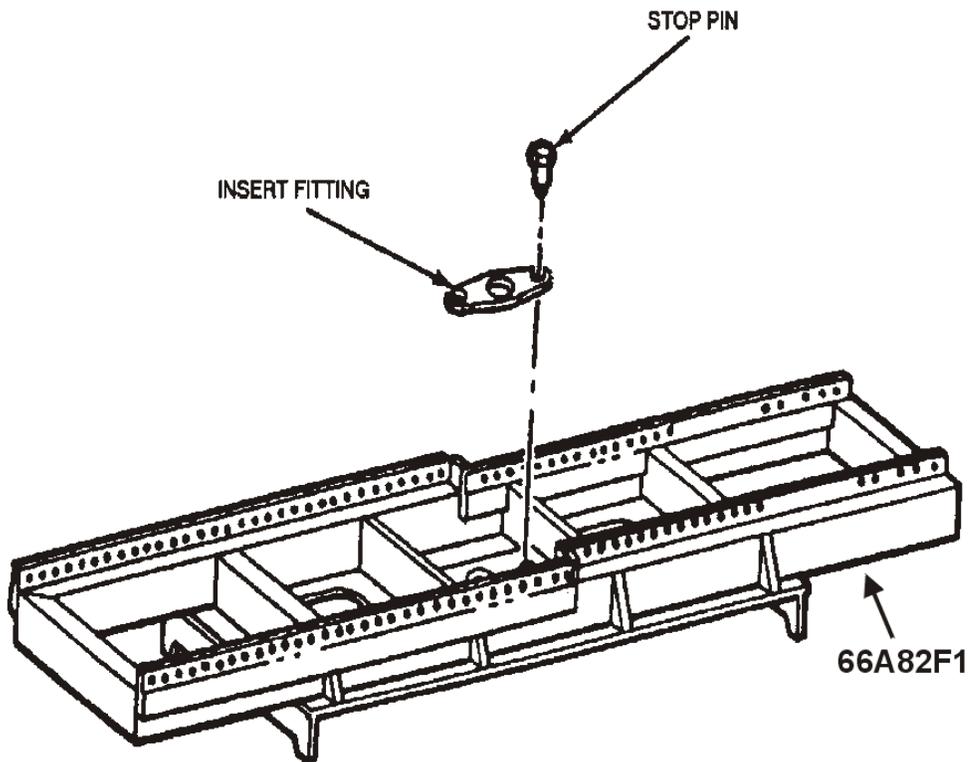
Length	59.38 inches
Width	23.60 inches
Height	25.97 inches
Weight	57 pounds
SWL	5000 pounds

APPLICATION. Transport Adapter AERO 83A is used to transport empty Multiple Ejector Rack (MER), Vertical Ejector Rack (VER), and Triple Ejector Rack (TER). One adapter can handle two MER and TER racks. The adapter can be stacked two high to enable the Munitions Transporter to transport four racks. The adapters are stacked by inserting the support pins of the upper adapter into the stacking sockets of the lower adapter. The adapter is mounted on Munitions Transporter MHU-191/M by means of Skid Adapter AERO 58A which has sockets to fit the support pins of the adapter. It is also used for improved MER/TER, F/A-18 VER, Missile Launchers LAU-115, LAU-117, and LAU-118.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A and Munitions Transporters MHU-191/M, Munitions Trailer MHU-126A/M, Platform Skid MHU-125A/E, Small Munitions Trailer MHU-151/M, and Small Munitions Trailer MHU-202/M.

**ADAPTER, TRAILER
AERO 87A
P/N 66A82F3
NSN 1R 1730-00-937-2805**

DESCRIPTION. Trailer Adapter AERO 87A is a welded frame structure consisting of a bottom plate with four supporting legs, a rectangular frame with six crossbars, and two mounting rails. The rails are 10 inches apart for one half of the frame length, and 15 inches apart for the other half. The rails have 52 holes one inch apart along their lengths to provide mounting by means of quick-release or locking pins. A steel plate insert fitting and two stop-pin bolts are used to attach the adapter to a trailer.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	.21GZO
SM&R Code	PAOHD

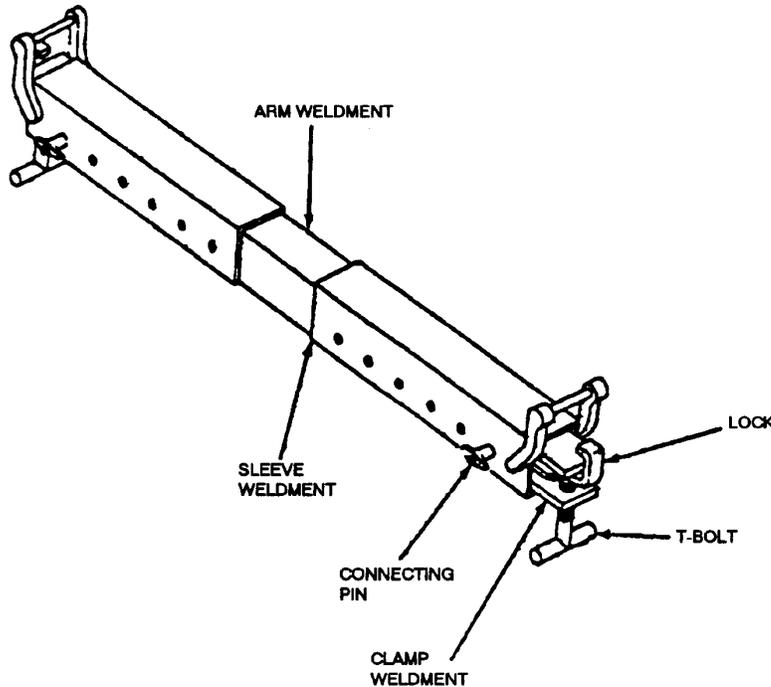
PHYSICAL DATA:	
Length	60.75 inches
Width	17.00 inches
Height	7.75 inches
Weight	.206 pounds
SWL	.2000 pounds

APPLICATION. Trailer Adapter AERO 87A is used to load and transport one weapon or store. The adapter is mounted on Bomb Trailer Mk 7 Series which enables the trailer to present the same rail mounting pattern as a Munitions Transporter MHU-191/M.

ASSOCIATED EQUIPMENT. Bomb Trailer Mk 7 Mods and Front and Rear Skid Adapters AERO 58A.

**ADAPTER, BRACKET
AERO 91A
P/N 616271-1
NSN 1R 1730-00-151-4113**

DESCRIPTION. Bracket Adapter AERO 91A consists of a main beam with holes along each side and two sleeves which slide over the main beam and have similarly spaced holes along each side. The complete assembly is placed on a Skid Adapter AERO 58 with the holes aligned and quick release pins inserted to secure the adapter. Strap tie-down points are provided at the end of each sleeve and T-bolt/C-clamp assemblies are furnished. The bracket is adjustable to accommodate load widths varying between 28 and 48 inches.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GZO
SM&R Code	None

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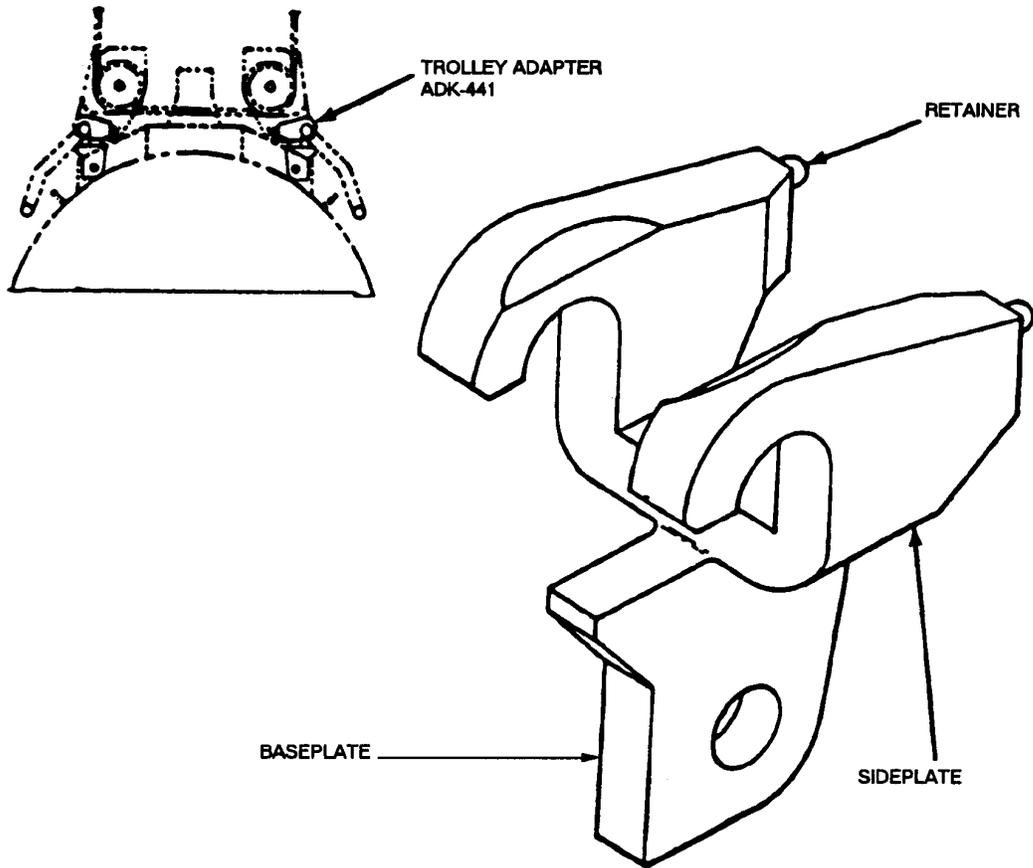
Length	39.00 inches
Width	3.38 inches
Height	4.90 inches
Weight (set of two)	51 pounds
SWL (set of two)	5000 pounds

APPLICATION. Bracket Adapter AERO 91A attaches to Skid Adapters AERO 58A on Munitions Transporter MHU-191/M when handling unit loads. The adapter converts the transporter into a flatbed vehicle capable of handling ordnance pallets, cradles and containers. Two bracket adapters are required for each transporter. The adapter is used during replenishment at sea operations for transporting containerized missiles, weapons and weapons components from the flight deck and hangar deck to magazine spaces. Bracket Adapter AERO 91A is obsolescent and is replaced by Bracket Adapter ADU-566/E.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A, Trailer MHU-126 (Series), Platform Skid MHU-125A/E and Munitions Transporter MHU-191/M.

**ADAPTER, TROLLEY
ADK-441
P/N 5SE00912-1
NSN 1R 1730-01-058-5638**

DESCRIPTION. Trolley Adapter ADK-441 is a steel weldment consisting of a support and base plate, two side plates and two urethane retainers.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-15BD-6
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZO
SM&R Code	PAOZZ

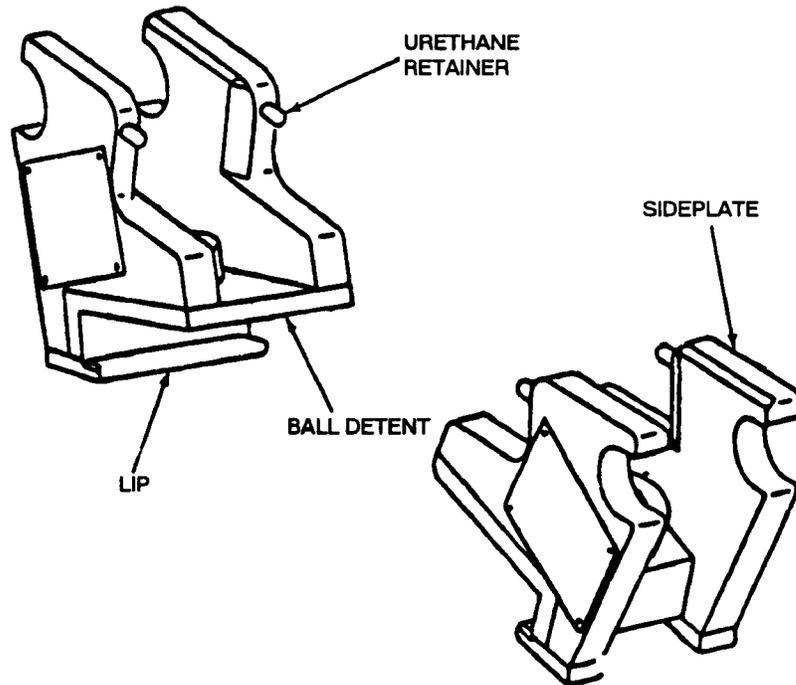
PHYSICAL DATA:	
Length	2.06 inches
Width	1.75 inches
Height	3.01 inches
Weight (per pair)	4 pounds
SWL (per pair)	3200 pounds

APPLICATION. Trolley Adapter ADK-441 is used in pairs, one each with Single Stores Trolleys HLK-225A and HLK-226A. The adapter's base plate is attached to the WALLEYE II Guided Weapon, enabling the use of single hoist ordnance loading system (SHOLS) for aircraft loading/unloading of the weapon.

ASSOCIATED EQUIPMENT. Single Stores Trolleys HLK-225A and HLK-226A, Bomb Hoisting Unit HLU-288/E and Bomb Hoist HLU-196D/E.

**ADAPTER, TROLLEY
ADK-442
P/N 6SE00736-1
NSN 1R 1730-01-113-4407**

DESCRIPTION. Trolley Adapter ADK-442 is a weldment containing a lip at the bottom for attaching to External Baggage Container CNU-264/E. A urethane retainer is provided in the rear edge of each side plate to hold the adapter in place when installed on the trolley. A ball detent is provided in the bottom plate to hold the trolley and adapter in place on the container while the hoist cable is being reeved.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-241AO-MRC-000
.....	..... and -010
Op. Proc.....	NAVAIR 19-15BD-6
EIC/WUC.....	22BZO
SM&R Code	PAOZZ

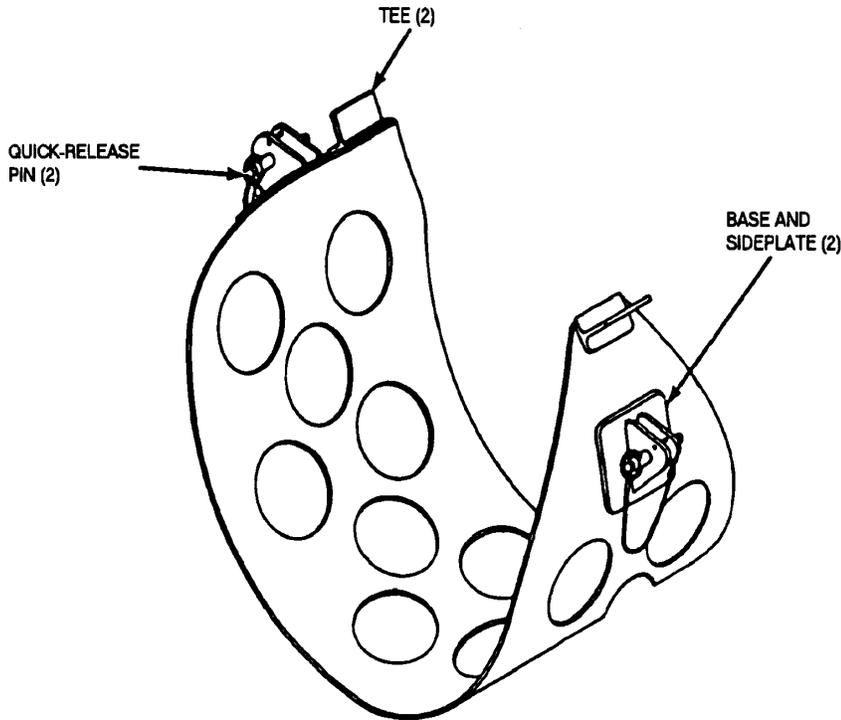
PHYSICAL DATA:	
Length	2.60 inches
Width	1.75 inches
Height.....	2.75 inches
Weight	1.50 pounds
SWL	2000 pounds

APPLICATION. Trolley Adapter ADK-442 is used with Single Stores Trolleys HLK-225A and HLK-226A for loading External Baggage Container CNU-264/A on S-3 aircraft.

ASSOCIATED EQUIPMENT. Single Store Trolley HLK-225A, Single Store Trolley HLK-226A, Bomb Hoisting Unit HLU-288/E and Bomb Hoist HLU-196D/E.

**ADAPTER, TROLLEY
ADK-448
P/N 6SE00819-1
NSN 1R 1730-01-054-9412**

DESCRIPTION. Trolley Adapter ADK-448 is a steel weldment consisting of a preformed steel band, two TEES, two base and side plates with quick-release pins. The steel band is formed to fit the contour of the WALLEYE I Guided Weapon.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	81XAL
SM&R Code	PEOGG

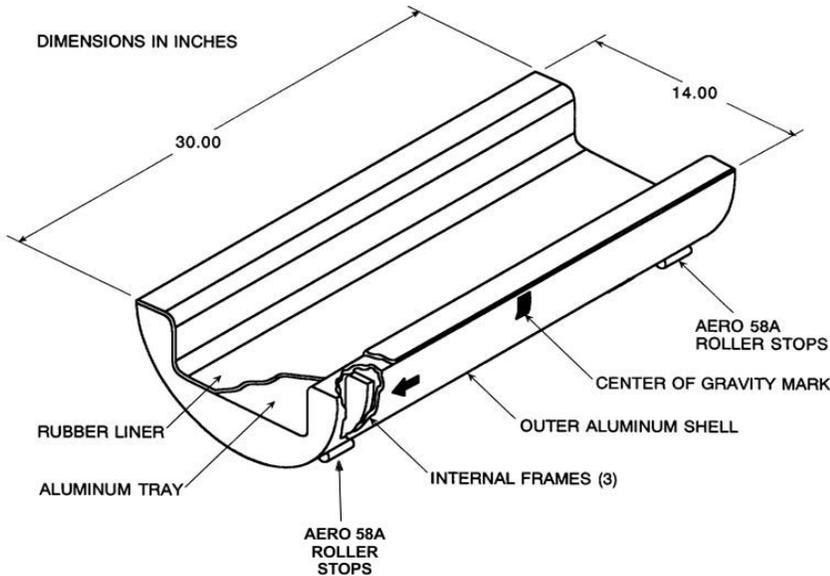
PHYSICAL DATA:	
Length	10.00 inches
Width	10.00 inches
Height	N/A
Weight	4 pounds
SWL	3000 pounds

APPLICATION. Trolley Adapter ADK-448 is used to load and download a single store. The band is placed under the store between the suspension lugs and the link of a single store trolley is attached to the clevis at each end of the adapter by a ball-lock pin. The adapter is used for loading WALLEYE I and the AN/AWW-7 or -7B pod. It is used in conjunction with Single Stores Trolleys HLK-225A and HLK-226A.

ASSOCIATED EQUIPMENT. Single Store Trolleys HLK-225A and HLK-226A, Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E.

**ADAPTER, TRANSPORT
ADK-598/U32K-1
DWG. NO. 665AS840
NSN 4935-01-543-3675
(in FLIS and DLA)**

DESCRIPTION. Transport Adapter ADK-598/U32K-1 Tactical Air Launched Decoy (TALD) is a lightweight aluminum weldment with a curved outer shell and a square shaped inner cradle area and four stops (two with retaining pins) are provided for securing the adapter to the support equipment.



OBSOLESCE

REFERENCE DATA:	
ISEA	NAWC-WD Point Mugu
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 01-1A-75
Op. Proc.	NAVAIR 11-140-6.1
.....	NAVAIR 11-140.25
EIC/WUC	None
SM&R Code	PAGGG

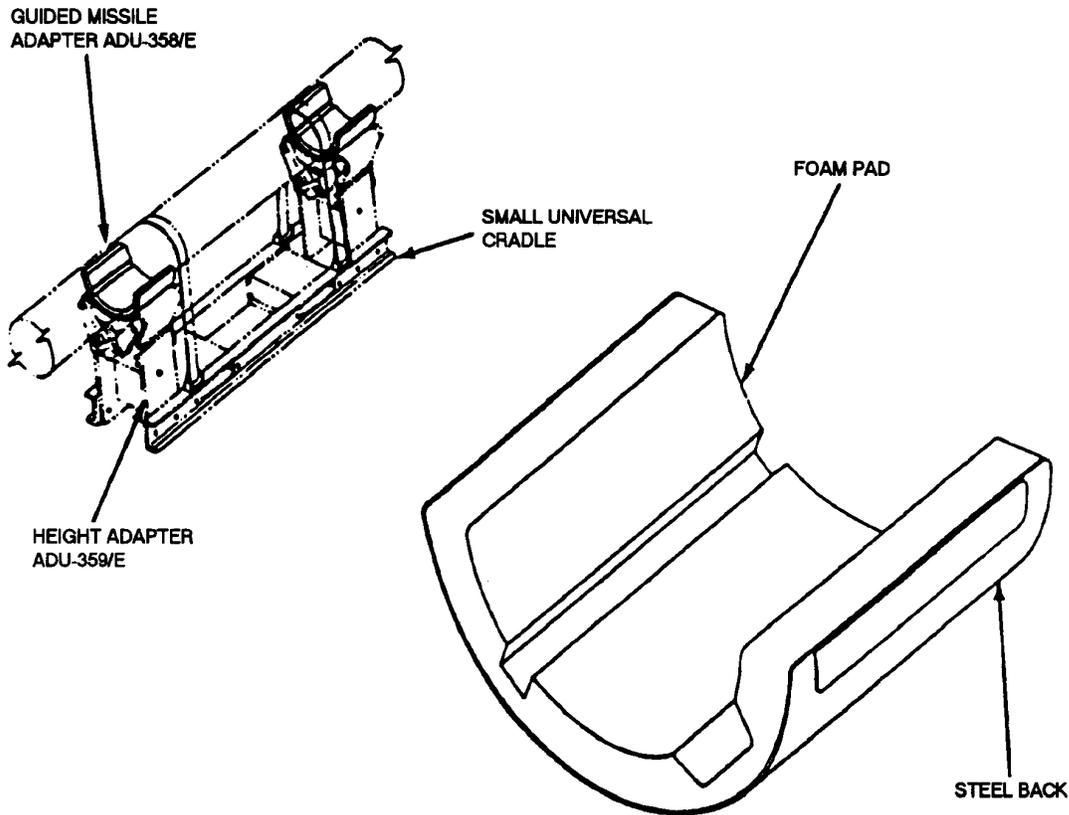
PHYSICAL DATA:	
Length	30 inches
Width	14 inches
Height	7.50 inches
Weight (empty)	18.0 pounds
Weight (loaded).....	418 pounds
SWL	N/A

APPLICATION. The ADK-598/U32K-1 TALD Transport Adapter is used to interface with Skid Adapters AERO 58A (Front and Rear) with rollers while on Munitions Transporter MHU-191/M. The square inner cradle area conforms to the square fuselage of the Tactical Air Launched Decoy (TALD) ADM-141 Air Vehicles (AV) for all series. Three Transport Adapters ADK-598/U32K-1 can also be used to transport three TALD's by using the Adapters AERO 58A (Front and Rear) and two Skid Adapters ADU-483/E with rollers on Munitions Transporter MHU-191/M. The ADK-598/U32K-1 Transport Adapter is obsolescent and is replaced by the ADU-800/E Cradle Adapter.

ASSOCIATED EQUIPMENT. Skid Adapters (Front and Rear) AERO 58A, Skid Adapter ADU-483/E, and Munitions Transporter MHU-191/M.

**ADAPTER, GUIDED MISSILE
ADU-358/E
P/N 555AS100
NSN 1R 1730-00-526-0045**

DESCRIPTION. Guided Missile Adapter ADU-358/E consists of a preformed steel shell with a bonded foam insert. The insert is grooved and contoured to the SPARROW missile, and has a groove to fit the missile wave guide.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AO-MEB-000
Op. Proc.	NAVAIR AG-000AO-MEB-000
EIC/WUC	.21GZO
SM&R Code	PAHZZ

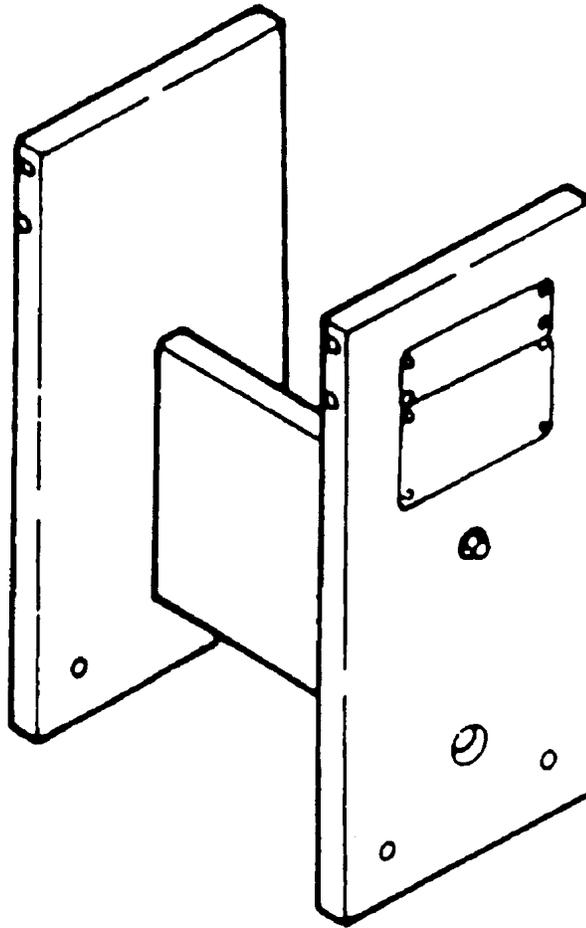
PHYSICAL DATA:	
Length	8.00 inches
Width	10.12 inches
Height	5.06 inches
Weight	2.4 pounds
SWL (per pair)	550 pounds

APPLICATION. Two Guided Missile Adapters ADU-358/E provide soft-skin support for the SPARROW III Missile. The adapters are used in conjunction with Height Adapters ADU-359/E and Small Universal Cradle MHU-63/E.

ASSOCIATED EQUIPMENT. Height Adapter ADU-359/E and Small Universal Cradle MHU-63/E.

**ADAPTER, HEIGHT
ADU-359/E
P/N 554AS100
NSN 1R 1730-00-526-0043**

DESCRIPTION. Height Adapter ADU-359/E consists of two aluminum side plates and one aluminum cross plate bolted together.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AO-MEB-000
Op. Proc.	NAVAIR AG-000AO-MEB-000
EIC/WUC	21GXO
SM&R Code	PAHZZ

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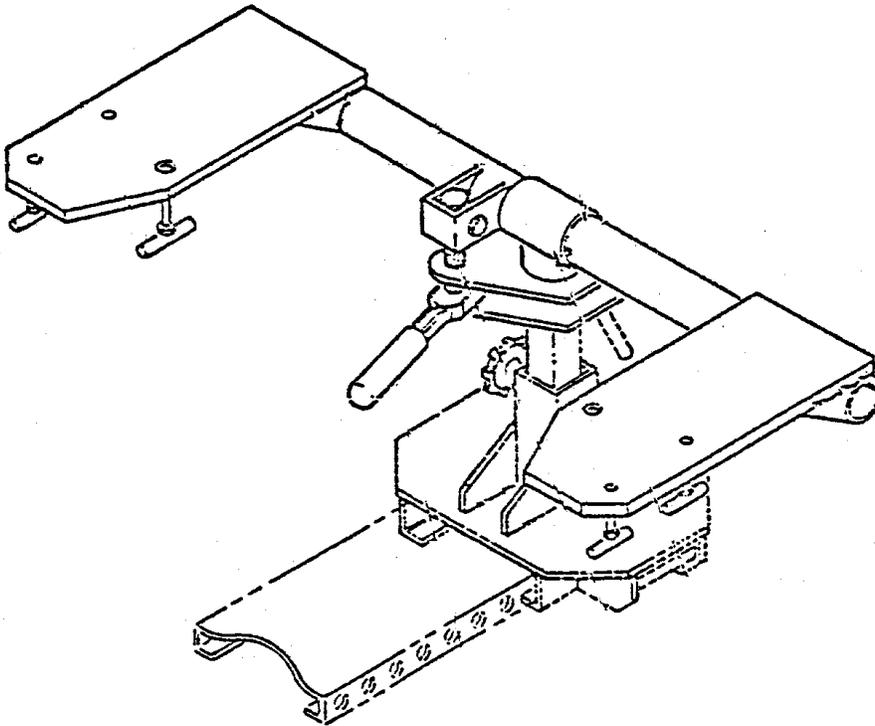
Length	6.41 inches
Width	8.75 inches
Height	14.00 inches
Weight	14 pounds
SWL (per set)	1800 pounds

APPLICATION. Two Height Adapters ADU-359/E are used with Small Universal Cradle MHU-63/E to allow proper clearance on aircraft wing stations when used with various weapon loaders.

ASSOCIATED EQUIPMENT. Weapons Loader A/S 32K-1 (series), Small Universal Cradle MHU-63/E.

**ADAPTER, PYLON
ADU-393/E
P/N 787AS180
NSN 1R 1730-00-143-8736**

DESCRIPTION. Pylon Adapter ADU-393/E is a steel weldment consisting of a support stem and a round tubular crossmember with a plate on either end, each plate with three load-attaching T-bolts. A ratchet wrench provides vertical adjustment of the adapter.



OBSOLESCE

REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	22BZO
SM&R Code	None

PHYSICAL DATA:

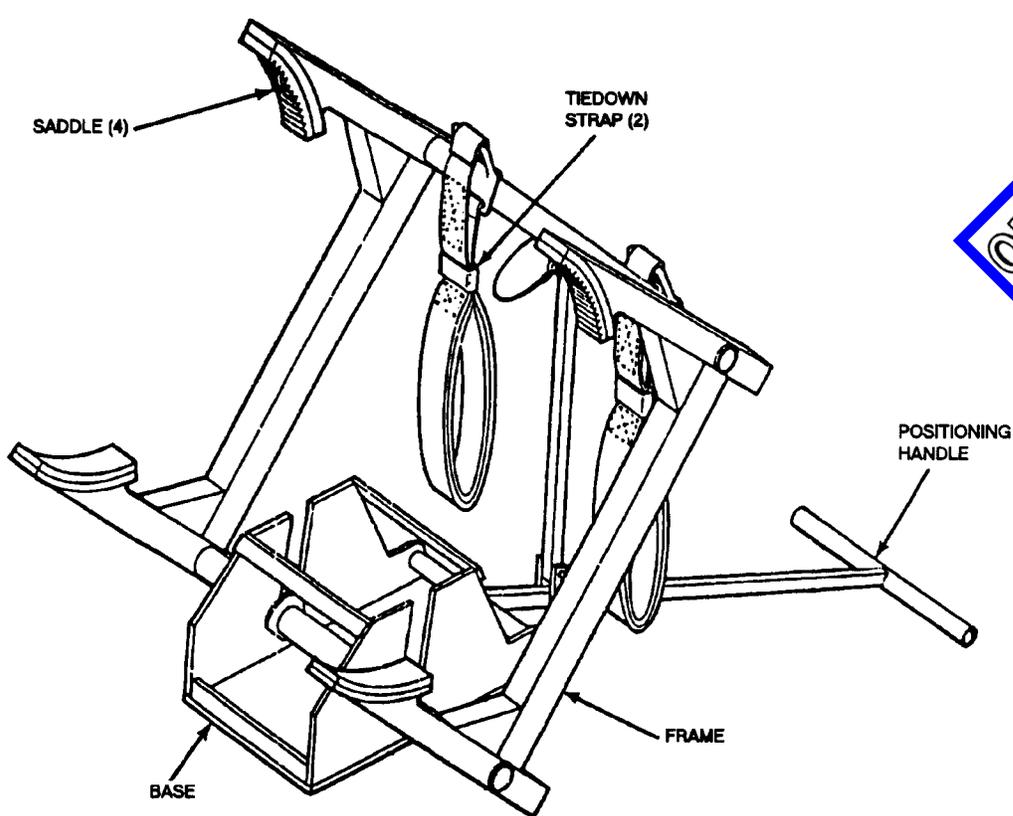
Length	40.00 inches
Width	6.00 inches
Height	20.00 inches
Weight	65 pounds
SWL	700 pounds
Cube	17.6 cubic feet

APPLICATION. Pylon Adapter ADU-393/E is used with the Weapons Skid Loading Lift Adapter ADU-400/E (interfaced with the Interface Pedestal Loading Mount Adapter MTU-66/E) for installation/removal of AIM-9 SIDEWINDER launchers and multipurpose pylons. Pylon Adapter ADU-393/E is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Weapons Skid Lift Loading Adapter ADU-400/E, Interface Pedestal Loading Mount Adapter MTU-66/E for installation/removal of AIM-9 SIDEWINDER launchers and multipurpose pylons.

**ADAPTER, GUN DRUM
ADU-394/E
P/N 787AS160
NSN 1R 1730-00-143-8927**

DESCRIPTION. Gun Drum Adapter ADU-394/E consists of a steel plate and tubing fabricated in the form of a rectangular frame supporting four cushioned saddles. A lever arm/handle provides vertical and azimuthal positioning of the adapter and has a support stem as a base for mounting purposes. Dowel pins in the lower saddles engage receiver holes in the load and two tiedown straps on the upper crossmember hold the load firmly against the saddles.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-2
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	22FTO
SM&R Code	None

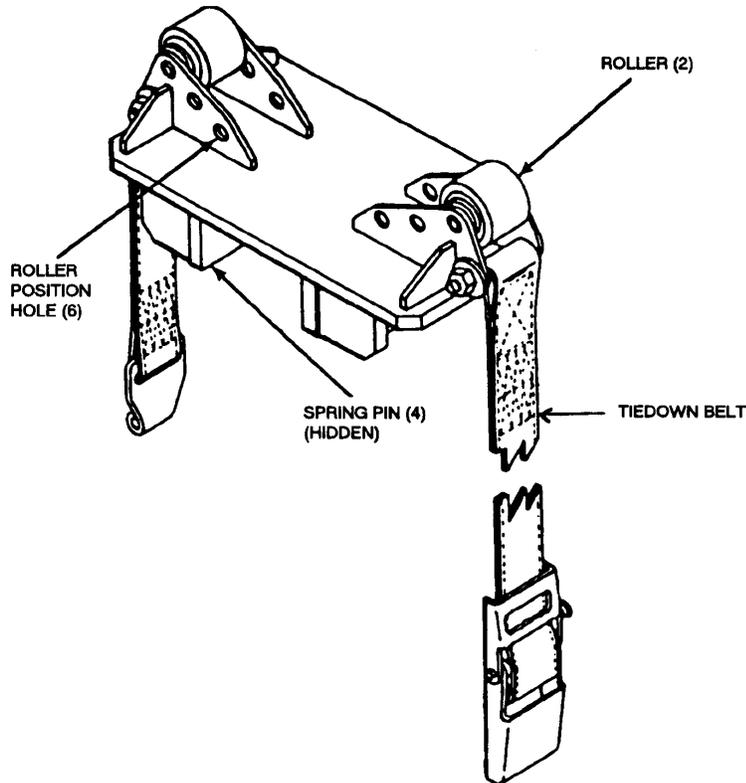
PHYSICAL DATA:	
Length	20.00 inches
Width	24.00 inches
Height	27 inches
Weight	40 pounds
SWL	1000 pounds

APPLICATION. Gun Drum Adapter ADU-394/E is used for installation/removal of gun drums into or from the F-14 aircraft fuselage. Gun Drum Adapter ADU-394/E is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Weapons Skid Lift Loading Adapter ADU-400/E and Interface Pedestal Loading Mount Adapter MTU-66/E.

**ADAPTER, ROLLER CRADLE
ADU-397/E
P/N 787AS320
NSN 1R 1730-00-143-8926**

DESCRIPTION. Roller Cradle Adapter ADU-397/E is a steel weldment consisting of a cradle frame, two hard rubber rollers with spring extended axles, four spring pins, and a tiedown belt. The roller can be placed in any one of three positions for accommodating loads with diameters varying from 8 to 22 inches. The spring pins serve as fastening devices when installed on appropriate adapters.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 17-15CAL-54
Op. Proc.	NAVAIR 17-15CAL-54
EIC/WUC	22BZO
SM&R Code	PAOZZ

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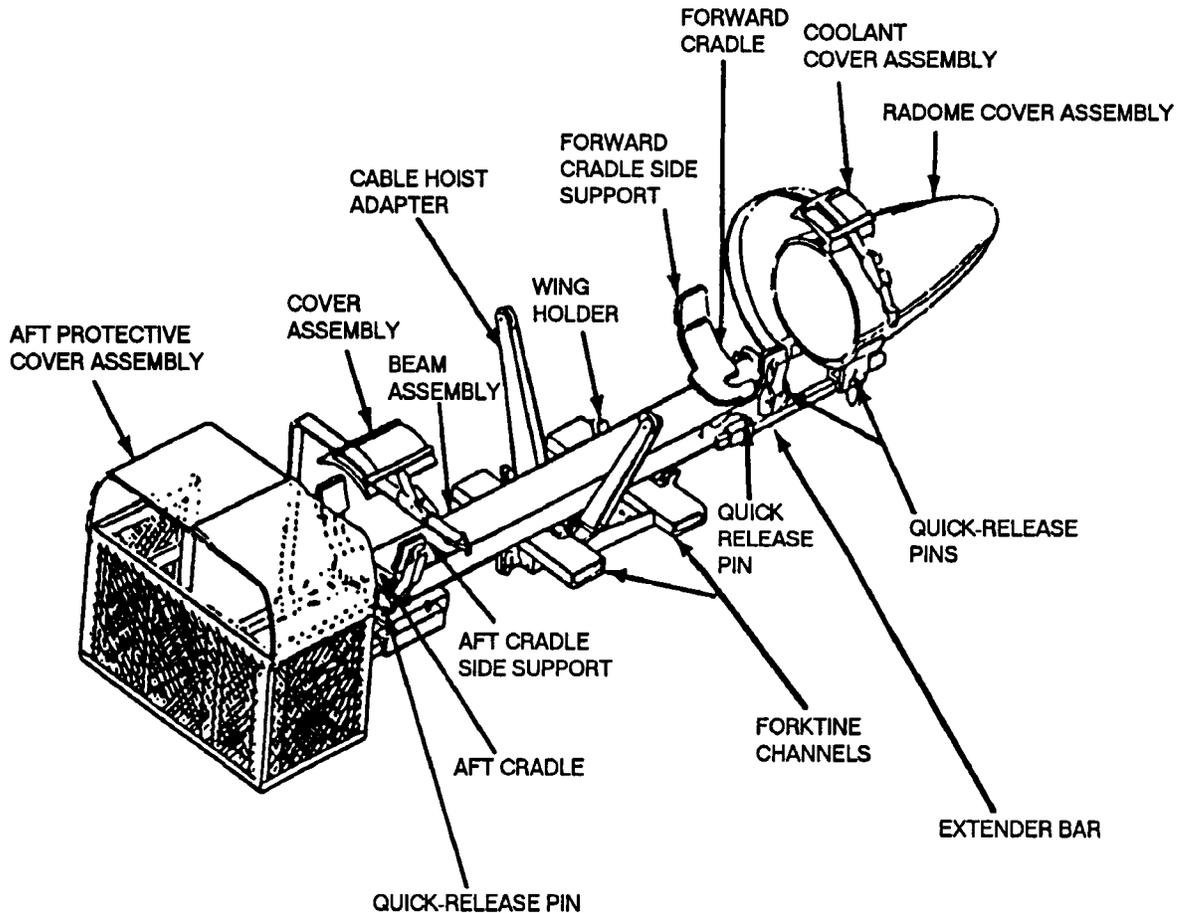
Length	18.00 inches
Width	5.50 inches
Height	7.00 inches
Weight	15 pounds
SWL	1250 pounds each

APPLICATION. Roller Cradle Adapter ADU-397/E is used in pairs on the support beam of Lift Loading Adapter ADU-400/E to facilitate handling of a variety of weapons stores with hardspot support areas.

ASSOCIATED EQUIPMENT. Weapons Skid Lift Loading Adapter ADU-400/E Forward Cradle Adapter (P/N 787AS700) and Aft Cradle Adapter (P/N 787AS710), and ADU-824/E Single Store Adapter (LANTIRN).

**ADAPTER, GUIDED MISSILE
ADU-399B/E
P/N 1561AS100-1
NSN 6R 1450-01-201-0441**

DESCRIPTION. Guided Missile Adapter ADU-399B/E consists of a main support beam and different structural members attached along its length, supported on forklift channels comprising the base. Cradles, mounted fore and aft on the beam, are rubber lined to prevent metal to metal contact and have side supports which are held in position with quick-release pins. Removal of the pins allows the side supports to swing down out of the way when loading/unloading the weapon. Two adjustable tubular extenders on the fore end of the beam supports a vinyl covered radome housing which protects the weapons radome. Quick-release pins secure the radome protector to the extenders. Cable hoist stanchions to be swung down and forward in the stowed position. A removable enclosure on the aft end of the beam serves to protect the missile's aft end and fins during handling operations or storage. Forward missile coolant and aft missile coolant umbilical cover assemblies secured by nylon webbing straps are provided to protect the respective missile receptacles.



**ADAPTER, GUIDED MISSILE
ADU-399B/E
P/N 1561AS100-1
NSN 6R 1450-01-201-0441**

REFERENCE DATA:

ISEA NAWC-WD Pt. Mugu
Periodic Test Not Required
PMS/Maint. Insts NAVAIR 19-100-3
Op. Proc. NAVAIR 19-100-3
EIC/WUC 81XAT
SM&R Code PEGGD

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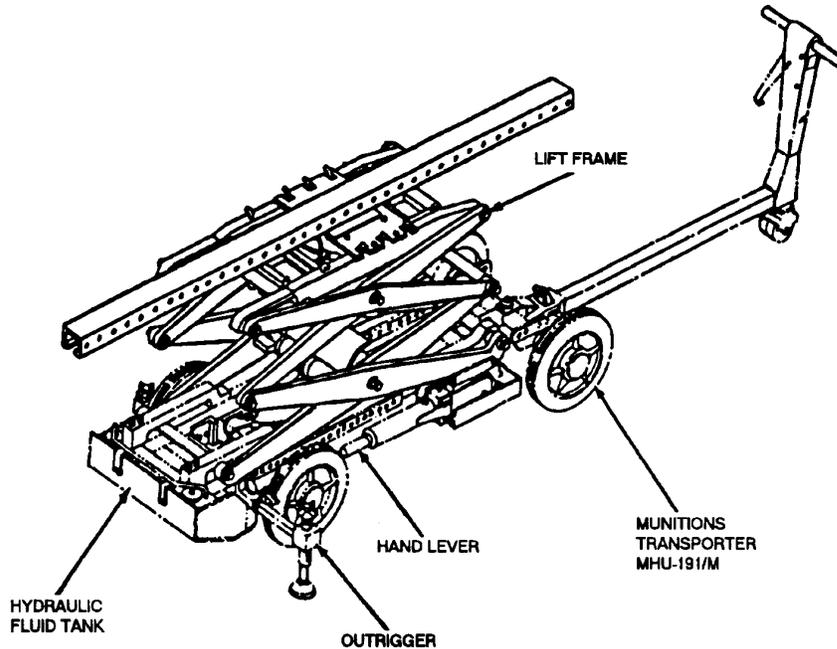
Length 162.25 inches
Width 32.00 inches
Height 28.25 inches
Weight 175 pounds
SWL 1000 pounds

APPLICATION. Guided Missile Adapter ADU-399B/E is used for handling and transportation of PHOENIX Missile AIM-54 during aircraft loading/unloading operations.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Munitions Trailer MHU-126A/M, Small Munitions Trailer MHU-171A/E, Weapons Loader A/M32K-1 Series, Platform Skid MHU-125A/E, Trailer Adapter ADU-406/E, Weapons Skid Lift Loading Adapter ADU-400/E, Height Adapters ADU-433A/E and 434A/E, Bomb Hoist HLU-288/E, and Hoist HLU-196 Series.

**ADAPTER, LOADING, LIFT, WEAPONS SKID
ADU-400/E
P/N 787AS200
NSN 6R 1730-00-143-8788**

DESCRIPTION. Weapons Skid Lift Loading Adapter ADU-400/E consists of a hydraulically controlled steel lift frame supporting a drilled steel tubular beam. The hydraulic system includes a fluid tank, hand lever, cylinder, and pressure gage. Extendable outriggers with height adjustment handles provide stability when the adapter is mounted on an appropriate transporter.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 19-15BD-7
PMS/Maint. Insts . . .	NAVAIR 19-15BD-7, 19-600-229-6-1
Op. Proc.	NAVAIR 19-15BD-7, 19-600-229-6-1
EIC/WUC.....	81XAU
SM&R Code	PEOGD

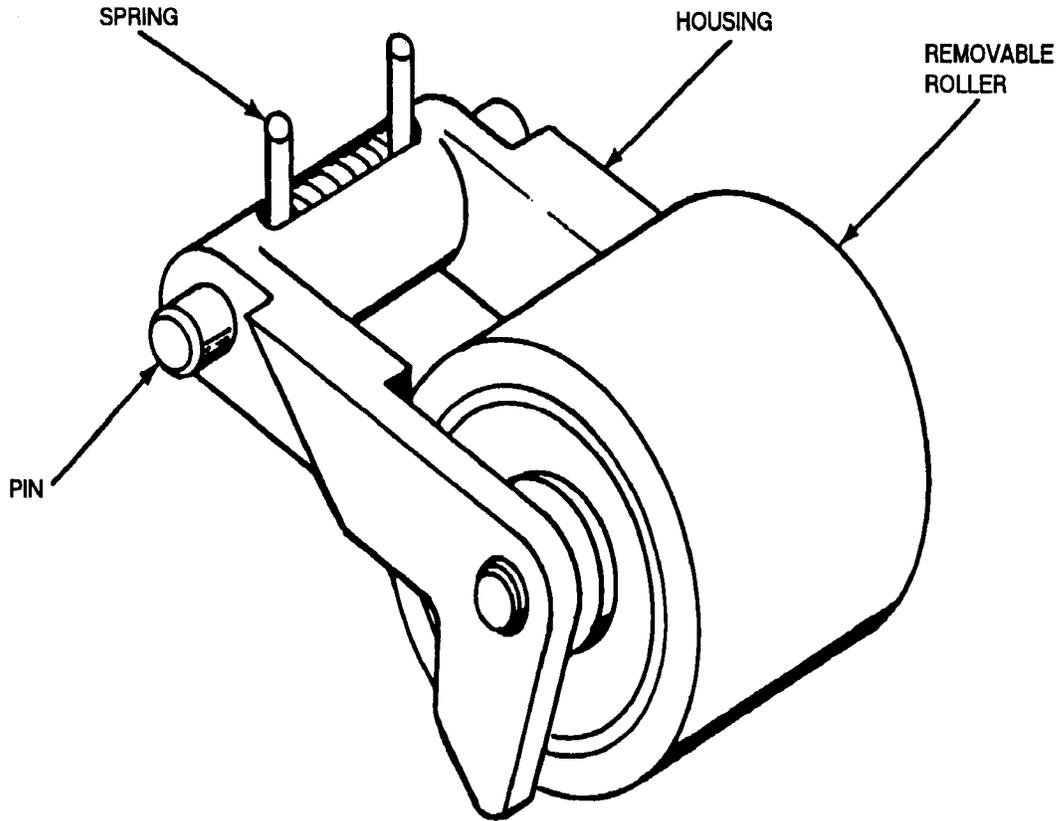
PHYSICAL DATA:	
Length	96.00 inches
Width	27.50 inches
Height (collapsed)	15.00 inches
Weight	1000 pounds
SWL	2500 pounds

APPLICATION. Weapons Skid Lift Loading Adapter ADU-400/E is designed to mount on the Munitions Transporter MHU-191/M, and Small Munitions Trailer MHU-202/M. It is used with a variety of adapters to lift and position armament and maintenance devices to the aircraft. It also attaches to Munitions Trailers MHU-126A/M by means of Trailer Adapters ADU-406/E. This adapter is designed to load the PHOENIX Missile, TARPS Pod and FLIR Pod on the F-14 aircraft.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Small Munitions Trailer MHU-202/M, Munitions Trailer MHU-126A/M, Gun Drum Adapter ADU-394/E, Interface Pedestal Loading Mount Adapter MTU-66/E, Pylon Adapter ADU-393/E, Roller Cradle ADU-397/E, Trailer Adapter ADU-406/E, Guided Missile Adapter ADU-399B/E, TARPS Pod Adapter ADU-459/E.

**ADAPTER, ROLLER HEIGHT
ADU-405/E
P/N 64A114C134-1
NSN 1R 1730-00-123-6743**

DESCRIPTION. Roller Height Adapter ADU-405/E consists of a rubber roller fitted between a cast aluminum housing. The opposite end of the housing contains a spring and pin which lock it onto other adapters.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC21GZO
SM&R CodePAOZZ

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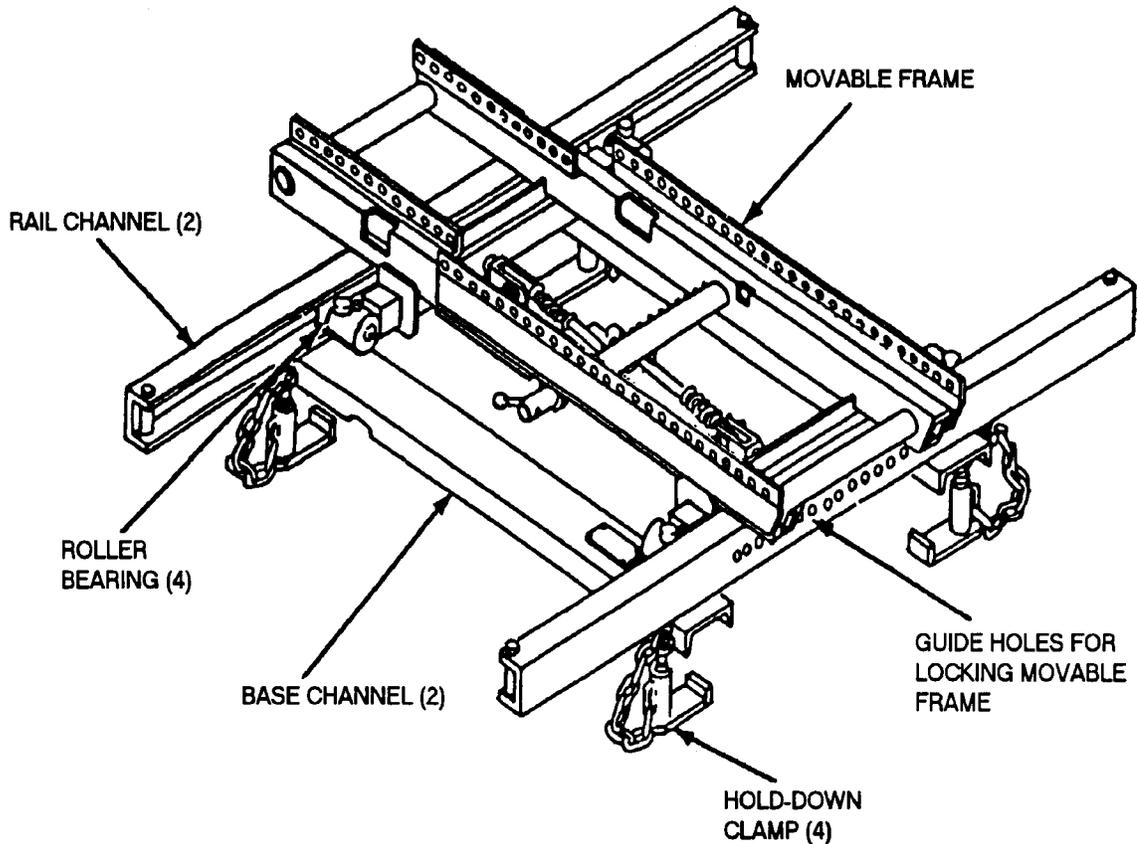
Length	4.57 inches
Width	2.75 inches
Height	2.50 inches
Weight	2 pounds
SWL (when used in sets of four)	2500 pounds

APPLICATION. Roller Height Adapter ADU-405/E is used in sets of four on Skid Adapters AERO 58A for handling HARPOON missiles, Target Missiles AQM-37 and Special Weapons.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A, Munitions Transporter MHU-191/M and Munitions Trailer MHU-126A/M, and Small Munitions Trailer MHU-202/M.

**ADAPTER, TRAILER
ADU-406/E
P/N 787AS420-1
NSN 6R 1730-01-003-2976**

DESCRIPTION. Trailer Adapter ADU-406/E consists of a support frame of two base channels and two rail channels supporting a movable frame. Roller bearings facilitate lateral movement of the movable frame, and ball-lock pins inserted into guide holes of the rail channels lock the movable frame in the desired position. Hold-down clamps are fastened to each corner of the support frame with lengths of chain links.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-420AO-OMP-000
Op. Proc.	NAVAIR AG-420AO-OMP-000
EIC/WUC	21GZL
SM&R Code	PEOHD

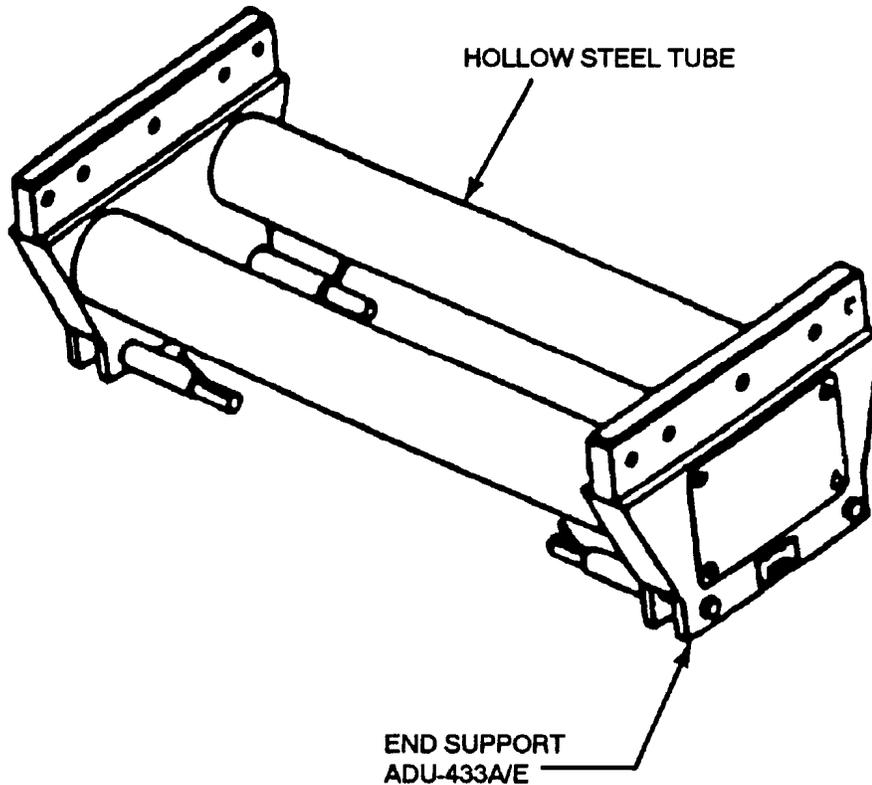
PHYSICAL DATA:	
Length	46.00 inches
Width	42.25 inches
Height	11.50 inches
Weight	350 pounds
SWL	5000 pounds

APPLICATION. Trailer Adapter ADU-406/E is used as an interface item between Small Munitions Trailer MHU-126 Series and various rail type adapters to provide for lateral movement when loading/downloading weapons/stores to or from aircraft stations.

ASSOCIATED EQUIPMENT. Small Munitions Trailer MHU-126 Series and various rail type adapters.

**ADAPTER, HEIGHT, AFT
ADU-433A/E
P/N 787AS380-3
NSN 1R 1730-01-362-0348**

DESCRIPTION. Aft Height Adapter ADU-433A/E consists of machined steel end supports connected by hollow steel tubes. The upper edges of the end supports duplicate a portion of the rail assembly of the associated skid, transporter or trailer and provide for the attachment of various adapters using quick-release pins.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GXW
SM&R Code	PAOGG

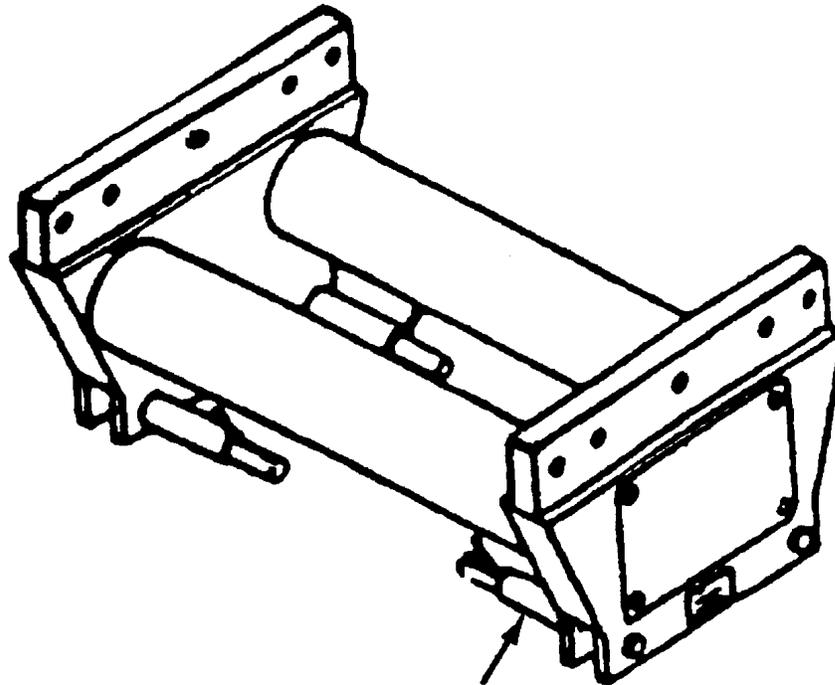
PHYSICAL DATA:	
Length	15.50 inches
Width	7.00 inches
Height	5.13 inches
Weight	20 pounds
SWL	1800 pounds

APPLICATION. Aft Height Adapter ADU-433A/E is used with the Fwd Height Adapter ADU-434A/E to alleviate clearance problems with the wheels of trailers and the wings and fins of the weapons they transport. These adapters are used with 15.00 inch rails on associated skids, transporters or trailers.

ASSOCIATED EQUIPMENT. Fwd Height Adapter ADU-434A/E, Munitions Trailer MHU-126A/M, Guided Missile Adapter ADU-475/E, Guided Missile Adapters ADU-399 Series, Munitions Transporters MHU-191/M and Small Munitions Trailer MHU-202/M.

**ADAPTER, HEIGHT, FWD
ADU-434A/E
P/N 787AS380-4
NSN 1R 1450-01-362-0347**

DESCRIPTION. Fwd Height Adapter ADU-434A/E consists of machined steel end supports connected by hollow steel tubes. The upper edges of the end supports duplicate a portion of the rail assembly of the associated skid, transporter or trailer and provide for the attachment of various adapters using quick-release pins.



**RAIL FITTING
ADU-434A/E**

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GXX
SM&R Code	PAGGG

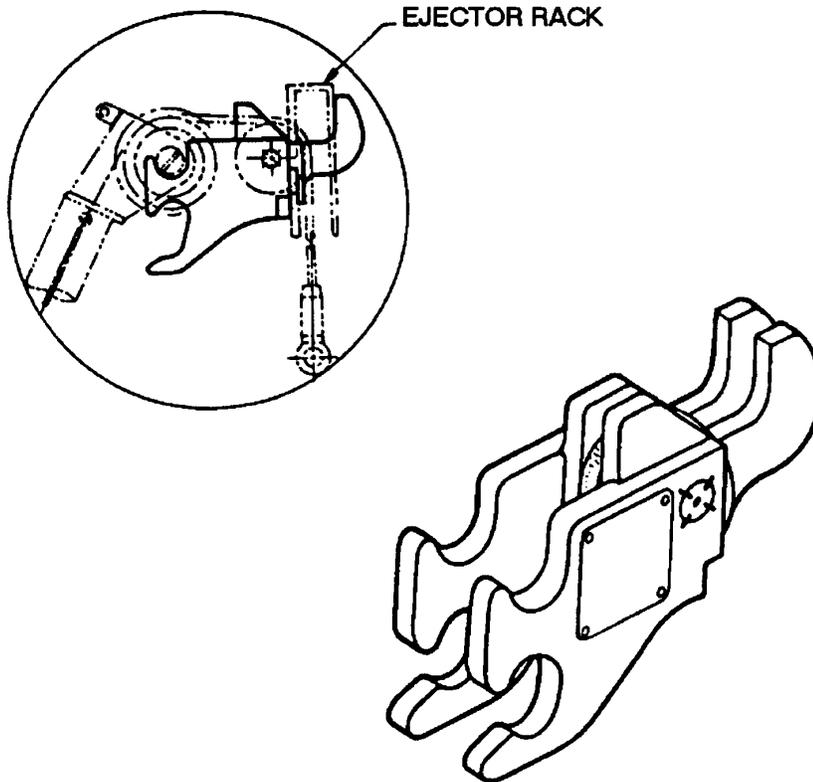
PHYSICAL DATA:	
Length	10.50 inches
Width	7.00 inches
Height	5.13 inches
Weight	18 pounds
SWL	1800 pounds

APPLICATION. Fwd Height Adapter ADU-434A/E is used with the Aft Height Adapter ADU-433A/E to alleviate clearance problems with the wheels of trailers and the wings and fins of the weapons they transport. This adapter is used with 10 inch rails on associated skids, transporters or trailers.

ASSOCIATED EQUIPMENT. Aft Height Adapter ADU-433A/E, Munitions Trailer MHU-126A/M, Guided Missile Adapter ADU-475/E, Guided Missile Adapters ADU-399 Series, Munitions Transporters MHU-191/M and Small Munitions Trailer MHU-202/M.

**ADAPTER, SINGLE HOIST POINT
ADU-435/E
P/N 5SE0085-1
NSN 9B 1730-01-100-5329**

DESCRIPTION. Single Hoist Point Adapter ADU-435/E consists of a steel casting supporting two retaining ears and a pulley.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZO
SM&R Code	PAOZZ

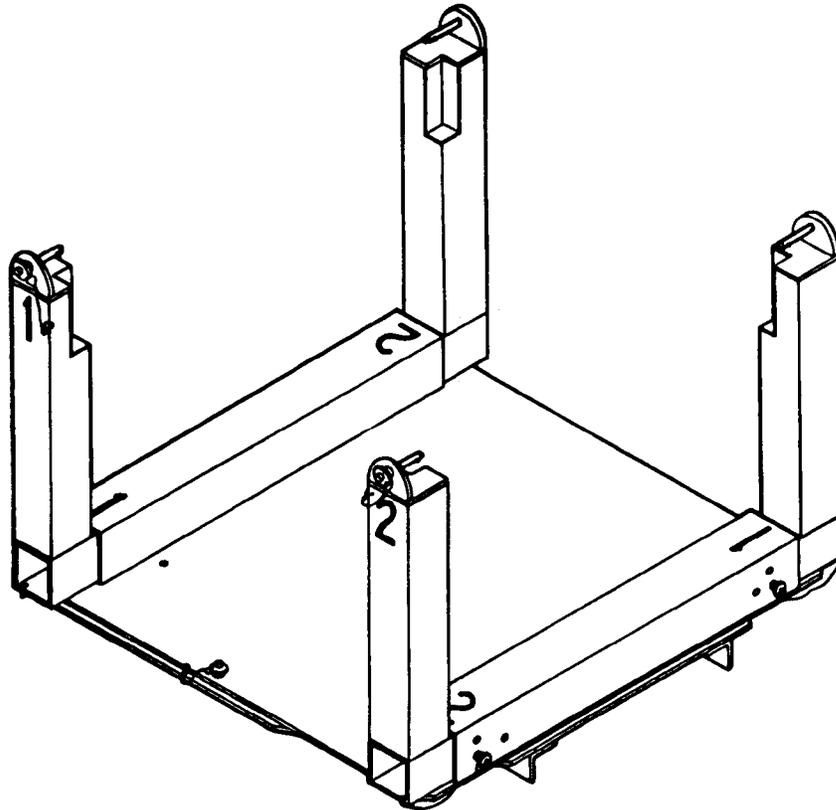
PHYSICAL DATA:	
Length	6.14 inches
Width	2.00 inches
Height	4.81 inches
Weight	4 pounds
SWL	1000 pounds

APPLICATION. Single Hoist Point Adapter ADU-435/E is attached to the bomb rack and then the boom of the bomb hoist attaches to the adapter. It is used to load and down load single stores on the S-3 and P-3 aircraft.

ASSOCIATED EQUIPMENT. Hoisting Band HLK-275A, HLK-276A and HLK-277, Band Latch Assembly HLK-278, Anchor Fittings Assembly HLK-279, Bomb Hoist HLU-288/E.

**ADAPTER, CAMERA TRANSPORT
ADU-458/E
P/N 1173AS102-1
NSN 1R 1730-01-129-8362**

DESCRIPTION. Camera Transport Adapter ADU-458/E consists of two rectangular weldments connected on a central axis so that the upper weldment may pivot relative to the lower. The upper weldment has four support arms which can be folded to a stowed position or extended to mate with the KA-99 and AAD-5 Camera.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 10-1-TARPS-4
Op. Proc.	NAVAIR 10-1-TARPS-4
EIC/WUC	77XA1
SM&R Code	PAOGG

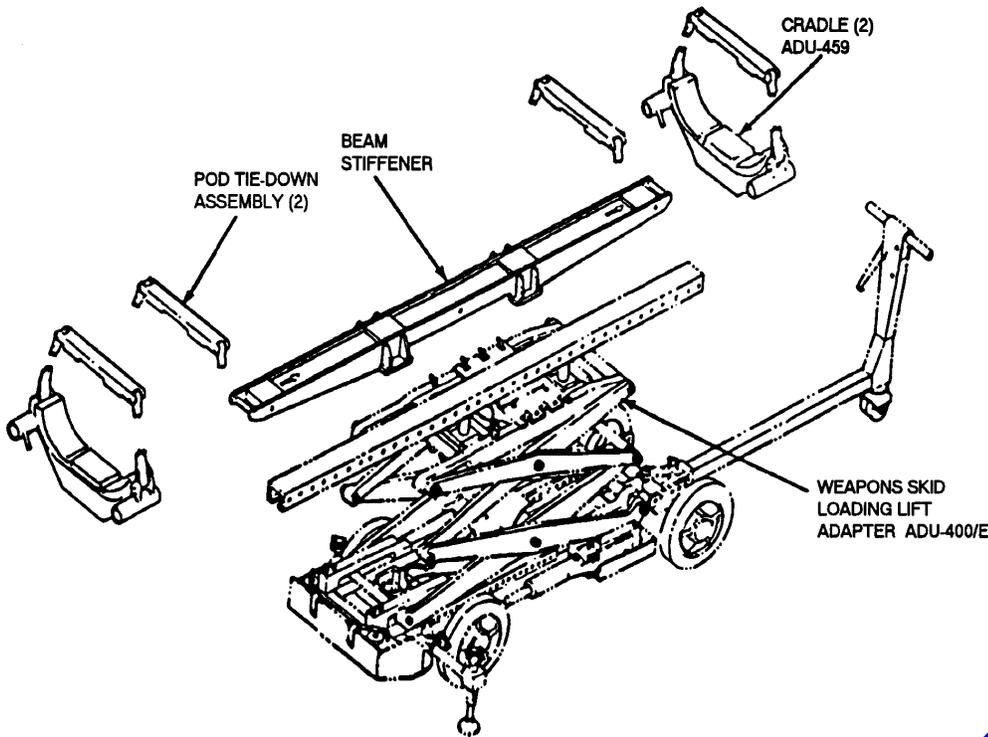
PHYSICAL DATA:	
Length	26.00 inches
Width	22.00 inches
Height	14.50 inches
Weight	60 pounds
SWL	N/A

APPLICATION. Camera Transport Adapter ADU-458/E is mounted on the rails of the Munitions Transporter MHU-191/M or Small Munitions Trailer MHU-202/M. The adapter is used for installation and removal of the KA-99 and AAD-5 Cameras from the Tactical Air Reconnaissance Pod (TARP).

ASSOCIATED EQUIPMENT. Small Munitions Trailer MHU-202/M, Munitions Transporter MHU-191/M and Trailer MHU-126 (Series).

**ADAPTER, TARPS POD
ADU-459/E
P/N 1173AS100-1
NSN 1R 1730-01-124-7863**

DESCRIPTION. TARPS Pod Adapter ADU-459/E consists of two cradles, a beam stiffener and four anti-roll bars with restraining straps. The cradles are configured to accommodate the TARPS Pod and the anti-roll bars and straps secure the pod in the cradle.



OBSOLESCE

REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 10-1-TARPS-4
Op. Proc.	NAVAIR 10-1-TARPS-4
EIC/WUC	.21BDO
SM&R Code	None

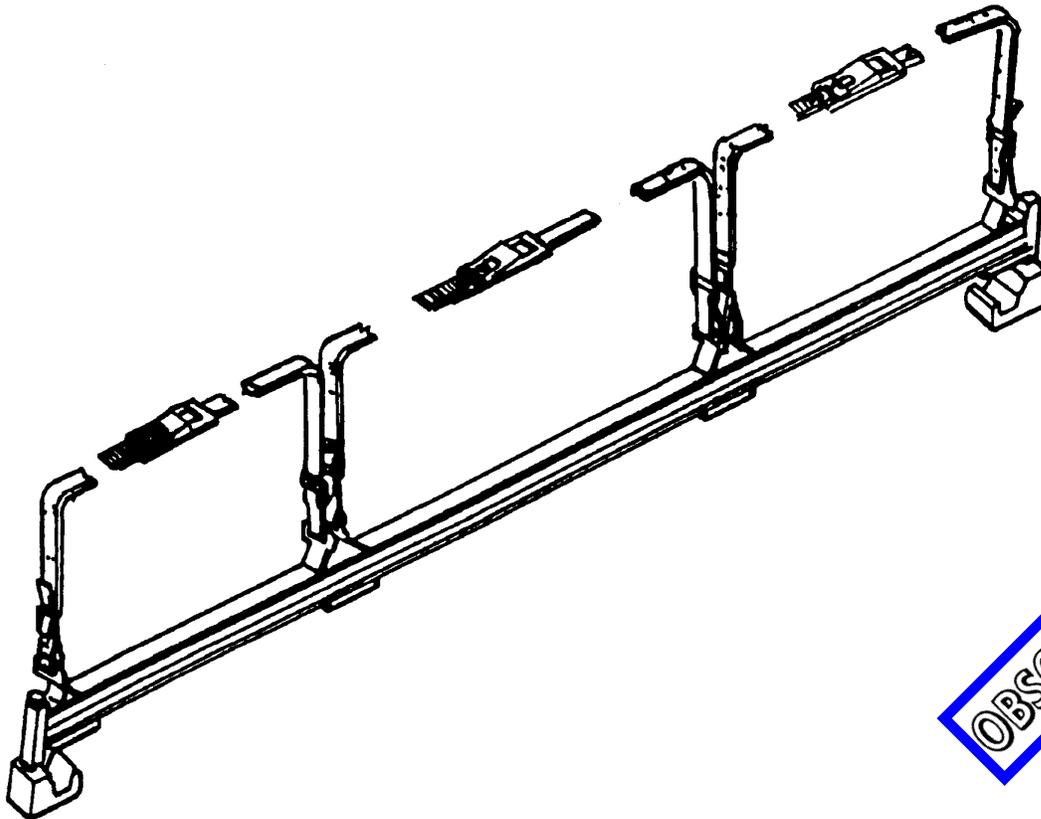
PHYSICAL DATA:	
Length	101.81 inches
Width	30.25 inches
Height	10.31 inches
Weight	150 pounds
SWL	1650 pounds

APPLICATION. TARPS Pod Adapter ADU-459/E mounts on the support beam of a skid mounted Weapons Skid Lift Loading Adapter ADU-400/E for loading/unloading the pod from F-14 aircraft. For transport, it is used in conjunction with Munitions Transporter MHU-191/M or Munitions Trailer MHU-202/M. TARPS Pod Adapter ADU-459/E is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Weapons Skid Lift Loading Adapter ADU-400/E, Small Munitions Trailer MHU-202/M and Munitions Transporter MHU-191/M.

**ADAPTER, TRANSPORT, SHOREBASED SONOBUOY
ADU-460/E
P/N 1102AS100-1
NSN 1R 1730-01-097-1043**

DESCRIPTION. Shorebased Sonobuoy Transport Adapter ADU-460/E consists of an I-beam approximately 10.5 feet long with a clamp at each end. Four tie-down fittings are provided along the length of the I-beam.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	73XXI
SM&R Code	None

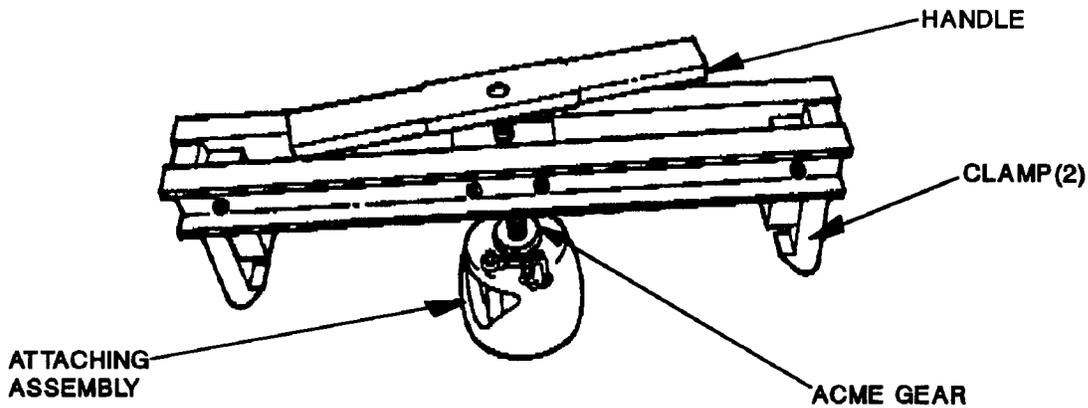
PHYSICAL DATA:	
Length	127.50 inches
Width	4.00 inches
Height	7.53 inches
Weight	40 pounds
SWL	68 sonobuoys

APPLICATION. Shorebased Sonobuoy Transport Adapter ADU-460/E clamps to the bed of Munitions Trailer AERO 51 (series). Used with tie-down straps, the adapter provides a means of securing 68 sonobuoys (in their containers) to the trailer bed. Two adapters can be installed on the trailer to secure 136 sonobuoys for transport. Shorebased Sonobuoy Transport Adapter ADU-460/E is obsolescent and is replaced by Adapters ADU-699A/E and ADU-834/E.

ASSOCIATED EQUIPMENT. Munitions Trailer AERO 51 Series.

**ADAPTER, SCREW JACK
 ADU-463/E
 P/N 789AS830
 NSN 6M 4935-01-047-9795**

DESCRIPTION. Screw Jack Adapter ADU-463/E consists of two gear crossmembers supporting a vertical clamp at each end and an acme gear with handle at the center. The lower end of the acme gear includes an attaching assembly for fastening to the missile warhead (PHOENIX).



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-15MA-1 (Cancelled)
Op. Proc.	NAVAIR 19-15MA-1 (Cancelled)
EIC/WUC	81XA1
SM&R Code	PADZZ

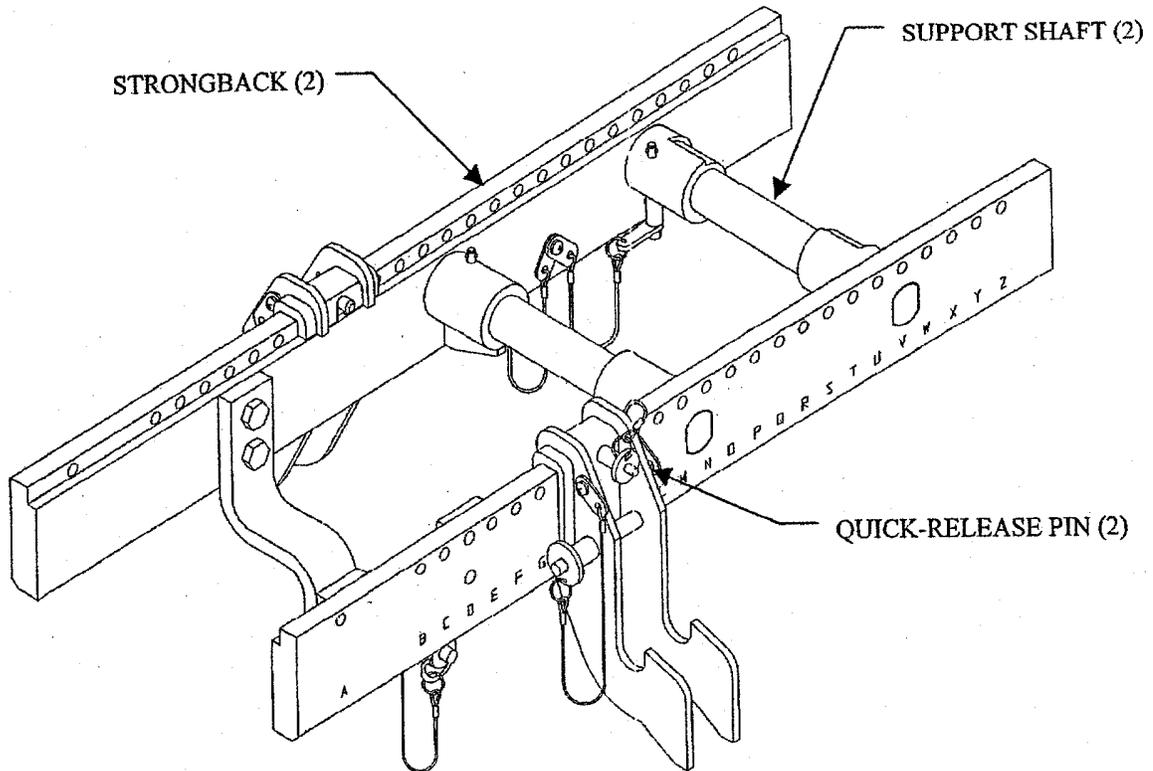
PHYSICAL DATA:	
Length	3.00 inches
Width	20.00 inches
Height	11.00 inches
Weight	15 pounds
SWL	134 pounds

APPLICATION. Screw Jack Adapter ADU-463/E attaches to the clamp ring on Guided Missile Component Maintenance Stand MSU-176/E for removing/installing the PHOENIX Guided Missile Warhead from/into the armament section.

ASSOCIATED EQUIPMENT. Guided Missile Component Maintenance Stand MSU-176/E and Warhead Lifting Device HUG 1042675.

**ADAPTER, HOIST
ADU-469A/E
P/N 3516AS200-1
NSN 6R 3940-01-459-2516**

DESCRIPTION. Hoist Adapter ADU-496A/E is constructed of machined steel strongbacks, support shafts, and sliding hoist fittings which can be pinned in various hole positions. Quick-release pins are provided for securing the hoist fittings in appropriate positions on the strongbacks. Two removable support shafts separate the strongbacks and provide means of attachments to P-3 aircraft wing station pylons.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts.	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC.	None
SM&R Code	PEOGG

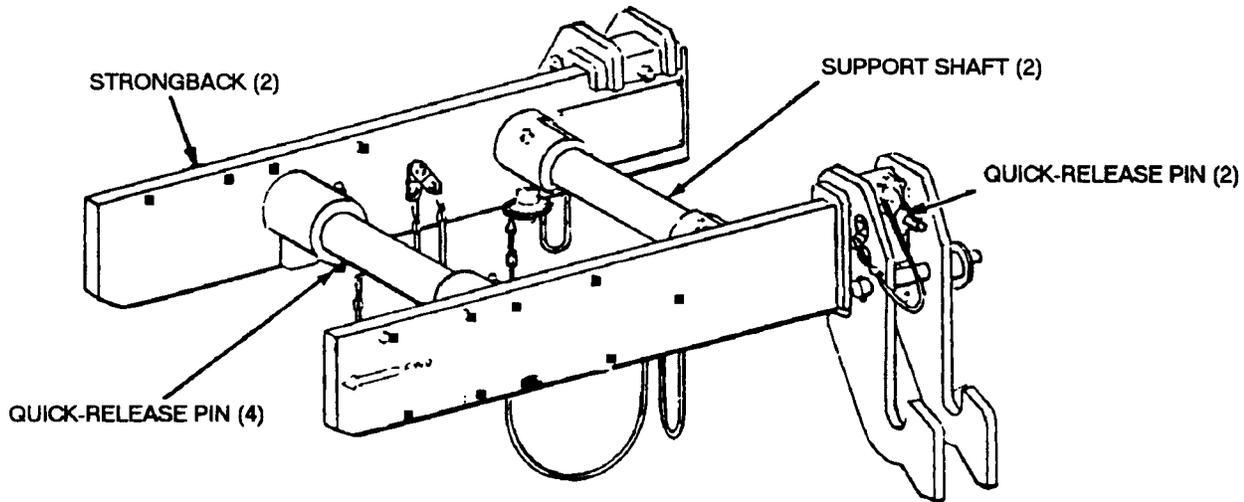
PHYSICAL DATA:	
Length	22.00 inches
Width	16.00 inches
Height.	7.00 inches
Weight	35 pounds
SWL	2500 pounds
Cube (approx.)	1.43 cubic feet

APPLICATION. Hoist Adapter ADU-469A/E attaches to P-3 aircraft mining pylons and Bomb Racks AERO-65B. It provides 26 hoist positions to accommodate weapons of varying centers of gravity and is used with bomb hoists, trolleys and bands to load single weapons up to 2500 pounds on P-3 aircraft.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E, Single Stores Trolley HLK-225A and HLK-226A.

**ADAPTER, HOIST
ADU-469/E
P/N 6SE00850-1
NSN 6R 1730-01-074-9650**

DESCRIPTION. Hoist Adapter ADU-469/E consists of two strongbacks, each supporting an adjustable (sliding) hoist fitting. Quick-release pins are provided for securing the hoist fittings in appropriate positions on the strongbacks. Two removable support shafts separate the strongbacks and provide means of attachments to P-3 Aircraft wing station pylons.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZB
SM&R Code	PEOGG

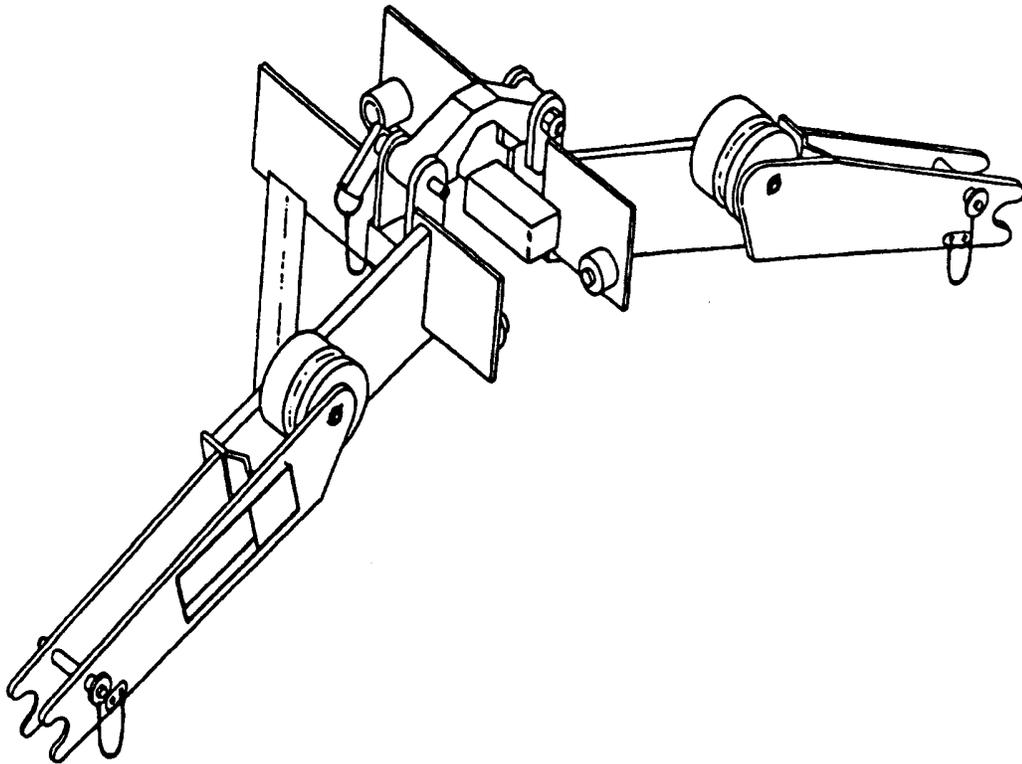
PHYSICAL DATA:	
Length	16.00 inches
Width	15.19 inches
Height	6.75 inches
Weight	19 pounds
SWL	2500 pounds

APPLICATION. Hoist Adapter ADU-469/E attaches to P-3 Aircraft mining pylons and Bomb Racks AERO 65B. It provides five hoist positions to accommodate weapons of varying centers of gravity and is used with bomb hoists, hoist adapters, and bands to load single weapons weighing up to 2,500 pounds on P-3 aircraft.

ASSOCIATED EQUIPMENT. Hoist Adapter ADK-430A, Bomb Hoist HLU-288/E and Bomb Hoist HLU-196D/E.

**ADAPTER, HOIST
ADU-476/E
P/N 6SE00841-1
NSN 1R 3940-01-388-9967**

DESCRIPTION. Hoist Adapter ADU-476/E is a steel weldment that attaches the HLU-196D/E Bomb Hoisting Unit to the AERO 7B Centerline Bomb Rack of the A-6 aircraft. Two arms (saddles) originate from a center mounting bracket secured by a quick-release pin which is retained by a locking detent. Each arm of the ADU-476/E Hoist Adapter is equipped with a pulley to support the load hoist cable during loading/downloading of the aircraft.



REFERENCE DATA:

ISEA NAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . . . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC..... 22CA2
 SM&R CodePAOGG

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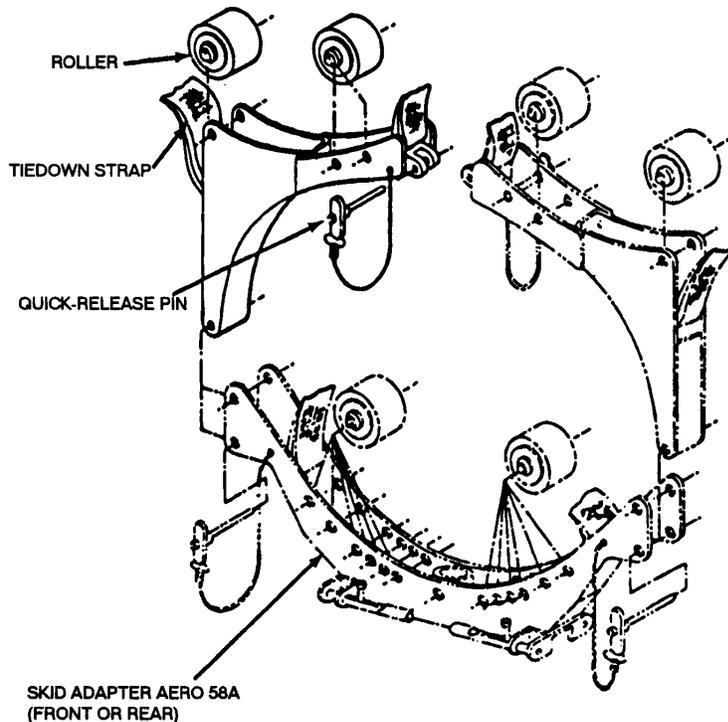
Length 36.18 inches
 Width 10.37 inches
 Height..... 6.00 inches
 Weight 20 pounds
 SWL 4000 pounds

APPLICATION. Hoist Adapter ADU-476/E is used with the HLK-225A and HLK-226A Single Stores Trolleys for loading single weapons to the A-6 aircraft centerline station and certain MER's to the centerline station.

ASSOCIATED EQUIPMENT. Single Stores Trolley HLK-225A and 226A, Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E and Multiple Store Trolley Adapters HLK-217 and HLK-218.

**ADAPTER, SKID
ADU-483/E
P/N 64A114D320-1
NSN 1R 1730-01-096-5163**

DESCRIPTION. Skid Adapter ADU-483/E consists of one steel upper frame section with two removable rubber rollers and a nylon tiedown strap and buckle. A quick-release pin is provided for attaching and securing two adapter assemblies together at the top forming a complete load bearing assembly capable of supporting two cylindrical weapons side by side. The position of the outboard roller is fixed; the inboard roller can be situated in either of two positions.



OBSOLESCENT

REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GX4
SM&R Code	PAGGG

PHYSICAL DATA:

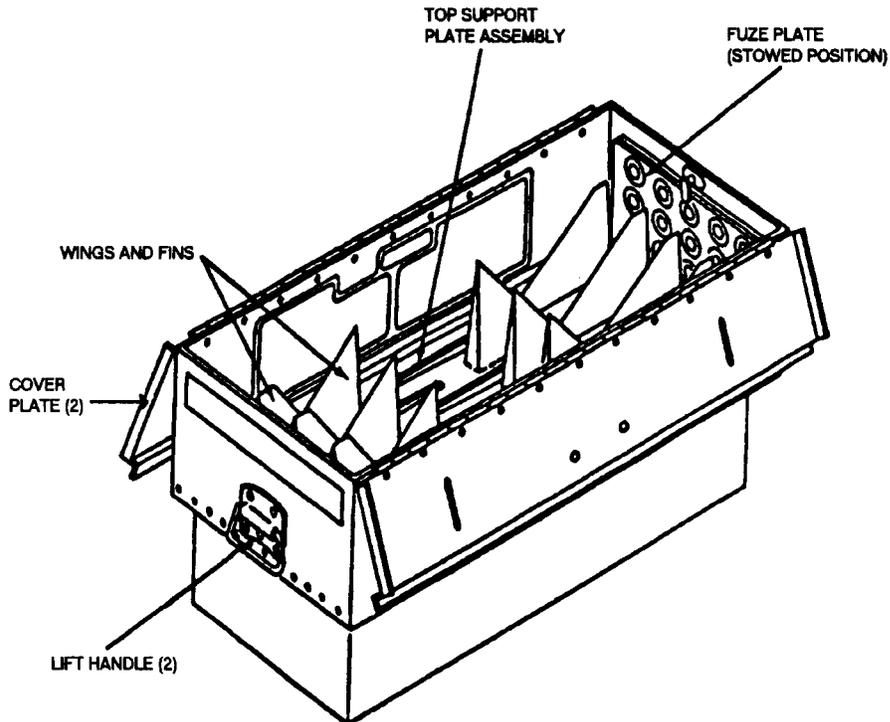
Length (each)	13.13 inches
Width (each)	2.75 inches
Height (each)	12.75 inches
Weight (each)	10 pounds
SWL (pair)	4000 pounds

APPLICATION. Skid Adapter ADU-483/E is used in pairs with Skid Adapter AERO 58A. The adapter can support two weapons from 9 to 16 inches in diameter during transport on the Munitions Transporter MHU-191/M. ADU-483/E Skid Adapter is now obsolescent and replaced by ADU-895/E Interface Device Assembly Adapter.

ASSOCIATED EQUIPMENT. Skid Adapter (Front and Rear) AERO 58A and Munitions Transporter MHU-191/M.

**ADAPTER, TRANSPORT, WING, FIN AND FUZE
ADU-488/E
P/N 1257AS100-1
NSN 1R 4935-01-091-5969**

DESCRIPTION. Fin and Fuze Wing Transport Fuze Adapter ADU-488/E is a welded aluminum container containing different features to transport a variety of ordnance components. Preformed urethane channels that provide protection for wings and fins are installed in the base. Above the base are two hinged plates which are lowered onto the wings and fins to hold them in place. When not configured for wing and fins, two cushioned plates are lowered from their stowed position along the interior side of the container and provide holes for transportation of fuzes. Adapter ADU-488/E is secured with four quick-release pins to skids, trailers, and transporters to carry the various components from magazine areas to the flight deck.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GHX
SM&R Code	PEOGG

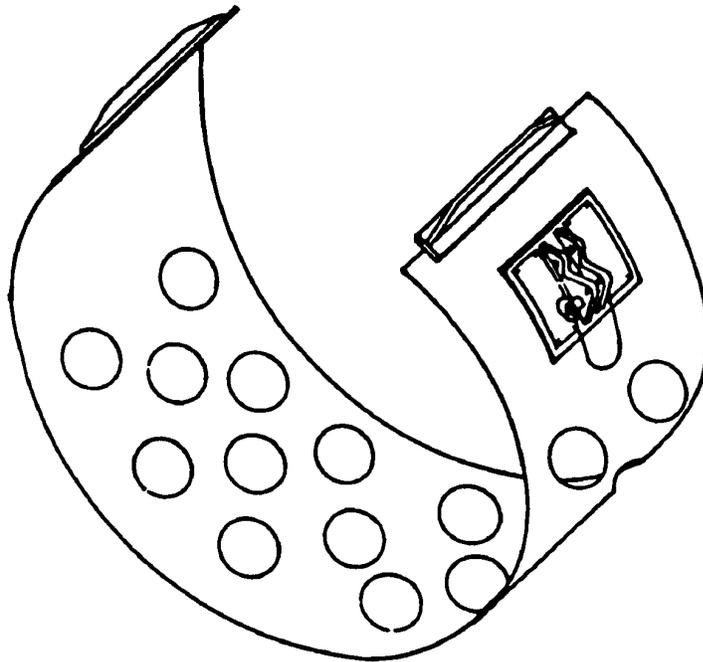
PHYSICAL DATA:	
Length	47.44 inches
Width	20.70 inches
Height	24.00 inches
Weight	117.5 pounds
SWL	N/A

APPLICATION. Fin and Fuze Wing Transport Adapter ADU-488/E is used by ordnance personnel to transfer different ordnance and ordnance components from weapons break out areas to the flightdeck.

ASSOCIATED EQUIPMENT. Platform Skid MHU-125A/E, Munitions Trailer MHU-126A/M, Small Munitions Trailer MHU-151/M, Munitions Transporter MHU-191/M and Small Munitions Trailer MHU-202/M.

ADAPTER, TROLLEY, WIDE BAND (LONG)
ADU-491/E
P/N 6SE00907-1
NSN 1R 4920-01-167-0557

DESCRIPTION. Wide Band Trolley Adapter ADU-491/E is a steel weldment consisting of a preformed steel band, two base plates, and two quick-release pins. Trolley Adapter ADU-491/E is formed to fit a single CHAFF dispenser AN/ALE-41 (19.60 inch diameter) or Sonobuoy dispenser AN/ARQ-41 (21 inch diameter).



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22CA3
SM&R Code	PAOGG

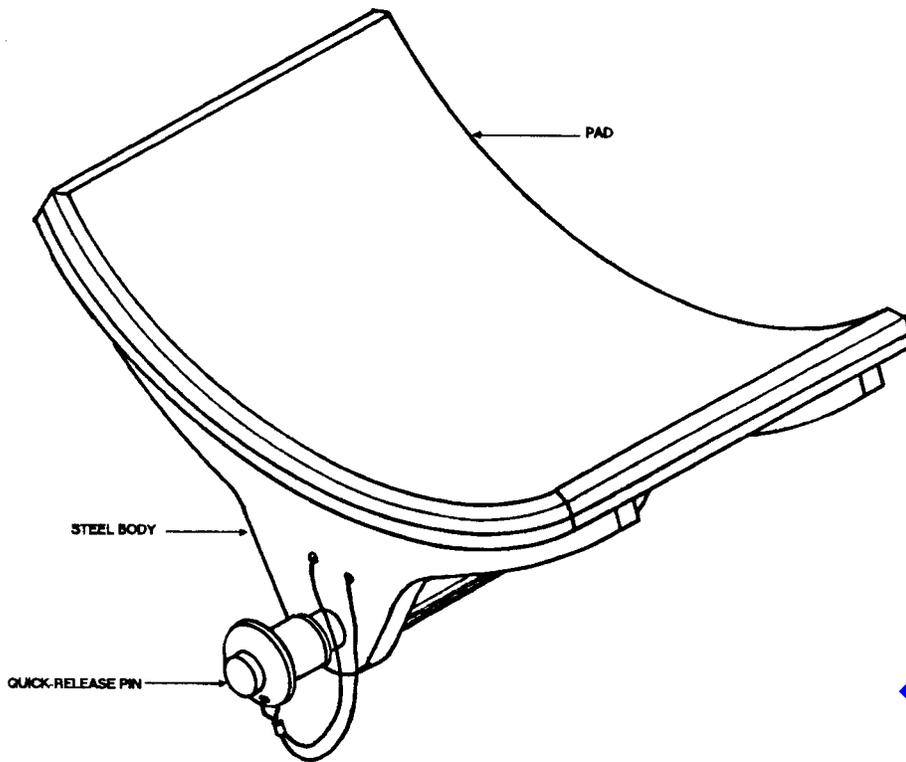
PHYSICAL DATA:	
Length	50.00 inches
Width	10.00 inches
Height	N/A
Weight	12.5 pounds
SWL	2700 pounds

APPLICATION. Wide Band Trolley Adapter ADU-491/E can be used in conjunction with Hoist Adapters HLK-247 and HLK-248 for loading A-6 aircraft equipped with AERO 7 Ejector Racks, or in conjunction with Hoist Adapters HLK-219 and HLK-220 for loading A-7 aircraft equipped with BRU-10/11 Ejector Racks. Bomb Hoists HLU-196D/E or HLU-288/E are used to raise/lower dispenser configurations to aircraft. Additionally, Firebombs Mk 77 (18.60 inch diameter) can be fitted with Trolley Adapter ADU-491/E for AV-8 aircraft loading.

ASSOCIATED EQUIPMENT. Hoist Adapters HLK-247 and HLK-248, Single Stores Trolleys HLK-225A and HLK-226A, Bomb Hoisting Unit HLU-196D/E, Bomb Hoist HLU-288/E, Hoist Adapters HLK-219 and HLK-220 and Hoist Adapter (75D750004-1001, Outboard Pylon Trolley Adapter (75D750018-1001).

**ADAPTER, SINGLE STORE
ADU-496/E
P/N 64A114D322-1
1R 1730-01-174-1885**

DESCRIPTION. Single Store Adapter ADU-496/E consists of a steel body and neoprene rubber pad bonded together to form a single unit. A quick release pin attaches the adapter to the various adapters.



OBSOLESCE

REFERENCE DATA:

ISEA NAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts NAVAIR 19-100-3
 Op. Proc. NAVAIR 19-100-3
 EIC/WUC 22GZO
 SM&R Code None

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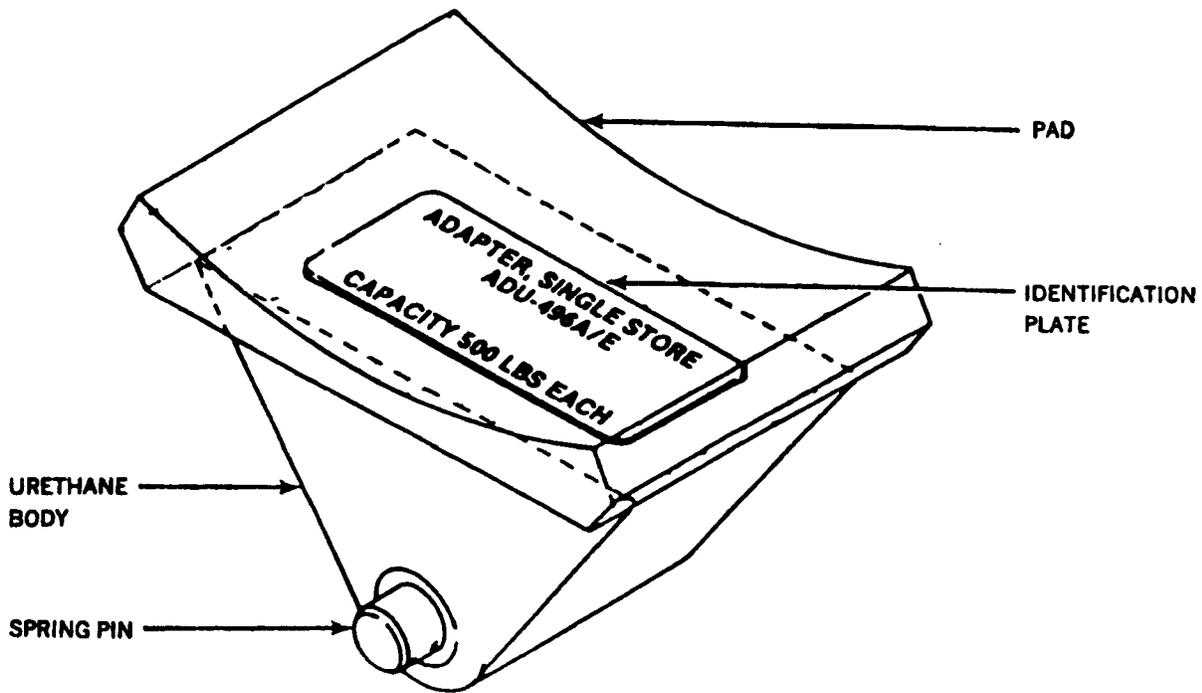
Length 5.38 inches
 Width 3.25 inches
 Height 3.12 inches
 Weight 3 pounds
 SWL (each) 500 pounds

APPLICATION. Single Store Adapter ADU-496/E is used in sets of four to support the AGM-88 HARM Missile and other 10-inch diameter and larger weapons/stores on either Skid Adapter AERO 58A, Skid Adapter ADU-483/E or Roller Cradle Adapter ADU-397/E during handling and transport on the MHU-191/M Munitions Transporter, various skids, trailers and skid platforms. This item is obsolescent and replaced by Single Store Adapter ADU-496A/E.

ASSOCIATED EQUIPMENT. Skid Adapter ADU-483/E, Skid Adapters AERO 58A, Roller Cradle Adapter ADU-397/E and Munitions Transporter MHU-191/M.

**ADAPTER, SINGLE STORE
ADU-496A/E
P/N 64A114C325-1
NSN 1R 1730-01-382-8790**

DESCRIPTION. Single Store Adapter ADU-496A/E consists of a urethane body and pad fused together to form a single unit. A spring pin assembly attaches the adapter to the AERO 58A Skid Adapter.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-95-1/NAVAIR 19-95-3
EIC/WUC	.21GZO
SM&R Code	.PAOZZ

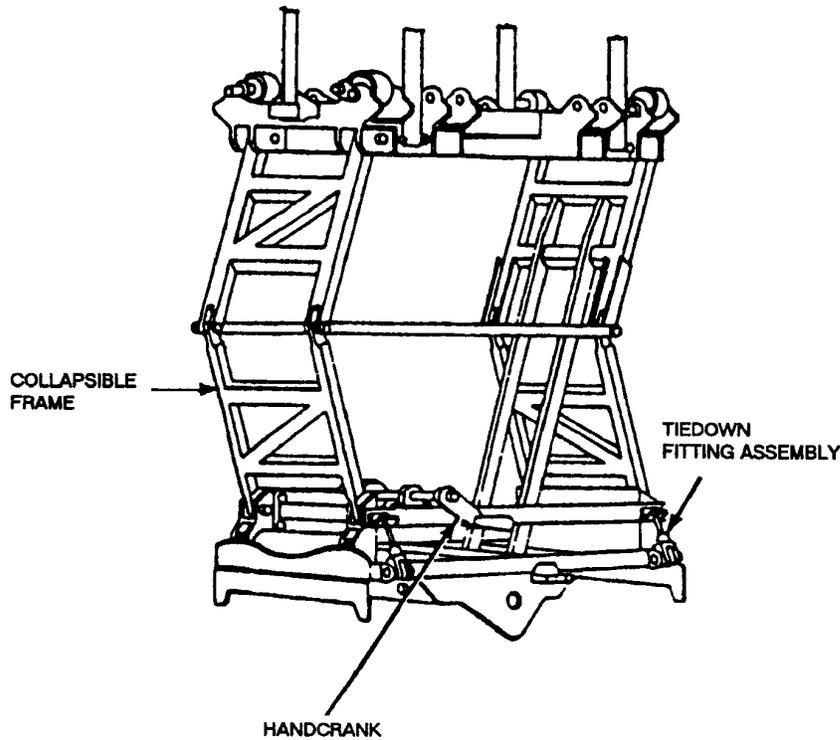
PHYSICAL DATA:	
Length	4.63 inches
Width	3.00 inches
Height	3.25 inches
Weight	.2 pounds
SWL (each)	.500 pounds
Cube	0.03 cubic feet

APPLICATION. Single Store Adapter ADU-496A/E is used in sets of four to support the AGM-88 Harm Missile and other 10-inch diameter and larger weapons/stores on either Skid Adapter AERO 57A, Skid Adapter AERO 58A or Roller Cradle Adapter ADU-397/E during handling and transport on Munitions Transporter MHU-191/M, various skids, trailers and skid platforms.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A, Skid Adapter ADU-483/E, Roller Cradle Adapter ADU-397/E and Munitions Transporter MHU-191/M.

**ADAPTER, HIGH LIFT
ADU-497/E
P/N 922679-101
NSN 6R 1730-00-930-7561**

DESCRIPTION. High Lift Adapter ADU-497/E consists of a crank operated collapsible framework with roller bearing surface mounted on a cradle adapter.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC . . . . .	.21GGO
SM&R Code . . . . .	.PEOHD

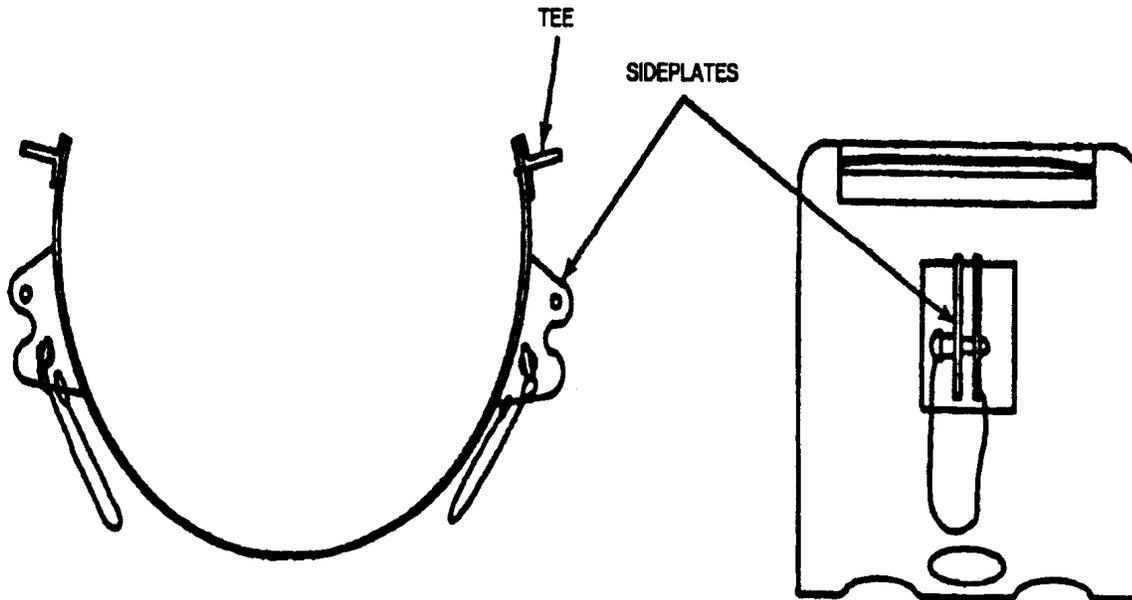
PHYSICAL DATA:	
Length	
Collapsed	72.00 inches
Extended.	35.00 inches
Width 20.00 inches	
Height	
Collapsed	12.00 inches
Extended.	32.00 inches
Weight 150 pounds	
SWL 2000 pounds	

APPLICATION. High Lift Adapter ADU-497/E is used to extend the lift height capability of Bomb Trailer Mk 7 Mods. The adapter attaches to the trailer cradle by means of four tiedown fitting assemblies. The crank is used to raise or lower the framework to the desired height. Bomb Trailer Outrigger Assembly Mk 7 Mods should be attached to the trailer when the high lift adapter is used.

ASSOCIATED EQUIPMENT. Bomb Trailer Mk 7 Mods and Bomb Trailer Outrigger Assembly Mk 7.

**ADAPTER, TROLLEY, WIDE BAND (SHORT)
ADU-498/E
P/N 6SE00956-1
NSN 1R 1730-01-392-2716**

DESCRIPTION. Wide Band Trolley Adapter ADU-498/E is a steel weldment consisting of a preformed steel band, two base plates, and two quick-release pins. The Trolley Adapter is formed to fit an electronic countermeasures pod AN/ALQ-167 (10-inch diameter) or an infrared countermeasures pod AN/ALQ-123 (10-inch diameter).



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22CA4
SM&R Code	PAOGG

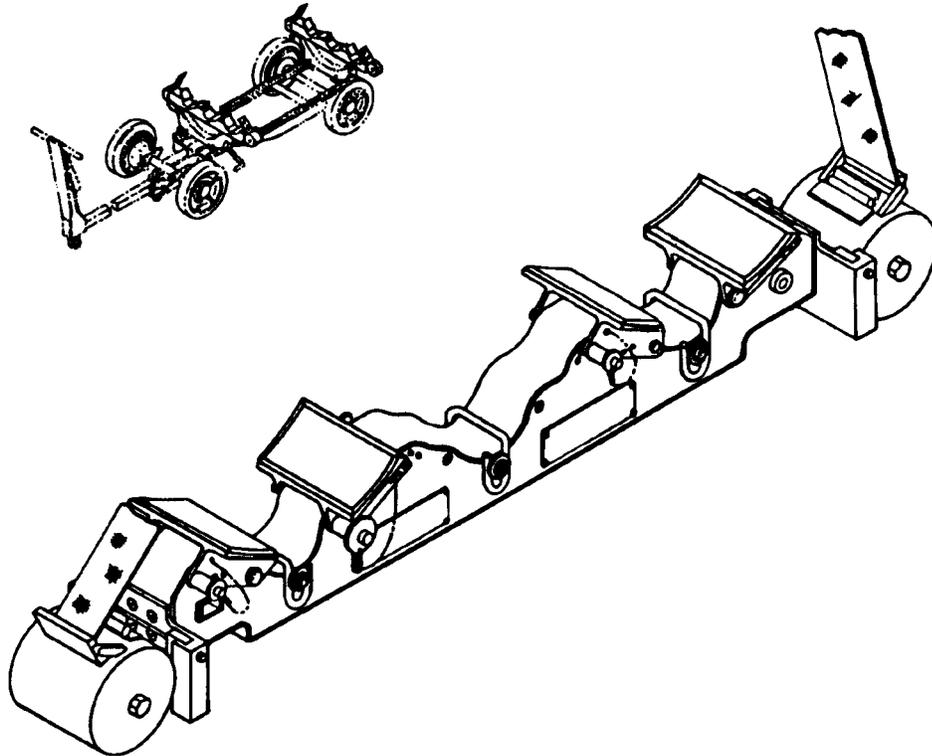
PHYSICAL DATA:	
Length	20.00 inches
Width	10.00 inches
Height	N/A
Weight	12 pounds
SWL	5400 pounds

APPLICATION. Wide Band Trolley Adapter ADU-498/E can be used in conjunction with Hoist Adapters HLK-247 and HLK-248 for loading A-6 aircraft equipped with AERO 7 Ejector Racks or in conjunction with Hoist Adapters HLK-219 and HLK-220 for loading A-7 aircraft equipped with BRU-10/11 Ejector Racks. Bomb Hoists HLU-196D/E, HLU-288/E are used to raise and lower the pod to aircraft.

ASSOCIATED EQUIPMENT. Hoist Adapters HLK-219 and HLK-220, Hoist Adapters HLK-247 and HLK-248, Single Stores Trolley HLK-225A and HLK-226A, Bomb Hoisting Unit HLU-196D/E, Bomb Hoist HLU-288/E and Hoist Adapter 74D75006-1001/1002.

**ADAPTER, ADJUSTABLE WEAPONS
ADU-511A/E
P/N 1331AS401-1
NSN 1R 4920-01-202-7184**

DESCRIPTION. Adjustable Weapons Adapter ADU-511A/E consists of a steel support bar with adjustable chocks which can be configured for different diameter weapons by using designated hole positions. The ADU-511A/E differs from the ADU-511/E in that the rubber pads on the ADU-511A/E are riveted vice glued.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GX1
SM&R Code	PEOGG

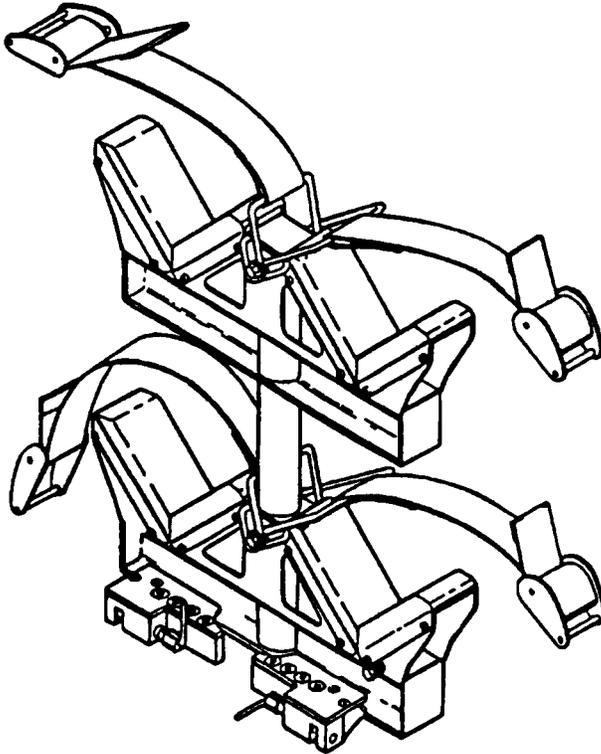
PHYSICAL DATA:	
Length	34.62 inches
Width	4.87 inches
Height	7.25 inches
Weight	40 pounds
SWL (each)	2000 pounds

APPLICATION. Adjustable Weapons Adapter ADU-511A/E was designed to interface with Skid Adapter AERO 58A and carry two stores side by side. It is used to support weapon systems that are between 8 to 10 inches in diameter for transporting and loading operations.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Munitions Trailer MHU-126A/M, Small Munitions Trailer MHU-202/M, Platform Skid MHU-125 Series, Skid Adapter (Front and Rear) AERO 58A.

**ADAPTER, SMALL MISSILE
ADU-514/E
P/N 1763AS600-1
NSN 1R 1440-01-360-8217**

DESCRIPTION. Small Missile Adapter ADU-514/E is an aluminum weldment which basically consists of upper and lower frames with support pads, two slide blocks, and buckle and strap assemblies. The adapter features a two-tier design and is used in pairs. The missile support pads attached to the upper and lower frames are gel filled to provide contoured cradling of missiles and weapons.



OBSOLESCE

REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21FY1
SM&R Code	None

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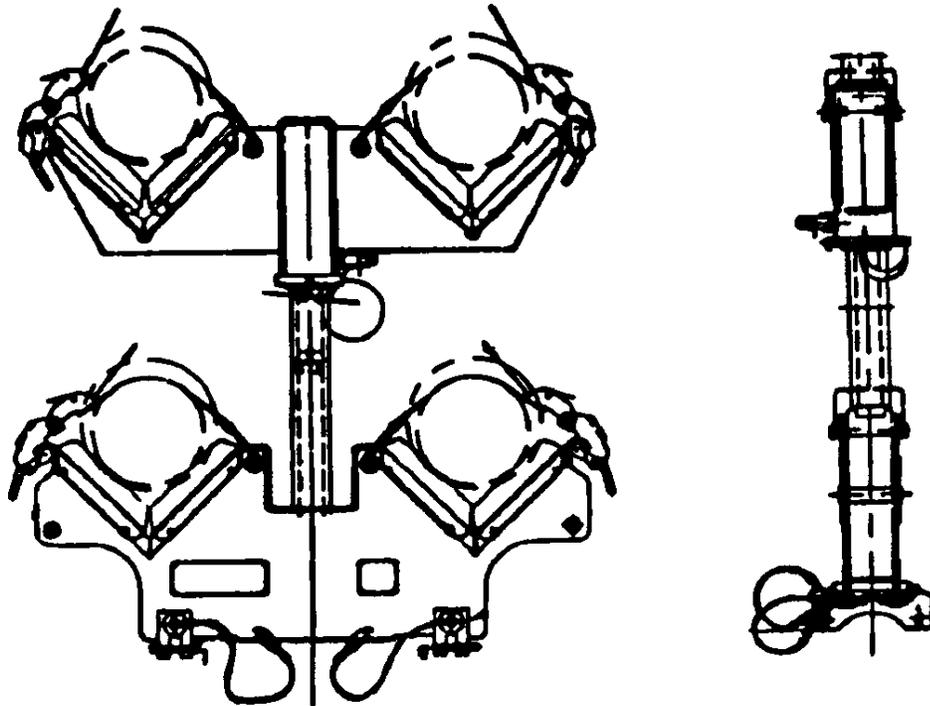
Length	23.85 inches
Width	2.50 inches
Height	24.25 inches
Weight (each)	30 pounds
SWL	2400 pounds

APPLICATION. Small Missile Adapter ADU-514/E is used in pairs on a variety of weapon skids, transporters, and trailers for transporting up to four each of the following missiles: AIM-7 Series SPARROW III, AIM-120 Series AMRAAM and AGM-114B HELLFIRE. The Small Missile Adapter ADU-514/E is obsolescent and replaced by Small Missile Adapter ADU-514A/E.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Platform Skid MHU-125A/E, Munitions Trailer MHU-126A/M and Small Munitions Trailer MHU-202/M.

**ADAPTER, SMALL MISSILE
ADU-514A/E
P/N 1763AS700-2
NSN 9B 4920-01-501-8224**

DESCRIPTION. Small Missile Adapter ADU-514A/E is an aluminum weldment which basically consists of upper and lower frames with support pads, two slide blocks, and buckle and strap assemblies. The adapter features a two-tier design and is used in pairs. The missile support pads attached to the upper and lower frames are solid rubber to provide cradling of missiles and weapons.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GYL
SM&R Code	PEOGG

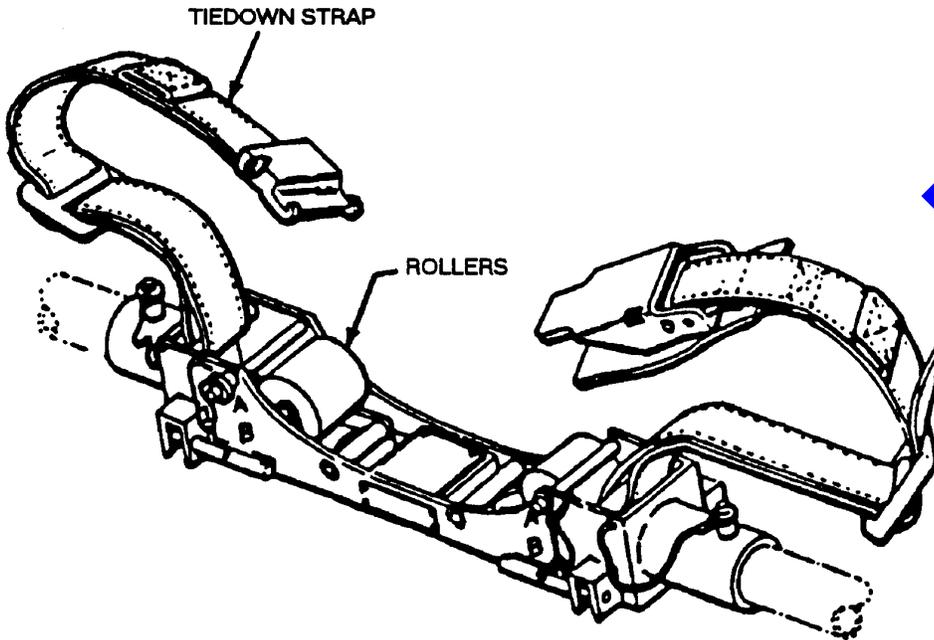
PHYSICAL DATA:	
Length	29.62 inches
Width	6.00 inches
Height	34.5 inches
Weight (each)	32 pounds
SWL	1200 pounds

APPLICATION. Small Missile Adapter ADU-514A/E is used in pairs on a variety of weapon skids, transporters, and trailers for transporting up to four each of the following missiles: AIM-7 Series SPARROW III, AGM-45 SHRIKE, AIM-120 Series AMRAAM and AGM-114B HELLFIRE, AIM-9 Series SIDEWINDER.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Platform Skid MHU-125A/E, Munitions Trailer MHU-126A/M, Adapter, Wing/Fin Guard ADU-567/E for AIM-9, and Small Munitions Trailer MHU-202/M.

**ADAPTER ASSEMBLY, WEAPONS CRADLE
ADU-525/E
P/N 1470AS400-1
NSN 6R 4920-01-232-8954**

DESCRIPTION. Weapons Cradle Adapter Assembly ADU-525/E consists of a steel weldment with a set of hard rubber rollers, which are adjustable for single stores of 16-inches or less, and a nylon tiedown strap to secure the weapon to be transported.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC .....	.21GZO
SM&R Code	None

PHYSICAL DATA:

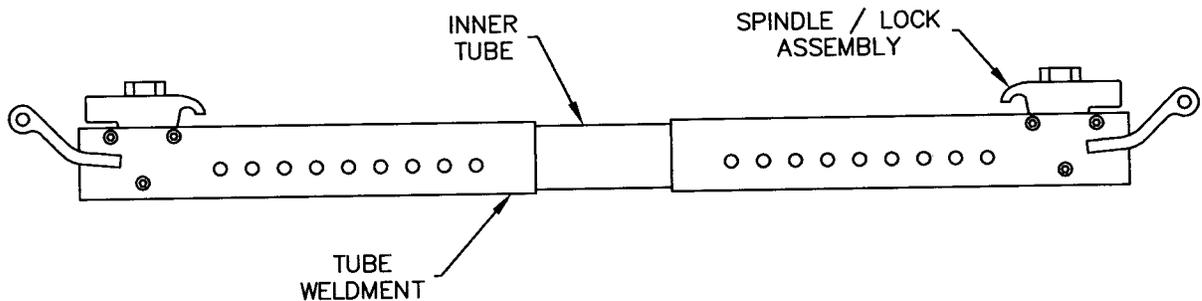
Length	22.75 inches
Width	5.00 inches
Height	3.00 inches
Weight .....	.20 pounds
SWL	500 pounds

APPLICATION. Weapons Cradle Adapter Assembly ADU-525/E is used in pairs for transporting and loading single stores on the centerline station of the AV-8B aircraft. The cradles are mounted and secured 25 inches apart on Munitions Transporter MHU-192/M. The store is placed on the cradle and secured with tiedown straps. When the weapon is positioned under the AV-8B centerline station, four Manual Hoisting Bars HLU-256/E are inserted into the sides of the cradles and pinned. The tiedown straps are unlatched and the cradles are disconnected from Munitions Transporter MHU-192/M. The store is then raised to the bomb rack using the four hoisting bars. For down-loading, the cradles are raised to support the store, the store is unlatched and lowered to the transporter, the cradles are secured and the tiedown straps are secured over the store. Weapons Cradle Adapter Assembly is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-192/M and Manual Hoisting Bar HLU-256/E.

**ADAPTER, BRACKET
ADU-566/E
P/N 1629AS100-1
NSN 1R 1730-01-509-5778**

DESCRIPTION. Bracket Adapter ADU-566/E consists of a main beam with holes along each side and two sleeves which slide over the main beam and have similarly spaced holes along each side. The complete assembly is placed on a Skid Adapter AERO 58 with the holes aligned and quick release pins inserted to secure the adapter. Strap tie-down points are provided at the end of each sleeve and spindle/lock assemblies are furnished. The bracket is adjustable to accommodate load widths varying between 28 and 48 inches.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GZO
SM&R Code	None

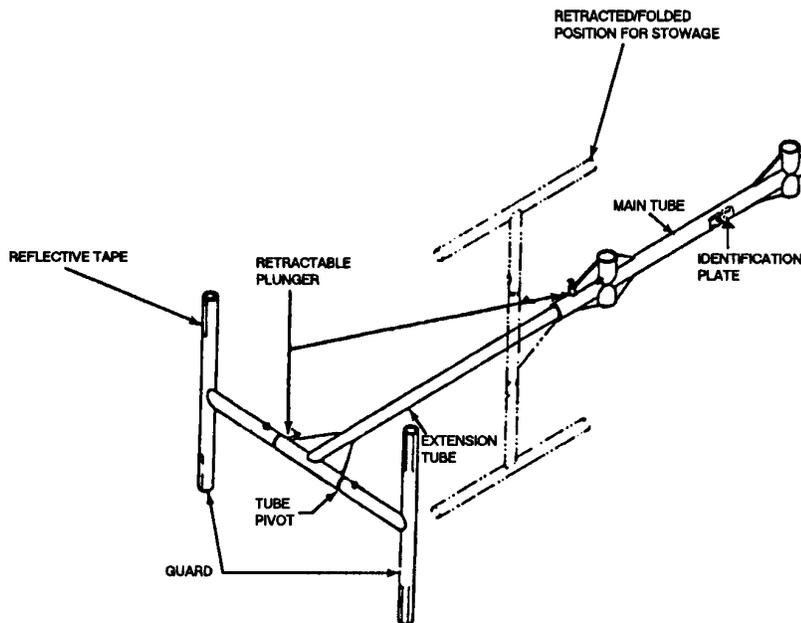
PHYSICAL DATA:	
Length	37.25 inches
Width	3.25 inches
Height	3.70 inches
Weight (set of two)	52 pounds
SWL (set of two)	5000 pounds

APPLICATION. Bracket Adapter ADU-566/E attaches to Skid Adapters AERO 58A on Munitions Transporter MHU-191/M when handling unit loads. The adapter converts the transporter into a flatbed vehicle capable of handling ordnance pallets, cradles and containers. Two bracket adapters are required for each transporter. The adapter is used during replenishment at sea operations for transporting containerized missiles, weapons and weapons components from the flight deck and hangar deck to magazine spaces.

ASSOCIATED EQUIPMENT. Skid Adapter AERO 58A, Trailer MHU-202/M, Platform Skid MHU-125A/E and Munitions Transporter MHU-191/M.

**ADAPTER, WING/FIN GUARD
ADU-567/E
P/N 6SE01170-1
NSN 1R 3040-01-343-2941**

DESCRIPTION. Wing/Fin Guard Adapter ADU-567/E consists of a main tube weldment, tube extension, pivot tube, two guards and retractable spring locking plungers. Upper and lower tubes fitted on each end of the main tube weldment allow the adapter to slide-on between the upper frame and lower frame of two ADU-514/E and Small Missile Adapters ADU-514A/E assemblies mounted the Munitions Transporter MHU-191/M. The tube extension can be retracted and locked into the main tube weldment and the two guards can be pivoted and locked in a flat position to create a compact shipping and stowage package.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GZ4
SM&R Code	PAGGG

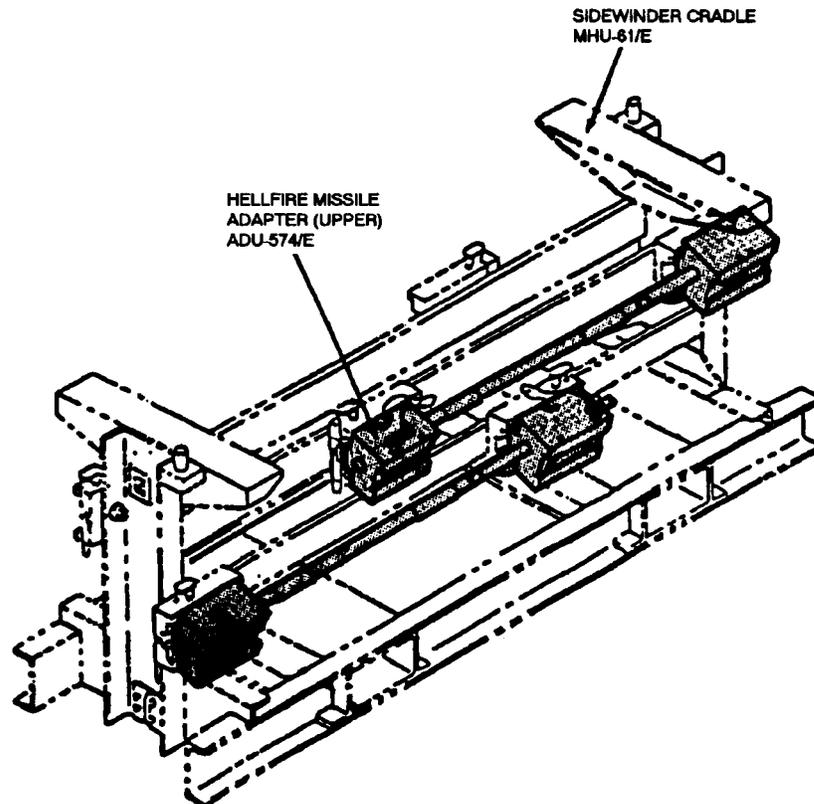
PHYSICAL DATA:	
Length	
Extended	82.69 inches
Retracted	60.00 inches
Width	
Extended	36.00 inches
Retracted	26.00 inches
Height	
Extended	7.00 inches
Retracted	36.00 inches
Weight	65 pounds
SWL	N/A

APPLICATION. Wing/Fin Guard Adapter ADU-567/E provides protection for SIDEWINDER AIM-9 wings and fins when attached to Small Missile Adapter ADU-514/E and ADU-514A/E assemblies during transporting and handling.

ASSOCIATED EQUIPMENT. Small Missile Adapters ADU-514/E and ADU-514A/E.

**ADAPTER ASSEMBLY, MISSILE (HELLFIRE)
ADU-574/E (UPPER)
P/N 1517AS106-1
NSN 1R 1450-01-215-6626 (UPPER)**

DESCRIPTION. HELLFIRE Missile Adapter Assembly ADU-574/E (upper) consists of a cast aluminum block equipped with indents which accept the forward and aft missile launch shoes. Spring loaded safety pins secure the missile into place. An aluminum rod connected between the blocks maintain the proper spacing.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts.	NAVAIR AG-000AO-MEB-000
Op. Proc.	NAVAIR AG-000AO-MEB-000
EIC/WUC.....	21GXS
SM&R Code	PEHHH

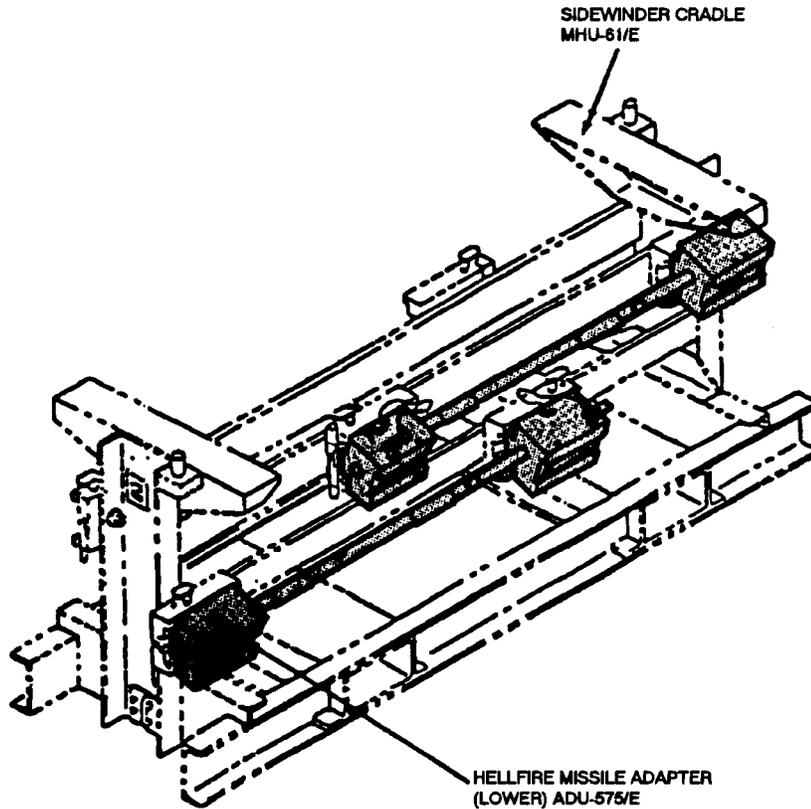
PHYSICAL DATA:	
Length	34.56 inches
Width	3.25 inches
Height.....	4.50 inches
Weight	12.50 pounds
SWL	100 pounds

APPLICATION. HELLFIRE Missile Adapter Assembly ADU-574/E (upper) and ADU-575/E (lower) are used as a set of four and attached to Missile Cradle MHU-61/E. The adapters “piggy-back” onto the brackets of Missile Cradle MHU-61/E and are secured with quick-release pins. The HELLFIRE (AGM-114/B) Missile's launch shoes slide into the adapter brackets and are secured with quick-release pins.

ASSOCIATED EQUIPMENT. HELLFIRE Missile Adapter Assembly ADU-575/E (lower), Missile Cradles MHU-61/E and MHU-61A/E.

**ADAPTER ASSEMBLY, MISSILE (HELLFIRE)
 ADU-575/E (LOWER)
 P/N 1517AS107-1
 NSN 1R 1450-01-222-8516 (LOWER)**

DESCRIPTION. HELLFIRE Missile Adapter Assembly ADU-575/E (lower) consists of a cast aluminum blocks equipped with indents which accept the forward and aft missile launch shoes. Spring loaded safety pins secure the missile into place. An aluminum rod connected between the blocks maintain the proper spacing.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AO-MEB-000
Op. Proc.	NAVAIR AG-000AO-MEB-000
EIC/WUC	21GXT
SM&R Code	PEHHH

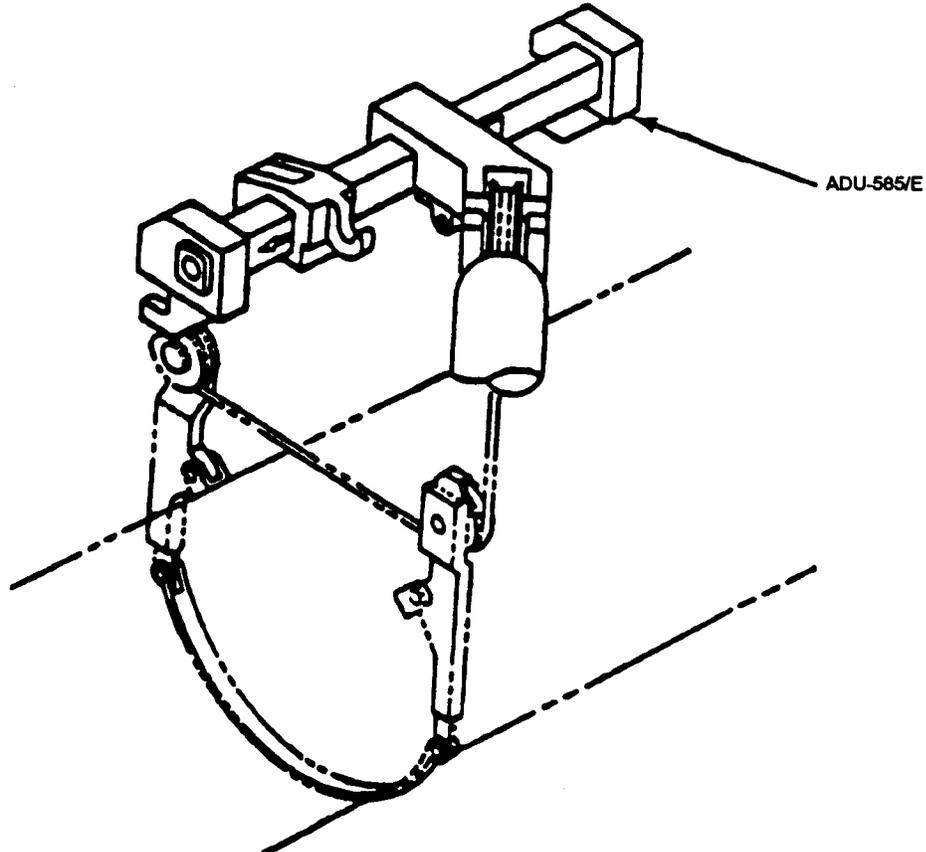
PHYSICAL DATA:	
Length	34.56 inches
Width	3.25 inches
Height	4.50 inches
Weight	12.50 pounds
SWL	100 pounds

APPLICATION. HELLFIRE Missile Adapter Assembly ADU-574/E (upper) and ADU-575/E (lower) are used as a set of four and attached to Missile Cradle MHU-61/E. The adapters “piggy-back” onto the brackets of Missile Cradle MHU-61/E and are secured with quick-release pins. The HELLFIRE (AGM-114/B) Missile's launch shoes slide into the adapter brackets and are secured with quick-release pins.

ASSOCIATED EQUIPMENT. HELLFIRE Missile Adapter Assembly ADU-574/E (upper), Missile Cradles MHU-61/E and MHU-61A/E.

**ADAPTER, HOIST, AV-8B, INTERMEDIATE/INBOARD
 ADU-585/E
 P/N 1470AS940-1
 NSN 6R 3940-01-344-7058**

DESCRIPTION. Intermediate/Inboard Hoist Adapter ADU-585/E consists of two support beams and a swivel head adapter. The adapter is designed to attach to buttons on the intermediate/inboard pylons of the AV-8B aircraft.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC.....	22CA6
SM&R Code	PAOGG

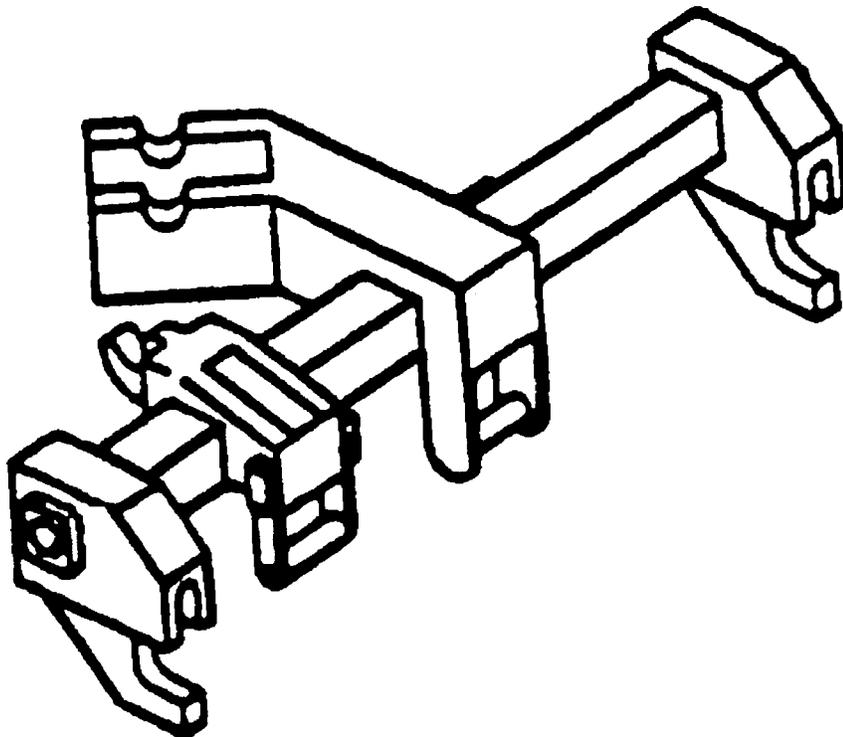
PHYSICAL DATA:	
Length	19.50 inches
Width	9.50 inches
Height.....	9.50 inches
Weight	42 pounds
SWL	1650 pounds

APPLICATION. Intermediate/Inboard Hoist Adapter ADU-585/E is used with Intermediate Inboard Hoist Adapter ADU-586/E as a set and is mounted to the left hand side of the AV-8B intermediate/inboard pylon and is used for loading balanced/unbalanced ITER's, or single stores to the BRU-36A Ejector Rack. The adapter is used in conjunction with Bomb Hoists HLU-288/E and appropriate adapters.

ASSOCIATED EQUIPMENT. Bomb Hoists HLU-288/E, and Intermediate/Inboard Hoist Adapter ADU-586/E.

**ADAPTER, HOIST, AV-8B INTERMEDIATE/INBOARD
 ADU-586/E
 P/N 1470AS940-2
 NSN 6R 1730-01-327-0213**

DESCRIPTION. Intermediate/Inboard Hoist Adapter ADU-586/E consists of two support beams and a swivel head adapter. The adapter is designed to attach to buttons on the intermediate/inboard pylon of the AV-8B aircraft.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22CA7
SM&R Code	PAOGG

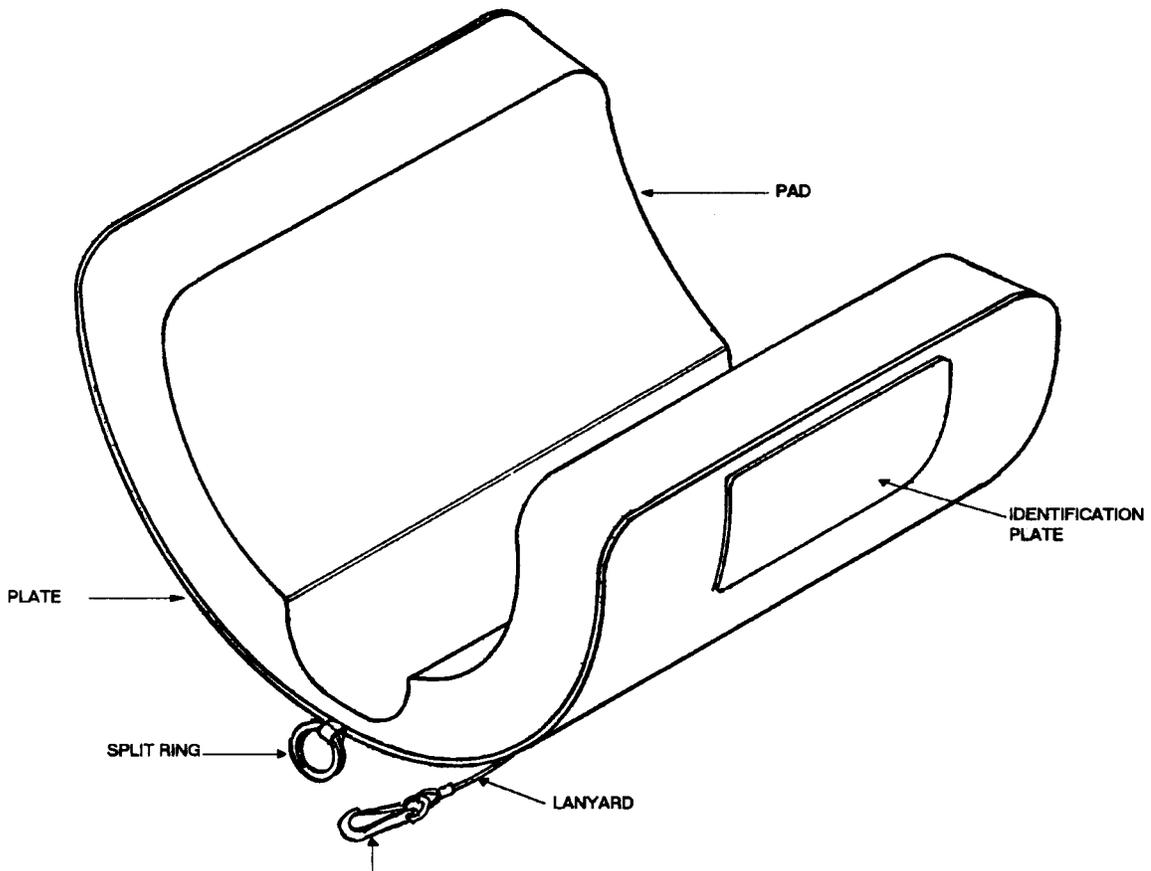
PHYSICAL DATA:	
Length	19.50 inches
Width	9.50 inches
Height	9.50 inches
Weight	42 pounds
SWL	1650 pounds

APPLICATION. Intermediate/Inboard Hoist Adapter ADU-586/E is used with Intermediate/Inboard Hoist Adapter ADU-585/E as a set and is mounted to the right hand side of the AV-8B intermediate/inboard pylon and is used for loading balanced/unbalanced ITER's, or single stores to the BRU-36A Ejector Rack. The adapter is used in conjunction with Bomb Hoists HLU-288/E and appropriate adapters.

ASSOCIATED EQUIPMENT. Intermediate/Inboard Hoist Adapter ADU-585/E, Single Stores Trolley (74D750004-1001), Hoisting Band HLK-275A, Hoisting Band HLK-276A, Hoisting Band HLK-277, Anchor Fitting Assembly HLK-279 and Bomb Hoists HLU-288/E.

**ADAPTER, GUIDED MISSILE
ADU-600/E
P/N 1245AS600-1
NSN 1R 1730-01-463-0198**

DESCRIPTION. Guided Missile Adapter ADU-600/E consists of a polyethylene pad bonded to a steel backing plate. A cutout in the foam, positioned bottom center, prevents damage to the missile wiring harness cover.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts.	NAVAIR AG-000A0-MRC-000
Op. Proc.	NAVAIR AG-000A0-MRC-000
EIC/WUC.....	21GZO
SM&R Code	PAOZZ

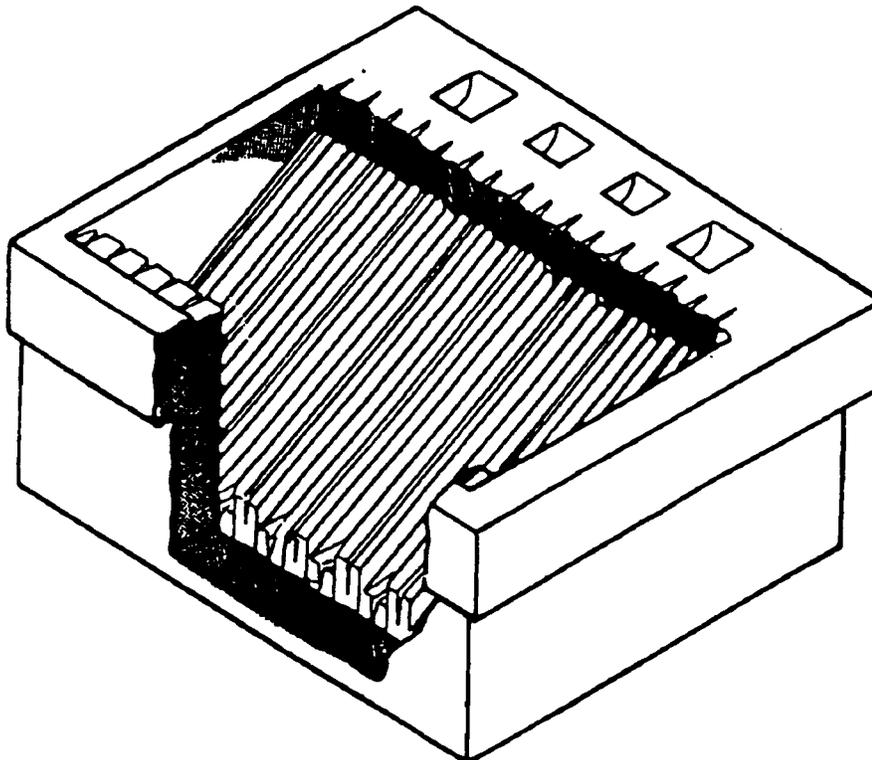
PHYSICAL DATA:	
Length	8.00 inches
Width	9.15 inches
Height.....	5.37 inches
Weight	5 pounds
SWL	550 pounds

APPLICATION. Guided Missile Adapter ADU-600/E is designed to allow use of Small Universal Cradle MHU-63/E in transporting the AIM-120 AMRAAM missile. It is sized for cradling the missile and provides the needed indenture for accommodating the missile wiring harness cover. It is used in pairs, in conjunction with Small Universal Cradle MHU-63/E and Height Adapter ADU-359/E to transport the missile.

ASSOCIATED EQUIPMENT. Height Adapter ADU-359/E and Small Universal Cradle MHU-63/E.

**ADAPTER, INSERT, WING/FIN TRANSPORTER
 ADU-628/E
 P/N 1700AS103
 NSN 9B 5970-01-391-5548**

DESCRIPTION. Wing/Fin Transporter Insert Adapter ADU-628/E is a rigid polyurethane foam adapter containing cutouts for two sets of AIM-120 AMRAAM wings, fins, and buffer connectors. The insert is sized to allow two inserts to fit within the confines of Fin and Fuze Wing Adapter ADU-488/E, without modification to the transporter. The inserts include integral handles to allow easy removal with or without the wings/fins/buffer connectors installed.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	.21GZO
SM&R Code	.PAOZZ

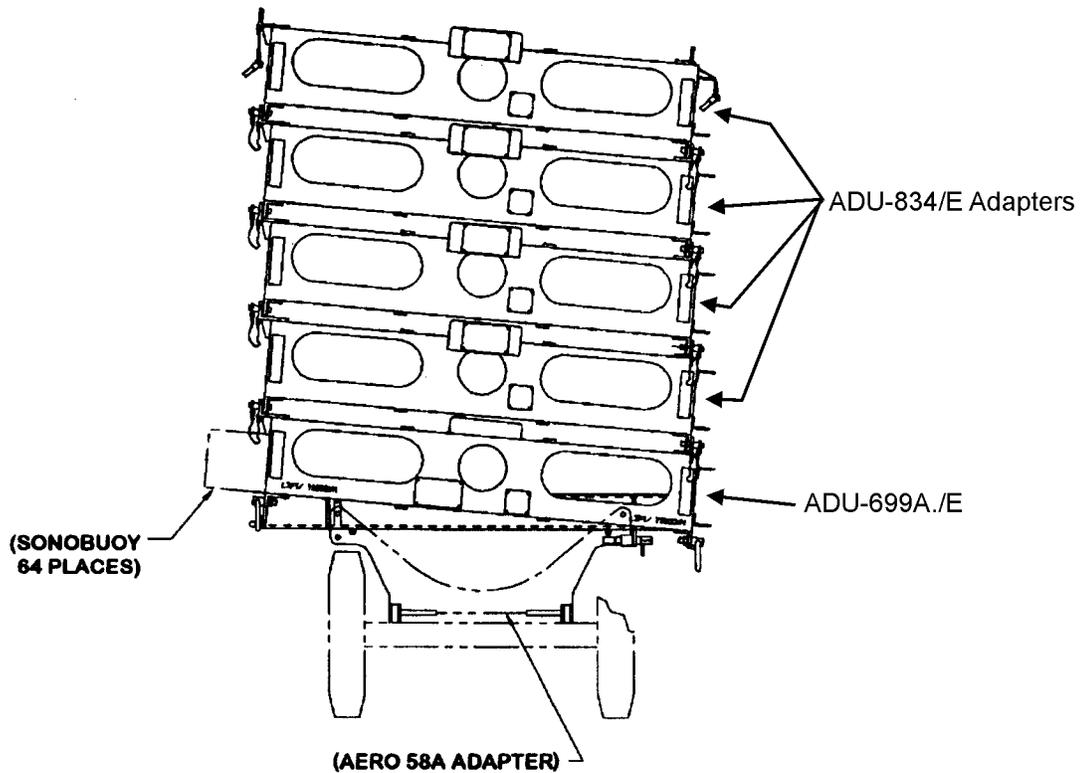
PHYSICAL DATA:	
Length	21.5 inches
Width	19.8 inches
Height	12.0 inches
Weight (empty)	10 pounds
SWL	N/A
Cube	1.2 cubic feet

APPLICATION. Wing/Fin Transporter Insert Adapter ADU-628/E is used in pairs with Fin and Fuze Wing Transport Adapter ADU-488/E and provides the capability for transporting four sets of AMRAAM wings, fins and buffer connectors.

ASSOCIATED EQUIPMENT. Fin and Fuze Wing Transport Adapter ADU-488/E.

**ADAPTER ASSEMBLY, CARRIER UNIT, SONOBUOY MODULAR
ADU-699A/E
P/N 3195AS203-1
NSN 1R 4920-01-474-1656**

DESCRIPTION. Sonobuoy Modular Carrier Unit Assembly Adapter ADU-699A/E is the base frame assembly. The adapter is used in conjunction with the ADU-834/E to store/transport sonobuoys in launch containers.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21HBO
SM&R Code	PEOGG

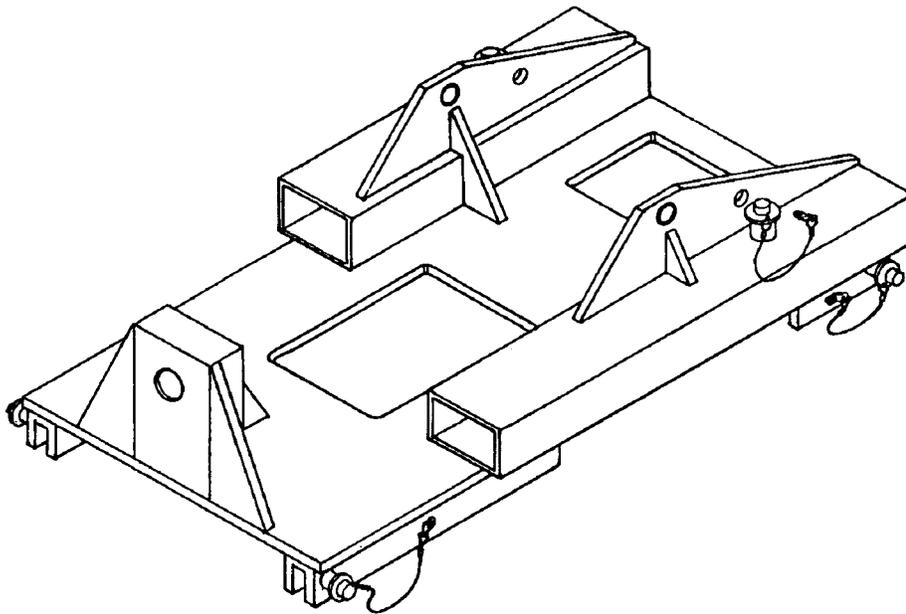
PHYSICAL DATA:	
Length	92.50 inches
Width	37.50 inches
Height	11.00 inches
Weight (empty)	100 pounds
SWL	12 sonobuoys
Cube (approx.)	22 cubic feet

APPLICATION. The ADU-699A/E with four Sonobuoy Transport Adapters ADU-834/E can hold and/or transport up to sixty-four sonobuoys in launch containers. The ADU-699A/E is designed to adapt to the AERO 58A Skid Adapters which allow interface with the MHU-191/M Munitions Transporter (skid/transporter rail holes 2-5 fwd and 36-40 aft). For shorebased operations, the ADU-699A/E mounts directly to the MHU-185/M Munitions Trailer bed.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Adapter Front and Rear AERO 58A, Munitions Trailer MHU-185/M, Sonobuoy Transport Adapter ADU-834/E.

**ADAPTER, GUN TURRET
ADU-714/E
DWG. NO. 3077AS100-1
NSN 6R 3940-01-343-8955**

DESCRIPTION. Gun Turret Adapter ADU-714/E is a welded and machined frame which interfaces the turret to the Sissors Adapter, the Bomb Stores Loading Lift Trailer (P/N 75D750005-1001) and Munitions Transporter MHU-192/E. The turret adapter consists of a fixture which interfaces with the turret at various gun attachment points and two parallel slots which interface with the adapter rails of the transport/loading AWSE. In addition, fork pockets have been added to the frame to provide the capability to load/download the turret with the A/S32K-1 Weapons Loader. The adapter is intended to transport and install/remove the turret with the M197 Gun removed.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	22BZH
SM&R Code	PEOGG

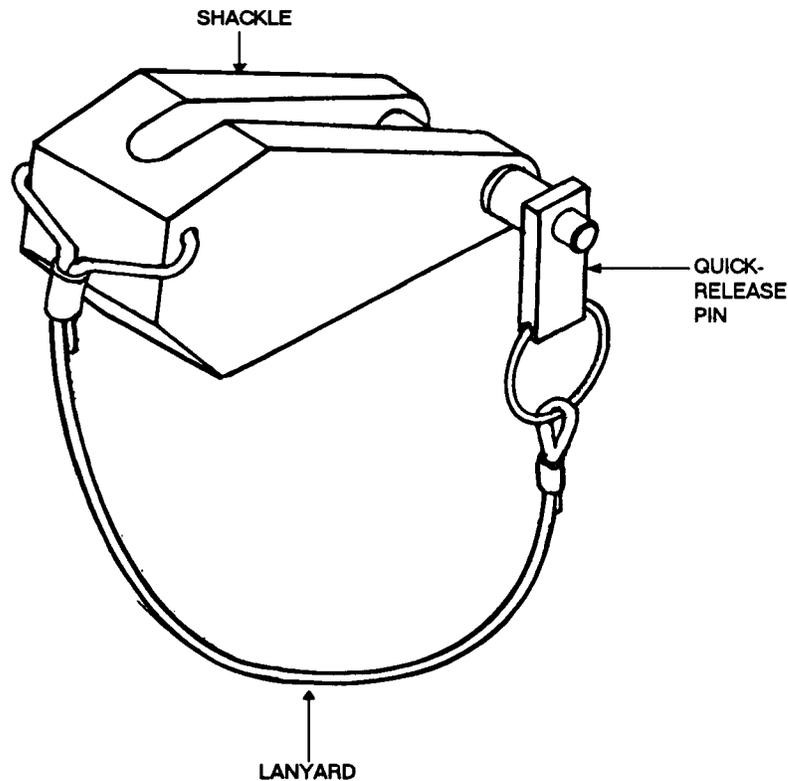
PHYSICAL DATA:	
Length	31.00 inches
Width	19.00 inches
Height	8.50 inches
Weight	.50 pounds
SWL	.600 pounds

APPLICATION. Gun Turret Adapter ADU-714/E interfaces with GTU-1A Turret System installed on the AH-1 helicopter to the Bomb Stores Loading Lift Trailer (P/N 75D750005-1001) or the A/S32K-1 Weapons Loader. The adapter pins to the GTU-1A Turret System at the three gun mounting points and pinst to the adapter rails of the Bomb Lift Trailer. In addition, fork pockets have been added to the frame to provide the capability to install/remove the Turret System with the A/S32K01 Weapons Loader. The adapter is intended to transport and install/remove the Turret with the M197 Gun removed. The adapter cannot be transported directly on Munitions Trailer MHU-151/M or Weapons Loader A/M32K-4 without the use of Platform Skid MHU-125A/E.

ASSOCIATED EQUIPMENT. Bomb Stores Loading Lift Trailer (P/N 75D750005-1001), Weapons Loader A/S32K-1 Series, Small Munitions Trailer MHU-151/M, Platform Skid MHU-125A/E.

**ADAPTER, BOMB HOIST
ADU-722/E
DWG NO. 3154AS100-1
NSN 1R 3940-01-380-9443**

DESCRIPTION. Bomb Hoist Adapter ADU-722/E consists of a forged or machined shackle. The quick-release pin is attached to the shackle with a lanyard.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts . . .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.....	None
EIC/WUC.....	None
SM&R Code	PAOZZ

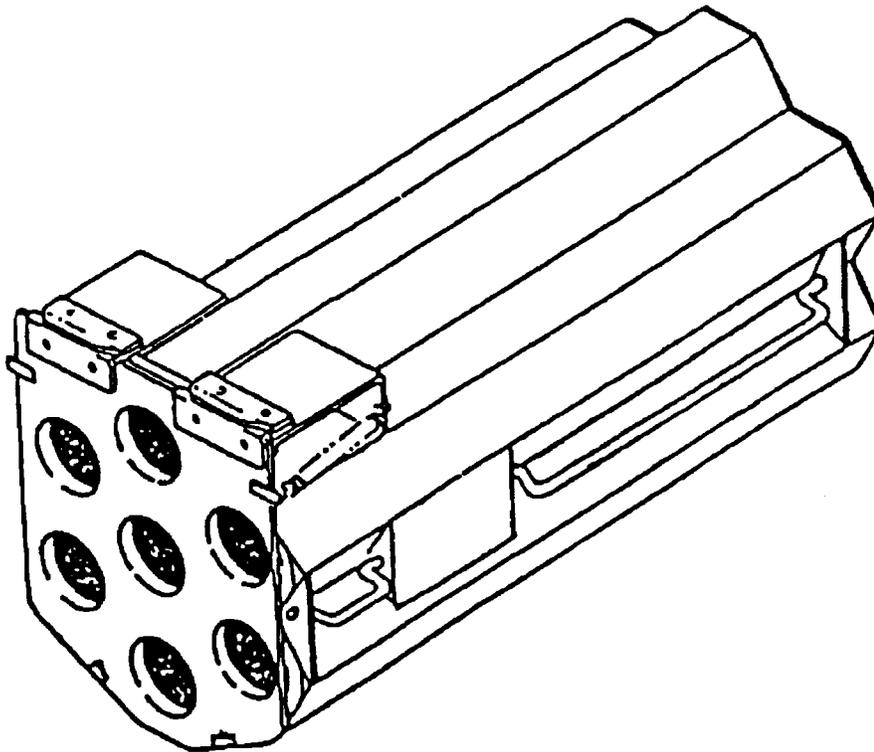
PHYSICAL DATA:	
Length	2.50 inches
Width	2.00 inches
Height.....	2.75 inches
Weight	50 pounds
SWL	1000 pounds

APPLICATION. Bomb Hoist Adapter ADU-722/E is used with Bomb Hoists HLU-288/E and HLU-196D/E for bomb-hoisting operations when arming naval aircraft with bombs. To attach this adapter to a bomb hoist, the bomb hoist cable is placed inside the adapter shackle, the end of the cable is bent back to meet the adapter and the lifting eye on the end of the cable is attached to the adapter by means of a quick-release pin. This forms a running noose in the bomb hoist cable.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E and the Bomb Hoisting Unit HLU-196D/E.

**ADAPTER, NITROGEN RECEIVER
ADU-729/E
P/N 1659AS200-1
NSN 1R 1450-01-361-1049**

DESCRIPTION. Nitrogen Receiver Adapter ADU-729/E consists of seven hexagonal aluminum tubes welded together and with end butt plates, one welded and the other hinged for loading. The welded plate is fitted with contoured urethane pads to fit the nitrogen bottles of the LAU-127 Launcher. The hinged plate is spring loaded and dual clapsed for security. Two handles located on the side aid in lifting and/or carrying. A metal strip located between the two bottom tubes provides a skid base.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC .....	.21GZY
SM&R Code	PAOGG

PHYSICAL DATA:

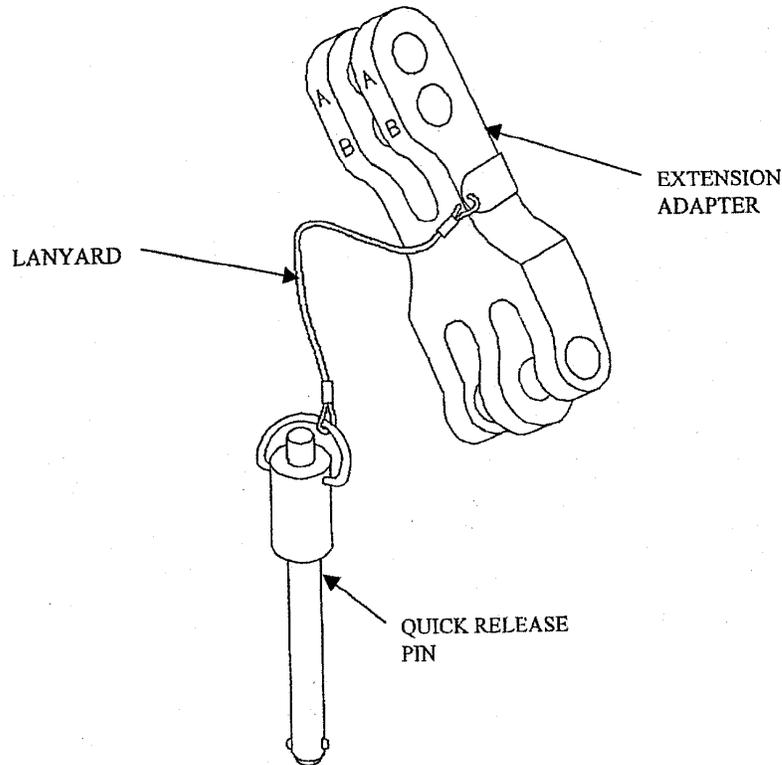
Length	22.00 inches
Width	11.50 inches
Height	12.25 inches
Weight	15 pounds
SWL	85 pounds

APPLICATION. Nitrogen Receiver Adapter ADU-729/E is used with any flat surface skid or trailer to transport and store nitrogen bottles used in LAU-127 Launchers. Tiedowns straps are used to secure the adapter to a skid.

ASSOCIATED EQUIPMENT. Nitrogen Receiver Adapter ADU-729/E is used with various skids and trailers.

**ADAPTER, EXTENSION
ADU-764A/E
P/N 3222AS700-1
NSN 1R 3940-01-455-6981**

DESCRIPTION. Extension Adapter ADU-764A/E is a machined steel part equipped with a lanyard and a quick-release pin. The adapter provides additional length to one of the Single Hoist Ordnance Loading System (SHOLS) trolley legs to permit proper hoist cable clearance across various weapons.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.....	NAVAIR 19-15BD-6
EIC/WUC.....	None
SM&R Code	PAOGG

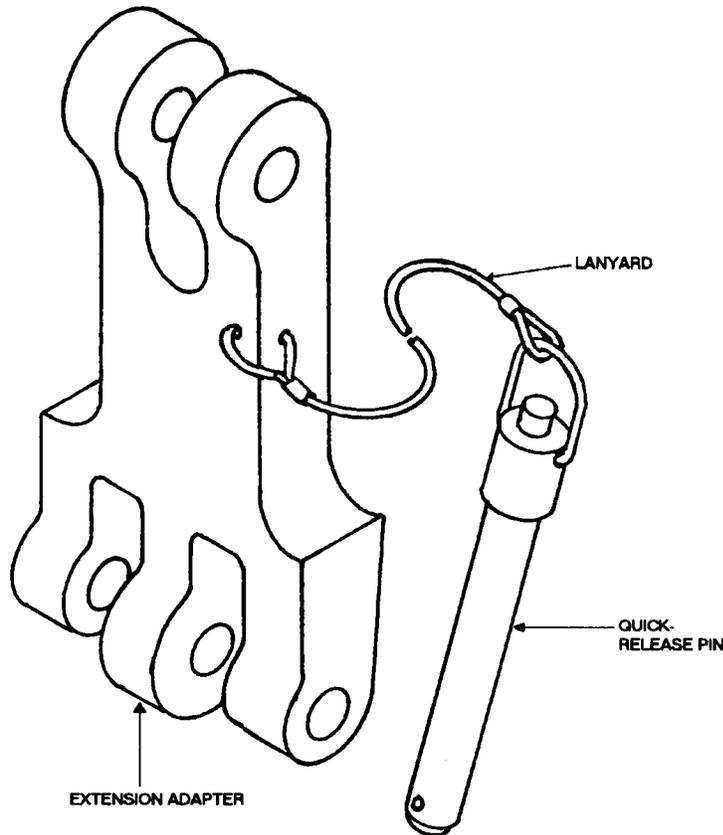
PHYSICAL DATA:	
Length	4.05 inches
Width	2.00 inches
Height.....	0.86 inches
Weight	0.50 pounds
SWL	3000 pounds

APPLICATION. Extension Adapter ADU-764A/E, used singularly, is used with other SHOLS gear to load and unload various weapons. The adapter has two pinning positions to facilitate the proper hoist cable clearance across various weapons.

ASSOCIATED EQUIPMENT. Hoisting Band HLK-275A, Single Stores Trolley (P/N 74D750004-1001), Single Stores Trolley HLK-225A, Single Stores Trolley HLK-226A, Anchor Fitting Assembly HLK-279.

**ADAPTER, EXTENSION
ADU-764/E
P/N 3222AS600-1
NSN 1R 3940-01-382-8755**

DESCRIPTION. Extension Adapter ADU-764/E is a machined steel part equipped with a lanyard and a quick release pin. The adapter provides additional length to one of the Single Hoist Ordnance Loading System (SHOLS) trolley legs to permit proper hoist cable clearance across Weapon System GBU-24B/B.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	None
SM&R Code	PEOGG

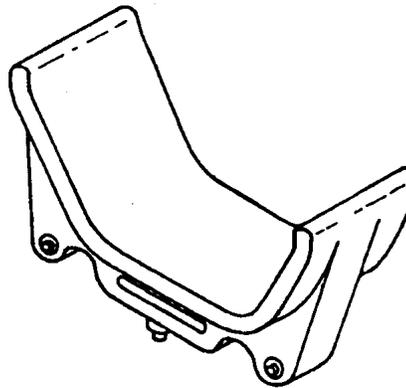
PHYSICAL DATA:	
Length	4.05 inches
Width	2.00 inches
Height	0.86 inches
Weight	0.50 pounds
SWL	3000 pounds

APPLICATION. Extension Adapter ADU-764/E, used singularly, is used with other SHOLS gear to load and unload the GBU-24B/B to and from the A-6 and F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Hoisting Band HLK-275A, Single Stores Trolley (74D750004-1001), Single Store Trolley HLK-225A, Single Store Trolley HLK-226A, Anchor Fitting Assembly HLK-279.

**ADAPTER ASSEMBLY, TRANSPORT
ADU-775/E
P/N 3181AS82000
NSN 1R 1730-01-390-1126**

DESCRIPTION. The ADU-775/E Transport Adapter Assembly consists of a molded polychloroprene (rubber) cradle and four spring-loaded attached pins. The 6 inch wide rubber cradle conforms to the u-shape underside body structure of the Joint Standoff Weapon (JSOW) AGM-154 (series). The spring-loaded pins allow the ADU-775/E Transport Adapter Assembly (used in pairs) to be attached/locked in place at holes no. 5 of the AERO-58A Front and Rear Adapters on the MHU-191/M Munitions Transporter. The ADU-775/E Transport Adapter Assembly on MHU-191/M Munitions Transporter and AERO-58A Front and Rear Adapters (set at transporter rails holes no. 6 & 10, 48 & 52) combination will allow handling and transporting of one JSOW AGM-154 (series) baseline/variant missile shape (weapon nose towards transporter drawbar on MHU-191/M). The ADU-775/E Transport Adapter Assembly was designed and developed to meet the JSOW AGM-154 (series) missile transporter requirements.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 11-140-25
EIC/WUC	None
SM&R Code	PEOGG

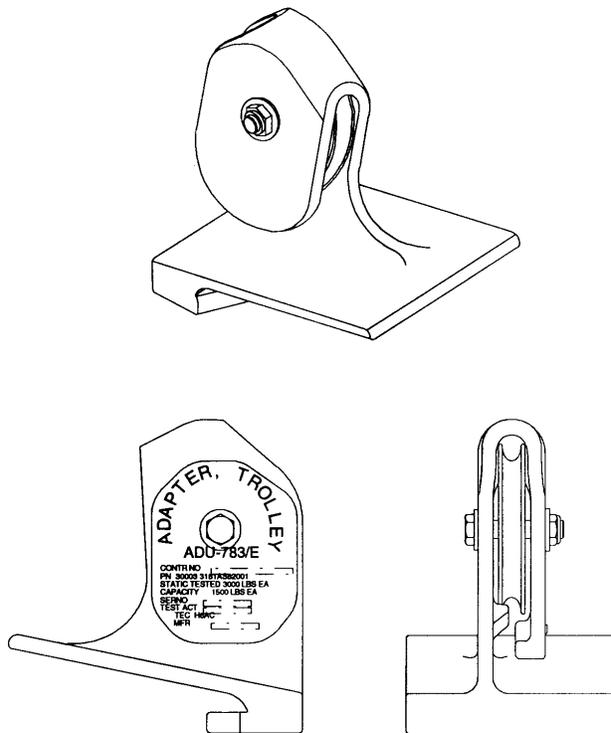
PHYSICAL DATA:	
Length	16.52 inches
Width	6.0 inches
Height	10.79 inches
Weight	12.4 pounds
SWL (each)	1500 pounds

APPLICATION. The ADU-775/E Transport Adapter is used with MHU-191/M Munitions Transporter, MHU-126 Trailers, MHU-202 Trailers or MHU-125 Platform Skid with the AERO-58A Front and Rear Adapters to transport the Joint Standoff Weapon (JSOW) to Naval aircraft. The adapter slips under the wing cover of the JSOW missile into a specially designed cavity. The trolley is held in place by the bomb hoist cable. Two adapters are required per missile loading/downloading evolution.

ASSOCIATED EQUIPMENT. Two ADU-775/E Adapters are used with AERO-58A Adapters configured on MHU-191/M Munitions Transporters, MHU-126 Trailers, MHU-202 Small Munitions Trailers, or MHU-125 Platform Skids for missile transporting.

**ADAPTER, MISSILE TROLLEY
ADU-783/E
P/N 3181AS82001
NSN 1R 1450-01-389-8658**

DESCRIPTION. The Missile Trolley Adapter consists of a stainless steel housing which contains a MS 20221A1 pulley that is fastened with a bolt and a locknut.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	Weapon Loading Manuals
EIC/WUC	None
SM&R Code	PEOGG

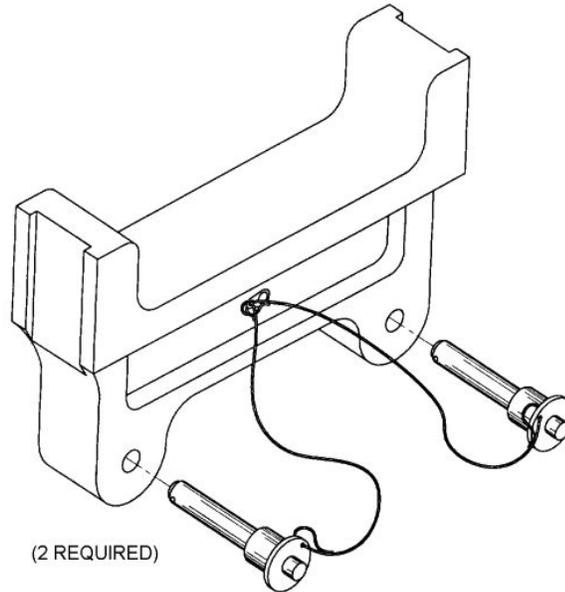
PHYSICAL DATA:	
Length	4.40 inches
Width	3.50 inches
Height	4.80 inches
Weight	3.00 pounds
SWL (each)	1500 pounds

APPLICATION. The Missile Trolley Adapter ADU-783/E is used with Bomb Hoists and Hoist Adapters to load the Joint Standoff Weapon (JSOW) AGM-154 (series) to Naval aircraft. The adapter slips under the wing cover of the JSOW missile into a specially designed cavity. The trolley is held in place by the bomb hoist cable. Two adapters are required per missile loading/downloading evolution.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E, Weapons Loading Hoist Adapter 74D750006-1001 and Hoist Adapter 74D750006-1002.

**ADAPTER, CRADLE, FWD TRANSPORT, TALD
 ADU-800/E
 DL 665AS900
 NSN 1RW 1730-01-442-4989**

DESCRIPTION. ADU-800/E Tactical Air-Launched Decoy (TALD) Fwd Transport Cradle Adapter consists of a square hardness, polyether urethane casting resin dow plastics all black color saddle base with a smooth, oil resistant, neoprene rubber pad equipped with two lanyards containing quick-release pins terminating at each end.



REFERENCE DATA:	
ISEA	NAWC-WD Point Mugu
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 01-1A-75
Op. Proc.	NAVAIR 11-140-6.1
.....	NAVAIR 11-140.25
EIC/WUC	None
SM&R Code	PAOGL

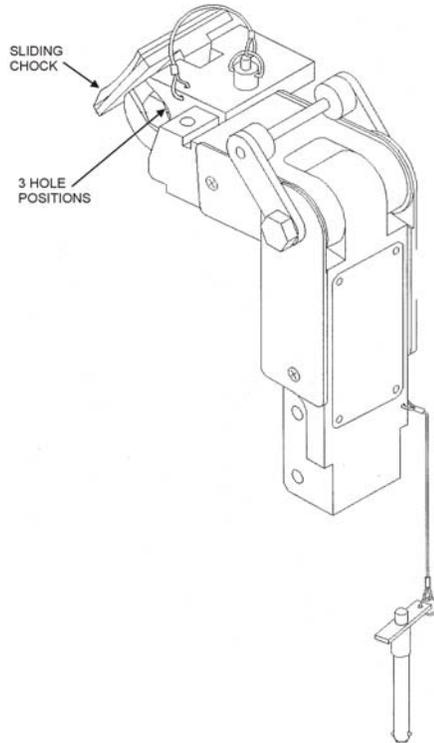
PHYSICAL DATA:	
Length	13.25 inches
Width	3.00 inches
Height	8.50 inches
Cube	1.40 cu ft
Weight (each)	6 pounds
SWL	600 pounds

APPLICATION. The ADU-800/E TALD Fwd Transport Cradle Adapter is designed to interface with the AERO 58A (Front and Rear) Skid Adapters, which are installed on the MHU-191/M Munitions Transporter, to provide a square cradle surface to conform to the square fuselage shape of the TALD ADM-141 Air Vehicles (AV) for all series. TALD requires the use of two ADU-800/E Adapters to support the forward and aft sections of the AV. The adapter is used in conjunction with common Airborne Weapons Support Equipment (AWSE) to transport TALD to/ from and beneath the applicable weapons loading stations on F-14, S-3 and F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Aero 51 Series Munitions Trailer, AERO 58A Skid Adapters (Front and Rear) ADU-483/E Skid Adapter Assemblies (2 Front/2 Rear), ADU-814/E ITALD Aft Transport Cradle Adapter, MHU-202/M Small Munitions Trailer and A/M32K-4/A Rough Terrain Trailer.

**ADAPTER, TRANSPORT
ADU-801/E
P/N 3516AS100-1
NSN 3Z 3990-01-468-0744**

DESCRIPTION. Transport Adapter ADU-801/E is a machined aluminum adapter with a sliding rubber chock used to transport the SLAM ER (AGM-84H) missile. The adapter has a provision to attach a tiedown strap and contains some acetal (Delrin) covered surfaces which prevent damage to the missile. The transport adapter is used for both shipboard and shorebased transport applications.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	None
SM&R Code	PEOGG

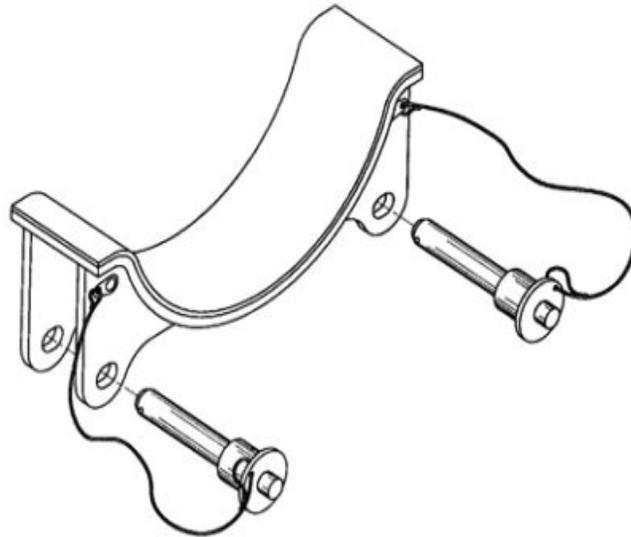
PHYSICAL DATA:	
Length	11.00 inches
Width	5.00 inches
Height	11.00 inches
Weight (each)	10 pounds
SWL	600 pounds
Cube	0.35 cubic feet (approx.)

APPLICATION. Four ADU-801/E Transport Adapters are required to transport one AGM-84H SLAM ER missile. The adapter is designed to attach to the AERO 58A Skid Adapters which interface with the MHU-191/M Munitions Transporter. For shorebased operations, the ADU-801/E, used with the AERO 58A Skid Adapters, attach to the MHU-202/M or MHU-126 series trailers.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Adapter Front and Rear AERO 58A, MHU-202/M, MHU-126A/M, and Trailer Adapter ADU-406/E.

**ADAPTER, CRADLE, AFT TRANSPORT, ITALD
 ADU-814/E
 DL 665AS910
 NSN 1RW 1730-01-444-0035**

DESCRIPTION. ADU-814/E Improved Tactical Air-Launched Decoy (ITALD) Aft Transport Cradle Adapter consists of a round aluminum alloy saddle base with a smooth black, oil resistant, neoprene rubber pad equipped with two lanyards containing quick-release pins terminating at each end.



REFERENCE DATA:	
ISEA	NAWC-WD Point Mugu
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 01-1A-75
Op. Proc.	NAVAIR 11-140-6.1
.....	NAVAIR 11-140.25
EIC/WUC	None
SM&R Code	PAOGL

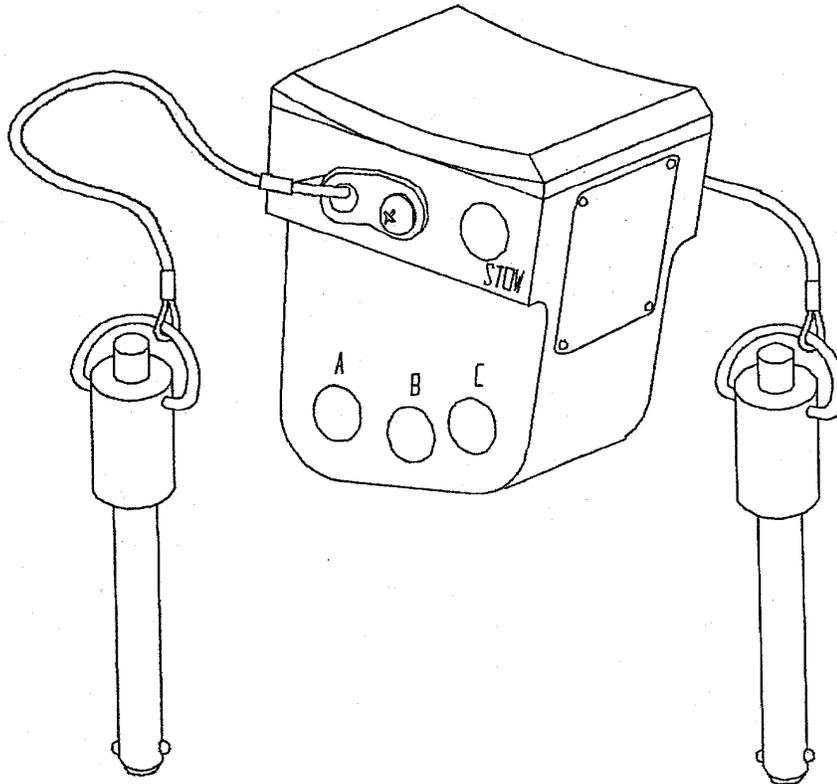
PHYSICAL DATA:	
Length	11.00 inches
Width	3.00 inches
Height	4.375 inches
Cube	1.15 cu ft
Weight (each)	3 pounds
SWL	600 pounds

APPLICATION. The ADU-814/E ITALD Aft Transport Cradle Adapter is designed to interface with the AERO 58A (Front and Rear) Skid Adapters, which are installed on the MHU-191/M Munitions Transporter, to provide a round cradle surface to conform to the round fuselage shape of the ITALD ADM-141C Air Vehicles (AV). ITALD uses one ADU-800/E Adapter to support the square forward section only and the ADU-814/E Adapter for cradling the rounded aft section of the AV. The ADU-800/E and the ADU-814/E Adapters are used in conjunction with common Airborne Weapons Support Equipment (AWSE) to support ITALD to/from and beneath the applicable weapons loading stations on F/A-18 aircraft.

ASSOCIATED EQUIPMENT. Aero 51 Series Munitions Trailer, AERO 58A Skid Adapters (Front and Rear) ADU-483/E Skid Adapter Assemblies (2 Front/2 Rear), ADU-800/E TALD Fwd Transport Cradle Adapter, MHU-125/E Platform Skid, MHU-126 Series Small Munitions Trailer, MHU-191/M Munitions Transporter, MHU-202/M Small Munitions Trailer and A/M32K-4/A Rough Terrain Trailer.

**ADAPTER, SINGLE STORES
ADU-824/E
P/N 3516AS400-1
NSN 1R 1730-01-454-5947**

DESCRIPTION. Single Stores Adapter ADU-824/E consists of an aluminum body and a vulcanized rubber pad. Two quick-release pins are used to attach the adapters to the Roller Cradle Adapter ADU-397/E or Skid Adapters AERO 58A.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	None
SM&R Code	PEOGG

PHYSICAL DATA:

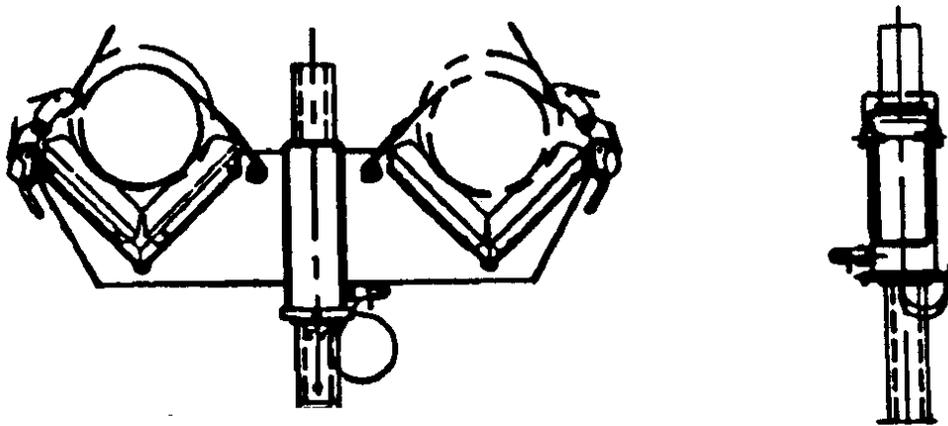
Length	3.00 inches
Width	3.00 inches
Height	3.50 inches
Weight (each)	2.00 pounds
SWL	800 pounds

APPLICATION. Single Stores Adapter ADU-824/E are used in pairs with the ADU-397/E to facilitate loading the 15-inch diameter LANTIRN pod onto the F-14 aircraft. The Single Stores Adapters can also be used on the Skid Adapters AERO 58A for temporary storage of the pod.

ASSOCIATED EQUIPMENT. Weapons Skid Lift Loading Adapter ADU-400/E, Roller Cradle Adapter ADU-397/E, Skid Adapter Front and Rear AERO 58A.

**ADAPTER, UPPER TIER
ADU-829/E
P/N 1763AS800-1
NSN 1R 1730-01-479-1307**

DESCRIPTION. Upper Tier Adapter ADU-829/E is an aluminum weldment consisting of a single frame with rubber support pads, buckle and strap assemblies and an adapter tube. This adapter is primarily used in Shore Station application when installed on the ADU-514A/E.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	21GYL
SM&R Code	PEGGG

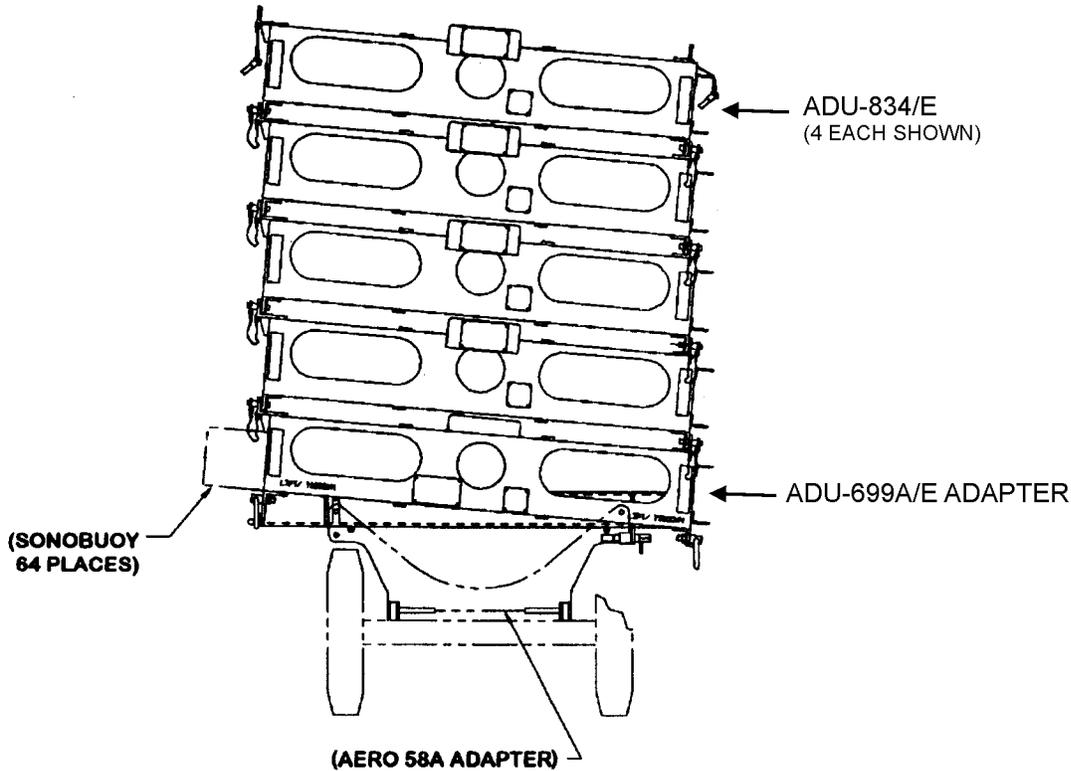
PHYSICAL DATA:	
Length	29.62 inches
Width	6.00 inches
Height	30 inches
Weight (each)	20 pounds
SWL	600 pounds

APPLICATION. Upper Tier Adapter ADU-829/E is used in pairs and can be installed on the Small Missile Adapter ADU-514A/E to provide a third tier for transport of six missiles. The adapter tube slides into the vertical tube of the ADU-514A/E and is pinned in place with the quick-release pin. Compatible with the following missiles: AIM-7 Series SPARROW III, AIM-120 Series AMRAAM, AGM-114B HELLFIRE and AIM-9 Series SIDEWINDER.

ASSOCIATED EQUIPMENT. Small Missile Adapter ADU-514A/E.

**ADAPTER, SONOBUOY TRANSPORT, UPPER RACK
 ADU-834/E
 P/N 319SAS20-1
 NSN 1R 6150-01-475-9970**

DESCRIPTION. Sonobuoy Transport Upper Rack Adapter ADU-834/E is a rack assembly that can hold up to 13 sonobuoys. The adapter is used in conjunction with the ADU-834/E to store/transport sonobuoys in launch containers.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 19-100-3
EIC/WUC	.21HBO
SM&R Code	PEOGG

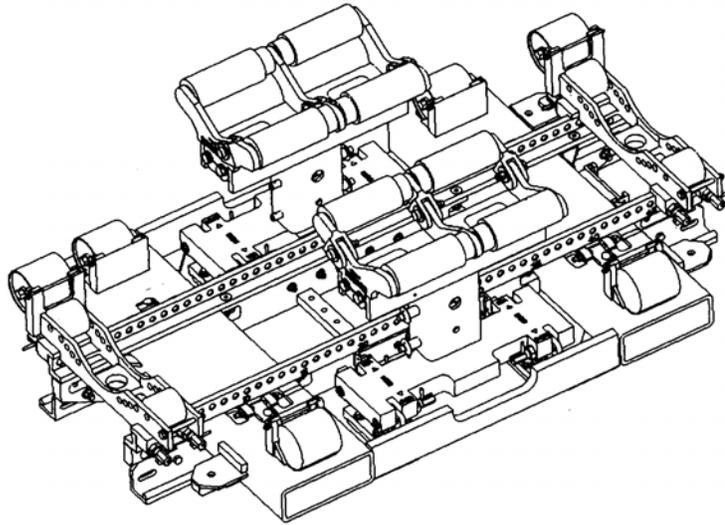
PHYSICAL DATA:	
Length	90.75 inches
Width	37.50 inches
Height	9.50 inches
Weight (empty)	90 pounds
SWL	13 sonobuoys
Cube (approx.)	18.7 cubic feet

APPLICATION. The ADU-834/E stackable frame assemblies, with the Adapter ADU-699A/E, can hold and/or transport up to sixty-four sonobuoys in launch containers. The ADU-834/E is designed to adapt to the Sonobuoy Adapter ADU-699A/E or another ADU-834/E.

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M, Adapter Front and Rear AERO 58A, Munitions Trailer MHU-185/M, Sonobuoy Transport Adapter ADU-699A/E.

**ADAPTER, SKID-TRAILER
ADU-876/E
P/N 2445AS100-1
NSN 1R-W-4920-015-7836**

DESCRIPTION. The ADU-876/E Skid-Trailer Adapter consists of three weapon support assemblies and two fork receptacle assemblies. This adapter is a replacement of the AERO 74A Skid-Trailer Adapter. The two upper weapon support assemblies each accommodate a single weapon of various diameters up to 1000 pounds. The central, lower assembly can accommodate a single weapon of various diameters up to 2000 pounds. The adapter is equipped with six tie-down strap retractor assemblies. The adapter can accommodate both VER and CVER by rotating stanchion assemblies 180 degrees. The ADU-876/E may be configured in the stowage position to a stacking height of 7 inches.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts . . .	NAVAIR AG-000AO-MED-000
Op. Proc.	NAVAIR AG-000AO-MED-000
EIC/WUC	75000
SM&R Code	PEOHH

PHYSICAL DATA:

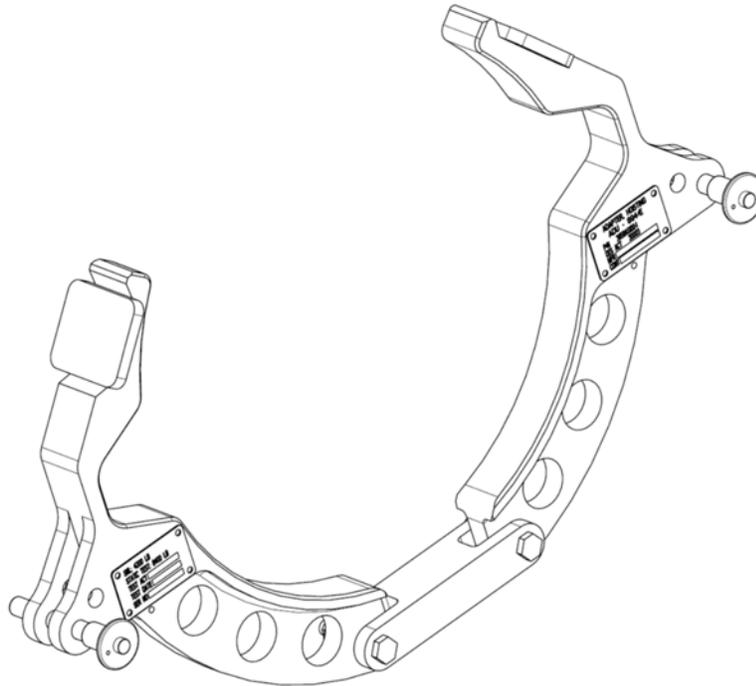
Length	49.5 inches
Stowed	63.9 inches
Width	29.5 inches
Height	17.8 inches
Stowed (Single)	9.5 inches
Stacked (two units)	15.2 inches
Weight	250 pounds
SWL	3000 pounds

APPLICATION. The ADU-876/E Skid-Trailer Adapter is used to handle up to three hard or soft shell stores individually or when preloaded to VER or CVER. These stores may range in diameter from 9 inches to 18.6 inches in diameter and have a maximum of 1,000 pounds per store on the shoulder stations and 2,000 pounds on the lower center station. The adapter can be transported by various skids, transporters or trailers, and the fork receptacles permit handling by various weapons loaders.

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 Series, Rough Terrain Trailer A/M32K-4A, Munitions Trailer AERO-51B, Munitions Trailer MHU-151M, Skid-Trailer Adapter AERO 75A and Height Adapter AERO 73A.

**ADAPTER, HOIST
ADU-894/E
P/N 3958AS100-1
NSN 1RW 3950-01-566-1991-GF**

DESCRIPTION. Hoist Adapter consists of alloy steel support cradles (2), connecting hinge (1), and quick release pins (2). The support cradles contain relief cutouts to accommodate external conduits located on the Dual Mode LGB, Laser JDAM, and DAMTC (Mk 82 series weapons).



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	19-15BD-6 (Work Pkg. 29)
EIC/WUC	92HEV
SM&R Code	PEOGG

PHYSICAL DATA:	
Length (each)	18.0 inches
Width (each)	3.5 inches
Height (each)	11.0 inches
Weight (each)	10 pounds
SWL (per pair)	1000 pounds

APPLICATION. Hoist adapter is used in conjunction with various single store trolleys, weapon loading hoist adapters, and single store VER trolley support adapters. Hoist Adapter supports SHOLS loading Mk 82 series variants which employ external conduits (DMLGB, LJDAM, and DAMTC).

ASSOCIATED EQUIPMENT. P/N 74D750004-1001 trolley, 74D750023-1001 trolley, 74D750006-1001, 74D750006-1002, 74D750506-1001, 74D750506-1002 hoist adapters, 74D750024-1001, 74D750024-1003 VER trolley support adapters, HLU-196D/E and HLU-288/E bomb hoists.

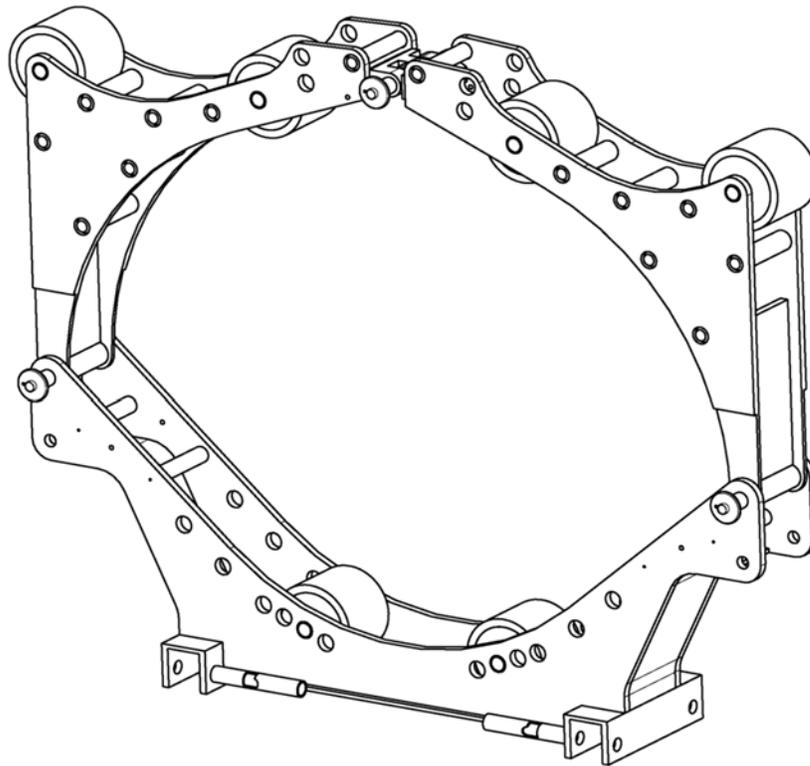
ADAPTER, ASSEMBLY, INTERFACE DEVICE

ADU-895/E

P/N 3958AS200-1

NSN 9B (cog) 1730-01-561-4475-SX

DESCRIPTION. Adapter ADU-895/E consists of one steel upper frame section with two removable rubber rollers and a nylon tiedown strap and buckle. A quick-release pin is provided for attaching and securing two adapter assemblies together at the top forming a complete load bearing assembly capable of supporting two cylindrical weapons side by side. A second centerline configuration can support GBU-16 weapons. The position of the outboard roller is fixed; the inboard roller can be situated in either of three positions.



REFERENCE DATA:

ISEA NAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts NAVAIR 19-100-3
 Op. Proc. NAVAIR 19-100-3
 EIC/WUC 21GX4
 SM&R Code PAGGG

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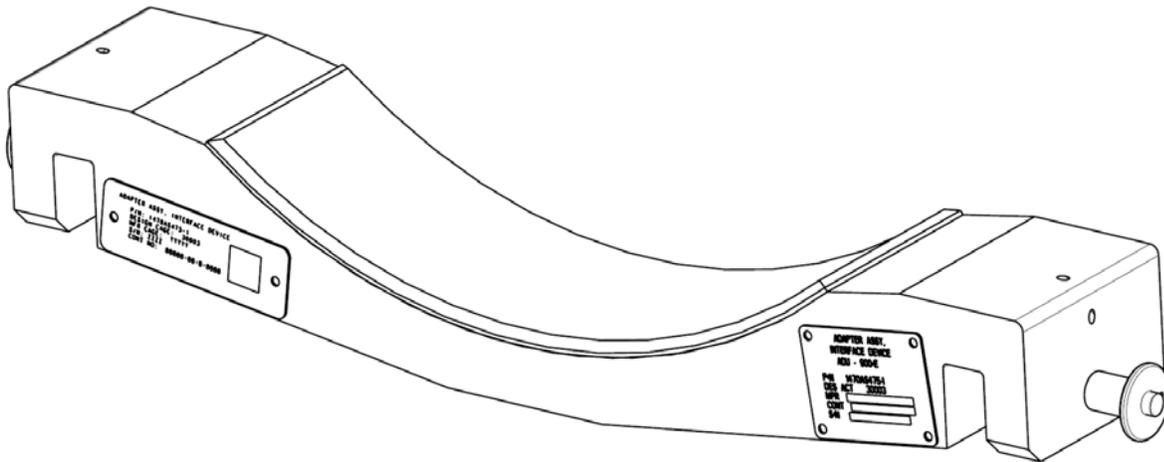
Length (each) 13.13 inches
 Width (each) 2.75 inches
 Height (each) 12.75 inches
 Weight (each) 12 pounds
 SWL (4 unit set) 4000 pounds

APPLICATION. Adapter ADU-895/E is used in pairs with Skid Adapter AERO 58A. The adapter can support two weapons from 9 to 16 inches in diameter or a single GBU-16 weapon during transport on the Munitions Transporter MHU-191/M.

ASSOCIATED EQUIPMENT. Skid Adapter (Front and Rear) AERO 58A and Munitions Transporter MHU-191/M.

**ADAPTER, ASSEMBLY, INTERFACE DEVICE
 ADU-900/E
 P/N 1470AS475-1
 NSN 1RW 4920-01-562-4984-SR**

DESCRIPTION. Adapter ADU-900/E consists of an aluminum alloy cradle with polyurethane support pad and quick release pins (2).



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC	92HEV
SM&R Code	PEOGG

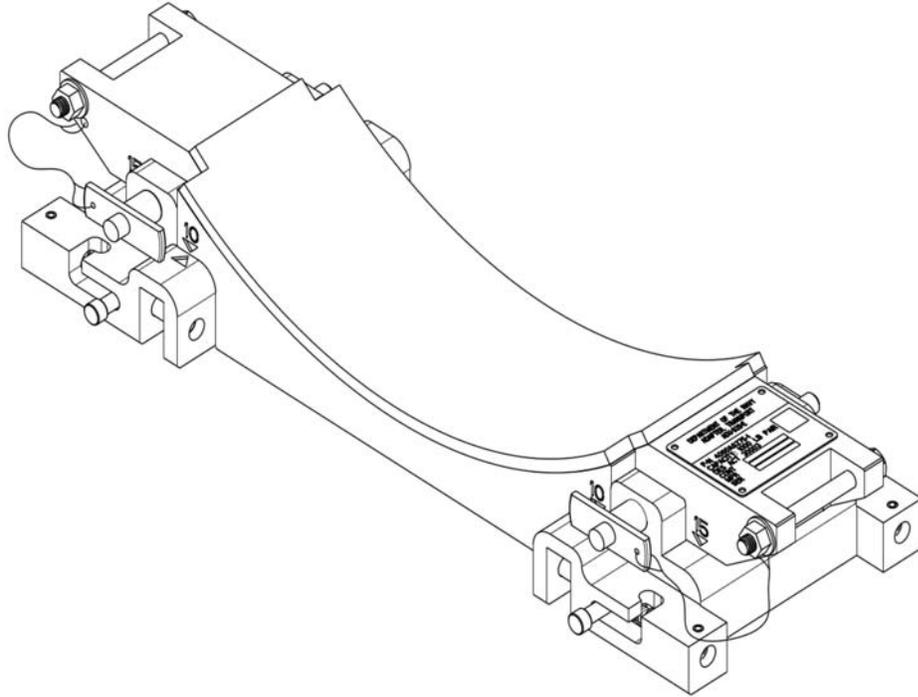
PHYSICAL DATA:	
Length (each)	16.5 inches
Width (each)	3.0 inches
Height (each)	2.75 inches
Weight (each)	10 pounds
SWL (per pair)	750 pounds

APPLICATION. Adapters are used in conjunction with Bomb Lift Trailer to transport/load LITENING POD to AV-8B (station 4).

ASSOCIATED EQUIPMENT. Bomb Lift Trailer (P/N 75D750005).

**ADAPTER, TRANSPORT
ADU-928/E
P/N 4060AS275-1
NSN NOT ASSIGNED**

DESCRIPTION. Transport Adapter ADU-928/E consists of an aluminum cradle, rubber pad, two rail mounts, tiedown strap assembly, and two quick release pins.



REFERENCE DATA:	
ISEA	NSWC Panama City
Periodic Test	Not Required
PMS/Maint. Insts	19-928E-66
Op. Proc.	19-600-928E-6-1
EIC/WUC	None
SM&R Code	PEOGG

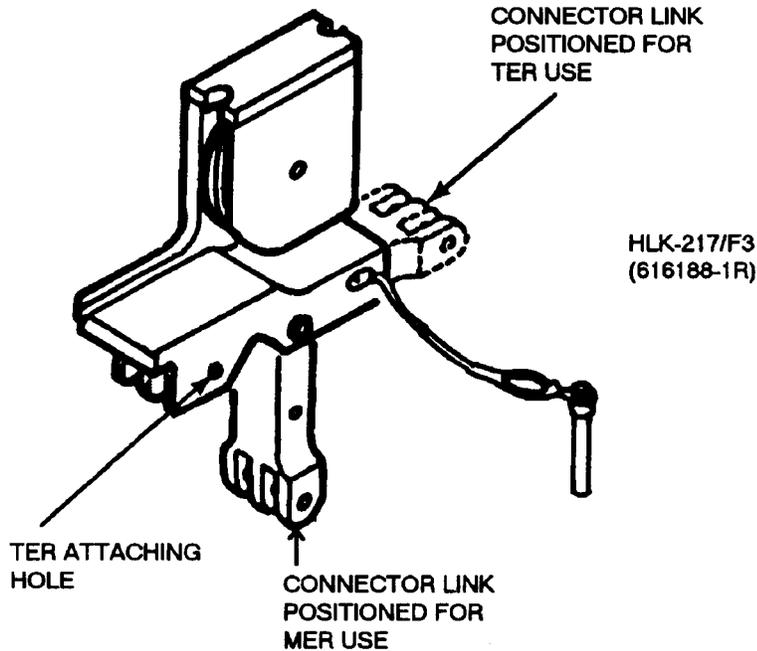
PHYSICAL DATA:	
Length (each)	19.0 inches
Width (each)	7.0 inches
Height (each)	4.0 inches
Weight (each)	15 pounds
SWL (per pair)	1,000 pounds

APPLICATION. Two ADU-928/E Transport Adapters are used in conjunction with the MHU-235/E Ground Handling Dolly. This adapter cradles the ASQ-235 pod when transported aboard LCS class ships. The low profile design facilitates loading onto the H-60 aircraft.

ASSOCIATED EQUIPMENT. MHU-235/E Ground Handling Dolly.

**ADAPTER, TROLLEY, MULTIPLE STORES
HLK-217
P/N 616188-1R
NSN 1R 1730-00-103-0702**

DESCRIPTION. Multiple Stores Trolley Adapter HLK-217 consists of brackets with Multiple Ejector Rack (MER) connector link, Triple Ejector Rack (TER) attaching hole, quick-release pin and a pulley. It is color coded for use with hoist adapters.



REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC22CAA/22CAB
 SM&R Code PEOGG

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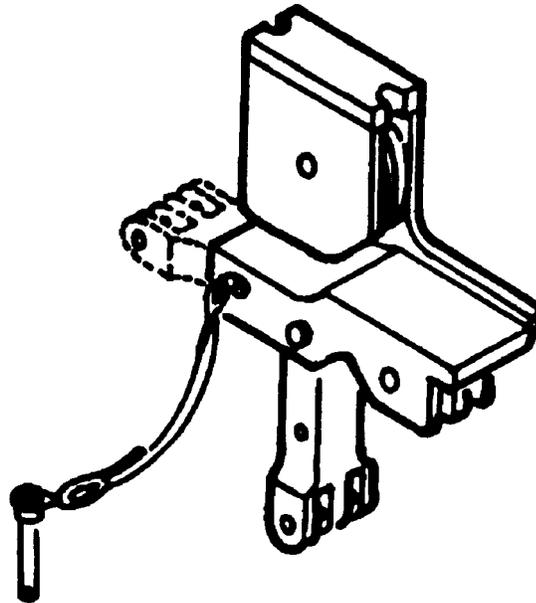
Length 6.25 inches
 Width 1.56 inches
 Height 9.28 inches
 Weight 5 pounds
 SWL 3300 pounds

APPLICATION. Multiple Stores Trolley Adapter HLK-217 is used with the Multiple Stores Trolley Adapter HLK-218 as a set and a variety of hoist adapters to hoist either transversely or longitudinally balanced or imbalanced multiple pre-configured weapon loads to associated ejector racks. These adapters can be used singularly or in pairs. Bomb Hoists HLU-196D/E or HLU-288/E are used with the different adapters to raise and lower weapons.

ASSOCIATED EQUIPMENT. Multiple Stores Trolley Adapter HLK-218, Bomb Hoisting Unit HLU-196B/E, Hoist Adapter HLK-219, HLK-220, HLK-247, HLK-248 and Bomb Hoist HLU-288/E.

**ADAPTER, TROLLEY, MULTIPLE STORES
HLK-218
P/N 616188-1L
NSN 1R 1730-00-103-0701**

DESCRIPTION. Multiple Stores Trolley Adapter HLK-218 consists of brackets with Multiple Ejector Rack (MER) connector link, Triple Ejector Rack (TER) attaching hole, quick-release pin and a pulley. It is color coded for use with hoist adapters.



HLK-218/F32K-2
(616188-1L)

REFERENCE DATA:

ISEA NAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . . . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC. 22CAA/22CAB
 SM&R Code PEOGG

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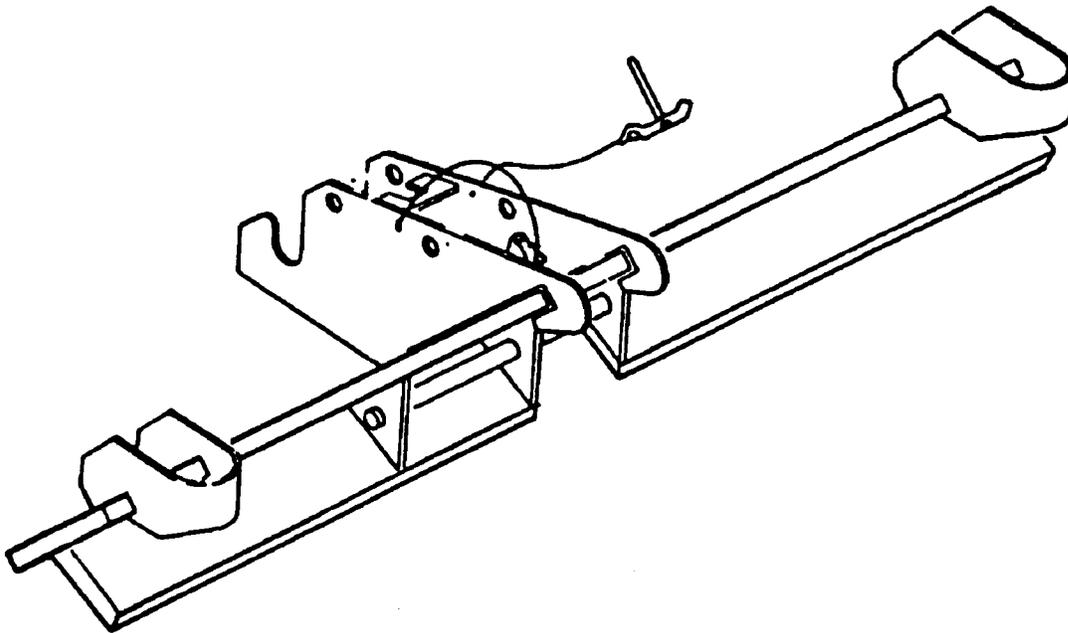
Length 6.25 inches
 Width 1.56 inches
 Height. 9.28 inches
 Weight 5 pounds
 SWL 3300 pounds

APPLICATION. Multiple Stores Trolley Adapter HLK-218 is used with the Multiple Stores Trolley Adapter HLK-217 as a set with a variety of hoist adapters to hoist either transversely or longitudinally balanced or imbalanced multiple pre-configured weapon loads to associated ejector racks. These adapters can be used singularly or in pairs. Bomb Hoists HLU-196D/E or HLU-288/E are used with the different adapters to raise and lower weapons.

ASSOCIATED EQUIPMENT. Multiple Stores Trolley Adapter HLK-217, Bomb Hoisting Unit HLU-196D/E, Hoist Adapter HLK-219, HLK-220, HLK-247, HLK-248 and Bomb Hoist HLU-288/E.

**ADAPTER, HOIST
HLK-219
P/N 616689-1R
NSN 1R 3940-00-102-8299**

DESCRIPTION. Hoist Adapter HLK-219 consists of a strongback with a sliding fitting which can be adjusted to three different positions and pinned into place with a ball-lock type safety pin.



REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC 22CAC/22CAD
 SM&R Code PEOGG

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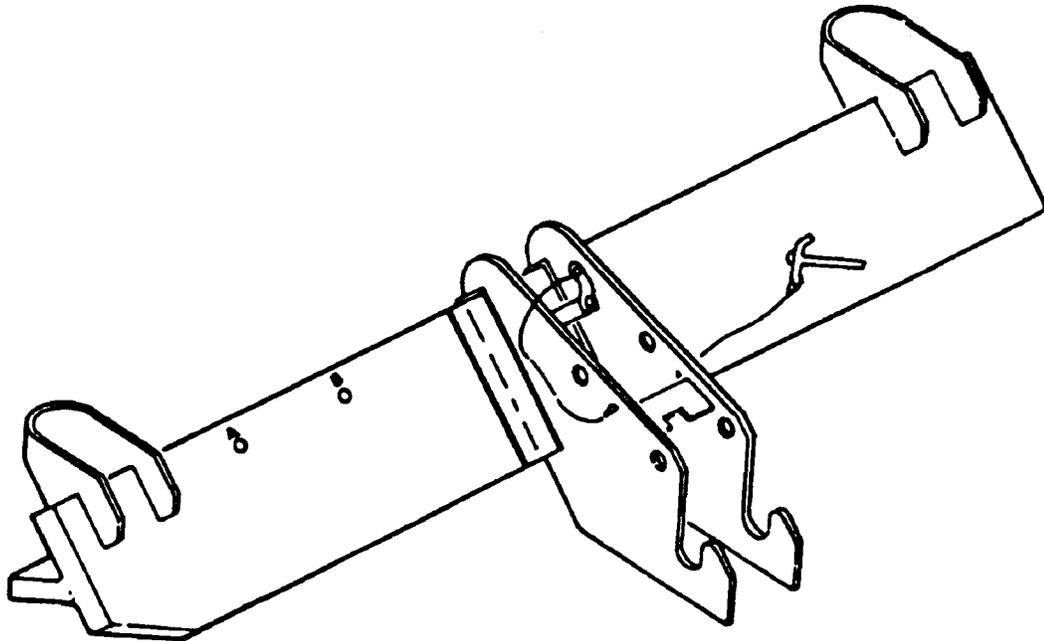
Length 22.12 inches
 Width 9.00 inches
 Height 4.00 inches
 Weight (each) 14 pounds
 SWL 3300 pounds

APPLICATION. Hoist Adapter HLK-219 is used with Hoist Adapter HLK-220 which is attached to the BRU-10 and BRU-11 Ejector Rack and, when used in conjunction with Multiple Stores Trolley Adapters HLK-217 and HLK-218 or HLK-225A and Single Stores Trolley HLK-226A, enables hoisting either single or multiple preconfigured weapon loads. This unit can be used singularly or in pairs on the A-7 and S-3 aircraft.

ASSOCIATED EQUIPMENT. Hoist Adapter HLK-220, Single Store Trolley HLK-225A and HLK-226A, Multiple Stores Trolley Adapter HLK-217 and HLK-218, Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E and Hoisting Bands HLK-275A, -276A and -277.

**ADAPTER, HOIST
HLK-220
P/N 616689-1L
NSN 1R 3940-00-102-8292**

DESCRIPTION. Hoist Adapter HLK-220 consists of a strongback with a sliding fitting which can be adjusted to three different positions and pinned into place with a ball-lock type safety pin.



REFERENCE DATA:

ISEA NAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . . . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC. 22CAC/22CAD
 SM&R Code PEOGG

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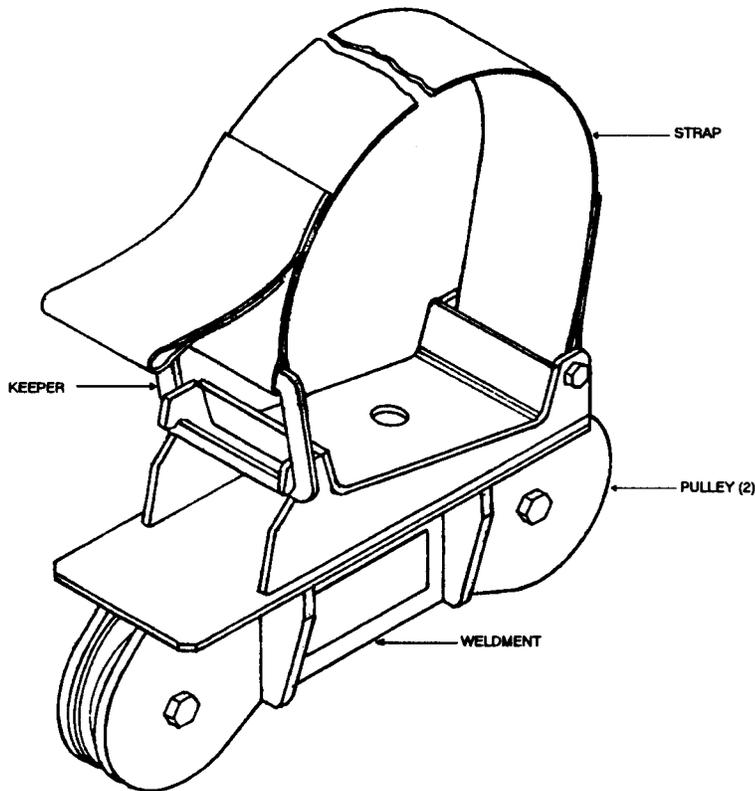
Length 22.12 inches
 Width 9.00 inches
 Height. 4.00 inches
 Weight (each) 14 pounds
 SWL 3300 pounds

APPLICATION. Hoist Adapter HLK-220 is used with Hoist Adapter HLK-219 which is attached to the BRU-10 and BRU-11 Ejector Rack and, when used in conjunction with Multiple Stores Trolley Adapters HLK-217 and HLK-218 or Single Stores Trolleys HLK-225A and HLK-226A, enables hoisting either single or multiple preconfigured weapon loads. This unit can be used singularly or in pairs on the A-7 and S-3 aircraft.

ASSOCIATED EQUIPMENT. Hoist Adapter HLK-219, Single Store Trolley HLK-225A and HLK-226A, Multiple Stores Trolley Adapter HLK-217 and HLK-218, Bomb Hoist HLU-288/E, Bomb Hoisting Unit HLU-196D/E and Hoisting Bands HLK-275A, -276A and -277.

**ADAPTER, TROLLEY, MULTIPLE STORES
HLK-231
DL 514722-1
NSN 1R 1730-00-102-8306**

DESCRIPTION. Multiple Stores Trolley Adapter HLK-231 is a weldment fitted with two pulleys mounted in tandem. A locating hole is provided in the topside of the body to assist in the installation to the underside of a Multiple Ejector Rack (MER). The adapter is fitted with a nylon restraining strap.



OBSOLESCE

REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts NAVAIR 19-15BD-6
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC 22BZO
 SM&R Code None

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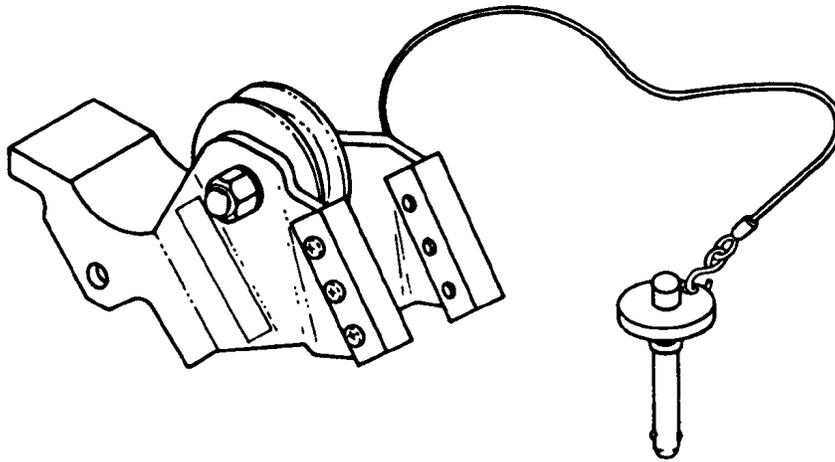
Length 10.50 inches
 Width 3.00 inches
 Height 6.25 inches
 Weight 7.30 pounds
 SWL 3800 pounds

APPLICATION. Multiple Stores Trolley Adapter HLK-231 is used with Hoist Adapters (HLK-229 and HLK-230) when loading or downloading a Multiple Ejector Rack (MER) load with canted lugs to F-4 aircraft. Bomb Hoists HLU-196D/E and HLU-288/E are used with equipment described to raise/lower loads to aircraft. Multiple Stores Trolley Adapter is obsolescent with no replacement item.

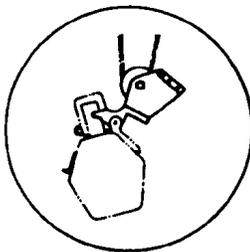
ASSOCIATED EQUIPMENT. Hoist Adapters HLK-229 and HLK-230, Bomb Hoists HLU-196D/E and HLU-288/E.

**ADAPTER, TROLLEY, MULTIPLE STORES
HLK-232
DL 514723-1
NSN 1R 1730-00-102-8336**

DESCRIPTION. Multiple Stores Trolley Adapter HLK-232 consists of a machined steel block with reinforced bearing plate and a pulley. A quick-release pin is attached and provides the means of attaching the adapter to the lifting clevis on the Triple Ejector Rack (TER) to be loaded.



OBSOLESCE



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-15BD-6
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZO
SM&R Code	None

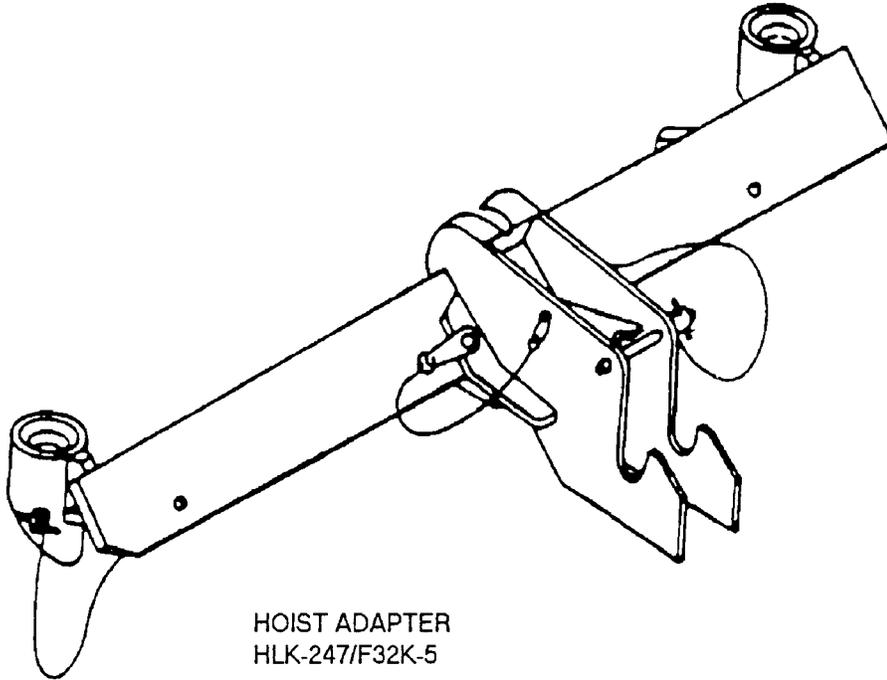
PHYSICAL DATA:	
Length	7.00 inches
Width	2.00 inches
Height	3.69 inches
Weight	.25 pounds
SWL	2250 pounds

APPLICATION. Multiple Stores Trolley Adapter HLK-232 is used with Hoist Adapters HLK-229 and HLK-230 in hoisting balanced/unbalanced canted lugs or straight lug TER's to F-4 Aircraft Stations 1 & 9. This adapter enables a hoist to double its effective capacity through mechanical reeving of the cable. Multiple Stores Trolley Adapter is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Bomb Hoists HLU-288/E, HLU-196D/E, and HLU-288/E, Hoist Adapters HLK-229 and HLK-230.

**ADAPTER, HOIST
HLK-247
P/N 516732-1
NSN 1R 1730-00-126-7351**

DESCRIPTION. Hoist Adapter HLK-247 consists of a strongback and movable hoist fitting. Five holes in the strongback position the hoist fitting to accommodate variation in the stores' center of gravity and ejector assembly position. The strongback has two posts designed to capture the ejector-rack mounting bolt heads, and two adapter retaining pins positioned to anchor the adapter behind the fully retracted sway brace.



HOIST ADAPTER
HLK-247/F32K-5

REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC 22BZ7
 SM&R CodePAOZZ

PHYSICAL DATA:

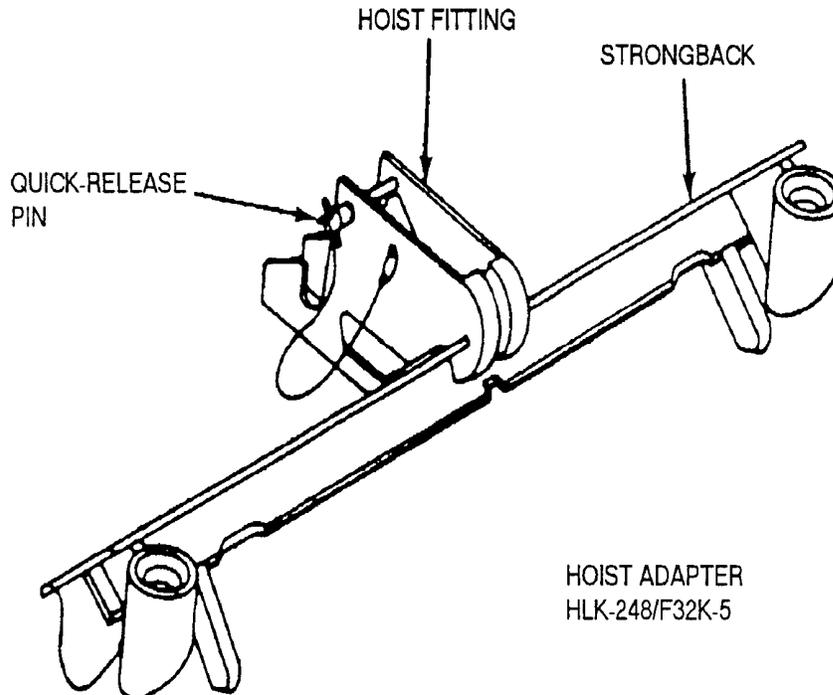
Length 21.50 inches
 Width 9.10 inches
 Height 4.28 inches
 Weight 21.50 pounds
 SWL6600 pounds

APPLICATION. Hoist Adapter HLK-247 is used with the Hoist Adapter HLK-248 as a set on A-6 or A-4 aircraft equipped with AERO 7A ejector racks. The correct adapter is placed on each side of the ejector rack, for loading or downloading balanced loads. When an unbalanced load is to be loaded or downloaded, the appropriate adapter (left-hand or right-hand) is installed on the side of the ejector rack corresponding to the loaded shoulder station of the MER/TER and a single trolley is installed on the MER/TER on the same side as the hoist adapter.

ASSOCIATED EQUIPMENT. Hoist Adapter HLK-248, Bomb Hoisting Unit HLU-196D/E and Bomb Hoist HLU-288/E.

**ADAPTER, HOIST
HLK-248
P/N 516732-2
NSN 1R 1730-00-126-7429**

DESCRIPTION. Hoist Adapter HLK-248 consists of a strongback and movable hoist fitting. Five holes in the strongback position the hoist fitting to accommodate variation in the stores' center of gravity and ejector assembly position. The adapter strongback has two posts designed to capture the ejector-rack mounting bolt heads, and two adapter retaining pins positioned to anchor the adapter behind the fully retracted sway brace.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.....	NAVAIR 19-15BD-6
EIC/WUC.....	22BZ8
SM&R Code	PAOGG

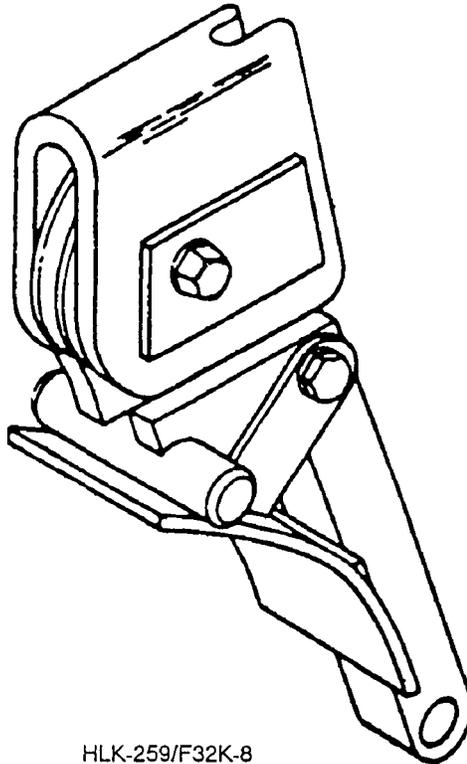
PHYSICAL DATA:	
Length	21.50 inches
Width	9.10 inches
Height.....	4.28 inches
Weight	21.50 pounds
SWL	6600 pounds

APPLICATION. Hoist Adapter HLK-248 is used with Hoist Adapter HLK-247 as a set on A-6 or A-4 aircraft equipped with AERO 7A ejector racks. The correct adapter is placed on each side of the ejector rack, for loading or downloading balanced loads. When an unbalanced load is to be loaded or downloaded, the appropriate adapter (left-hand or right-hand) is installed on the side of the ejector rack corresponding to the loaded shoulder station of the MER/TER and a single trolley is installed on the MER/TER on the same side as the hoist adapter.

ASSOCIATED EQUIPMENT. Hoist Adapter HLK-247, Bomb Hoisting Unit HLU-196D/E and Bomb Hoist HLU-288/E.

**ADAPTER, TROLLEY, (ECM) POD
HLK-259
P/N 619584-1R
NSN 1R 1730-01-097-1045**

DESCRIPTION. (ECM) Pod Trolley Adapter HLK-259 is a weldment fitted with a pulley, clevis cushion assembly and bearing link.



HLK-259/F32K-8

REFERENCE DATA:

ISEANAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts . NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC 21BZF
 SM&R CodePAOBZ

PHYSICAL DATA:

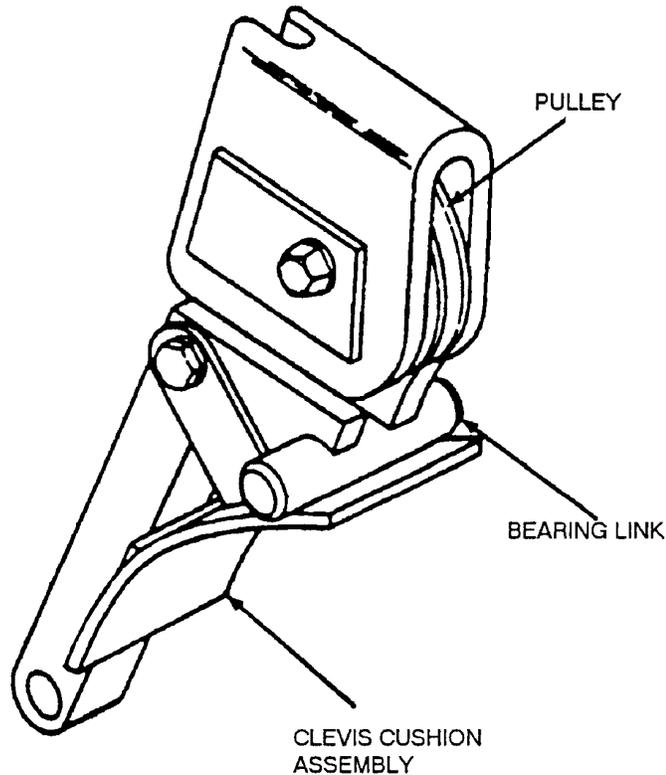
Length 4.62 inches
 Width 2.50 inches
 Height 7.75 inches
 Weight 5 pounds
 SWL (per set) 3200 pounds

APPLICATION. (ECM) Pod Trolley Adapter HLK-259 is used with Trolley Adapter HLK-260 as a set for loading/unloading electronic counter-measures (ECM) pods to/from the EA-6B aircraft.

ASSOCIATED EQUIPMENT. (ECM) Pod Trolley Adapter HLK-260, Bomb Hoisting Unit HLU-196D/E, Bomb Hoist HLU-288/E and Hoist Adapter HLK-247 and HLK-248.

**ADAPTER, TROLLEY, (ECM) POD
HLK-260
P/N 619584-1L
NSN 1R 1730-01-097-1044**

DESCRIPTION. (ECM) Pod Trolley Adapter HLK-260 is a weldment fitted with a pulley, clevis cushion assembly and bearing link.



HLK-260/F32K-8

REFERENCE DATA:

ISEA NAWC-AD Lakehurst
 Periodic Test Not Required
 PMS/Maint. Insts NAVAIR AG-241AO-MRC-000
 and -010
 Op. Proc. NAVAIR 19-15BD-6
 EIC/WUC 21BZE
 SM&R Code PAOZZ

PHYSICAL DATA:

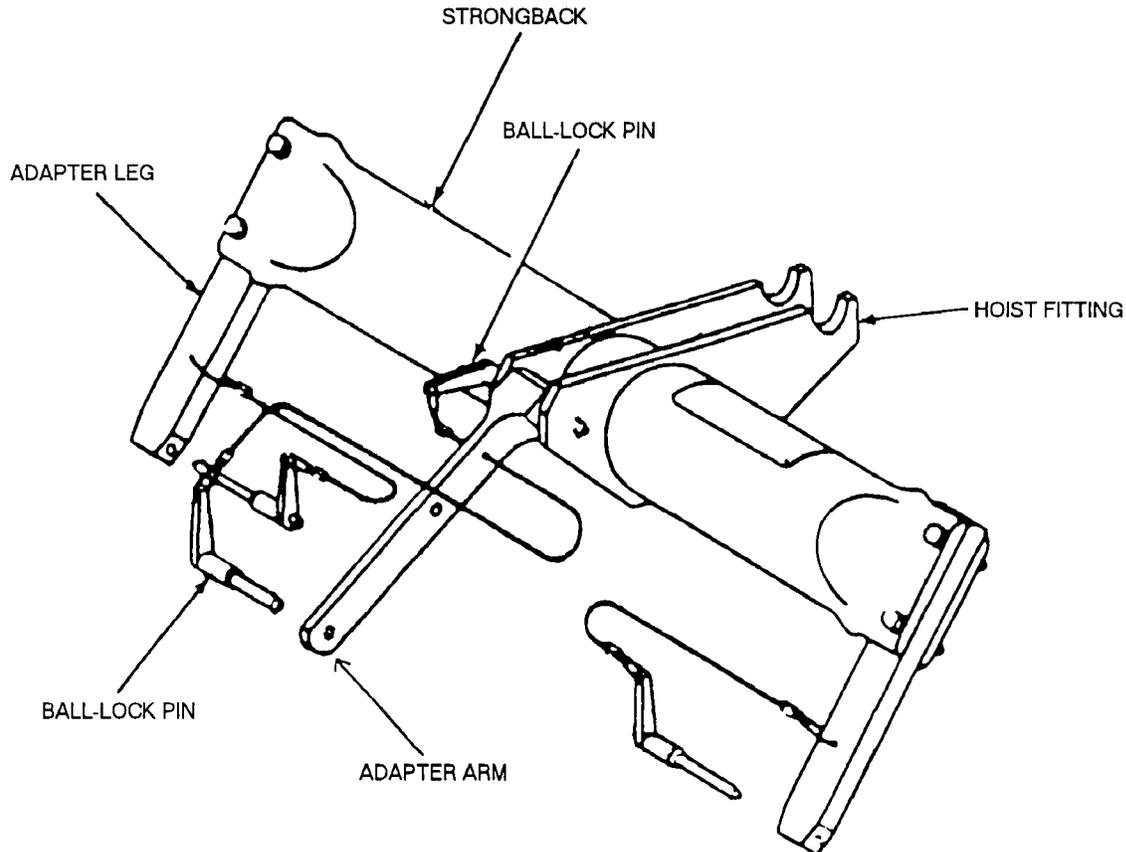
Length 4.62 inches
 Width 2.50 inches
 Height 7.75 inches
 Weight 5 pounds
 SWL (per set) 3200 pounds

APPLICATION. (ECM) Pod Trolley Adapter HLK-260 is used with the Trolley Adapter HLK-259 as a set for loading/unloading electronic counter-measures (ECM) pods to/from the EA-6B aircraft.

ASSOCIATED EQUIPMENT. (ECM) Pod Trolley Adapter HLK-259, Bomb Hoisting Unit HLU-196D/E, Bomb Hoist HLU-288/E and Hoist Adapter HLK-247 and HLK-248.

**ADAPTER, BOMB HOIST
MER 7/TER 7
P/N 5822079
NSN 1R 1730-01-151-0738**

DESCRIPTION. Bomb Hoist Adapter MER 7/TER 7 consists of a strongback and hoist fitting assembly, two fixed adapter legs, and an adapter arm attached to the strongback by means of a ball-lock pin.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-15BD-6
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22CAP
SM&R Code	PAOZZ

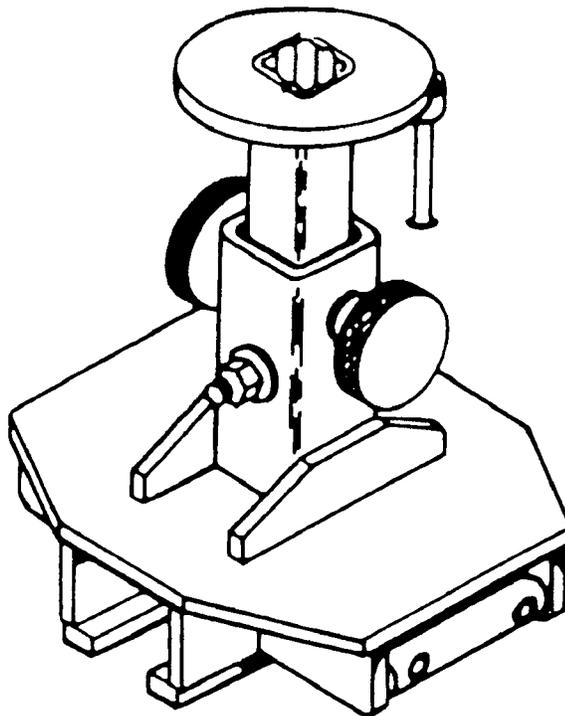
PHYSICAL DATA:	
Length	13.50 inches
Width	7.50 inches
Height	11.50 inches
Weight	13.50 pounds
SWL	1000 pounds

APPLICATION. Bomb Hoist Adapter MER 7/TER 7 is used for loading weapons on centerline and shoulder stations of multiple ejector racks (MER) or triple ejector racks (TER).

ASSOCIATED EQUIPMENT. Single Stores Trolley HLK-225A and 226A, Hoisting Bands HLK-275A/276A/277, Bomb Hoisting Unit HLU-196 Series, Bomb Hoist HLU-288/E, Bomb Hoist Adapter Mk 2 Mod 0 and Bomb Hoist Adapter ADU-722/E.

**ADAPTER, LOADING MOUNT, INTERFACE PEDESTAL
MTU-66/E
P/N 787AS360
NSN 1R 1730-01-004-1727**

DESCRIPTION. Interface Pedestal Loading Mount Adapter MTU-66/E is a steel weldment of rectangular tubing supported by a base plate. Four spring pins are installed on the underside of the base plate and serve as attachment devices for mounting the adapter on supporting equipment. A telescoping tubular receptacle is for supporting equipment. A telescoping tubular receptacle is for supporting other associated equipment. A screw clamp is provided for clamping the related adapters in the mount.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 01F14AAA-75
EIC/WUC	22BZO
SM&R Code	PAOZZ

PHYSICAL DATA:	
Length	12.80 inches
Width	10.00 inches
Height	13.50 inches
Weight	20 pounds
SWL	1000 pounds

APPLICATION. Interface Pedestal Loading Mount Adapter MTU-66/E is installed on the support beam of Loading Lift Adapter ADU-400/E to interface with a variety of other adapters to facilitate handling of gun drums, wing pylons, or landing gear struts of the F-14 aircraft.

ASSOCIATED EQUIPMENT. Weapons Skid Loading Lift Adapter ADU-400/E, Gun Drum Adapter ADU-394/E and Pylon Adapter ADU-393/E.

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CHAPTER 3

BANDS

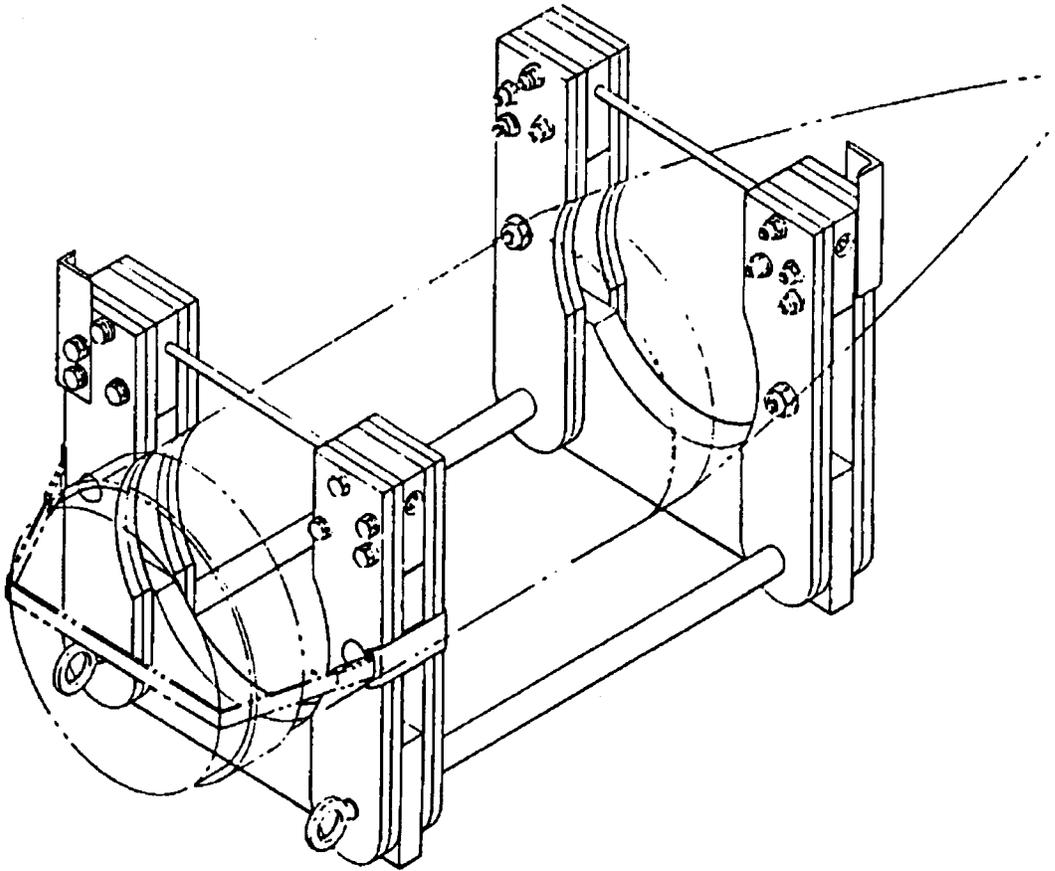
3-1. GENERAL. This chapter covers bands used in handling and supporting weapons and explosives. Reference should be made to the particular item sheet for more detailed information.

3-2. DESCRIPTION. Bands are handling equipment which encircle a load to provide a means of attaching hoisting equipment, or for support of the load in other handling equipment. Steel straps, cloth webbing, and contoured metal frames are used to encircle the load. The type of bands described in this chapter are handling bands. The handling bands are made up of a rigid saddle and a flexible band or a bottom and two side pieces which form a frame. The two-piece bands are equipped with at least a shackle for hoisting and with side lugs for suspension of a load. Three-piece bands have holes at the top of the two side pieces to connect hoisting equipment; the rigid frame formed by these pieces supports the load in shipping and handling equipment.

3-3. OPERATION. Handling bands are used with missiles and boosters to hoist and support the weapon in a container, cradle, dolly, stanchion, or stand. Many bands are used on specific weapons. If available, a band for the particular weapon and situation should be used. When selecting a band, several factors should be considered: the weight and diameter of the load, and the particular safe working load (SWL) of the band. Since bands have a fixed diameter or a certain range of diameters, a band that will accommodate the diameter of the load must be selected.

**BAND, HANDLING
MK 85 MOD 0
DL 2642975
NSN 2T 8140-00-116-7485**

DESCRIPTION. Handling Band Mk 85 Mod 0 consists of two wooden frames with pipe connectors. Each frame is cut to fit the base and ogive of a 16-inch armor piercing projectile which is secured by a clamping screw. The pipe connectors provide fork truck compatibility. Four lifting eyes are provided.



REFERENCE DATA:

ISEA	NSWC Crane
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

PHYSICAL DATA:

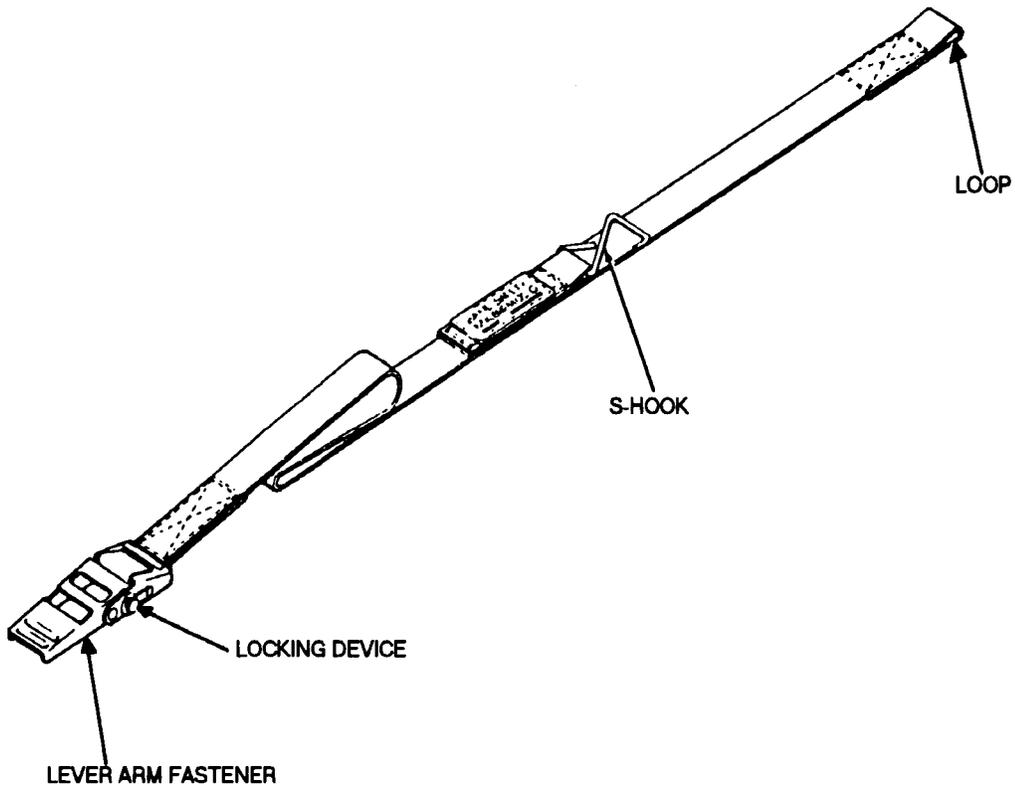
Length	72.00 inches
Width	24.50 inches
Height	26.50 inches
Weight	92 pounds
SWL	2700 pounds

APPLICATION. Handling Band is transferred at sea using Pallet Sling Mk 70 (without pallet bars) or Weapons Handling Sling Mk 99 Mod 0.

ASSOCIATED EQUIPMENT. Pallet Sling Mk 70 Mod 2 or Weapons Handling Sling Mk 99 Mod 0.

**BAND, SAFETY
MK 86 MOD 0
DL 5166377
NSN 9Z 5340-01-145-6632**

DESCRIPTION. Safety Band Mk 86 Mod 0 is a fastener/strap assembly consisting of a flexible polyester webbing six feet long with one end attached to a lever-arm fastener. The opposite end terminates in a permanent loop. A steel s-hook fixed approximately 45 inches along the length of the strap is for engagement with the loop on the strap's free end. The steel fastener has a lever arm, which when closed after the band is properly installed, applies over-center toggle retention of the strap. A positive locking device is provided on the fastener to prevent accidental opening of the lever arm.



REFERENCE DATA:	
ISEA	PHST Center/NSWC Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	OR-67/57
EIC/WUC	None
SM&R Code	PAHZZ

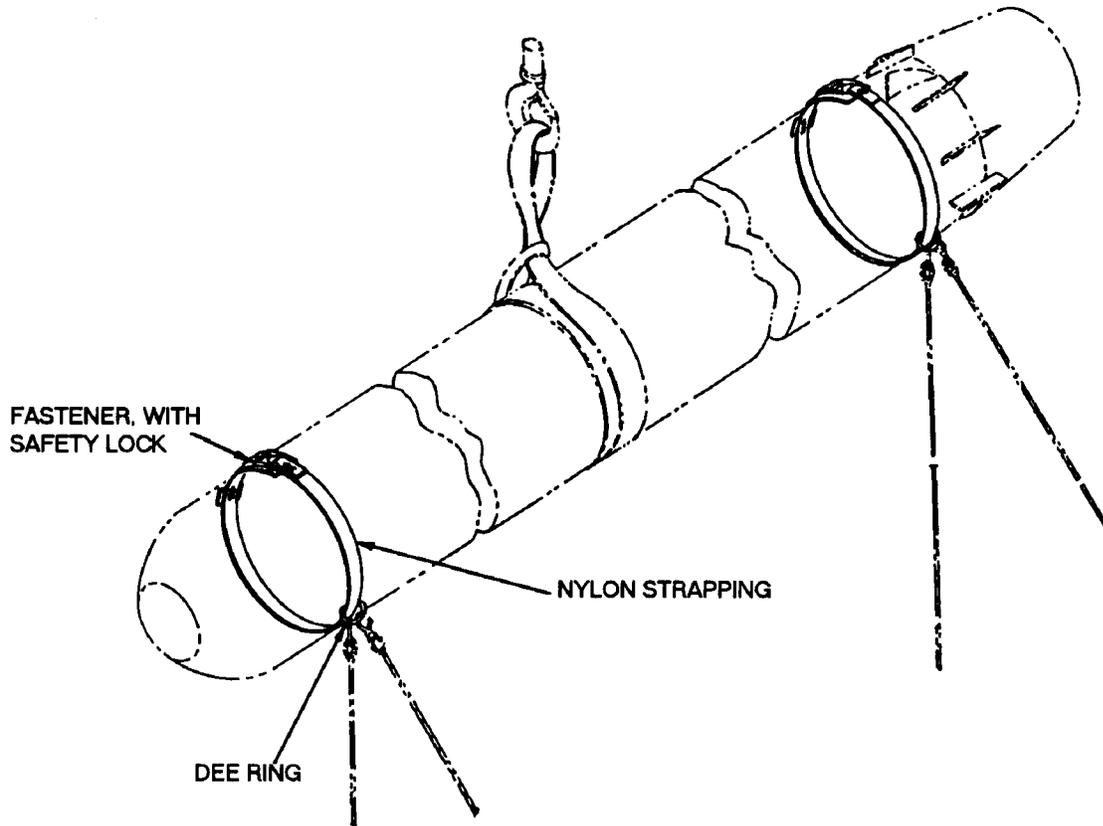
PHYSICAL DATA:	
Length	74.30 inches
Width	1.75 inches
Height	N/A
Weight	3 pounds
SWL	N/A

APPLICATION. Safety Band Mk 86 Mod 0 is used as a safety restraint for folded wings, control fins, and booster fins of HARPOON Guided Missiles, BGM-84A series.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Safety Band Mk 86 Mod 0.

**BAND
MK 87 MOD 0
DL 5166711
NSN 9Z 5340-01-131-7869**

DESCRIPTION. Band Mk 87 Mod 0 consists of one piece of nylon strapping threaded through a fastener equipped with a safety lock. A dee ring is sewn into each strap for attachment of tag lines.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7521/R08
Op. Proc.	None
EIC/WUC	None
SM&R Code . . . . .	.PAOZZ

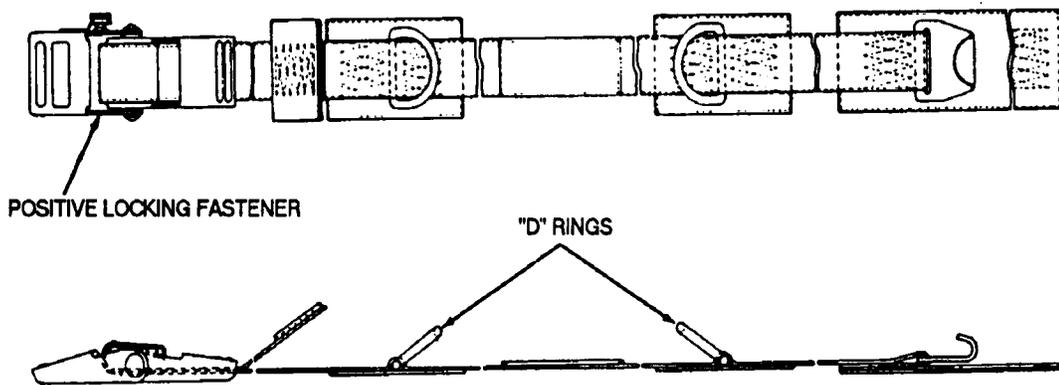
PHYSICAL DATA:	
Length	64.00 inches
Width	3.00 inches
Height	N/A
Weight . . . . .	.5 pounds
SWL	N/A

APPLICATION. Band Mk 87 Mod 0 is used on cylindrical weapons. One is located at the forward end of the weapon, the other located at the aft section. Tag lines are attached to these bands to maintain weapon stability during transfer between ship and pier and underway-at-sea transfers.

ASSOCIATED EQUIPMENT. Tag Lines Mk 2 Mod 0, Mk 3 Mod 0, and Mk 4 Mod 0.

**BAND, CLS TOMAHAWK
MK 90 MOD 0
DL 5167268
NSN 9B 3940-01-283-1296**

DESCRIPTION. CLS TOMAHAWK Band Mk 90 Mod 0 is a nylon webbing strap assembly equipped with a positive locking fastener and two dee rings for the attachment of tag lines.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R29
Op. Proc.	None
EIC/WUC.	None
SM&R Code	PAGZZ

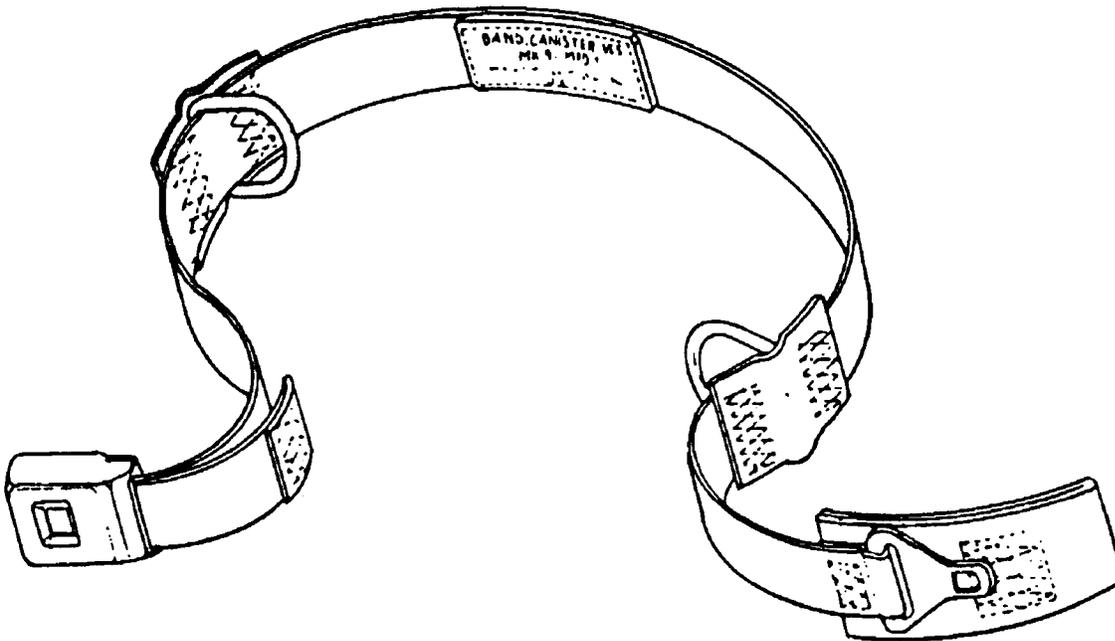
PHYSICAL DATA:	
Length	76.00 inches
Width	1.75 inches
Height.	N/A
Weight (approx.)	10 pounds
SWL	N/A

APPLICATION. CLS TOMAHAWK Band Mk 90 Mod 0 is used on the CLS TOMAHAWK AUR capsule in order to maintain stability of the capsule during overhead handling evolutions.

ASSOCIATED EQUIPMENT. Tag Lines Mk 2 Mod 0, Mk 3 Mod 0 and Mk 4 Mod 0.

**BAND, CANISTER, VLS
MK 91 MOD 1
DL 6213163
NSN 9Z 5340-01-431-9354**

DESCRIPTION. VLS Canister Band Mk 91 Mod 1 is a fastener/strap assembly of flexible nylon webbing with a buckle assembly at one end and a connector at the other end.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/H01
Op. Proc.	OR-67/169
EIC/WUC	None
SM&R Code	PAGZZ

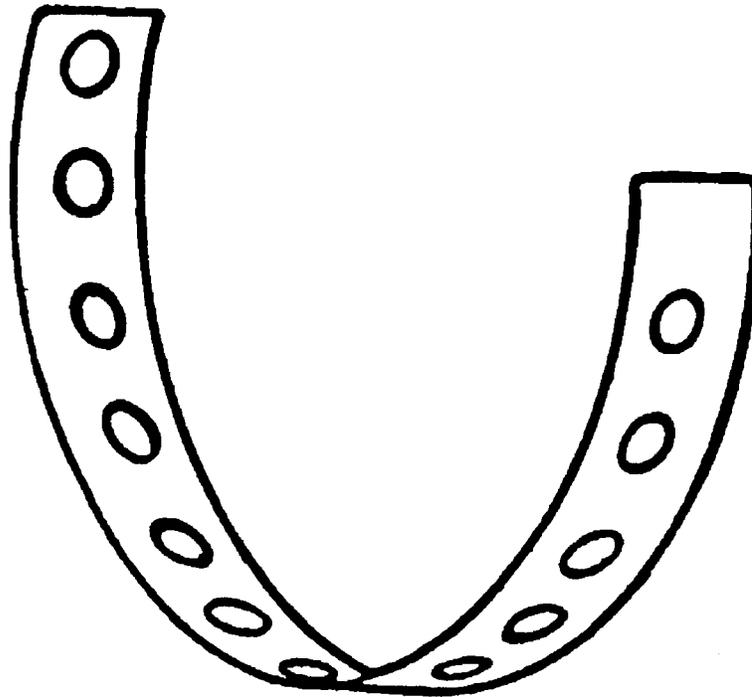
PHYSICAL DATA:	
Length	99.00 inches
Width	3.00 inches
Height	N/A
Weight	10 pounds
SWL	N/A

APPLICATION. VLS Canister Band Mk 91 Mod 1 is used for attaching tag lines during strikedown operation.

ASSOCIATED EQUIPMENT. Tag Line Mk 2 Mod 0, Mk 3 Mod 0, and Mk 4 Mod 0.

**BAND, HOISTING, HEAVY GAUGE
HLK-275A
P/N 65A101H48-1
NSN 1R 1730-01-360-3842**

DESCRIPTION. Heavy Gauge Hoisting Band HLK-275A is a stainless steel band preformed to retain a permanent curvature of 18-inches in diameter. Thirteen 7/8-inch diameter holes are punched along the length of the band every two inches. Each hole is marked with the distance from hole zero (0) in inches.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts ..	NAVAIR AG-241AO-MRC-000
.....	..... and -010
Op. Proc.....	NAVAIR 19-15BD-6
EIC/WUC.....	22BZO
SM&R Code	PAOZZ

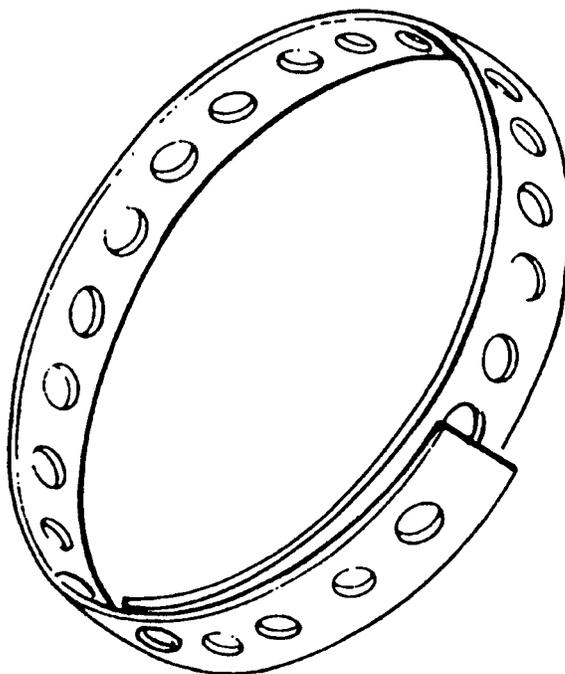
PHYSICAL DATA:	
Length	27.75 inches
Width	2.13 inches
Thickness	0.05 inches
Weight .....	.0.5 pounds
SWL	2500 pounds

APPLICATION. Heavy Gauge Hoisting Band HLK-275A is used with Anchor Fitting Assembly HLK-279 and Single Store Trolley HLK-225A and HLK-226A for lifting aircraft stores up to 15-inches in diameter during aircraft weapons loading/unloading operations.

ASSOCIATED EQUIPMENT. Single Store Trolley HLK-225A and HLK-226A, Anchor Fitting Assembly HLK-279, Band Latch Assembly HLK-278 and Single Store Trolleys (74D750004-1001).

**BAND, HOISTING, HEAVY GAUGE
HLK-276A
P/N 65A101H47-1
NSN 1R 1730-01-309-3815**

DESCRIPTION. Heavy Gauge Hoisting Band HLK-276A is a stainless steel band preformed to retain a permanent curvature of 18-inches diameter. Twenty-eight 7/8 inch diameter holes are punched along the length of the band every two inches. Each hole is marked with the distance from hole zero (0) in inches.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZO
SM&R Code	PAOZZ

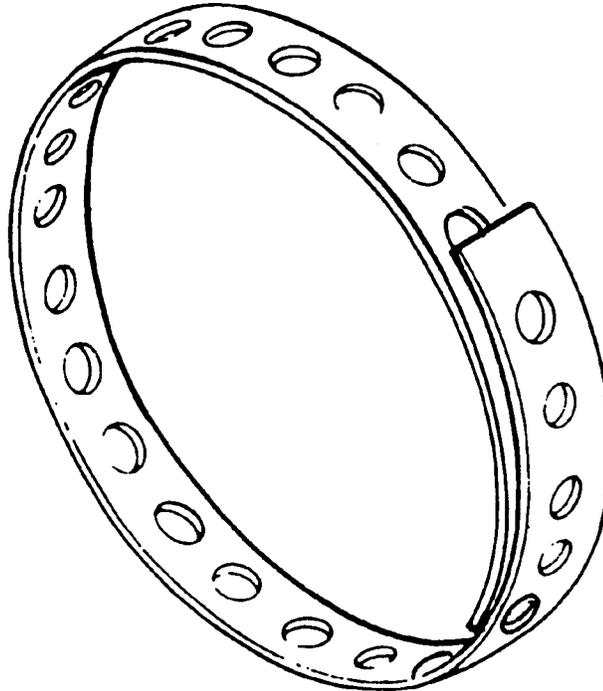
PHYSICAL DATA:	
Length	57.75 inches
Width	2.12 inches
Thickness	0.05 inches
Weight	1 pound
SWL (single point)	1500 pounds
SWL (double point)	3200 pounds

APPLICATION. Heavy Gauge Hoisting Band HLK-276A is used with Anchor Fitting Assembly HLK-279, Single Store Trolley HLK-225A and HLK-226, and Band Latch Assembly HLK-278 for single or double point lifting of stores up to 25 inches in diameter during aircraft loading/unloading operations.

ASSOCIATED EQUIPMENT. Single Store Trolley HLK-225A and HLK-226A, Anchor Fitting Assembly HLK-279 and Band Latch Assembly HLK-278 and Single Store Trolley (74D750004-1001).

**BAND, HOISTING, LONG HEAVY GAUGE
HLK-277
P/N 65A101D2-2
NSN 1R 1730-01-141-2282**

DESCRIPTION. Long Heavy Gauge Hoisting Band HLK-277 is a stainless steel band preformed to retain a permanent curvature of 30-inches diameter. Forty-seven 7/8 inch diameter holes are punched along the length of the band two inches on center. Each hole is marked with the distance from hole zero (0) in inches.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZO
SM&R Code	PAOBZ

PHYSICAL DATA:	
Length	95.75 inches
Width	2.12 inches
Thickness	0.05 inches
Weight	2.2 pounds
SWL (single point)	1500 pounds
SWL (double point)	3200 pounds

APPLICATION. Long Heavy Gauge Hoisting Band HLK-277 is used with Band Latch Assembly HLK-278 and Anchor Fittings Assembly HLK-279 for single point hoisting of stores up to 30 inches in diameter. The band is used with Single Stores Trolleys HLK-225A and HLK-226A and Anchor Fittings Assembly HLK-279 for Single Hoist (double point) loading of stores over 25 inches in diameter. The band is also used with Band Assembly HLK-278 and Anchor Fittings Assembly HLK-279 for dual manual hoists (double point) loading of stores up to 30 inches in diameter.

ASSOCIATED EQUIPMENT. Single Store Trolleys HLK-225A and HLK-226A, Anchor Fitting Assembly HLK-279 and Band Latch Assembly HLK-278.

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CHAPTER 4

BARS

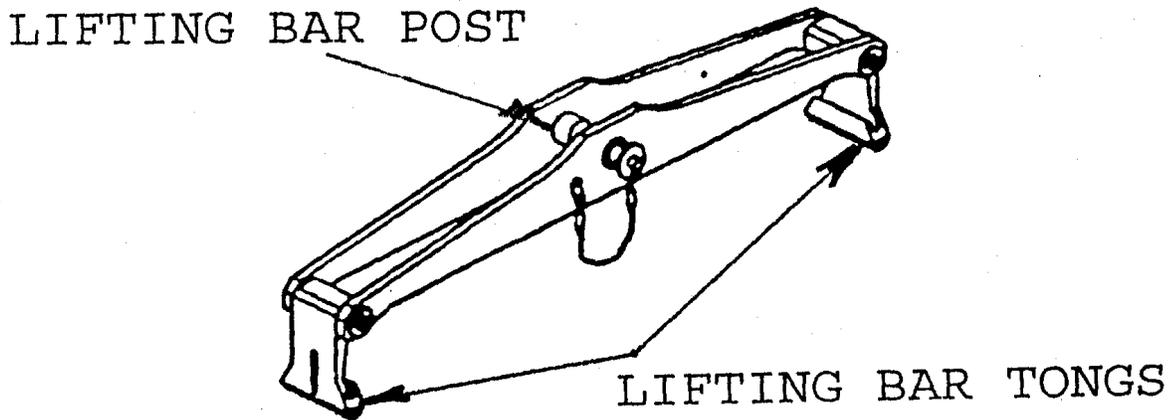
4-1. GENERAL. This section covers bars used in handling weapons and explosives.

4-2. DESCRIPTION. Bars are devices which provide a manual means of handling when attached to a weapon or store. Bars also provide a stable support for weapons system components during transporting and stowage. Construction is of metal stock of different diameter, width and length. An assortment of lifting eyes, clevises and safety pins, depending on application, are used to attach and secure weapons or stores.

4-3. OPERATION. The bars covered in this chapter are used to stabilize, carry, lift and handle missiles, bombs and weapon rails. When selecting a bar, consideration should be given to the weight of the load and the distance it is to be carried. When the load requirements exceed the capabilities of a bar, refer to chapters in this manual covering Beams, Carriers, Hoists, Slings, Strongbacks and Trucks for other handling equipment.

**BAR, LIFTING LALS
P/N 3305AS393
NSN 7E 3940-01-434-5992**

DESCRIPTION. The Linkless Ammunition Loading System (LALS) Lifting Bar consists of two parallel corrosion resistant steel bars with a lifting post and lifting tongs installed on the bar ends. The tongs connect to the upper deck of the LALS unit when lifting.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	None
Op. Proc.	NAVAIR 19-1-269
EIC/WUC	None
SM&R Code	PAGGD

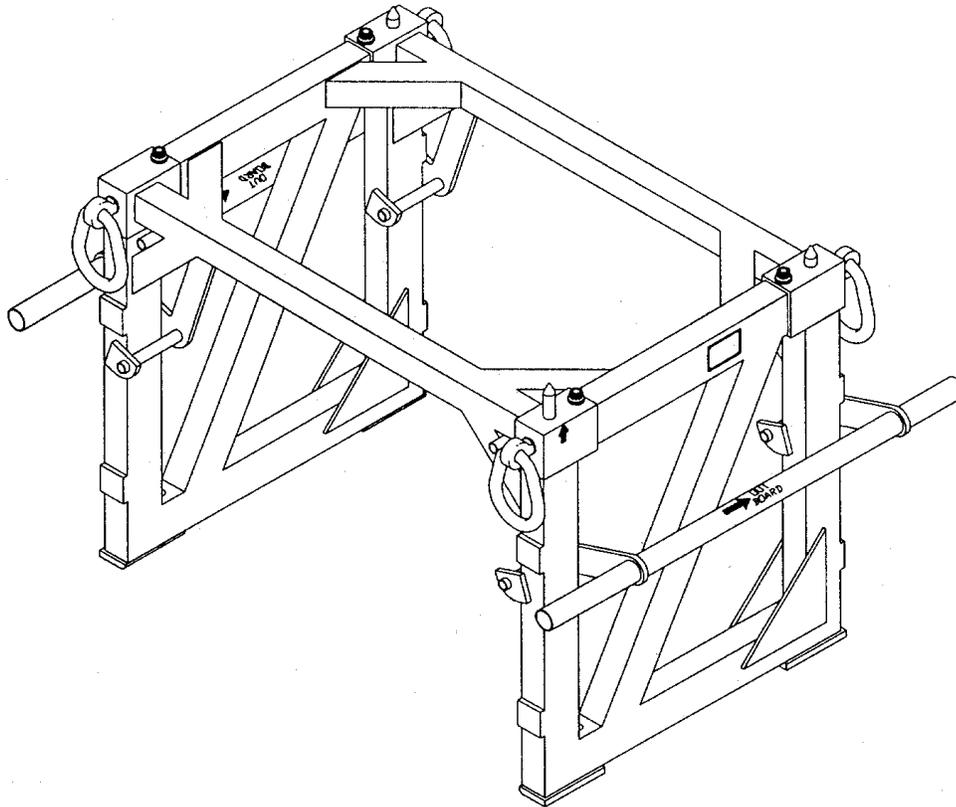
PHYSICAL DATA:	
Length	23.95 inches
Width	3.04 inches
Height	4.41 inches
Weight	20 pounds
SWL	2000 pounds

APPLICATION. The Linkless Ammunition Loading System (LALS) Lifting Bar is used to lift the LALS unit to/from its shipping container, trailer/transporter, or work bench area.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with this beam.

**BAR, LIFT
MK 5 MOD 0
DWG 7277472
NSN 8T 1450-01-465-5973**

DESCRIPTION. Lift Bar Mk 5 Mod 0 is an aluminum assembly consisting of an upper tubing, lower tubing and a handle. When installed on the Stacking Frame Mk 5 Mod 0, the upper tubing interfaces with the lower gussets of the upper horizontal frame, and the lower tubing interfaces with the vertical legs.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/8967000
Op. Proc.	OR-67/197
EIC/WUC	None
SM&R Code	PAOZZ
NALC	CWJW

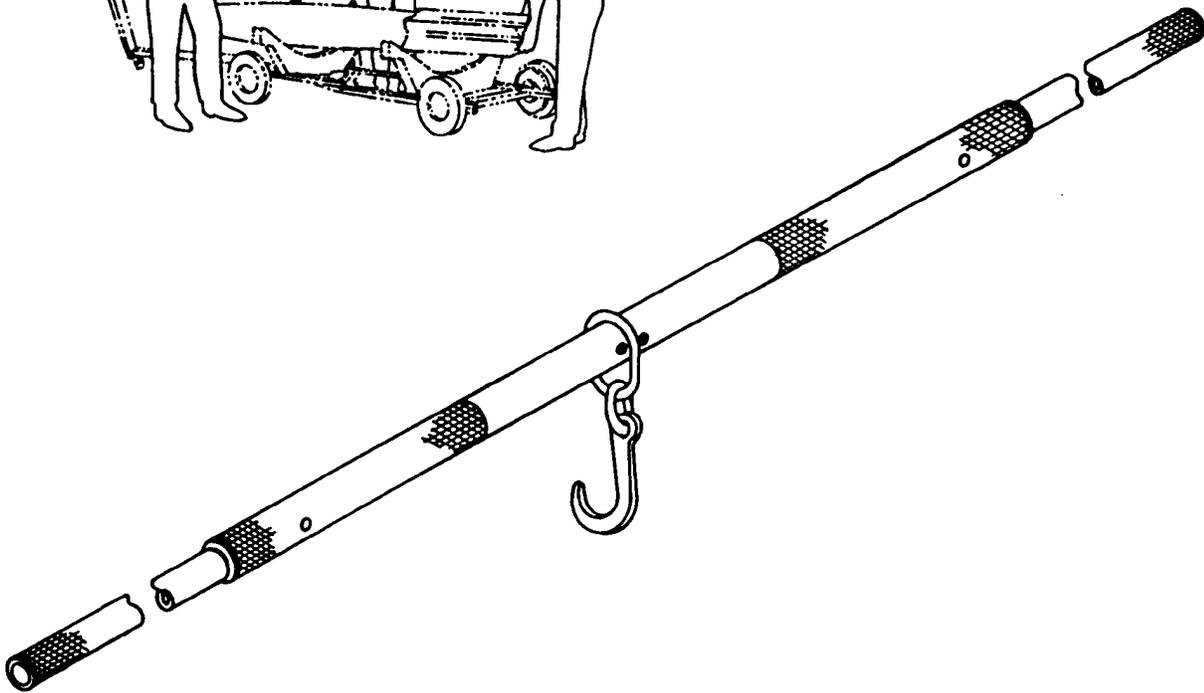
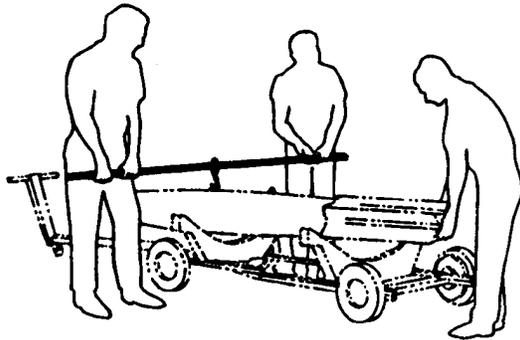
PHYSICAL DATA:	
Length	36.00 inches
Width	8.46 inches
Height	11.37 inches
Weight	4 pounds
SWL	N/A

APPLICATION. Lift Bar Mk 5 Mod 0 is used for a two-man lift per lift bar. The lift bar is used in pairs to assist the manual removal of the Stacking Frames Mk 5 Mod 0 from Vertical Launching System (VLS) Canister/Skids. The lift bar can be used both for VLS encan/decan operations and dockside.

ASSOCIATED EQUIPMENT. Canister Stacking Frame Mk 5 Mod 0.

**BAR, HOISTING
AERO 68A
P/N 68A106J1
NSN 6R 1730-00-966-5872**

DESCRIPTION. Hoisting Bar AERO 68A is a bar assembly consisting of one outer and two inner or telescoping bars and one hook assembly attached. Hoisting Bar AERO 68A can be used in either the short or extended version.



REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	NAVAIR 19-100-2
EIC/WUC .....	.21GEO
SM&R Code .....	.PAOZZ

PHYSICAL DATA:

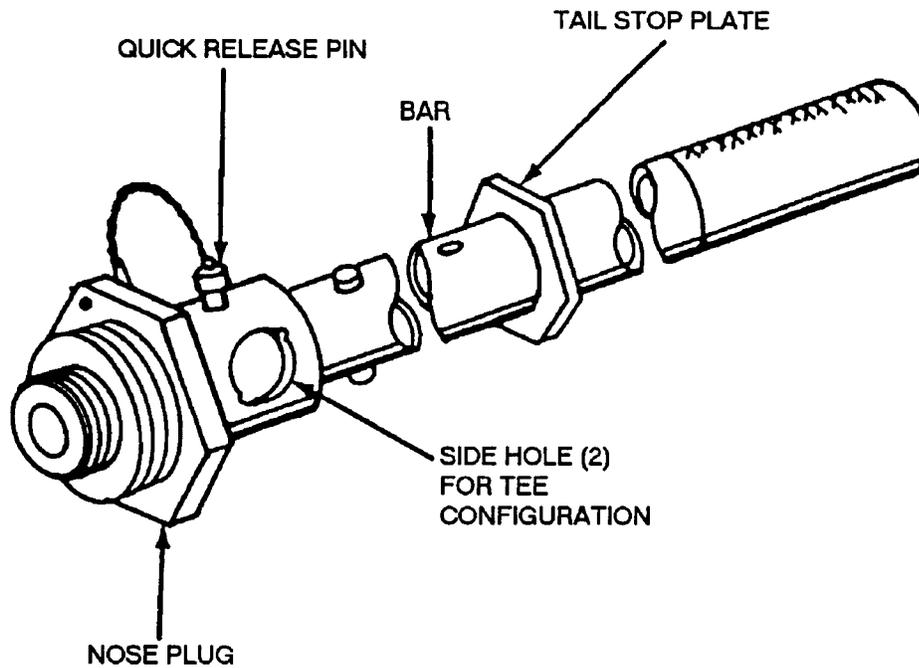
Length	56.50 inches
Width	N/A
Height	N/A
Weight	5.5 pounds
SWL	500 pounds
Cube	1.4 cubic feet

APPLICATION. Hoisting Bar AERO 68A hooks into a weapon lug and allows for manual movement. When used in pairs, up to 1,000 pounds may be handled.

ASSOCIATED EQUIPMENT. No particular handling equipment is used with Hoisting Bar AERO 68A.

**BAR, MANUAL HOISTING
HLU-256/E
P/N 1171AS100-1
NSN 1R 1730-01-016-1968**

DESCRIPTION. Manual Hoisting Bar HLU-256/E consists of a round steel bar with a removable sliding bomb nose plug, the sliding nose plug is equipped with a flange and two different diameter threaded rings for nose or tail cavity installation. A quick-release pin secures the nose plug connector to the bar. The nose plug can be relocated and secured to a position at the bar's midpoint when used in a "tee" configuration. The opposite end of the bar can be inserted into a installed tail fin. Insertion depth is controlled by a tail stop situated 18-inches from the end of the bar.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-2
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	22BZO
SM&R Code	PAOZZ

PHYSICAL DATA:	
Length	51.56 inches
Width (dia)	1.75 inches
Height (dia)	4.75 inches
Weight	21 pounds
SWL	1000 pounds

APPLICATION. Manual Hoisting Bar HLU-256/E is used by ordnancemen to manually lift and lower Mk 80 Series bombs to and from aircraft bomb stations. The bar can also be inserted and safety pinned into Weapons Cradle Adapter Assembly ADU-525/E for manual loading centerline station of the AV-8B aircraft. Hoisting Bar HLU-256/E replaces Hoisting Bar AERO 66A.

ASSOCIATED EQUIPMENT. Weapons Cradle Adapter Assembly ADU-525/E.

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CHAPTER 5

BEAMS

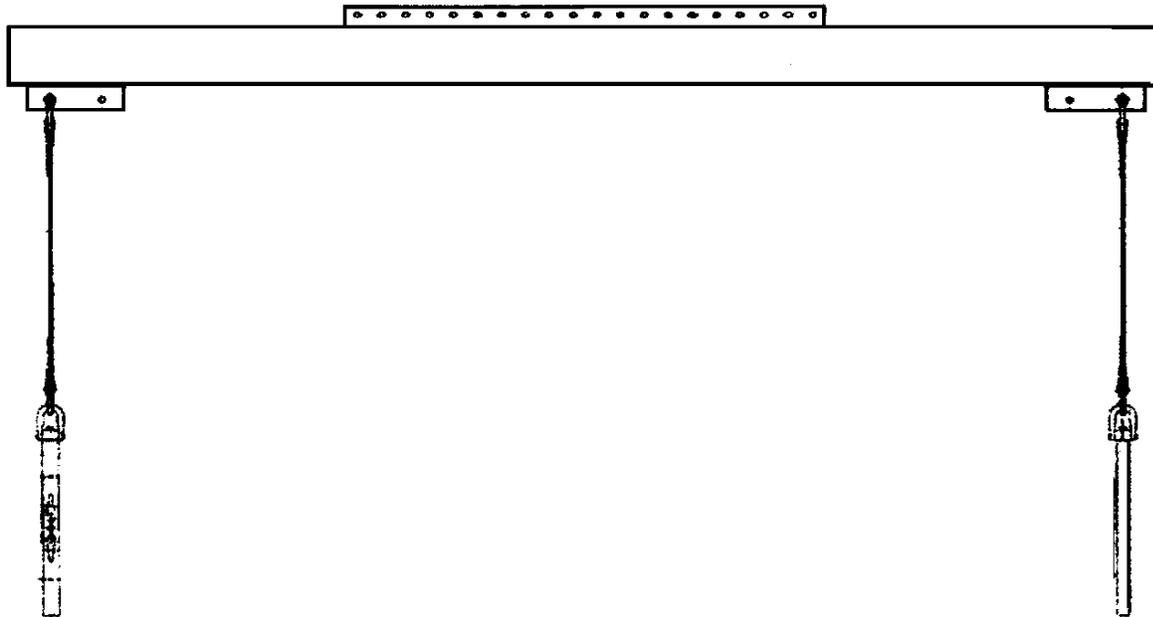
5-1. GENERAL. This chapter covers beams used in hoisting and handling weapons and explosives. Reference should be made to the particular item sheet for more detailed information.

5-2. DESCRIPTION. A beam is a rigid metal item which usually has I-, H-, T-, or circular cross sections. The rigid portion is fitted with a lifting eye, a sling, or sling attaching points and devices for attaching the load. Beams are connected to the load either directly or indirectly. The beams connecting directly to a load have hooks or brackets which connect to eyes, shackles, or shoes on the load. The hooks are the lifting type or the pivoting type. The lifting type merely hooks onto eyes or shackles on the load; the pivoting type swings into an eye on the load and is locked in place by a pin. Beams which connect to a load indirectly have an attached section of wire rope or chain links, or use an associated item such as handling bands or web strap slings. The wire rope and chain-like sections have safety hooks or attaching brackets for connecting the load to the beam. Associated items used for connecting the load have a shackle or other fitting to which the beam connects.

5-3. OPERATION. In selecting a beam for use in a particular handling situation, several factors should be considered: the weight of the load, the rated safe working load (SWL) of the beam, the kind and spacing of any lifting fittings on the load, and the particular center of gravity of the load. The weight of the load shall not exceed the SWL of the intended beam. Many of the beams can be adjusted to loads of various centers of gravity. The beam should be adjustable to the particular load being lifted if adjustments are required in the beam. Missiles and boosters which have suspension eyes or shoes are handled by beams which connect directly to the load. Missiles, boosters, containers and pallets which are not equipped with usable attaching fittings are handled by beams having wire rope sections with hooks or brackets, or using associated items which connect to the load.

**BEAM, LIFTING ASSEMBLY
DR/FES
ORBITAL P/N 1030-4010
NSN NOT ASSIGNED**

DESCRIPTION. The Ducted Rocket (DR)/Front End Subsystem (FES) Lifting Beam Assembly consists of a steel I-beam with lifting tabs welded to the top and bottom flanges. The I-beam is 8 inches tall with 4-inch flanges. A 60-inch tab with 20 lifting locations is welded to the top surface of the I-beam. Lifting shackles are attached to the holes in the bottom tabs. The complete DR/FES Lifting Beam Assembly consists of the beam, forward lifting ring (P/N 1030-4015-001), aft lifting ring (P/N 1030-4011-001), lifting V-band (P/N 1030-4014-001), hoist ring (P/N 3052T58), sling (1-inch by 36 inches) (P/N EE1901), and shackle (P/N 3663T43).



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts . . .	WIP 15-6010 and WP15-6062
Op. Proc.	WP42-5020 and WP42-5021
EIC/WUC	None
SM&R Code	None
NALC	None

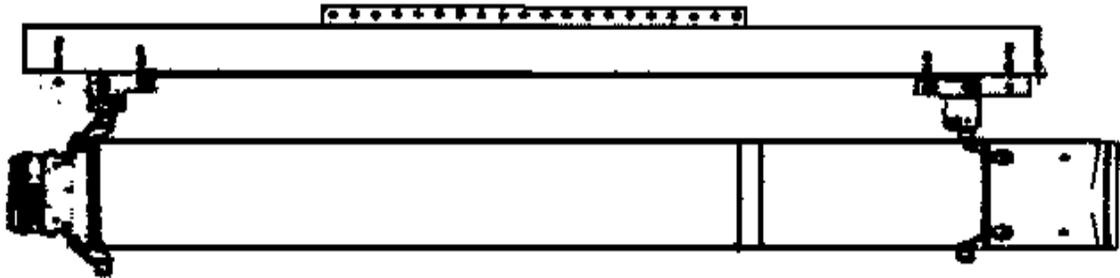
PHYSICAL DATA:	
Length	144.00 inches
Width	4.00 inches
Height	84.00 inches
Weight	410.50 pounds
SWL	1,900 pounds

APPLICATION. The DR/FES Lifting Beam Assembly is used for lifting the Supersonic Sea Skimming Target (SSST) DR and the DR combined with the FES, which is then called the Complete Vehicle (CV). The 20 holes in the tab allow for adjustment of the lifting location to account for the variable center of gravity of the item when the FES is, or is not, attached to the DR. A variable counterweight (20 to 60 pounds) is fixed to the I-beams by clamps to allow for a level lifting condition when attached to the CV and/or DR.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the DR/FES Lifting Beam Assembly.

**BEAM, LIFTING ASSEMBLY
MK 70 BOOSTER
Orbital P/N 1030-4068
NSN NOT ASSIGNED**

DESCRIPTION. Mk 70 Booster Lifting Beam Assembly consists of a steel I-beam with lifting tabs welded to the top and bottom flanges. The I-beam is 8 inches tall with a 4-inch flange. A 60-inch tab with 20 lifting locations is welded to the top surface of the beam. The 20 holes in the tab are used for 2 possible lifting configurations. Lifting adapters are attached to the holes in the bottom lift tabs at the forward and aft ends of the beam and held in place with 4 clevis pins. The lifting adapters interface with the forward and aft launch lugs of the Mk 70 Booster and are held in place by 2 clevis pins.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts . .	WIP 15-6010 and WP15-6062
Op. Proc.	WP42-5020 and WP42-5021
EIC/WUC	None
SM&R Code	None
NALC	None

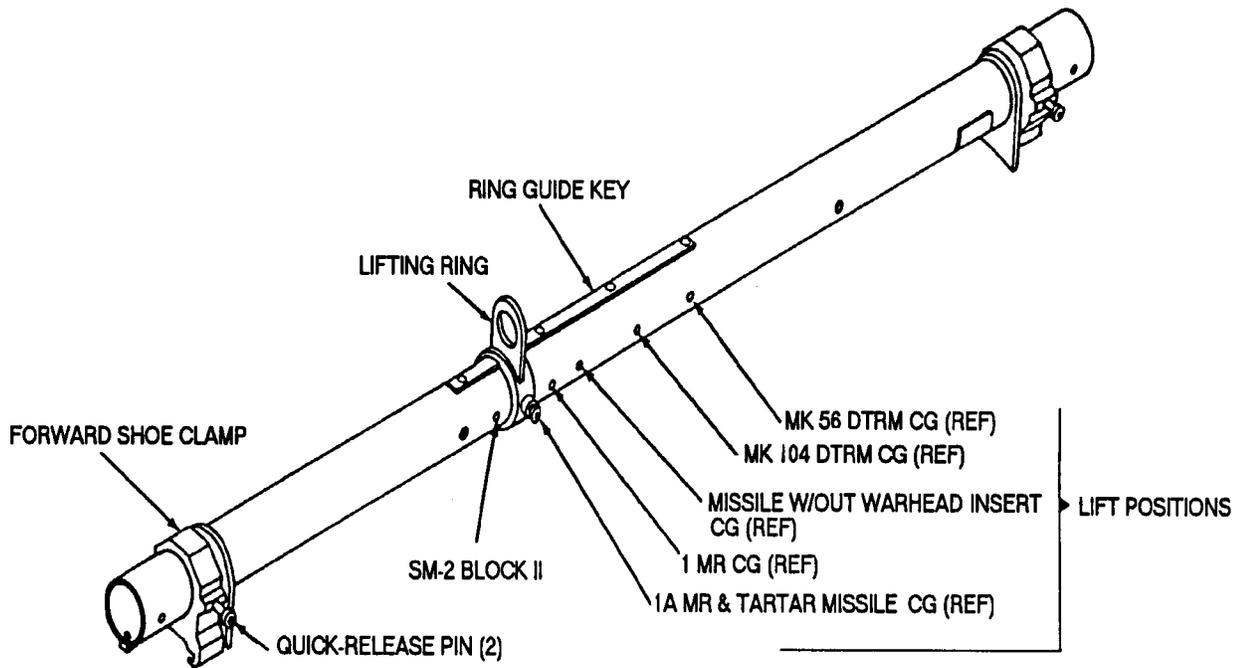
PHYSICAL DATA:	
Length	144.00 inches
Width	4.00 inches
Height	19.50 inches
Weight	350 pounds
SWL	2,537 pounds

APPLICATION. The Lifting Beam Assembly is used for lifting and handling the Mk 70 Booster as part of the Supersonic Sea Skimming Target (SSST) Program. The 20 holes in the tab are used when this dual purpose beam is configured to lift the SSST Ducted Rocket or the complete vehicle.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Mk 70 Booster Lifting Beam Assembly.

**BEAM, HOISTING, GUIDED MISSILE
MK 4 MOD 2
DL 5167158
NSN 8T 1450-01-200-8189**

DESCRIPTION. Guided Missile Hoisting Beam Mk 4 Mod 2 is a tubular aluminum beam with forward and aft missile shoe clamps and an adjustable lifting ring. The shoe clamps and lifting ring are secured in position in quick-release pins inserted through holes in the beam. The beam has six lifting-ring positions.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86D2000
Op. Proc.	OR-67/97
EIC/WUC	86D2
SM&R Code	PA44D
NALC	None

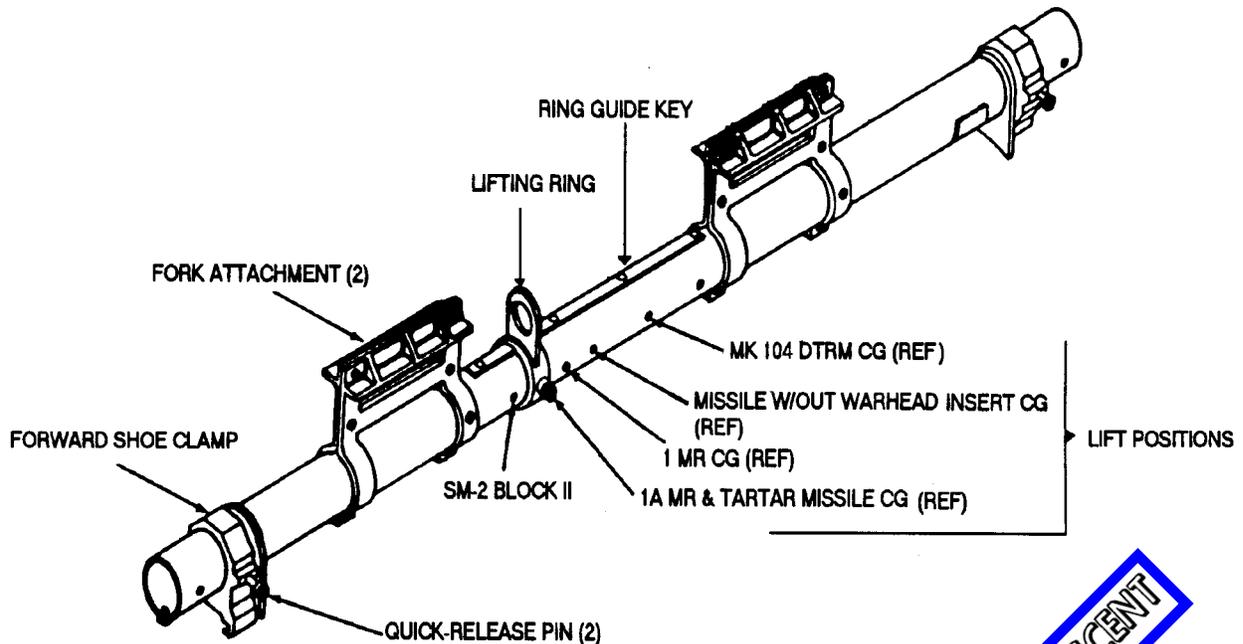
PHYSICAL DATA:	
Length	88.61 inches
Diameter	3.50 inches
Weight	37.5 pounds
SWL	1600 pounds

APPLICATION. The six lifting-ring positions on the Guided Missile Hoisting Beam Mk 4 Mod 2 are used for handling STANDARD MR Missile and Dual Thrust Rocket Motors Mk 56 and Mk 104 Mods 1 and 2, in a missile shop only.

ASSOCIATED EQUIPMENT. Used with the Mk 14 Mod 1 Assembly/Test Stand, Mk 33 Mod 0 and 1 Loader Dolly, in a missile shop only.

**BEAM, HOISTING, GUIDED MISSILE
MK 5 MOD 2
DL 5167159
NSN 8T 1450-01-200-8188**

DESCRIPTION. Guided Missile Hoisting Beam Mk 5 Mod 2 is a tubular aluminum beam with forward and aft missile shoe clamps. Adjustable lifting ring and a pair of forklift pockets. The shoe clamps and lifting ring are secured in position by quick-release pins inserted through holes in the beam. Guided Missile Hoisting Beam Mk 5 Mod 2 has five working lifting-ring positions.



OBSOLESCE

REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86D4000
Op. Proc.	OR-67/107
EIC/WUC	86D4
SM&R Code	None
NALC	None

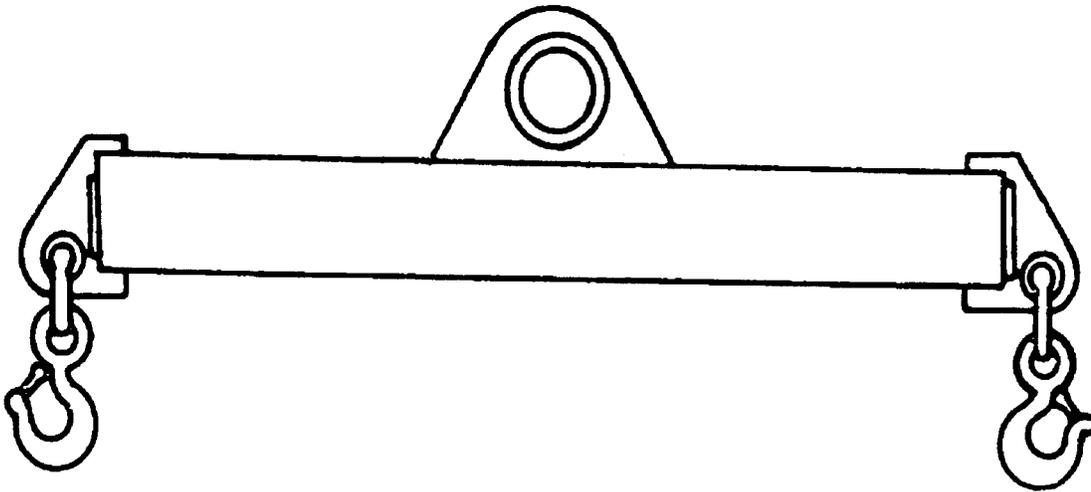
PHYSICAL DATA:	
Length	88.61 inches
Diameter	3.50 inches
Weight	66 pounds
SWL	1600 pounds

APPLICATION. The five working lifting-ring positions are used for handling STANDARD MR Missiles and Dual Thrust Rocket Motor Mk 104 Mods 1 and 2. Guided Missile Hoisting Beam Mk 5 Mod 2 is obsolescent and is used only by FMS countries.

ASSOCIATED EQUIPMENT. Forklift Adapter Mk 43 Mod 0 and a variety of forklift trucks.

**BEAM, HANDLING
MK 18 MOD 0
DL 2642681
NSN 1H 3940-00-169-6929**

DESCRIPTION. Handling Beam Mk 18 Mod 0 consists of a steel beam fitted with a lifting eye in the center and safety hooks attached by shackles at the two ends.



OBSOLETE

REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts MIP 7721/R10, OR-99/8967000
 Op. Proc. None
 EIC/WUC 897A
 SM&R Code None

PHYSICAL DATA:

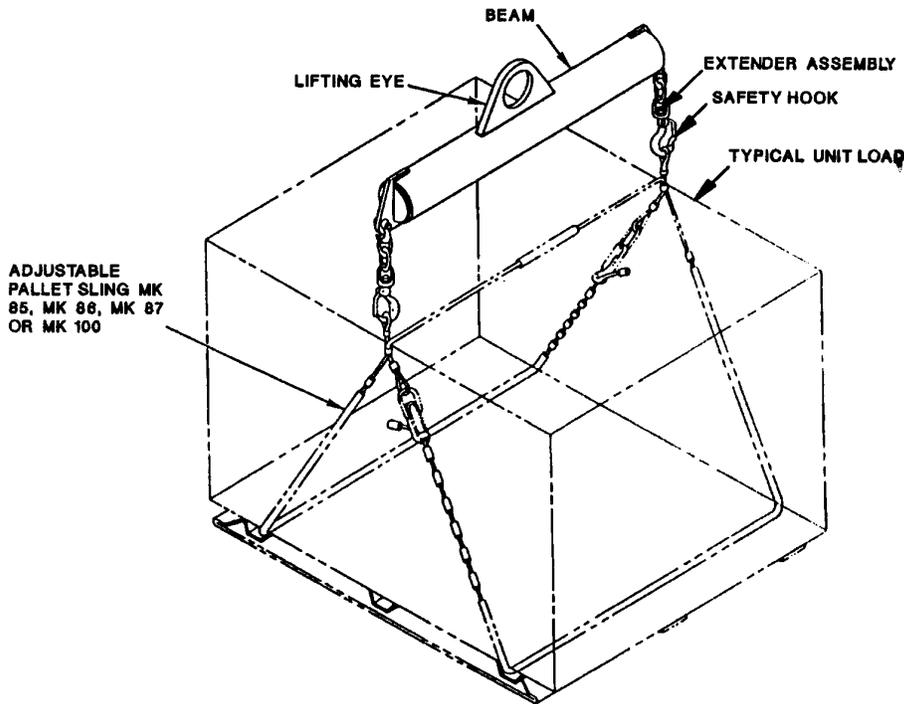
Length 42.00 inches
 Width 4.50 inches
 Height 16.70 inches
 Weight 43 pounds
 SWL 4000 pounds

APPLICATION. With the Handling Beam Mk 18 Mod 0 attached to a Cargo Hoister Assembly Mk 20 Mod 0, the beam is lowered to a palletized load rigged with an adjustable pallet sling. The handling beam safety hooks are then hooked through the thimbles of the adjustable pallet sling, with the heel of the hooks towards the load and the throat of the hooks facing outboard. Handling Beam Mk 18 Mod 0 is used for dockside, over-the-side operations, and monorail systems. Handling Beam Mk 18 Mod 0 is obsolescent and is replaced by Handling Beam Mk 18 Mod 1.

ASSOCIATED EQUIPMENT. Pallet Slings Mk 85 Mod 0 and 1, Mk 86 Mod 0 and 1, Mk 87 Mod 0 and 1, Mk 100 Mod 1 and 2 and Cargo Hoisting Assembly Mk 20 Mod 0, Strongback Mk 1 Mods 0 and 1 and Cargo STREAM Heavy Lift (GULLWING) Strongback Mk 5 Mod 1.

**BEAM, HANDLING
MK 18 MOD 1
DL 2643881
NSN 9B 1420-00-557-9565**

DESCRIPTION. Handling Beam Mk 18 Mod 1 is a structural steel weldment consisting of a cylindrical beam with a lifting eye at its center of gravity and hook-extender assemblies with safety hooks at each end. ORDALT 8176 converts Handling Beam Mk 18 Mod 0 to the Mod 1 configuration.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7721/R11, OR-99/8967000
Op. Proc.	OR-67/156, NAVSEA S9571-AA-MMA-010
EIC/WUC	897B
SM&R Code	PAOGZ

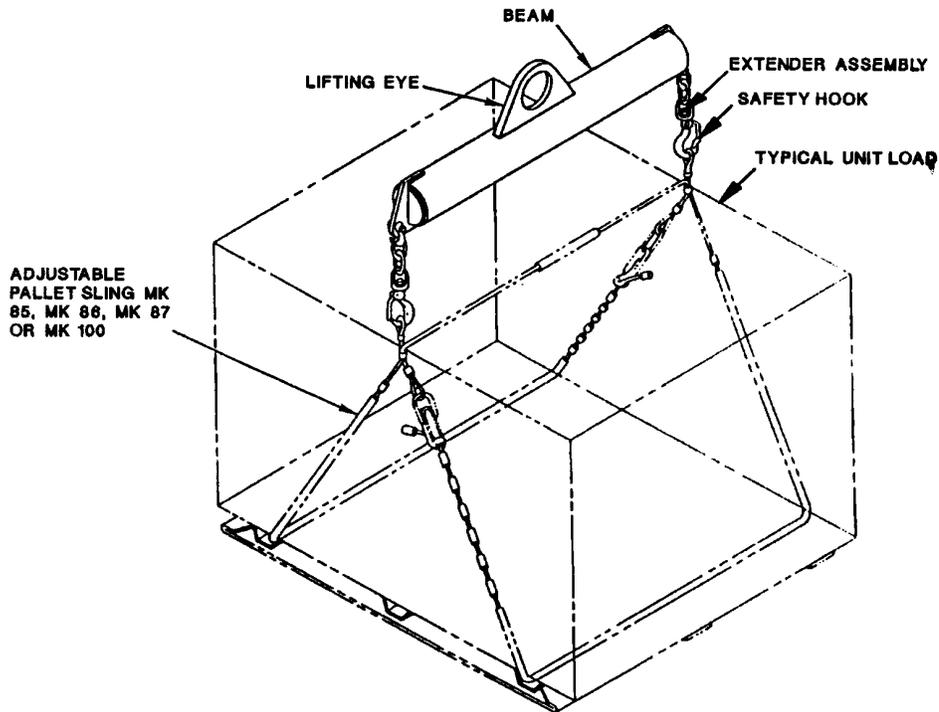
PHYSICAL DATA:	
Length	42.00 inches
Width	4.50 inches
Height	22.26 inches
Weight	75 pounds
SWL	4000 pounds

APPLICATION. With the Handling Beam Mk 18 Mod 1 attached to Cargo Hoister Assembly Mk 20 Mod 0, the beam is lowered to a palletized load rigged with an adjustable pallet sling. The handling beam safety hooks are then hooked through the thimbles of an adjustable pallet sling, with the heel of the hooks towards the load and the throat of the hooks facing outboard. Handling Beam Mk 18 Mod 1 is used for dockside, over-the-side operations, and monorail systems. Handling Beam Mk 18 Mod 1 is obsolescent and replaced by Handling Beam Mk 18 Mod 2.

ASSOCIATED EQUIPMENT. Pallet Slings Mk 85 Mod 0 and 1, Mk 86 Mod 0 and 1, Mk 87 Mod 0 and 1, Mk 100 Mod 1 and 2, Cargo Hoisting Assembly Mk 20 Mod 0, Strongback Mk 1 Mods 0 and 1 and Cargo STREAM Heavy Lift (GULLWING) Strongback Mk 5 Mod 1.

**BEAM, HANDLING
MK 18 MOD 2
DL 8410473
NSN 9B 3940-01-578-9034**

DESCRIPTION. Handling Beam Mk 18 Mod 2 is a structural steel weldment consisting of a cylindrical beam with a lifting eye at its center of gravity and hook-extender assemblies with safety hooks at each end. The Mod 2 Beam contains larger safety hooks to accommodate the higher SWL.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7721/R11, OR-99/8967000
Op. Proc.	OR-67/217, NAVSEA S9571-AA-MMA-010
EIC/WUC	None
SM&R Code	PAOGZ

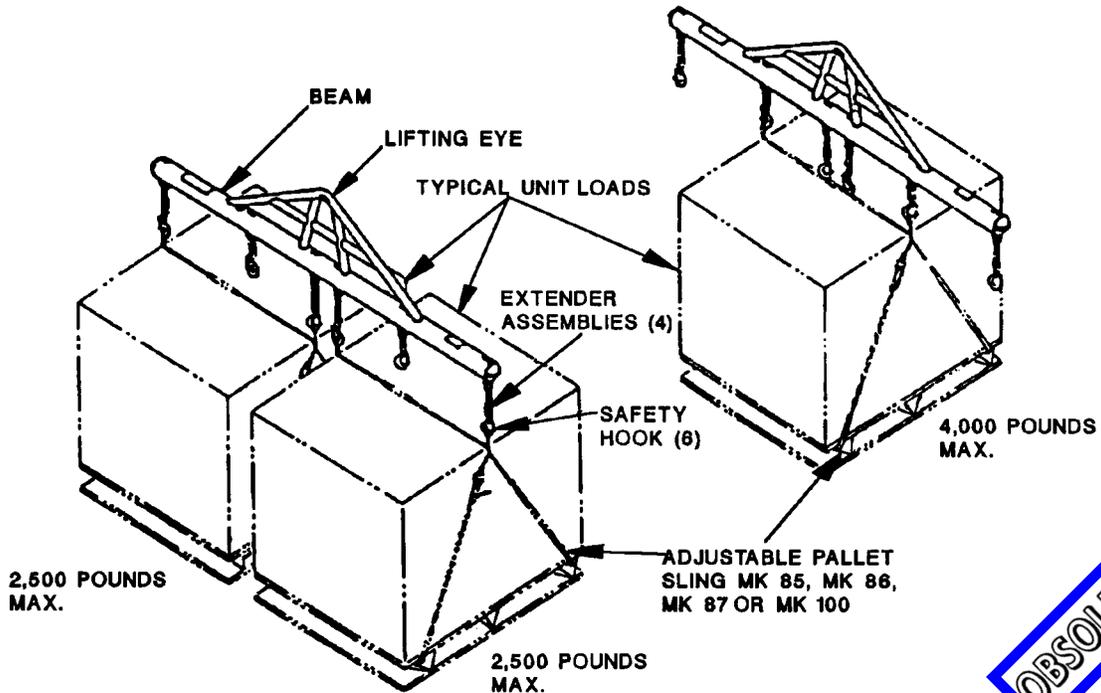
PHYSICAL DATA:	
Length	42.00 inches
Width	4.50 inches
Height	24.50 inches
Weight . . . . .	.80 pounds
SWL	4,500 pounds

APPLICATION. With the Handling Beam Mk 18 Mod 2 attached to Cargo Hoister Assembly Mk 20 Mod 0, the beam is lowered to a palletized load rigged with an adjustable pallet sling. The handling beam safety hooks are then hooked through the thimbles of an adjustable pallet sling, with the heel of the hooks towards the load and the throat of the hooks facing outboard. Handling Beam Mk 18 Mod 2 is used for dockside, over-the-side operations, and monorail systems.

ASSOCIATED EQUIPMENT. Pallet Slings Mk 85 Mod 0 and 1, Mk 86 Mod 0 and 1, Mk 87 Mod 0 and 1, Mk 100 Mod 1 and 2, Cargo Hoisting Assembly Mk 20 Mod 0, Strongback Mk 1 Mods 0 and 1 and Cargo STREAM Heavy Lift (GULLWING) Strongback Mk 5 Mod 1.

**BEAM, HANDLING
MK 19 MOD 1
DL 2643876
NSN 9N 1420-00-557-9567**

DESCRIPTION. Handling Beam Mk 19 Mod 1 is a structural steel weldment with a lifting eye at its center of gravity and six safety hooks. Four safety hooks are attached to hook extender assemblies arranged so that two palletized unit loads of equal weights up to 2,500 pounds can be carried. Two safety hooks are shackled to the beam at positions which permit carrying one palletized unit load weighing up to 4,000 pounds. ORDALT 8177 converts Handling Beam Mk 19 Mod 0 to the Mod 1 configuration.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7721/R14
Op. Proc.	NAVSEA S9571-AA-MMA-010
EIC/WUC	897E
SM&R Code	None

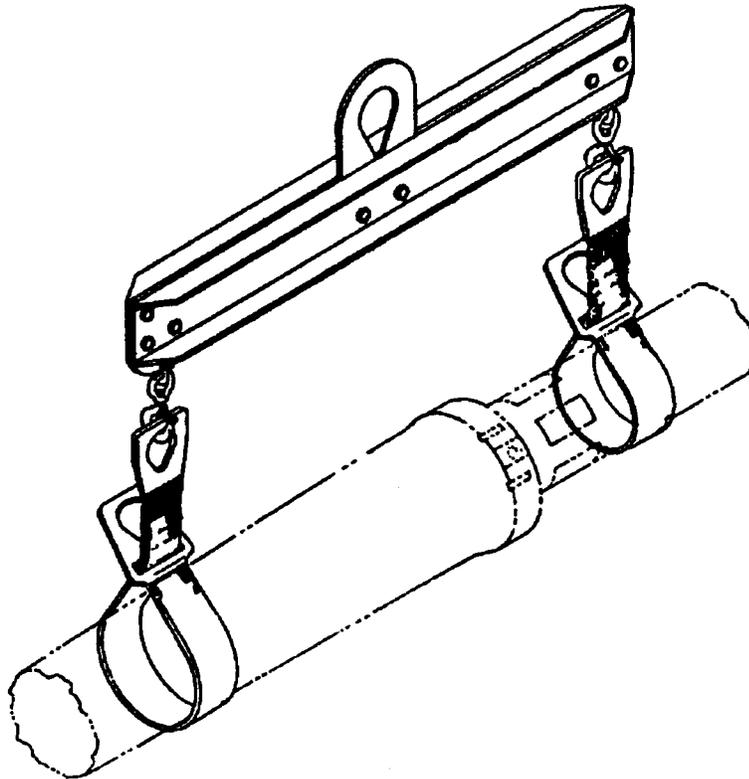
PHYSICAL DATA:	
Length	88.00 inches
Width	4.50 inches
Height	30.50 inches
Weight	118 pounds
SWL (max. for two pallets)	5000 pounds

APPLICATION. Handling Beam Mk 19 Mod 1 is used during connected underway replenishment operations for transferring palletized unit loads. Used by CLF ships only, the beam is designed for coupling with Cargo Hoister Assembly Mk 20 Mod 0, and normally is used with adjustable pallet slings for making the transfer. The Cargo Drop Reel is used for CONREP. Beam Handling Mk 19 Mod 1 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Pallet Slings Mk 85 Mod 0 and 1, Mk 86 Mod 0 and 1, Mk 87 Mod 0 and 1, Mk 100 Mod 1 and 2, Cargo Hoister Assembly Mk 20 Mod 0.

**BEAM, HOISTING
MK 21 MOD 0
DWG. 2642626
NSN 2J 3940-01-454-1744**

DESCRIPTION. Hoisting Beam Mk 21 Mod 0 consists of steel beam with a centered lifting eye, a swivel hook shackled to each end and two wire mesh choker slings.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts None
 Op. Proc. None
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

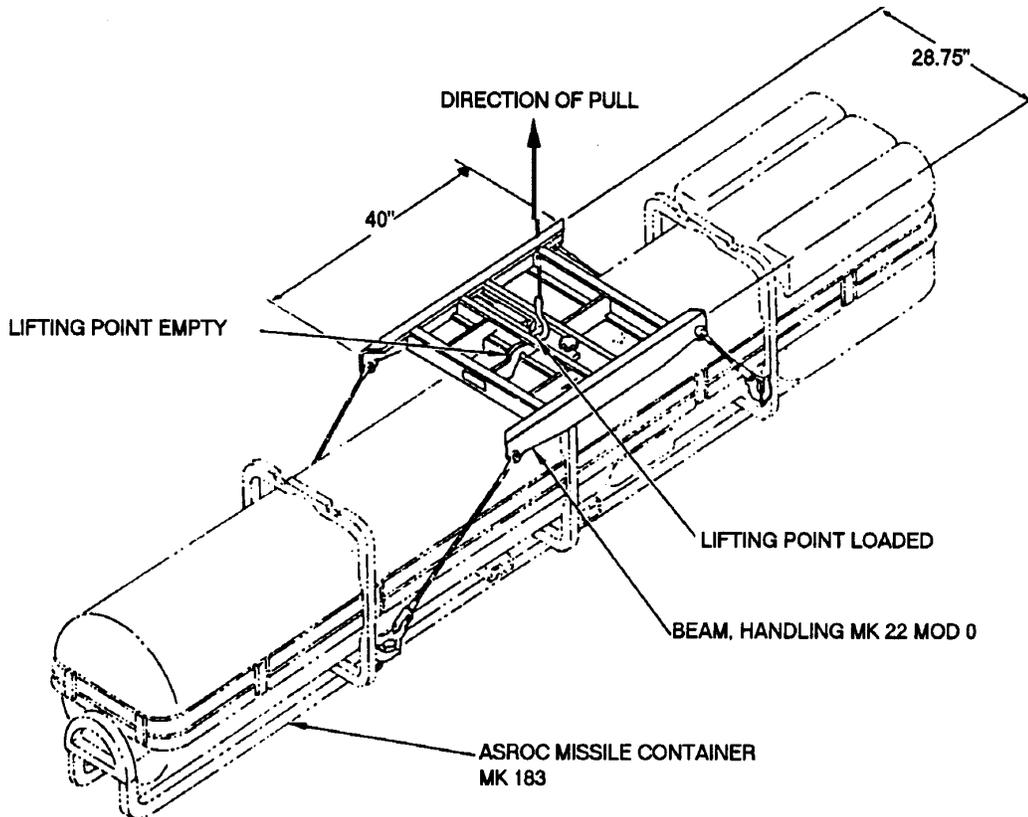
Length 54.00 inches
 Width 4.47 inches
 Height (with slings) 56.25 inches
 Weight 130 pounds
 SWL 5000 pounds

APPLICATION. Hoisting Beam Mk 21 Mod 0 is used to handle 5 inch, two piece gun barrels at manufacturing plants and at shipyards.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoisting Beam Mk 21 Mod 0.

**BEAM, HANDLING
MK 22 MOD 0
DL 1330641
NSN 7H 3940-00-157-3092**

DESCRIPTION. Handling Beam Mk 22 Mod 0 is an aluminum weldment consisting of structural angle, channels, and plate members. Adjustable sling assemblies are attached at each end of the four corners. A movable spring-loaded arm is held against the missile container body by a hand knob adjustment. The handling beam fits over the container center roll bar, and this positions the lifting points for handling the container either empty or loaded.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7222/R15, OR-99/85AC000
Op. Proc.	None
EIC/WUC.	85AC
SM&R Code	PA5DD

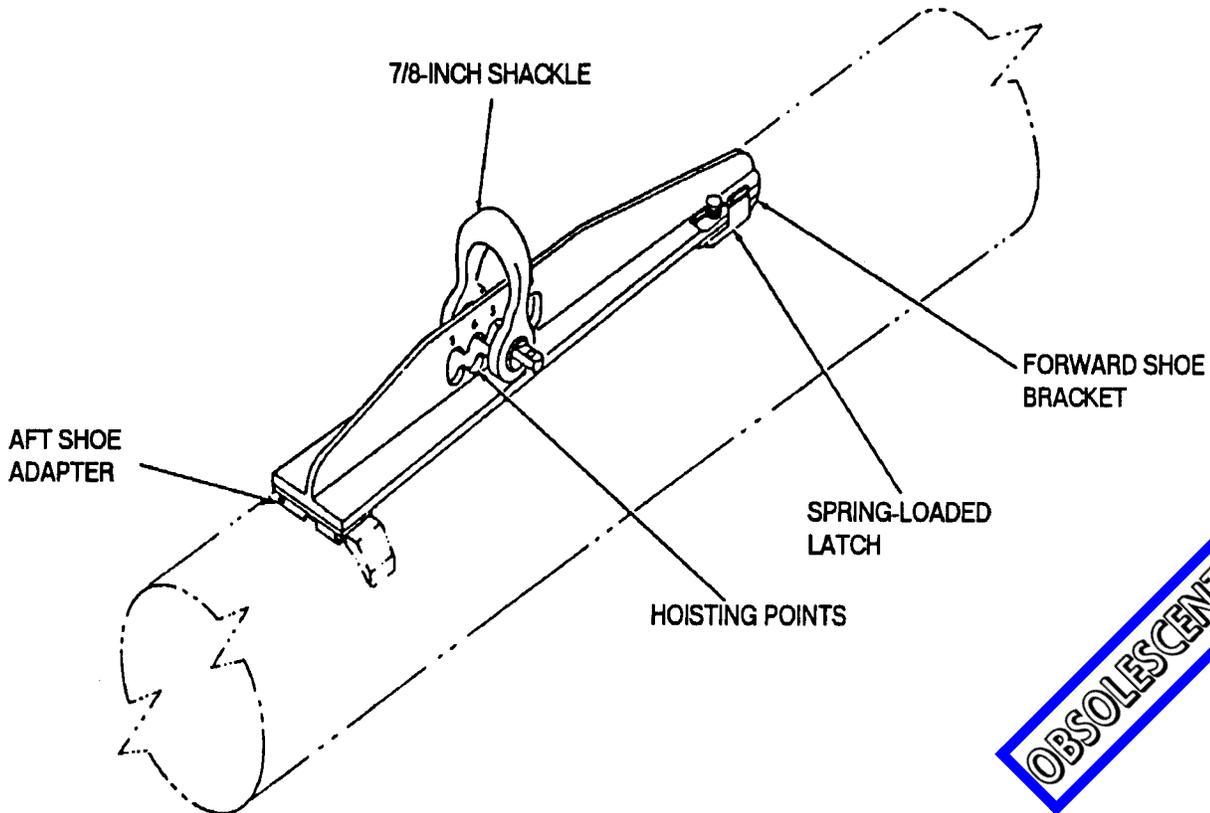
PHYSICAL DATA:	
Length	40.00 inches
Width	28.75 inches
Height.	6.00 inches
Weight	45 pounds
SWL	1800 pounds

APPLICATION. Handling Beam Mk 22 Mod 0 is designed for use with ASROC Missile Container Mk 183 Mods 1 and 2 in close-couple operations aboard ship, either in work shop areas or for over-the-side handling.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Handling Beam Mk 22 Mod 0.

**BEAM, HOISTING
MK 24 MOD 0
DL 2643825
NSN 9B 1450-00-003-1293**

DESCRIPTION. Hoisting Beam Mk 24 Mod 0 is an aluminum alloy beam used for handling various configurations of the SPARROW and AMRAAM missiles. Five hoisting points permit selection of the center of gravity appropriate for the missile involved. A 7/8-inch shackle is used as the lifting eye. A shoe adapter at the aft end of the beam and a shoe bracket with a spring-loaded latch at the forward end provide the means for attachment to the missile.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7221/R38
Op. Proc.	OR-67/27
EIC/WUC	86E6
SM&R Code	None

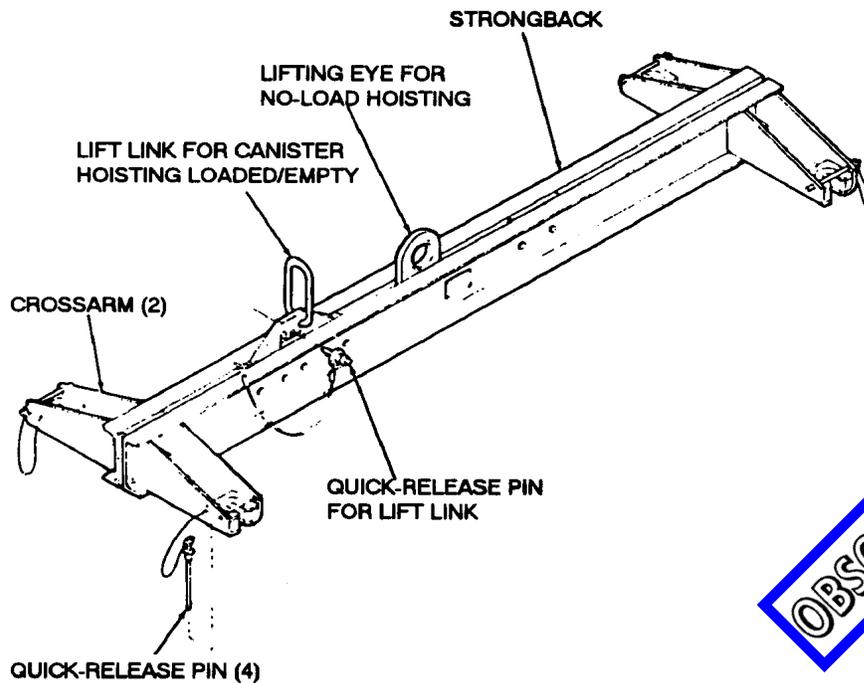
PHYSICAL DATA:	
Length	27.25 inches
Width	4.00 inches
Height	3.88 inches
Weight	9.4 pounds
SWL	550 pounds

APPLICATION. Hoisting Beam Mk 24 Mod 0 is used by Naval Weapons Stations and aboard ships for hoisting SPARROW III and AMRAAM missiles, with or without fins. Hoisting Beam Mk 24 Mod 0 is obsolescent and is replaced by Hoisting Beam HLU-421/E.

ASSOCIATED EQUIPMENT. Hoisting Beam Mk 24 Mod 0 is used with Hook Adapter Mk 91 Mod 0.

**BEAM, LIFT, LOW OVERHEAD
MK 30 MOD 0
DL 5166042
NSN 3C 1450-01-111-8362**

DESCRIPTION. Low Overhead Lift Beam Mk 30 Mod 0 consists of an aluminum strongback with crossarms fore and aft, a lift eye, and lift link. The strongback is two aluminum-channel weldments fastened back to back with spacer plates situated at each end and along its length. One lift plate is located at the beam's center of gravity for handling under no-load condition. The other lift plate has a lift link and is located at a point along the beam which is the center of gravity when attached to a canister. The lift link can be located at either or two positions, one for canister with HARPOON Missile and the other for empty canister. A quick-release pin serves to secure the lift link in the selected position. Slots in the crossarms engage with lift points on HARPOON canisters. Quick release pins secure the beam to the canister.



REFERENCE DATA:	
ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HR000
Op. Proc.	OR-67/50
EIC/WUC	86HR
SM&R Code	None

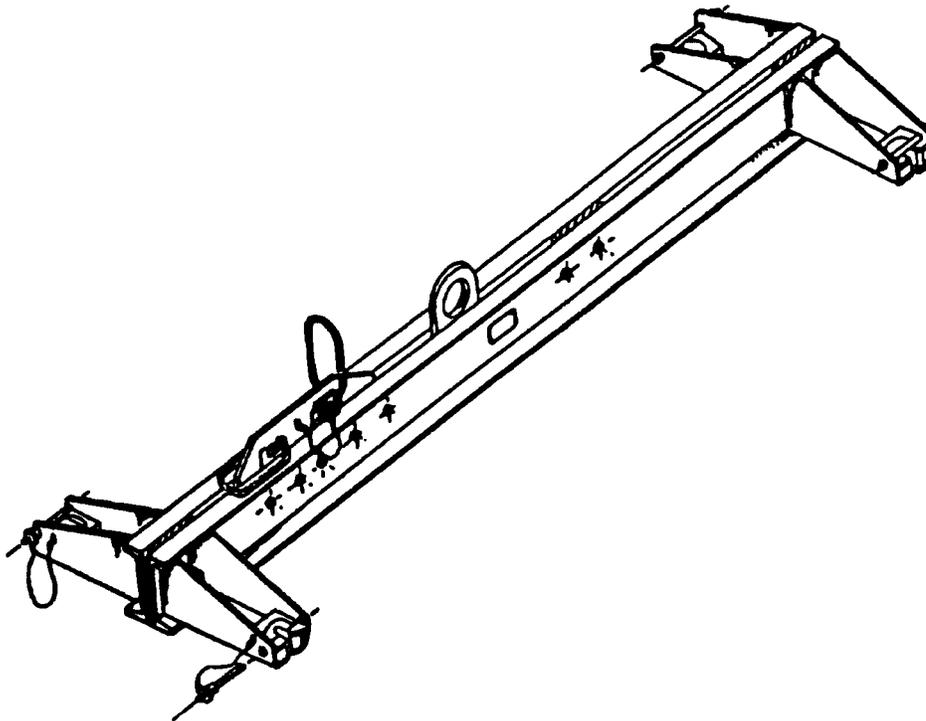
PHYSICAL DATA:	
Length	83.88 inches
Width	27.31 inches
Height	10.00 inches
Weight	83 pounds
SWL	2150 pounds

APPLICATION. Low Overhead Lift Beam Mk 30 Mod 0 is used for handling HARPOON Canisters, empty or loaded with RGM-84A-3 Missiles, in areas having relatively low vertical clearances. Low Overhead Lift Beam Mk 30 Mod 0 is obsolescent and is replaced by Low Overhead Lift Beam Mk 30 Mod 1.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Low Overhead Lift Beam Mk 30 Mod 0.

**BEAM, LIFT, LOW OVERHEAD
MK 30 MOD 1
DL 5167255
NSN 9Z 1450-01-217-8823**

DESCRIPTION. Low Overhead Lift Beam Mk 30 Mod 1 consists of an aluminum alloy strongback with crossarms forward and aft, adjustable lifting links and a lift eye. The strongback is two aluminum channel weldments fastened back to back with spacer plates. One lift plate is located at the beams center of gravity for handling under no-load conditions. The other lift plate has an adjustable lift link for the HARPOON Grade B Canisters and a second adjustable lift link for the HARPOON thickwall canister. The lift links adjust to the center of gravity of each canister and are held in position selected by a quick release pin assembly. Quick release pins are also used to secure the beam to the canister.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts None
 Op. Proc. OR-67/99
 EIC/WUC 86J3
 SM&R Code PAOGG

PHYSICAL DATA:

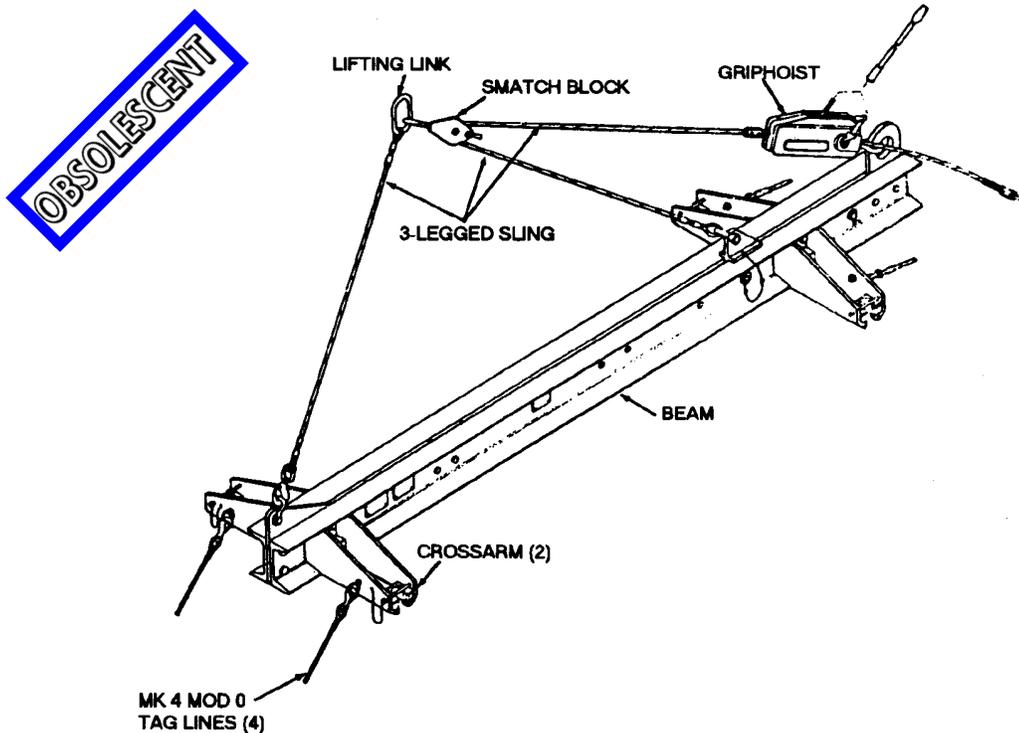
Length 83.88 inches
 Width (crossarms) 27.31 inches
 Height 10.00 inches
 Weight 90 pounds
 SWL 5000 pounds

APPLICATION. Low Overhead Lift Beam Mk 30 Mod 1 is used in areas having relatively low-vertical clearances to handle empty and loaded HARPOON canisters and HARPOON thickwall canisters.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Low Overhead Lift Beam Mk 30 Mod 1.

**BEAM, HOIST ROTATION
MK 31 MOD 2
DL 5167237
NSN 7H 3940-01-253-4735**

DESCRIPTION. Hoist Rotation Beam Mk 31 Mod 2 consists of an aluminum alloy beam with two crossarms (one forward and one aft) and a three-legged sling assembly. The sling assembly includes a lifting link. A forward leg terminating with a safety hook, and two aft legs formed by a single length of wire rope threaded through a swivel snatch block which is attached to the lifting link. The aft legs terminate with the griphoist safety hook at the aft lifting eye and a shackle at the intermediate hoist eye. The aft legs are adjustable in length by means of the griphoist.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts . . . MIP 7221/R41, OR-99/86JK000
 Op. Proc. OR-67/100
 EIC/WUC 86JK
 SM&R Code None

PHYSICAL DATA:

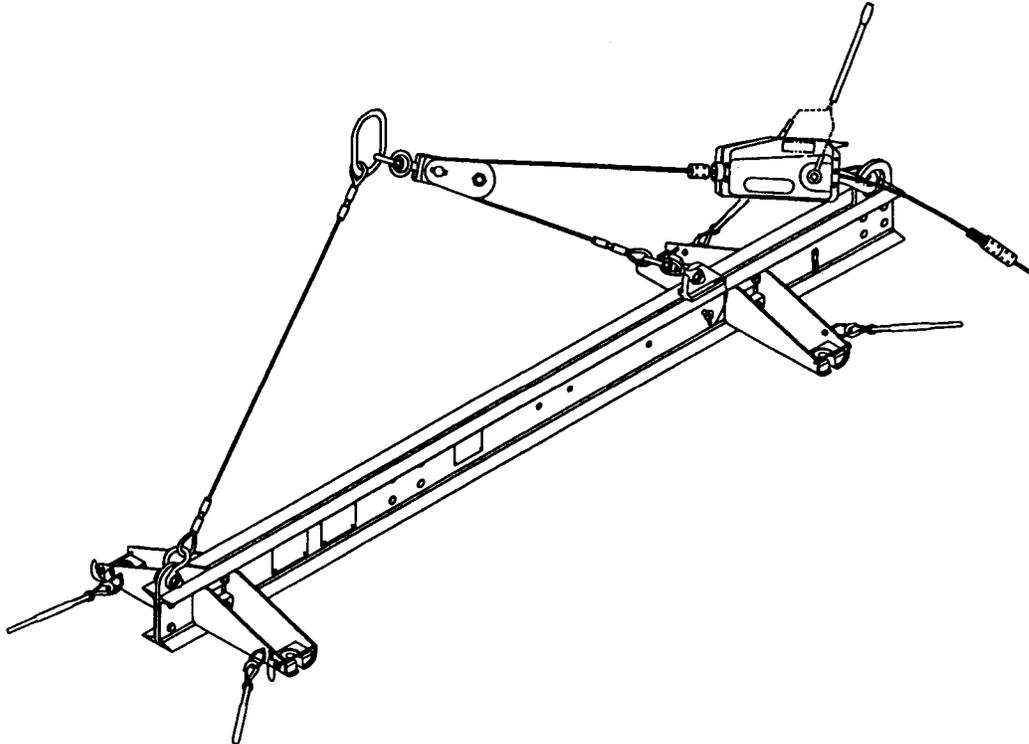
Length 105.88 inches
 Width 27.31 inches
 Height 10.00 inches
 Weight 146.50 pounds
 SWL 4500 pounds

APPLICATION. Hoist Rotation Beam Mk 31 Mod 2 is used with an overhead crane at dockside for loading/unloading HARPOON thickwall and Grade B canisters aboard combatant ships. It has the capability to alter the attitude of the canister from 0 degrees horizontal to 35 degrees. Hoist Rotation Beam Mk 31 Mod 2 is obsolescent and is replaced by Hoist Rotation Beam Mk 31 Mod 3.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoist Rotation Beam Mk 31 Mod 2.

**BEAM, HOIST ROTATION
MK 31 MOD 3
DL 6213442
NSN 9C 1450-01-438-0914**

DESCRIPTION. Hoist Rotation Beam Mk 31 Mod 3 consists of an aluminum alloy beam with two crossarms (one forward and one aft) and a three-legged sling assembly. The sling assembly includes a lifting link, a forward leg terminating with a shackle, and two aft legs formed by a single length of wire rope with the griphoist safety hook at the aft lifting eye and a jaw end swivel at the intermediate hoist eye. The aft legs are adjustable in length by means of the griphoist.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7221/R41
Op. Proc.	OR-67/187
EIC/WUC	86HE
SM&R Code	PAOHG

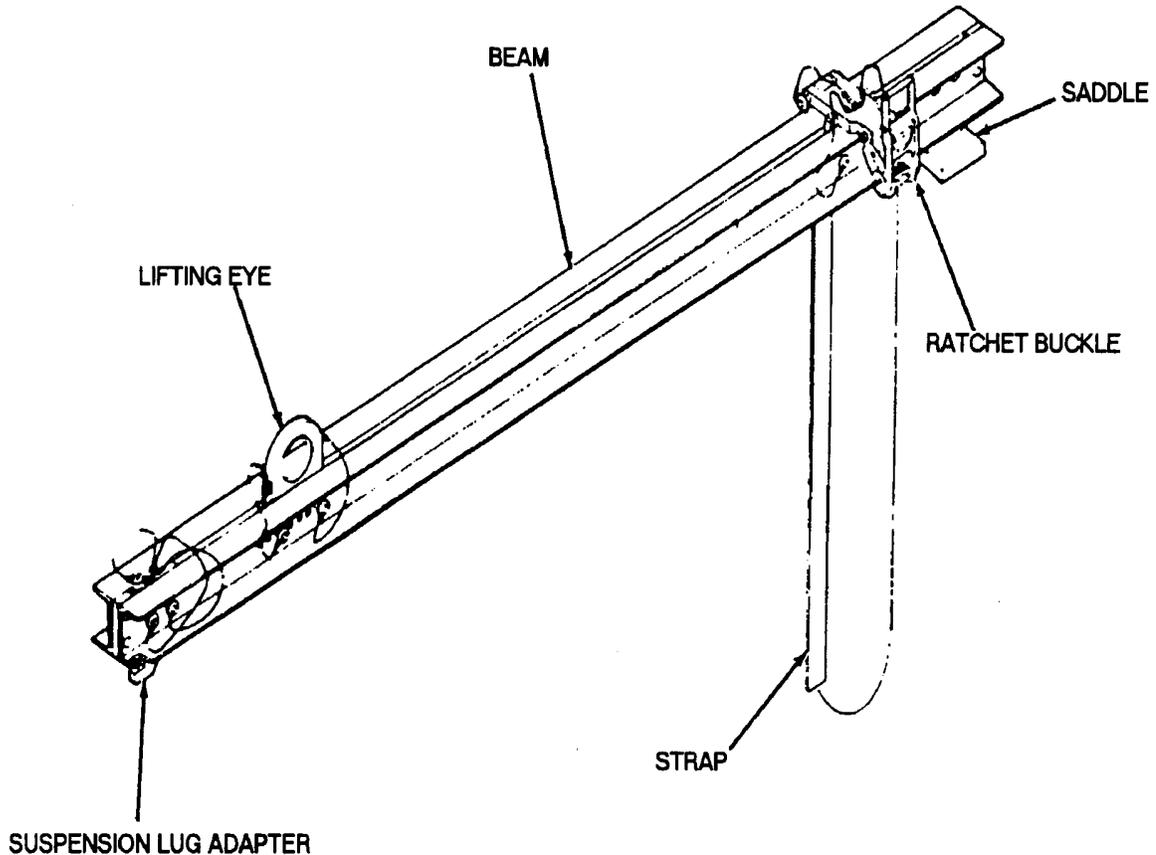
PHYSICAL DATA:	
Length	105.88 inches
Width	27.31 inches
Height	10.00 inches
Weight	146.50 pounds
SWL	4500 pounds

APPLICATION. Hoist Rotation Beam Mk 31 Mod 3 is used with an overhead crane at dockside for loading/unloading HARPOON thickwall and Grade B canisters aboard combatant ships. It has the capability to alter the attitude of the canister from the horizontal (level) to 35 degrees.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoist Rotation Beam Mk 31 Mod 3.

**BEAM, LIFT
(HARPOON/SLICK MISSILE)
MK 32 MOD 0
DL 5166233
NSN 1H 1450-01-111-8363**

DESCRIPTION. Lift Beam Mk 32 Mod 0 consists of an aluminum alloy beam with one rubber lined saddle aft, a suspension-lug adapter forward, an adjustable lifting eye secured with two quick-release pins, and a dacron strap with ratchet buckle. A quick-release pin at the forward end of the beam assures safe securement of the HARPOON/SLICK Missile's forward suspension lug with the beam's forward adapter.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	OR-67/64
EIC/WUC	86HS
SM&R Code	PAHHH

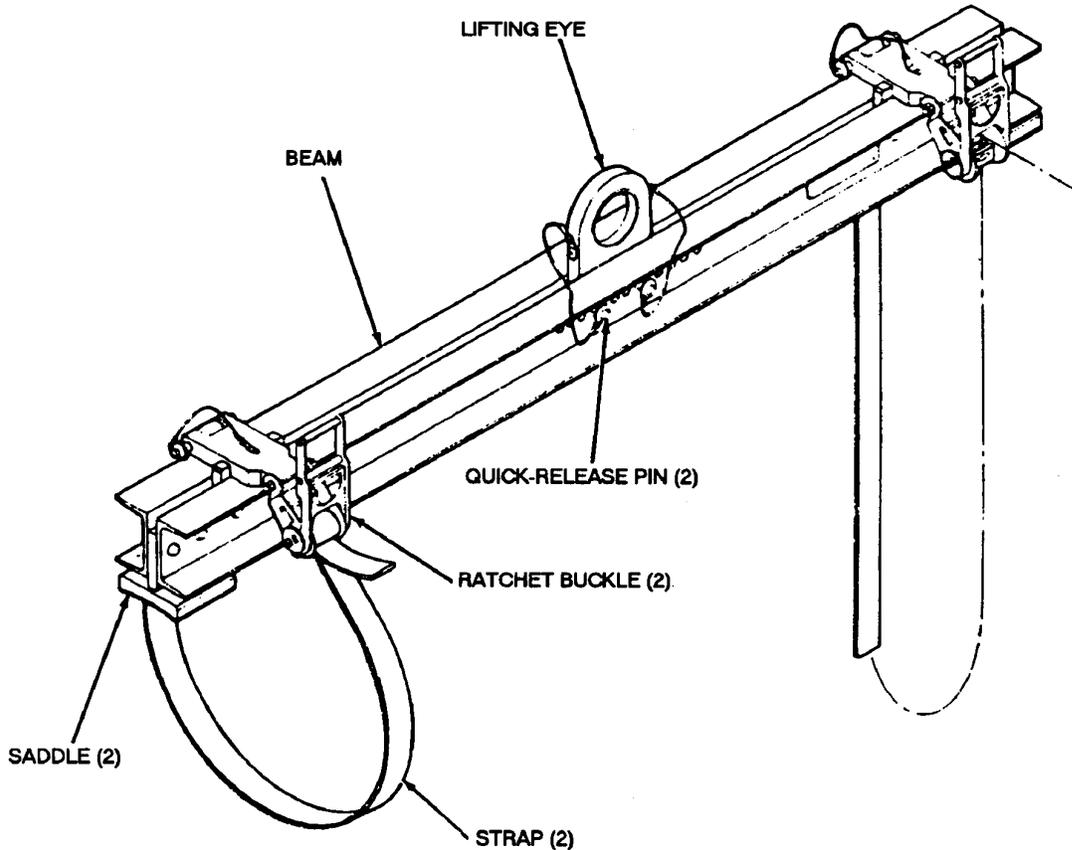
PHYSICAL DATA:	
Length	88.00 inches
Width	6.00 inches
Height	8.00 inches
Weight	60 pounds
SWL	1300 pounds

APPLICATION. Lift Beam Mk 32 Mod 0 is used with an overhead crane or hoist for lifting HARPOON/SLICK Missiles from their containers to the missile assembly stand or from the assembly stand into the containers.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 32 Mod 0.

**BEAM, LIFT
(HARPOON SUSTAINER)
MK 33 MOD 0
DL 5166505
NSN 9B 1450-01-111-8364**

DESCRIPTION. Lift Beam Mk 33 Mod 0 consists of an aluminum alloy beam with two rubber lined saddles (one forward and one aft), an adjustable lifting eye secured with two quick-release pins, and two dacron straps with ratchet buckles. The straps and buckles are for securement of the beam to the HARPOON sustainer.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	OR-67/65
EIC/WUC	86HT
SM&R Code	PEHHH

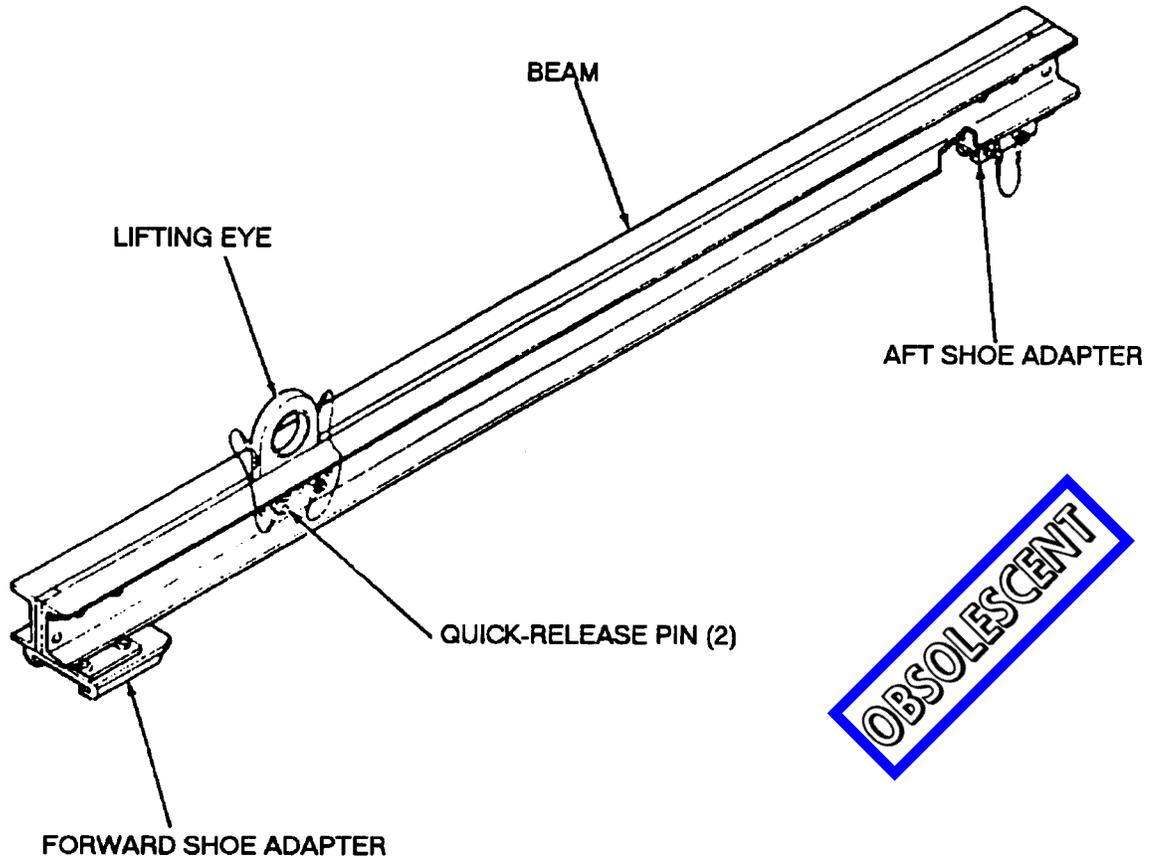
PHYSICAL DATA:	
Length	60.50 inches
Width	6.00 inches
Height	12.00 inches
Weight	60 pounds
SWL	500 pounds

APPLICATION. Lift Beam Mk 33 Mod 0 is used with an overhead crane or hoist for lifting HARPOON sustainers from their containers to an assembly stand or from the assembly stand into the containers.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 33 Mod 0.

**BEAM, LIFT
(HARPOON/TARTAR-LAUNCH MISSILE)
MK 34 MOD 0
DL 5166502
NSN 9B 1450-01-111-8365**

DESCRIPTION. Lift Beam Mk 34 Mod 0 consists of an aluminum beam with an adjustable lifting eye secured to it with two quick release pins. Shoe adapters at each end of the beam are for engagement with the forward and aft launch shoes on the HARPOON/TARTAR-Launch Missile.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	None
EIC/WUC	86HU
SM&R Code	PAHHH

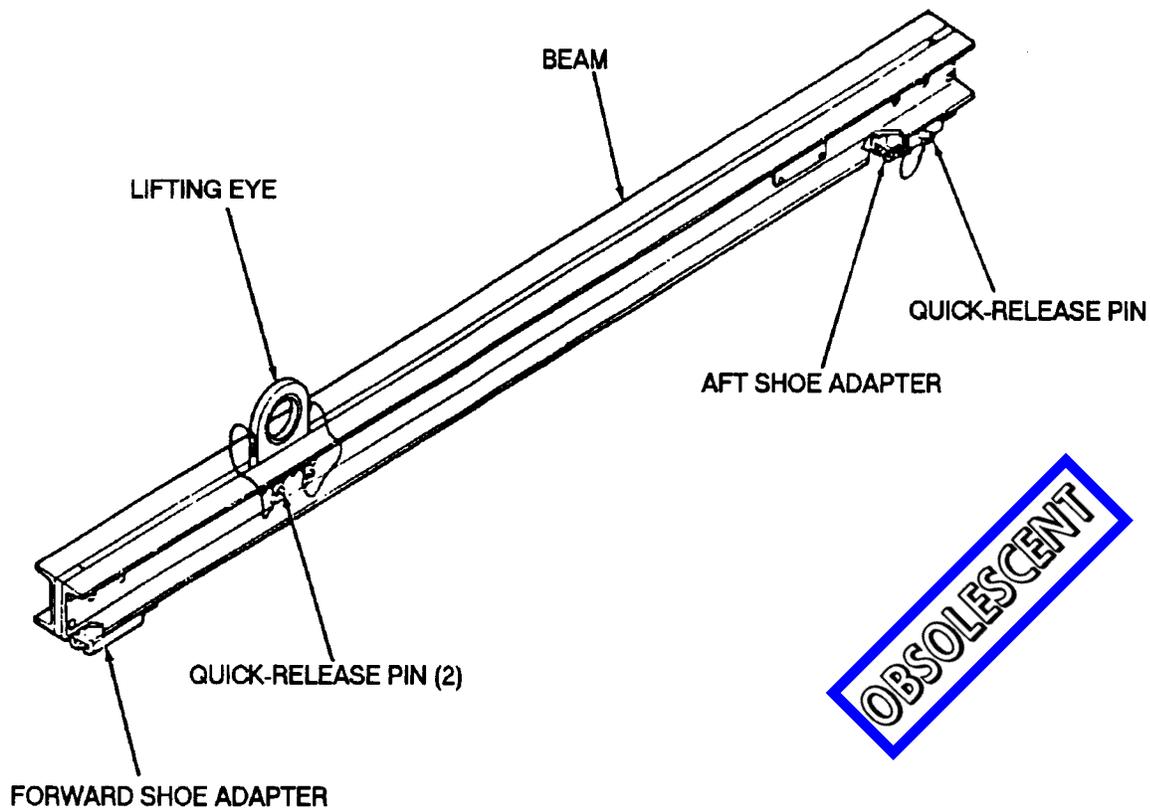
PHYSICAL DATA:	
Length	88.00 inches
Width	6.00 inches
Height	12.00 inches
Weight	60 pounds
SWL	1600 pounds

APPLICATION. Lift Beam Mk 34 Mod 0 is used with an overhead crane or hoist for lifting HARPOON/TARTAR-Launch Missiles from their containers to the missile assembly stand or from the assembly stand to the containers.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 34 Mod 0.

**BEAM, LIFT
(HARPOON CAP/CAN MISSILE)
MK 35 MOD 0
DL 5166503-1
NSN 1H 1450-01-117-9729**

DESCRIPTION. Lift Beam Mk 35 Mod 0 consists of an aluminum alloy beam with an adjustable lifting eye secured to it with two quick-release pins. Shoe adapters at each end of the beam are for engagement with the forward and aft launch shoes on the HARPOON CAP/CAN Missile. A quick-release pin in the aft adapter assures safe securement of the beam to the missile.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	OR-67/67
EIC/WUC	86HV
SM&R Code	None

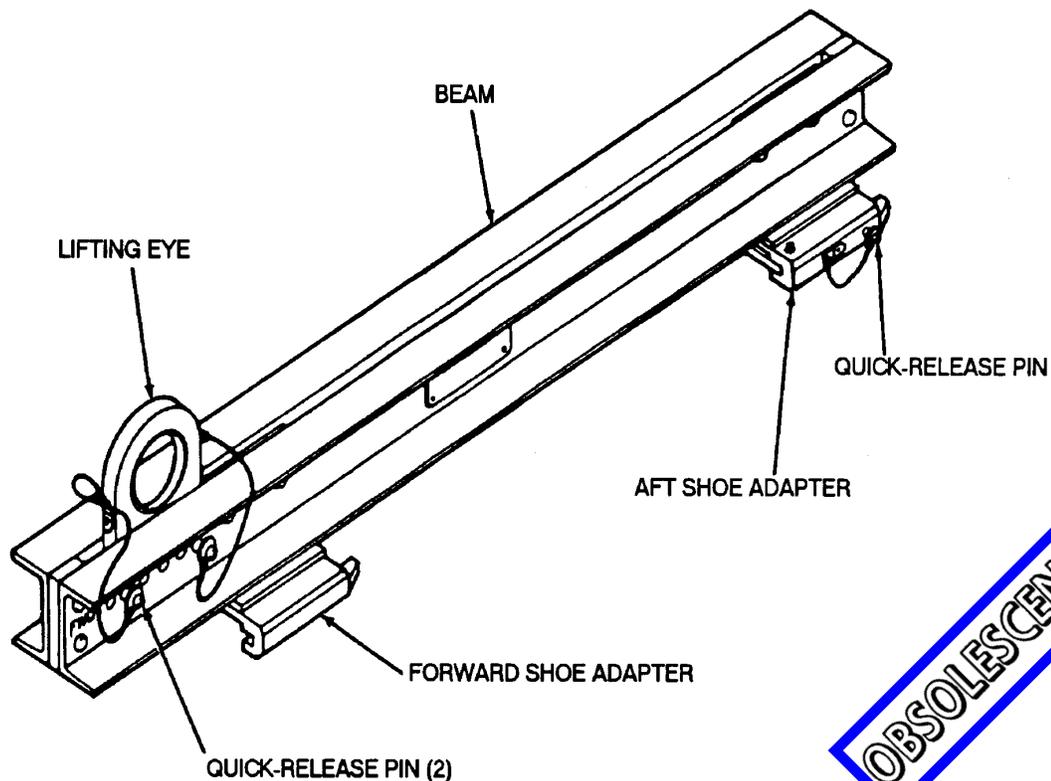
PHYSICAL DATA:	
Length	88.00 inches
Width	4.00 inches
Height	10.25 inches
Weight . . . . .	.60 pounds
SWL	1550 pounds

APPLICATION. Lift Beam Mk 35 Mod 0 is used with an overhead crane or hoist for lifting HARPOON CAP/CAN Missile from their containers to the missile assembly stand or from the assembly stand into the containers. Lift Beam Mk 35 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 35 Mod 0.

**BEAM, LIFT
(HARPOON/ASROC MISSILE)
MK 36 MOD 0
DL 5166473-2
NSN 3B 1450-01-359-3846**

DESCRIPTION. Lift Beam Mk 36 Mod 0 consists of an aluminum alloy beam with an adjustable lifting eye secured to it with two quick-release pins. Shoe adapters are situated on the beam for engagement with the forward and aft launch shoes on the HARPOON/ASROC Missile. A quick-release pin in the aft adapter assures safe securement of the beam to the missile.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	OR-67/68
EIC/WUC	86HW
SM&R Code	None

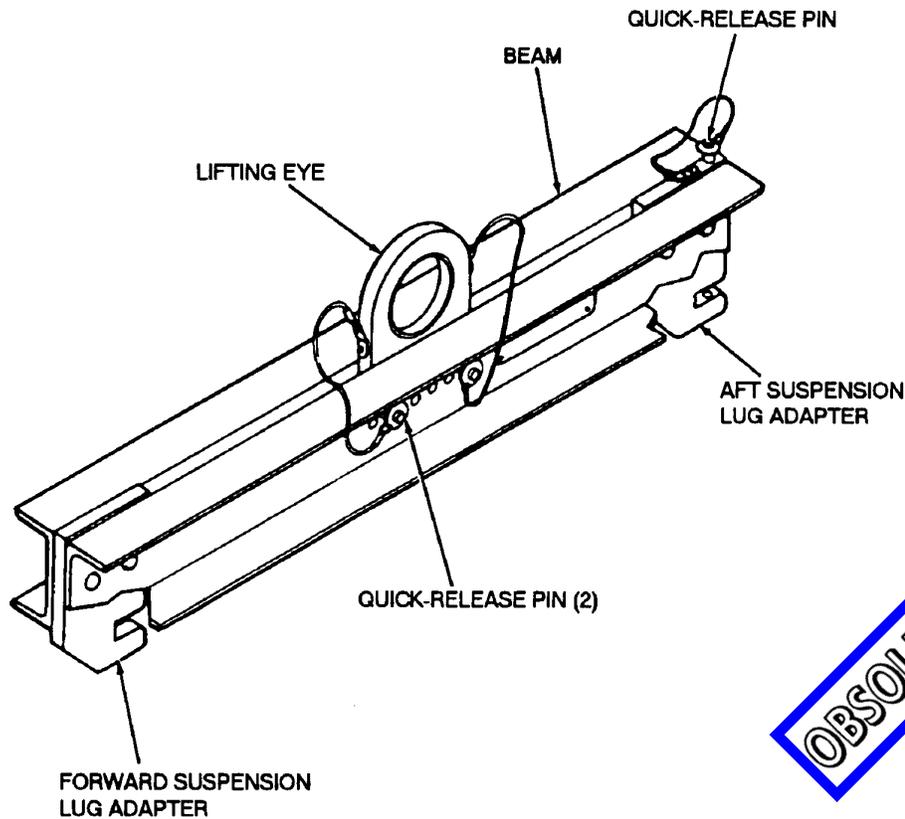
PHYSICAL DATA:	
Length	47.50 inches
Width	6.50 inches
Height . . . . .	.11.00 inches
Weight	35 pounds
SWL	1500 pounds

APPLICATION. Lift Beam Mk 36 Mod 0 is used with an overhead crane or hoist for lifting HARPOON/ASROC Missiles from their containers to the missile assembly stand or from the assembly stand into the containers. Lift Beam Mk 36 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 36 Mod 0.

**BEAM, LIFT
(HARPOON/AIR LAUNCH MISSILE)
MK 37 MOD 0
DL 5166501-1
NSN 3C 1450-01-111-8366**

DESCRIPTION. Lift Beam Mk 37 Mod 0 consists of an aluminum alloy beam with an adjustable lifting eye secured to it with two quick-release pins. Suspension lug adapters at each end of the beam are for engagement with the forward and aft suspension lugs on the HARPOON/Air Launch Missile. A quick-release pin in the aft suspension lug adapter assures safe securement of the beam to the missile.



OBSOLESCE

REFERENCE DATA:	
ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test NAVSEA SG420-AP-MMA-010	
PMS/Maint. Insts OR-99/86HS000	
Op. Proc. OR-67/69	
EIC/WUC 86HX	
SM&R Code None	

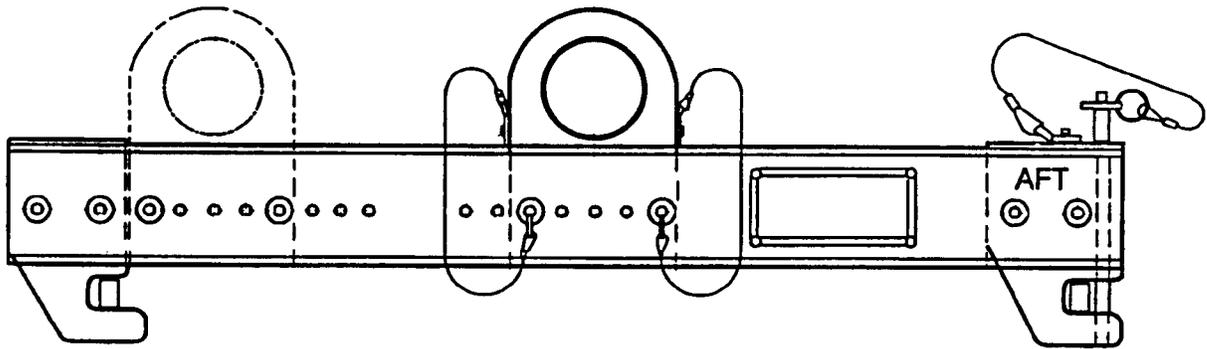
PHYSICAL DATA:	
Length	34.25 inches
Width	3.50 inches
Height	12.00 inches
Weight	35 pounds
SWL	1200 pounds

APPLICATION. Lift Beam Mk 37 Mod 0 is used with an overhead crane or hoist for lifting HARPOON/Air Launch Missiles from their containers to the missile assembly stand or from the assembly stand into the containers. Lift Beam Mk 37 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 37 Mod 0.

**BEAM, LIFT
(HARPOON AIR LAUNCH)
MK 37 MOD 1
DL 6212913
NSN 3C 1450-01-503-9460**

DESCRIPTION. Lift Beam Mk 37 Mod 1 is fabricated of aluminum and has an adjustable lifting eye which is secured by two quick release pins. Shoe adapters are located at each end of the beam for engagement with the forward and aft launch lugs on the missile to be lifted.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	PAGGG

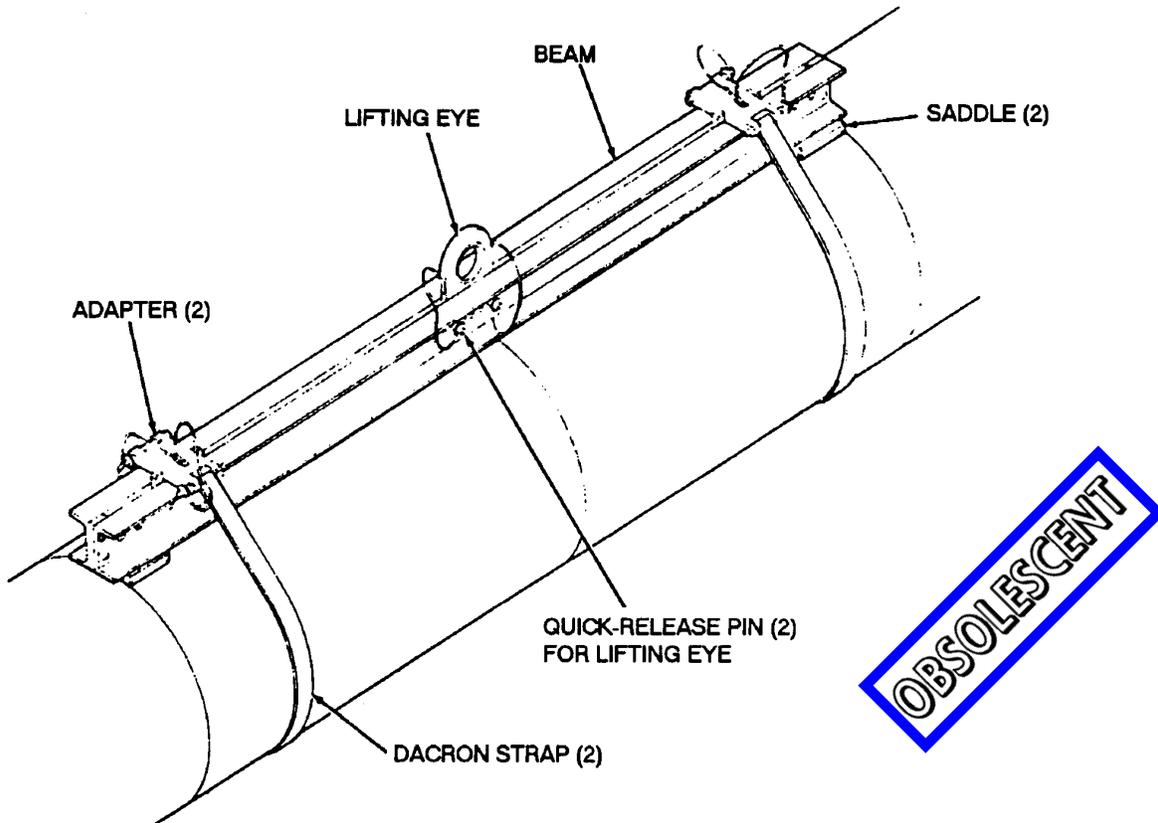
PHYSICAL DATA:	
Length	34.25 inches
Width	3.50 inches
Height	12.00 inches
Weight	35 pounds
SWL	1450 pounds

APPLICATION. Lift Beam Mk 37 Mod 1 is used for lifting the SLAM Air Launched Missile and the HARPOON Air Launch Missiles.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 37 Mod 1.

**BEAM, LIFT
(HARPOON/CAPSULE MISSILE)
MK 38 MOD 0
DL 5166504
NSN 1H 1450-01-119-8852**

DESCRIPTION. Lift Beam Mk 38 Mod 0 consists of an aluminum alloy beam with two rubber lined saddles (one forward and one aft), an adjustable lifting eye secured with two quick-release pins, and two adapters (one forward and one aft) with dacron straps. Quick-release pins in each adapter are for securing the straps around the HARPOON/Capsule Missile.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	OR-67/70
EIC/WUC	86HY
SM&R Code	PAHHH

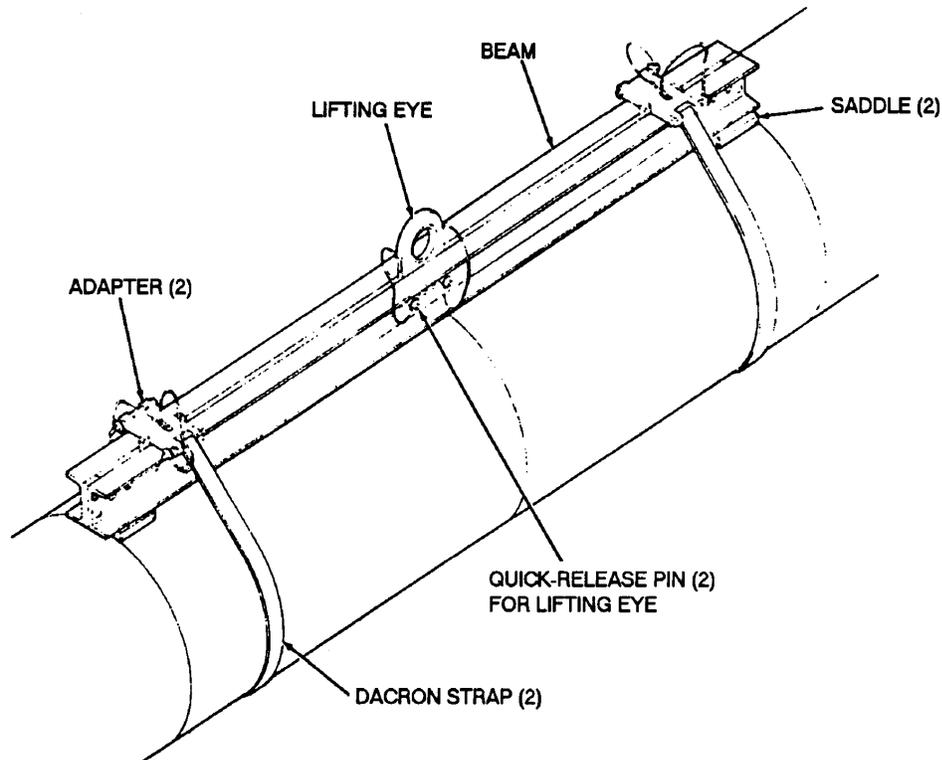
PHYSICAL DATA:	
Length	78.00 inches
Width	6.50 inches
Height	11.00 inches
Weight	60 pounds
SWL	2500 pounds

APPLICATION. Lift Beam Mk 38 Mod 0 is used with an overhead crane or hoist for lifting HARPOON/Capsule Missiles from their containers to the missile assembly stand or from the assembly stand into the containers. Lift Beam Mk 38 Mod 0 is obsolescent and is replaced by Lift Beam Mk 38 Mod 1.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 38 Mod 0.

**BEAM, LIFT
(HARPOON/CAPSULE MISSILE)
MK 38 MOD 1
DL 6214309
NSN NOT ASSIGNED**

DESCRIPTION. Lift Beam Mk 38 Mod 1 consists of an aluminum alloy beam with two rubber lined saddles (one forward and one aft), an adjustable lifting eye secured with two quick-release pins, and two adapters (one forward and one aft) with dacron straps. Quick-release pins in each adapter are for securing the straps around the HARPOON/Capsule Missile. This beam is equipped with a new strap, pad and nameplate.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	OR-67/70
EIC/WUC	86HY
SM&R Code	PAHHH

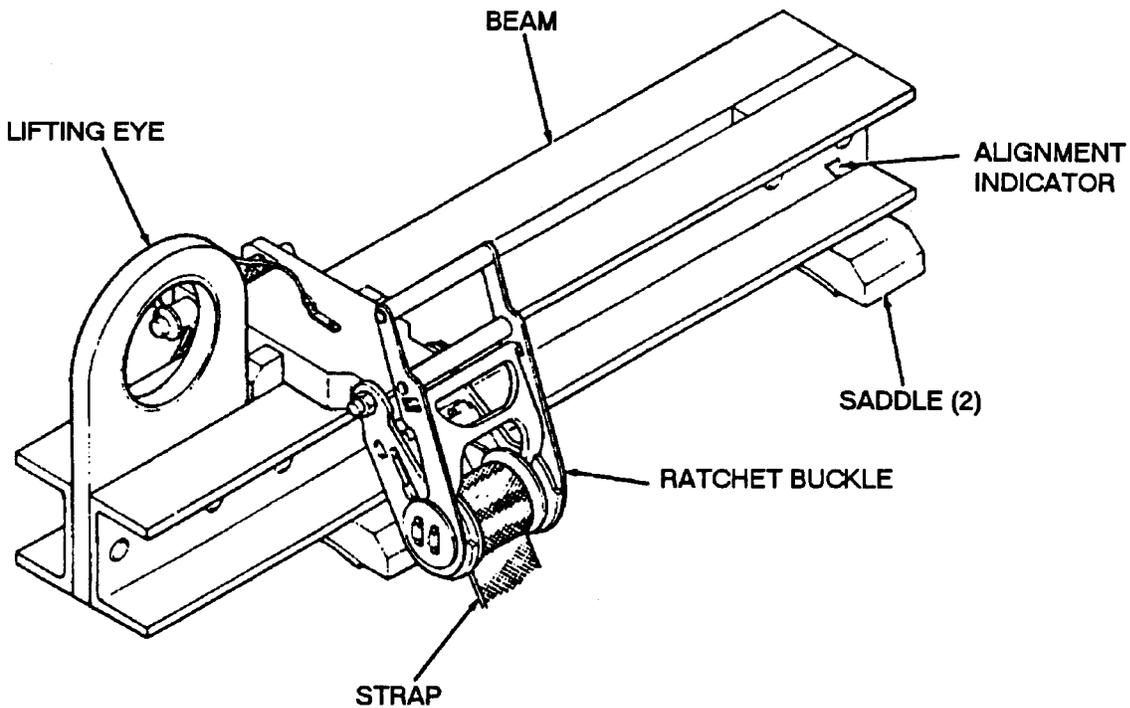
PHYSICAL DATA:	
Length	78.00 inches
Width	6.50 inches
Height . . . . .	.11.00 inches
Weight	60 pounds
SWL	2500 pounds

APPLICATION. Lift Beam Mk 38 Mod 1 is used with an overhead crane or hoist for lifting HARPOON/Capsule Missiles from their containers to the missile assembly stand or from the assembly stand into the containers.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 38 Mod 1.

**BEAM, LIFT
(HARPOON WARHEAD SECTION)
MK 40 MOD 0
DL 5166639
NSN 3B 1450-01-151-3222**

DESCRIPTION. Lift Beam Mk 40 Mod 0 consists of an aluminum alloy beam with two rubber lined saddles (one forward and one aft), a lifting eye, and a dacron strap with a ratchet buckle. An alignment indicator located near the aft end of the beam is used as a guide in positioning the HARPOON warhead section on the beam.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86HS000
Op. Proc.	OR-67/62
EIC/WUC . . . . .	.86J1
SM&R Code	PEHHH

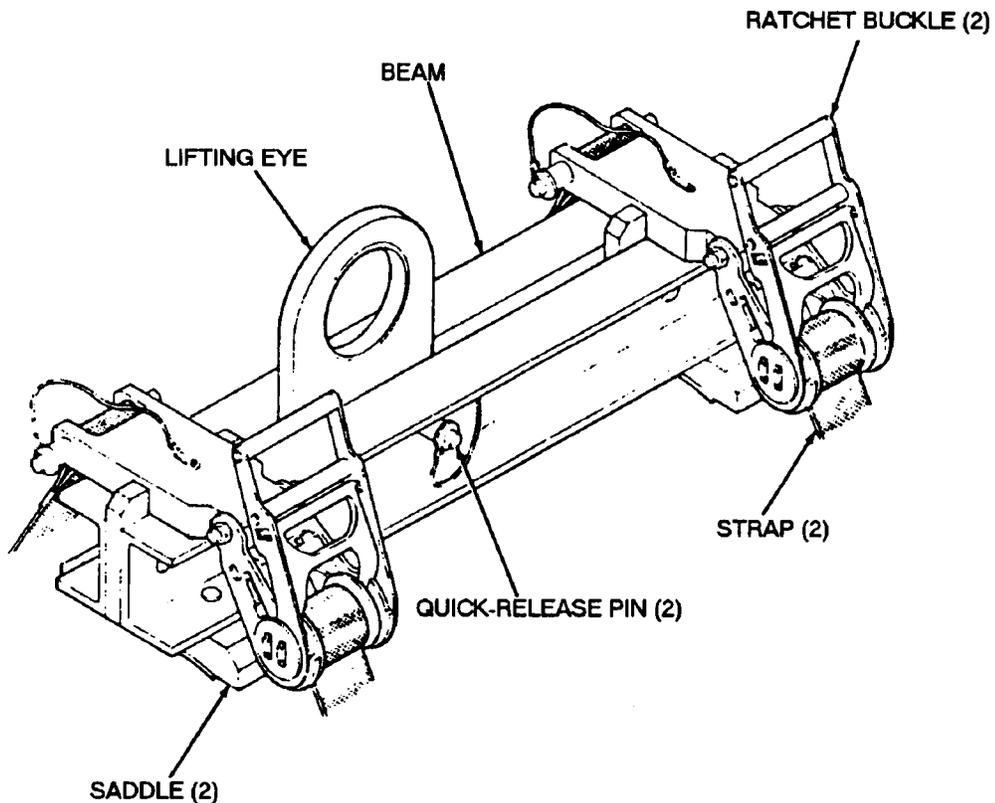
PHYSICAL DATA:	
Length	24.56 inches
Width	6.50 inches
Height	9.00 inches
Weight	16 pounds
SWL	550 pounds

APPLICATION. Lift Beam Mk 40 Mod 0 is used with an overhead crane or hoist for lifting HARPOON warhead sections from their containers to the missile assembly stand or from the assembly stand into the containers.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 40 Mod 0.

**BEAM, LIFT
(HARPOON GUIDANCE/ROCKET MOTOR SECTION)
MK 41 MOD 0
DL 5166647
NSN 9B 1450-01-142-1737**

DESCRIPTION. Lift Beam Mk 41 Mod 0 consists of an aluminum alloy beam with two rubber lined saddles (one forward and one aft), an adjustable lifting eye secured with two quick-release pins, and two dacron straps with ratchet buckles. The lifting eye can be located on the beam in either of two positions, one for handling the HARPOON rocket motor and one for handling the HARPOON guidance section.



REFERENCE DATA:

ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts OR-99/86HS000
 Op. Proc. OR-67/63
 EIC/WUC 86J2
 SM&R Code PEHHH

PHYSICAL DATA:

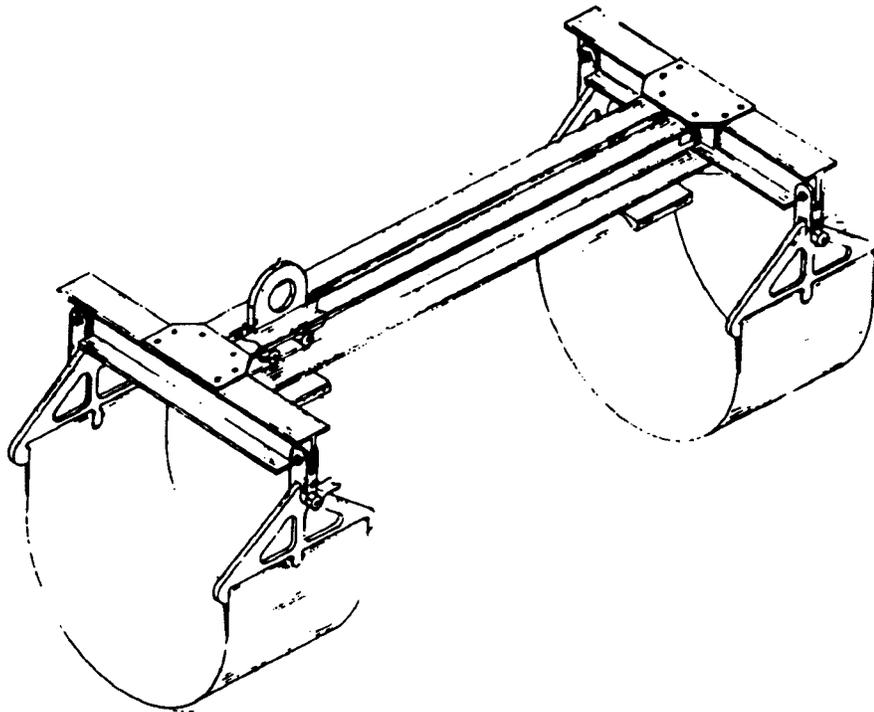
Length 19.50 inches
 Width 6.00 inches
 Height 9 inches
 Weight 19 pounds
 SWL 300 pounds

APPLICATION. Lift Beam Mk 41 Mod 0 is used with an overhead crane or hoist for lifting the missile sections from their containers to the missile assembly stand or from the assembly stand into the containers.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lift Beam Mk 41 Mod 0.

**BEAM, LIFT
MK 44 MOD 0
DL 5167164
NSN 9B 1450-01-253-1126**

DESCRIPTION. TOMAHAWK Lift Beam Mk 44 Mod 0 consists of two aluminum channel beams with crossarms bolted forward and aft, an adjustable lift eye, and two detachable woven nylon sling assemblies. The two sling assemblies are attached to the forward and aft crossarms by quick release pins. Support pads are mounted at the contact points of the beam to prevent damage to the missile surface during handling operations. The lift eye easily adjusts using two quick release pins.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts . . . MIP 7221/R42, OR-99/86QJ000
 Op. Proc. OR-67/93
 EIC/WUC 86QJ
 SM&R Code PAGHH

PHYSICAL DATA:

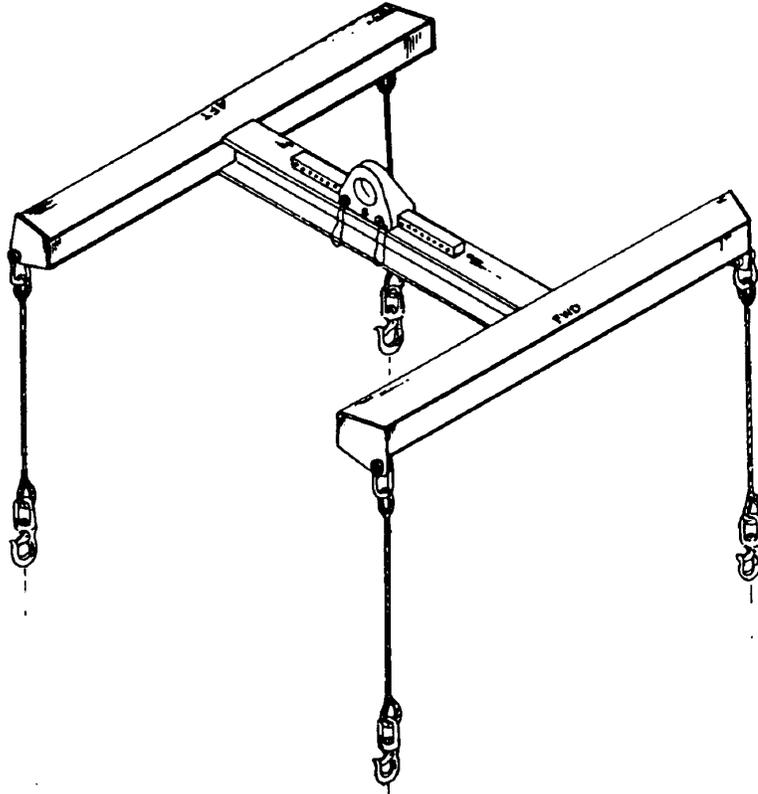
Length 50.50 inches
 Width 23.40 inches
 Height 9.69 inches
 Weight 50 pounds
 SWL 4500 pounds

APPLICATION. TOMAHAWK Lift Beam Mk 44 Mod 0 is used during warheading operations in shipboard or shore-based environments. It is used to remove the encapsulated and encanistered TOMAHAWK Missile from Munitions Transporter MHU-191/M (missile chocks and position it on the missile warheading stand).

ASSOCIATED EQUIPMENT. Munitions Transporter MHU-191/M.

**BEAM, AUR CONTAINER HOISTING
MK 46 MOD 0
DL 5167804
NSN NOT ASSIGNED**

DESCRIPTION. AUR Container Hoisting Beam Mk 46 Mod 0 is an aluminum weldment in the shape of an “H”. It has four cable legs with safety hooks and an adjustable lifting eye assembly. The cable legs interface with Lift Rings CNU-308/E. The adjustable lifting eye assembly allows container balance when lifting AUR's with different centers of gravity.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts . . .	MIP 7221/R34, OR-99/86QG000
Op. Proc.	OR-67/108
EIC/WUC	86QG
SM&R Code	PAGGD

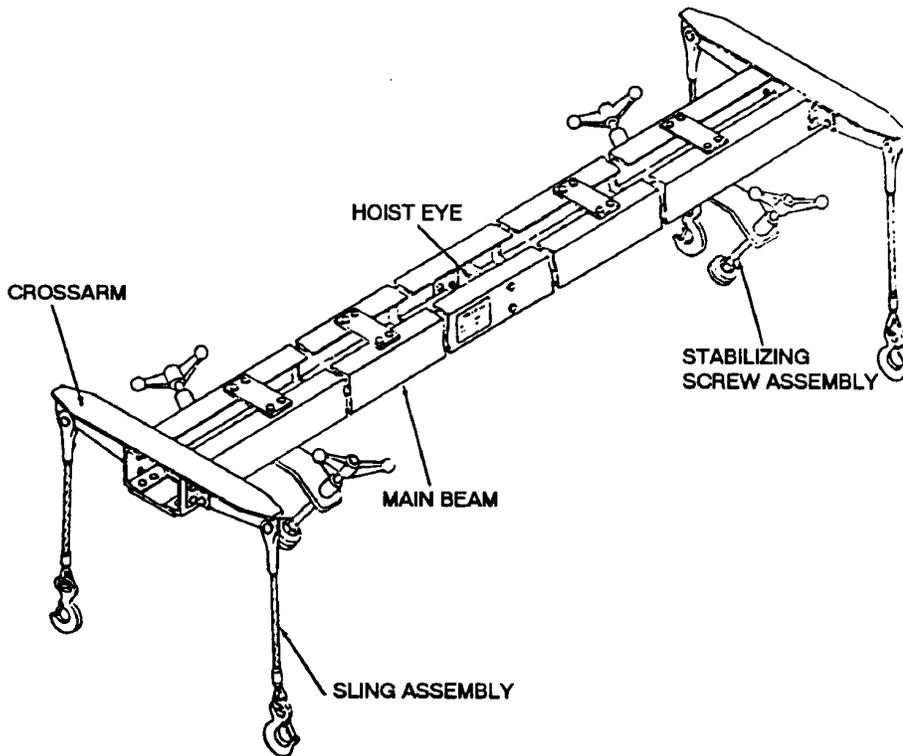
PHYSICAL DATA:	
Length	60.80 inches
Width	64.33 inches
Height	10.00 inches
Weight	375 pounds
SWL	7000 pounds

APPLICATION. AUR Container Hoisting Beam Mk 46 Mod 0 provides a means for handling and stacking TOMAHAWK Missiles in Containers CNU-308/E at shore activities.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with AUR Container Hoisting Beam Mk 46 Mod 0.

**BEAM, CONTAINER HANDLING
MK 49 MOD 0
DL 5167620
NSN 7H 1450-01-439-6024**

DESCRIPTION. Container Handling Beam Mk 49 Mod 0 consists of an aluminum box section strongback assembled with bolts and self locking nuts. At each end of the strongback, two arms extend horizontally and perpendicular to the strongback box section. The arm assemblies support four fixed length wire rope legs each terminating with a gated safety hook. The four sling hooks engage Container Mk 470 lift eyes. The beam is hoisted with its single container payload by engaging a magazine hoist hook at the geometric center of the strongback box section.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	86E2
SM&R Code	PAGGD

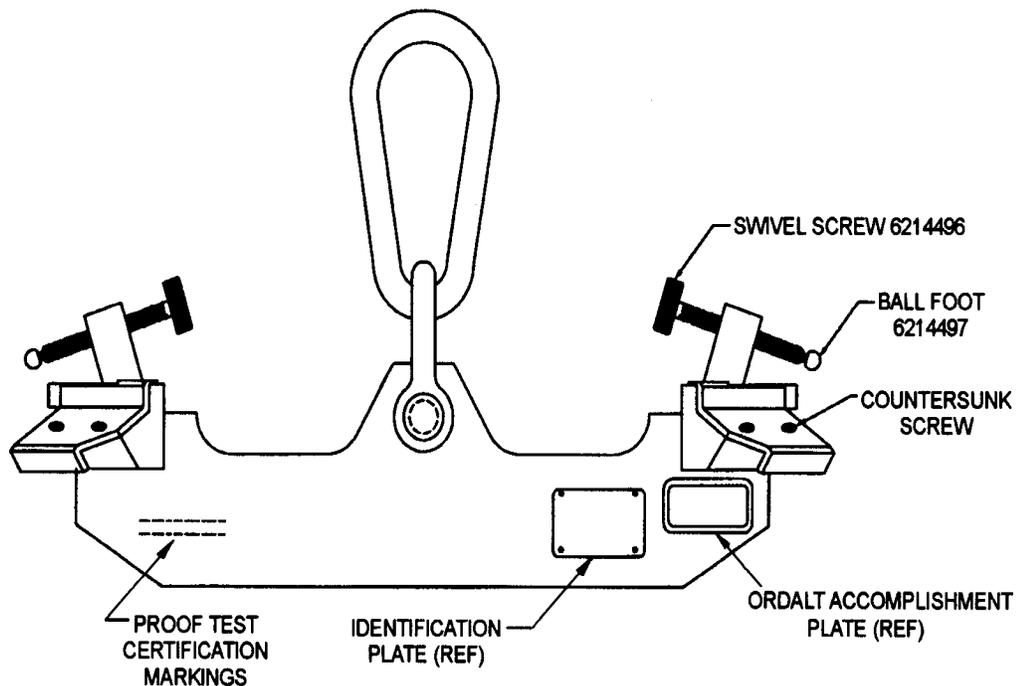
PHYSICAL DATA:	
Length	132.50 inches
Width	26.50 inches
Height	22.50 inches
Weight . . . . .	.65 pounds
SWL	1000 pounds

APPLICATION. Container Handling Beam Mk 49 Mod 0 is designed for use with the NATO SEASPARROW Container Mk 470 Mod 0 in the DD-963 Class shipboard magazines.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Container Handling Beam Mk 49 Mod 0.

**BEAM, CANISTER, ADAPTER LIFT
MK 50 MOD 0
PL 5599196-19
NSN 8T 1450-01-527-4101**

DESCRIPTION. Adapter Lift Canister Beam Mk 50 Mod 0 is an aluminum weldment that engages to the opposite corners of Adapter Assembly Canister Mk 18 Mods 0 or 1. There is one single lift ring at the top center of the beam. It is held in place by two hand-tightened ball foot swivel screws and equipped with nylon pads that provide protection to the ablative material that lines the canister's interior. ORDALT #16855 converts the original beam (PL 5599196-9; NSN 8T 1450-01-262-1145), which contained two hand-tightened cushioned threaded studs and rubber pads, to this configuration.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts . . .	MIP 7221/H01, OR-99/86BM000
Op. Proc.	OR-67/131
EIC/WUC.	86BM
SM&R Code	PAHHD
NALC.	4W47

PHYSICAL DATA:	
Length	25.00 inches
Width	7.50 inches
Height.	8.00 inches
Weight	24 pounds
SWL	650 pounds

APPLICATION. Adapter Lift Canister Beam Mk 50 Mod 0 is used aboard ship and interfaces crane whip hook to remove or install Canister Adapter Assembly Mk 18 Mod 0/1.

ASSOCIATED EQUIPMENT. Canister Adapter Assembly Mk 18 Mod 0/1 and Sling Mk 169 Mod 0.

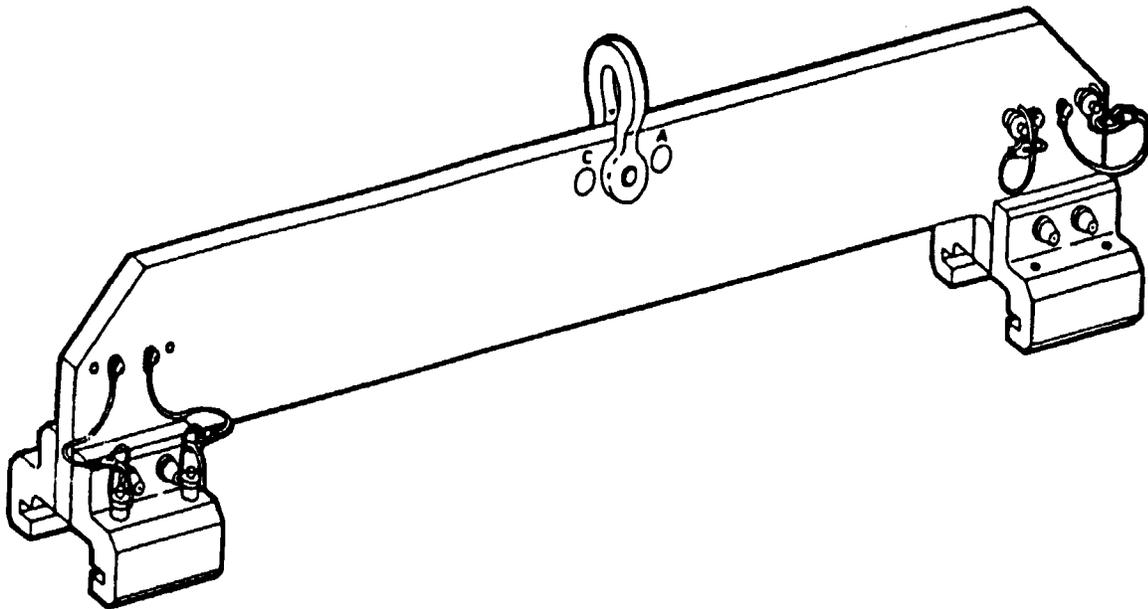
BEAM, VERTICAL LAUNCH ASROC MISSILE HOISTING

MK 51 MOD 0

DL 6204876

NSN 1450-LL-H75-8542

DESCRIPTION. Vertical Launch ASROC Missile Hoisting Beam Mk 51 Mod 0 is an aluminum structure consisting of an adjustable shackle type lift eye to ensure proper center of gravity. The beam is supplied with a lug block at each end to capture the two missile shoes on the VLA Missile for hoisting operations.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts OR-99/85E6000
 Op. Proc. OR-67/115
 EIC/WUC 85E6
 SM&R Code PAHDD

PHYSICAL DATA:

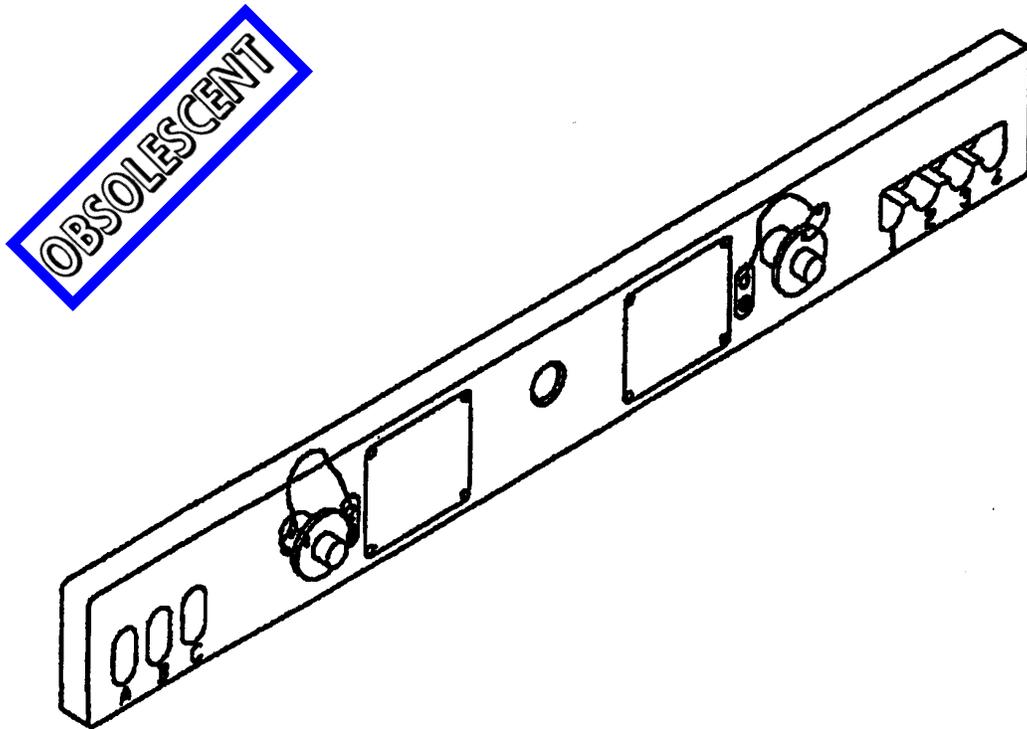
Length 47.83 inches
 Width 2.88 inches
 Height 8.27 inches
 Weight 40 pounds
 SWL 1750 pounds

APPLICATION. Vertical Launch ASROC Missile Hoisting Beam Mk 51 Mod 0 is used at shore based VLA missile IMA's and VLA encanisterization facilities for operations involving lifting of the VLA missile.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Vertical Launch ASROC Missile Hoisting Beam Mk 51 Mod 0.

**BEAM, CONTAINER HANDLING
MK 52 MOD 0
DL 6212876
NSN 9B 3940-01-324-5671**

DESCRIPTION. Container Handling Beam Mk 52 Mod 0 is an aluminum alloy beam with three vertically elongated holes at one end and one cutout with four scallops at the other end. The beam has two quick-release pins to allow for adjustable widths.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts MIP 7521/R11
 Op. Proc. None
 EIC/WUC None
 SM&R Code PA6GZ

PHYSICAL DATA:

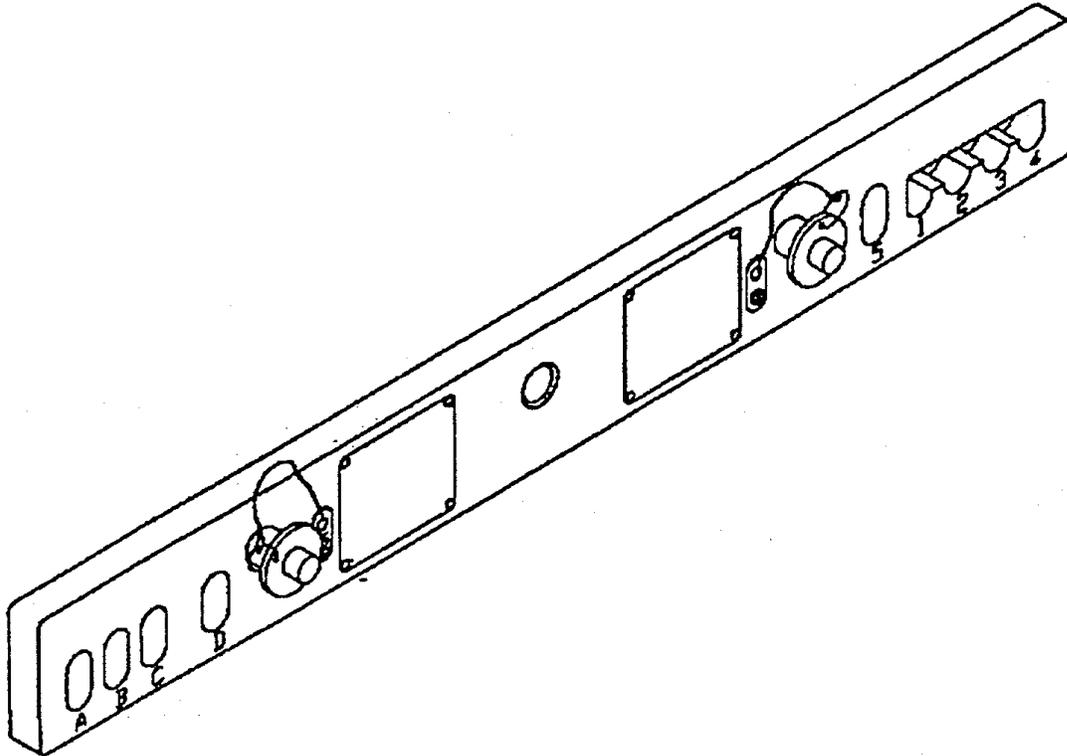
Length 27.00 inches
 Width 0.75 inches
 Height 3.00 inches
 Weight 6 pounds
 SWL 2000 pounds

APPLICATION. Container Handling Beam Mk 52 Mod 0 is used to lift a container by a single point in a low-overhead environment. The beam is used to lift 20- to 25-inch wide containers that are equipped with lift arms. The beam is used when the low-overhead environment does not provide the height necessary to use the Weapon Cradle Hoisting Beam HLU-216A/E. Container Handling Beam Mk 52 Mod 0 is obsolescent and is replaced with Container Handling Beam Mk 52 Mod 1.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Container Handling Beam Mk 52 Mod 0.

**BEAM, CONTAINER HANDLING
MK 52 MOD 1
DL 6213893
NSN 9B 3940-01-453-8558**

DESCRIPTION. Container Handling Beam Mk 52 Mod 1 is constructed of aluminum with four vertically elongated holes at one end, one vertically elongated hole and one cutout with four scallops equally spaced 1 inch apart at the other end. By using two quick-release pins which are supplied with the beam, an adjustable width can be accomplished. A hole is drilled slightly off center of the beam to serve as the pick-up point.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts MIP 7521/R11
 Op. Proc. OR-67/193
 EIC/WUC None
 SM&R Code PAHZZ

PHYSICAL DATA:

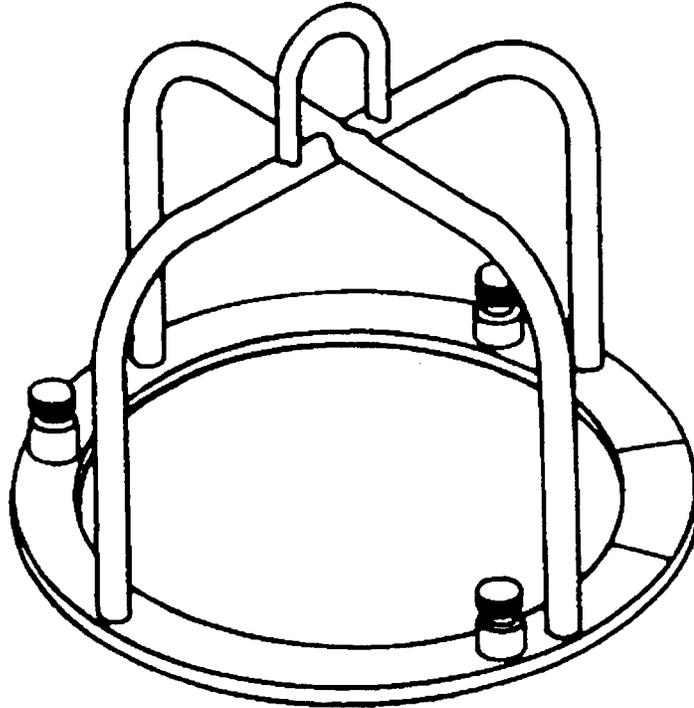
Length 27.00 inches
 Width 0.75 inches
 Height 3.00 inches
 Weight 6 pounds
 SWL 2000 pounds

APPLICATION. Container Handling Beam Mk 52 Mod 1 is used to lift a container by a single point in low overhead environments. The beam is used to lift 17- to 25-inch wide containers that are equipped with lift arms.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Container Handling Beam Mk 52 Mod 1.

**BEAM, WARHEAD LIFTING
MK 53 MOD 0
DL 6212934
NSN 8T 1450-01-336-6650**

DESCRIPTION. Warhead Lifting Beam Mk 53 Mod 0 is an aluminum weldment having a circular base and a frame consisting of two intersecting pieces of round stock that form four handfolds. The base of the beam has three threaded connectors set 120 degrees apart which interface with three threaded studs on Warhead Mk 125 Mod 0/1. A hoisting ring, located at the top of the beam's frame, is for attachment to an overhead hoist.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86EM000
Op. Proc.	OR-67/114
EIC/WUC	86EM
SM&R Code	PAHHH
NALC	None

PHYSICAL DATA:	
Diameter	12.13 inches
Height	13.87 inches
Weight	5 pounds
SWL	85 pounds

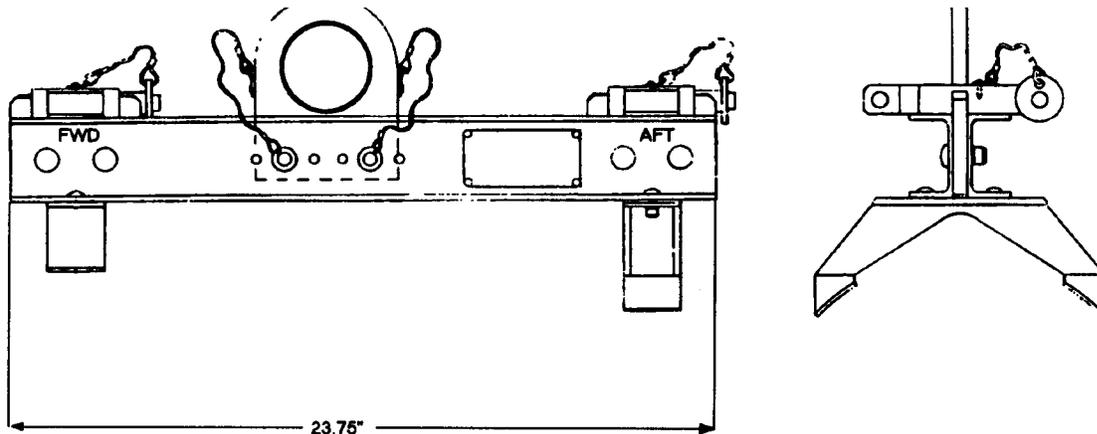
APPLICATION. Warhead Lifting Beam Mk 53 Mod 0 is used for the removal and insertion of Warhead Mk 125 Mod 0/1 in Target Detecting Device (TDD) Mk 45 Mods 9 and 10, and for the packing/unpacking of the warhead in Container Mk 753 Mod 0. The beam will also be used at shore station missile assembly shops only.

ASSOCIATED EQUIPMENT. Warhead Insertion Fixture Mk 31 Mod 0.

**BEAM, SLAM GUIDANCE SECTION
MK 54 MOD 0
DL 6212818
NSN 3C 1450-01-377-6497**

DESCRIPTION. SLAM Guidance Section Beam Mk 54 Mod 0 consists of two back to back aluminum channels, an aluminum plate lifting eye, two rubber lined aluminum saddles (one fwd and one aft) and two dacron straps with ratchet buckles.

OBSOLESCENT



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

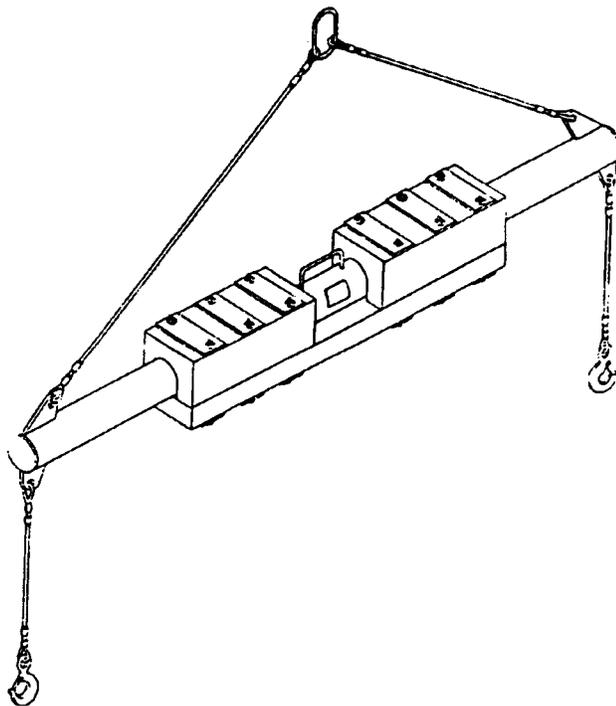
PHYSICAL DATA:	
Length	23.75 inches
Width	10.00 inches
Height	11.50 inches
Weight	19 pounds
SWL	400 pounds

APPLICATION. SLAM Guidance Section Beam Mk 54 Mod 0 is used to handle the guidance section of the SLAM missile from its container to and from the assembly stand by overhead crane. SLAM Guidance Section Beam Mk 54 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with SLAM Guidance Section Beam Mk 54 Mod 0.

**BEAM, MINE NEUTRALIZATION VEHICLE
MK 56 MOD 1
DL 6213940
NSN 7H 3940-01-499-3089**

DESCRIPTION. Mine Neutralization Vehicle Beam Mk 56 Mod 1 consists of an aluminum pipe cradled between an upper and lower cushion sandwiched between plastic plates secured with nylon through bolts and nuts. The beam also features a handle for lifting and positioning the assembly, and attaching wire rope legs. Two wire rope legs, one 50.31 inches long and the other 51.25 inches long, are secured to upper insets of the beam and are joined at an oval link to form a lifting point and two wire rope legs secured by lower insets of the beam with each leg terminating at a safety hook.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts . . . MIP 7321/R10, OR-99/N226A00
 Op. Proc. OR-67/194
 EIC/WUC N226A00
 SM&R Code PA2GG

PHYSICAL DATA:

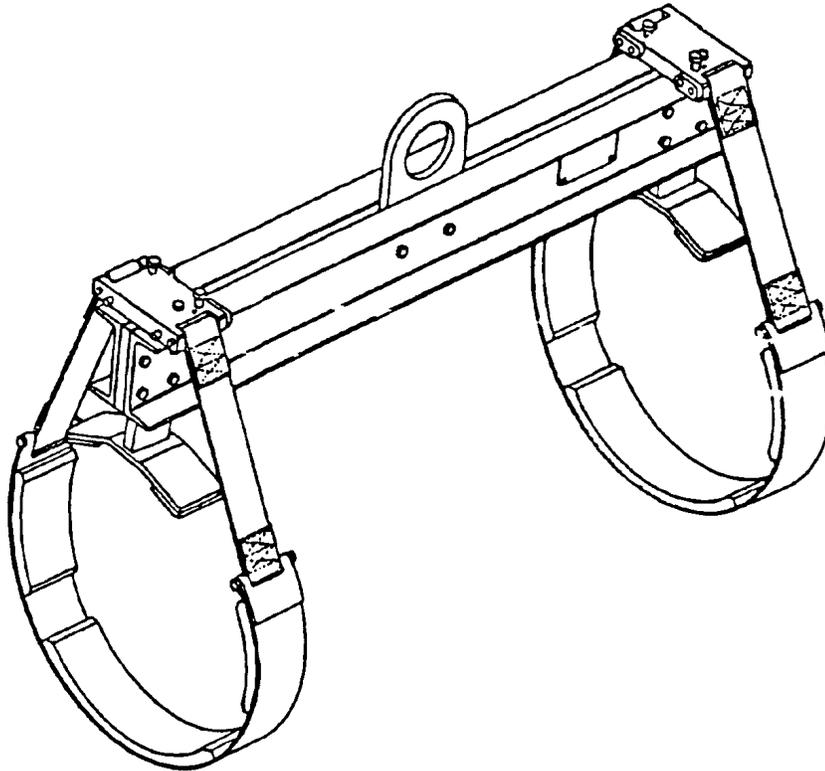
Length 86.00 inches
 Width 6.00 inches
 Weight 45 pounds
 SWL 3900 pounds

APPLICATION. Mine Neutralization Vehicle Beam Mk 56 Mod 1 is used for the recovery and handling of one AN/SLQ-48(V) Mine Neutralization Vehicle (MNV).

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Mine Neutralization Vehicle Beam Mk 56 Mod 1.

**BEAM, BOOSTER LIFT
MK 57 MOD 0
DL 6213111
NSN 8T 1450-01-412-1641**

DESCRIPTION. Booster Lift Beam Mk 57 Mod 0 consists of aluminum alloy channels with a fixed aluminum lifting eye located at the centerline. Two padded stainless steel saddles fit beneath the booster and are attached to the beam by nylon straps. The pads are designed to avoid contact with the sensitive areas of the booster. The straps are fixed to the beam by a specially designed self locking pin mechanism.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts OR-99/86J4000
 Op. Proc. OR-67/162
 EIC/WUC86J4
 SM&R Code PAOHD
 NALC None

PHYSICAL DATA:

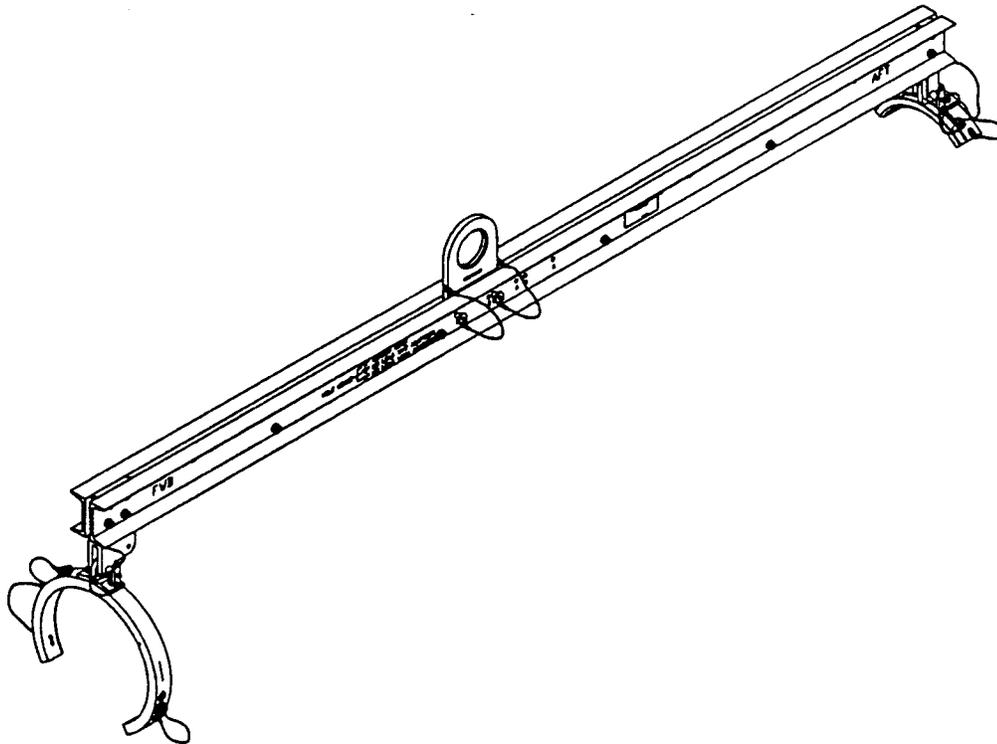
Length 40.00 inches
 Width 24.00 inches
 Height 33.00 inches
 Weight 48 pounds
 SWL 1570 pounds

APPLICATION. Booster Lift Beam Mk 57 Mod 0 is used to handle the STANDARD Missile Mk 72 Mods.

ASSOCIATED EQUIPMENT. Booster Test Assembly Stand Mk 63 Mod 0.

**BEAM, HOISTING DTRM
MK 61 MOD 0
DL 6213300
NSN 8T 1450-01-421-4289**

DESCRIPTION. The Dual Thrust Rocket Motor (DTRM) Hoisting Beam Mk 61 Mod 0 is an aluminum assembly consisting of a structural alloy frame with forward and aft adapter brackets and an adjustable lift eye.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts OR-99/86D9000
 Op. Proc. OR-67/181
 EIC/WUC 86D9
 SM&R Code PAOHD
 NALC PR03

PHYSICAL DATA:

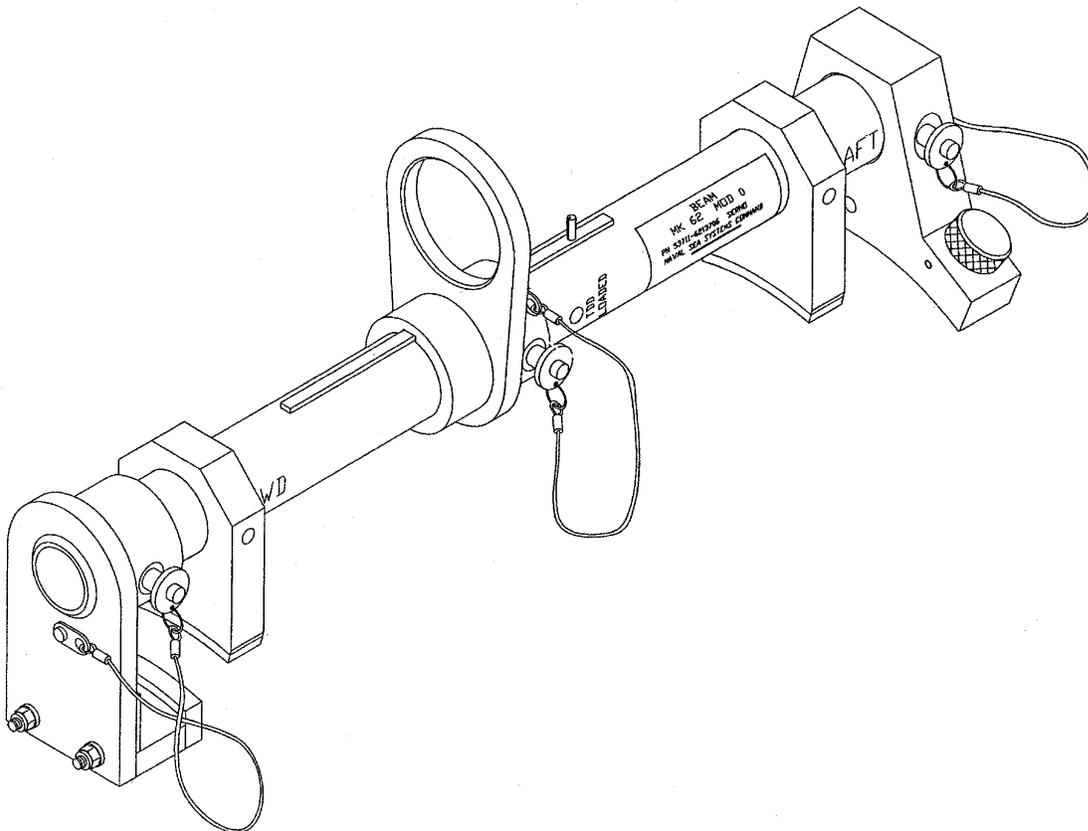
Length 103.00 inches
 Width 14.87 inches
 Height 26.75 inches
 Weight 83.75 pounds
 SWL 1100 pounds

APPLICATION. The DTRM Hoisting Beam Mk 61 Mod 0 incorporates a forward and aft adapter to interface with the forward and aft radial screw holes of the Mk 104 Mod 3 DTRM. The DTRM may also be lifted when the forward protective cover is installed by removing the forward adapter.

ASSOCIATED EQUIPMENT. Upper Stage Test Assembly Stand Mk 64 Mod 0.

BEAM
MK 62 MOD 0
DL 6213706
NSN 8T 1450-01-421-4305

DESCRIPTION. The Mk 62 Mod 0 Beam is an aluminum assembly consisting of a main tube with forward and aft lift brackets and an adjustable single point lift eye. The beam also incorporates two steady rests that interface with the body of the Standard Missile-2 Mk 45 Target Detecting Device and Target Detecting Device Mods 9, 10 and 14. The forward lift bracket engages the forward lip of the TDD and the aft lift bracket attaches to the aft end of the TDD using the radial screw holes of the TDD.



REFERENCE DATA:	
ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86J9000
Op. Proc.	OR-67/184
EIC/WUC . . . . .	.86J9
SM&R Code	PAOHD
NALC	PR04

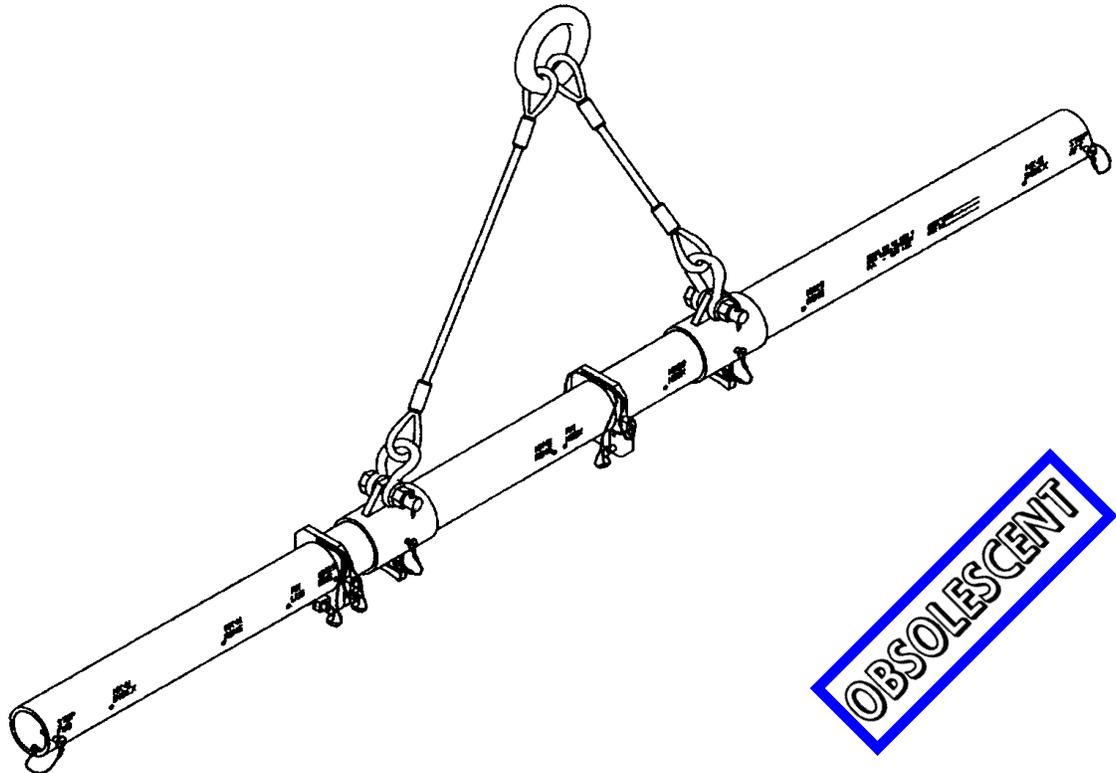
PHYSICAL DATA:	
Length	26 inches
Width	8 inches
Height	10 inches
Weight	12 pounds
SWL	200 pounds

APPLICATION. The Mk 62 Mod 0 Beam also incorporates two steady rests that interface with the body of the SM-2 Mk 45 Target Detecting Device (TDD).

ASSOCIATED EQUIPMENT. Missile Dolly Mk 19 Mods 0 and 1 and Warhead Insertion Fixture Mk 31 Mod 0.

**BEAM
MK 63 MOD 0
DWG 7114101
NSN 8T 1450-01-482-6056**

DESCRIPTION. Beam Mk 63 Mod 0 is a stainless steel assembly consisting of a main tube with lug support, forward ring, hook support, aft ring and bridle sling with a single point lift eye. The lug support and hook support engage the Evolved SEASPARROW Missile (ESSM) hook and lug.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86JF000
Op. Proc.	OR-67/195
EIC/WUC	86JF
SM&R Code	PAHHD
NALC	PRO9

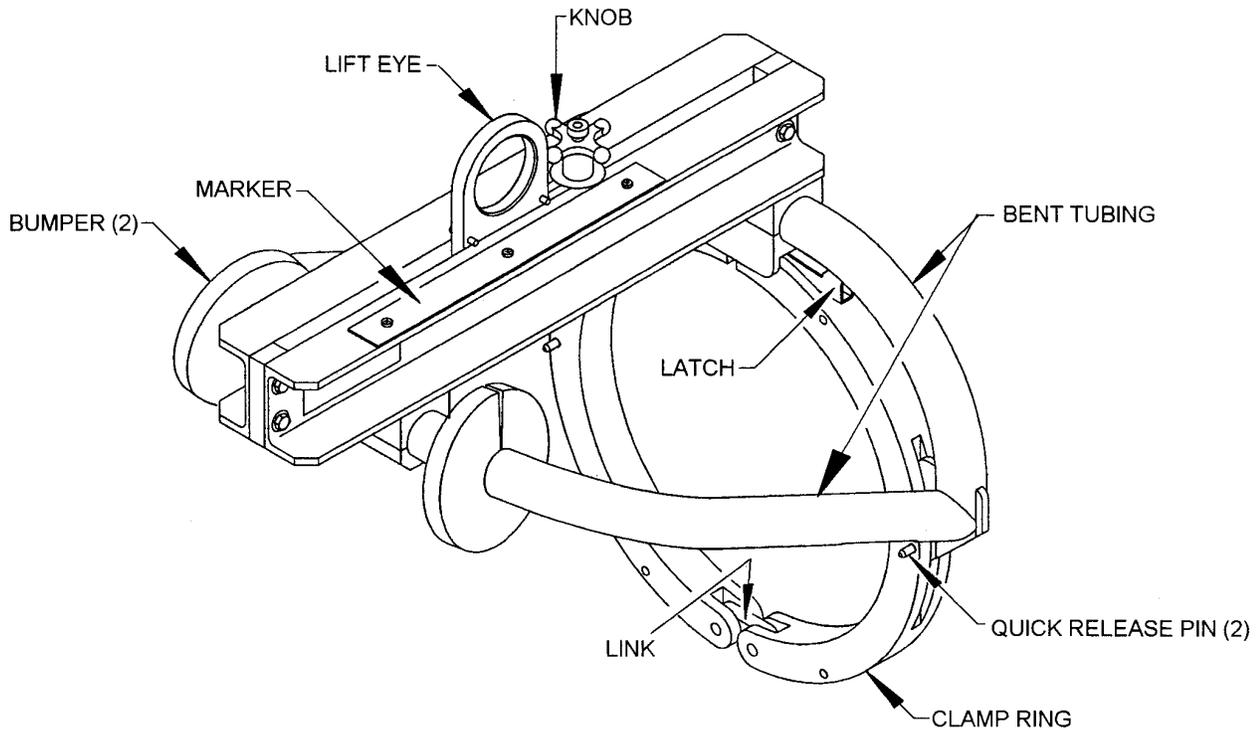
PHYSICAL DATA:	
Length	94.00 inches
Width (diameter)	3.50 inches
Height	N/A
Weight	105 pounds
SWL	675 pounds

APPLICATION. Beam Mk 63 Mod 0 handles three different launcher configurations for the ESSM and one propulsion section configuration. The beam set-ups for each configuration is accomplished by removing quick-release pins and sliding hardware on the beam to the applicable position and reinstalling quick-release pins. Beam Mk 63 Mod 0 is obsolescent and is replaced by Beam Mk 71 Mod 0.

ASSOCIATED EQUIPMENT. None.

**BEAM
MK 64 MOD 0
DL 6214018
NSN 8T 1450-01-481-2473**

DESCRIPTION. Beam Mk 64 Mod 0 is an aluminum assembly consisting of back to back channel frames, bent tubing, aft clamp ring, forward bumpers and an adjustable lift eye. The aft clamp ring is attached to the aft end of the guidance section and held in place on the bent tubing of the beam by quick-release pins.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/8617000
Op. Proc.	OR-67/198
EIC/WUC . . . . .	.8617
SM&R Code	None
NALC . . . . .	.PRO8

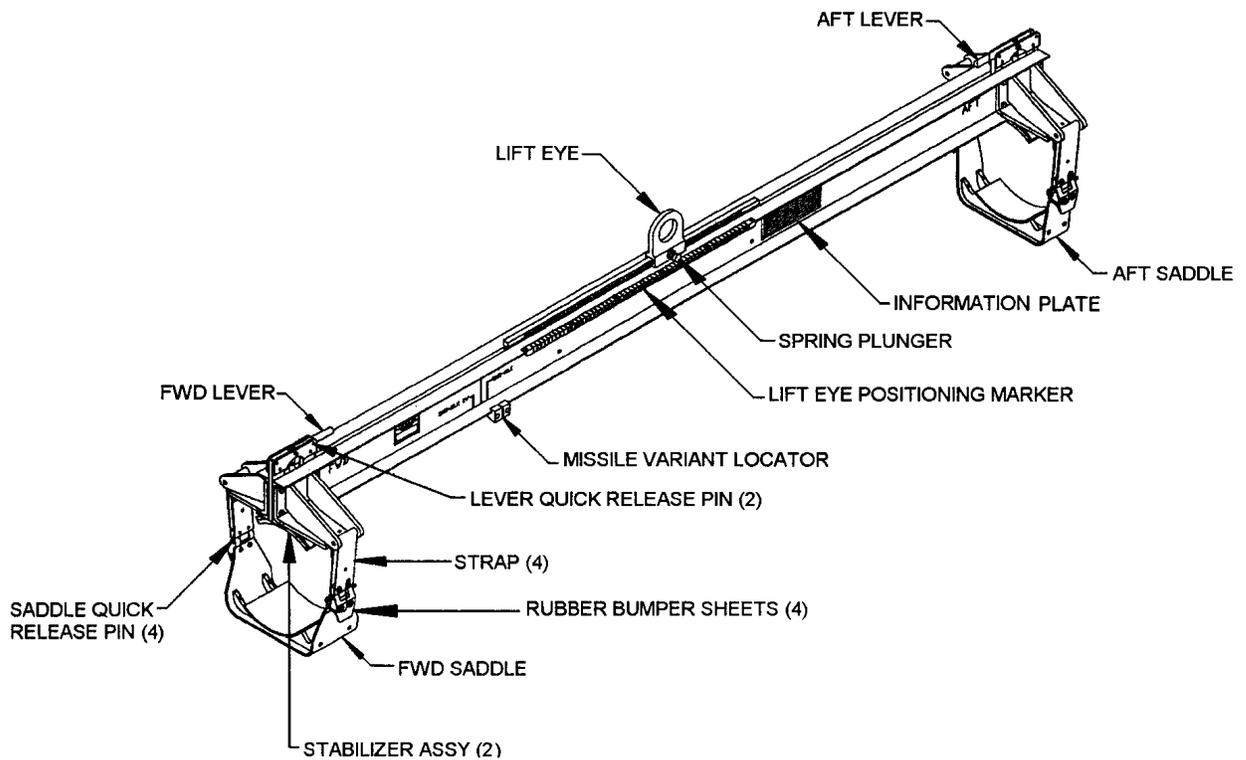
PHYSICAL DATA:	
Length	22.00 inches
Width	19.50 inches
Height	24.00 inches
Weight	26.07 pounds
Weight (w/o clamp ring)	19.82 pounds
SWL	300 pounds

APPLICATION. Beam Mk 64 Mod 0 is used to handle STANDARD Missile (SM)-1, Block VI; STANDARD Missile-2 Blk, III, IIIA/B and IV; and SM-6 Blk I Guidance Sections.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Beam Mk 64 Mod 0.

**BEAM
MK 65 MOD 0
DL 6214041
NSN 8T 1450-01-480-9613**

DESCRIPTION. Beam Mk 65 Mod 0 includes an alignment gauge to assist in properly positioning the beam on each missile variant, and a matrix plate showing the proper position for the lift eye for each configuration being lifted. Forward and aft cam operated levers secure the beam to the missile to assure a safe and stable lift.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/861A000
Op. Proc.	OR-67/200
EIC/WUC	861A
SM&R Code	N/A

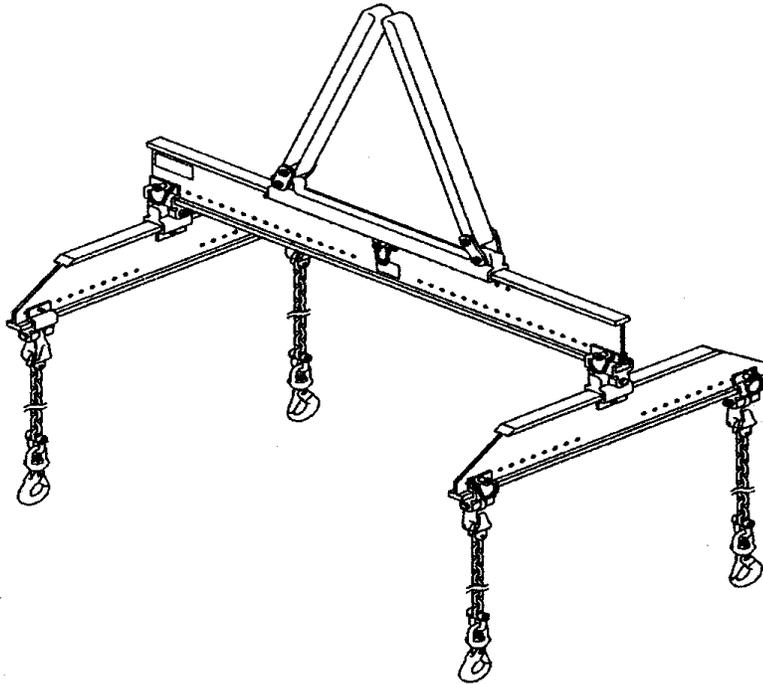
PHYSICAL DATA:	
Length	126.50 inches
Width	18.50 inches
Height	29.75 inches
Weight	135 pounds
SWL	2000 pounds

APPLICATION. Beam Mk 65 Mod 0 is used inside missile assembly facilities for packing, unpacking and movement of the upperstage STANDARD Missile (SM)-2 Block (Blk) IV, SM-3 Blk I, and SM-6 Blk I.

ASSOCIATED EQUIPMENT. None.

**BEAM, LIFTING
MK 67 MOD 0
DL 6214353
NSN 3B 3940-01-527-6174**

DESCRIPTION. Beam Mk 67 Mod 0 consists of a main structural aluminum “I” beam, to which two shorter structural “I” beams (acting as cross beams) are attached. The main beam interfaces with the hook of an overhead crane by means of two continuous loop slings attached to a moveable sliding bracket assembly. The two shorter cross “I” beams attach to opposite ends of the main beam by two moveable cross beam hangers. Suspended from each cross beam is a pair of chain leg assemblies attached with moveable sliding brackets with a chain saddle hook at one end and a safety swivel hook at the opposite end. Quick-release pins allow the sliding brackets to be rapidly repositioned for variations in forklift truck lifting points and centers of gravity.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts MIP 5734/045
 Op. Proc. OR-67/207
 EIC/WUC None
 SM&R Code PAOGG

PHYSICAL DATA:

Length 85.00 inches
 Width 56.0 inches
 Height (w/chains fully extended) 164.0 inches
 Weight (assembly) 394.0 pounds
 SWL 25,000 pounds

COMPONENT WEIGHTS:

Top Slider 48 pounds
 Main Beam 84 pounds
 Cross Beam (each) 61 pounds
 Chain Legs (each) 35 pounds

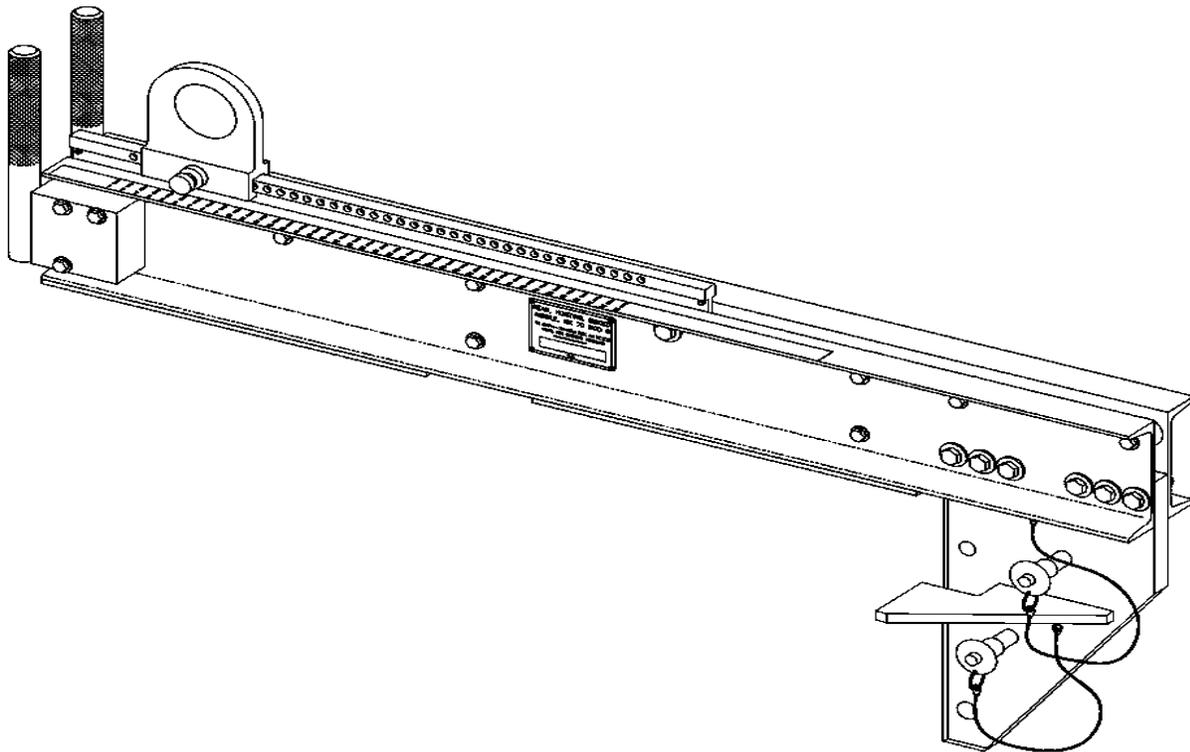
**BEAM, LIFTING
MK 67 MOD 0
DL 6214353
NSN 3B 3940-01-527-6174**

APPLICATION. Beam Mk 67 Mod 0 Beam is used for both afloat and ashore for hoisting forklift trucks weighing up to 25,000 pounds on and off ships and between ship decks.

ASSOCIATED EQUIPMENT. None.

**BEAM, HOISTING, GUIDED MISSILE
MK 70 MOD 0
DL 7516456
NSN 8T 1450-01-542-8652**

DESCRIPTION. Guided Missile Hoisting Beam Mk 70 Mod 0 is an aluminum weldment consisting of two channels, a stiffener plate, port and starboard side counterweights, and a movable lift eye installed on a T-bar. A spring plunger is used to position and secure the movable lift eye in the desired location on the beam. Two quick-release pins, located on the stiffener plate, is used to attach the beam to the Mk 185 Mod 0 Lifting Adapter while the adapter is bolted to the SM-3 Third Stage Element.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts OR-99/86FM000
 Op. Proc. OR-67/211
 EIC/WUC 86FM
 SM&R Code PDDDD

PHYSICAL DATA:

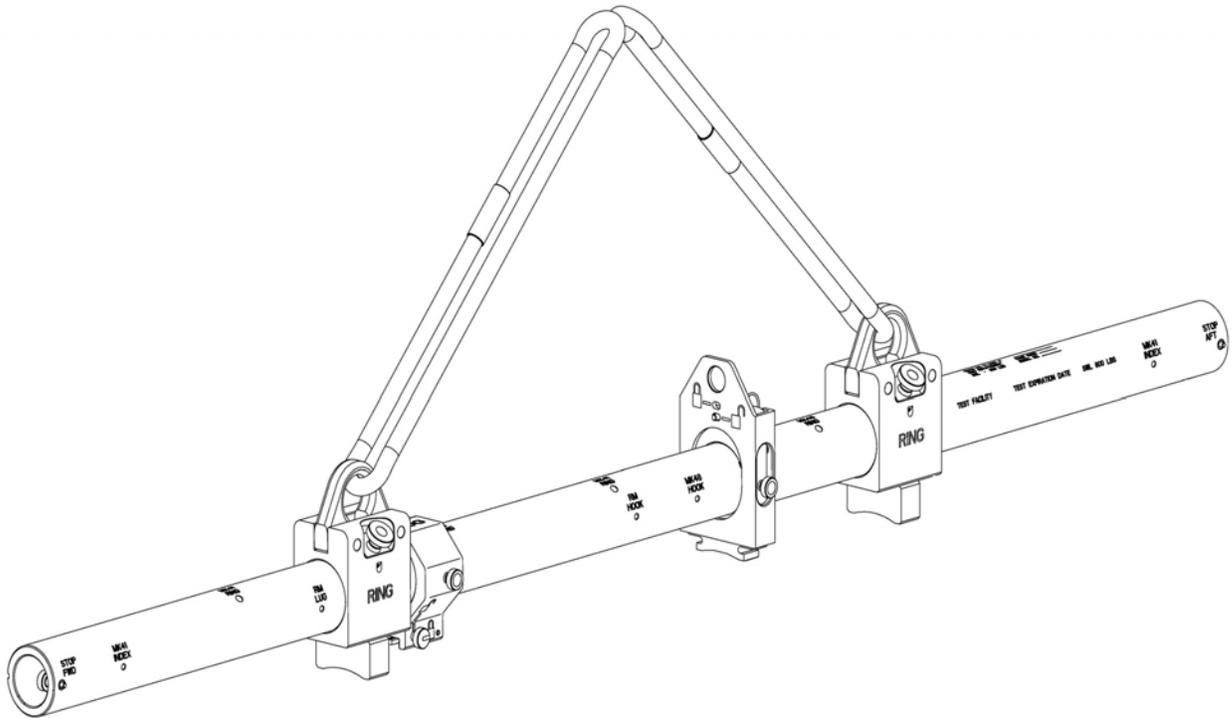
Length 52.50 inches
 Width 13.00 inches
 Height 27.69 inches
 Weight 90 pounds
 SWL 600 pounds

APPLICATION. Guided Missile Hoisting Beam Mk 70 Mod 0 is used in conjunction with the Mk 185 Mod 0 Lifting Adapter while the adapter is bolted to an SM-3 Third Stage Element. The assembled configuration is handled by an overhead hoist during packing, unpacking, and handling operations.

ASSOCIATED EQUIPMENT. Lifting Adapter Mk 185 Mod 0.

**BEAM
MK 71 MOD 0
DWG 7516567
NSN 8T 1450-01-560-7715**

DESCRIPTION. The Mk 71 Mod 0 Beam consists of an aluminum main tube equipped with a lug support and a hook support that can be repositioned to accommodate various missile configurations. Two synthetic endless-loop slings are attached to the beam lift ring to form a single lifting point.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/861J000
Op. Proc.	OR-67/215
EIC/WUC	861J
SM&R Code	PF0GG

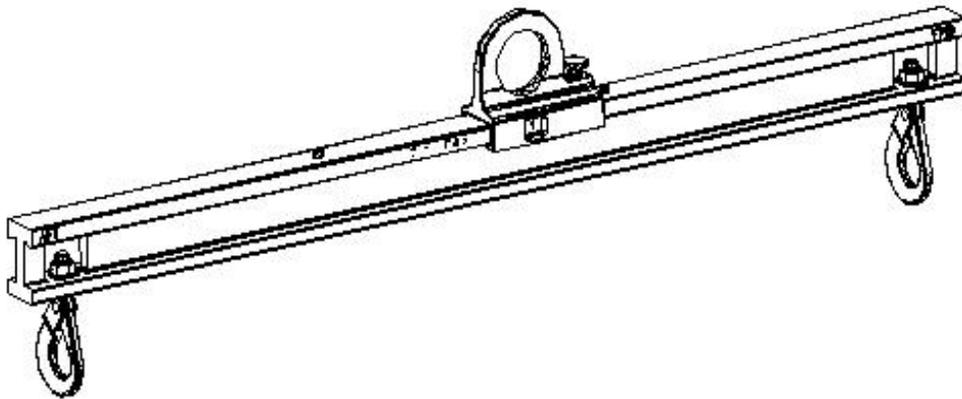
PHYSICAL DATA:	
Tube Length	94.00 inches
Tube Diameter	3.50 inches
Sling Length	28.00 inches
Sling Width	2.00 inches
Height (Slings Erect)	31.00 inches
Weight	72.00 pounds
SWL	800 pounds

APPLICATION. Mk 71 Mod 0 Beam is used at shore activities using an overhead hoisting equipment to lift various Evolved Seasparrow Missile (ESSM) configurations and the ESSM rocket motor.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Mk 71 Mod 0 Beam. However, for some ESSM configurations, this beam is used with the Mk 39 Mod 0 Front Fixture and Mk 40 Mod 0 Rear Fixture.

**BEAM, HOISTING
MK 72 MOD 0
DL 7516699
NSN 9B 3940-01-574-4185**

DESCRIPTION. Hoisting Beam Mk 72 Mod 0 is an aluminum weldment consisting of forward and aft lift hooks, and a stainless steel lifting eye. The lifting eye has a positive locking feature that enables it to be repositioned for various centers of gravity when handling the Airborne Mine Neutralization System (AMNS) Launch and Handling System (LHS). The lifting eye also features a visual window to easily identify each lift location required to handle the LHS and to allow for level lifting, regardless of the number of destructors loaded into the LHS.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts . . . . .	.OR-99/861K000
Op. Proc. . . . .	.OR-67/214
EIC/WUC	861K
SM&R Code	PAOGG

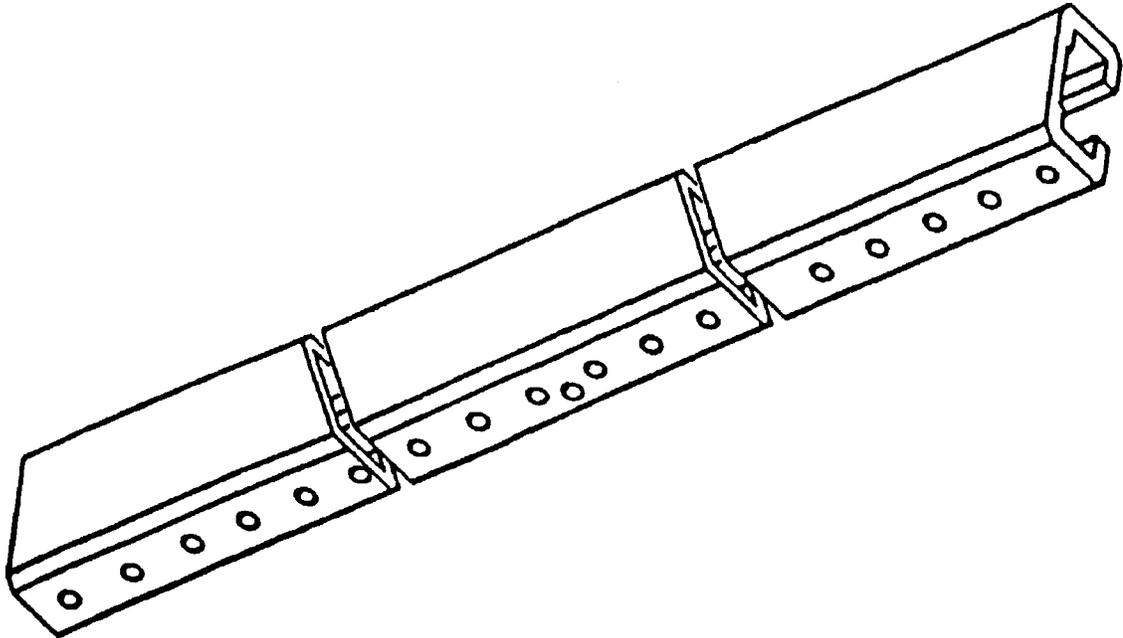
PHYSICAL DATA:	
Length	44.20 inches
Width	3.00 inches
Height	11.25 inches
Weight	19 pounds
SWL	1000 pounds

APPLICATION. Hoisting Beam MK 72 Mod 0 is used with an overhead hoist ashore or afloat to handle the Airborne Mine Neutralization System (AMNS) Launch and Handling System (LHS).

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoisting Beam Mk 72 Mod 0.

**BEAM, SHORT
ADU-400
P/N 787AS354-1
NSN 1R 3940-01-383-3387**

DESCRIPTION. Short Beam ADU-400 is a drilled, nickel-plated steel tubular beam which is mounted on the lift frame of Weapons Skid Lift Loading Adapter ADU-400/E.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-15BD-7
Op. Proc.	NAVAIR 19-15BD-7
EIC/WUC .....	.81XA400
SM&R Code	PEOHG

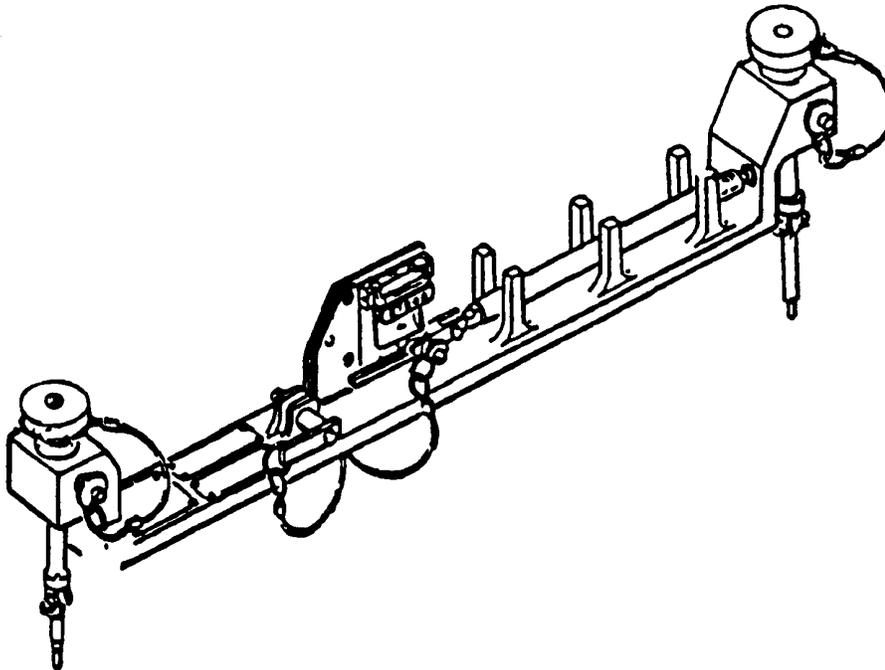
PHYSICAL DATA:	
Length	56.00 inches
Width	4.50 inches
Height	2.24 inches
Weight	40 pounds
SWL	1000 pounds

APPLICATION. Short Beam ADU-400 is mounted on Weapons Skid Lift Loading Adapter ADU-400/E and used to support Target Missile BQM-74C during transport and loading. The location of the tail fin on Target Missile AQM-74C required development of a shorter beam to replace the standard Loading Lift Adapter Beam ADU-400/E when handling the target.

ASSOCIATED EQUIPMENT. Munitions Trailer MHU-191/M, Munitions Trailer MHU-126A/M, Weapons Skid Lift Loading Adapter ADU-400/E and Small Munitions Trailer MHU-202/M.

**BEAM, HOISTING,
AN/AAS-38
P/N 74D750031-1001
NSN 6R 1730-01-115-1708**

DESCRIPTION. Hoisting Beam consists of a steel beam structure with hand-knob assemblies at both ends to attach to the pick-up points provided on the store. The beam has an “H” bracket that pins into the center of gravity location on the beam with a ball-lock pin. The “H” bracket also provides a means to pin the cable fitting of a manual bomb hoist to the beam.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-20MD-69L
PMS/Maint. Insts .	NAVAIR AG-241AO-MRC-000
.....	and -010
Op. Proc.....	NAVAIR AG-000AC-GSE-000
EIC/WUC .....	.92HCQ
SM&R Code	PEOGD

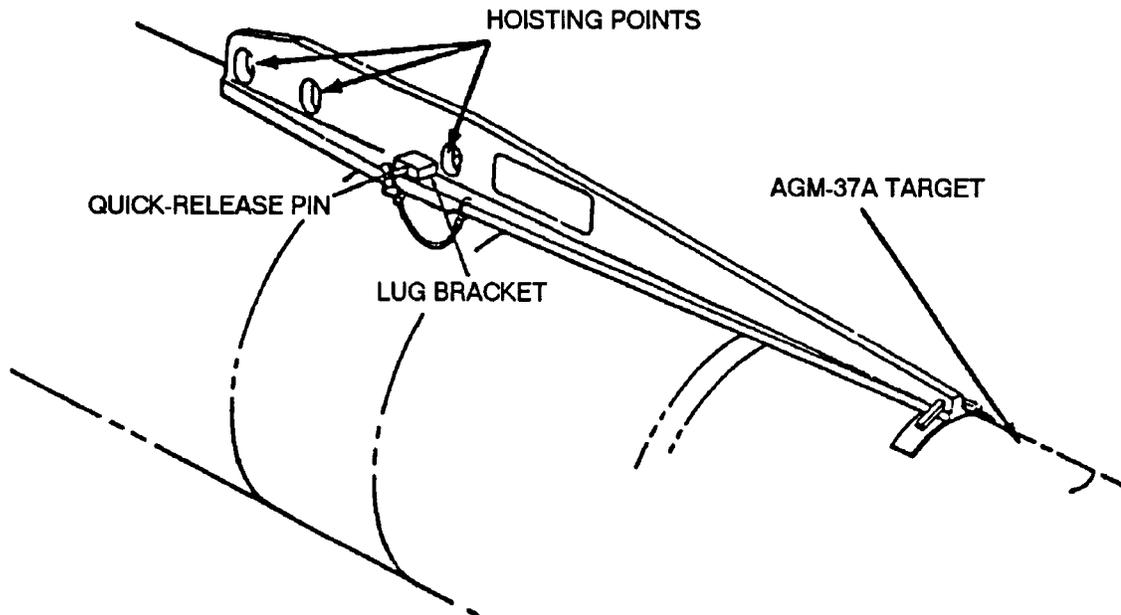
PHYSICAL DATA:	
Length	28.56 inches
Width	2.38 inches
Height	9.38 inches
Weight	7 pounds
SWL	300 pounds

APPLICATION. Hoisting Beam provides a means of attaching the cable and fitting of Bomb Hoists HLU-288/E to the lifting points provided on the Forward-Looking Infrared (FLIR) imaging pod when hoisting the pod into position on a fuselage station. Loading is accomplished by installing Hoisting Adapter (74D750030-1003) on the aircraft and securing the bomb hoist to the clevis on the trolley. The hoist-cable and fitting is attached to the “H” bracket on Hoisting Beam (74D750031-1001), which is attached to the pod. The pod is then lifted off the support equipment with a Bomb Hoist and transported along the rail until the pod can be secured at its fuselage position with four attaching bolts. Hoisting Beam is to be replaced by Adapter, Hoisting, Cradle, AN/AAS-38, P/N 3865AS200.

ASSOCIATED EQUIPMENT. Bomb Hoist HLU-288/E and Hoist Adapter (74D750030-1003).

**BEAM ASSEMBLY, HOIST
AQM-37A
P/N 1019-390126-1
NSN 1R 3940-00-967-2078**

DESCRIPTION. Hoist Beam Assembly AQM-37A is a welded beam with a lug bracket and quick release pin for securing the beam to the lug of the store. A padded shoe is located on the forward end for added stability. Three hoisting points are provided along the beam to allow handling of the target during different stages of target assembly.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts ..	NAVAIR 01-90TBA-1 (Cancelled)
Op. Proc.	NAVAIR 01-90TBA-1 (Cancelled)
EIC/WUC	21GZO
SM&R Code	PAOZZ

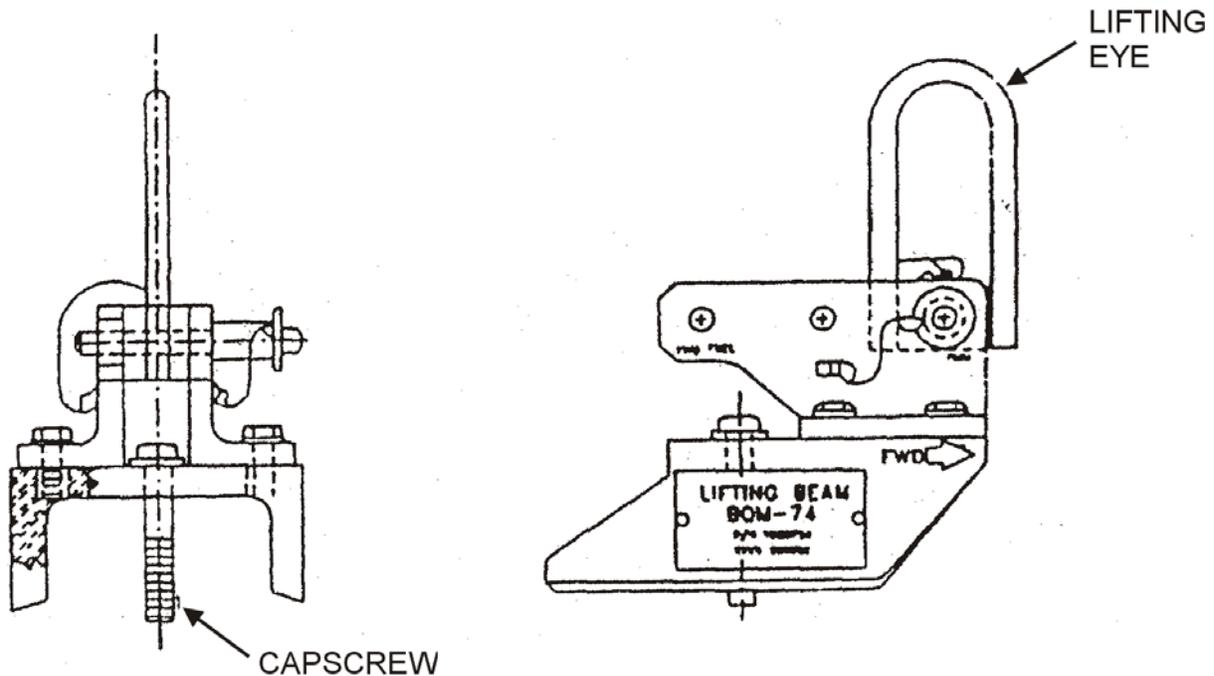
PHYSICAL DATA:	
Length .....	.33.90 inches
Width .....	.7.63 inches
Height .....	.3.00 inches
Weight	10 pounds
SWL	600 pounds

APPLICATION. Hoist Beam Assembly AQM-37A is used with Target Missile AQM-37A in all stages of target uncanning, recanning and assembly. The beam's different hoisting eye locations allow for changing centers of balance experienced during assembly of the target.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoist Beam Assembly AQM-37A.

**BEAM, LIFTING
BQM-74
P/N TD03754
NSN 1R 3940-01-413-1758**

DESCRIPTION. Lifting Beam BQM-74 is an aluminum structure with a multi position lifting eye and a capscrew which attaches the beam to the BQM-74 Target Drone. Based on the fuel load of the target, the lifting eye is positioned in the appropriate hole on the lifting beam with the quick-release pin.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	PEOHH

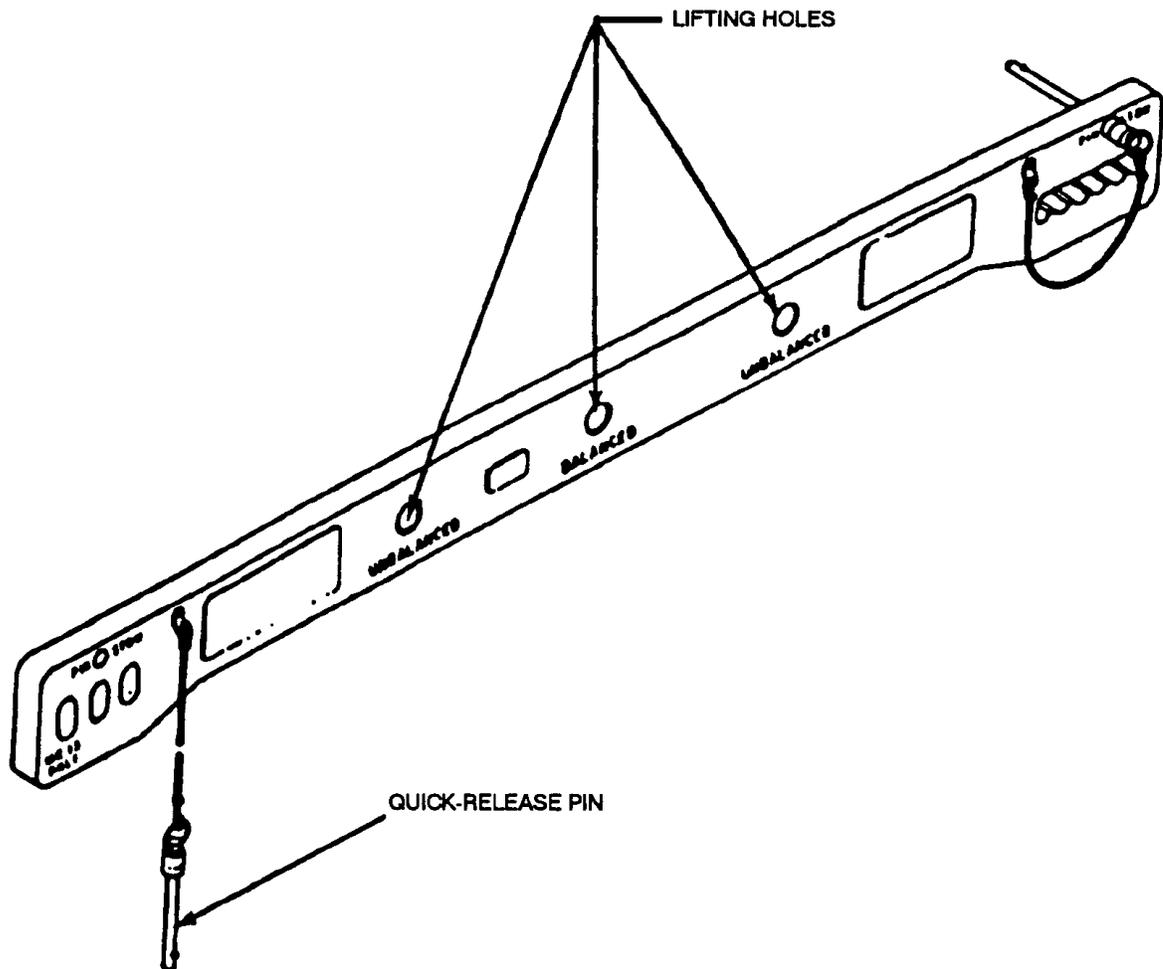
PHYSICAL DATA:	
Length	7.18 inches
Width	4.5 inches
Height	7.87 inches
Weight	10 pounds
SWL	500 pounds

APPLICATION. Lifting Beam BQM-74 is used to lift the BQM-74 Target Drone to/from its container, launch fixture and various test stands.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with this Lifting Beam BQM-74.

**BEAM, HOISTING, WEAPON CRADLE
 HLU-216A/E
 P/N 616856-3
 NSN 9B 1450-01-181-6798**

DESCRIPTION. Weapon Cradle Hoisting Beam HLU-216A/E consists of a steel stock of low-profile design with three elongated holes at one end and a notched, radii-incremented slot at the other end. The beam also has three equally-spaced holes at the center that allow for lifting various weapon cradles and containers in fully-loaded (balanced) or partially-loaded (unbalanced) condition. The hoisting beam can accommodate the various widths of lifting arms and posts on an assortment of two to four-weapon cradles and containers. Two quick-release pins secure the beam to the weapon cradles/containers. When not in use, the quick-release pins are stowed in special holes provided at each end of the beam. The beam can be used with most suitable shipboard overhead hoisting systems equipment with a lifting clevis. A shackle must be attached to the hoisting beam when using overhead hoisting systems that are equipped with a lifting hook.



BEAM, HOISTING, WEAPON CRADLE

HLU-216A/E

P/N 616856-3

NSN 9B 1450-01-181-6798

REFERENCE DATA:

ISEANAWC-AD Lakehurst
Periodic Test [NAVAIR 17-1-127](#)
PMS/Maint. Insts NAVAIR 19-100-2
Op. Proc. NAVAIR 19-100-2
EIC/WUC21GZO
SM&R CodePAOZZ

PHYSICAL DATA:

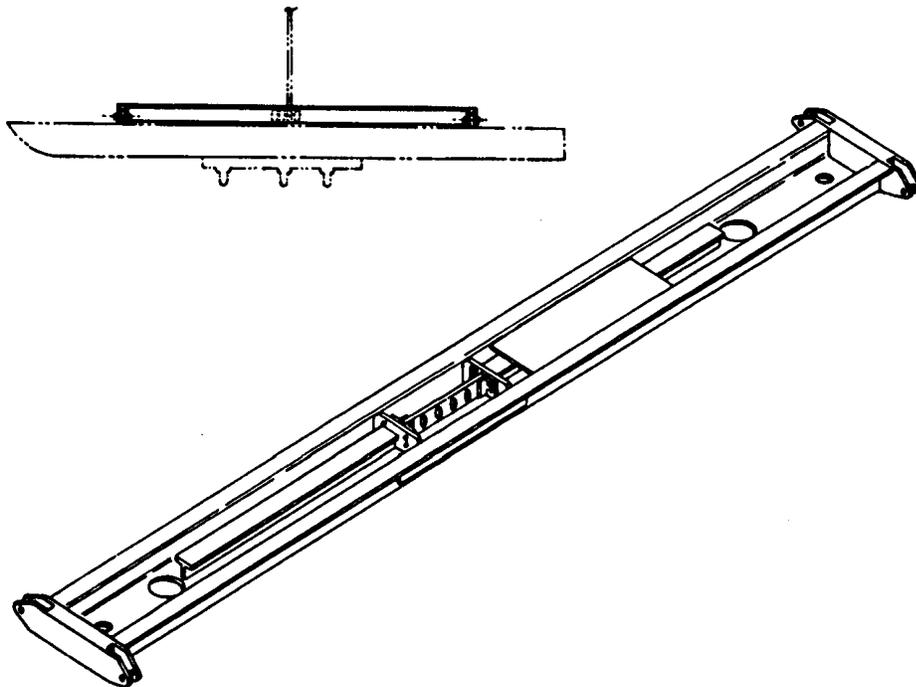
Length 38.00 inches
Width (pins stowed) 4.66 inches
Height 3.50 inches
Weight 15 pounds
SWL4000 pounds

APPLICATION. Weapon Cradle Hoisting Beam HLU-216A/E is used with low-overhead clearance hoists in aircraft carrier and amphibious ship magazines to handle and lift air-launched weapon cradles and containers of appropriate widths.

ASSOCIATED EQUIPMENT. Hook Adapter Mk 91 Mod 0.

**BEAM, HOISTING RAIL
HLU-255/E
DL 6SE00602
NSN 1R 1730-00-123-7801**

DESCRIPTION. Hoisting Rail Beam HLU-255/E is a rectangular aluminum weldment consisting of a modified I-beam situated along the bottom of a three-sided strongback. Load lifting attachments are provided at each end of the beam. Four hoisting points enable selection appropriate to the loads center of gravity.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	NAVAIR 19-100-2
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	21GZO
SM&R Code	PAGZZ

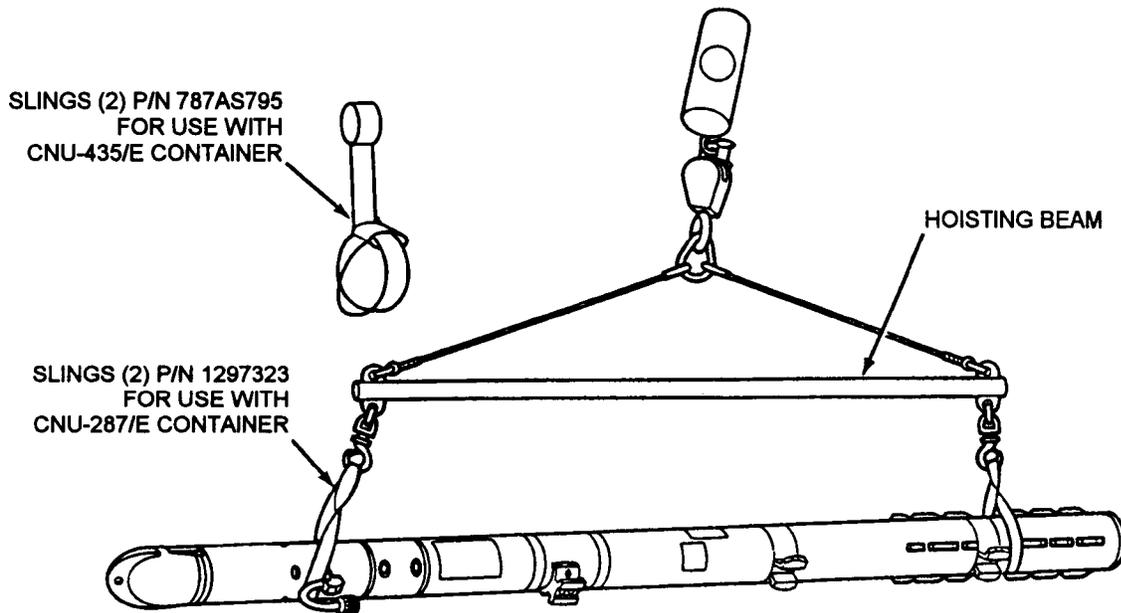
PHYSICAL DATA:	
Length	103.00 inches
Width	13.50 inches
Height	3.00 inches
Weight	49 pounds
SWL	500 pounds
Cube	2.45 cubic feet

APPLICATION. Hoisting Rail Beam HLU-255/E is used for hoisting and general handling of empty F-14 Weapons Rails.

ASSOCIATED EQUIPMENT. No particular handling equipment is used with Hoisting Rail Beam HLU-255/E.

**BEAM, HOISTING MISSILE SIDEWINDER
HLU-270/E
P/N 789AS990
NSN 6M 3940-01-107-0717**

DESCRIPTION. Hoisting Missile SIDEWINDER Beam HLU-270/E contains nylon choker straps installed on missile.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	PEHHH

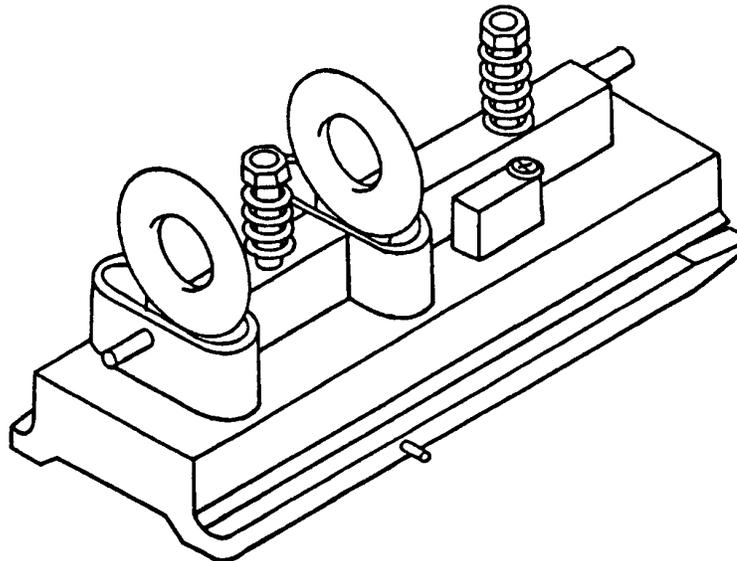
PHYSICAL DATA:	
Length (extended)	70.00 inches
Length (extracted)	44.25 inches
Width	2.25 inches
Height	5.56 inches
Weight (approx.)	15 pounds
SWL	250 pounds
Volume	0.32 cubic feet

APPLICATION. Hoisting Missile SIDEWINDER Beam HLU-270/E is used to lift AIM-9 SIDEWINDER and SIDEARM Missiles.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoisting Missile SIDEWINDER Beam HLU-270/E.

**BEAM, HOISTING, GUIDED MISSILE
HLU-291/E
P/N 3293730-100
NSN 1R 1450-01-197-0204**

DESCRIPTION. Guided Missile Hoisting Beam HLU-291/E is made of aluminum and steel components and basically consists of a main handling beam, safety bar, restraining pin, support block, two spring pins, bolts, helical springs, and two lifting eyebolts. The main handling beam is designed to slide onto and attach to the aft launch hook of the MAVERICK AGM-65E or AGM-65F missiles. The restraining pin is then engaged at a point on the missile before lifting can occur. The forward lifting eyebolt is used to lift an assembled All-Up MAVERICK AGM-65E or AGM-65F missile from its container for placement onto the applicable skid-adapter configuration using an approved overhead handling system or other handling method equipped with a hook. The aft lifting eyebolt is used to lift a missile aft section in non-shipboard operations. Additionally, due to center of gravity/weight differences between the All-Up MAVERICK AGM-65E and AGM-65F missiles, the lifting of the heavier AGM-65F with Hoisting Beam HLU-291/E will result in a slight missile nose down condition.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	NAVAIR 19-100-2
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	21GZO
SM&R Code	PAGZZ

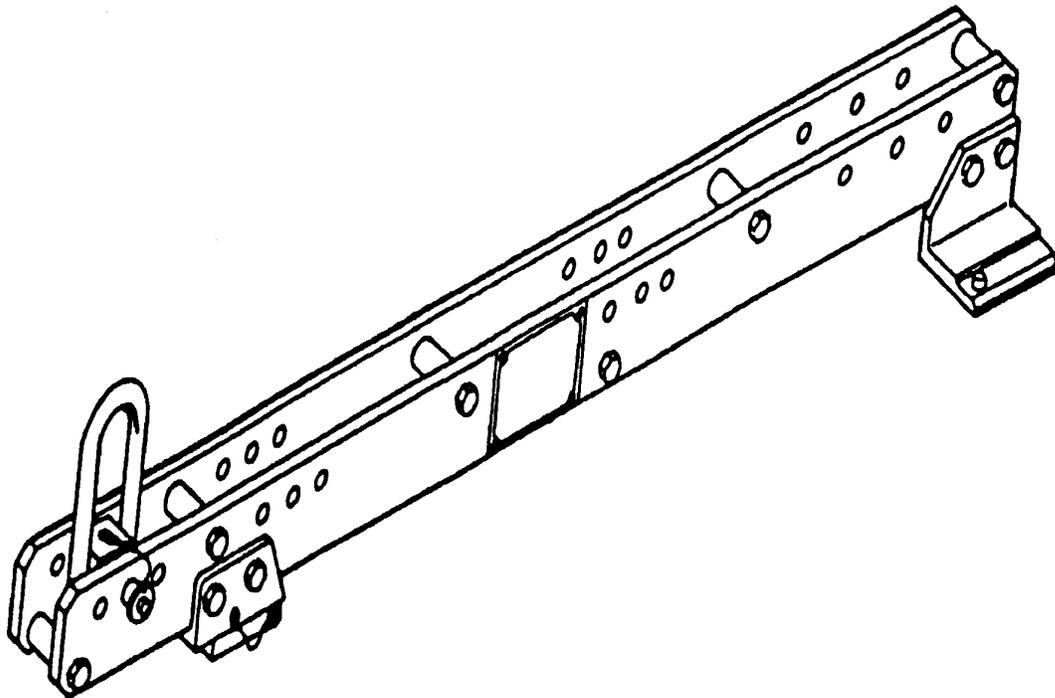
PHYSICAL DATA:	
Length	13.70 inches
Width	6.50 inches
Height	6.87 inches
Weight	25 pounds
SWL	700 pounds
Volume	0.28 cubic feet

APPLICATION. Guided Missile Hoisting Beam HLU-291/E is used in conjunction with Hook Adapter Mk 91 Mod 0 and a forklift or overhead hoisting equipment for uncanning/recanning and placing of the Maverick (AGM-65E) missile onto support equipment.

ASSOCIATED EQUIPMENT. Hook Adapter Mk 91 Mod 0.

**BEAM, HOISTING, GUIDED MISSILE
HLU-296/E
P/N 1402AS100-1
NSN 1R 1450-01-198-7739**

DESCRIPTION. Guided Missile Hoisting Beam HLU-296/E is a reinforced steel frame with an aft shoe adapter equipped with a safety latch and pin. A movable hoisting eye and block allow for different weapon centers of balance.



REFERENCE DATA:

ISEA NAWC-WD Pt. Mugu
 Periodic Test [NAVAIR 17-1-127](#)
 PMS/Maint. Insts NAVAIR 19-100-2
 Op. Proc. NAVAIR 19-100-2
 EIC/WUC 81GA1
 SM&R Code PAGGG

PHYSICAL DATA:

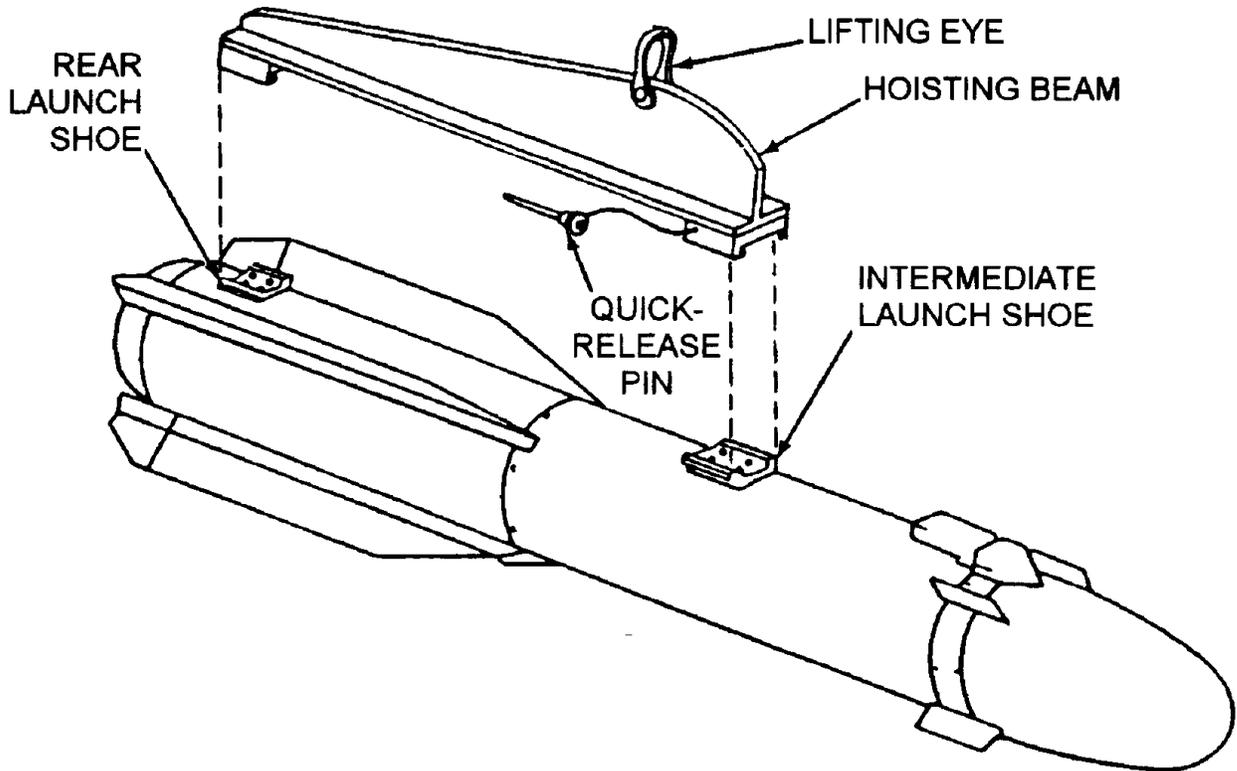
Length 42.00 inches
 Width 7.19 inches
 Height (lift eye extended) 3.00 inches
 Weight 14 pounds
 SWL 850 pounds

APPLICATION. Guided Missile Hoisting Beam HLU-296/E is used for handling the HARM (AGM-88A) or the AARGM (AGM-88E) missile during canning/decanning and missile build-up functions.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Guided Missile Hoisting Beam HLU-296/E.

**BEAM, HOISTING
HLU-328/E
P/N 1691AS100
NSN 1R 1450-01-286-2298**

DESCRIPTION. Hoisting Beam HLU-328/E is used for lifting the AGM-114 HELLFIRE Missile. It mates with the missile forward and aft launch shoes.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	PAOZZ

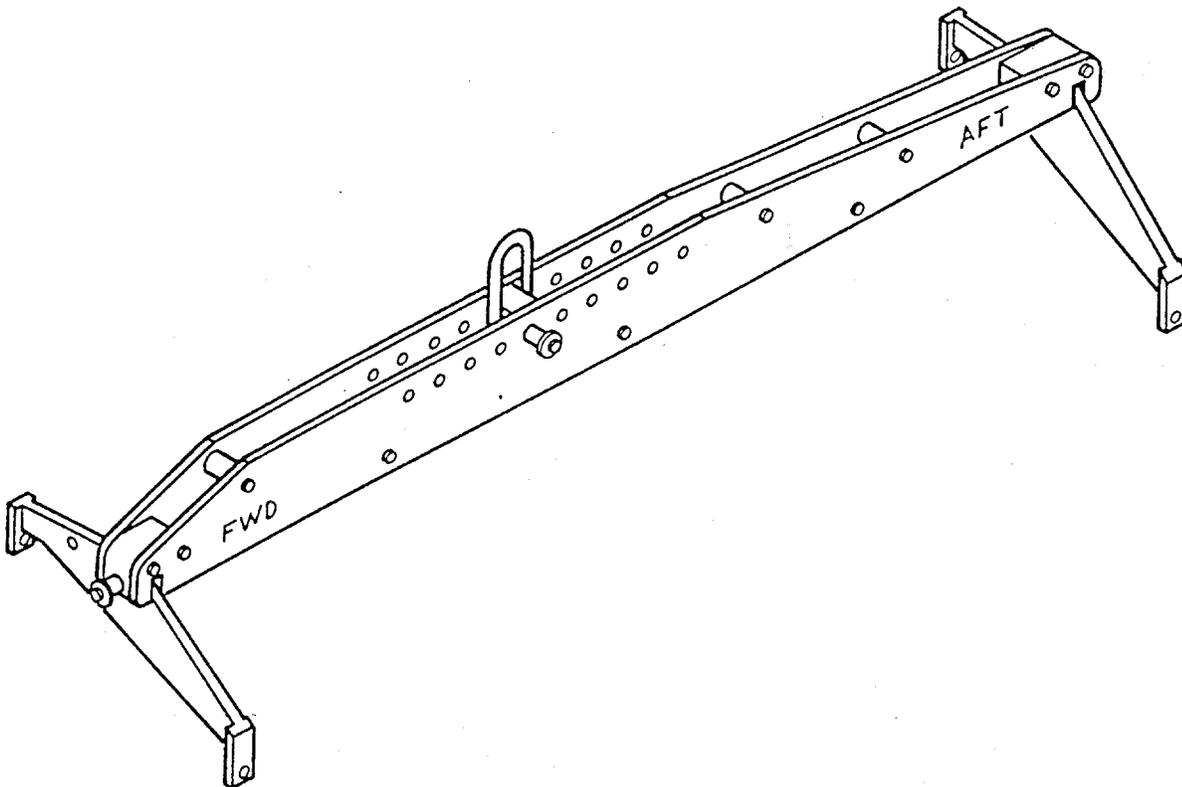
PHYSICAL DATA:	
Length	31.92 inches
Width	3.00 inches
Height	3.00 inches
Weight	10 pounds
SWL	100 pounds
Volume	0.17 cubic feet

APPLICATION. AIM-119 HELLFIRE SERD 0016.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoisting Beam HLU-328/E.

**BEAM, HOISTING
HLU-329/E
P/N 1732AS100
NSN 1R 4920-01-279-8191**

DESCRIPTION. Hoisting Beam HLU-329/E is “H” shaped, consisting of two side plates and two end plates which attach to the paks at the same points where the paks attach to the aircraft. The end plates are properly marked for gun/ammo and aft/fwd. The side plates have 11 pick-up positions to compensate for gun/ammo pak center of gravity variation.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	None
SM&R Code	PEGBZ

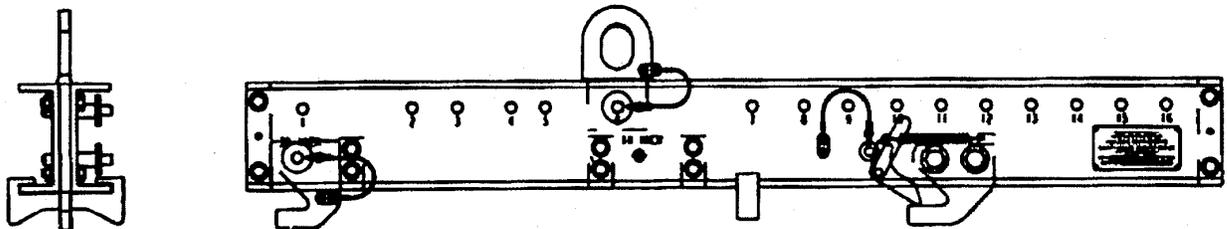
PHYSICAL DATA:	
Length	48.00 inches
Width	12.00 inches
Height	6.00 inches
Weight	30.00 pounds
SWL	N/A

APPLICATION. The Hoisting Beam HLU-329/E is used for transportation of the 25mm gun subsystem and the 25mm ammunition handling system.

ASSOCIATED EQUIPMENT. Stand, Maintenance, Gun/Ammo Pak, MSU-199/E.

**BEAM, HOISTING
HLU-385/E
P/N 3223AS950-1
NSN 6R 3940-01-445-5412**

DESCRIPTION. Hoisting Beam HLU-385/E is an aluminum channel and plate fitted with two steel hooks. A fixed position hook with a spring loaded latch and quick-release pin is located at the aft end. The forward hook is adjustable by removing a quick-release pin and sliding the hook to either the 14-inch or 30-inch positions. The lifting eyeplate is movable and can be located at 16 positions on the beam to accommodate the variable center of gravity points.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	None
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	21GZO
SM&R Code	PAOZZ

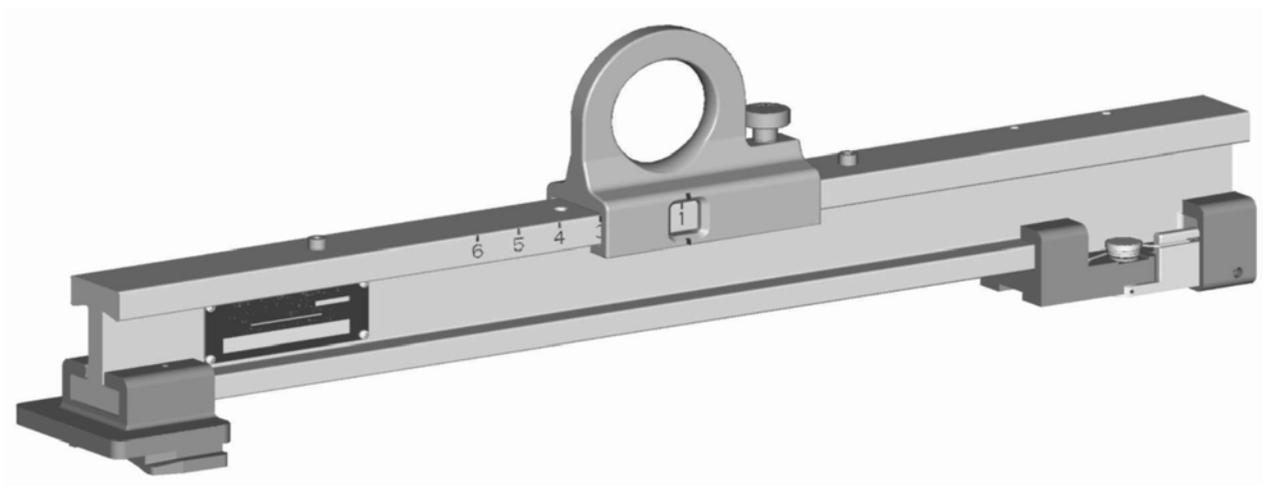
PHYSICAL DATA:	
Length	45.6 inches
Width	4.3 inches
Height	10.0 inches
Weight	32.0 pounds
SWL	4000 pounds

APPLICATION. Hoisting Beam HLU-385/E is primarily used to lift full or partially full Air Refueling Stores (ARS) at F/A-18 O/I level shipboard/shorebased operations. It can also be used to lift pods, tanks, weapons, MER/TER ejection racks.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Hoisting Beam HLU-385/E.

**BEAM, HOISTING
HLU-421/E
DL 3872AS100
NSN 9B 3940-01-534-6832**

DESCRIPTION. Hoisting Beam HLU-421/E consists of an aluminum beam with forward and aft shoes. The forward shoe has a spring-loaded locking feature to secure the beam to the missile shoe. The beam also has a moveable lift eye that can be repositioned for various centers of gravity. The lift eye is locked into place with a spring-loaded thumbscrew. The beam is used to handle AMRAAM and SPARROW missiles during encan/decan operations.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7221/R39
Op. Proc.	AR-67/13
EIC/WUC	Not Required
SM&R Code	PAOZZ

PHYSICAL DATA:	
Length	28.44 inches
Width	3.85 inches
Height	8.35 inches
Weight	14.3 pounds
SWL	2,000 pounds

APPLICATION. Hoisting Beam HLU-421/E is used by Naval Weapons Station and aboard ships for hoisting AMRAAM and SPARROW missiles, with or without fins.

ASSOCIATED EQUIPMENT. Hoisting Beam HLU-421/E is used with Hook Adapter Mk 91 Mod 0.

**BEAM, HOISTING
HLU-426/E
P/N 3927AS100
NSN NOT ASSIGNED**

DESCRIPTION. Hoisting Beam HLU-426/E consists of an aluminum beam with forward and aft sling mounts. Two nylon slings, used to support the missile, are affixed to each sling mount by a captive stainless steel pin on one side of the mount and held in position by stainless steel quick release pins on the other side of the mount. The beam has a moveable lift eye that can be repositioned for various missile centers of gravity and locked into place by a positive lock spring plunger. Rubber supports are located on the underside to prevent the beam from contacting the missile body when the missile is being secured to the beam.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7221/R42
Op. Proc.	AR-67/14
EIC/WUC	Not Required
SM&R Code	PAOZZ

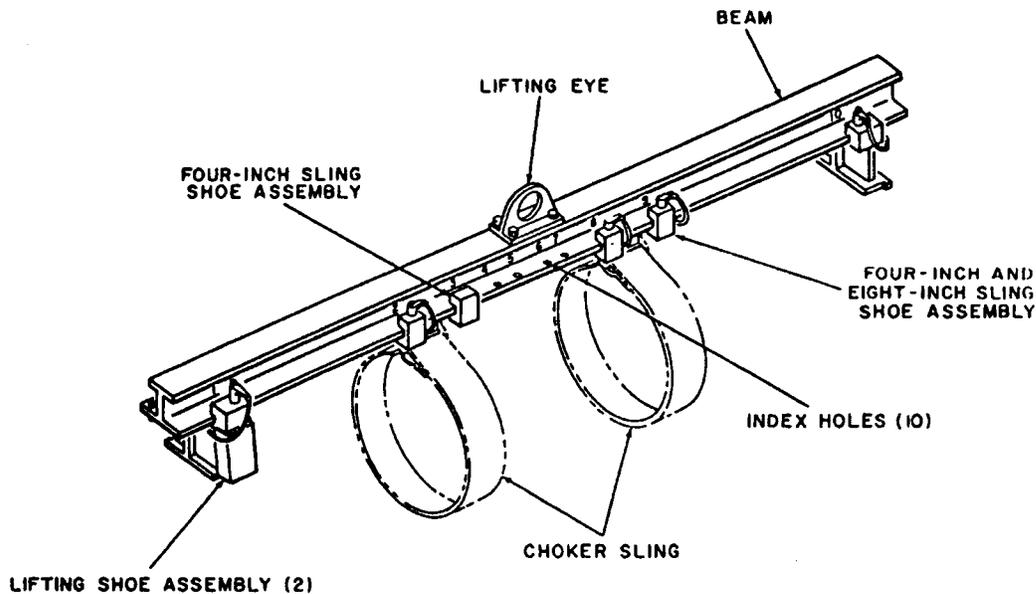
PHYSICAL DATA:	
Length	37.60 inches
Width	9.90 inches
Height	20.00 inches
Weight	20.00 pounds
SWL	1,000 pounds

APPLICATION. Hoisting Beam HLU-426/E is used to lift SPARROW missiles All-Up-Rounds (AUR's) and Missile Sections onto the AN/DSM-156 Test Set.

ASSOCIATED EQUIPMENT. Hook Adapter Mk 91 Mod 0.

**BEAM, HOISTING, GUIDED MISSILE
MHU-121/E
P/N 67A251D1
NSN 9B 1450-00-148-9250**

DESCRIPTION. Guided Missile Hoisting Beam MHU-121/E is constructed of aluminum and consists of a beam with lifting lug and 10 numbered index holes, two lifting shoe assemblies, and two sling shoe assemblies, and two sling shoe assemblies; one assembly fixed at a four-inch separation, the other adjustable to four or eight inches.



REFERENCE DATA:

ISEA NAWC-WD Pt. Mugu
 Periodic Test [NAVAIR 17-1-127](#)
 PMS/Maint. Insts None
 Op. Proc. AR-67/11
 EIC/WUC None
 SM&R Code PAHZZ

PHYSICAL DATA:

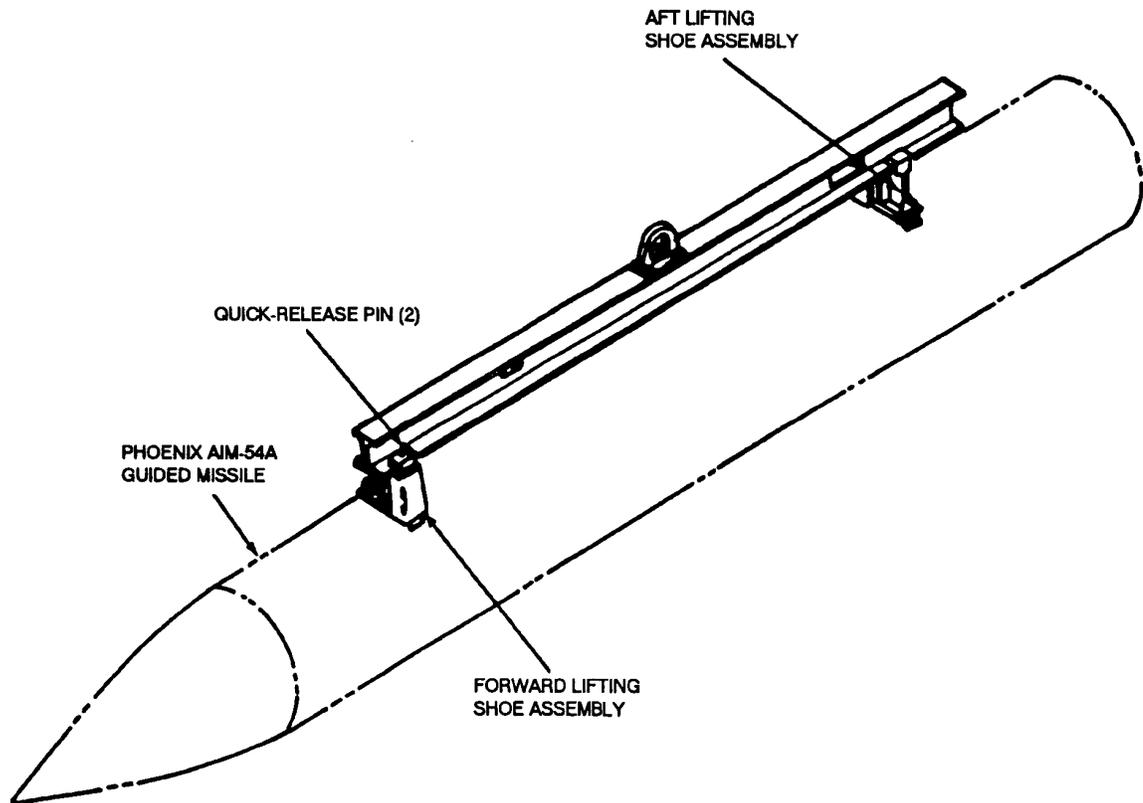
Length 84.00 inches
 Width 7.00 inches
 Height 13.00 inches
 Weight54 pounds
 SWL 1000 pounds
 Cube 4.42 cubic feet
 Volume 4.42 cubic feet

APPLICATION. Guided Missile Hoisting Beam MHU-121/E is used to can or decan, handle during transport, or remove the guidance section, armament section, propulsion section, control section, warhead, and assembled round of the PHOENIX AIM-54A Guided Missile. The sling shoe assemblies and lifting shoe assemblies can be positioned in the several numbered index holes as indicated on the beam instruction plate in order to accommodate any of the sections. The beam is attached directly to the assembled round missile by the lifting shoe assemblies. For the component sections, single/double choker slings provided in the containers are attached to the sling shoe assemblies using beam instruction plate for correct placement to locate the lifting lug over the center of gravity of the sections a combination of choker slings and lifting shoe assemblies is utilized. For the other sections any choker slings attached to the beam are necessary.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Guided Missile Hoisting Beam MHU-121/E.

**BEAM, HOISTING, GUIDED MISSILE
MHU-129/E
P/N 647AS100
NSN 9B 1450-00-113-6873**

DESCRIPTION. Guided Missile Hoisting Beam MHU-129/E consists of an aluminum I-beam with a lifting eye on the top side and two removable lifting-shoe assemblies. The shoe assemblies, which are secured to the lower flange of the beam with quick-release pins, are designed to engage the forward and aft launch lugs of the PHOENIX (AIM-54) Missile. Safety latches in the shoe assemblies secure them to the missile.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	NAVAIR 19-100-2
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	81XAW
SM&R Code	PAOGG

PHYSICAL DATA:	
Length	84.00 inches
Width	7.00 inches
Height	13.00 inches
Weight	42 pounds
SWL	1000 pounds
Volume	4.5 cubic feet

APPLICATION. The Guided Missile Hoisting Beam MHU-129/E is used both ashore and afloat for PHOENIX (AIM-54) Missile uncanning/recanning operations and for placing the weapon onto Guided Missile Adapter ADU-399B/E.

ASSOCIATED EQUIPMENT. Hook Adapter Mk 91 Mod 0 and Guided Missile Adapter ADU-399B/E.

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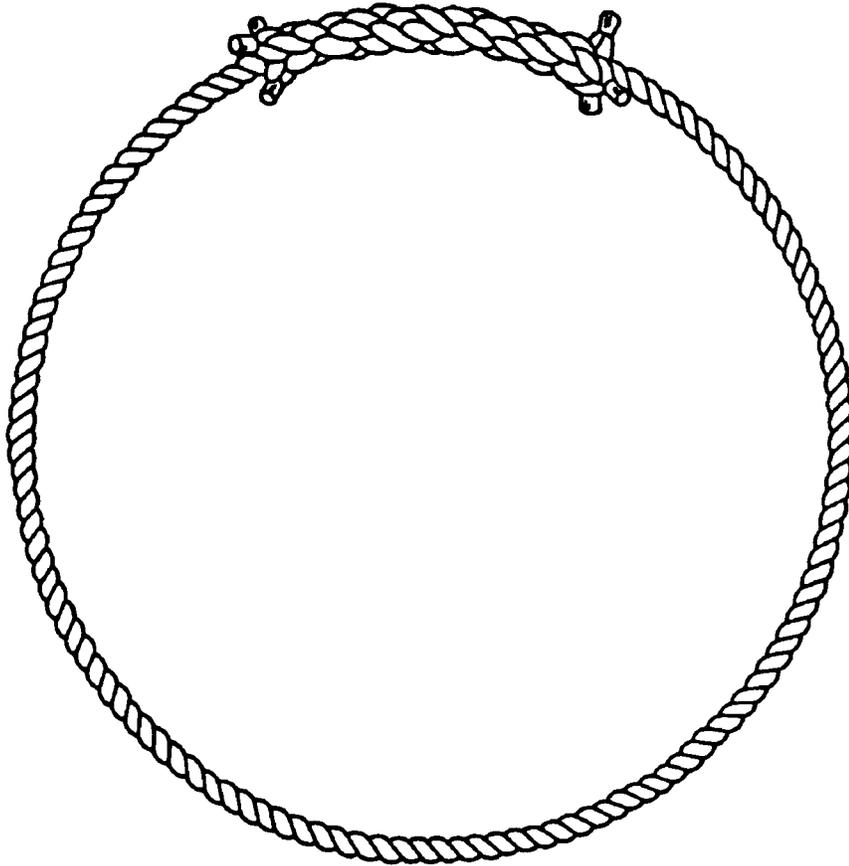
CHAPTER 6

BECKET

6-1. GENERAL. This chapter covers only one becket used in handling weapons, ammunition and explosives. Refer to the item sheet for all descriptive information.

BECKET, ROPE
DL 2644458
NSN 9B 3940-01-053-2557

DESCRIPTION. Rope Becket consists of a 7-foot length of 0.75-inch diameter nylon rope with six tucks spliced into each standing part. The rope ends of each splice are dog-eared and heat sealed after splicing.



REFERENCE DATA:	
ISEA	PHST Center/NSWC Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7721/R18
Op. Proc.	S9571-AA-MMA-010
EIC/WUC	None
SM&R Code	PA4ZZ

PHYSICAL DATA:	
Length	84.00 inches
Width	0.75 inches
Height	N/A
Weight	1 pound
SWL	4500 pounds

APPLICATION. Rope Becket provides the means, in the form of a single wrap choker hitch, of connecting Nylon Webbing Net Cargo Sling to the hook of CONREP hoisting equipment.

ASSOCIATED EQUIPMENT. Nylon Webbing Net Cargo Sling 12 x 12 and Nylon Webbing Net Cargo Sling 14 x 14.

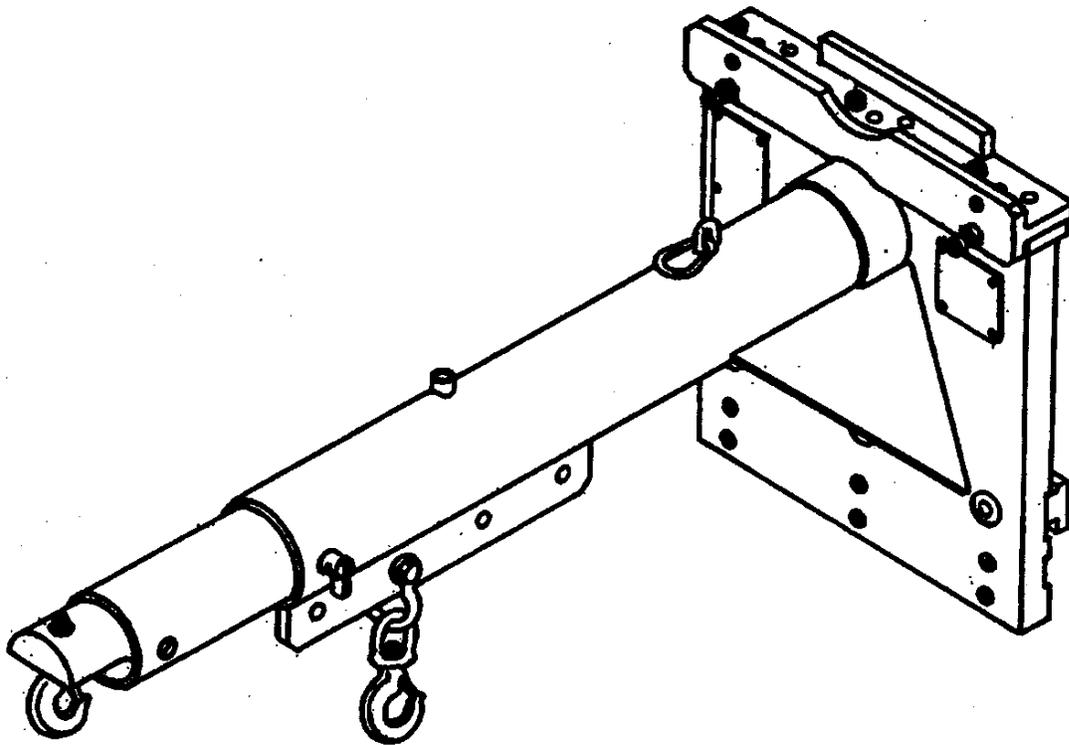
CHAPTER 7

BOOM

7-1. GENERAL. This chapter covers only one boom used in handling weapons and explosives. Refer to the item sheet for all descriptive information.

**BOOM, FORKLIFT TRUCK
MK 5 MOD 0
DL 2644743
NSN 7H 1450-00-505-0695**

DESCRIPTION. Forklift Truck Boom Mk 5 Mod 0 is a steel weldment consisting of a fixed pipe welded to a mounting bracket, a telescoping pipe with a safety shank hook and a toggle pin for length adjustment. A suspension bar with a safety swivel hook is welded on the bottom of the fixed pipe and a lifting link is affixed to the top of the pipe. The boom converts 4,000 and 6,000 pound forklift trucks to boomlift trucks. The boom has four adjustable and four fixed suspension points for lifting loads up to the forklift truck capacity



REFERENCE DATA:

ISEA PHST Center/NSWC Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts MIP 7721/R20
 Op. Proc. [NAVSEA SW023-AH-WHM-010](#), OR-67/7
 EIC/WUC 897H
 SM&R Code PA6GD

PHYSICAL DATA:

Length..... 53.50 inches
 Width..... 24.00 inches
 Height..... 27.00 inches
 Weight..... 700 pounds
 SWL 6000 pounds

**BOOM, FORKLIFT TRUCK
MK 5 MOD 0
DL 2644743
NSN 7H 1450-00-505-0695**

APPLICATION. Forklift Truck Boom Mk 5 Mod 0 is used with various Forklift trucks in conjunction with various slings and carriers to handle various types of ordnance, such as bombs, Underwater Mines Mk 52, Mk 55, Mk 56 and Mk 57 in their different assembly configurations, crated and uncrated, All-Up-Rounds (AUR's), in shore-based magazines and mine-assembly shops, for removal of ordnance from railcar, especially in low-overhead areas with narrow passageways. Weapons Handling Sling Mk 99 Mod 0 is used to remove tops of Containers Mk 481 and Mk 746. If Weapons Handling Sling Mk 99 Mod 0 is used to lift containers, distortion to container sides may occur.

NOTE: The boom has to be weight tested in each telescoping position. Special attention is necessary when the respective hooks are used to ensure non-standard load centers are not exceeded. Refer to NAVSEA SW023-AH-WHM-010 for information on determining maximum weights for non-standard load centers.

ASSOCIATED EQUIPMENT. Bomb Carrier Mk 4 Mod 0, Mine Carrier Mk 46 Mod 0, Mine Sling Mk 101 Mod 0, Sling Mk 111 Mod 0, Sling Mk 115 Mod 0, Weapon Handling Sling Mk 99 Mod 0 and various Forklift trucks.

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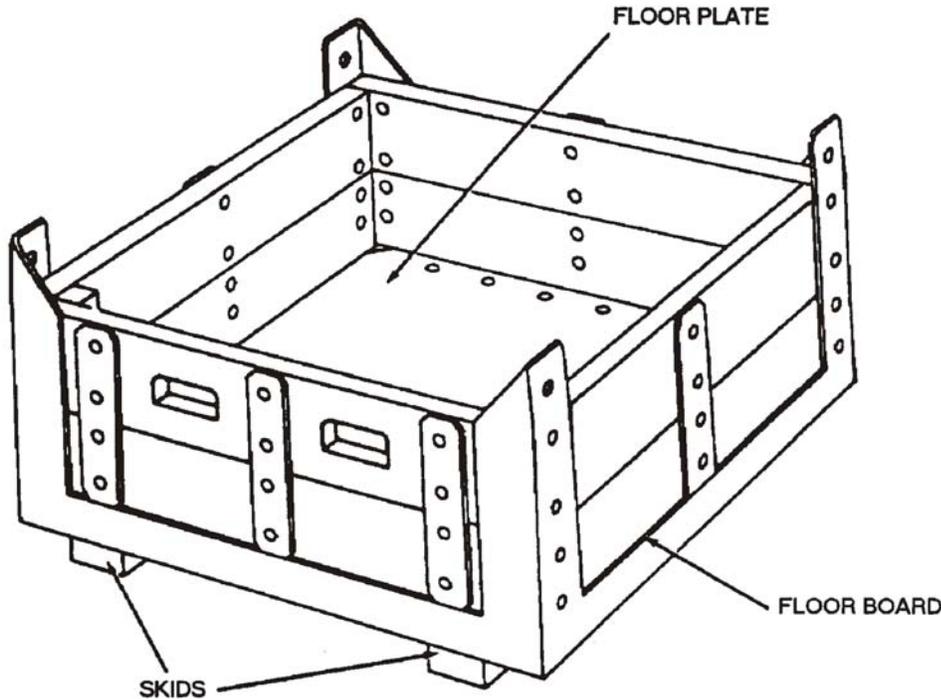
CHAPTER 8

BOXES

8-1. GENERAL. This section covers two boxes used in handling weapons and explosives. Refer to the item sheet for all descriptive information.

**BOX, CARGO HANDLING SKIP
P/N S2700-921608
NSN 9Z 3990-01-168-2363**

DESCRIPTION. Cargo Handling Skip Box is constructed of wood except for the iron corner angles and stiffeners. The box has a metal floor plate which covers the entire bottom of the box. The box is mounted on two heavy wooden skids fastened to the bottom of the box with bolts.



OBSOLESCENT

REFERENCE DATA:	
ISEA	NAVSEASYSKOM
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7121/R45
Op. Proc.	None
EIC/WUC .....	.8991
SM&R Code	None

PHYSICAL DATA:	
Length	60.50 inches
Width	42.50 inches
Height	26.5 inches
Cube	17.6 cubic feet
Weight	350 pounds
SWL	5000 pounds

APPLICATION. Cargo Handling Skip Box is used to handle various types of cargo. The heavy timber skids underneath permit the use of forklift trucks or Pallet Sling Mk 93 Mod 0 to handle the box. Two Slings Mk 161 Mod 0 are attached to the corners for dockside loading operations. Cargo Handling Skip Box is obsolescent and is replaced by Ammunition Security Pallet Crate Mk 108 Mod 1, Ammunition Pallet-Crate (MIL-C-21215), or JMJC Assembly Crate.

ASSOCIATED EQUIPMENT. Pallet Sling Mk 93 Mod 0 and Sling Mk 161 Mod 0.

**BOX, SKIP, AMMUNITION CONTAINER HANDLING
P/N NAVSEA DWG 712-8328749
NSN NOT ASSIGNED**

DESCRIPTION. Ammunition Container Handling Skip Box is a stainless steel weldment equipped with four lifting points and four handles.



REFERENCE DATA:	
ISEA	NAVSURFWARCENDIV Carderock
Periodic Test . . .	NSTM S9086-XG-STM-010/CH-700
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	85A2
SM&R Code	None

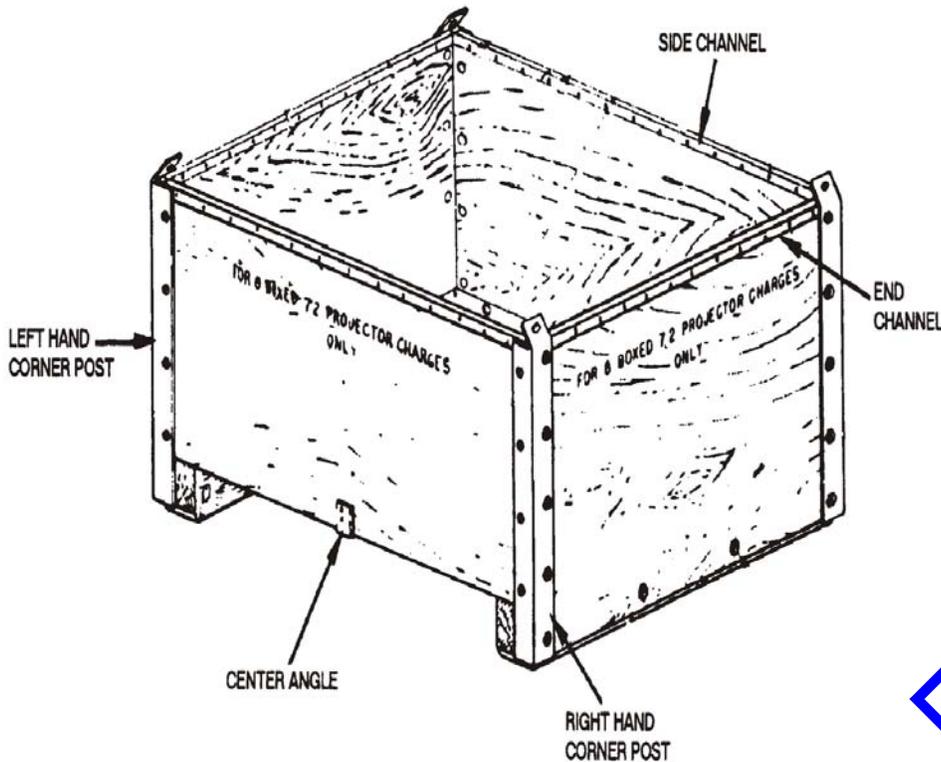
PHYSICAL DATA:	
Length	32.00 inches
Width	19.50 inches
Height	15.00 inches
Weight	20 pounds
SWL	250 pounds

APPLICATION. Ammunition Container Handling Skip Box is used with a four-legged Ammunition Container Lifting Sling (NAVSEA Drawing 712-8328762) attached to the four lifting points and connected with a 7/8-inch shackle that attaches to an overhead hook to handle up to three M592 Ammunition Containers during "over-the-side" operations. Four Mk 3 Mod 0 Tag Lines are attached to the handles to maintain positiver control during handling operations.

ASSOCIATED EQUIPMENT. Ammunition Container Lifting Sling (NAVSEA Drawing 712-8328762), 7/8-inch shackle, and Mk 3 Mod 0 Tag Lines.

**BOX, SKIP, MATERIAL HANDLING
MK 1 MOD 0
P/N S2700-944632
NSN 9Z 3990-00-368-2934**

DESCRIPTION. Material Handling Skip Box Mk 1 Mod 0 is constructed of wood members. The box is mounted on two heavy wooden skids. Corner posts, side and end channels and a center angle are constructed of steel and secured with bolts to reinforce the wood members.



OBSOLESCE

REFERENCE DATA:	
ISEA	NAVSEASYSKOM
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7121/R45
Op. Proc.	None
EIC/WUC	85A2
SM&R Code	None

PHYSICAL DATA:	
Length	30.00 inches
Width	30.00 inches
Height	22.00 inches
Weight	220 pounds
SWL	2000 pounds

APPLICATION. Material Handling Skip Box Mk 1 Mod 0 is used with two Slings Mk 161 Mod 0 to handle various types of cargo (i.e., loose items such as projectiles or charges) during dockside loading operations. Material Handling Skip Box Mk 1 Mod 0 is obsolescent and is replaced by Ammunition Security Pallet Crate Mk 108 Mod 1, Ammunition Pallet-Crate (MIL-C-21215), or JMJC Assembly Crate.

ASSOCIATED EQUIPMENT. Sling Mk 161 Mod 0.

CHAPTER 9

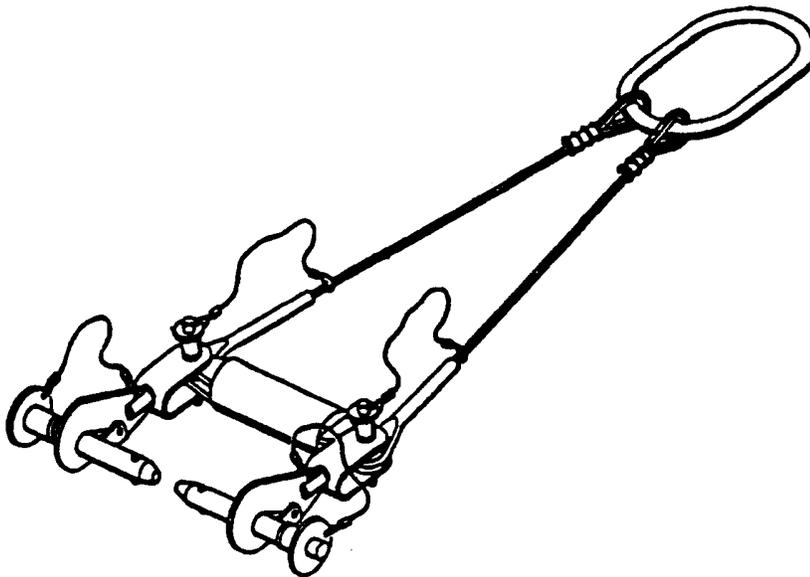
BRIDLE

9-1. GENERAL. This section covers only one bridle used to tow and hoist weapons, stores and different support equipment. Refer to the item sheet for all descriptive information.

9-2. DESCRIPTION. Bridles are a combination of different components such as wire rope, steel bands and lifting rings. Bridles are used for attachment to a load directly or to support equipment to which the weapon has been attached. It provides a winching point for these operations.

**BRIDLE ASSEMBLY, TOWING
MHU-137/E
P/N 770AS100
NSN 1R 1730-00-148-9082**

DESCRIPTION. Towing Bridle Assembly MHU-137/E consists of two cable assemblies, each constructed of 1/4-inch diameter aircraft cable approximately four feet long. One end of each cable assembly is attached to an oval ring, while the other ends are attached to cable terminals. The remainder of the bridle assembly consists of a tow link used to laterally connect the terminal ends of the cable assemblies and two clevis assemblies, each consisting of a hook equipped with a snap lock and quick-release pin. The pins are used to join the clevis assemblies, tow link, and terminal ends of the cable assemblies. Two additional quick-release pins are supplied for use in attaching the bridle assembly to “H” gear.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	NAVAIR 17-1-127
Op. Proc.	NAVAIR 17-1-127
EIC/WUC	ZIGZO
SM&R Code	PEOGG

PHYSICAL DATA:	
Length	58.00 inches
Width	8.00 inches
Height	1.50 inches
Weight	10 pounds
SWL	2000 pounds

APPLICATION. Towing Bridle Assembly MHU-137/E is primarily used during loading and offloading of all weapons that would be logistically carried by a helicopter. More specifically, the bridle assembly, when used in conjunction with appropriate transport equipment, is used to tow metal pallets along a conveyor ramp into a helicopter bay. When Towing Bridle Assembly MHU-137/E is used to transport a palletized load, the pin and cable assembly is removed from one end of the tow link. The tow link is positioned behind the forward support of the center skid on the underside of the pallet, and the cable assembly and pins are replaced. The oval ring at the opposite end of the bridle assembly is attached to a winch.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Towing Bridle Assembly MHU-137/E.

CHAPTER 10

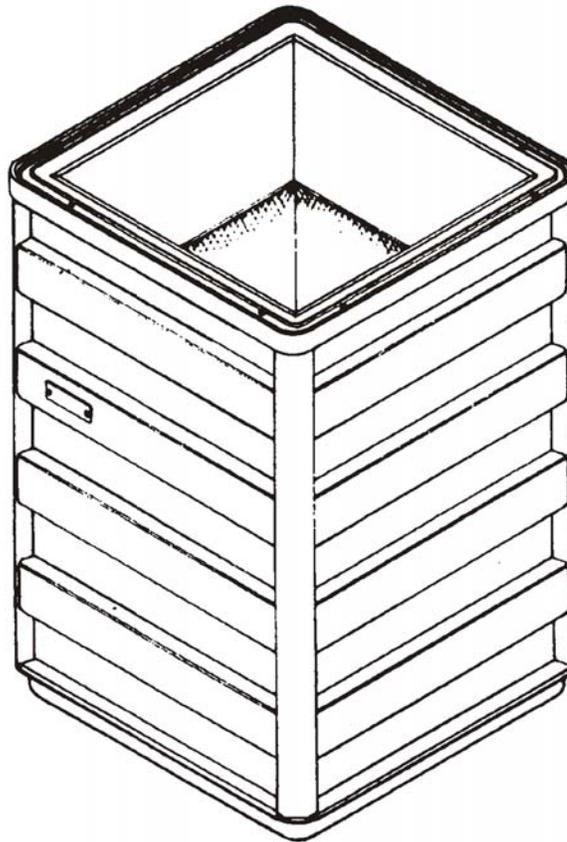
CANISTERS

10-1. GENERAL. This section covers two canisters that are used as an adapter in handling weapons and explosives. Refer to the item sheet for all descriptive information.

**CANISTER, ADAPTER ASSEMBLY
MK 18 MOD 0
PL 5599372-39
NSN 8T 1450-01-264-1897**

DESCRIPTION. Adapter Assembly Canister Mk 18 Mod 0 is an open ended steel weldment with four steel bars welded to each side for additional strength, giving a corrugated appearance. The interior surface is lined with an ablative material. It has two seals pressed into the top and bottom for gas management.

OBSOLESCE



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R47, OR-99/86BN000
Op. Proc.	OR-67/130
EIC/WUC	86BN
SM&R Code	None
NALC	4W66

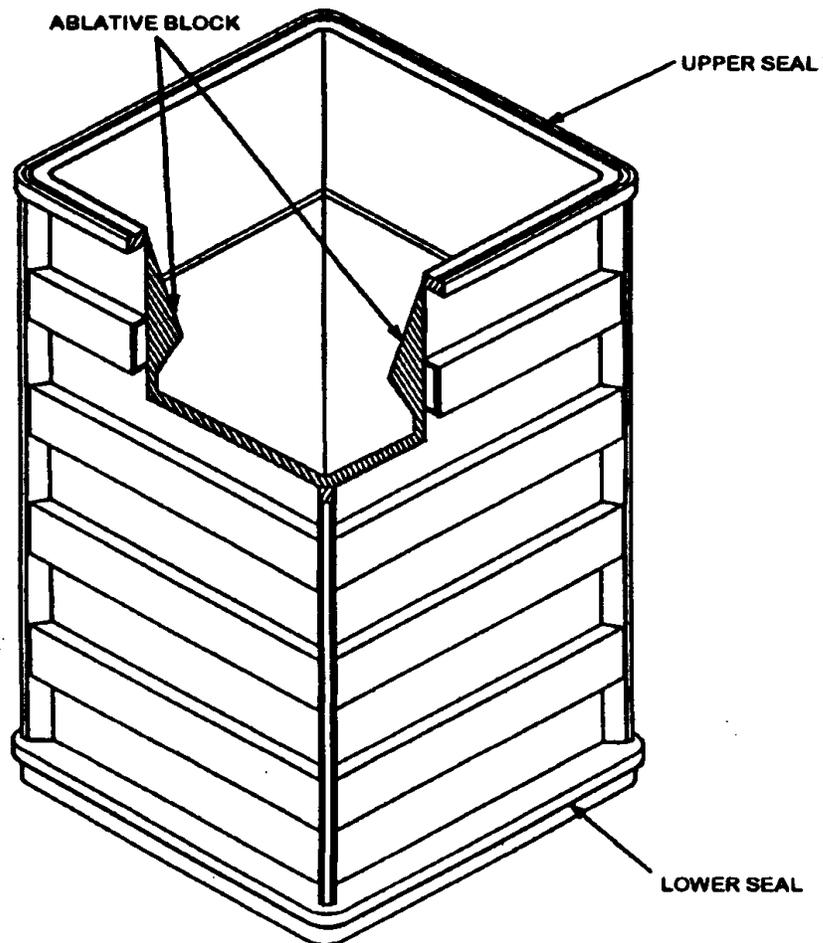
PHYSICAL DATA:	
Length	25.12 inches
Width	25.12 inches
Height	39.00 inches
Weight	615 pounds
SWL	N/A

APPLICATION. Adapter Assembly Canister Mk 18 Mod 0 is used when Canister Mk 13 or Mk 15, or Plenum Cell Cover Mk 18 Mod 0 is installed in the cell. Adapter Assembly Canister Mk 18 Mod 0 is obsolescent and is replaced by Canister Assembly Adapter Mk 18 Mod 1.

ASSOCIATED EQUIPMENT. Plenum Cell Cover Mk 18 Mod 0 and Beam, Canister, Adapter Lift Mk 50 Mod 0.

**CANISTER, ADAPTER ASSEMBLY
MK 18 MOD 1
PL 5599372-49
NSN 8T 1450-01-393-0447**

DESCRIPTION. Adapter Assembly Canister Mk 18 Mod 1 is an open-ended steel weldment with four steel bars welded to each side for additional strength. The outside has a corrugated appearance similar to a missile canister; the inside is lined with ablative material. The adapter is a combination nozzle and spacer installed under the bottom of the canister to prevent rocket motor exhaust gases from circulating back into the canister. Gas management is provided by an upper seal and a lower seal. The Mod 1 seal withstands greater pressures than the Mod 0 and is required when a Mk 21 Canister is in the same module.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts . . .	MIP 7221/R47, OR-99/86C6000
Op. Proc.	OR-67/177
EIC/WUC. . . . .	.86C6
SM&R Code	PA5GD
NALC.	DWBV

PHYSICAL DATA:	
Length	25.12 inches
Width	25.12 inches
Height.	39.25 inches
Weight	615 pounds
SWL	N/A

**CANISTER, ADAPTER ASSEMBLY
MK 18 MOD 1
PL 5599372-49
NSN 8T 1450-01-393-0447**

APPLICATION. Adapter Assembly Canister Mk 18 Mod 1 is used as a spacer when Canister Mk 13 Mod 0, Mk 15 Mod 0, Mk 25 Mod 0, Training Canister Mk 19 Mod 0 is installed in the cell or used with Plenum Cell Cover Mk 18 Mod 0 to seal empty cells.

ASSOCIATED EQUIPMENT. VLS Canisters Mk 13/15/19/25 Mod 0, Plenum Cell Cover Mk 18 Mod 0 and Beam Mk 50.

CHAPTER 11

CARRIERS

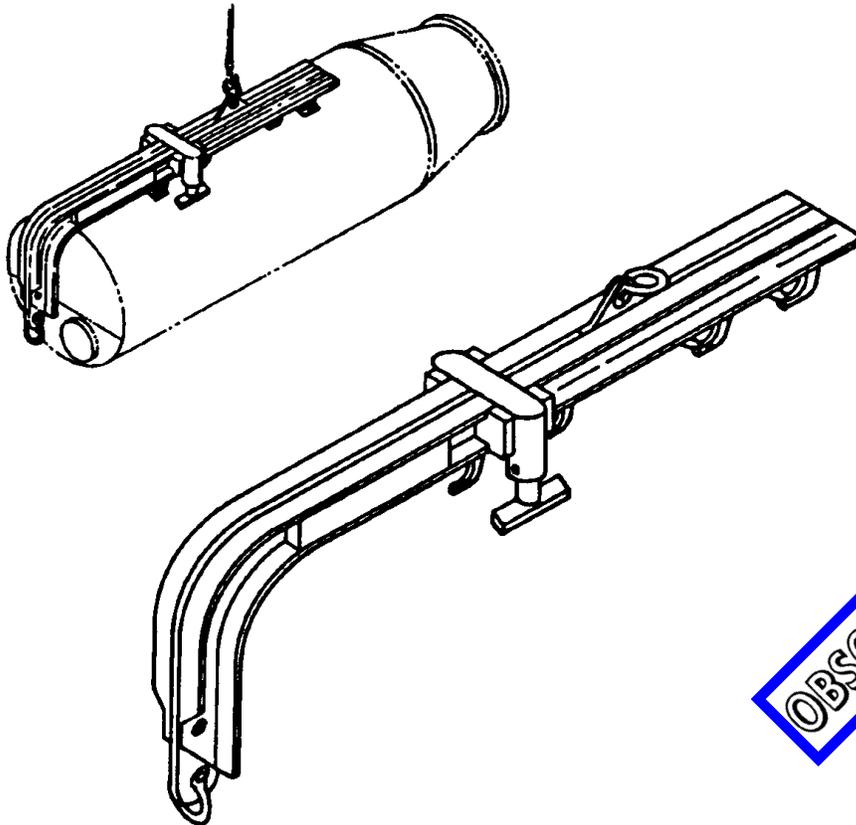
11-1. GENERAL. This chapter covers carriers used in lifting and handling weapons and explosives. Reference should be made to the particular item sheet for detailed information.

11-2. DESCRIPTION. Carriers are lifting devices, with lifting eyes or handles, which connect directly to a load, providing a means of connecting hoisting equipment to the load. The main body of carriers is usually constructed of a rigid metal casting, but many carriers have flexible components of wire rope or cloth webbing. Carriers lift a load in three ways: (1) by connecting to a lug, eye, slot, frame, or other fitting on the load, (2) by connecting a facing on the carrier to a matching facing on the load, and (3) by connecting around and/or beneath the load. The fitting connector type of carrier has hooks, clamps, or brackets which connect to fittings on the load. The hooks, clamps and brackets are of two sorts: for connecting to suspension lugs, eyes, or slots and for connecting to the sides of crates, end rings, the lifting holes of handling bands, or lifting eyes.

11-3. OPERATION. In selecting a carrier for use in a particular handling situation, there are several factors to be considered: the weight of the load, the lifting position required, the Mark-Mod of the load, the kind and spacing of any lifting fittings on the load, and the size of the load. The weight of the load must not exceed the rated safe working load (SWL) of the carrier used. Low overhead conditions require a horizontal lifting position; in other situations a vertical or inclined position can be used. Some carriers are used for horizontal lifting only, others for vertical only, and others for more than one position. Many of the carriers are used to handle a specific item. Whenever a carrier for the specific load is available, this one should be used. The kind and spacing of any lifting fittings on the load must be considered in selecting a carrier which connects to fittings on the load.

**CARRIER, MINE
MK 39 MOD 0
LD 296494
NSN NOT ASSIGNED**

DESCRIPTION. Mine Carrier Mk 39 Mod 0 is an L-shaped steel channel strengthened by additional steel reinforcement at the critical section of maximum torque and moment. Two sets of steel hooks are provided, one set spaced at 30 inches and another at 14 inches. Each set of hooks is equipped with a safety latch to prevent the lugs of the mine from disengaging.



OBSOLESCE

REFERENCE DATA:	
ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

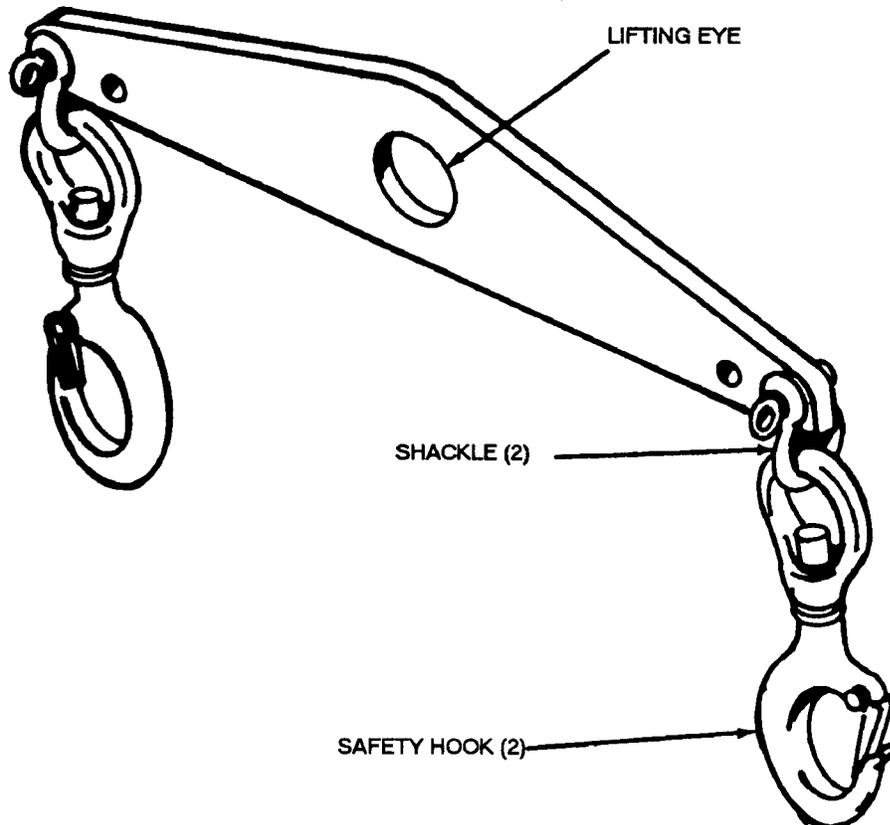
PHYSICAL DATA:	
Length	60.00 inches
Width	8.00 inches
Height	16.50 inches
Weight	95 pounds
SWL	2000 pounds

APPLICATION. Mine Carrier Mk 39 Mod 0 is self-adjusting to accommodate the suspension lugs of Mines Mk 52 Mods and Mk 55 Mods. This carrier can lift mines in either a horizontal or vertical position. Mine Carrier Mk 39 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Mine Carrier Mk 39 Mod 0.

**CARRIER, WEAPON
MK 43 MOD 1
P/N 2482995
NSN 9B 1450-00-165-4564**

DESCRIPTION. Weapon Carrier Mk 43 Mod 1 is made of 5/8-inch steel plate with two safety swivel hooks attached by shackles. The carrier has two sets of holes for attaching the safety hooks, one set spaced at 16-7/8 inches and the other at 14 inches.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	NAVAIR 19-100-2
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	21GZO
SM&R Code	PAOZZ

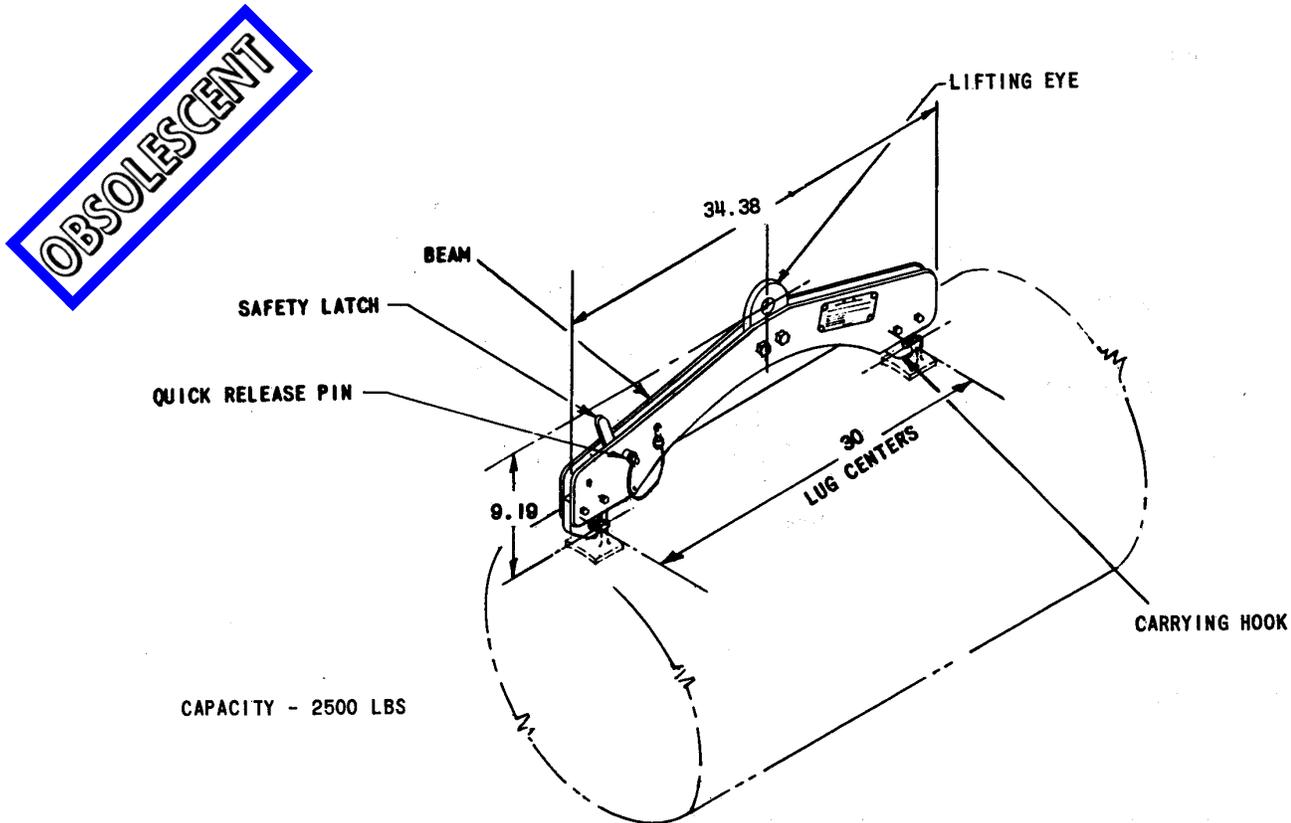
PHYSICAL DATA:	
Length	18.00 inches
Width	0.63 inches
Height	10.75 inches
Weight	9.5 pounds
SWL	2000 pounds

APPLICATION. Weapon Carrier Mk 43 Mod 1 is used in conjunction with two Mk 49 Mods 0 and 1 Weapon Carrier to lift Mk 82 Bombs (500 pounds) in tandem off different skids and trailers.

ASSOCIATED EQUIPMENT. Weapon Carrier Mk 49 Mods 0 and 1, Hook Adapter MK 91 Mod 0 and Overhead Hoists.

**CARRIER, MINE
MK 46 MOD 1
DL 2642669
NSN 9B 3940-00-969-1109**

DESCRIPTION. Mine Carrier Mk 46 Mod 1 consists of an aluminum beam with a steel lifting eye and two carrying hooks. The lifting eye and carrier hooks are bolted between two arch-shaped aluminum plates. The carrier is attached to the mine by engaging the carrying hooks in the mine lifting lugs. The spring-loaded safety latch secures the carrying hooks to the lifting lugs, and a quick-release pin prevents accidental release of the safety latch.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7321/R25
Op. Proc.	None
EIC/WUC	85B3
SM&R Code	None

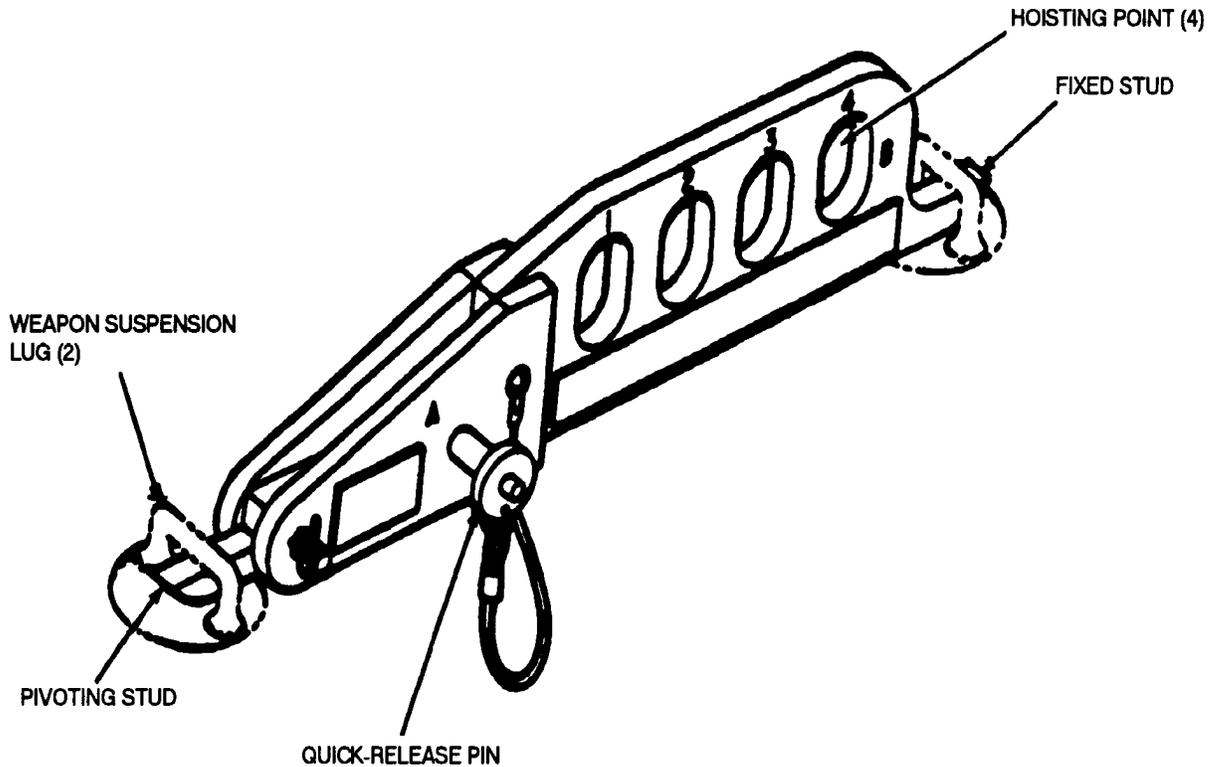
PHYSICAL DATA:	
Length	34.38 inches
Width	3.50 inches
Height	12.00 inches
Weight	18 pounds
SWL	2500 pounds

APPLICATION. Mine Carrier Mk 46 Mod 1 is used for handling Underwater Mines (either crated or uncrated) Mk 25 all Mods, Mk 39 Mod 0, Mk 56 Mod 0, and (uncrated only) Mk 10 Mod 9. The Mine Carrier Mk 46 Mod 1 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Mine Carrier Mk 46 Mod 1.

**CARRIER, WEAPON
MK 49 MOD 1
P/N 808AS100-1
NSN 9B 1450-01-024-1736**

DESCRIPTION. Weapon Carrier Mk 49 Mod 1 is a welded steel-plate carrier equipped with four hoisting points and two attaching studs. A plate riveted to the carrier shows direction and hoisting points for different weapons. Attaching studs are of two designs, one fixed and one pivoting. The pivoting stud at the “A” end is locked in place with a quick-release pin.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	None
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	21GZO
SM&R Code	PAOZZ

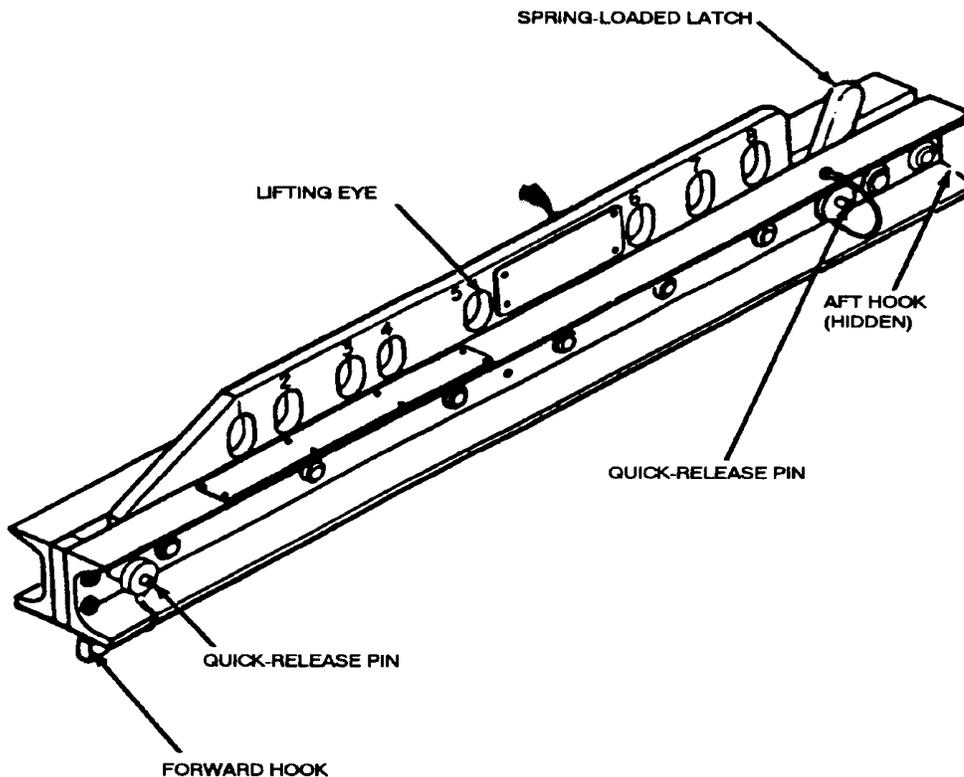
PHYSICAL DATA:	
Length	16.87 inches
Width (without pin)	1.12 inches
Height	3.18 inches
Weight	7 pounds
SWL	2500 pounds

APPLICATION. Weapon Carrier Mk 49 Mod 1 is used to hoist weapons with 14-inch suspension lugs. The fixed stud must be engaged in one of the weapon suspension lugs first. The pivoting stud is then engaged in the remaining lug and locked in place with the quick-release pin. A Type IVA, Class 2, 3/4-inch diameter shackle found in chapter 40 of this manual is required as a hoisting eye and is relocated for the different hoist point adjustments.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Weapon Carrier Mk 49 Mod 1.

**CARRIER, WEAPON
MK 51 MOD 1
P/N 651AS100
NSN 1H 1398-00-190-6719**

DESCRIPTION. Weapon Carrier Mk 51 Mod 1 is an aluminum channel and plate fitted with two steel hooks. A fixed position hook with a spring loaded latch with safety pin is located at the aft end, the forward hook is adjustable by removing a ball-lock pin and sliding the hook to either the 14-inch or 30-inch positions. A strongback which runs the length of the carrier has eight lifting eyes, permitting center of gravity adjustment for different weapons being handled.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 17-1-127
PMS/Maint. Insts	None
Op. Proc.	NAVAIR 19-100-2
EIC/WUC	.21GZO
SM&R Code	.PAOZZ

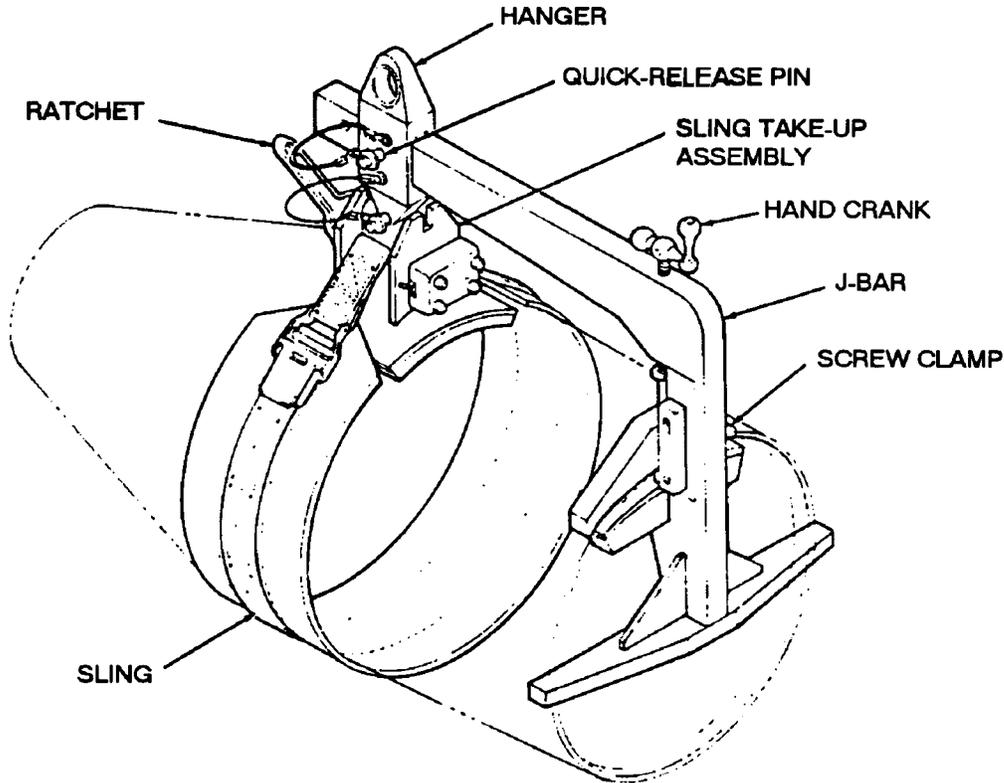
PHYSICAL DATA:	
Length	34.38 inches
Width	3.79 inches
Height	8.44 inches
Weight	23.5 pounds
SWL	4000 pounds

APPLICATION. Weapon Carrier Mk 51 Mod 1 is used to hoist weapons with 14- or 30-inch suspension and MER/TER ejection racks. An instruction plate provides guidance as to lifting eye selection. A Type IVA, Class 2, 7/8-inch diameter shackle found in chapter 40 of this manual is required as a hoisting eye and is relocated for different hoist point adjustments.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Weapons Carrier Mk 51 Mod 1.

**CARRIER, GUIDED WEAPON
MK 52 MOD 1
DL 67A212F1
NSN 6M 1450-00-808-9563**

DESCRIPTION. Guided Weapon Carrier Mk 52 Mod 1 is an aluminum weldment consisting of a J-bar, a crank-operated screw clamp, a sling take-up assembly, and a hanger (lifting eye). The hanger, being secured to the J-bar with a quick-release pin, can be situated on the J-bar in either of two positions or it can be detached, as required. The sling take-up assembly includes a sling, buckle, and a wrench-operated ratchet.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	PEHHD

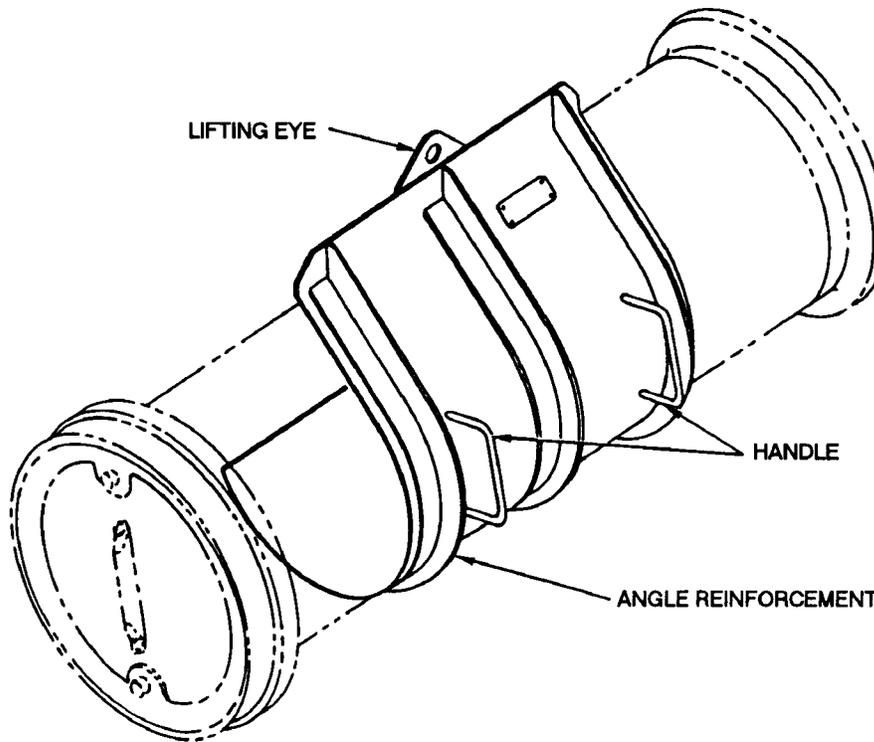
PHYSICAL DATA:	
Length	19.00 inches
Width	14.50 inches
Height	16.78 inches
Weight	19 pounds
SWL	100 pounds

APPLICATION. Guided Weapon Carrier Mk 52 Mod 1 is used for decanning and handling guidance and control sections of Guided Weapon Mk 1 Mod 0 (WALLEYE).

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Guided Weapon Carrier Mk 52 Mod 1.

**CARRIER, 16-INCH POWDER TANK
MK 53 MOD 0
DL 2643016
NSN NOT ASSIGNED**

DESCRIPTION. The 16-Inch Powder Tank Carrier Mk 53 Mod 0 is an aluminum weldment consisting of a curved plate with three equally spaced angle reinforcements welded to its outer surface. Two handles are provided for positioning the carrier. A lifting eye is provided for hoisting attachment.



OBSOLESCE

REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts None
 Op. Proc. None
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

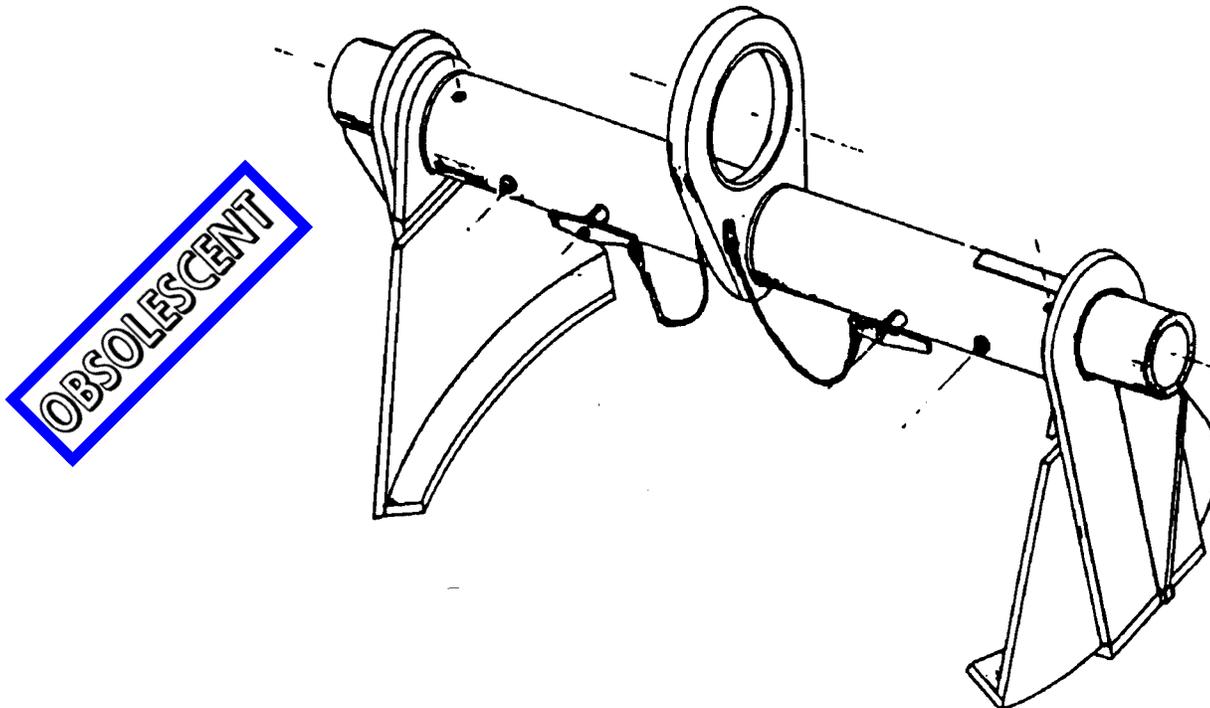
Length 25.00 inches
 Width 16.63 inches
 Height 27.63 inches
 Weight 38 pounds
 SWL 288 pounds

APPLICATION. The 16-Inch Powder Tank Carrier Mk 53 Mod 0 is designed to slip under powder tanks, either stacked or on the floor, and therefore facilitates handling and reduces the possibility of the tanks being rolled during moving and storing operations. The carrier is to be used only in magazines. The 16-Inch Powder Tank Carrier Mk 53 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the 16-Inch Powder Tank Carrier Mk 53 Mod 0.

**CARRIER, 16-INCH POWDER TANK
MK 54 MOD 1
DL 5167166
NSN 9B 3940-01-325-1704**

DESCRIPTION. The 16-Inch Powder Tank Carrier Mk 54 Mod 1 is a steel weldment consisting of two wedge-shaped brackets mounted at opposite ends of a sliding tube assembly. The tube assembly consists of two inner and one outer tube weldments and adjusts to two positions to install the carrier on the powder tanks. Once secured to the tank, the adjusted position of the carrier is maintained by means of two quick-release pins. A lifting eye is welded to the center of the outer tube.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts None
 Op. Proc. None
 EIC/WUC 884A
 SM&R Code None

PHYSICAL DATA:

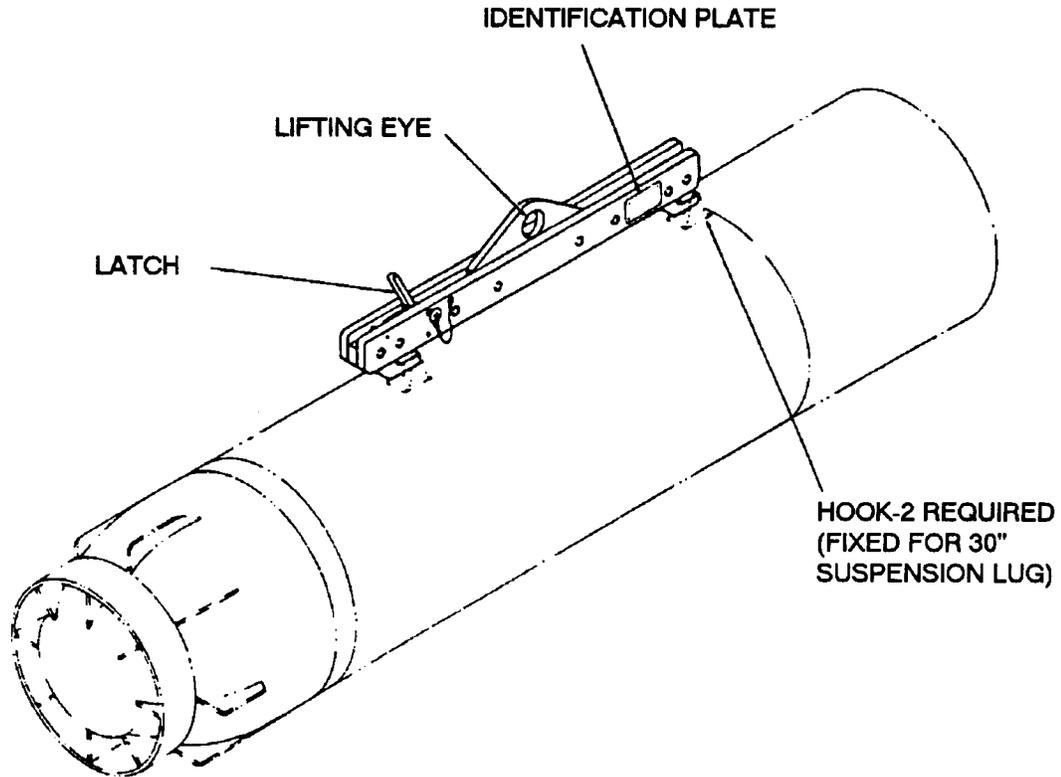
Length 28.63 inches
 Width 8.00 inches
 Height 10.68 inches
 Weight 16.5 pounds
 SWL 430 pounds

APPLICATION. The 16-Inch Powder Tank Carrier Mk 54 Mod 1 is designed for shipboard handling of 16"/50 powder tanks. The carrier is used during strikedown operations in low overhead environments such as #2 turret aboard BB-61 Class Ships. The 16-Inch Powder Tank Carrier Mk 54 Mod 1 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with 16-Inch Powder Tank Carrier Mk 54 Mod 1.

**CARRIER, WEAPON
MK 55 MOD 1
DL 5166315
NSN 9B 1450-01-068-6728**

DESCRIPTION. Weapon Carrier Mk 55 Mod 1 consists of two aluminum side plates and two stationary steel hooks; one hook has a spring-loaded steel safety latch. A quick-release pin secures the latch in the locked position. A lifting eye is centered on the top side of the carrier.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts MIP 7321/R30
 Op. Proc. None
 EIC/WUC 85B6
 SM&R Code PAOHH

PHYSICAL DATA:

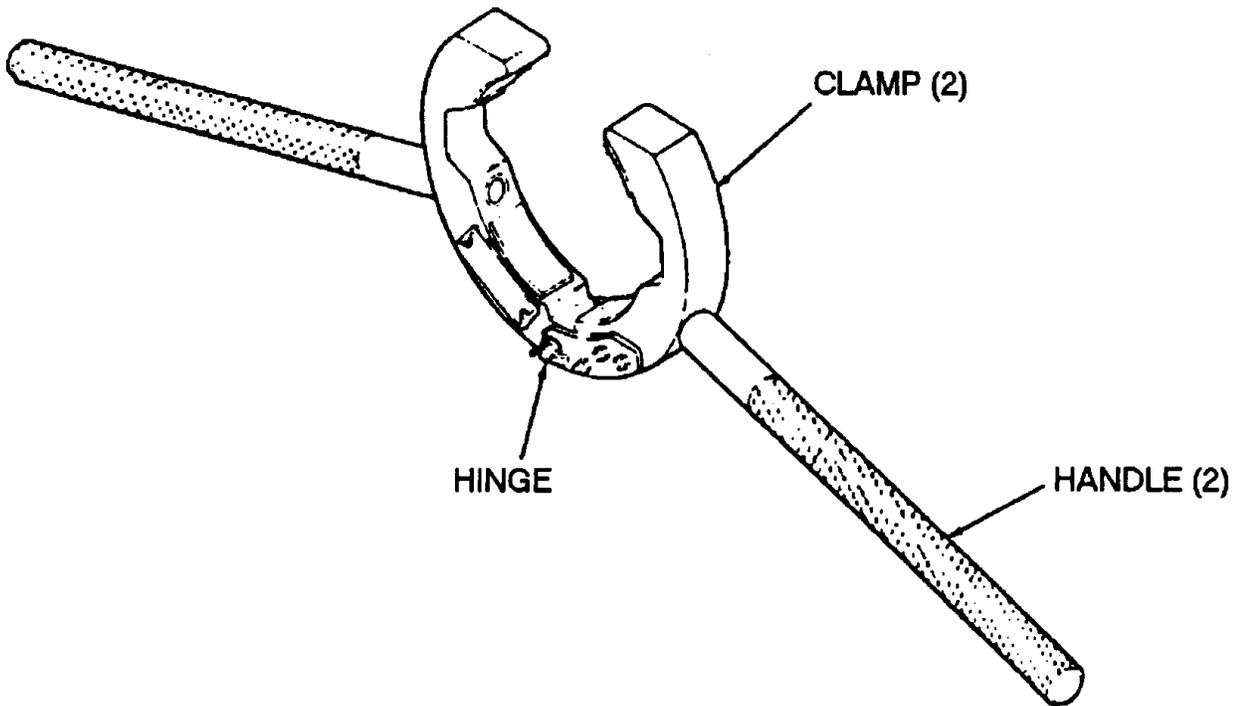
Length 33.63 inches
 Width 3.00 inches
 Height 7.38 inches
 Weight 18 pounds
 SWL 3000 pounds

APPLICATION. Weapon Carrier Mk 55 Mod 1 is used to handle 3,000-pound weapons having a 30-inch suspension system, such as Mines Mk 25, Mk 55 and Mk 56.

ASSOCIATED EQUIPMENT. Hook Adapter Mk 91 Mod 0.

**CARRIER, WEAPON
MK 57 MOD 0
DL 5166298
NSN 9B 1450-01-344-6505**

DESCRIPTION. Weapon Carrier Mk 57 Mod 0 consists of two aluminum handles, with knurled handgrips, each attached to a semicircular aluminum alloy clamp. Hinged at the bottom, the clamp can be opened to encompass the body of the Basic Point Defense Missile (BPDM). The bearing surface of the clamps are configured to accommodate the missile's shape at prescribed lift points. Rubber pads, two on the bearing surface of the clamp, prevent metal-to-metal contact with the missile.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	OR-67/58
EIC/WUC	86EG
SM&R Code	PAOZZ

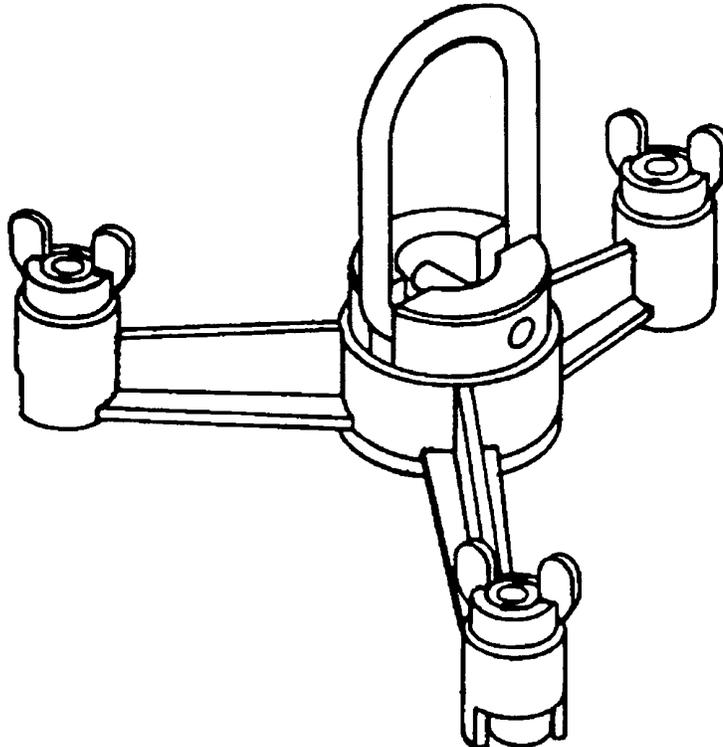
PHYSICAL DATA:	
Length (clamps closed)	41.5 inches
Width	N/A
Height	N/A
Weight	10 pounds
SWL	300 pounds

APPLICATION. Two Weapon Carriers Mk 57 Mod 0 with an individual at each handle are used to remove the BPDM or NATO SEA SPARROW Missiles from the Container Mk 470 Mod 0, and to handle them when Beam Mk 24 Mod 0 and overhead lifting equipment are not available.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Weapon Carrier Mk 57 Mod 0.

**CARRIER, SPIDER
MK 61 MOD 0
DL 5167440
NSN 8T 1450-01-336-0857**

DESCRIPTION. Spider Carrier Mk 61 Mod 0 is a steel frame of three legs radiating from a center hub at 120-degree intervals. Each leg terminates with a lock bolt and wing nut assembly which provides a means of attaching to the Warhead Mk 115 or AN/DKT 42 Telemetry Head. The center hub incorporates an oval lifting ring designed to engage the hoist hook of workshop overhead lifting equipment.



OBSOLESCE

REFERENCE DATA:

ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts OR-99/89BS000
 Op. Proc. None
 EIC/WUC89BS
 SM&R Code PAOHH
 NALC None

PHYSICAL DATA:

Diameter 12.801 inches
 Height 8.375 inches
 Weight 9 pounds
 SWL 200 pounds

APPLICATION. Spider Carrier Mk 61 Mod 0 is designed for use in STANDARD Missile workshops for canning and decanning the Warhead Mk 115 in Container Mk 211 Mod 3 or AN/DKT 42 in Telemetry Head Container Mk 567 Mod 0. This equipment is no longer required by US Navy, but may still have FMS requirements.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Spider Carrier Mk 61 Mod 0.

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CHAPTER 12

CART

12-1. GENERAL. This chapter describes only one cart used to support the Supersonic Sea Skimming Target (SSST) vehicle during the integration and/or test process.

**CART, DUCTED ROCKET (DR) ASSEMBLY
ORBITAL P/N 1030-4025
NSN NOT ASSIGNED**

DESCRIPTION. The Ducted Rocket (DR) Assembly Cart consists of two aluminum I-beams running lengthwise, connected at the ends by aluminum cradles. The beam's forward and aft lifting rings align with, and are held captive by, the cart's forward and aft cradles. The cradle's rollers allow for rotation of the vehicle. The sides of the cradles prevent the vehicle from moving axially, thereby securing it inside the cart. The cart is supported by four wheels that allow the entire assembly to be moved. The wheels are fitted with locking casters which lock the wheels in place while the car is stationary.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	WIP 15-6010 and WP15-6062
Op. Proc.	WP 42-500 and WP 42-5021
EIC/WUC	None
SM&R Code	None
NALC	None

PHYSICAL DATA:	
Length.	137.88 inches
Width.	45.00 inches
Height.	35.50 inches
Weight.	450 pounds
SWL	1,850 pounds

APPLICATION. The Ducted Rocket (DR) Assembly Cart is part of the Supersonic Sea Skimming Target (SSST) Program used to support the Complete Vehicle (CV) during the integration and/or test process. The rocket is installed in the cart using the DR/Front End Subsystem (FES) Lifting Beam Assembly.

ASSOCIATED EQUIPMENT. DR/FES Lifting Beam Assembly.

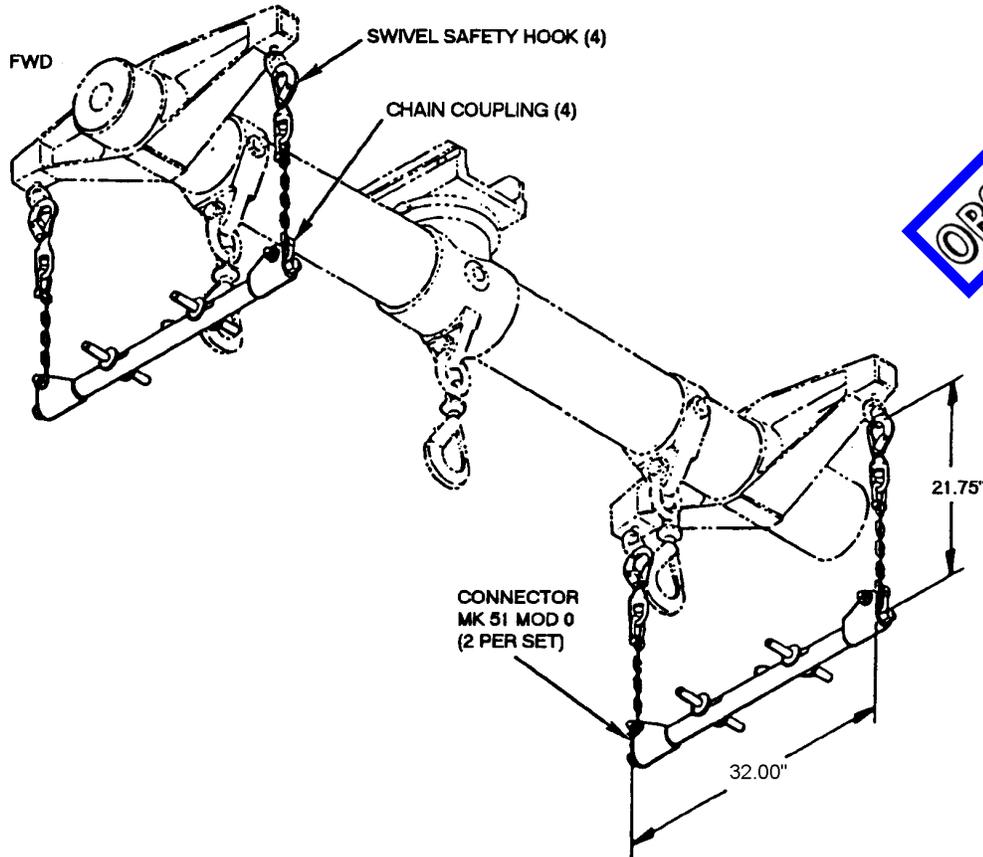
CHAPTER 13

CONNECTOR

13-1. GENERAL. This chapter describes only one connector used for handling missile transfer dollies during connected replenishment-at-sea operations. Reference should be made to the particular item sheet for detailed information.

**CONNECTOR
MK 51 MOD 0
DL 5166736
NSN 9B 1055-01-169-9048**

DESCRIPTION. Connector Mk 51 Mod 0 consists of a bar with latching mechanisms, chain legs, chain couplings and swivel safety hooks.



OBSOLESCE

REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7221/R50, OR-99/896E000
Op. Proc.	NAVSEA S9571-AA-MMA-010, OR-67/150
EIC/WUC . . . . .	.896E
SM&R Code	PA4GZ

PHYSICAL DATA:	
Length	32.00 inches
Width	21.75 inches
Height	N/A
Weight (each)	47.5 pounds
SWL (per set)	6000 pounds

APPLICATION. Two Connectors Mk 51 Mod 0 form a set which attaches to Strongback Mk 1 Mod 0 or 1 for handling Missile Transfer Dolly Mk 30 Mod 0 (for FMS countries) during connected replenishment-at-sea operations. Connector Mk 51 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Strongback Mk 1 Mods 0 and 1 and Missile Transfer Dolly Mk 30 Mod 0.

CHAPTER 14

CONVEYORS/MUNITIONS LIFTING ASSEMBLY

14-1. GENERAL. This chapter describes Conveyors and Munitions Lifting Assemblies used in handling weapons. Reference should be made to the particular item sheet for detailed information.

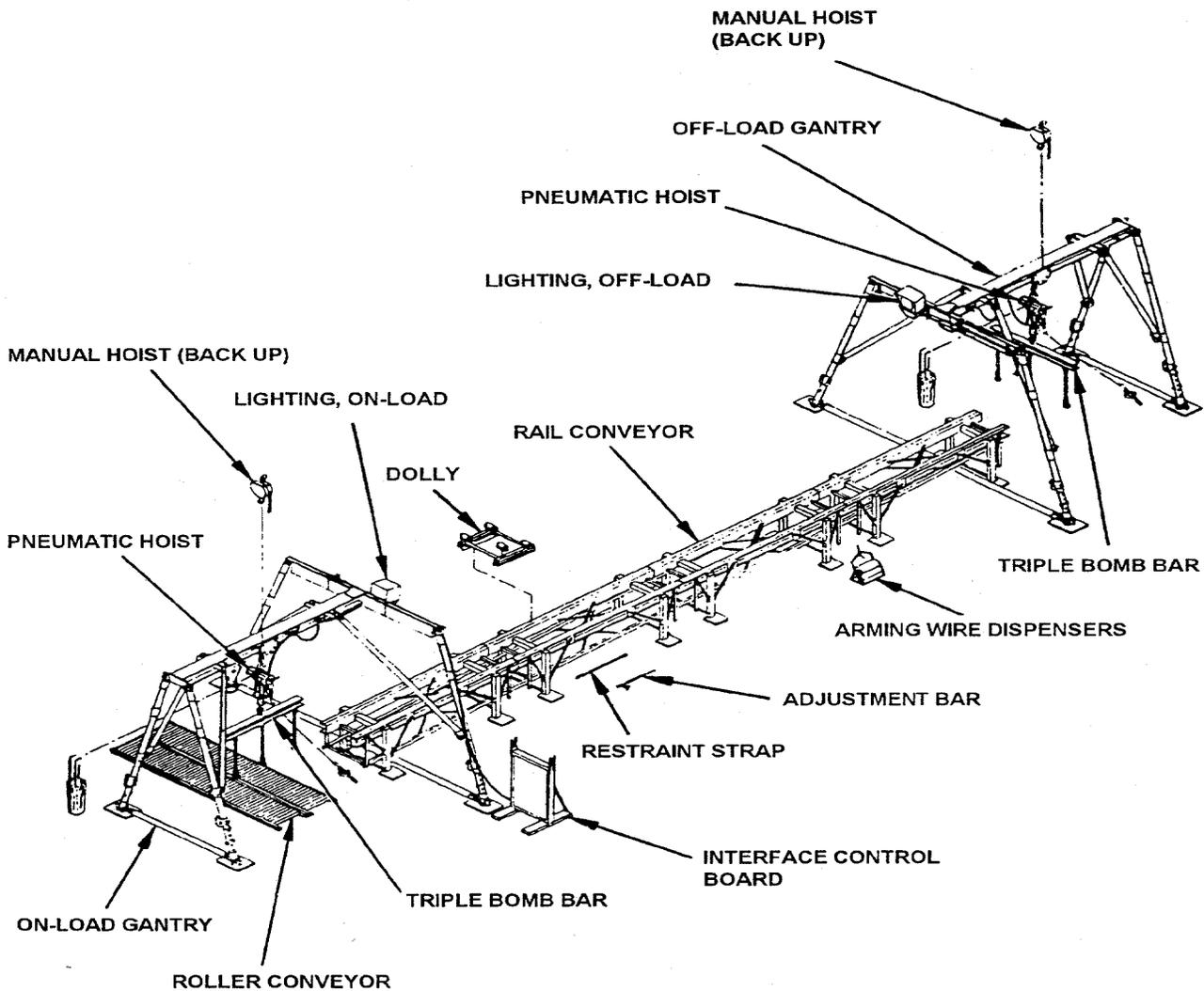
CONVEYOR, MUNITIONS ASSEMBLY

A/E 32K-3

P/N 8457540-10

NSN 6R 1730-01-202-5141

DESCRIPTION. Munitions Assembly Conveyor A/E 32K-3 is designed for rapid buildup of a variety of conventional type munitions, primarily Mk 80 Series (live and inert) bombs with any fin/fuse configuration. It consists of four major assemblies the onload gantry, rail conveyor, offload gantry and the interface control board. The system is furnished with both electric power and air supply for pneumatic tools. During operation, the munitions components are brought to the onload gantry, placed on the rail conveyor for assembly and progress to the offload gantry where the complete assemblies are removed and transported to the flight line.



**CONVEYOR, MUNITIONS ASSEMBLY
A/E 32K-3
P/N 8457540-10
NSN 6R 1730-01-202-5141**

REFERENCE DATA:

ISEA NAWC-AD Lakehurst
Periodic Test Not Required
PMS/Maint. Insts NAVAIR 19-15-37
Op. Proc. NAVAIR 19-15-37
EIC/WUC 11000
SM&R Code PEOHD

PHYSICAL DATA:

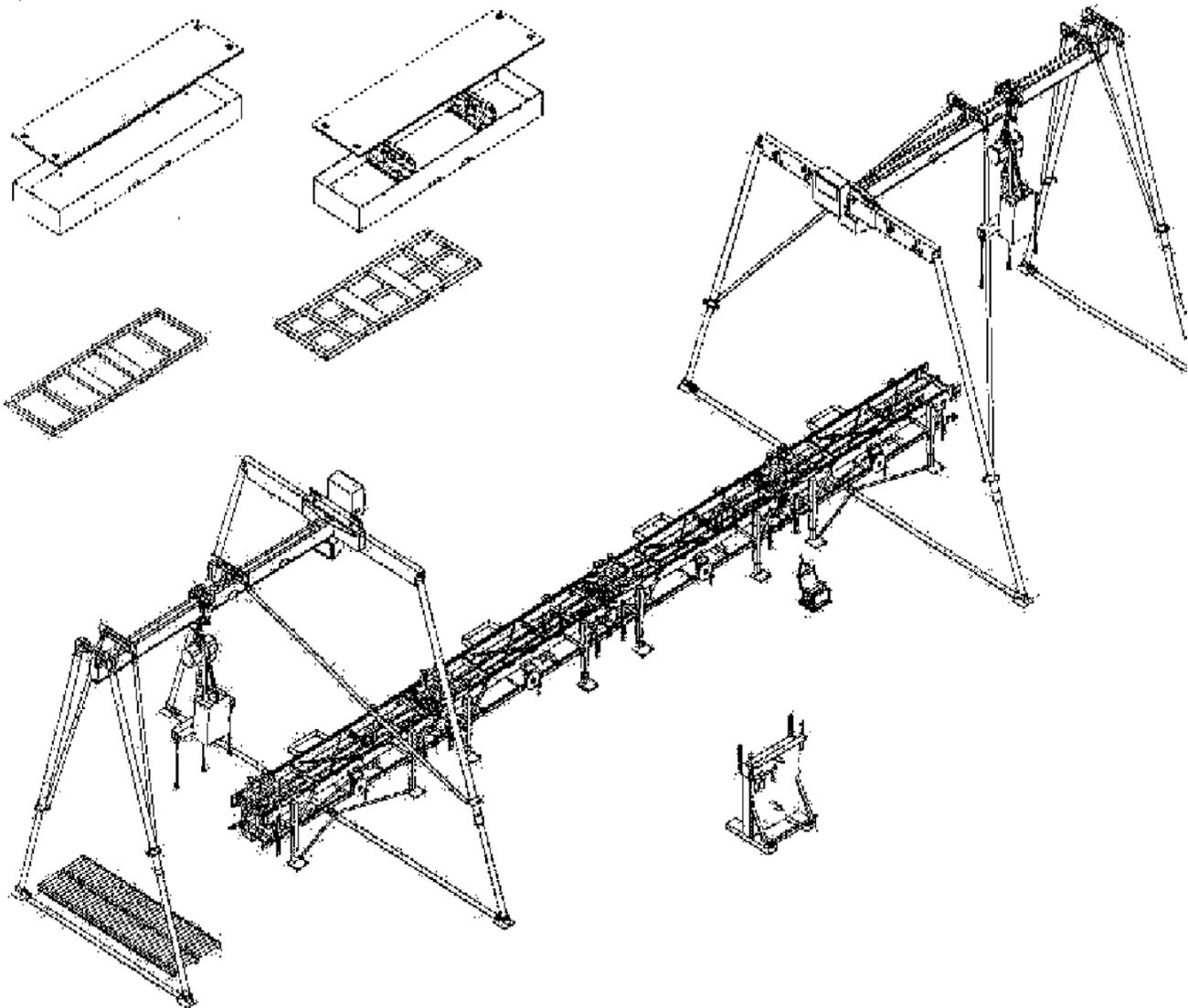
Length 180 inches
Width 182 inches
Height 168 inches
Weight 5700 pounds
SWL (each) 4000 pounds

APPLICATION. The Munitions Assembly Conveyor A/E 32K-3 is used in support of the USMC rapid deployed force field operations.

ASSOCIATED EQUIPMENT. Aircraft Armament Maintenance Trailer A/M 32U-13B.

**MUNITIONS LIFTING ASSEMBLY
A/E 32K-11
P/N 3970AS100-1
NSN 6RX 1730-01-561-4476-SX**

DESCRIPTION. Munitions Lifting Assembly A/E 32K-11 is designed for rapid buildup of a variety of conventional type munitions, primarily Mk 80 Series (live and inert) bombs with any fin/fuse configuration. It consists of four major assemblies the onload gantry, rail conveyor, offload gantry and the interface control board. The system is furnished with both electric power and air supply for pneumatic tools. During operation, the munitions components are brought to the onload gantry, placed on the rail conveyor for assembly and progress to the offload gantry where the complete assemblies are removed and transported to the flight line.



MUNITIONS LIFTING ASSEMBLY
A/E 32K-11
P/N 3970AS100-1
NSN 6RX 1730-01-561-4476-SX

REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	N/A
Op. Proc.	N/A
EIC/WUC	11000
SM&R Code	PEOHD

PHYSICAL DATA:

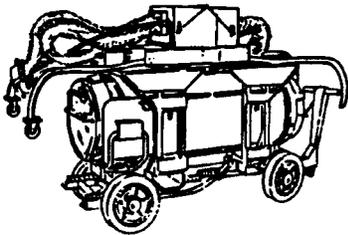
Length	212 inches
Width	258 inches
Height	183.5 inches
Weight	11000 pounds
SWL (each)	6000 pounds

APPLICATION. The Munitions Lifting Assembly A/E 32K-11 is used in support of the USMC rapid deployed force field operations.

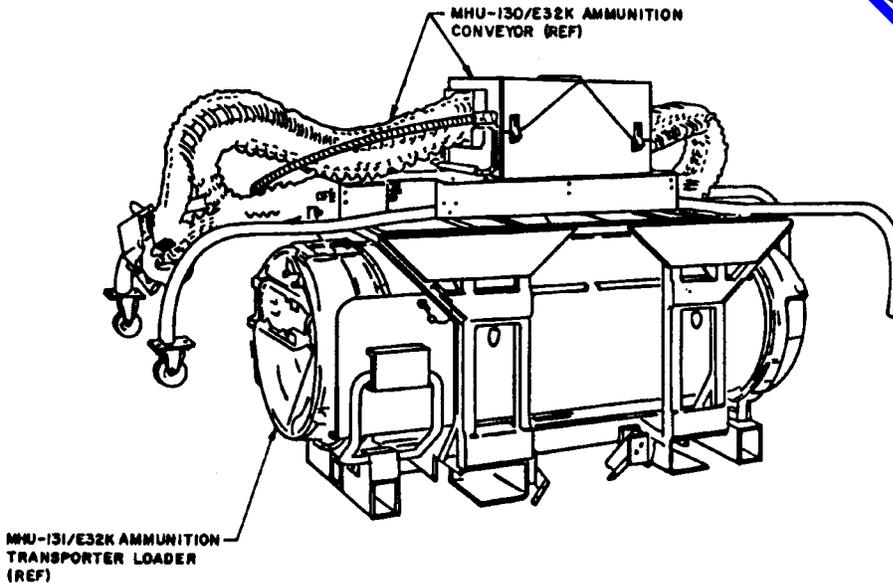
ASSOCIATED EQUIPMENT. Aircraft Armament Maintenance Trailer A/M 32U-13B and A/M 32U-21.

**CONVEYOR, AMMUNITION
MHU-130/E 32K
P/N 798E532
NSN 6R 1730-01-063-7565**

DESCRIPTION. Ammunition Conveyor MHU-130/E 32K consists of a drum exit unit, entrance unit, interface loader unit, flexible chuting conveyor elements and flexible drum driver shaft.



OBSOLESCE



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-1-125
Op. Proc.	NAVAIR 19-1-125
EIC/WUC	22FT3
SM&R Code	None

PHYSICAL DATA:	
Drawing No	189F290
Weight (empty)	175.0 pounds
Weight (loaded)	---
Cube (approx.)	43.5 cubic feet

APPLICATION. Ammunition Conveyor MHU-130/E 32K is mounted on an Ammunition Transporter Loader MHU-131/E. Ammunition Conveyor MHU-130/E 32K is obsolescent and is replaced by Loader, Ammunition GFK21/E32K-7.

ASSOCIATED EQUIPMENT. Ammunition Transporter Loader MHU-131/E.

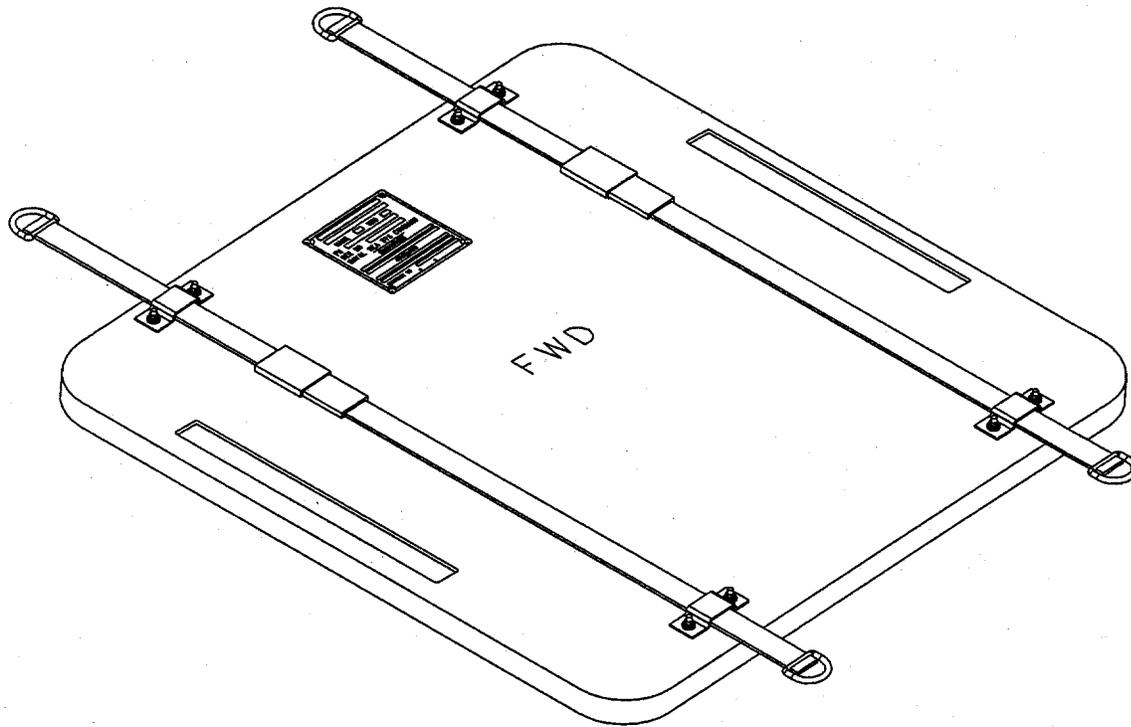
CHAPTER 15

COVERS

15-1. GENERAL. This chapter describes covers used in handling weapons and explosives. Reference should be made to the particular item sheet for detailed information.

**COVER, PROTECTIVE, FORWARD
MK 16 MOD 0
PL 5497641-9
NSN 8T 1420-01-315-9086**

DESCRIPTION. Forward Protective Cover Mk 16 Mod 0 is fabricated from aluminum and attaches to the forward end of the Vertical Launch System (VLS) Canister by two webbed straps. The cover has two slots to allow the canister vertical lugs to protrude.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R52, OR-99/86B2000/86B3000
Op. Proc.	SPI PHST-143; OR-68/177
EIC/WUC	.86B2
SM&R Code	PFOOD
NALC	5W05

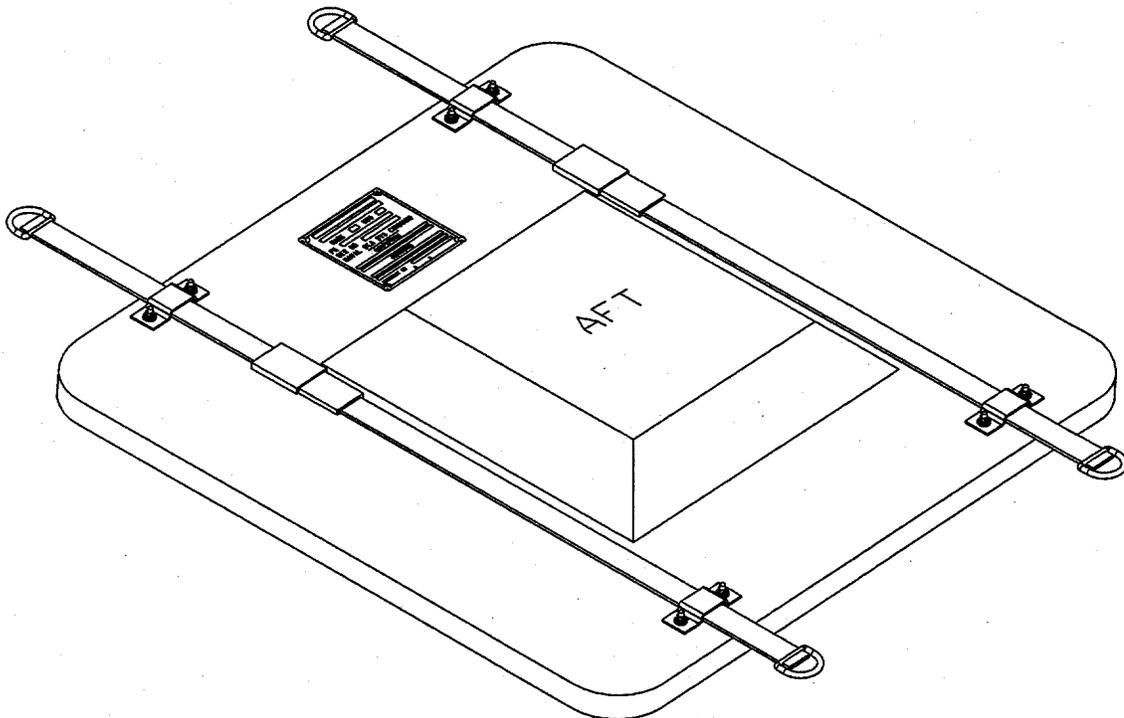
PHYSICAL DATA:	
Length (depth)	1.92 inches
Width	25.88 inches
Height	25.88 inches
Weight	9.50 pounds
SWL	N/A

APPLICATION. Forward Protective Cover Mk 16 Mod 0 protects the forward end of the canister during shipment and storage to prevent damage to the forward canister fly-thru sealed cover. Forward Protective Cover Mk 16 Mod 0 is used on the fwd end of the VLS Canisters Mk 13, Mk 14, Mk 15, Mk 19 (training) and Mk 21 Mod 0.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Forward Protective Cover Mk 16 Mod 0.

**COVER, PROTECTIVE, AFT
MK 17 MOD 0
PL 5497755-9
NSN 8T 1420-01-315-9087**

DESCRIPTION. Aft Protective Cover Mk 17 Mod 0 is fabricated from aluminum and attaches to the aft end of the Vertical Launch System (VLS) Canister by two webbed straps.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R52,
.....	OR-99/86B2000/86B3000
Op. Proc.....	SPI PHST-143; OR-68/177
EIC/WUC.....	86B3
SM&R Code	PFOOD
NALC.....	.5W08

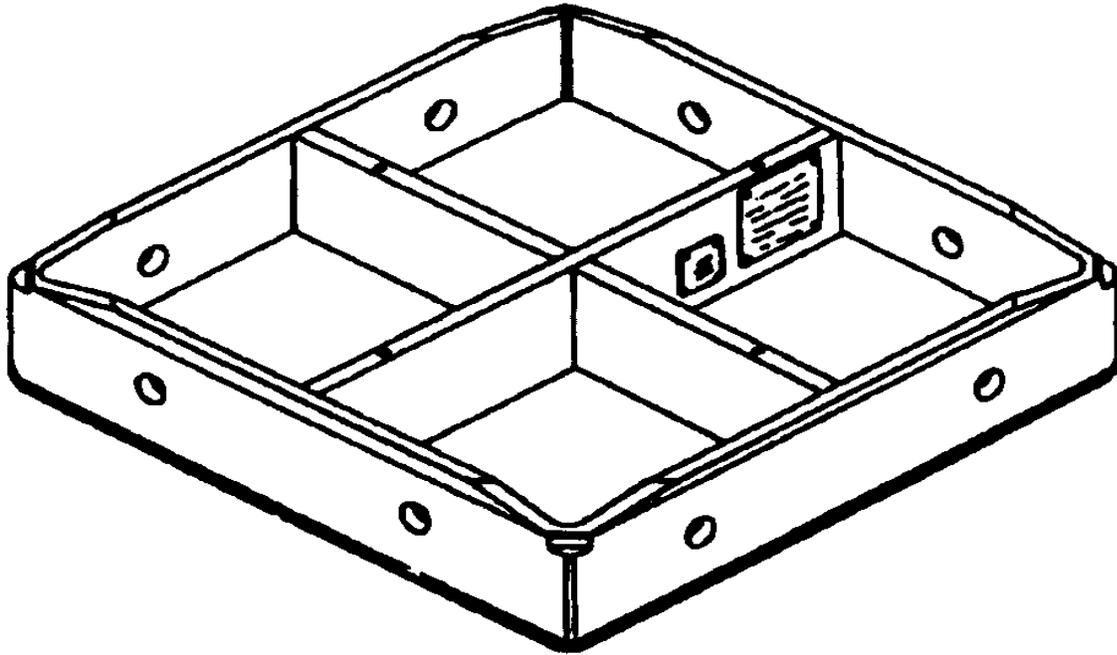
PHYSICAL DATA:	
Length (depth).....	2.50 inches
Width	25.88 inches
Height	25.88 inches
Weight	10 pounds
SWL.....	N/A

APPLICATION. Aft Protective Cover Mk 17 Mod 0 protects the aft end of the canister during shipment and storage to prevent damage to the aft container blow-out sealed cover. The aft protective cover provides space to accommodate the aft closure after missile launch. The Aft Protective Cover Mk 17 Mod 0 is used on aft end of the VLS Canisters Mk 13, Mk 14, Mk 15, Mk 19 (training) and Mk 21 Mod 0.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Aft Protective Cover Mk 17 Mod 0.

**COVER, PLENUM CELL
MK 18 MOD 0
PL 5599373
NSN 8T 1450-01-264-1898**

DESCRIPTION. Plenum Cell Cover Mk 18 Mod 0 is a welded steel assembly with the same dimensions as the aft end of a canister. The underside of the plenum cell cover is lined with ablative material to prevent a heat blast from overheating the interior of the cell structure.



REFERENCE DATA:

ISEA PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts . . . MIP 7221/R53, OR-99/86BQ000
 Op. Proc. OR-67/132
 EIC/WUC 86BQ
 SM&R Code PA5GD
 NALC 4W67

PHYSICAL DATA:

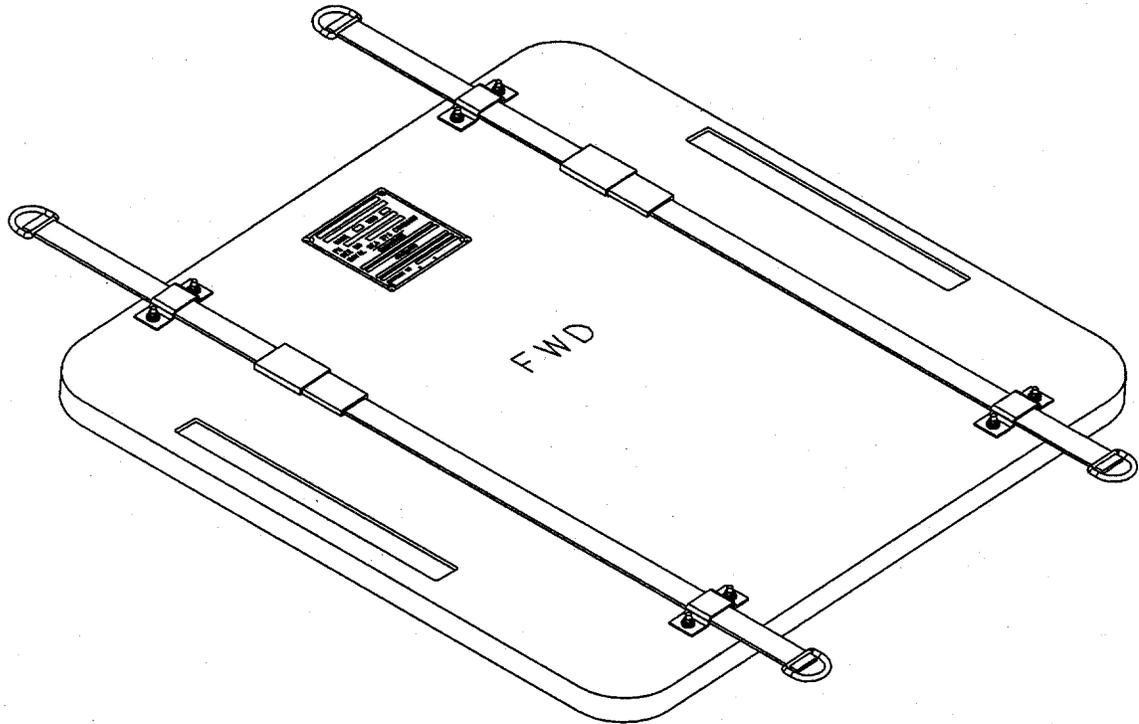
Length 25.00 inches
 Width 25.00 inches
 Height 6.00 inches
 Weight 288 pounds
 SWL N/A

APPLICATION. Plenum Cell Cover Mk 18 Mod 0 is used independent or in conjunction with Canister Adapters to seal the cell opening when a canister is not in place. The cover seats over the opening of Canister Adapters and is secured in the cell at the latching surfaces by the dog down lugs.

ASSOCIATED EQUIPMENT. Adapter Assembly Canister Mk 18 Mod 0/1, Weapons Handling Sling Mk 115 Mod 0 and Plenum Cell Cover Sling Mk 147 Mod 0.

**COVER, PROTECTIVE, FORWARD
MK 21 MOD 0
PL 7117121-9
NSN 8T 1450-01-500-6538**

DESCRIPTION. Forward Protective Cover Mk 21 Mod 0 is fabricated from aluminum. It attaches to the forward end of the Vertical Launch System (VLS) Canister by two webbed straps. The cover has two slots to allow the canister vertical lugs to protrude.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R52; OR-99/86B2000/86B3000
Op. Proc.	SPI PHST-143
EIC/WUC	86CF
SM&R Code	PA444
NALC	CWMX

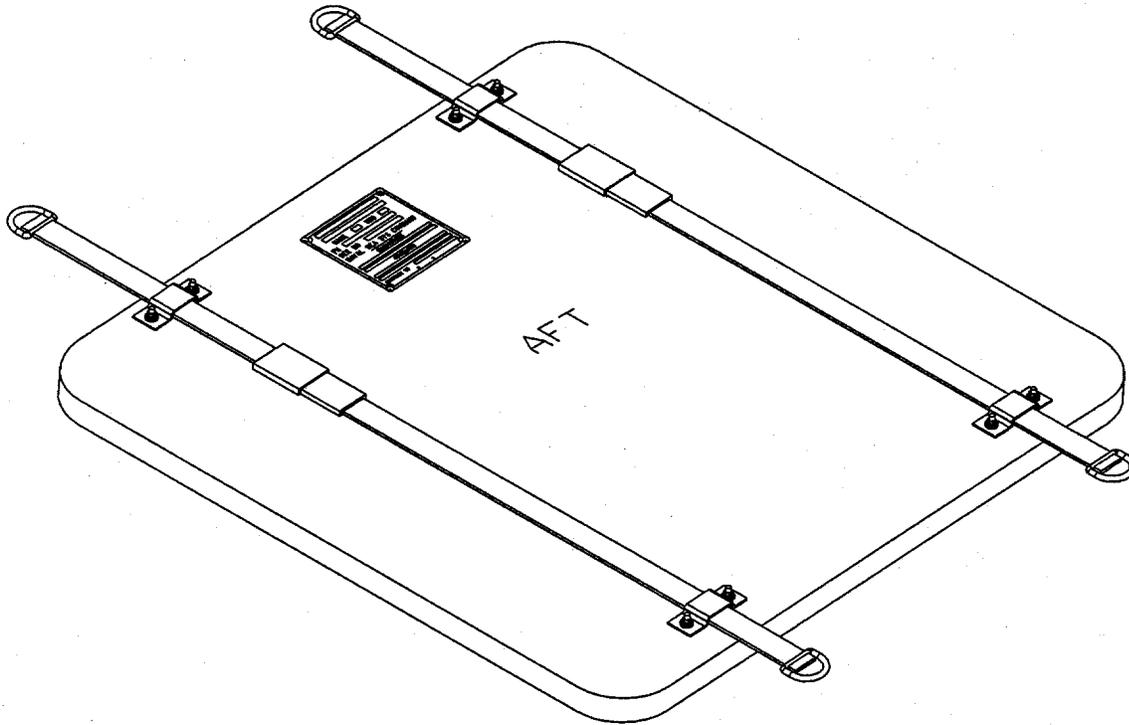
PHYSICAL DATA:	
Length	26.00 inches
Width	26.00 inches
Height (Depth)	2.00 inches
Weight	9.50 pounds
SWL	N/A

APPLICATION. Forward Protective Cover Mk 21 Mod 0 protects the Mk 25 Canister forward end (fly-through) and the missile during handling, transportation and storage. The cover is removed prior to loading the canister into the magazine and replaced as soon as the canister is removed from the magazine.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Forward Protective Cover Mk 21 Mod 0.

**COVER, AFT PROTECTIVE
MK 22 MOD 0
PL 7117121-19
NSN 8T 1450-01-500-6539**

DESCRIPTION. Aft Protective Cover Mk 22 Mod 0 is fabricated from aluminum. It attaches to the aft end of the Vertical Launch System (VLS) Canister by two webbed straps.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/86B2000/86B3000
Op. Proc.	SPI PHST-143
EIC/WUC	86CE
SM&R Code	CWMY

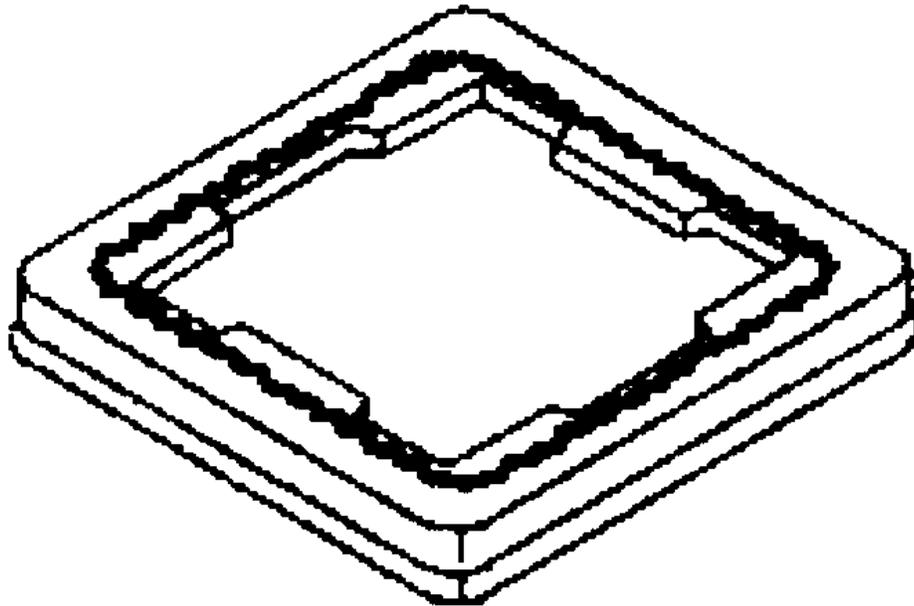
PHYSICAL DATA:	
Length	26.00 inches
Width	26.00 inches
Height (Depth)	2.00 inches
Weight	10.24 pounds
SWL	N/A

APPLICATION. Aft Protective Cover Mk 22 Mod 0 protects the Mk 25 Canister aft end (blow-out) cover and the missile during handling, transportation and stowage. The cover is removed prior to loading the canister into the magazine and replaced as soon as the canister is removed from the magazine.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Aft Protective Cover Mk 22 Mod 0.

**COVER, PROTECTIVE
MK 24 MOD 0
DL 6912379
NSN 8T 1450-01-478-6878**

DESCRIPTION. Protective Cover Mk 24 Mod 0 is fabricated from high density polyethylene.



REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	N/A
Op. Proc.	N/A
EIC/WUC	N/A
SM&R Code	None
NALC	CWLK

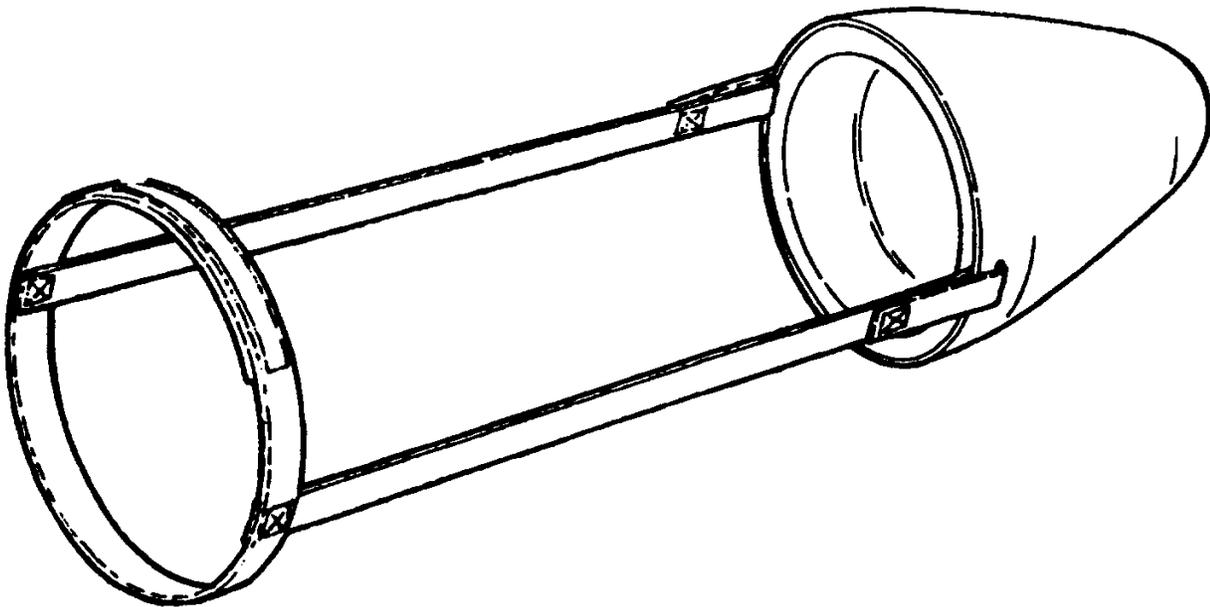
PHYSICAL DATA:	
Length	25.82 inches
Width	25.82 inches
Height	3.71 inches
Weight	4.5 pounds
SWL	N/A

APPLICATION. Protective Cover Mk 24 Mod 0 is seated on the fwd end of the Sill Adapters Mk 165 and Mk 170 and on the fwd and aft end of the Canister Adapters Mk 18 during handling, transportation and storage. They are removed before loading the equipment into the launcher.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Protective Cover Mk 24 Mod 0.

**COVER, RADOME
CVU-146/E
P/N 704AS4196
NSN 9N 5985-01-222-5315**

DESCRIPTION. Radome Cover CVU-146/E is constructed of reinforced plastic and is held in place on the weapon by screw type detent pin.



REFERENCE DATA:

ISEA	NAWC-WD Pt. Mugu
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	PAOZZ

PHYSICAL DATA:

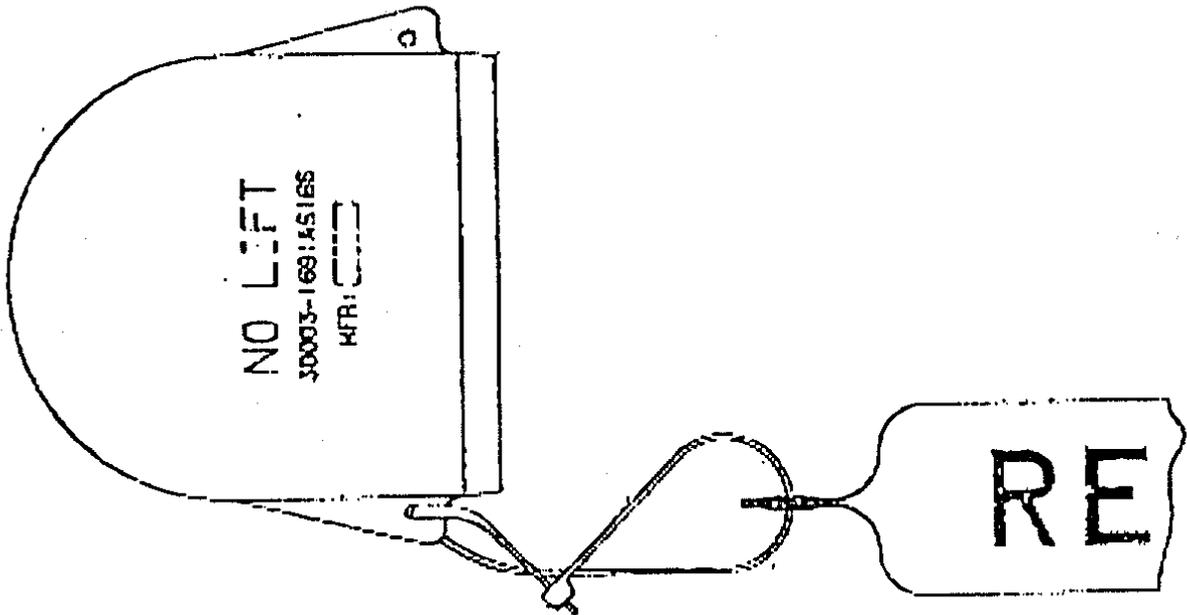
Length	32 inches
Width (dia)	8.10 inches
Height (dia)	8.10 inches
Weight	2.4 pounds
SWL	N/A

APPLICATION. Radome Cover CVU-146/E is used to provide HARM radome protection during all missile and guidance section handling and transportation when the missile or guidance section has been removed from the container.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Radome Cover CVU-146/E.

**COVER, DOME PROTECTOR
CVU-157/E
P/N 1691AS186
NSN 8E 1420-01-355-1245**

DESCRIPTION. The Dome Protector Cover CVU-157/E is made of polyurethane foam. Attached to the cover using a MS3367-6-0 tiedown strap is a "REMOVE BEFORE FLIGHT" streamer NAS 1756-24.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	NAVAIR AW-820YB-MIB-000 (Cancelled; information moved to the 11-140-6 series)
EIC/WUC	None
SM&R Code	PAGZZ
NALC	BWAK

PHYSICAL DATA:	
Length	8 inches
Width	9 inches
Height	N/A
Weight	2 pounds
SWL	N/A

APPLICATION. The Dome Protector Cover CVU-157/E is used to protect the AGM-114 HELLFIRE missile radome until prior to aircraft launch.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Dome Protector Cover CVU-157/E.

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CHAPTER 16

CRADLES

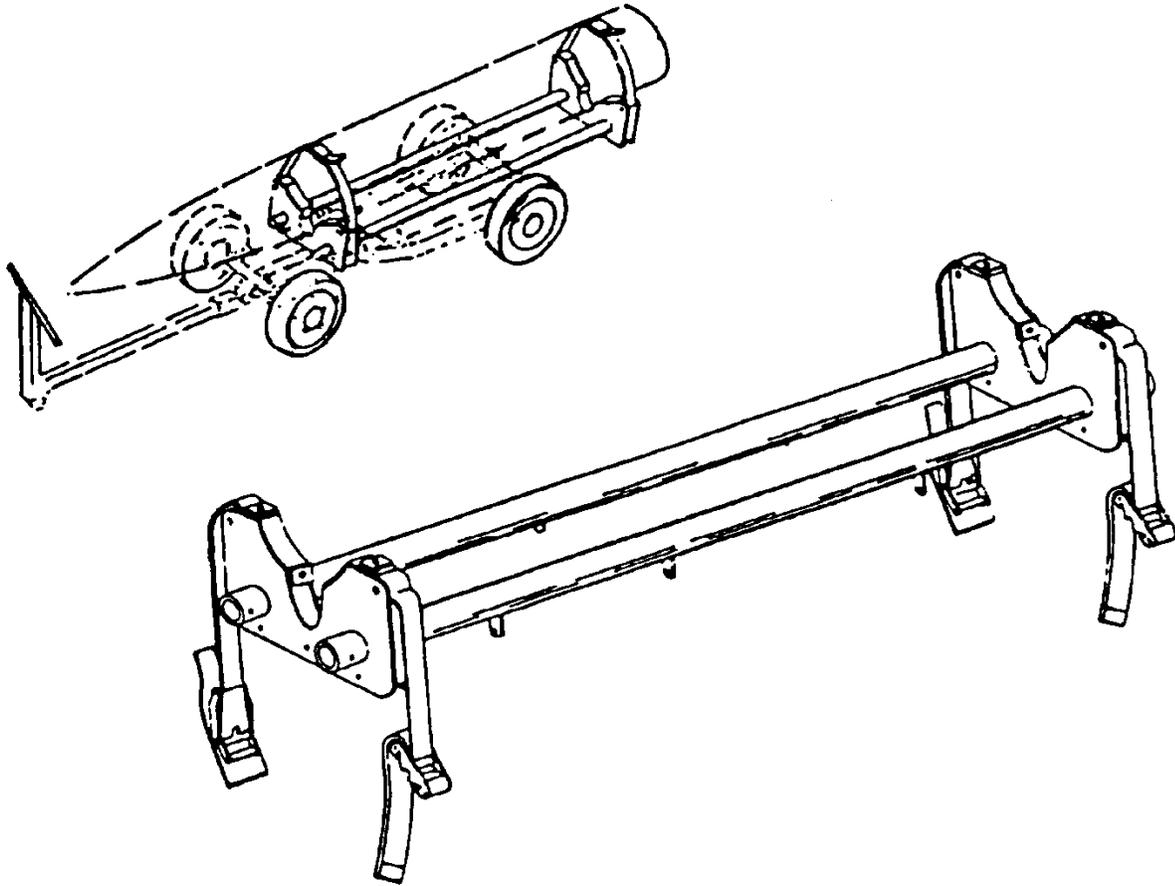
16-1. GENERAL. This chapter covers cradles used in lifting and handling weapons and explosives. Reference should be made to the particular item sheet for detailed information.

16-2. DESCRIPTION. A cradle is a rigid, metal framework with load supporting surfaces contoured to fit the shape of the load. Cradles which contact the surface of the load usually have linings to prevent damage to the load. Most cradles have direct contact with the load. However, some cradles have receptacles for handling bands which must be attached to the load before it can be loaded on the cradle; other cradles connect to fittings, such as support rings and rails, on the load. Since most cradles are only frameworks for support or stowage of an item, the cradles must be moved by mobile or hoisting equipment. Some cradles are equipped with forklift pockets, others with lifting rings, handles or clevises. Several of the cradles can be stacked to save floor space when storing an item. These cradles require a set of spacers or stacking frames which fit on a lower cradle, supporting the cradle above.

16-3. OPERATION. In selecting a cradle for use, several factors must be considered: the weight of the load, the rated safe working load (SWL) of the cradle, the load size, the particular kind of load and the need for associated items such as handling bands. The weight of the load shall not exceed the SWL of the intended cradle. Since many of the cradles handle loads of specific diameters, the load diameter must be considered. Some cradles handle a range of diameters. Many cradles are used to handle a specific item. If a cradle for a particular item is available, this cradle should be used. Since some cradles handle only items with handling bands or other attachments, whether or not the load has or can take the associated attachment must be considered. Cradles are used with boosters, mines, missiles, torpedoes, bombs, CBU's, rocket launchers, DST's, etc.

**CRADLE ASSEMBLY, TARGET
AQM-37
P/N 1019-390124
NSN 1R 1730-00-963-5881**

DESCRIPTION. Target Assembly Cradle AQM-37 consists of two semi-circular end supports joined together by two steel tubes. Each support is rubber padded and spaced to correspond with the hard areas of Target Missile AQM-37. A tie-down strap is attached to each support for securing the Target to the cradle.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 19-100-3
Op. Proc.	NAVAIR 01-90TBA-1
EIC/WUC	21GZ9
SM&R Code	PEOHG

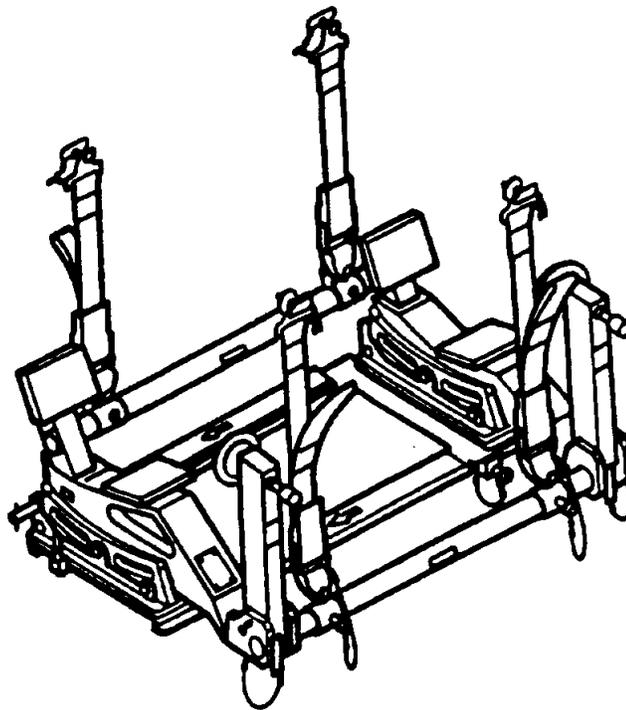
PHYSICAL DATA:	
Length	67.00 inches
Width	18.00 inches
Height	8.80 inches
Weight	57 pounds
SWL	600 pounds
Cube	6.2 cubic feet

APPLICATION. Target Assembly Cradle AQM-37 is used with Target Test and Assembly Stand AQM-37 to support the AQM-37 during maintenance. It was also used at one time with Munitions Transporter MHU-191/M.

ASSOCIATED EQUIPMENT. Target Test and Assembly Stand AQM-37 and Munitions Transporter MHU-191/M.

**CRADLE ASSEMBLY, 25MM GUN SYSTEM (AV-8)
P/N 75D750012-1001
NSN 6R 1740-01-152-9076**

DESCRIPTION. The 25MM Gun System Assembly Cradle consists of a base table, two tracks, two padded cradles, two multi-position outboard support arms equipped with padded feet, two padded inboard supports, four adjustable nylon strap assemblies, and inboard and outboard tubes. The assembly is constructed of both steel and aluminum with nylon webbing. The base table has provisions for mounting the cradle assembly on the rails of Skid Platform MHU-125A/M or on the rails of a Bomb Stores Lift Trailer. The track supports holds two tracks on which the rollers ride. This provides the cradle assembly with a five-degree roll capability when the 25MM Gun or Ammo Pak is loaded on the cradle. Alignment is held by using four captive neutral lock pins. Two of the captive neutral lock pins in the base table allow for 1-inch yaw movement during installation. After removal, the four strap assemblies provide additional securing during transport.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-420VB-OMP-000
Op. Proc.	NAVAIR AG-420VB-OMP-000
EIC/WUC	22FW1
SM&R Code	PEOGG

PHYSICAL DATA:	
Length	49.00 inches
Width	22.00 inches
Height	10.00 inches
Weight	90 pounds
SWL	700 pounds

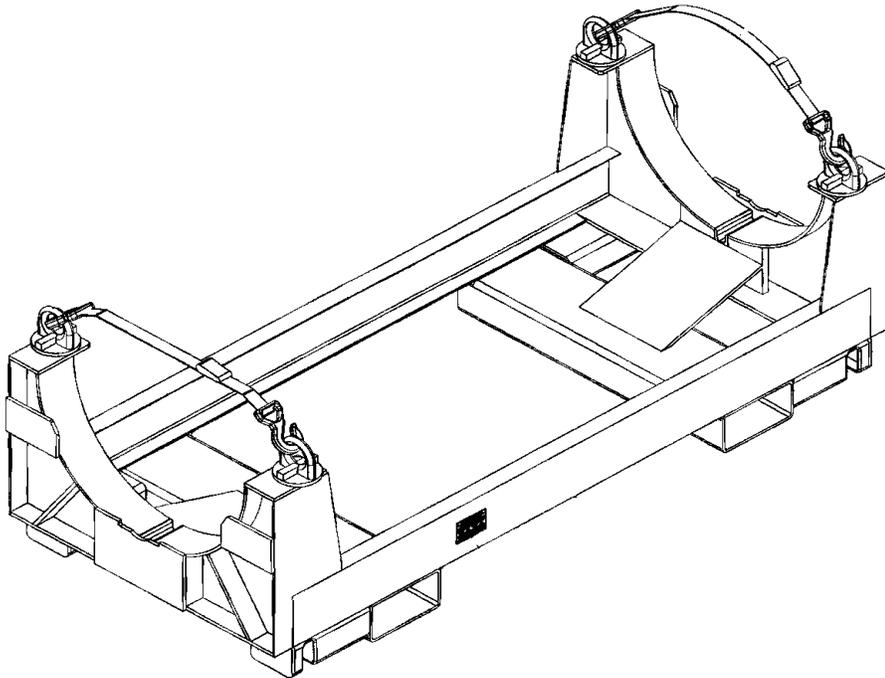
APPLICATION. The 25MM Gun System Assembly Cradle is designed to load and download the 25MM gun or Ammo Pak on the AV-8B Aircraft for aircraft maintenance activities.

ASSOCIATED EQUIPMENT. Platform Skid MHU-125A/E, Weapon Loader A/S32K-1 (series) and Bomb Stores Loading Lift Trailer (P/N 75D750005-1001).

**CRADLE ASSEMBLY, VIRGINIA CLASS EXTERNAL
COUNTERMEASURE LAUNCHER (ECL) MODULE TRANSPORTATION**

**DWG 8306618
NSN - NONE ASSIGNED**

DESCRIPTION. The Module Transportation Cradle Assembly is constructed of steel with restraining stop blocks, lift points, tiedown points and forklift pockets. The cradle is used for the transportation, securing and lifting of the Virginia Class Submarine's ECL Module. The cradle is reusable and can be stacked two high to minimize storage space when empty.



REFERENCE DATA:	
ISEA	PHST Center/NUWCDIV Keyport
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/8306618
Op. Proc.	NAVSEA SW570-AK-MMI-040
EIC/WUC	.None
SM&R Code	PFHHH

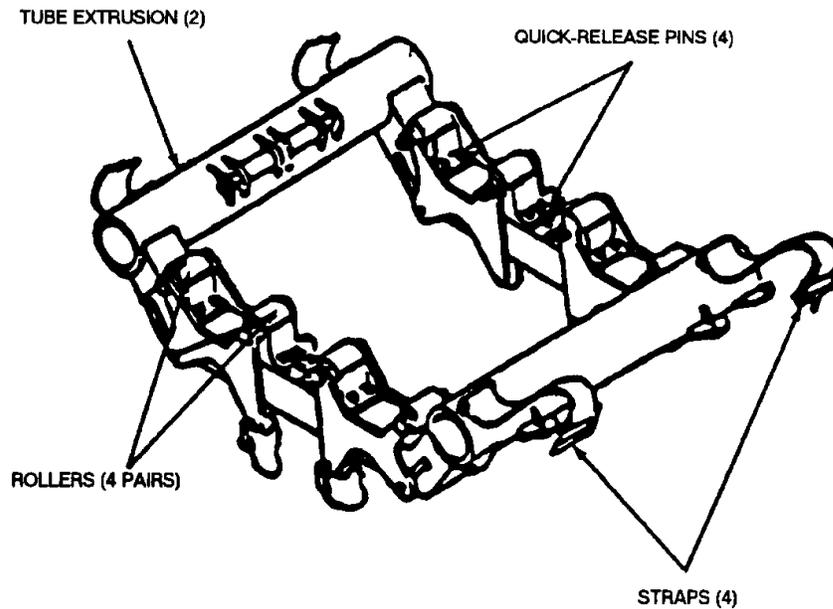
PHYSICAL DATA:	
Length	105.69 inches
Width	44.88 inches
Height	36.88 inches
Weight	1400 pounds
SWL	6700 pounds

APPLICATION. The ECL Cradle has been developed for on-station movement only of the ECL Module with loaded ordnance.

ASSOCIATED EQUIPMENT. Weapons Handling Sling Mk 153 Mod 0.

**CRADLE, SUPPORT, VERTICAL EJECTOR RACK
P/N 74D750009-1001
NSN 6R 1730-01-082-1439**

DESCRIPTION. Vertical Ejector Rack Support Cradle supports preloaded launchers and VER's during transporting and loading/downloading on the F/A-18 aircraft. The support cradle is a steel weldment containing four pairs of rollers on arms that form two cradles and are attached to torque box assemblies, which are joined together by a pair of tube extrusions. The cradles are manually preset into the proper positions. The lower position provides the necessary stability to carry missiles while the upper position provides a 17.5-inch spacing required to hold preloaded VER's quick-release pins secure the roller arm assemblies to the base support to prevent position changes during transport. The tube extrusions are sized to permit passage of MER/TER rails when used with the Transport Adapter on a transporter. Nylon straps, attached to each base support, provide the means of securing the load. The straps can hold VER's, two weapons simultaneously, or single stores secured independently on either cradle. Cam surfaces, attached to the tube portions between the base assemblies, engage notches on the Missile Cradle to roll the AIM-7 Missile off the adjacent side of the cradle support into proper F/A-18 fuselage installation position during hoisting.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts.	NAVAIR AG-000AC-GSE-000
Op. Proc.	NAVAIR AG-000AC-GSE-000
EIC/WUC.....	81XCF
SM&R Code	PEOGD

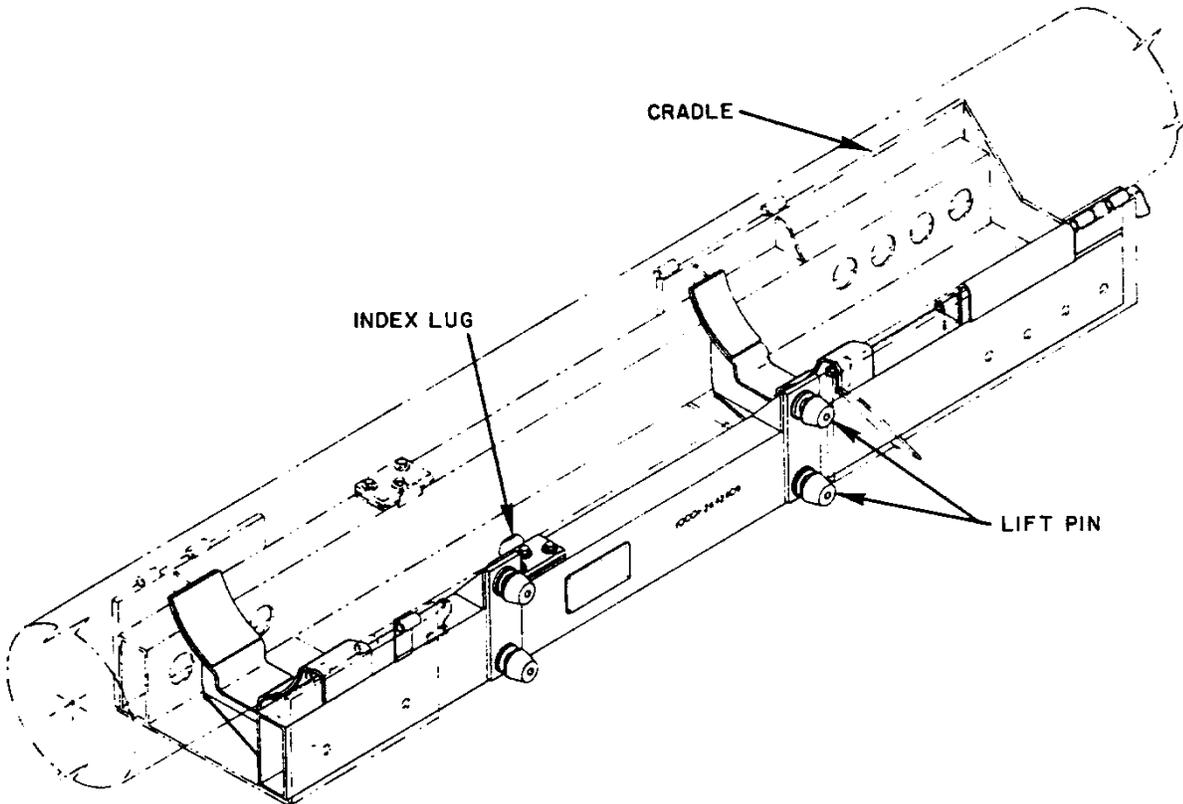
PHYSICAL DATA:	
Length	32.30 inches
Width	16.50 inches
Height.....	10.50 inches
Weight	103 pounds
SWL	2150 pounds

APPLICATION. Vertical Ejector Rack Support Cradle is used with associated skids, transporters, trailers and loaders to hold and stabilize missiles and VER preloaded trailers and non-preloaded weapons/stores.

ASSOCIATED EQUIPMENT. Transporter Adapter (P/N 74D750008-1003), Small Munitions Trailer MHU-126 Series, Munitions Transporter MHU-191/M and Small Munitions Trailer MHU-202/M and MHU-125 Series.

**CRADLE
MK 21 MOD 0
DL 2643338
NSN 9G 8140-00-443-1386**

DESCRIPTION. Cradle Mk 21 Mod 0 consists of a welded tubular aluminum frame with two aluminum support brackets, four lift pins and an index lug. The support brackets, which are padded, serve as load bearing surfaces, and the lift pins are for engagement with Launcher Loader Mk 13 Mod 0. The index lug serves as a reference point for proper load positioning on the support brackets.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R55
Op. Proc.	None
EIC/WUC	86E8
SM&R Code . . . . .	.PAOZZ

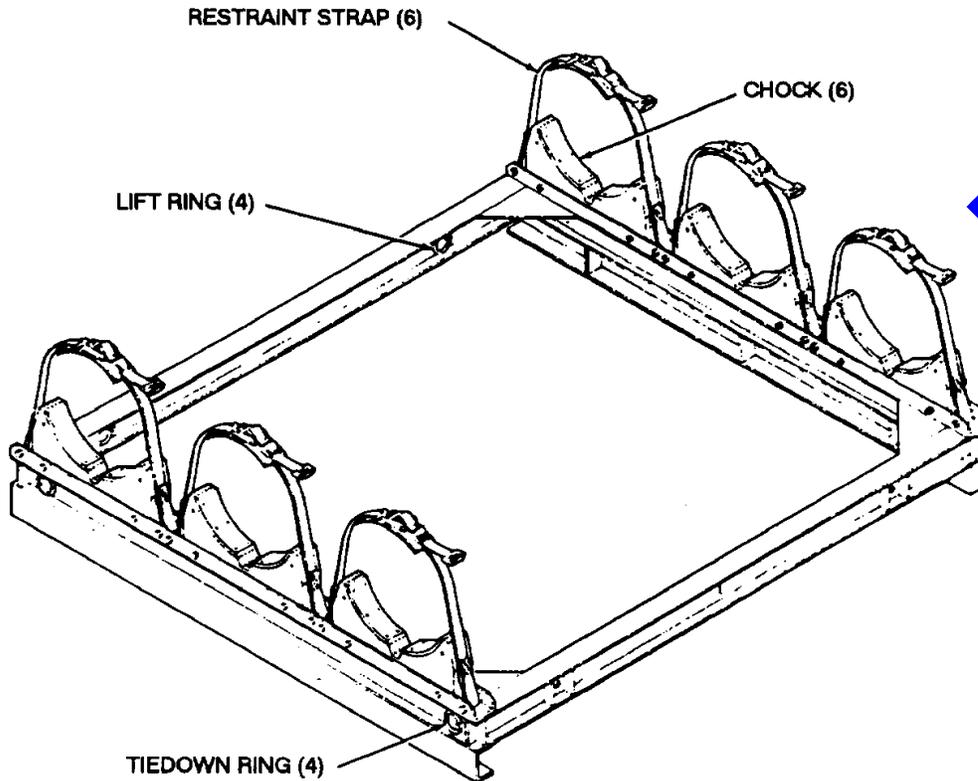
PHYSICAL DATA:	
Length	53.20 inches
Width	8.72 inches
Height	6.38 inches
Weight	13.9 pounds
SWL	525 pounds

APPLICATION. Cradle Mk 21 Mod 0 is used for handling the Basic Point Defense Missile in Container Mk 470 Mod 0 and for use independent of the container for loading the missile on Launcher Loader Mk 13 Mod 0.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Cradle Mk 21 Mod 0.

**CRADLE, UNDERSEA WEAPON TRANSPORTING
MK 27 MOD 0
DL 5165994
NSN NOT ASSIGNED**

DESCRIPTION. Undersea Weapon Transporting Cradle Mk 27 Mod 0 is a welded aluminum frame supporting three forward and three aft chocks, which accommodate from one to three 19-inch or 21-inch diameter cylindrical weapons. Each chock has a restraint strap. The cradle is secured in place by means of four tie-downs rings two on the outside of each end frame. Four lift rings, two each on the inside of each side frame, are for handling the cradle while empty only.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

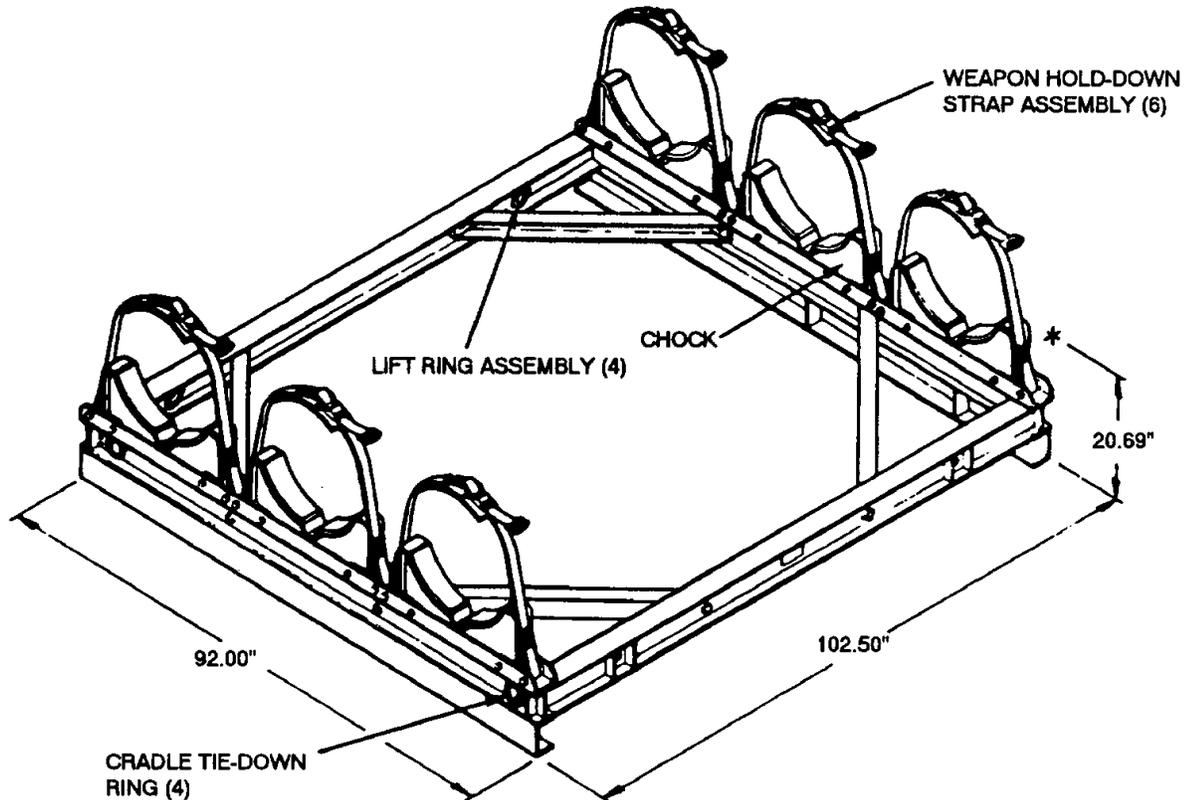
PHYSICAL DATA:	
Length	102.50 inches
Width	92.00 inches
Height	20.69 inches
Weight	305 pounds
SWL	15,000 pounds

APPLICATION. Undersea Weapon Transporting Cradle Mk 27 Mod 0 is used to support undersea weapons aboard LCM type service craft in harbor environments and on flat-bed trucks for intra depot movement. Undersea Weapon Transporting Cradle Mk 27 Mod 0 is obsolescent and is replaced by Undersea Weapon Transporting Cradle Mk 27 Mod 1.

ASSOCIATED EQUIPMENT. Weapons Handling Sling Mk 99 Mod 0.

**CRADLE, UNDERSEA WEAPONS TRANSPORTING
MK 27 MOD 1
DL 5166776
NSN NOT ASSIGNED**

DESCRIPTION. Undersea Weapons Transporting Cradle Mk 27 Mod 1 is an aluminum framework supporting three sets of cast aluminum chocks secured in channels at the forward and aft ends of the frame. Each chock is equipped with a strap assembly to secure the weapon. Four tiedown rings bolted to the cradle frame are used to secure the loaded cradle. Four lift rings are designed to interface with Sling Mk 99 Mod 0. The lift rings are used to load the empty cradle aboard LCM type service craft and flatbed trucks.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	85Q1
SM&R Code	PAHHG

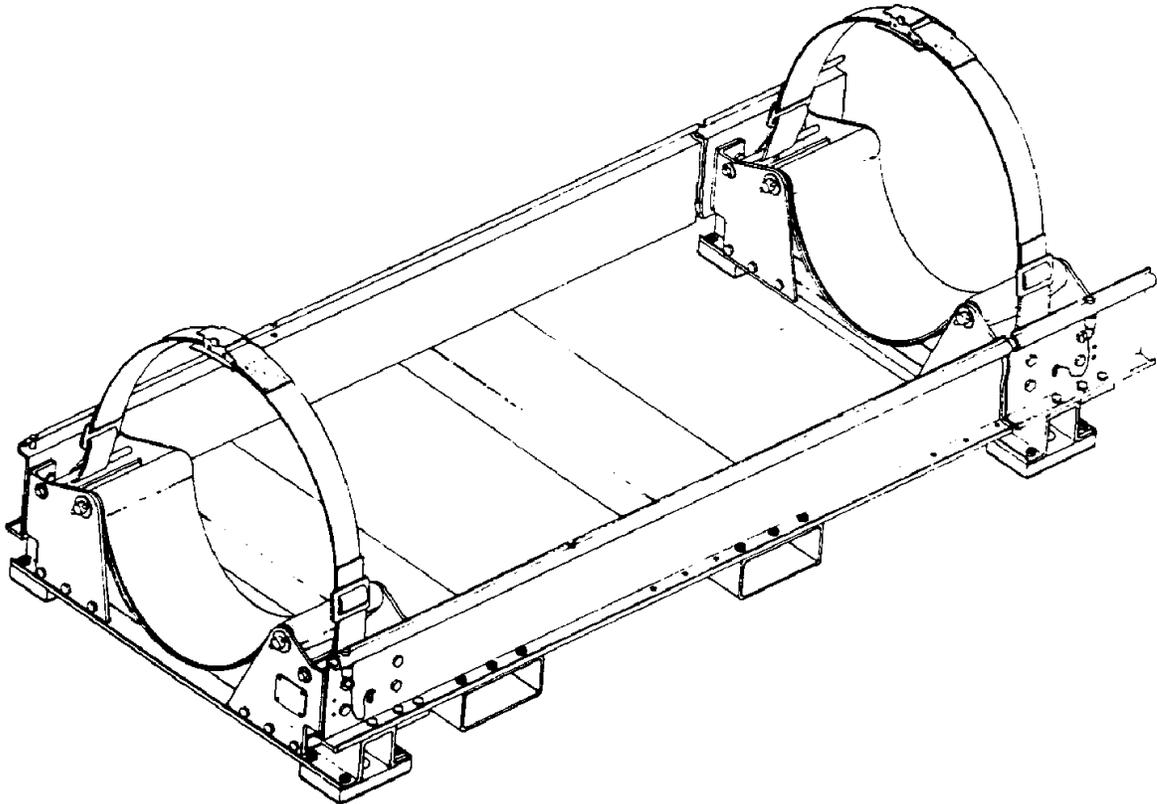
PHYSICAL DATA:	
Length	102.50 inches
Width	92.00 inches
Height	20.69 inches
Weight	425 pounds
SWL	N/A

APPLICATION. Undersea Weapons Transporting Cradle Mk 27 Mod 1 supports up to three 19- or 21- inch diameter undersea weapons during transport by LCM type service craft in harbor environment. It may also be used for intra-station transport of undersea weapons on a flatbed truck.

ASSOCIATED EQUIPMENT. Weapons Handling Sling Mk 99 Mod 0.

**CRADLE, AUR STOWAGE
MK 30 MOD 0
DL 5167579
NSN NOT ASSIGNED**

DESCRIPTION. AUR Stowage Cradle Mk 30 Mod 0 is an aluminum rectangular framework made of two channels, forward crossmember, aft crossmember, two forklift pockets and two cradle adapters with straps for securing an AUR missile in the cradle. Each cradle adapter is an aluminum alloy weldment consisting of a 21-inch diameter webb saddle and strap assembly.



REFERENCE DATA:

ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MIP 7231/R12
 Op. Proc. OR-67/110
 EIC/WUC. 86QF
 SM&R Code None

PHYSICAL DATA:

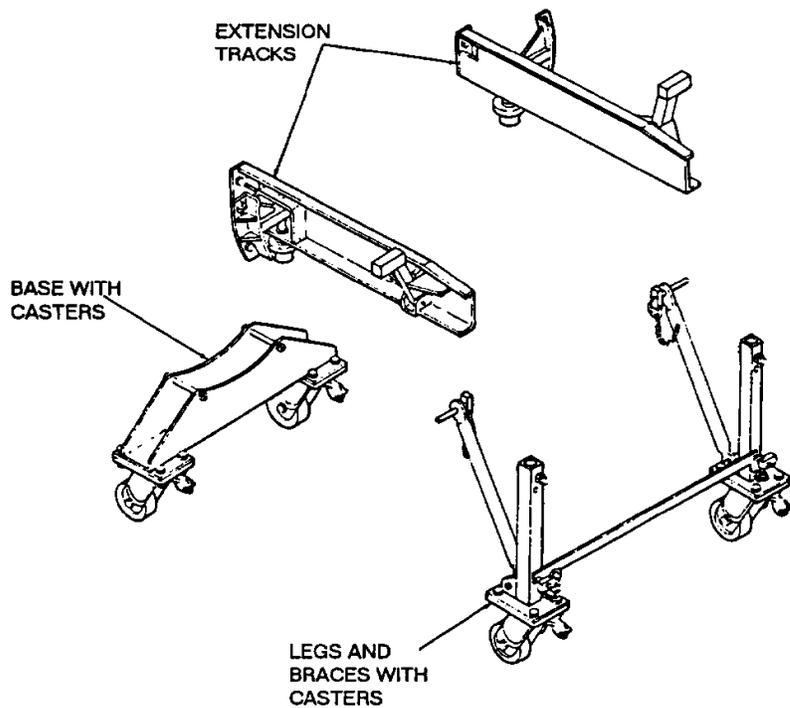
Length 157.50 inches
 Width 41.00 inches
 Height. 14.00 inches
 Weight 380 pounds
 SWL 6000 pounds

APPLICATION. AUR Stowage Cradle Mk 30 Mod 0 is used for the stowage of one encanistered (ABL) or encapsulated (TTL) TOMAHAWK AUR missile or Torpedo Mk 48.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with AUR Stowage Cradle Mk 30 Mod 0.

**CRADLE KIT, MISSILE HANDLING
MK 63 MOD 0
LD 492833
NSN NOT ASSIGNED**

DESCRIPTION. Missile Handling Cradle Kit Mk 63 Mod 0 is a portable kit consisting of a set of extension tracks, legs with casters and braces, and a base with casters. The cradle kit is used with the carriage of Missile Container Mk 264 Mod 0 to form a wheeled support for the missile in decanning or canning. The extension tracks are bolted to the container tracks to permit pulling out the missile carriage far enough to install the legs with casters and braces to the aft end of the carriage. The opposite (forward) end of the missile is supported by installing the base with casters to the missile forward support ring of the container carriage.



OBSOLESCE

REFERENCE DATA:	
ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

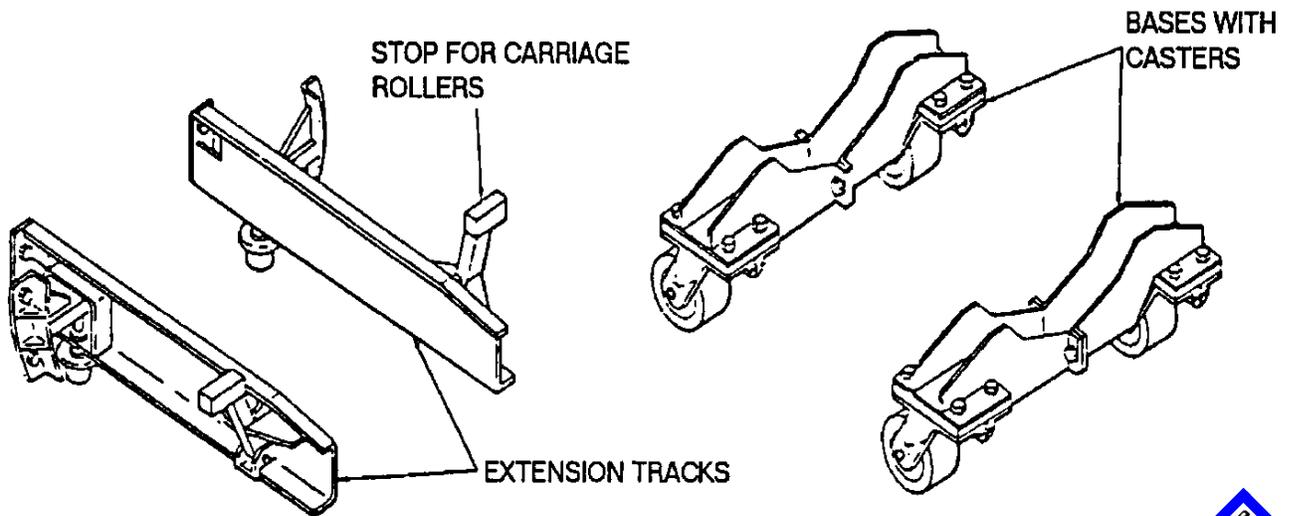
PHYSICAL DATA:	
Leg with Caster Assembly	
Length (in container)	43.75 inches
Width (in container)	17.00 inches
Height (in container)	16.38 inches
Weight (in container) . . . . .	.255 pounds
SWL	3500 pounds/set

APPLICATION. Missile Handling Cradle Kit Mk 63 Mod 0 is used for decanning and canning a missile shipped in Missile Container Mk 264 Mod 0 when Decan Fixture Mk 10 Mod 0 is not available. Missile Handling Cradle Kit Mk 63 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Missile Handling Cradle Kit Mk 63 Mod 0. The kit is stored in Container Mk 401 Mod 0.

**CRADLE KIT, BOOSTER HANDLING
MK 64 MOD 0
LD 492832
NSN NOT ASSIGNED**

DESCRIPTION. Booster Handling Cradle Kit Mk 64 Mod 0 is a portable kit consisting of a set of extension tracks, a forward base with casters, and an aft base with casters. The cradle kit is used with the forward and aft booster supports of Booster Container Mk 262 Mod 0 to form a wheeled support for the booster in decanning and canning. The extension tracks are bolted to the tracks of the container to permit pulling the booster out far enough from the container to install a base with casters on the container supports of the booster.



OBSOLES CENT

REFERENCE DATA:	
ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

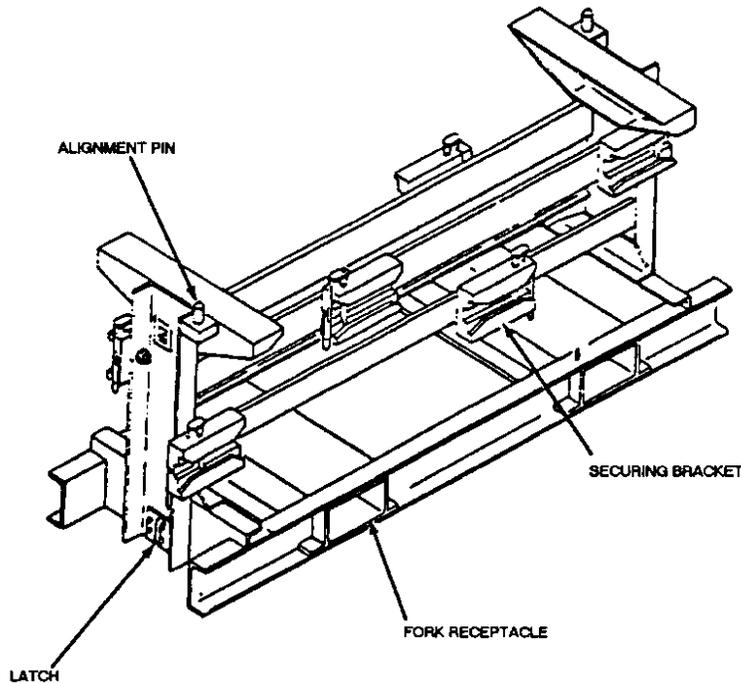
PHYSICAL DATA:	
Length (in container)	43.75 inches
Width (in container)	17.00 inches
Height (in container)	16.38 inches
Weight (in container)	262 pounds
SWL	4400 pounds/set

APPLICATION. Booster Handling Cradle Kit Mk 64 Mod 0 is used for decanning or canning a booster shipped in Booster Container Mk 262 Mod 0 when Decan Fixture Mk 10 Mod 0 is not available. Booster Handling Cradle Kit Mk 64 Mod 0 is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Booster Handling Cradle Kit MK 64 Mod 0. The kit is stored in Container Mk 412 Mod 0.

**CRADLE, MISSILE (AIM-9)
MHU-61/E
P/N 2560370
NSN 1R 1450-00-465-0458**

DESCRIPTION. Missile Cradle MHU-61/E consists of a lower rectangular frame equipped with two vertical supports and two upper supports. The frame has forklift pockets. The vertical supports are fitted with brackets for securing the missiles to the cradle. The upper supports have alignment pins and latches at each end for securing the missiles to the cradle. The upper supports have alignment pins and latches at each end for stacking the loaded cradle.



OBSOLESCE

REFERENCE DATA:

ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000A0-MEB-000
Op. Proc.....	NAVAIR AG-000A0-MEB-000
EIC/WUC	81XAN
SM&R Code	None

PHYSICAL DATA:

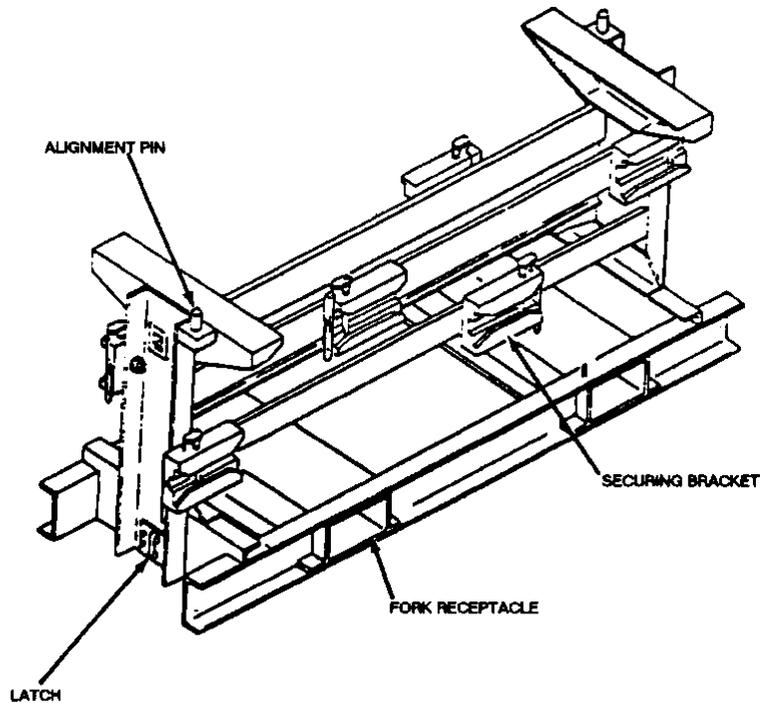
Length	51.63 inches
Width	16.00 inches
Height	32.50 inches
Weight	125 pounds
SWL	2700 pounds

APPLICATION. Missile Cradle MHU-61/E is used for storage and transportation of SIDEWINDER (AIM-9) and HELLFIRE (AGM-114) missiles. Two missiles are secured to each side of the cradle by sliding the forward and aft missile launch lugs into the brackets and securing with safety pins. The cradles are stacked by using the alignment pins and latches on the upper supports of the cradle. The cradle may be transported by a transporter/loader, trailer or forklift. Missile Cradle MHU-61/E is obsolescent and is replaced by Missile Cradle MHU-61A/E.

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 (series), Rough Terrain Trailer A/M32K-4A, Munitions Trailer AERO 51 (series), Small Munitions Trailer MHU-151/M and HELLFIRE Adapter Assemblies ADU-574/E and ADU-575/E.

**CRADLE, MISSILE (AIM-9)
MHU-61A/E
P/N 3508AS300-1
NSN 1R 8140-01-377-5376**

DESCRIPTION. Missile Cradle MHU-61A/E consists of a lower rectangular frame equipped with two vertical supports and two upper supports. The frame has forklift pockets. The vertical supports are fitted with brackets for securing the missiles to the cradle. The upper supports have alignment pins and latches at each end for securing the missiles to the cradle. The upper supports have alignment pins and latches at each end for stacking the loaded cradle.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts.	NAVAIR AG-000A0-MEB-000
Op. Proc.	NAVAIR AG-000A0-MEB-000
EIC/WUC.....	81XAN
SM&R Code	PEHHH

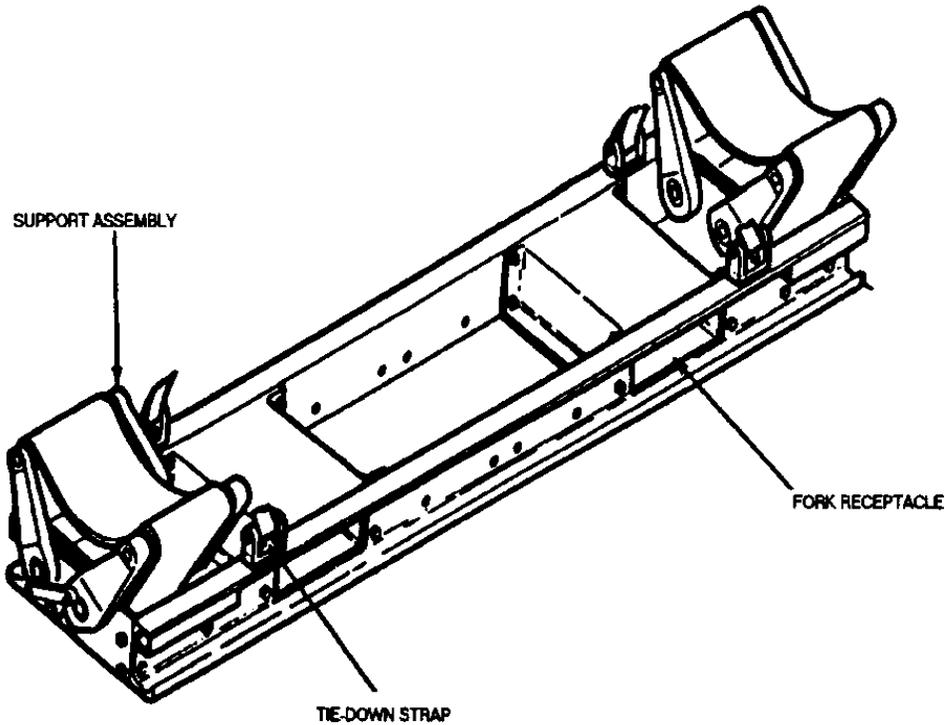
PHYSICAL DATA:	
Length	51.63 inches
Width	16.00 inches
Height.....	32.50 inches
Weight	125 pounds
SWL	2700 pounds

APPLICATION. Missile Cradle MHU-61A/E is used for storage and transportation of SIDEWINDER (AIM-9) and HELLFIRE (AGM-114) missiles. Two missiles are secured to each side of the cradle by sliding the forward and aft missile launch lugs into the brackets and securing with safety pins. The cradles are stacked by using the alignment pins and latches on the upper supports of the cradle. The cradle may be transported by a transporter/loader, trailer or forklift.

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 (series), Rough Terrain Trailer A/M32K-4A, Munitions Trailer AERO 51 (series), Small Munitions Trailer MHU-151/M and HELLFIRE Adapter Assemblies ADU-574/E and ADU-575/E.

**CRADLE, UNIVERSAL, SMALL
MHU-63/E
P/N 2560340
NSN 1R 1450-00-151-4115**

DESCRIPTION. Small Universal Cradle MHU-63/E consists of two metal support rails bolted to two forklift pockets and two end support braces. The end supports braces are fitted with a support assembly which consists of two sets of hinged vertical arms, two rollers, flexible belt and wedge-type brake.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000A0-MEB-000
Op. Proc.....	NAVAIR AG-000A0-MEB-000
EIC/WUC	81XAP
SM&R Code	PEOHH

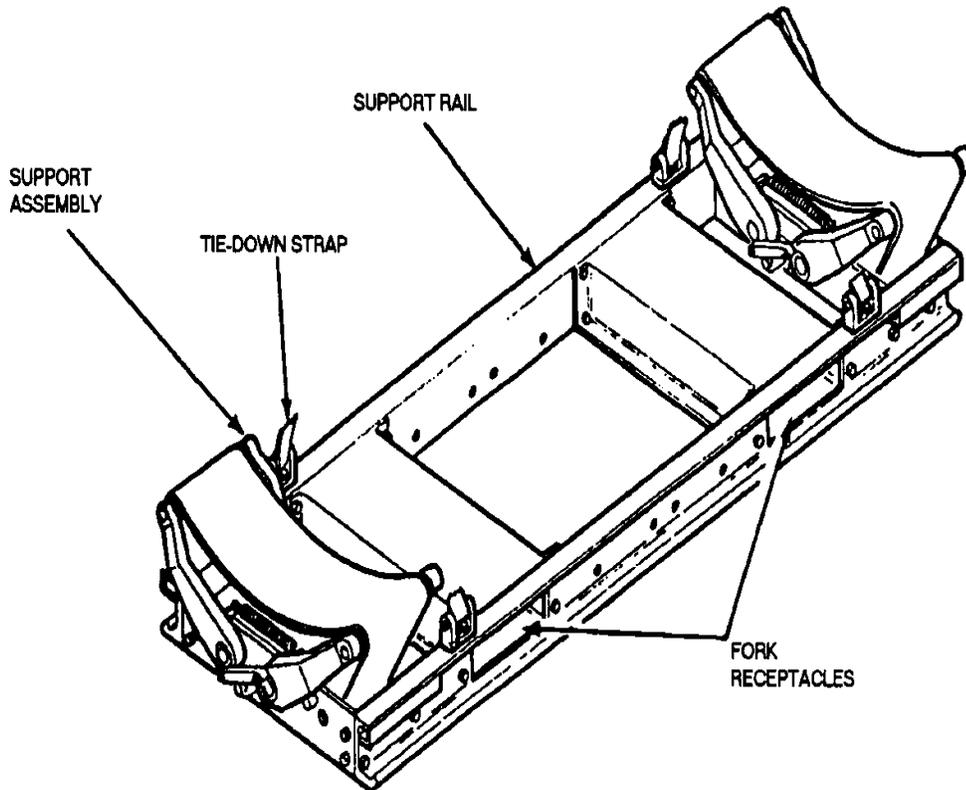
PHYSICAL DATA:	
Length	60.50 inches
Width	12.25 inches
Height	9.00 inches
Weight	102 pounds
SWL	3000 pounds

APPLICATION. Small Universal Cradle MHU-63/E is used for storing and transporting weapons that range from 8 to 16 inches in diameter. The support assemblies adjust automatically. The forklift pockets allow the transporting of a loaded cradle. A transporter/loader or trailer may also be used with the cradle.

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 (series), Rough Terrain Trailer A/M32K-4A, Munitions Trailer AERO 51 (series), Guided Missile Adapter ADU-358/E and Small Munitions Trailer MHU-151/M, and Height Adapters ADU-359/E and Guided Missile Adapter ADU-600/E.

**CRADLE, UNIVERSAL, LARGE
MHU-65/E
P/N 2560341
NSN 1R 1450-00-151-4117**

DESCRIPTION. Large Universal Cradle MHU-65/E consists of two metal support rails bolted to two forklift pockets and two end support braces. The end support braces are fitted with a support assembly which consists of two sets of hinged vertical arms, two rollers, a flexible belt and a wedge-type brake.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000A0-MEB-000
Op. Proc.	NAVAIR AG-000A0-MEB-000
EIC/WUC	81XAQ
SM&R Code	PEOHH

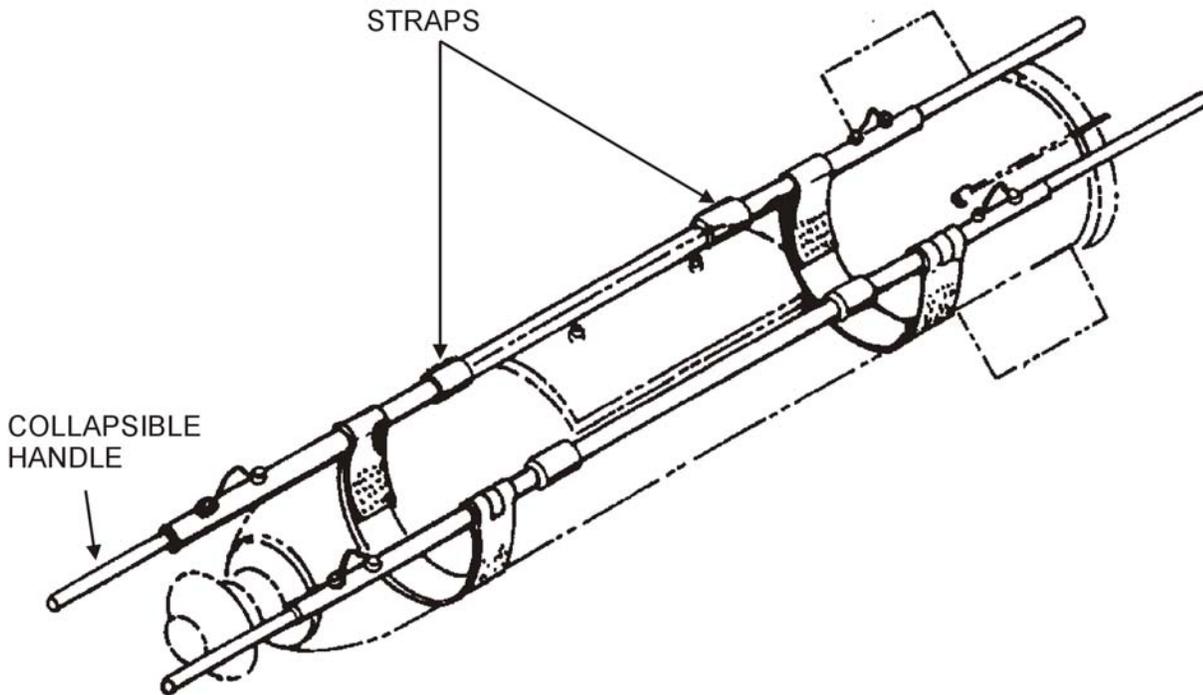
PHYSICAL DATA:	
Length	60.50 inches
Width	20.00 inches
Height	9.25 inches
Weight	125 pounds
SWL	3000 pounds

APPLICATION. Large Universal Cradle MHU-65/E is used for storing and transporting weapons that range in diameter from 16 to 32 inches. The support assemblies adjust automatically. The forklift pockets allow the transporting of a loaded cradle with a SATS Weapons Loader or Rough Terrain Forklift Truck. A transporter or trailer may also be used with the cradle.

ASSOCIATED EQUIPMENT. Weapons Loader A/S32K-1 (series), Rough Terrain Trailer A/M-32K-4A, Munitions Trailer AERO 51 (series) and Small Munitions Trailer MHU-151/M.

**CRADLE, WEAPONS
MHU-117/E
P/N 67A237F2
NSN 1R 1740-01-033-1250**

DESCRIPTION. Weapons Cradle MHU-117/E consists of two telescoping steel tubes with knurled handles connected by two webbed nylon straps. The nylon straps now have three loops instead of two loops.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000A0-MEB-000
Op. Proc.	NAVAIR AG-000A0-MEB-000
EIC/WUC	.81XAQ
SM&R Code	.PAOZZ

PHYSICAL DATA:	
Length (bar length)	85.00 - 12.600 inches
Width	variable to 15.00 inches
Height	4.00 inches
Weight	.65 pounds
SWL	.700 pounds

APPLICATION. Weapons Cradle MHU-117/E is used for decanning and loading the CBU-55/B (FAE) or LAU weapon. It also has universal application for handling and loading all hard or soft skinned weapons up to a 20-inch diameter and 700 pounds. The three loop strap provides a safe method of loading the smaller LAU-68 series rocket launcher pad.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Weapons Cradle MHU-117/E.

CHAPTER 17

CRANES

17-1. GENERAL. This section covers only one crane used in the handling of weapons and explosives. Refer to the item sheet for all descriptive information.

17-2. DESCRIPTION. Cranes consist of an independently moving, telescoping derrick or boom mounted on a truck type chassis having single or dual wheels equipped with pneumatic tires. Power to electrical and hydraulic systems are provided by a diesel or gasoline engine. Outriggers are provided for added stability.

17-3. OPERATION. Cranes are used in lifting, stowing, loading, and unloading operations that involve loads too bulky or too irregularly shaped to be palletized. Cranes are also used to handle loads that are inaccessible to other industrial trucks. The most important characteristic of a crane is the lifting and carrying capacity, usually stated as the maximum weight that can be safely lifted at various boom positions is generally furnished by the manufacturer; this information is marked on the crane near the operating controls. Other characteristics of a crane that should be considered in selecting equipment are lift height, lift speed, boom extension, slewing angle, travel speed, turning radius, and the size of intersecting aisles in which the crane can turn.

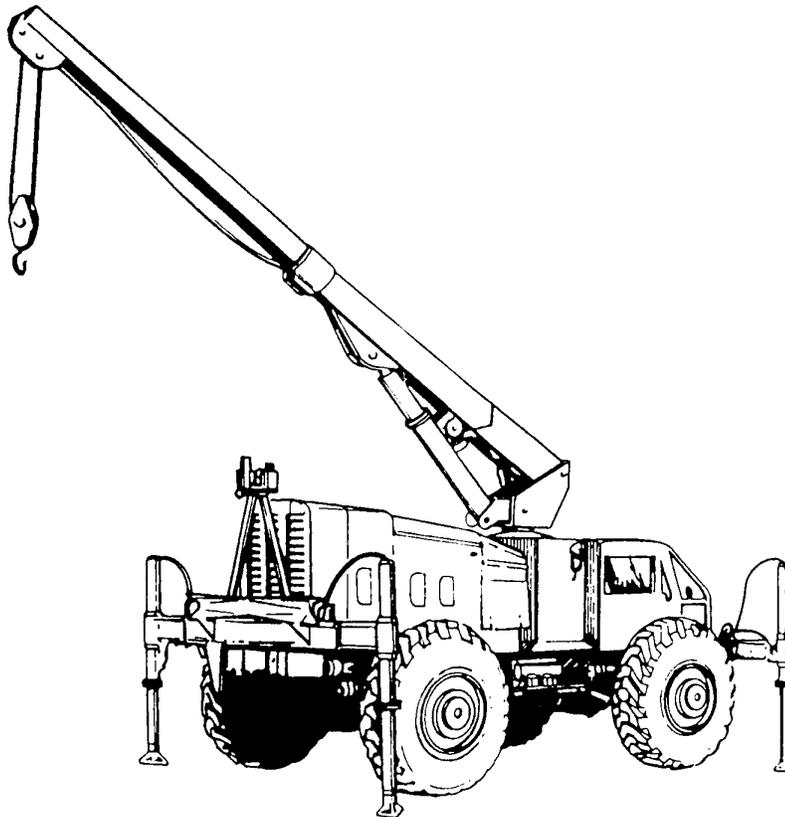
CRANE, WHEEL MOUNTED SELF PROPELLED, M-60 SERIES

**P/N NOT ASSIGNED
NSN NOT ASSIGNED**

DESCRIPTION. The M-60 Series Crane is a four-wheel drive, hydraulically-operated crane designed for off-road operation in rough terrain. Constructed in five sections, the crane is designed for disassembly, transportation by air, and rapid reassembly at the point of intended use. Three speeds in both forward and reverse are available with speeds up to 30 miles per hour as well as four-wheel drive capability. This vehicle has a minimum ground clearance of 12 inches, a side slope of 30 percent, a maximum speed (with load) of 10 mph, a 45 percent grade climbing capability and will ford to a depth of 60 inches.

The crane is equipped with power steering and air brake systems. The front steering, controlled by the steering wheel, permits the vehicle to turn in a 30 foot radius. The rear steering is controlled by a separate steering valve. When using both front and rear steering, the vehicle will turn in a 17-foot radius. The brake pedal simultaneously applied the brakes on all four wheels. Pintle hook assemblies are the brakes on all four wheel. Pintle hook assemblies are provided at the front and rear of the crane to facilitate towing.

The center pin-mounted hydraulic crane has a rated capacity of 3 tons with a minimum swing speed of 60 degrees per second. The crane is equipped with a winch with 75,000 foot-pounds line power and a boom that projects from 10.50 to 18.50 feet. A 5 foot boom extension is provided which can be installed. The boom can be elevated to a maximum elevation of 75 degrees. Horizontal and vertical outriggers are provided to stabilize the crane during operation.



CRANE, WHEEL MOUNTED SELF PROPELLED, M-60 SERIES

**P/N NOT ASSIGNED
NSN NOT ASSIGNED**

REFERENCE DATA:	
ISEA	
Periodic Test	Not Required
PMS/Maint. Insts	TBD
Op. Proc.	TBD
EIC/WUC	TBD
SM&R Code	TBD

PHYSICAL DATA:	
Length	TBD
Width	TBD
Height	TBD
Weight	TBD
SWL	6000 pounds

APPLICATION. The M-60 Series Crane is used for a variety of duties at forward or advanced bases. Its primary function is to operate in the ammunition dump area unloading ordnance from cargo vehicles and loading ordnance onto trailers. It is also assigned to the bomb assembly areas for utility duties.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the M-60 Series Crane.

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CHAPTER 18

CRATES

18-1. GENERAL. This chapter covers three crates used for unpalletized ammunition and explosives. Refer to the item sheets for all descriptive information.

**CRATE, JOINT MODULAR INTERMODAL CONTAINER (JMIC) ASSEMBLY
DL 7516510
NSN SEE TABLE**

DESCRIPTION. The collapsible Joint Modular Intermodal Container (JMIC) Assembly Crate (also known as JMIC) is a free breathing, lockable, stackable, reusable crate of aluminum construction. The crate consists of a top panel, two removable access panels and a pallet base attached with 2 side panels and corner post assemblies.

OBSOLESCE



NSN Table:

3B-8145-01-551-5311 (Unpainted)
9B-8145-01-564-5795 (Tan)
9B-8145-01-564-5802 (Green)

REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MP-165-09
 Op. Proc. [NAVSEA S9571-AA-MMA-010](#)
 Packaging Insts SPI-PHST-226
 EIC/WUC None
 SM&R Code PAOZZ

PHYSICAL DATA:

Length 51.75 inches
 Width 43.75 inches
 Height 43.00 inches
 Stacking Height 40.75 inches
 Weight 325 pounds
 SWL 3000 pounds
 Maximum Stack Four (4) JMICs
 Collapsed Height 15.81 inches

APPLICATION. The Joint Modular Intermodal Container (JMIC) Assembly Crate is used as an overpack or a single package to protect munitions and other supplies during shipping, handling, and storage operations for gross weights of up to 3,000 pounds. This unit is approved for underway replenishment operations and for shipment over public road. The crate is also High Shock (MIL-S-901) Grade B certified. This JMIC Assembly Crate is obsolescent and replaced by JMIC Assembly Crate 3.0K.

ASSOCIATED EQUIPMENT. Mk 5 Mod 1 Cargo STREAM Heavy Lift Strongback (Gullwing), Mk 1 Mods 0 and 1 Strongback, Mk 99 Mod 0 Weapons Handling Sling, and Mk 105 Mod 0 Hoisting Sling.

**CRATE, JOINT MODULAR INTERMODAL CONTAINER (JMIC), 1.5K ASSEMBLY
 APPROVAL FOR LIMITED USE (NOT SHIPBOARD OR VERTREP CERTIFIED)
 DL 8410531
 NSN SEE TABLE**

DESCRIPTION. The Joint Modular Intermodal Container (JMIC), 1.5K Assembly Crate (also known as JMIC, 1.5K) in accordance with MIL-STD-3028 (DOD JMIC Interface Standard) is a collapsible free breathing, lockable, stackable, reusable crate of hybrid aluminum composite construction. The crate consists of a top panel assembly, two removable access panels and a pallet base assembly attached with two side panels and post assemblies. This JMIC variant is identified with yellow corners.



NSN Table:
9B-8150-01-626-0806 (Unpainted)
TBD (Tan and Green)

REFERENCE DATA:
 ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts SG420-DW-OMI-010
 Op. Proc. None
 Packaging Inst. SPI-PHST-294
 EIC/WUC None
 SM&R Code PAOHZ
 NALC/DODIC NONE

PHYSICAL DATA:
 Length 51.75 inches
 Width 43.75 inches
 Height 43.00 inches
 Stacking Height 40.75 inches
 Collapsed Height 15.57 inches
 Collapsed Stacking Height 13.81 inches
 Cube 56.34 cu ft
 Empty Weight 191 pounds
 Maximum Gross Weight 1500 pounds
 Maximum Stack (erected) For Storage
 Four (4) JMICs
 Maximum Stack (collapsed) For Transportation
 Six (6) JMIC
 Number of items packaged per JMIC
 As Approved

**CRATE, JOINT MODULAR INTERMODAL CONTAINER (JMIC), 1.5K ASSEMBLY
DL 8410531
NSN SEE TABLE**

APPLICATION. The JMIC, 1.5K is used as an overpack or as a single outerpack package to protect munitions and other supplies during shipping and storage. The internal floor of the JMIC 1.5K has an ISO-7166 Track System along the perimeter of the base assembly to mount tie down fittings for securing odd shaped or partial loads. The JMIC, 1.5K can be transported by ground (over public roads) or by air and sea. This unit is approved for limited use and is not shipboard or VERTREP certified.

ASSOCIATED EQUIPMENT. Mk 5 Mod 1 Cargo STREAM Heavy Lift Strongback (Gullwing), Mk 1 Mods 0 and 1 Strongback, Mk 99 Mod 0 Weapons Handling Sling, and Mk 105 Mod 0 Hoisting Sling.

**CRATE, JOINT MODULAR INTERMODAL CONTAINER (JMIC), 3.0K ASSEMBLY
DL 7517221
NSN SEE TABLE**

DESCRIPTION. The collapsible Joint Modular Intermodal Container (JMIC), 3.0K Assembly Crate (also known as JMIC, 3.0K) in accordance with MIL-STD-3028 (DOD JMIC Interface Standard) is a free breathing, lockable, stackable, reusable crate of aluminum construction. The crate consists of a top panel, two removable access panels and a pallet base attached with 2 side panels and corner post assembly. Side panels can be removed w/o tools and can be secured in the upright position with the side latches. Locking mechanism at each corner from one (near/far) side can secure erected/collapsed JMIC to another without strapping or banding. This JMIC variant is identified with white colored corners.



NSN Table:

- 9B-8145-01-588-1810 (Unpainted)**
- 9B-8145-01-588-1830 (Tan)**
- 9B-8145-01-588-1825 (Green)**

REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts SG420-DW-OMI-010
 Op. Proc. None
 Packaging Inst. SPI-PHST-278
 EIC/WUC None
 SM&R Code PAOHZ
 NALC/DODIC NONE

PHYSICAL DATA:

Length 51.75 inches
 Width 43.75 inches
 Height 43.00 inches
 Stacking Height 40.75 inches
 Collapsed Height 15.81 inches
 Collapsed Stacking Height 13.81 inches
 Cube 56.34 cu ft
 Tare Weight 285 pounds
 Maximum Gross Weight 3000 pounds
 Maximum Stack (erected) For Storage
 Four (4) JMICs
 Maximum Stack (collapsed) For Transportation
 Six (6) JMIC
 Number of items packaged per JMIC
 As Approved

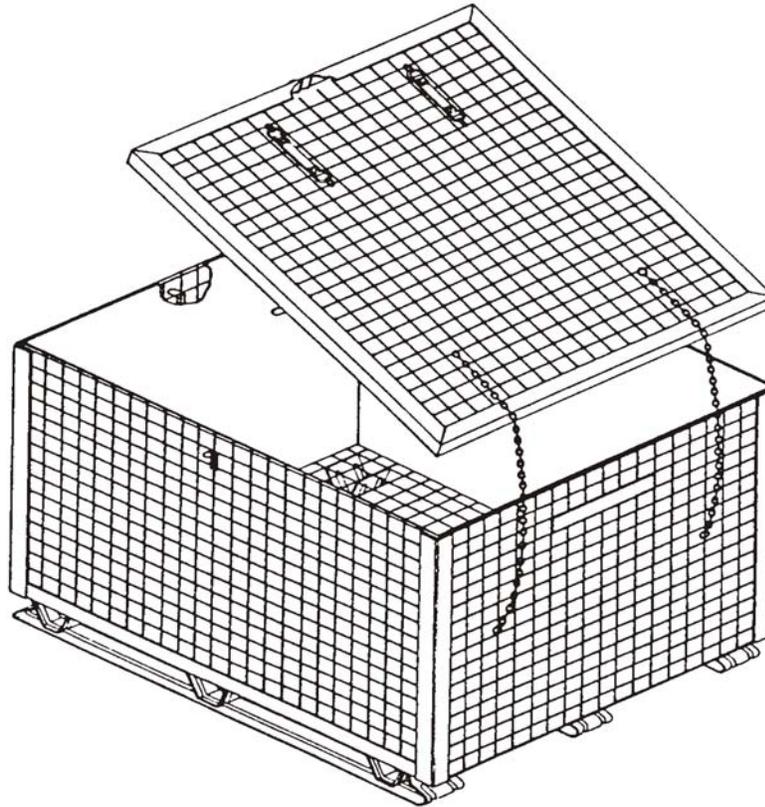
**CRATE, JOINT MODULAR INTERMODAL CONTAINER (JMIC), 3.0K ASSEMBLY
DL 7517221
NSN SEE TABLE**

APPLICATION. The JMIC, 3.0K is used as an overpack or as a single package to protect munitions and general supplies during shipping, handling and storage operations for gross weights of up to 3,000 pounds. This unit is approved for underway replenishment operations, for air shipments, and for over public roads.

ASSOCIATED EQUIPMENT. Mk 5 Mod 1 Cargo STREAM Heavy Lift Strongback (Gullwing), Mk 1 Mods 0 and 1 Strongback, Mk 99 Mod 0 Weapons Handling Sling, and Mk 105 Mod 0 Hoisting Sling.

**CRATE, AMMUNITION SECURITY PALLET
MK 108 MOD 0
NSN 7H 8140-01-117-0806**

DESCRIPTION. Ammunition Security Pallet Crate Mk 108 Mod 0 is a steel wire box structure having a pallet base, steel wire sides with steel plates and a removable cover. The cover is held captive to the body of the crate with two chains and has two handles attached to the top side to facilitate safe cover removal.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7721/R22
Op. Proc.	WS-21616
EIC/WUC	None
SM&R Code	None

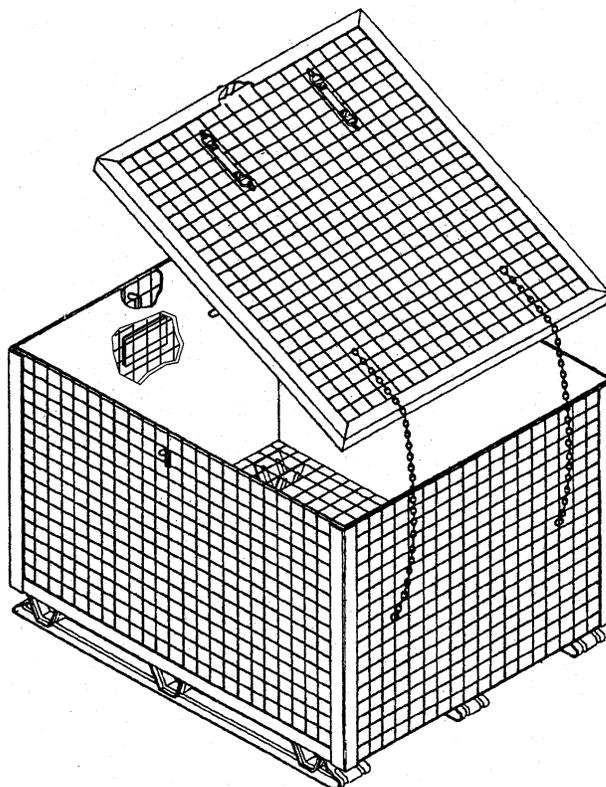
PHYSICAL DATA:	
Length	49.00 inches
Width	41.00 inches
Height	35.50 inches
Weight	435 pounds
SWL	1000 pounds

APPLICATION. Ammunition Security Pallet Crate Mk 108 Mod 0 is used for handling and stowage of loose and anti-pilferable ordnance items. The unit may be used for connected replenishment-at-sea operations for loads of up to 1000 pounds. Ammunition Security Pallet Crate Mk 108 Mod 0 is obsolescent and replaced by Ammunition Security Pallet Crate Mk 108 Mod 1 or the JMIC Assembly Crate.

ASSOCIATED EQUIPMENT. Pallet Sling Mk 93 Mod 0 (dockside) and Pallet Sling Mk 123 Mod 0 (CONREP).

**CRATE, AMMUNITION SECURITY PALLET
MK 108 MOD 1
TECH SPEC PHST-011
NSN 9B 8140-01-357-6389**

DESCRIPTION. Ammunition Security Pallet Crate Mk 108 Mod 1 is a steel wire box structure having a pallet base, steel wire sides with steel plates and a removable cover. The cover is held captive to the body of the crate with two chains and has two handles attached to the top side to facilitate safe cover removal.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MIP 7721/R22
 Op. Proc. [NAVSEA S9571-AA-MMA-010](#)
 EIC/WUC None
 SM&R Code PAOZZ

PHYSICAL DATA:

Length 49.00 inches
 Width 41.00 inches
 Height 35.50 inches
 Weight 435 pounds
 SWL 4000 pounds

APPLICATION. Ammunition Security Pallet Crate Mk 108 Mod 1 is used for handling and stowage of loose and pilferable ordnance items, which meet the mixed packaging requirements outlined in 49 CFR 173.61. The unit may be used for connected replenishment-at-sea operations for loads of up to 4000 pounds. The JMIC Assembly Crate can be used as an alternative to the Ammunition Security Pallet Crate Mk 108 Mod 1 for loads up to 3,000 pounds.

ASSOCIATED EQUIPMENT. Pallet Sling Mk 93 Mod 0 (dockside) and Pallet Sling Mk 123 Mod 0 (CONREP)

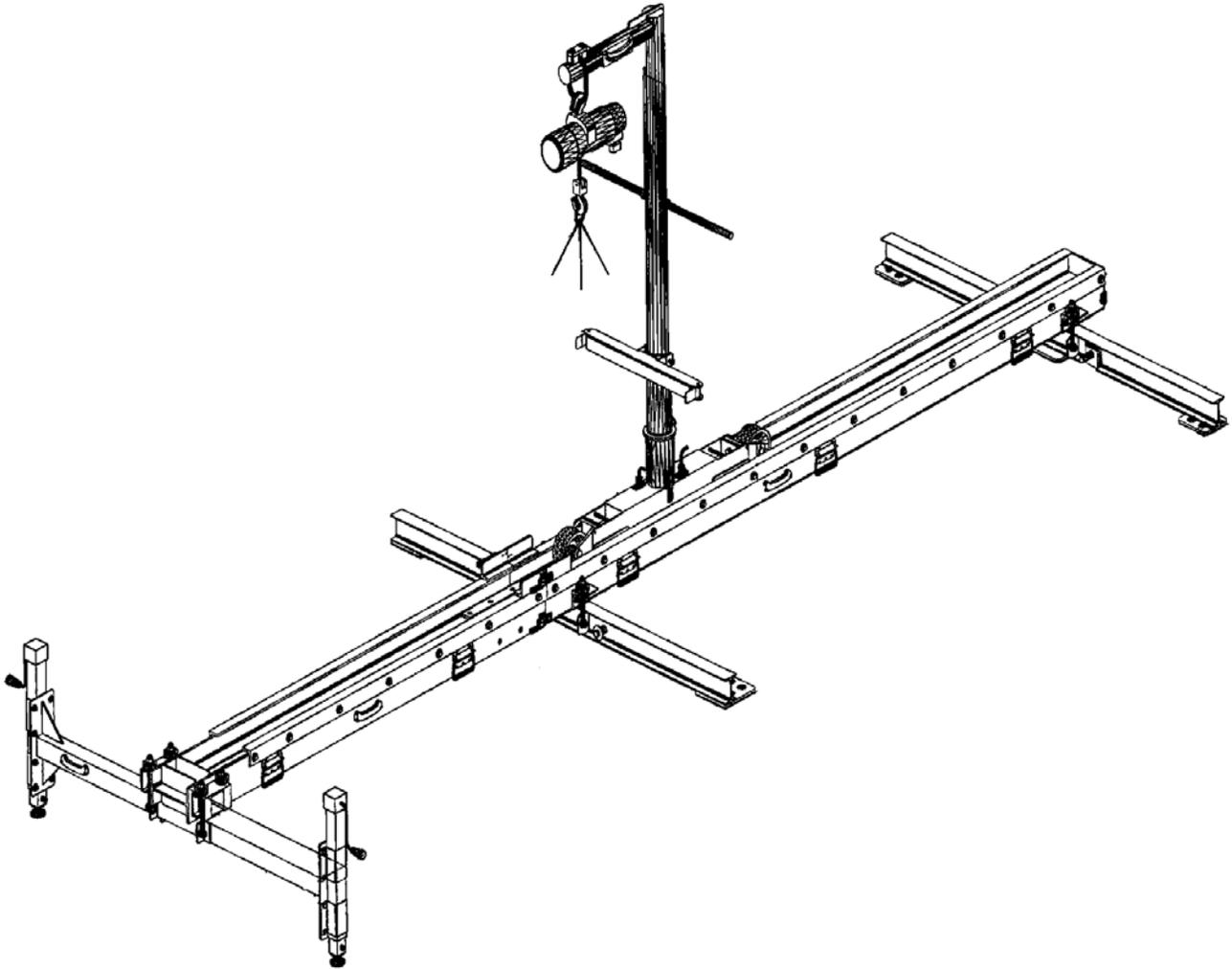
CHAPTER 19

DAVIT

19-1. GENERAL. This chapter covers devices used in handling weapons and explosives. Refer to the particular item sheet for all descriptive information.

**DAVIT, VLS HANDLING
MK 1 MOD 0
DL 7516618
NSN 8T 1450-01-598-1832**

DESCRIPTION. The Mk 1 Mod 0 Vertical Launching System (VLS) Handling Davit has ten (10) main components: Davit, Mast, Hoist Motor Assembly, Trolley Assembly, Trolley Beam "A" and "B" Assemblies, FWD Beam Support Assembly, AFT Beam Support Assembly, Outrigger Assembly, Steady Rest Assembly and Sill Lift Adapter Davit Sling.



**DAVIT, VLS HANDLING
MK 1 MOD 0
DL 7516618
NSN 8T 1450-01-598-1832**

REFERENCE DATA:

ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test [NAVSEA SG420-AP-MMA-010](#)
PMS/Maint. Insts None
Op. Proc. NAVSEA SG420-DV-MMA-010
EIC/WUC None
SM&R Code PEGHD
NALC/DODIC CWQW

PHYSICAL DATA:

Length (Overall) 221.50 inches
Width 86.63 inches
Height 89.00 inches
Weight (Assembled) 828.60 pounds
SWL 650 pounds

APPLICATION. The Mk 1 Mod 0 VLS Davit Assembly is used aboard a VLS ship to remove and install VLS Launcher Support Equipment (LSE) and permit LSE movement between VLS launcher cells. The VLS Handling Davit can be set up on any VLS Launcher and up to eight (8) VLS Launcher cells can be serviced by the assembly davit. The VLS Handling Davit services on (1) VLS Launcher cell at a time.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Mk 1 Mod 0 VLS Handling Davit.

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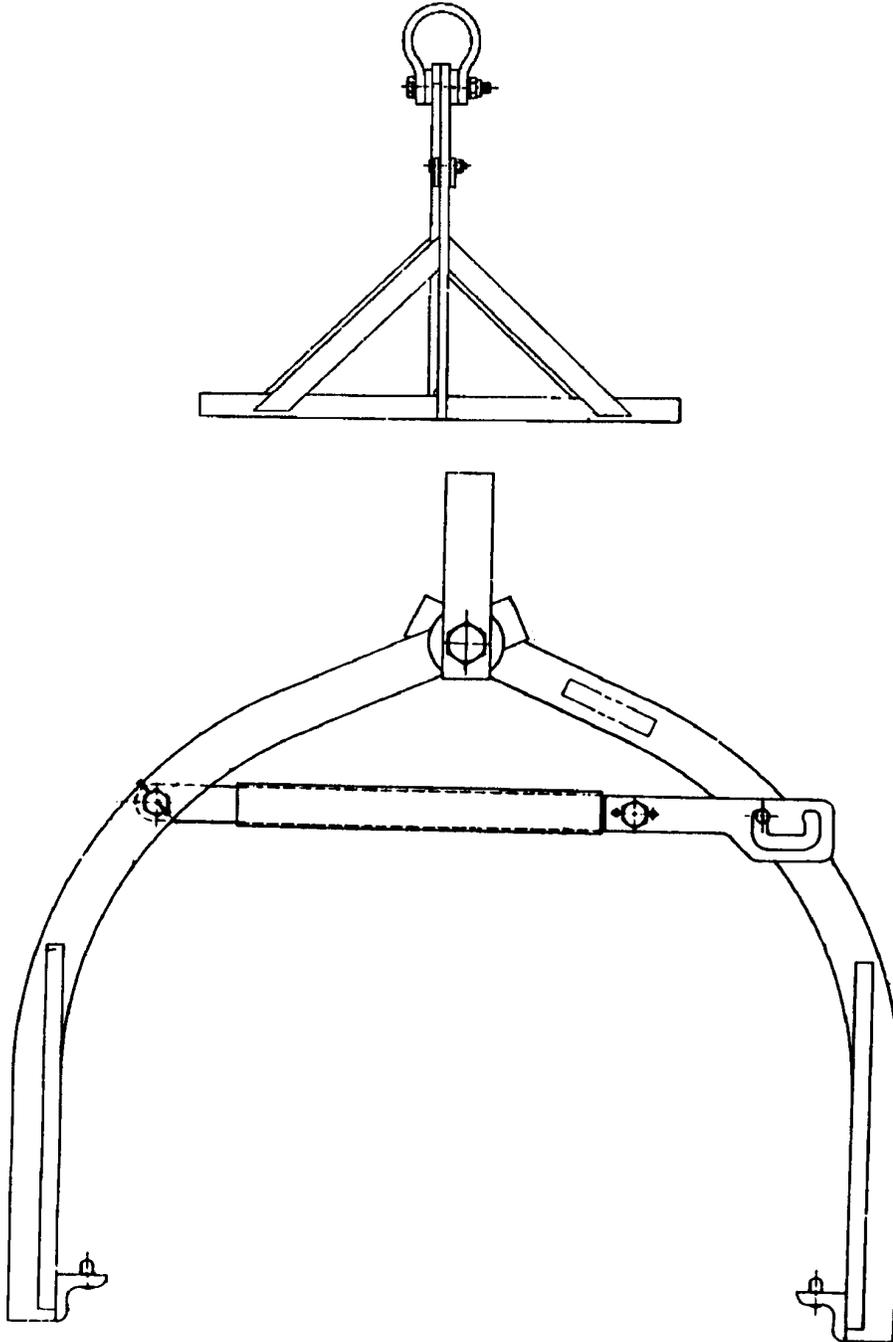
CHAPTER 20

DEVICES

20-1. GENERAL. This chapter covers devices used in handling weapons and explosives. Refer to the particular item sheet for all descriptive information.

DEVICE, LIFTING, BATTERY
(MMC 1D00011)
P/N 1798261
NSN 7H 4921-00-735-4717

DESCRIPTION. Battery Lifting Device is a steel weldment consisting of two steel retractable arms attached to a handle. When a vertical force is applied, the arms move inward to grasp a battery.



**DEVICE, LIFTING, BATTERY
(MMC 1D00011)
P/N 1798261
NSN 7H 4921-00-735-4717**

REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test [NAVSEA SG420-AP-MMA-010](#)
PMS/Maint. Insts None
Op. Proc. NAVSEA SW553-B2-MMI-010
EIC/WUC None
SM&R Code PAHDD

PHYSICAL DATA:

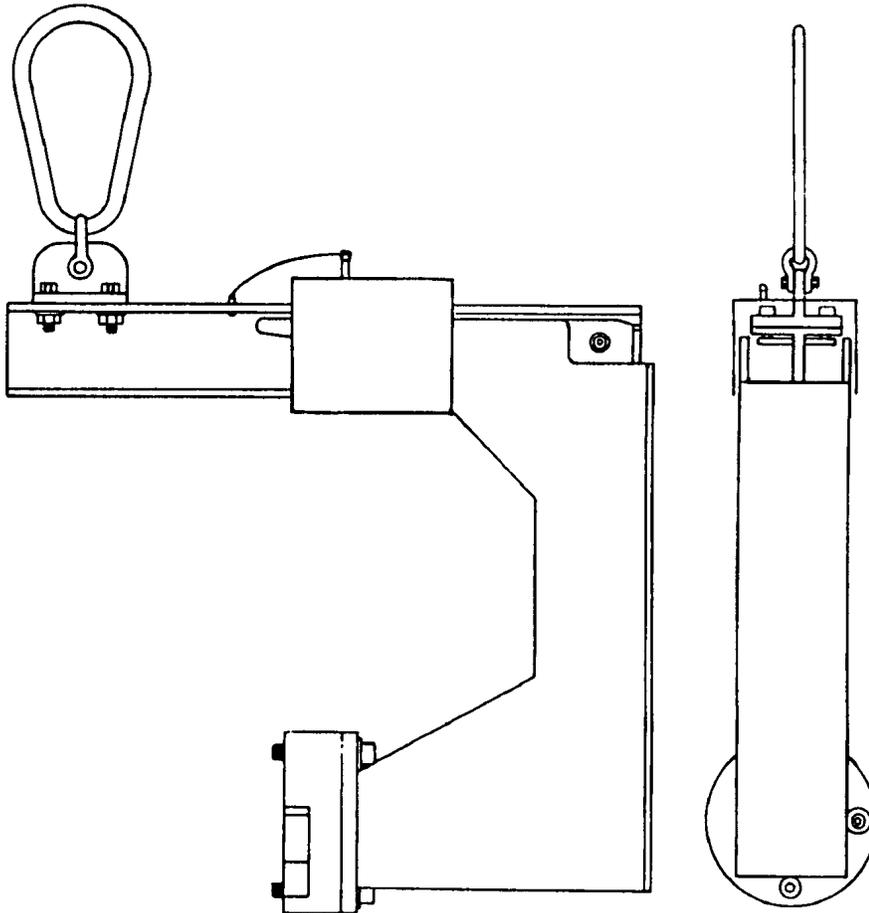
Length 20.00 inches
Width 18.25 inches
Height 18.00 inches
Weight 20 pounds
SWL 275 pounds

APPLICATION. Battery Lifting Device is used to lift the Battery Mk 46 of the Mine (SLMM) Mk 67 at MOMAU facilities.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Battery Lifting Device.

**DEVICE, LIFTING, GAS GENERATOR
P/N JCM-17350
NSN NOT ASSIGNED**

DESCRIPTION. Gas Generator Lifting Device is constructed of an aluminum alloy weldment, lifting arm, shear pin, shear pin shield, lifting lug, interface plate and two captive head screws.



REFERENCE DATA:	
ISEA	Naval Undersea Warfare Center, Newport
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	NAVSEA SW820-AF-OMP-020
Op. Proc.	NAVSEA SW820-AF-OMP-020
EIC/WUC	N66604
SM&R Code	PEHHH

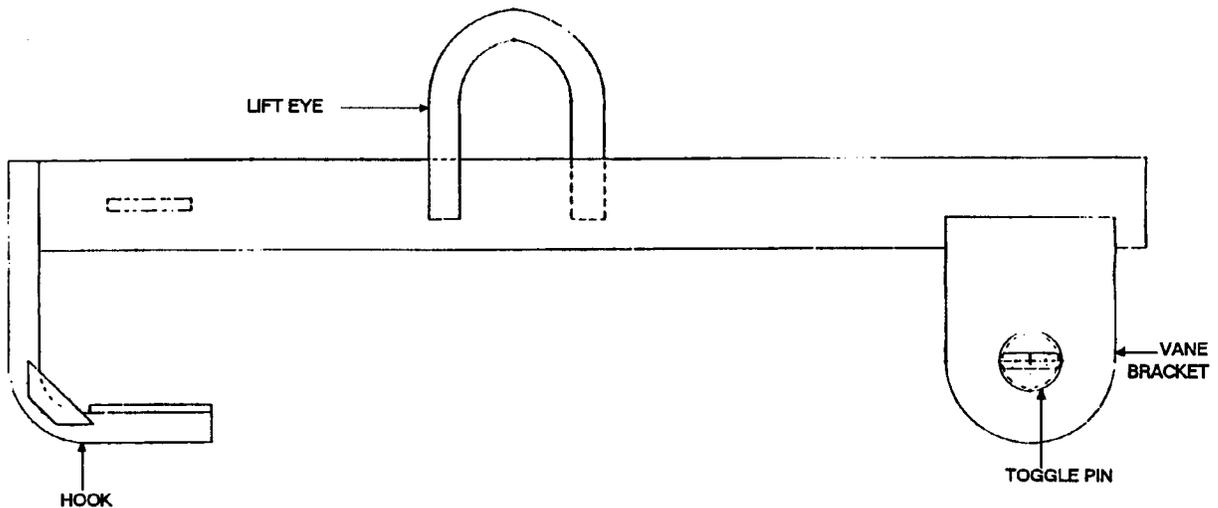
PHYSICAL DATA:	
Length	20.00 inches
Width	6.00 inches
Height	24.00 inches
Weight	45 pounds
SWL	210 pounds

APPLICATION. Gas Generator Lifting Device is used to install a gas generator into the TOMAHAWK Capsulated Launch System (CLS) and the TOMAHAWK All-Up-Round (AUR).

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Gas Generator Lifting Device.

**DEVICE, LIFTING, TAILCONE
(MMC 1D00012)
P/N 1803503
NSN 9C 4921-00-446-2752**

DESCRIPTION. Tailcone Lifting Device is a steel beam weldment with a center lift eye, a fixed hook on one end and vane bracket with toggle pin on the other end.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	NAVSEA SW553-B2-MMI-020
EIC/WUC	None
SM&R Code	PAOZZ

PHYSICAL DATA:	
Length	18.50 inches
Width	4.00 inches
Height	7.25 inches
Weight	10 pounds
SWL	315 pounds

APPLICATION. Tailcone Lifting Device is used to lift the tailcone of the (SLMM) Mine Mk 67 at MOMAU facilities. The fixed hook is attached to the tailcone then the vane bracket is place over the fin and secured with the toggle pin for lifting.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Tailcone Lifting Device.

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CHAPTER 21

DOLLIES

21-1. GENERAL. This chapter covers dollies used in handling weapons, ammunition and explosives. Reference should be made to the particular item sheet for detailed information.

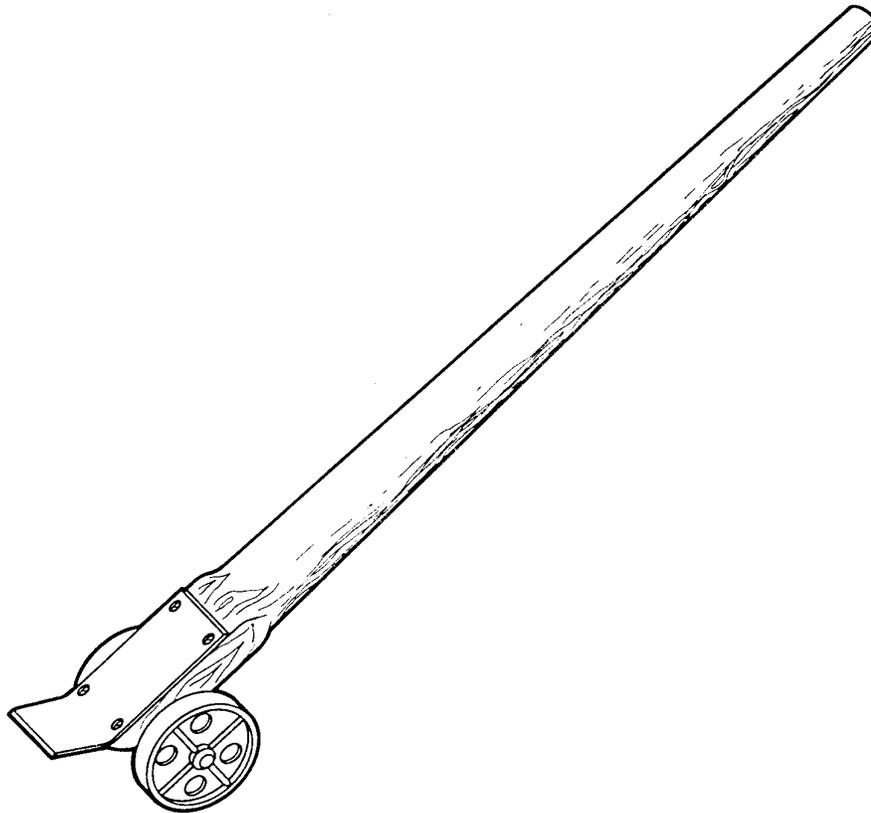
21-2. DESCRIPTION. A dolly is a vehicle that can be drawn manually or towed by another vehicle. Dollies are equipped with cradle-type or frame-type bodies and with casters or wheels for locomotion. The dollies described in this chapter are generally weapon-handling dollies. Weapon-handling dollies can be divided into three categories: (1) dollies that carry a weapon on cradle-type supports that may be padded for protection against damage to the weapon, (2) dollies whose frame type bodies provide protective enclosures for missiles and other soft-shell weapons, and (3) dollies equipped with accessories that permit the weapons or weapon components to be manipulated into required positions. Dollies are generally equipped with floor or position locks to hold them stationary while weapons are loaded or unloaded. Some dollies have attachments for hoisting equipment and receptacles for forklift handling. Others may also be equipped with bumpers for shock protection, or with hand brakes.

21-3. OPERATION. Dollies are generally used with a particular weapon or weapon component. Some dollies can be adapted for use with two or more weapons or loads. In such cases several factors should be considered. The dolly's safe working load (SWL) - the weight of the load that the dolly can safely support - is of prime importance. In addition, the arrangement for supporting the load, whether it is a cradle, frame, or rack, governs the type and size of the load that can be carried. Weapon-handling dollies are used with various weapons such as mines, missiles, rockets, or torpedoes, and with some components of these weapons. Dollies are used to transport weapons for short distances; they are also used as stands or stationary fixtures during assembly, test, inspection, repair, or replacement of parts. Some dollies that are handled by forklift or hoisting equipment are fitted with individually acting shock absorbers as protection against accidental dropping.

DOLLY LEVER

NSN Not Assigned

DESCRIPTION. Dolly Lever consists of a long wooden handle with two small wheels on one end. A steel plate is attached to the wooden handle at the wheel end. This steel plate is bent upward at an angle of approximately 45 degrees; it is designed to fit under the edge of the object to be lifted, with the small wheels acting as a fulcrum.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts None
 Op. Proc. None
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

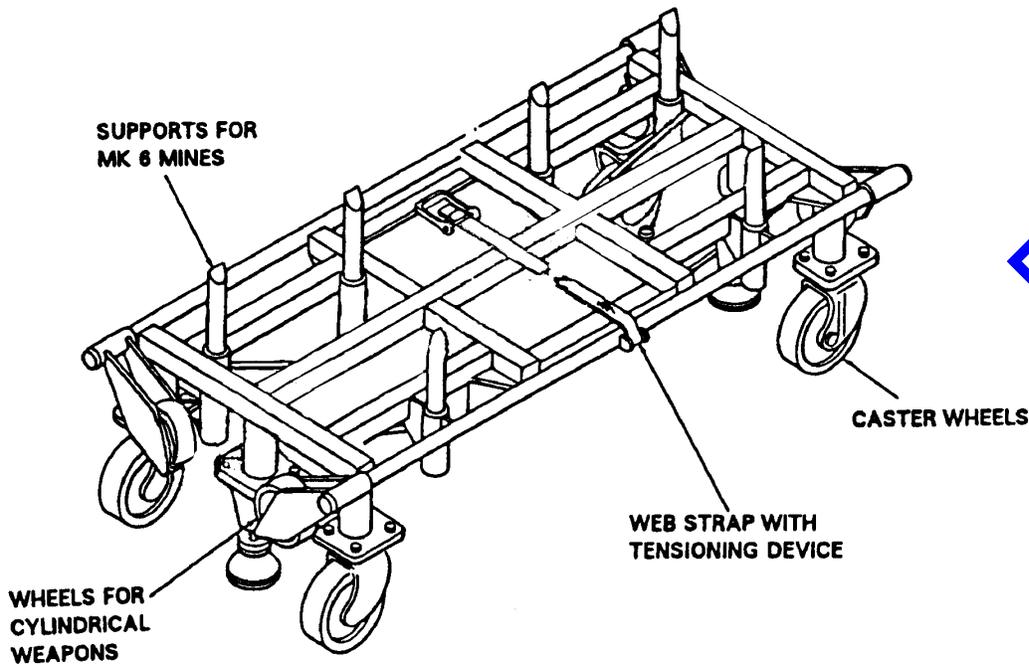
Length 84.00 inches
 Width 12.00 inches
 Height 12.00 inches
 Weight 45 pounds
 SWL (to a height of 8 inches) 5000 pounds

APPLICATION. Dolly Lever is used in handling boxed or containerized ammunition material and in other applications where the nose plate does not come in direct contact with the weapon. It cannot be used in an explosive atmosphere because wheels and nose plate are not spark proof.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Dolly Lever.

**DOLLY, WEAPONS
MK 11 MOD 0
DL 2066621
NSN 7H 4923-00-745-7861**

DESCRIPTION. Weapons Dolly Mk 11 Mod 0 is a welded tubular steel structure suitable for handling mines and other weapons. The dolly is equipped with four casters for mobility, and with a position lock at each end to convert the vehicle into a stationary work platform. The dolly is also equipped with saddles and support wheels to hold the weapons in place. A holddown strap is provided to secure cylindrical weapons.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/85D4000
Op. Proc.	None
EIC/WUC	85D4
SM&R Code	None

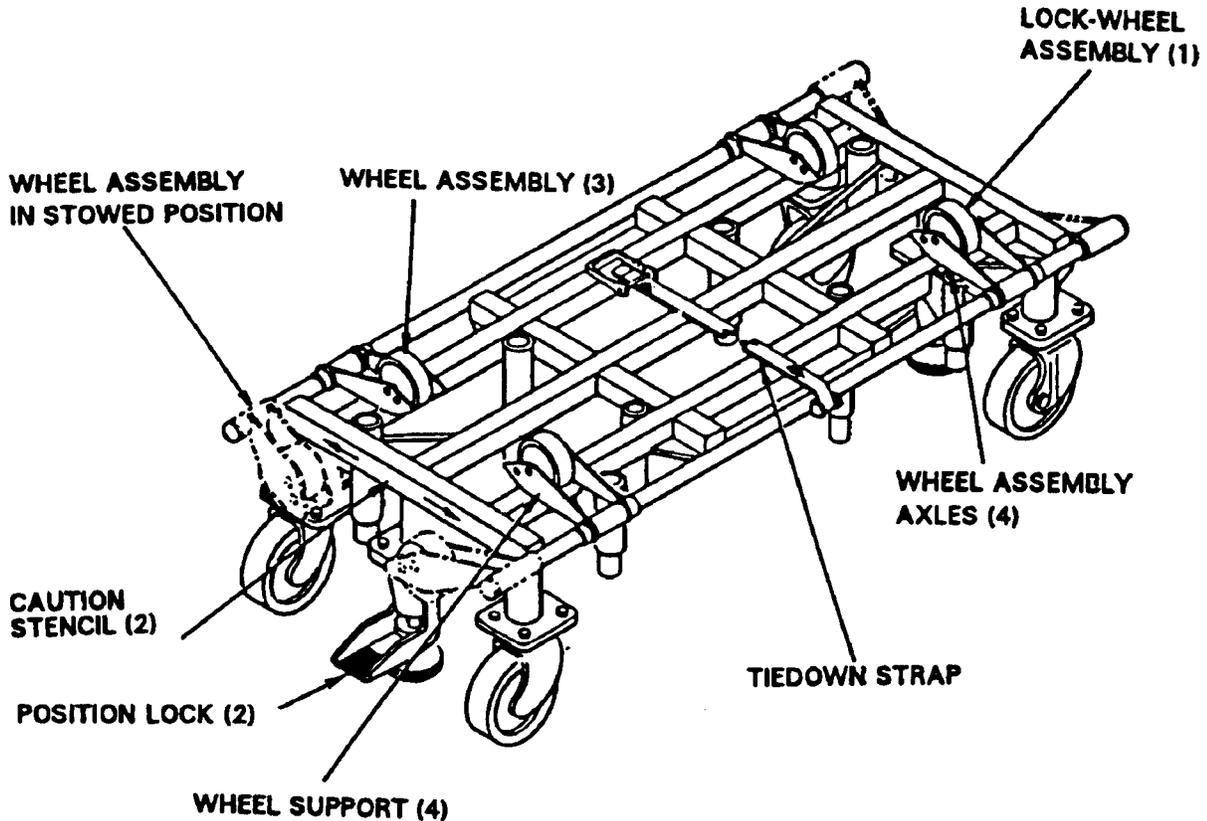
PHYSICAL DATA:	
Length	72.75 inches
Width	32.38 inches
Height	18.75 inches
Weight	365 pounds
SWL	3000 pounds

APPLICATION. Weapons Dolly Mk 11 Mod 0 is used to handle all spherical and cylindrical mines during assembly, testing and repair. The dolly can accommodate cylindrical weapons from 9 inches to 22-1/2 inches in diameter by the use of adjustable wheel supports that allow rotation of the weapon to convenient positions. Weapons Dolly Mk 11 Mod 0 is obsolescent and is replaced by Weapons Dolly Mk 11 Mod 1.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Weapons Dolly Mk 11 Mod 0.

**DOLLY, WEAPONS
MK 11 MOD 1
DL 2644505
NSN 7H 4923-00-116-7497**

DESCRIPTION. Weapons Dolly Mk 11 Mod 1 is a welded tubular steel structure suitable for handling mines and other weapons. The dolly is equipped with four casters for mobility, and with a position lock at each end to convert the vehicle into a stationary work platform. The dolly is also equipped with saddles and support wheels to hold the weapons in place. A holddown strap is provided to secure cylindrical weapons.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/85D4000
Op. Proc.	NAVSEA SW023-AB-WHS-010
EIC/WUC	85D6
SM&R Code	PAHDD

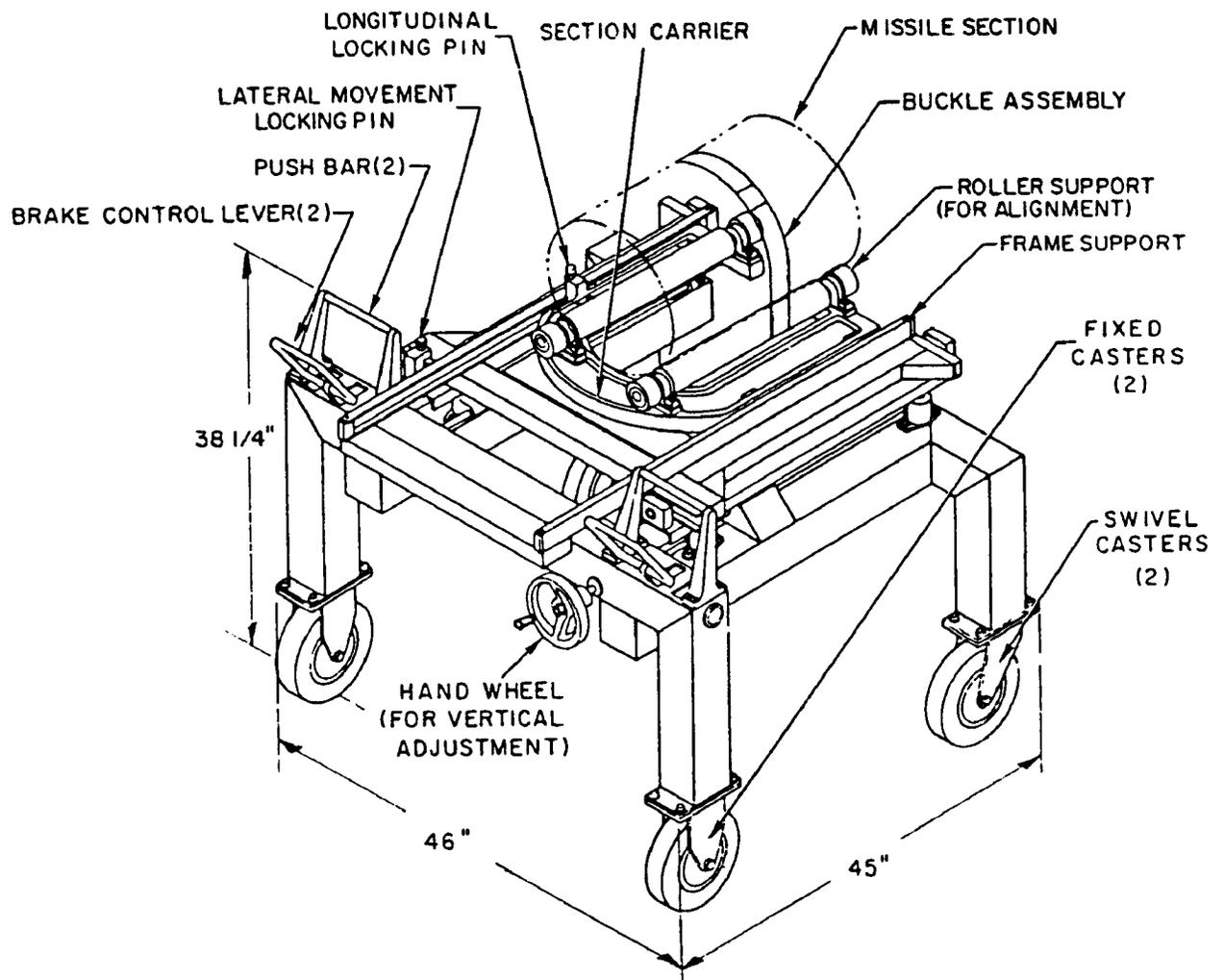
PHYSICAL DATA:	
Length	72.75 inches
Width	32.38 inches
Height	18.78 inches
Weight	375 pounds
SWL	3400 pounds

APPLICATION. Weapons Dolly Mk 11 Mod 1 is used to handle all cylindrical mines during assembly, testing and repair. The dolly can accommodate cylindrical weapons or crated items from 6 inches to 22.5 inches in diameter by the use of adjustable wheel supports that allow rotation of the weapon to convenient positions.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Weapons Dolly Mk 11 Mod 1.

**DOLLY, MISSILE SECTION
MK 19 MOD 0
DL 2239476
NSN 8T 1450-00-106-6142**

DESCRIPTION. Missile Section Dolly Mk 19 Mod 0 is an aluminum and steel structure that is equipped with two fixed and two swivel casters. It incorporates adjustment features that permit the accurate positioning of missile components for assembly and brakes that lock it in the desired position. To mate the missile sections, the superstructure on the dolly is moved vertically, laterally, or longitudinally, as required, and locked in the adjusted position. The support rollers on which the missile section rests permit rotation for final positioning. The carriage travel ranges of the dolly are as follows: longitudinal, 27.5 inches; lateral, 2.5 inches; and vertical, 3.5 inches.



**DOLLY, MISSILE SECTION
MK 19 MOD 0
DL 2239476
NSN 8T 1450-00-106-6142**

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/86X1000/86XY000
Op. Proc.	OR-67/77
EIC/WUC	86X1
SM&R Code	None
NALC	SW67

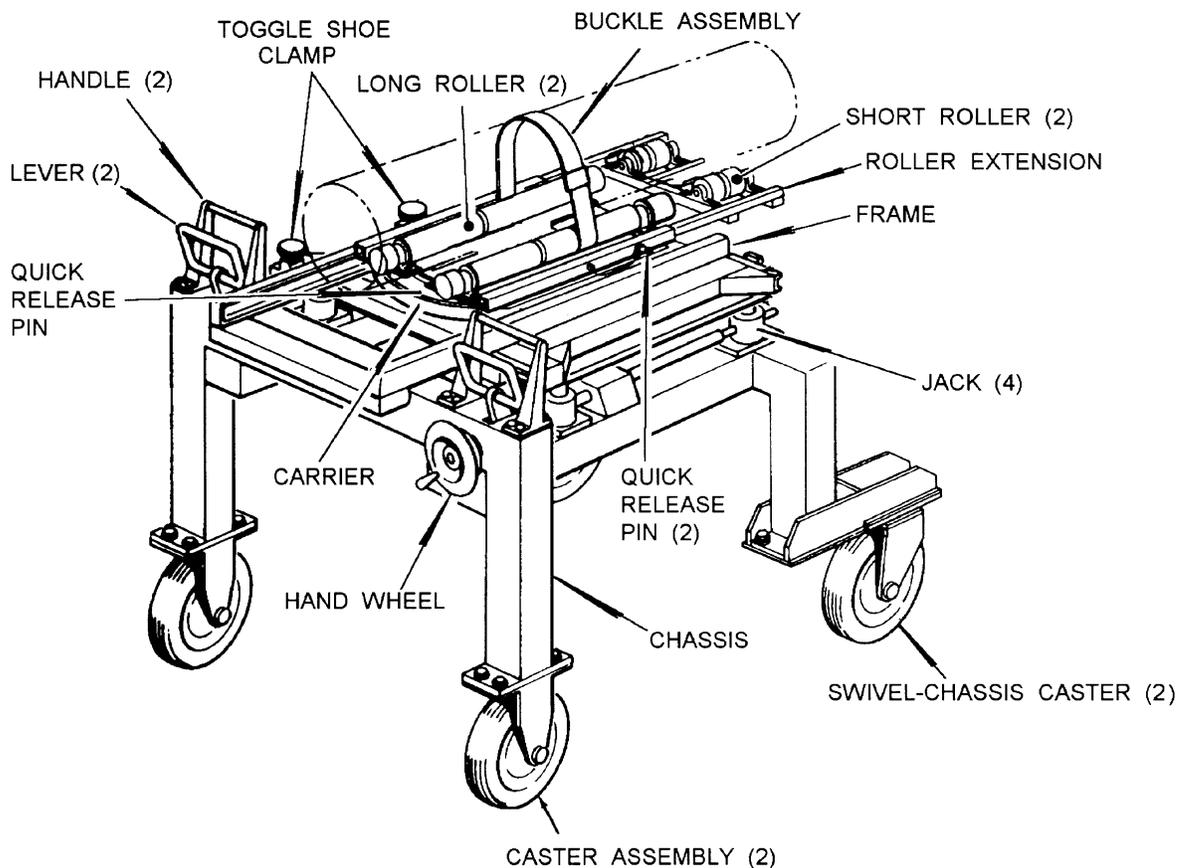
PHYSICAL DATA:	
Length	45.00 inches*
Width	46.00 inches
Height	38.25 inches
Weight	265 pounds
SWL	300 pounds
*53.00 inches with section carrier extended	

APPLICATION. Missile Section Dolly Mk 19 Mod 0 is used in missile assembly and test operations in conjunction with Assembly Test Stand Mk 14 Mod 1 or Mk 64 Mod 0. The dolly is used for handling Standard Medium Range Missile (SM-1 MR and SM-2 MR) sections: auto-pilot battery unit, guidance, target detecting device (TDD), exercise head, steering control, and warhead. It is also used for handling SM-3 Missile sections: guidance, nosecone and steering control, and SM-6 Block (Blk) I Missile sections: steering control, guidance, TDD, and power control telemetry (PCT). This dolly is designed for single section handling only.

ASSOCIATED EQUIPMENT. Assembly Test Stand Mk 14 Mod 1 or Mk 64 Mod 0, Slide Assembly Kit (6214195).

**DOLLY, MISSILE SECTION
MK 19 MOD 1
DL 2644913
NSN 8T 1450-01-044-0923**

DESCRIPTION. Missile Section Dolly Mk 19 Mod 1 is an aluminum and steel structure comprised of a chassis, frame and carrier. The chassis, frame and carrier are supported by two fixed and two swivel-type casters. Four jacks, one under each corner of the frame, provide vertical adjustment of frame and carrier when actuated by a hand wheel. Lateral movement of carrier is accomplished by channels which ride on cam followers at each corner of the frame. A toggle shoe clamp locks the frame in the desired lateral position. Longitudinal movement is provided by channels and cam followers in the frame and carrier situated along the length of the dolly. A toggle shoe clamp locks the carrier in desired longitudinal position. Rollers permit rotational adjustment. The carrier is extendable, providing a variable distance between the rollers. The extended carrier allows the dolly to accommodate several missile sections at a single unit. Extension is effected by removing two (one on either side) quick-release pins, moving the carrier to desired position, then reinserting quick-release pins. Dead-man brakes are controlled by levers mounted on the aft end of the chassis adjacent to handles for maneuvering the dolly. The carrier travel ranges of the dolly are as follows: longitudinal, 27.5 inches; lateral, 2.5 inches; and vertical, 3.5 inches.



**DOLLY, MISSILE SECTION
MK 19 MOD 1
DL 2644913
NSN 8T 1450-01-044-0923**

REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test Not Required
PMS/Maint. InstsOR-99/86X1000/86XY000
Op. Proc.OR-67/52
EIC/WUC 86XY
SM&R Code PAGDD
NALCSW71

PHYSICAL DATA:

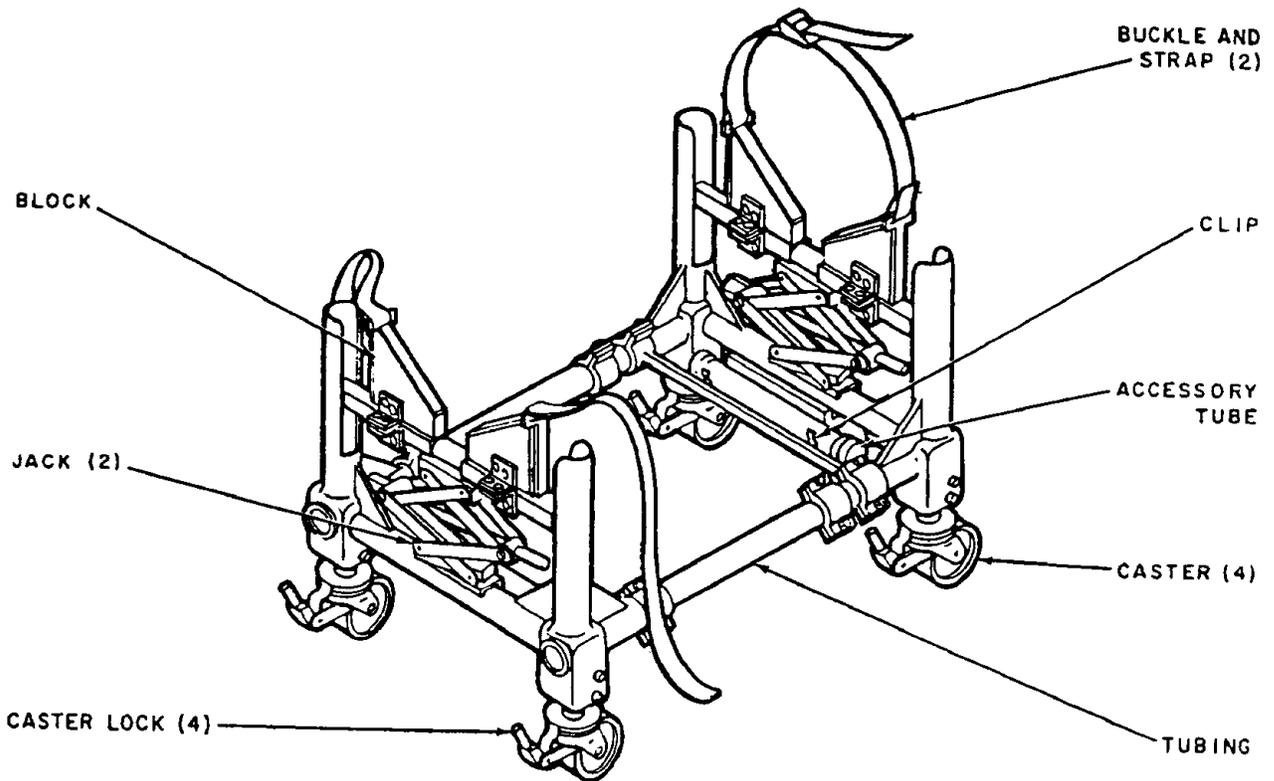
Length 53.00 inches*
Width 47.00 inches
Height 38.25 inches
Weight 297 pounds
SWL 360 pounds
*63.00 inches with carrier fully extended

APPLICATION. Missile Section Dolly Mk 19 Mod 1 is used for handling Standard Medium Range Missile (SM-1 MR and SM-2 MR) single or double sections: auto-pilot battery unit, guidance, target detecting device (TDD), exercise head, steering control, and Ordnance Section. It is also used for handling SM-3 Missile single sections: guidance, nosecone and steering control, and SM-6 Missile single sections: steering control, guidance, TDD, and power control telemetry (PCT).

ASSOCIATED EQUIPMENT. Assembly Test Stand Mk 14 Mod 1 or Mk 64 Mod 0, Slide Assembly Kit (6214195).

**DOLLY
MK 21 MOD 0
LD 294524
DWG 1473441
NSN 3C 4921-00-628-4013**

DESCRIPTION. Dolly Mk 21 Mod 0 (formerly known as Universal Dolly) is constructed primarily of tubular aluminum and is easily disassembled into two major sections for ease in shipping or storage. It is equipped with four lockable casters. Four clips to hold the accessory extension tubes when not in use. The accessory extension tubes make the dolly adaptable to support the various lengths, diameters, and contours of torpedoes, torpedo sections, mines, and mine sections.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts . . .	MIP 7521/R15, OR-99/85D1000
Op. Proc.	OR-67/56
EIC/WUC . . . . .	.85D1
SM&R Code	PAGGG

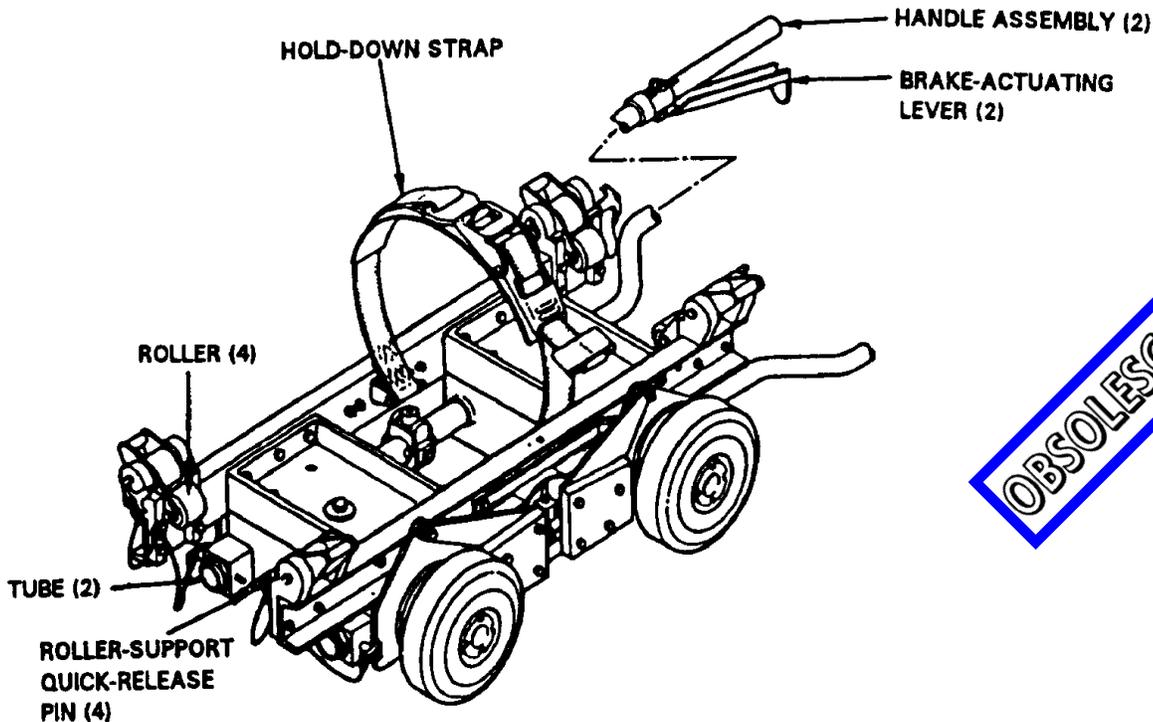
PHYSICAL DATA:	
Length (adjustable)	10.50 - 46.50 inches
Width	24.00 inches
Height (adjustable)	18.50 - 28.00 inches
Weight	200 pounds
SWL	1600 pounds

APPLICATION. Dolly Mk 21 Mod 0 supports sections of torpedoes and mines during assembly, testing, and repair, as well as the completed weapon. The dolly and its adapters eliminate the need for special dollies for individual weapons.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Dolly Mk 21 Mod 0.

**DOLLY, HANDLING
MK 24 MOD 0
DL 2645218
NSN 7H 1398-00-832-6659**

DESCRIPTION. Handling Dolly Mk 24 Mod 0 consists of a body and a chassis. The chassis has two axles and four small wheels equipped with solid rubber tires. The frame type body is equipped with four roller assemblies for supporting the cylindrical load. The rollers are adjustable vertically to raise or lower 12.75 inch diameter payload. The dolly is equipped with two tubular handles which can be installed at either end. The dolly has four-wheel automatic brakes operated by two hand grips which are mounted on the handles.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7521/R05
Op. Proc.	OR-67/71
EIC/WUC	None
SM&R Code	None

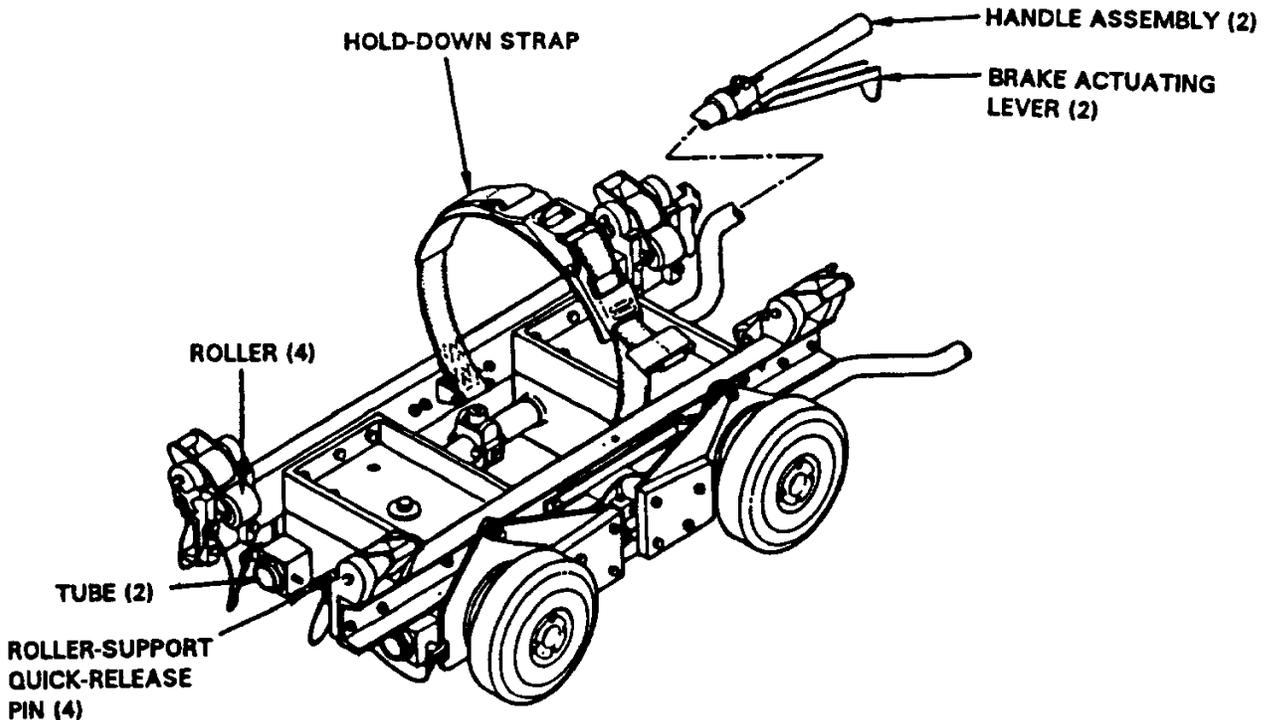
PHYSICAL DATA:	
Length	93.63 inches
Length (w/o handles)	34.88 inches
Width	22.00 inches
Height	34.25 inches
Height (w/o handles)	12.50 inches
Weight	167 pounds
SWL	1000 pounds

APPLICATION. Handling Dolly Mk 24 Mod 0 is used primarily to handle Torpedoes Mk 46 and 50. Handling Dolly Mk 24 Mod 0 is obsolescent and is replaced by Handling Dolly Mk 24 Mod 1.

ASSOCIATED EQUIPMENT. LAMPS Dolly Adapter Mk 137 Mods 0 and 1.

**DOLLY, HANDLING
MK 24 MOD 1
DL 5166020
NSN 7H 1398-01-054-8147**

DESCRIPTION. Handling Dolly Mk 24 Mod 1 consists of two cast aluminum channels as weapon-support rails mounted on a cast aluminum chassis. The chassis has two axles and four fixed wheels with solid rubber tires. Two tubular handles, which may be installed at either end of the dolly to facilitate maneuvering, have brake actuating levers at the handle grips. Quick-release pins secure the handle assemblies to the chassis. The brakes, being the “dead-man” type, lock all four wheels when the actuating levers are released. Four adjustable rubber rollers mounted on the support serve as load-bearing surfaces. Quick-release pins lock the roller supports at the desired loading position. The load is secured on the dolly with an adjustable holddown strap.



REFERENCE DATA:

ISEA PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MIP 7521/R05
 Op. Proc. NAVSEA SG420-DE-MAB-010, OR-67/71
 EIC/WUC 85D8
 SM&R Code PAODD

PHYSICAL DATA:

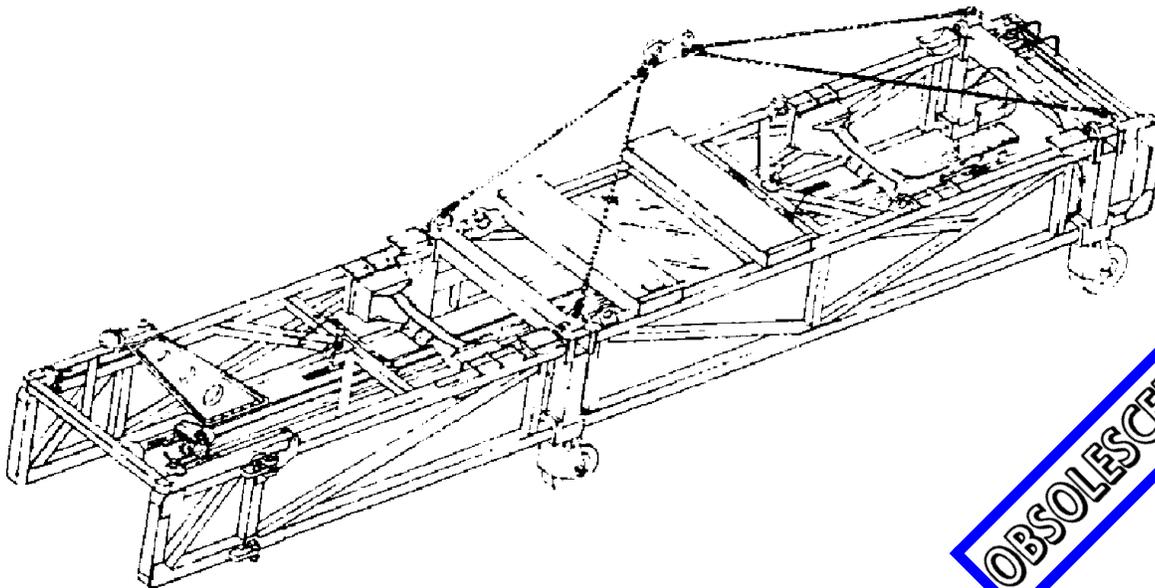
Length (including handles) 93.63 inches
 Length (excluding handles) 34.88 inches
 Width 22.00 inches
 Height (at handle grips) 34.25 inches
 Weight 167 pounds
 SWL 1000 pounds

APPLICATION. Handling Dolly Mk 24 Mod 1 is used for transporting lightweight torpedoes 12.75 inches in diameter or for transporting Countermeasures Anti-Torpedoes (CAT)/All-Up Round Equipment (AURE) aboard combatant ships.

ASSOCIATED EQUIPMENT. LAMPS Dolly Adapter Mk 137 Mod 1 is the only handling equipment associated with the Handling Dolly Mk 24 Mod 1.

**DOLLY, MISSILE TRANSFER
MK 30 MOD 0
DL 5167323
NSN 8T 1450-01-251-5991**

DESCRIPTION. Missile Transfer Dolly Mk 30 Mod 0 is a rectangular steel tube frame configured with an improved missile rail system suspended on shock isolators. The dolly has fork pockets, casters with deadman brakes and swivel locks at 90 degree intervals. Stacking pockets facilitate stacking the empty dollies. It is designed for connected replenishment (CONREP) using either an integral single point pick up sling or the STREAM adapter. The dolly is also suitable for use in Vertical Replenishment (VERTREP). The Mk 30 Mod 0 Dolly was designed as a cost effective replacement for Dolly Mk 6 Mods 2/4.



OBSOLESCE

REFERENCE DATA:	
ISEA	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7221/R64
Op. Proc.	NAVSEA SG578-AC-MMA-010/S9571-AA-MMA-010
EIC/WUC	86XH
SM&R Code	None
NALC	PR50

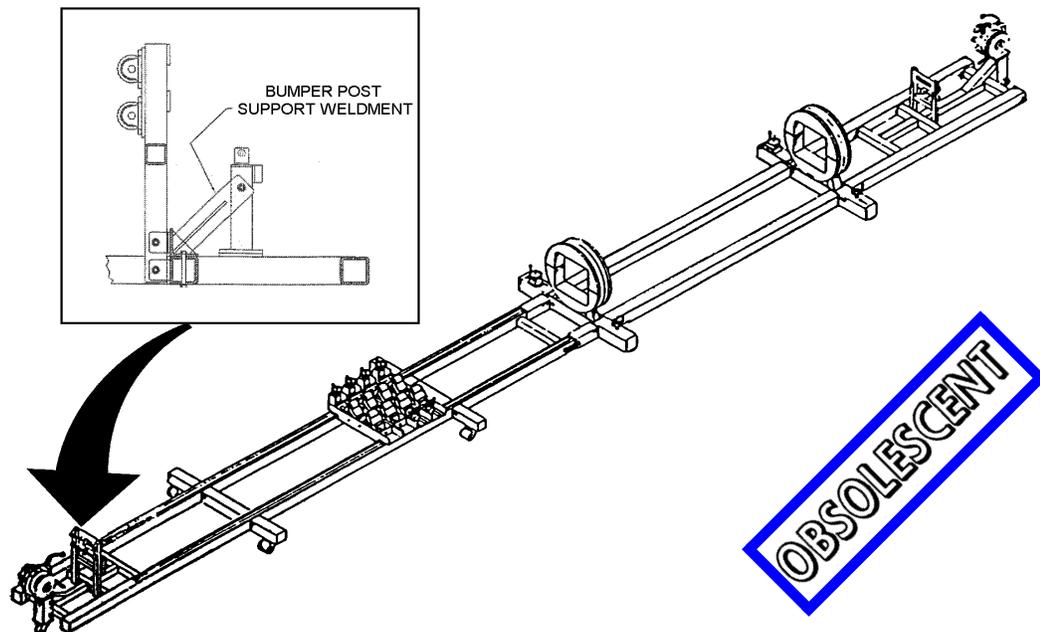
PHYSICAL DATA:	
Length (folding frame extended)	229.75 inches
Length (folding frame folded)	216.00 inches
Width	42.50 inches
Height	56.00 inches
Weight	2062 pounds
SWL	3760 pounds

APPLICATION. Missile Transfer Dolly Mk 30 Mod 0 is used by FMS countries with the following All-Up-Rounds (AUR's): RIM-24, STANDARD Missile SM-1 (MR) through Block VI, STANDARD Missile SM-2 (MR) through Block II to Block IIIB and HARPOON Missile RGM-84A-2 and RGM-84C-2. Missile Transfer Dolly Mk 30 Mod 0 is obsolescent with no replacement and is used only by FMS countries.

ASSOCIATED EQUIPMENT. Dolly Load Stand Mk 8 Mod 1, Rammer Head Gage and Alignment Bars.

**DOLLY, VLS CANISTER LOADER
MK 33 MOD 0
DL 5167196
NSN 8T 1450-01-264-1893**

DESCRIPTION. Vertical Launching System (VLS) Canister Loader Dolly Mk 33 Mod 0 consists of two halves made from welded steel tubing connected together by a latch assembly. One half of the assembly is designed to support VLS Canister Roll Rings and the other half is designed to support All-Up-Round (AUR) Missile. Each half is equipped with an air powered winch. The combination provides means for loading the missile into the VLS Canister or extracting the missile from the VLS Canister. The Mk 33 Mod 0 VLS Canister Loader Dolly is used to encan/decan the following AUR Missiles; SM (Standard Missile) 2 Block II/III, Tomahawk, Vertical Launch Asroc (VLA) and Evolved Seasparrow Missile (ESSM). ORDALT 84005 converts the Mk 33 Mod 0 VLS Canister Loader Dolly to the Mod 2 configuration.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/86BK000
Op. Proc.	OR-67/106
EIC/WUC . . . . .	.86BK
SM&R Code	PFOHH

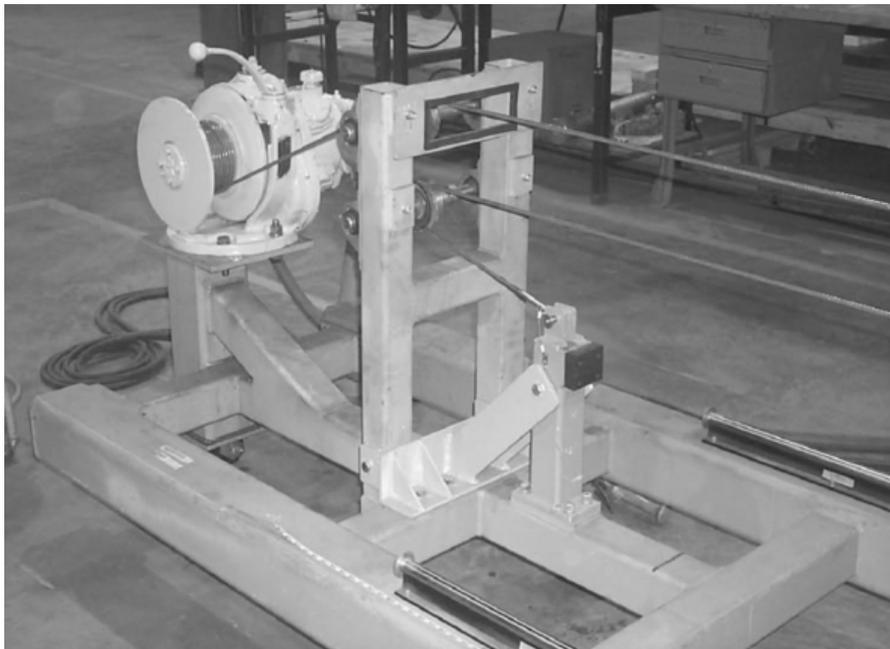
PHYSICAL DATA:	
Length	653.95 inches
Width	73.00 inches
Height	51.00 inches
Weight	9000 pounds
SWL (missile half)	4000 pounds
SWL (canister half)	7000 pounds

APPLICATION. VLS Canister Loader Dolly Mk 33 Mod 0 accommodates TOMAHAWK and STANDARD Missile SM-2 Block II/III, and IIIB, NATO SEASPARROW, Evolved SEASPAPPROW, and VL/ASROC Missiles. The dolly is used at Naval Weapons Stations and other sites where this function is required. This dolly can be used for all canisters except the Mk 21 and Mk 29 Canisters, which use VLS Canister Loader Dolly Mk 33 Mod 1. Mk 33 Mod 0 VLS Canister Loader Dolly is obsolescent and replaced by the Mk 33 Mod 2 VLS Canister Loader Dolly.

ASSOCIATED EQUIPMENT. Loader Adapter Kits for the various weapons.

**DOLLY, VLS CANISTER LOADER
MK 33 MOD 1
DL 6214413
NSN 8T 1450-01-506-3552**

DESCRIPTION. VLS Canister Loader Dolly Mk 33 Mod 1 consists of two halves made from welded steel tubing which are connected by a latch assembly. One half of the Dolly is equipped with VLS Canister roll rings, which support the VLS Canister and the other half is equipped with support assemblies, which support the missile. Each half is equipped with an air-powered winch that provides the means for loading or extracting (ENCAN/DECAN) a missile into or out of a VLS Canister. The addition of the bumper post support weldment (6214414), and the loader assist fixture assembly (6912292), converts the Mod 0 dolly to a Mod 1. The weldment and assemblies are needed for ENCAN/DECAN of the Mk 21 VLS Canister. ORDALT 84005 converts the Mk 33 Mod 1 VLS Canister Loader Dolly to the Mod 2 configuration.



OBSOLESCE

REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts OR-99/86BK000
 Op. Proc. SMPD's (2J05GZ, 2D05RZ, 4P05G2),
 SW394-BC-MMI-00, SW820-AP-MMI-020
 EIC/WUC 86JM
 SM&R Code PFOHH
 NALC CWNJ

PHYSICAL DATA:

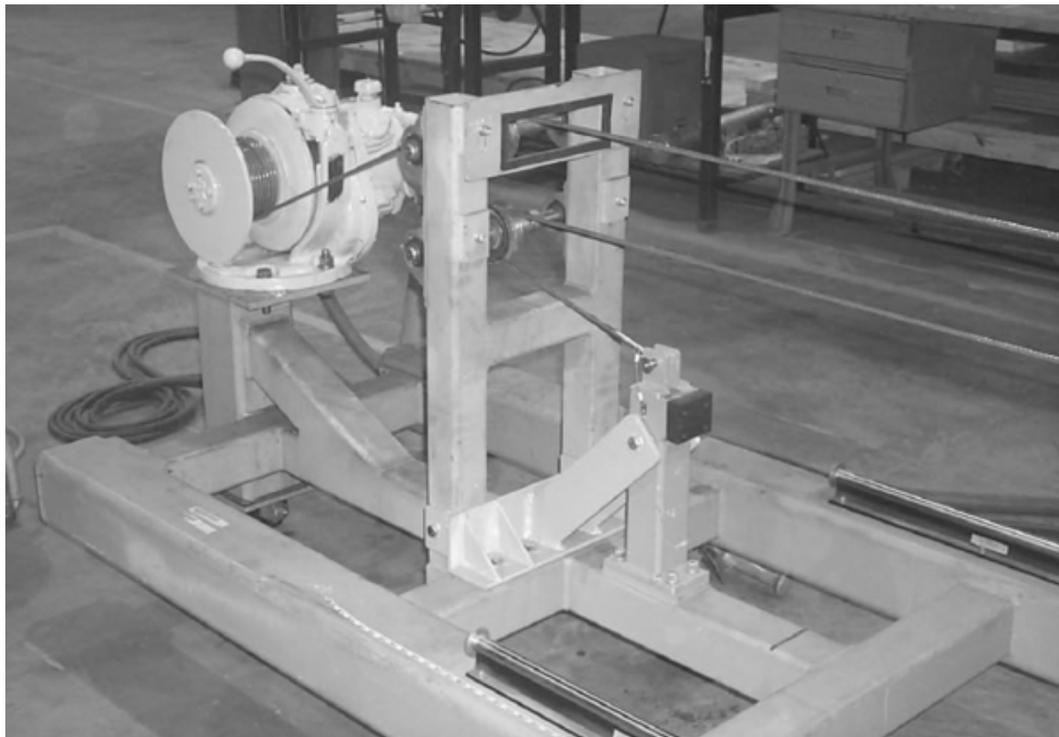
Length 653.95 inches
 Width 73.00 inches
 Height 51.00 inches
 Weight 9500 pounds
 SWL:
 Missile Dolly 4000 Pounds
 Canister Dolly 7000 Pounds

APPLICATION. VLS Canister Loader Dolly Mk 33 Mod 1 accommodates TOMAHAWK and STANDARD Missile SM-2 Block II/III/IIIA/IIIB/IV, SM-3, and SM-6, NATO SEASPARROW, Evolved SEASPAPPROW, and VL/ASROC Missiles. The dolly is used at Naval Weapons Stations and other sites where this function is required. Mk 33 Mod 1 VLS Canister Loader Dolly is obsolescent and replaced by the Mk 33 Mod 2 VLS Canister Loader Dolly.

ASSOCIATED EQUIPMENT. Loader Adapter Kits for the various weapons.

**DOLLY, VLS CANISTER LOADER
MK 33 MOD 2
DL 8601637
NSN 8T 1450-01-642-0604**

DESCRIPTION. VLS Canister Loader Dolly Mk 33 Mod 2 consists of two halves made from welded steel tubing which are connected by a latch assembly. One half of the Dolly is equipped with VLS Canister roll rings, which support the VLS Canister and the other half is equipped with support assemblies, which support the missile. Each half is equipped with an air-powered winch that provides the means for loading or extracting (ENCAN/DECAN) a missile into or out of a VLS Canister. The addition of the bumper post support weldment (6214414), and the loader assist fixture assembly (6912292), converts the Mod 0 dolly to a Mod 1. The weldment and assemblies are needed for ENCAN/DECAN of the Mk 21 VLS Canister. The missile dolly end has a higher SWL of 5,000 pounds.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/86BK000
Op. Proc.	SMPD's (2J05GZ, 2D05RZ, 4P05G2), SW394-BC-MMI-00, SW820-AP-MMI-020
EIC/WUC . . . . .	.86JM
SM&R Code	PFOHH
NALC	CWST

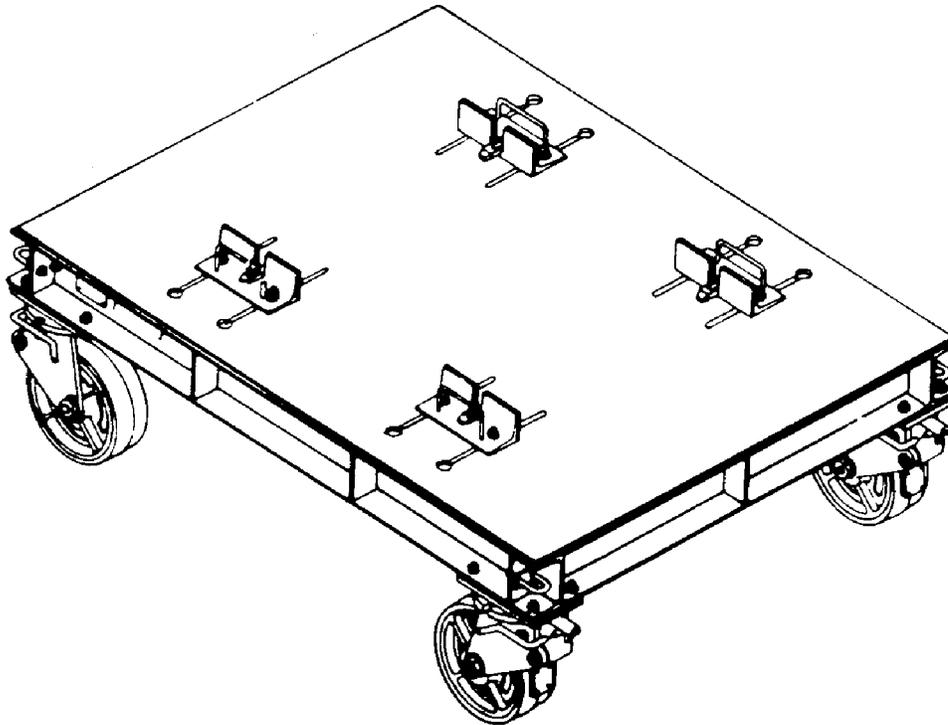
PHYSICAL DATA:	
Length	653.95 inches
Width	73.00 inches
Height	51.00 inches
Weight	9500 pounds
SWL:	
Missile Dolly	5000 Pounds
Canister Dolly	7000 Pounds

APPLICATION. VLS Canister Loader Dolly Mk 33 Mod 1 accommodates TOMAHAWK and STANDARD Missile SM-2 Block II/III/IIIA/IIIB/IV, SM-3, and SM-6, NATO SEASPARROW, Evolved SEASPAPPROW, and VL/ASROC Missiles. The dolly is used at Naval Weapons Stations and other sites where this function is required.

ASSOCIATED EQUIPMENT. Loader Adapter Kits for the various weapons.

**DOLLY, MISSILE HANDLING
MK 34 MOD 0
DL 5167224
9B 3920-01-340-0077**

DESCRIPTION. Missile Handling Dolly Mk 34 Mod 0 is a structural aluminum welded frame with an aluminum diamond plate decking supported by four swivel-locking casters. Four movable chocks on the decking are used to restrain the skid/container by the fork pocket openings and straps or chains are attached to the four tiedown points of the dolly to restrain it to the deck.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts . . . MIP 7221/R57, OR-99/86QH000
 Op. Proc. OR-67/109
 EIC/WUC 86QH
 SM&R Code PEHHH

PHYSICAL DATA:

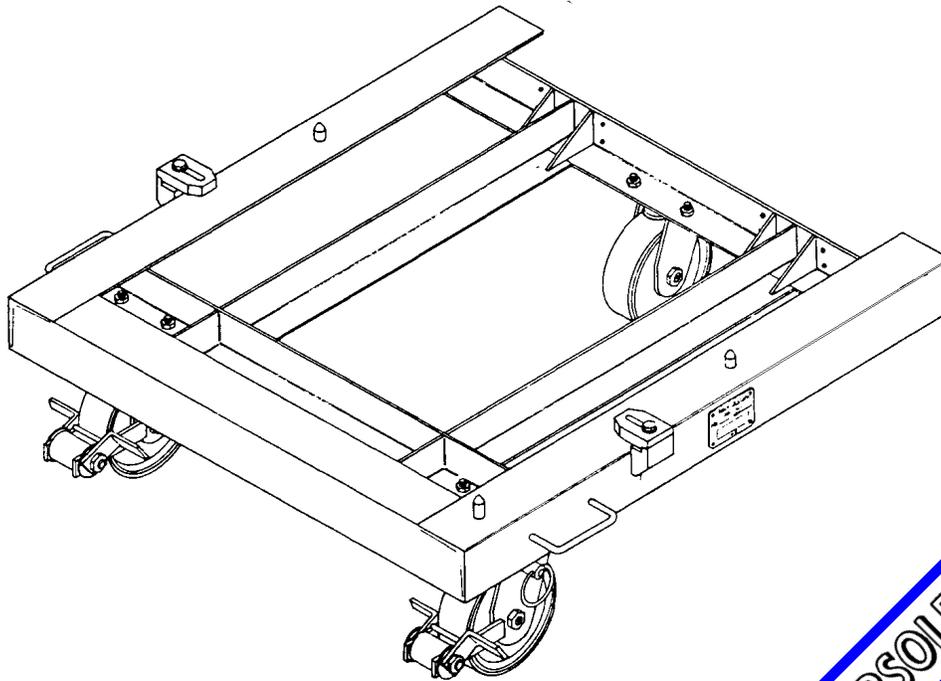
Length 72.00 inches
 Width 57.00 inches
 Height 22.75 inches
 Weight 500 pounds
 SWL 10,000 pounds

APPLICATION. Missile Handling Dolly accommodates containerized or cradle-mounted TOMAHAWK AUR, HARPOON and Mk 48 Torpedo. The dolly is used to support, restrain, and transport containerized or skid-mounted missiles in close quarters at Naval Weapons Stations.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Missile Handling Dolly Mk 34 Mod 0.

**DOLLY, VLS CANISTER
MK 35 MOD 0
DL 5167396
NSN 8T 1450-01-264-1894**

DESCRIPTION. VLS Canister Dolly Mk 35 Mod 0 is a structural steel welded frame supported by three casters in a tricycle configuration. Two casters can be pinned in any of four directions at 90-degree intervals and have a foot-operated brake acting on the solid urethane tire. The third caster is free swiveling and free wheeling. The dolly frame has provisions to interface and secure the forward and aft shock isolation skid assemblies of the VLS Canister.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/86BJ000
Op. Proc.	OR-67/104
EIC/WUC	86BJ
SM&R Code	None
NALC	None

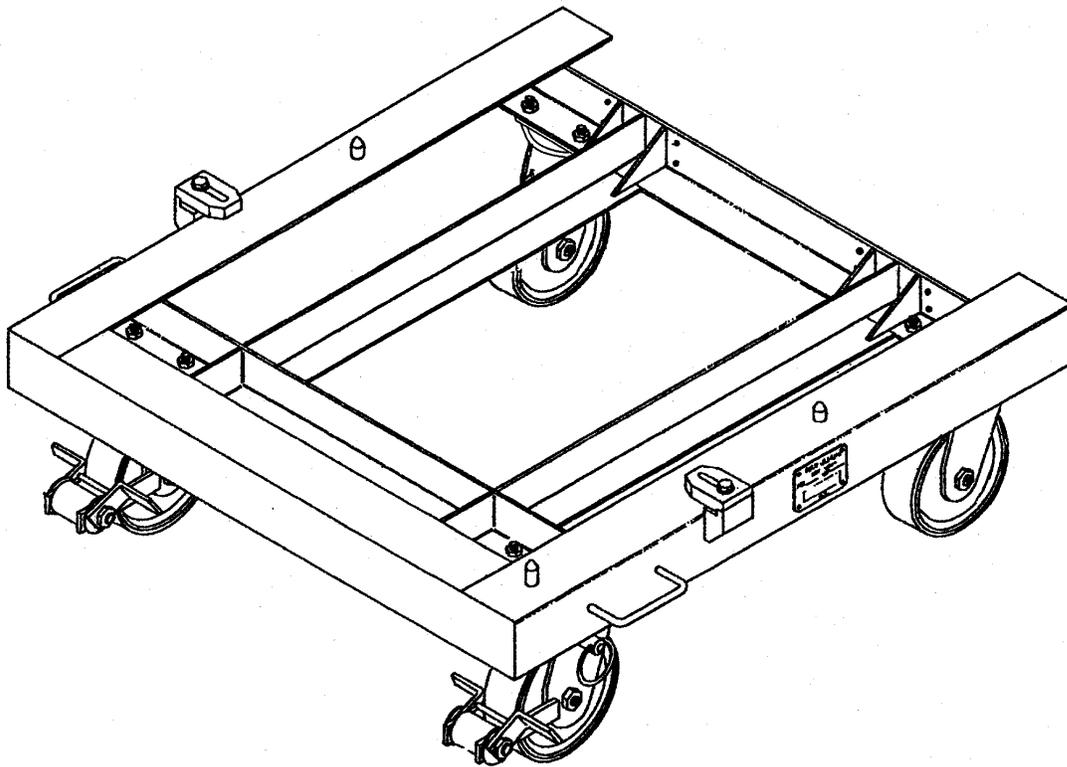
PHYSICAL DATA:	
Length	44.00 inches
Width	46.00 inches
Height	16.50 inches
Weight	331 pounds
SWL	3700 pounds

APPLICATION. VLS Canister Dolly Mk 35 Mod 0 is used in pairs to support, restrain and transport the VLS Canister at shore encanisterization/decanisterization shops and missile test areas. VLS Canister Dolly Mk 35 Mod 0 is obsolescent and is replaced by VLS Canister Dolly Mk 35 Mod 1.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with VLS Canister Dolly Mk 35 Mod 0.

**DOLLY, VLS CANISTER
MK 35 MOD 1
DL 6214168
NSN 8T 1450-01-480-2168**

DESCRIPTION. VLS Canister Dolly Mk 35 Mod 1 is a structural steel welded frame supported by four casters in a rectangular configuration. Two casters can be pinned in any of four directions at 90-degree intervals and have a foot-operated brake acting on the solid urethane tire. The two remaining casters are free swiveling and free wheeling. The dolly frame has provisions to interface and secure the forward and aft shock isolation skid assemblies of the VLS Canister.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts OR-99/8616000
 Op. Proc. None
 EIC/WUC8616
 SM&R Code PAHHH
 NALC CWLN

PHYSICAL DATA:

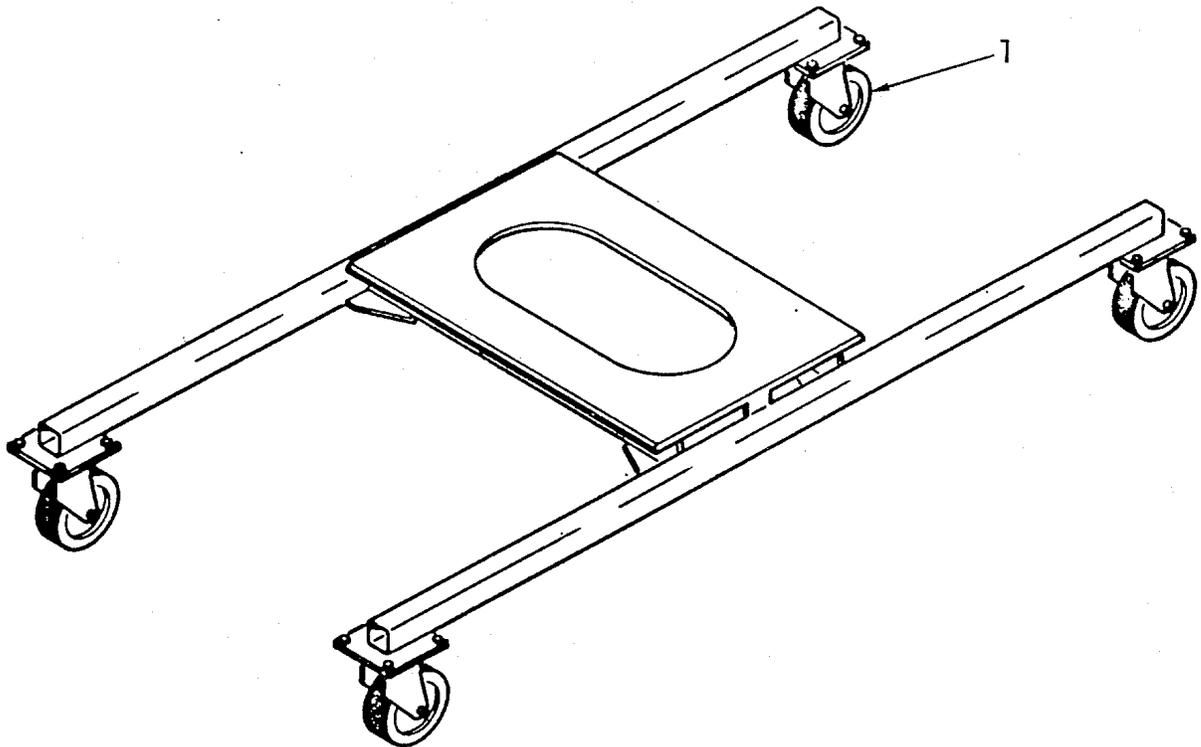
Length 44.00 inches
 Width 46.00 inches
 Height 16.75 inches
 Weight 359 pounds
 SWL 4500 pounds

APPLICATION. VLS Canister Dolly Mk 35 Mod 1 is used in pairs to support, restrain and transport the VLS Canister at shore encan/decan shops, storage magazines and missile test areas.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with VLS Canister Dolly Mk 35 Mod 1.

**DOLLY, POD HANGAR
GSU-259/E
P/N 665AS250
NSN 1R 1740-00-148-8972**

DESCRIPTION. POD Hangar Dolly GSU-259/E is made up of a welded frame assembly mounted on four 8-inch diameter caster wheels. The frame assembly consists of two parallel side rail tubes with the ends of each tube welded to caster mounting plates. The caster wheels, which feature both azimuth locking devices and brakes, are bolted to these plates.



REFERENCE DATA:	
ISEA	NAWC-WD Pt. Mugu
Periodic Test	NAVAIR 19-25E-62
PMS/Maint. Insts	NAVAIR 19-25E-62
Op. Proc.	NAVAIR 19-25E-62
EIC/WUC	None
SM&R Code	PEOZZ

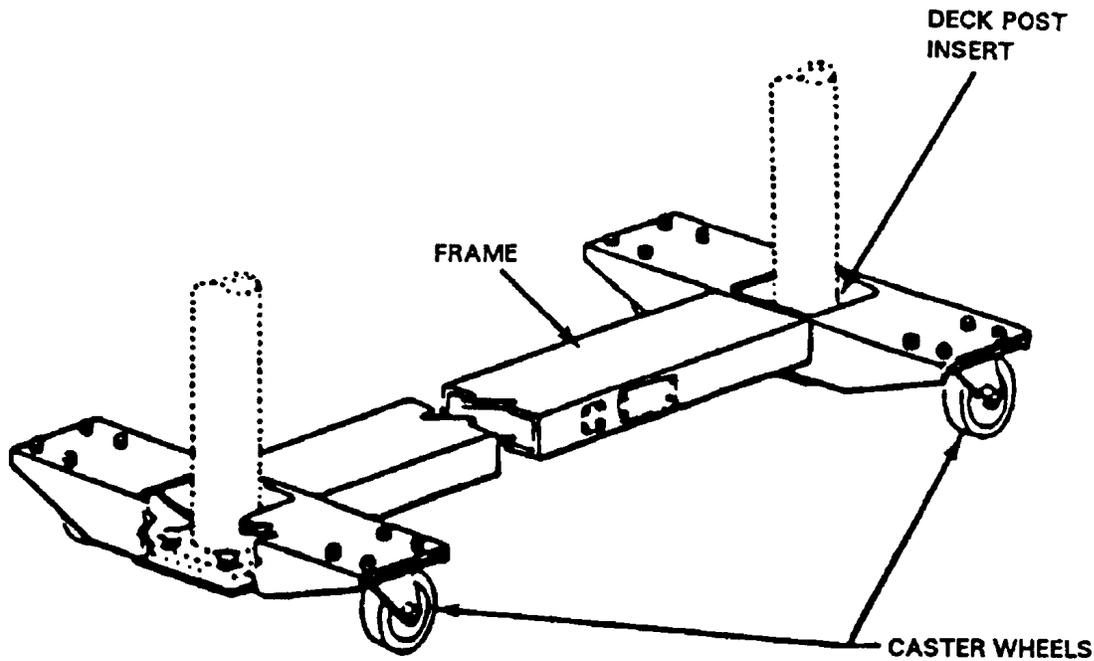
PHYSICAL DATA:	
Length (beam member)	93.50 inches
Width (stand)	85.00 inches
Height	65.00 inches
Weight	200 pounds
SWL	1500 pounds

APPLICATION. POD Hangar Dolly GSU-259/E is designed for mating with POD Handling Fixture HLU-246/E to provide easy hand-maneuvering of AN/ALQ-76 and AN/ALQ-99 ECM PODs supported by the fixture.

ASSOCIATED EQUIPMENT. POD Handling Fixture HLU-246/E.

**DOLLY, MAINTENANCE STAND
MHU-150/E
P/N 6SE00792-1
NSN 1R 1740-01-143-5536**

DESCRIPTION. Maintenance Stand Dolly MHU-150/E consists of an I-shaped steel frame riding on four caster wheels. Each end of the frame has inserts to accommodate the two posts of the A/E32M-4 Maintenance and Reconfiguration Stand.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR 17-15CAL-54
Op. Proc.	NAVAIR 17-15CAL-54
EIC/WUC	75GB300
SM&R Code	PEHHH

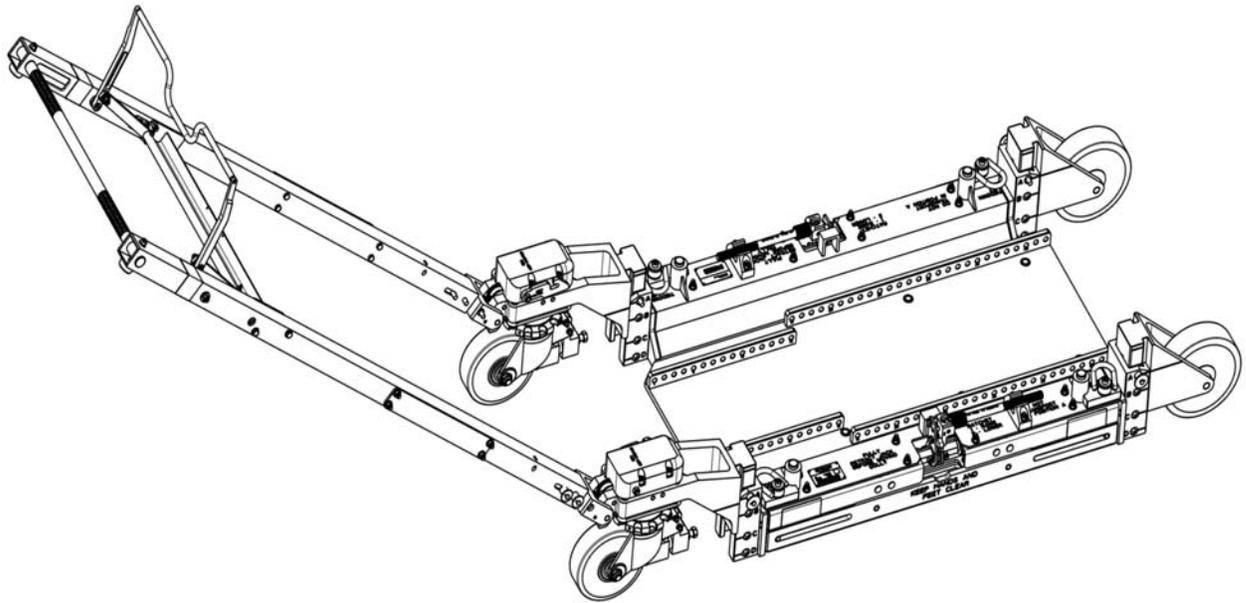
PHYSICAL DATA:	
Length	105.75 inches
Width	34.00 inches
Height	11.00 inches
Weight	175 pounds
SWL	400 pounds

APPLICATION. Maintenance Stand Dolly MHU-150/E allows the A/E32M-4 Maintenance and Reconfiguration Stand portability. Maintenance Stand Dolly MHU-150/E is used with F-14 Weapons and Rail Maintenance.

ASSOCIATED EQUIPMENT. Maintenance and Reconfiguration Stand A/E32M-4.

**DOLLY, GROUND HANDLING
MHU-235/E
P/N 4060AS100-1
NSN LLERG4159**

DESCRIPTION. Ground Handling Dolly MHU-235/E consists of a chassis, transport rails, two lifting jacks, adjustable running gear, and drawbar. The dolly employs a deadman brake principle to prevent the dolly from inadvertent movement in a shipboard environment. The running gear can be configured in multiple positions to accommodate shipboard mobility requirements and facilitate low profile pod loading. The transport rails use 10" and 15" universal rails.



REFERENCE DATA:

ISEANSWC Panama City
 Periodic Test19-235E-66
 PMS/Maint. Insts19-235E-66
 Op. Proc. 19-600-235E-6-1
 EIC/WUCNone
 SM&R Code PEOGD

PHYSICAL DATA:

Length 69.00 inches
 Width 30.00 inches
 Height 14.00 inches
 Weight 400 pounds
 SWL1,250 pounds

APPLICATION. The MHU-235/E Ground Handling Dolly is used in conjunction with the ADU-928/E Transport Adapter and various ancillary adapters. It is used to transport the AMNS LHS ASQ-235 pod aboard LCS class ships. The universal rail interface and adjustable chassis may accommodate various pods and weapons handling requirements aboard ship.

ASSOCIATED EQUIPMENT. ADU-928/E Transport Adapter, AERO-58A Front Skid Adapter, AERO-58A Rear Skid Adapter, and ADU-514A/E Small Missile Adapter.

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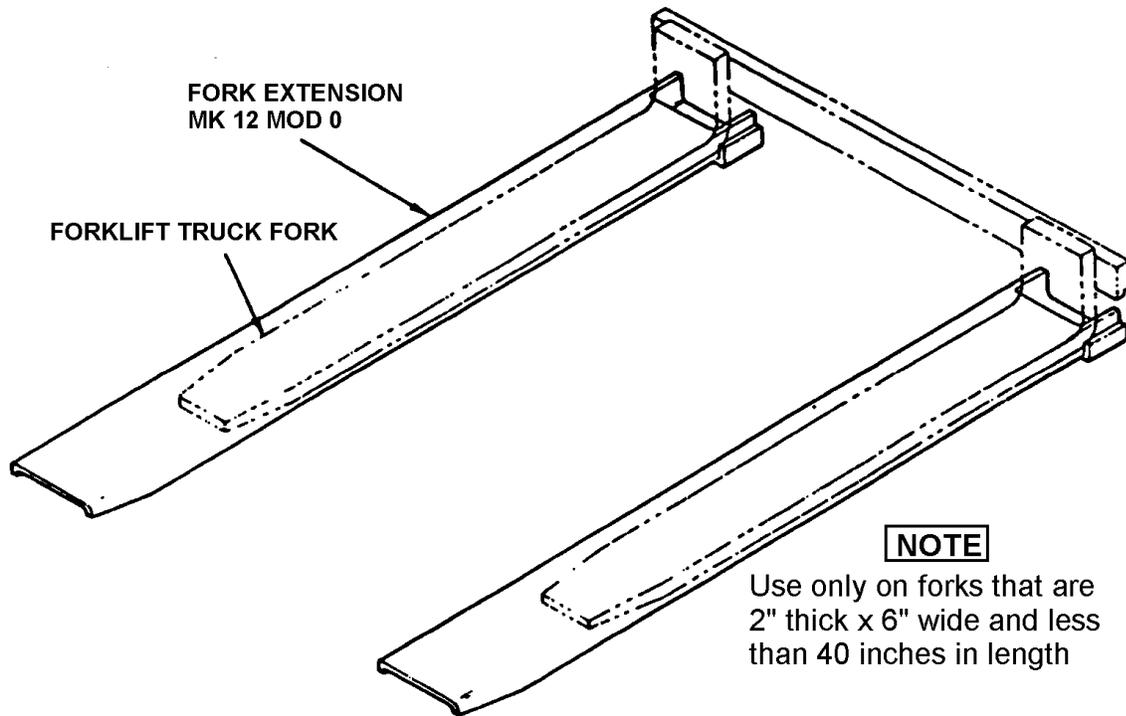
CHAPTER 22

EXTENSIONS

22-1. GENERAL. This chapter covers extensions used in handling weapons and explosives. Refer to the item sheet for all descriptive information.

**EXTENSION, FORK
MK 12 MOD 0
DL 5166412
NSN 9B 3930-01-123-1929**

DESCRIPTION. Fork Extension Mk 12 Mod 0 is a steel weldment consisting of a channel member welded to a plate. A safety bolt with self locking nut secures the extension to the forklift fork.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	7221/R67; OR-99/8967000
Op. Proc.	NAVSEA SW023-AH-WHM-010
EIC/WUC	None
SM&R Code	PAHZZ

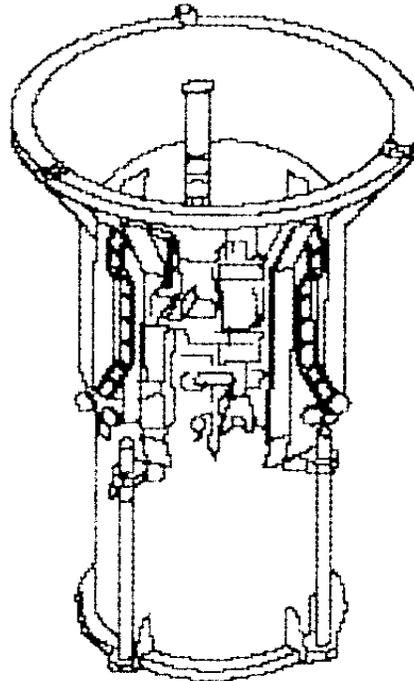
PHYSICAL DATA:	
Length	64.00 inches
Width	9.00 inches
Height	3.12 inches
Weight (each)	100 pounds
SWL	See Application

APPLICATION. Two Fork Extensions Mk 12 Mod 0 extend the length of the original forks of a forklift truck by approximately 20 inches, thus enabling the forklift truck to handle various loads stacked three deep on a flatbed conveyance. The fork extensions are used on forks that are 2 inches thick by 6 inches wide and are less than 40 inches long. Refer to NAVSEA SW023-AH-WHM-010 for specific examples of 36-, 42-, 48-inch non-standard load centers applicable to 6000 and 8000 pound-rated forklift trucks only.

ASSOCIATED EQUIPMENT. Two Fork Extensions Mk 12 Mod 0 are used with all 6000 and 8000 pound-rated electric and diesel forklift trucks.

**EXTENSION/LOADER, MISSILE TUBE
MK 23 MOD 1
DL 5918237
NSN NOT ASSIGNED**

DESCRIPTION. The Missile Tube Extension/Loader (MTEL) is a cylindrical extension of the submarine missile tube with a funnel-shaped opening at the top. The MTEL serves to guide an AUR or spent capsule in and out of a missile tube. The MTEL, along with the hydraulic power unit (HPU), applies needed force required to seat an AUR in the missile tube counterbore or to extract an AUR or spent capsule.



REFERENCE DATA:	
ISEA	NUWC Newport
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/CLS; MRC 73 DVUR N; MRC 32 DVUV
Op. Proc.	NAVSEA SW820-AF-OMP-020
EIC/WUC.....	Not required
SM&R Code	Not required

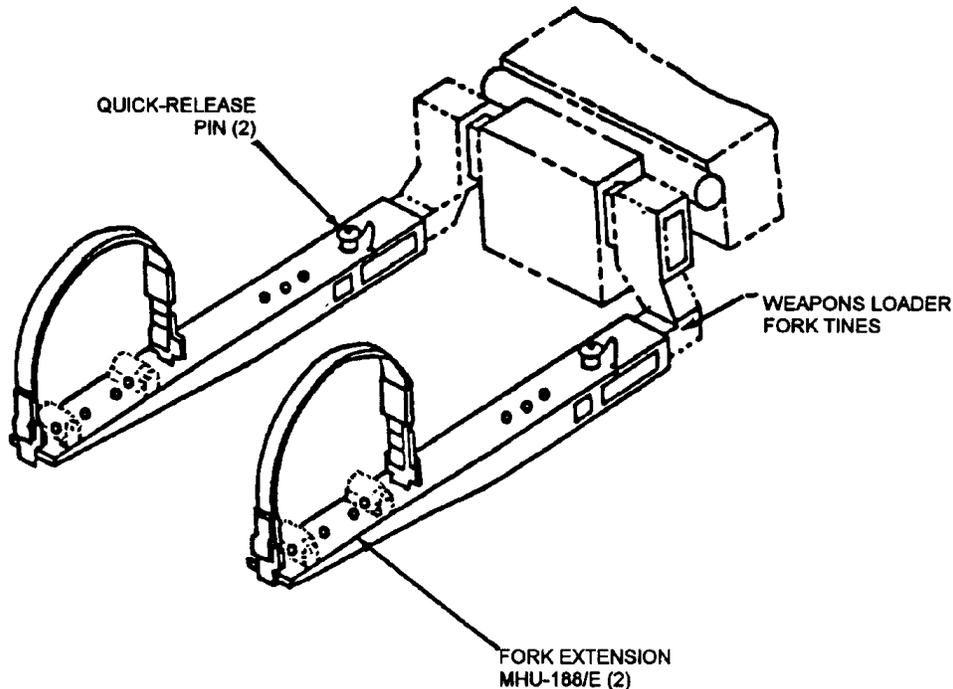
PHYSICAL DATA:	
Length	81.60 inches
Diameter.....	48.00 inches (top) 30.50 inches (bottom)
Weight (each)	2,000 pounds
SWL	None

APPLICATION. The MTEL Mk 23 Mod 1 is used to apply the needed force required to seat an AUR in the missile tube counterbore or to extract an AUR or spent capsule.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the MTEL Mk 23 Mod 1.

**EXTENSION ASSEMBLY, FORK
MHU-188/E
P/N 1470AS100-1
NSN 1R 4920-01-174-1879**

DESCRIPTION. Fork Extension Assembly MHU-188/E consists of two welded steel hollow fork sleeves with holes located along their length to accept adjustable SATS rollers and tie-down strap assemblies. They are mounted on the A/S32K-1 Series Weapons Loaders fork tines and secured with quick release pins.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-000AO-MEB-000
Op. Proc.	NAVAIR AG-000AO-MEB-000
EIC/WUC	.21GZO
SM&R Code	PEOGG

PHYSICAL DATA:	
Length	46.50 inches
Width	5.00 inches
Height	2.75 inches
Weight	.40 pounds
SWL (per pair)	2000 pounds

APPLICATION. Fork Extension Assembly MHU-188/E was designed to be used with Platform Skid MHU-125A/E or SATS Rollers (P/N 2559985) to load stores on the centerline pylon of the AV-8 aircraft. The fork extensions can load weapon configurations weighing up to 2,000 pounds installed on various cradle/adaptor combinations. They are also used with the HELLFIRE weapon to remove the weapon/adaptor combination from Rough Terrain Trailer A/M32K-4A and also approved for containerized MAVERICK loading.

ASSOCIATED EQUIPMENT. Weapons Loaders Series A/S32K-1 (series), Missile Cradle MHU-61 Series, Platform Skid MHU-125A/E, Upper Missile Adapter ADU-574/E, Lower Missile Adapter ADU-575/E, Loader Rollers (P/N 2559985 & 1378AS300), Rough Terrain Trailer A/M32K-4A.

CHAPTER 23

EYEBOLTS

23-1. GENERAL. This chapter covers the machine eyebolt used in handling weapons and explosives. Refer to the item sheet for all descriptive information.

**EYEBOLT, MACHINE
P/N 7516938
NSN NOT ASSIGNED**

DESCRIPTION. The Eyebolt is a commercial off the shelf item, constructed of 316 stainless steel with a 1-8 UNC thread.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

PHYSICAL DATA:

Width	3.50 inches
Height	5.16 inches
Weight	1.75 pounds
Inside Diameter	2.00 inches
SWL	1000 pounds

APPLICATION. The Eyebolt is used as an interface between the AN/ASQ-235 Airborne Mine Neutralization System (AMNS) Launch and Handling System (LHS) and the Mk 72 Mod 0 Lift Beam during lifting and handling operations.

ASSOCIATED EQUIPMENT. Lift Beam Mk 72 Mod 0.

CHAPTER 24

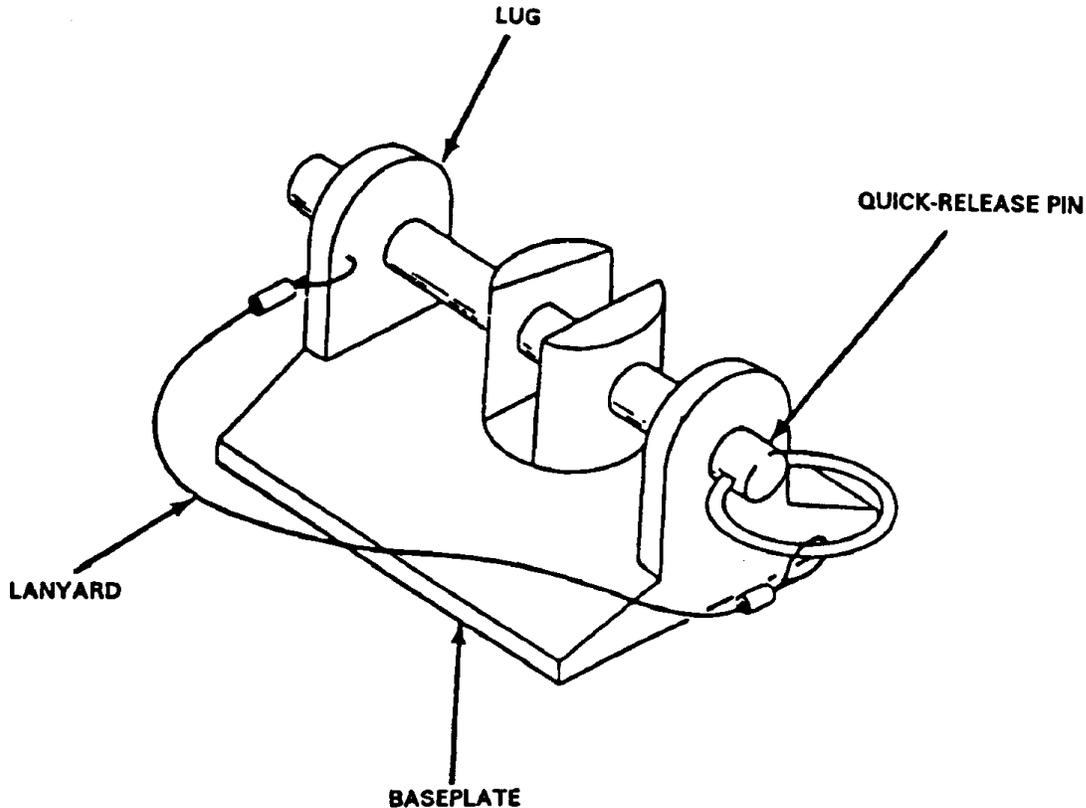
FITTING

24-1. GENERAL. This section covers only one fitting used in handling and hoisting weapons/stores. Refer to the item sheet for all descriptive information.

24-2. DESCRIPTION. Fittings are steel weldments consisting of a main plate supporting loading lugs, eyelets and safety pins. Used together with hoists and hoisting bands/fittings, provide a means of attaching hoisting cable eyes to a weapons/store for aircraft loading and down/loading.

**FITTING ASSEMBLY, ANCHOR
HLK-279
P/N 534AS100-1
NSN 1R 1730-01-141-2284**

DESCRIPTION. Anchor Fitting Assembly HLK-279 is a weldment consisting of a base plate, four lugs, and a detent pin retained with a lanyard.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZO
SM&R Code	PAOZZ

PHYSICAL DATA:	
Length	3.00 inches
Width	1.87 inches
Height	1.00 inch
Weight	0.2 pounds
SWL	N/A

APPLICATION. Anchor Fitting Assembly HLK-279 is used with different Hoisting Bands. It provides the means to attach the eye of a bomb hoist cable to a variety of Hoisting Latch configurations to load different diameter weapons and stores.

ASSOCIATED EQUIPMENT. Hoisting Band HLK-275A, Hoisting Bands HLK-276A, HLK-277 and Band Latch Assembly HLK-278.

CHAPTER 25

FIXTURES

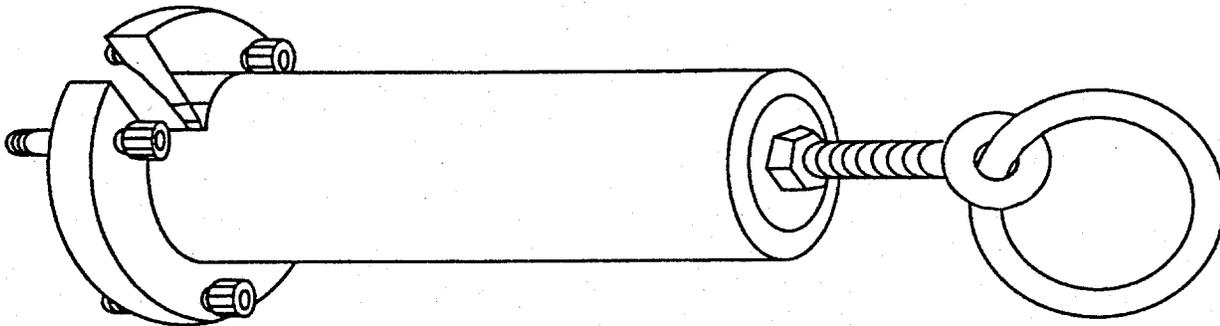
25-1. GENERAL. This chapter covers fixtures used to support and hold weapons and explosives. Reference should be made to the particular item sheet for detailed information.

25-2. DESCRIPTION. A fixture is a device to support or hold a missile, missile component, or other explosive device. Various types of fixtures are provided: holding, assembly, locating, decan, clamping, handling, and test. Generally, a fixture consists of a metal frame mounted on casters with a supporting cradle for the load.

25-3. OPERATION. Fixtures are used to support or hold a missile, missile component, or other explosive device during assembly, alignment, test, or decanning operations. Fixtures are generally designed for a particular item, and therefore their application is limited to that item.

FIXTURE, BOILER LIFTING
NAVSEA DWG 6276412
NSN NOT ASSIGNED

DESCRIPTION. Boiler Lifting Fixture consists of a steel cylinder capped on one end with a lifting ring attached, and a disc welded to the other. The fixture attaches to the boiler by three bolts that are threaded through the disc.



REFERENCE DATA:

ISEA NUWC Keyport
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts ST890-CU-MME-010
 Op. Proc. ST890-CU-MME-010
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

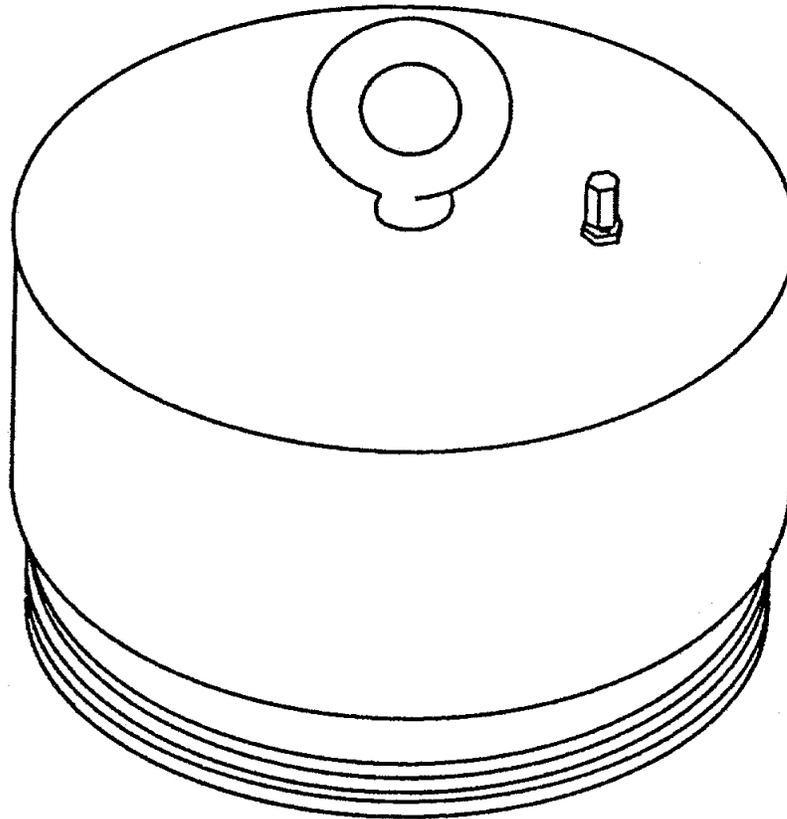
Length N/A
 Width N/A
 Height 10 inches
 Weight (less than)5 pounds
 SWL 150 pounds
 Diameter 3 inches

APPLICATION. Boiler Lifting Fixture is used during Mk 50 Torpedo assembly/disassembly.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Boiler Lifting Fixture.

**FIXTURE, BSS VACUUM/LIFTING
NAVSEA DWG 6277140
NSN NOT ASSIGNED**

DESCRIPTION. Buoyancy Subsystem (BSS) Vacuum/Lifting Fixture is a cylindrical cap made from aluminum and is designed to slide into and mate with the Hilmer joint on the Mk 50 Torpedo hull section. It is attached using a set of Hilmer bands. An eye bolt is threaded into the end so it can be attached to a lifting device.



REFERENCE DATA:	
ISEA	NUWC Keyport
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	ST890-CU-MME-010
Op. Proc.	ST890-CU-MME-010
EIC/WUC	None
SM&R Code	None

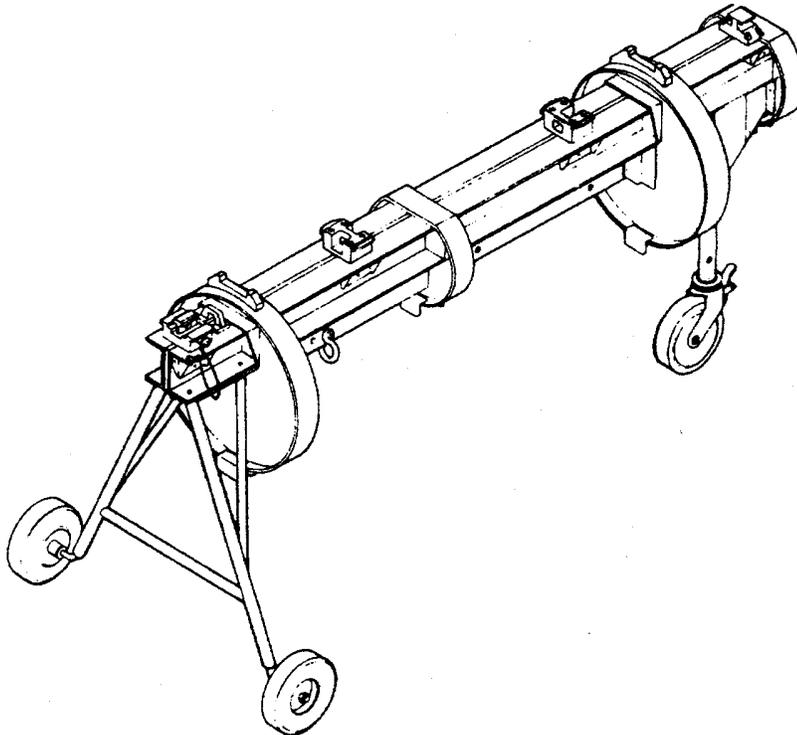
PHYSICAL DATA:	
Length	N/A
Width	N/A
Height	N/A
Weight	15 pounds
SWL	275 pounds
Diameter	12.75 inches

APPLICATION. BSS Vacuum/Lifting Fixture is used during Mk 50 Torpedo assembly/disassembly. It can also be used with other torpedo sections that have the same Hilmer joint configuration.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with BSS Vacuum/Lifting Fixture.

**FIXTURE, LOAD TEST, HARPOON BEAMS
DL 5166534
NSN 6M 4933-01-241-1815**

DESCRIPTION. HARPOON Beams Load Test Fixture consists of an I-beam/ring steel and aluminum weldment mechanically assembled, supported at its forward end by a tubular A-frame and at its aft end by a tubular upright. The A-frame and upright are supported on rubber wheels, the aft wheel being a swivel caster with a foot-operated brake. The I-beam/ring assembly includes attachment devices for enabling installation and securement of a variety of lift beams used for handling HARPOON Missiles, Capsules and Sections. The attachment devices are of two types, one type simulating the different launch shoes associated with HARPOON Missiles and other (four rings) simulating the diameters and configurations of HARPOON Missile Sections and Capsules. The rings enable installation of those HARPOON Lift Beams which utilize straps for securement. Four holes along the lower edge of the test fixture are for attaching a chain/shackle/bar arrangement to holddown points in a reinforced concrete base.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts None
 Op. Proc. OR-67/60
 EIC/WUC None
 SM&R Code PEHHH

PHYSICAL DATA:

Length 85.25 inches
 Width 42 inches
 Height 45 inches
 Weight 280 pounds
 SWL 15,000 pounds

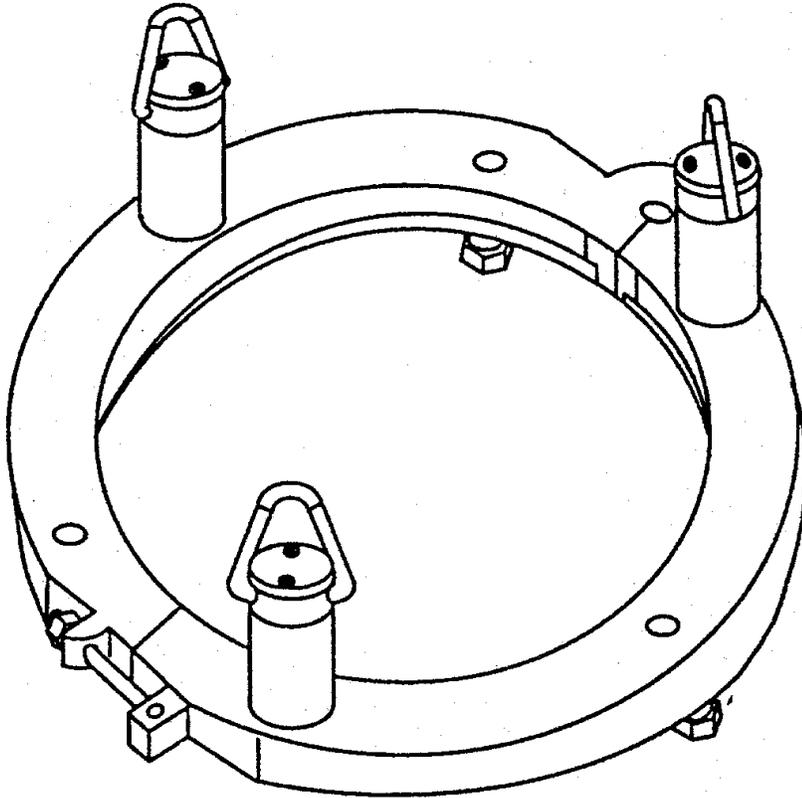
FIXTURE, LOAD TEST, HARPOON BEAMS
DL 5166534
NSN 6M 4933-01-241-1815

APPLICATION. HARPOON Beams Load Test Fixture is used to position and secure HARPOON Lift Beams for attachment to testing equipment during performance of safe working load proof tests. The fixture facilitates proof testing by simulating the loading conditions the beams undergo during service use.

ASSOCIATED EQUIPMENT. Lift Beam Mk 32 Mod 0, Lift Beam Mk 33 Mod 0, Lift Beam Mk 34 Mod 0, Lift Beam Mk 35 Mod 0, Lift Beam Mk 36 Mod 0, Lift Beam Mk 37 Mod 0 and Lift Beam Mk 38 Mod 0.

**FIXTURE, OXIDANT TANK/CONDENSER/LIFTING
NAVSEA DWG 6276425
NSN NOT ASSIGNED**

DESCRIPTION. Oxidant Tank/Condenser/Lifting Fixture is a ring that is pinned on one side and clamped on the other. It is made from aluminum and is designed to clamp onto the Hilmer joint on the Mk 50 Torpedo hull section. Three lift rings are provided for connection of a lifting sling.



REFERENCE DATA:	
ISEA	NUWC Keyport
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	ST890-CU-MME-010
Op. Proc.	ST890-CU-MME-010
EIC/WUC	None
SM&R Code	None

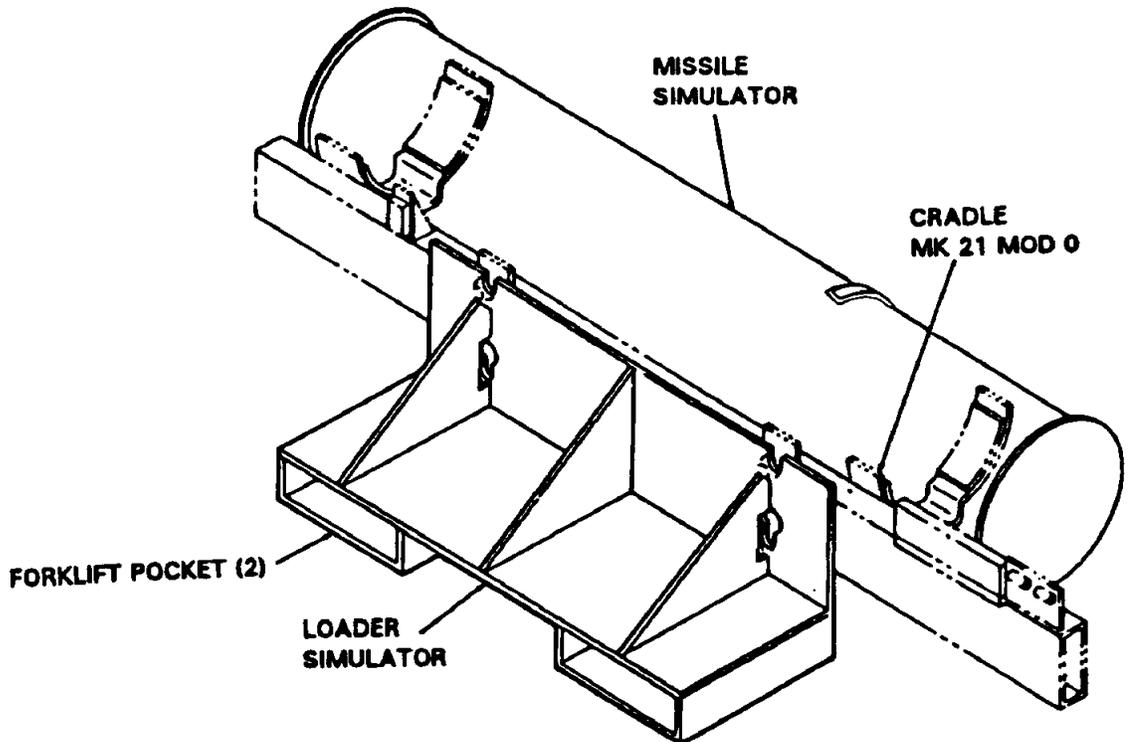
PHYSICAL DATA:	
Length	12 inches
Width	12 inches
Height	8 inches
Weight	15 pounds
SWL	500 pounds

APPLICATION. Oxidant Tank/Condenser/Lifting Fixture is used during Mk 50 Torpedo assembly/disassembly. It is also used with other torpedo sections that have the same Hilmer joint configuration.

ASSOCIATED EQUIPMENT. Oxidant Tank/Condenser Lifting Sling.

FIXTURE, TEST (CRADLE MK 21 MOD 0)
DL 2645283
NSN NOT ASSIGNED

DESCRIPTION. Test Fixture (Cradle Mk 21 Mod 0) consists of two assemblies, a loader simulator and a missile simulator. The loader simulator is an aluminum weldment with two forklift pockets and a plate containing locating holes for engagement with the lifting lugs of Cradle Mk 21 Mod 0. The missile simulator is a cylindrical weldment of the same diameter as a Basic Point Defense Missile.



REFERENCE DATA:	
ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC.	None
SM&R Code	None

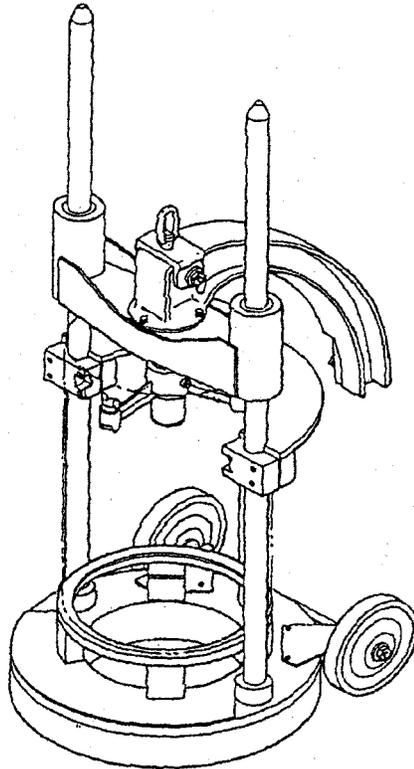
PHYSICAL DATA:	
Length	27.00 inches
Width	10.00 inches
Height.	10.00 inches
Weight	16 pounds
SWL	500 pounds

APPLICATION. Test Fixture (Cradle Mk 21 Mod 0) is used to determine whether Cradles Mk 21 Mod 0 are properly adjusted for transferring Basic Point Defense Missiles to and from Launcher Loader Mk 13 Mods.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Test Fixture for Cradle Mk 21 Mod 0.

**FIXTURE, WARHEAD INSERTION
MK 22 MOD 0
DL 5166805
NSN 8T 1450-01-193-6370**

DESCRIPTION. Warhead Insertion Fixture Mk 22 Mod 0 is a steel and aluminum structure. The fixture consists of a base weldment, two upright shafts, an assembled beam, guide and spider adapter. The base weldment is equipped with a removable adapter weldment, an alignment fixture and two wheels. The warhead is secured to the guide via the spider adapter. The guide rides on the shafts and either installs or removes the warhead from the shroud.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/86D8000
Op. Proc.	OR-67/75
EIC/WUC	86D8
SM&R Code	PAOHH
NALC	None

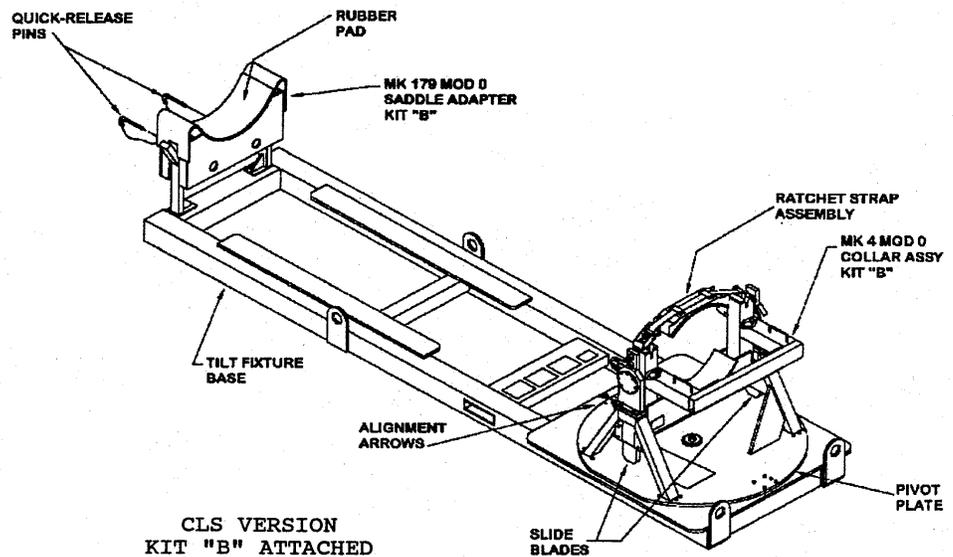
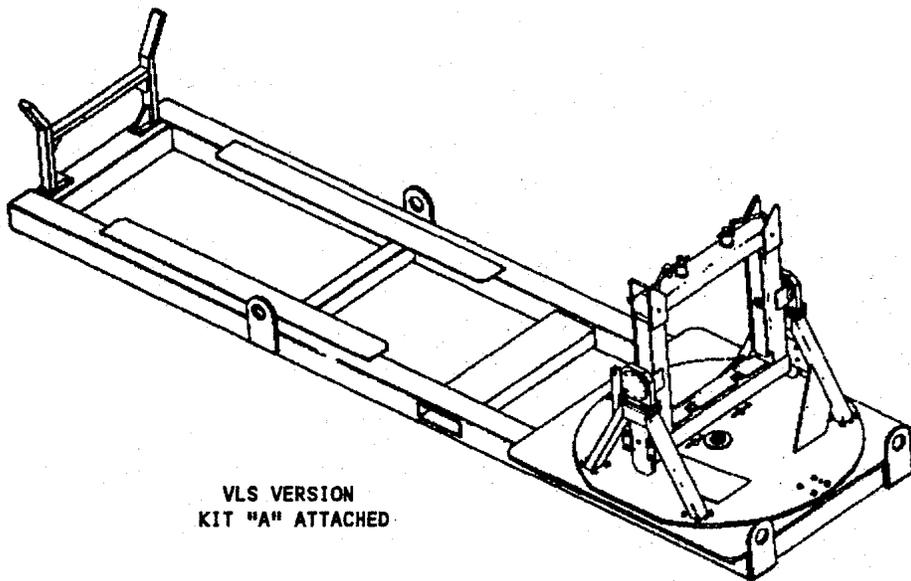
PHYSICAL DATA:	
Length	26.00 inches
Width	22.50 inches
Height	53.00 inches
Weight	175 pounds
SWL	200 pounds

APPLICATION. Warhead Insertion Fixture Mk 22 Mod 0 is used to assemble or disassemble Warhead Mk 115, Shroud Assembly (SM-2 Block II and III).

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Warhead Insertion Fixture Mk 22 Mod 0.

**FIXTURE, TILT
MK 23 MOD 0
DL 5167473
NSN 8T 1450-01-264-1895**

DESCRIPTION. Tilt Fixture Mk 23 Mod 0 is a semi-portable device consisting of a steel-frame structure with a steady rest at one end and a swivel collar stand at the other. A square swivel retaining collar can be opened to allow installation of the VLS Canister, which is held in place with four retractable pins that interface with the corrugated ribs of the canister. A round swivel retaining collar rests on the collar stand and can be opened to allow installation of the submarine CLS capsule and a saddle adapter which sits on the steady rest to support the forward end of the capsule while in the horizontal position.



**FIXTURE, TILT
MK 23 MOD 0
DL 5167473
NSN 8T 1450-01-264-1895**

REFERENCE DATA:

ISEA PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test Not Required
PMS/Maint. Insts . . . MIP 7221/R65, OR-99/86BH000
Op. Proc. OR-67/101
EIC/WUC 86BH
SM&R Code PAHHD
NALC DWAC

PHYSICAL DATA:

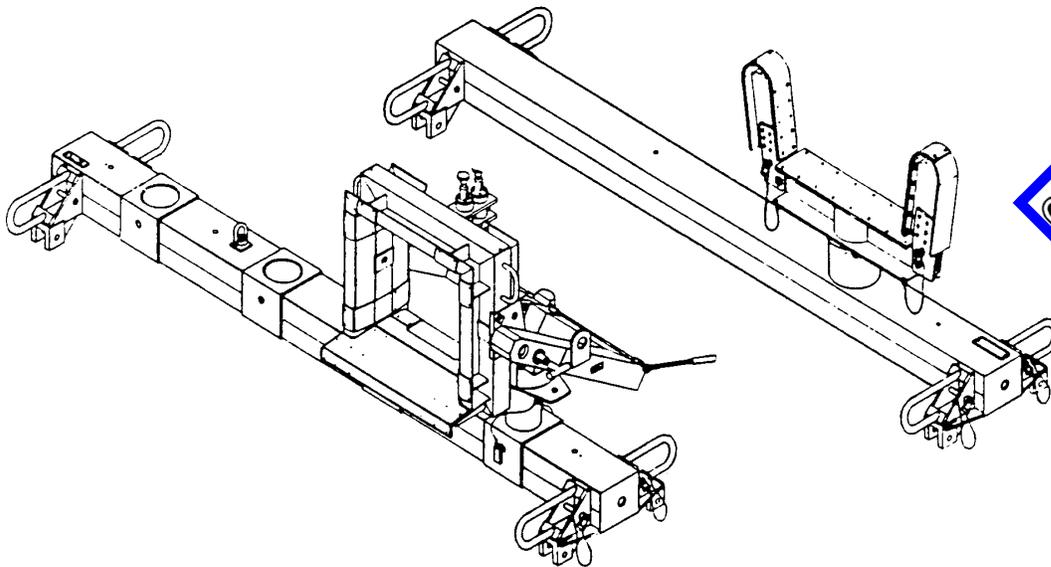
Length 181.00 inches
Width 51.00 inches
Height 51.75 inches
Weight 3000 pounds
SWL (Kit A) 6700 pounds
SWL (Kit B) 7200 pounds

APPLICATION. Tilt Fixture Mk 23 Mod 0 is used to move the VLS Canister or CLS Capsule from the horizontal position to the vertical position and (vice versa) during dockside combatant canister or submarine capsule loading/unloading. The tilt fixture can be either truck mounted (VLS version only) or positioned directly at dockside, or on a non-combatant ship.

ASSOCIATED EQUIPMENT. Strongback Mk 4 Mod 0, Mk 6 Mod 0, and Mk 3 Mods 0/1.

**FIXTURE, TILT ASSEMBLY
MK 25 MOD 0
DWG. NO. 5497781-9
NSN 8T 1450-01-262-1144**

DESCRIPTION. Tilt Assembly Fixture Mk 25 Mod 0 consists of four separable sub-assemblies. They are the pivot fixture, receiver locator beam, steady rest assembly and steady rest beam. The pivot fixture is a semi-gimbal mounted aluminum frame designed to support, and locate by means of the receiver locator beam, the aft end of the VLS Canister (that weighs less than 4,100 pounds) when rotating the canister from horizontal to vertical or vice versa. The steady rest assembly and steady rest beam support the forward end of the canister during the operation when the canister is horizontal. The pivot fixture weighs 420 pounds, is 50 inches long x 48 inches wide x 60 inches high. The receiver locator beam weighs 252 pounds, is 124 inches long x 28 inches wide x 11 inches high. The steady rest assembly weighs 56 pounds, is 42 inches long x 7 inches wide x 28 inches high. The steady rest beam weighs 164 pounds, is 124 inches long x 28 inches wide x 19 inches high.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SW394-AJ-MMI-010/
 [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts MIP 7221/H01
 OR-99/86BL000
 Op. Proc. OR-67/138
 EIC/WUC 86BL
 SM&R Code PA5DG
 NALC 4W46

PHYSICAL DATA:

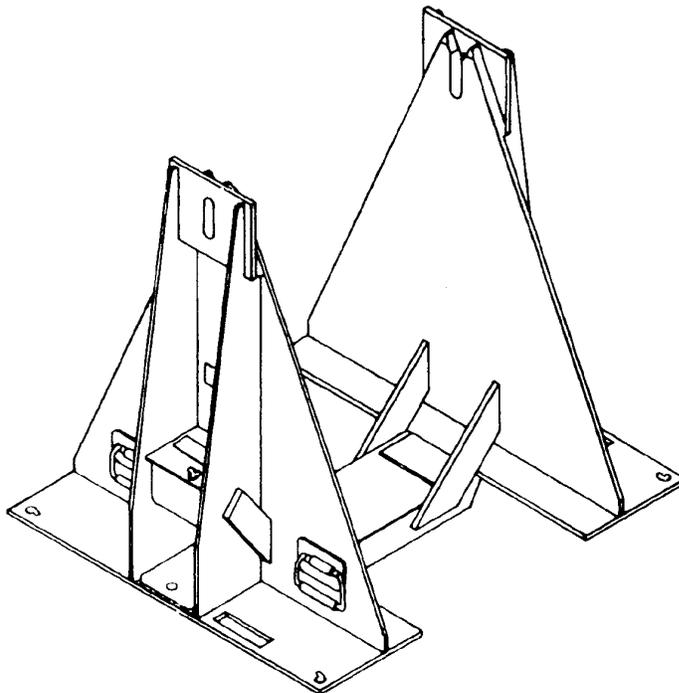
Length See Description
 Width See Description
 Height See Description
 Weight 892 pounds
 SWL 4100 pounds

APPLICATION. Tilt Assembly Fixture Mk 25 Mod 0 is used aboard combatant ships to move canisters (that weigh less than 4,100 pounds) during Mk 41 launcher strikedown and strikeup operations. Tilt Assembly Fixture Mk 25 Mod 0 is obsolescent with no replacement item. This Fixture is only used in support of FMS ships.

ASSOCIATED EQUIPMENT. Vertical Assembly Strongback Mk 4 Mod 0.

**FIXTURE, CLS UP-RIGHTING
MK 26 MOD 1
DL 6213396
NSN 7H 4935-01-422-5081**

DESCRIPTION. CLS Uprighting Fixture Mk 26 Mod 1 is a double triangular aluminum weldment incorporating four spring-loaded handles for manual handling and two latch boxes for the storage of the fixture's mounting hardware. Each triangular support on the fixture is slotted to accept the trunnion bearing adapters which are threaded into the TOMAHAWK All-Up-Round (AUR). The up-righting fixture is bolted to the frame on the Mk 30 Mod 1 Shipping and Storage Skid and enables the TOMAHAWK AUR to be pivoted and uprighted from the horizontal to the vertical position and return.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts MIP 7221/CLS
 Op. Proc. NAVSEA SW820-AD-WHS-010
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

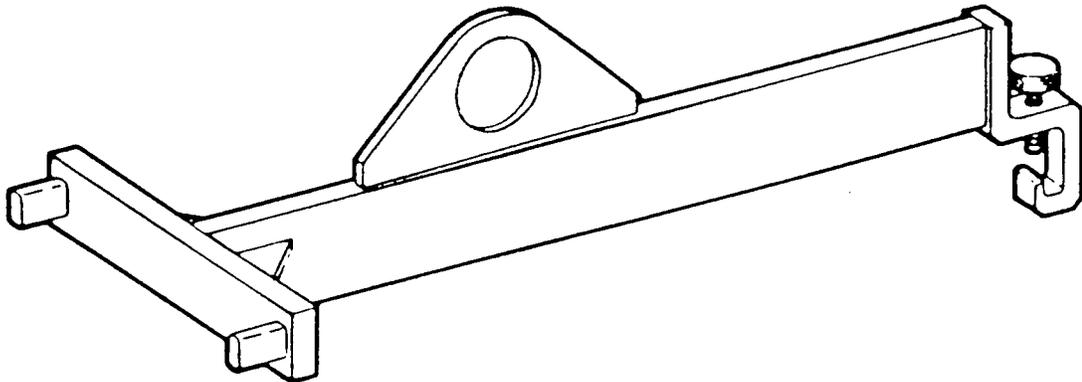
Length 39.75 inches
 Width 34.00 inches
 Height 34.125 inches
 Weight 90 pounds
 SWL 7000 pounds

APPLICATION. CLS Up-Righting Fixture Mk 26 Mod 1 is used in conjunction with Forward Support Cradle Adapter Mk 168 Mod 0 and Trunnion Adapter Mk 167 Mod 0 or Mk 174 Mod 0 to upright and lower the CLS TOMAHAWK AUR in Shipping and Storage Skid Mk 30 Mods. The fixture is used during dockside loading and unloading operations.

ASSOCIATED EQUIPMENT. Trunnion Adapter Mk 167 Mod 0, Trunnion Adapter Mk 174 Mod 0, Forward Support Cradle Adapter Mk 168 Mod 0, Sling Mk 154 Mod 0 or Mk 165 Mod 0, Hook Adapter Mk 176 Mod 0, and Skid Mk 30 Mods.

**FIXTURE, HANDLING, LOWER AIRFRAME
MK 27 MOD 0
PL 6204874
NSN 4935-LL-H75-8504**

DESCRIPTION. Lower Airframe Handling Fixture Mk 27 Mod 0 is an aluminum structure that consists of a weldment frame with lift eye. One end of the frame is T-shaped with two extended lugs that are used as lift points. The opposite end of the frame is clamp-shaped with a hand knob screw used for securing the fixture to the airframe.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts OR-99/85E2000/3000
 Op. Proc. OR-67/119
 EIC/WUC 85E2
 SM&R Code PAHDD

PHYSICAL DATA:

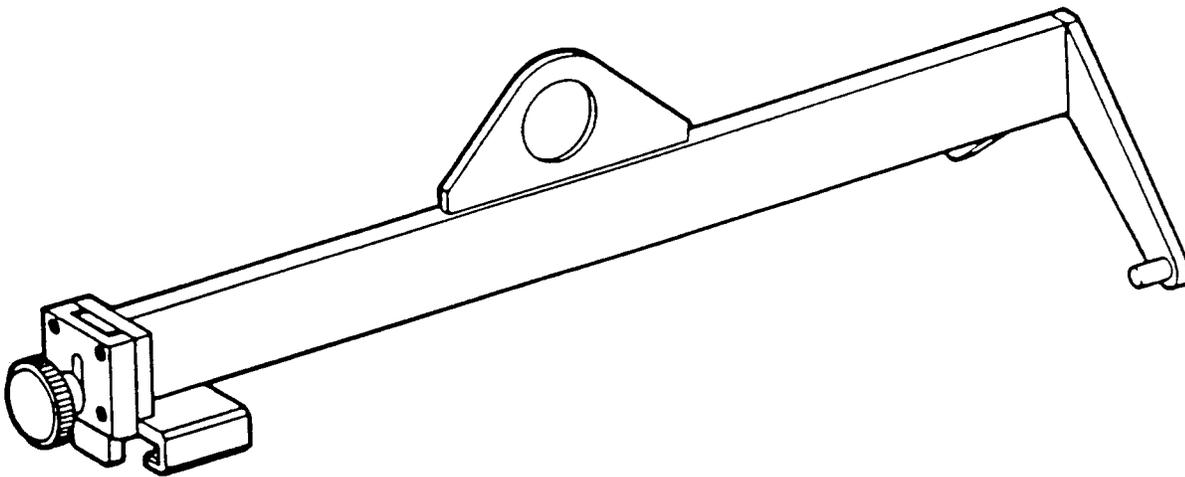
Length 29.00 inches
 Width 12.38 inches
 Height 6.33 inches
 Weight 10 pounds
 SWL 50 pounds

APPLICATION. Lower Airframe Handling Fixture Mk 27 Mod 0 is used in conjunction with a 3-ton overhead crane to hoist the lower airframe of the VLA missile during assembly and disassembly.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Lower Airframe Handling Fixture Mk 27 Mod 0.

**FIXTURE, HANDLING, UPPER AIRFRAME
MK 28 MOD 0
PL 6204871
NSN 4935-LL-H75-8540**

DESCRIPTION. Upper Airframe Handling Fixture Mk 28 Mod 0 is an aluminum structure that consists of a weldment frame with lift eye. One end of the frame is a A-shaped with two pins. The opposite end of the frame consists of a channel-shaped lift point and a slide bar locking provision for securing the fixture to the airframe.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/85E2000/3000
Op. Proc.	OR-67/120
EIC/WUC	85E3
SM&R Code	PAHDD

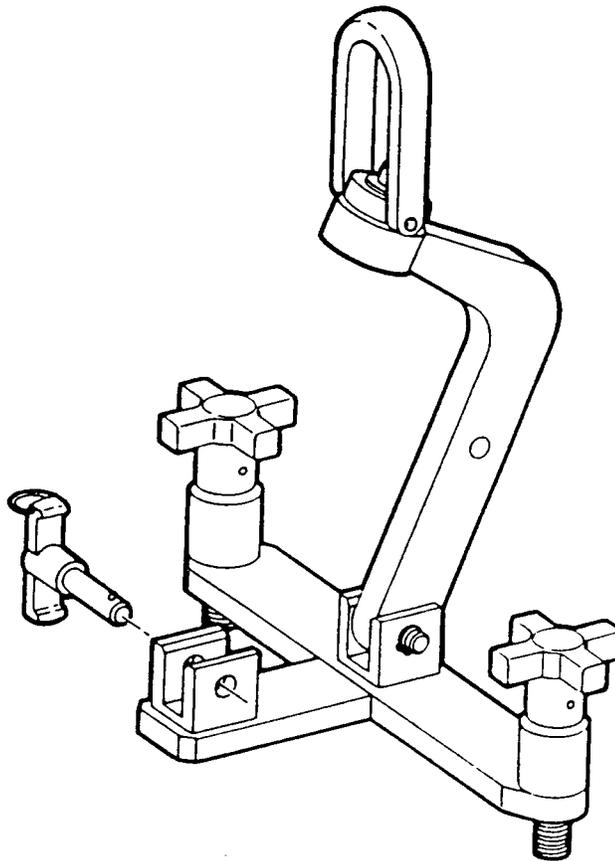
PHYSICAL DATA:	
Length	37.75 inches
Width	13.25 inches
Height	11.45 inches
Weight	10 pounds
SWL	50 pounds

APPLICATION. Upper Airframe Handling Fixture Mk 28 Mod 0 is used in conjunction with a 3-ton overhead crane to hoist the upper airframe of the VLA missile during assembly and disassembly.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Upper Airframe Handling Fixture Mk 28 Mod 0.

**FIXTURE, HANDLING-TVC
MK 29 MOD 0
PL 6204864
NSN 4935-LL-H75-8538**

DESCRIPTION. Handling-TVC Fixture Mk 29 Mod 0 is a steel assembly consisting of a frame with two knobbed screws and a pivoting arm with rotating hoist ring. The frame has provisions for the locking and/or storage of the pivot arm.



REFERENCE DATA:

ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts OR-99/85E4000
 Op. Proc. OR-67/118
 EIC/WUC 85E4
 SM&R Code PAHDD
 NALC None

PHYSICAL DATA:

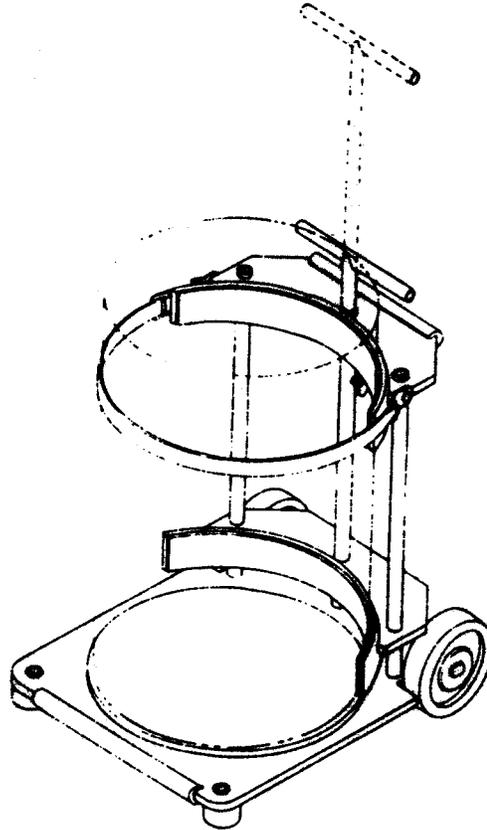
Length 14.00 inches
 Width 6.50 inches
 Height 14.18 inches
 Weight 11 pounds
 SWL 60 pounds

APPLICATION. Handling-TVC Fixture Mk 29 Mod 0 is used for the installation and removal of the TVC from Container Mk 713 Mod 0 and for the assembly and disassembly of the TVC with the RUM-139A VLA Missile.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Handling -TVC Fixture Mk 29 Mod 0.

**FIXTURE, WARHEAD INSERTION
MK 31 MOD 0
DL 6212939
NSN 8T 1450-01-336-0858**

DESCRIPTION. Warhead Insertion Fixture Mk 31 Mod 0 is an aluminum weldment consisting of a frame and base assembly. The assembly is equipped with two wheels, an adjustable handle, and a nylon restraining strap.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/86EL000
Op. Proc.	OR-67/116
EIC/WUC	86EL
SM&R Code	PAHHH
NALC	None

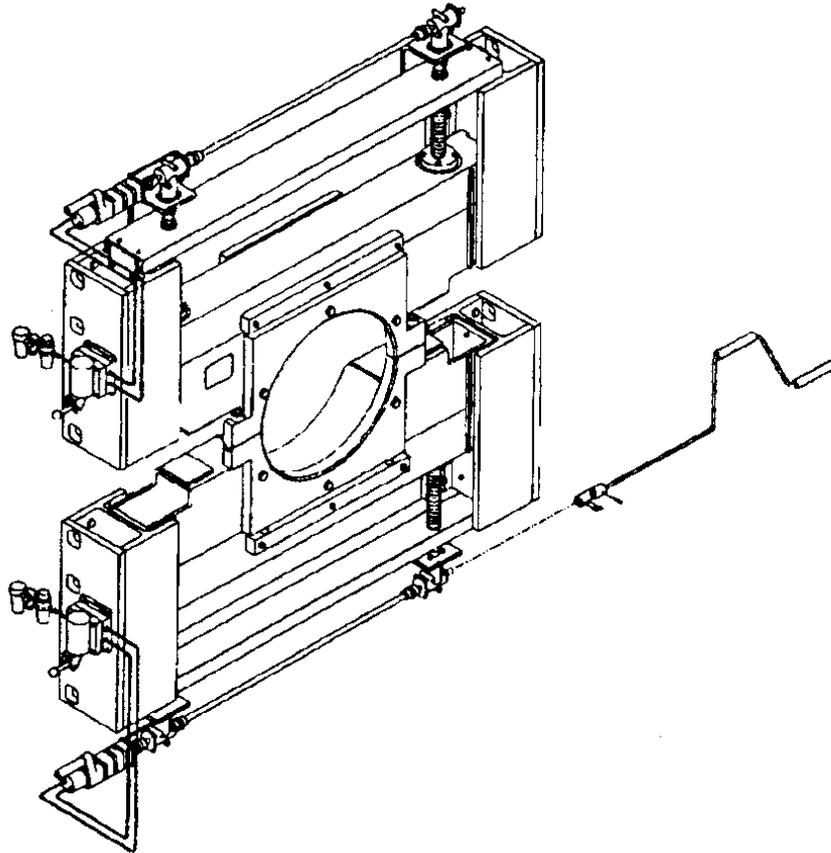
PHYSICAL DATA:	
Length	19.00 inches
Width	18.00 inches
Height (handle extended)	39.38 inches
Height (handle retracted)	24.00 inches
Weight	42 pounds
SWL	180 pounds

APPLICATION. Warhead Insertion Fixture Mk 31 Mod 0 is used to hold and position a SM-6 Blk I Target Detecting Device (TDD), and STANDARD Missile Mk 45 Mod 9 or higher to allow insertion and removal of a Warhead Mk 125 Mods 0 and 1 (and the Mk 141 Mods 0 and 1 inert versions of the Mk 125 Warheads).

ASSOCIATED EQUIPMENT. Warhead Lifting Beam Mk 53 Mod 0.

**FIXTURE, BOOSTER RESTRAINT
MK 35 MOD 0
DL 6213407
NSN 8T 4935-01-430-0218**

DESCRIPTION. Booster Restraint Fixture Mk 35 Mod 0 is a steel clamping device consisting of two clamp plates supported by structural steel. The clamp plates can be raised or lowered by pneumatic motors or by hand. The clamp plates are closed around a Booster Mk 72 to restrain it during testing.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts OR-99/86J8000
 Op. Proc. OR-67/186
 EIC/WUC 86J8
 SM&R Code PAOHD

PHYSICAL DATA:

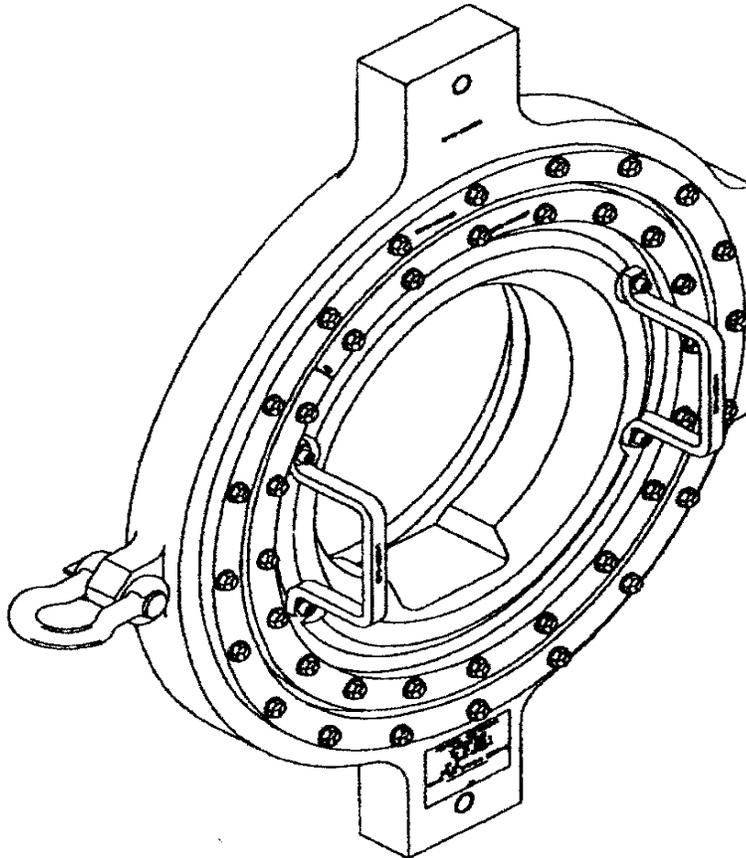
Length 10.00 inches
 Width 66.00 inches
 Height 84.00 inches
 Weight 1900 pounds
 SWL N/A

APPLICATION. Booster Restraint Fixture is used to restrain the Mk 72 Mods Booster against accidental ignition during igniter circuit testing by using the Booster Test Set Mk 691.

ASSOCIATED EQUIPMENT. Booster Test Set Mk 691.

**FIXTURE, RESTRAINT, UPPER STAGE
MK 36 MOD 0
DWG 6213624
NSN 8T 1450-01-421-8522**

DESCRIPTION. Upper Stage Restraint Fixture Mk 36 Mod 0 is an aluminum alloy assembly consisting of a fixed outer ring and a rotating inner ring. The fixture is secured to the attitude stand to restrain the STANDARD Missile variant in case of inadvertent firing during test procedures.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts OR-99/86J7000
 Op. Proc. OR-67/185
 EIC/WUC86J7
 SM&R Code PAOHD

PHYSICAL DATA:

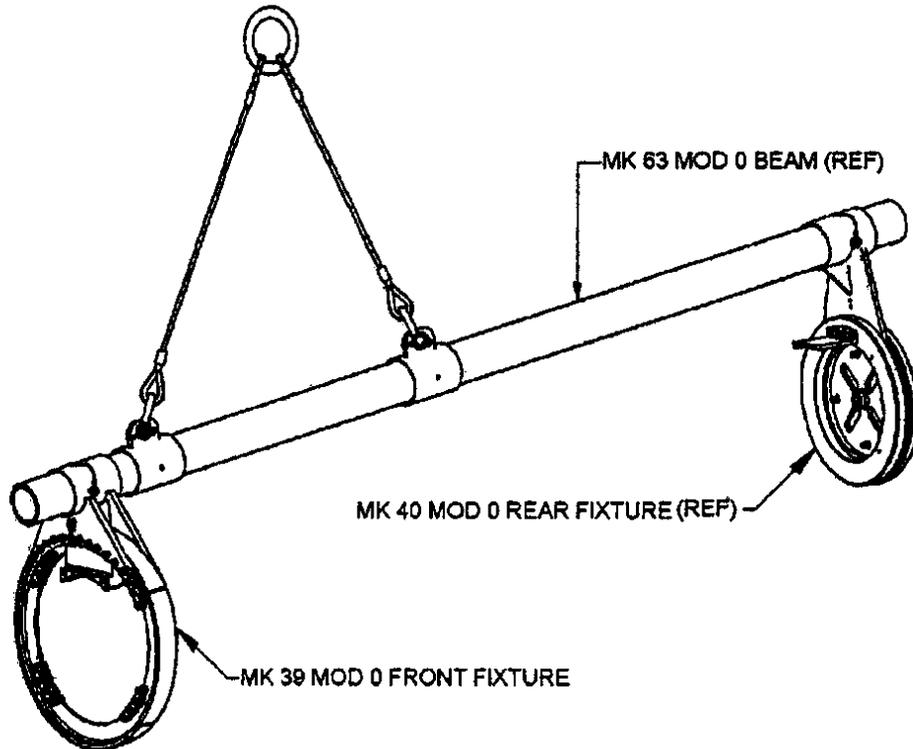
Length 27.50 inches
 Width 22.00 inches
 Height 7.50 inches
 Weight 64 pounds
 SWL N/A

APPLICATION. Upper Stage Restraint Fixture Mk 36 Mod 0 is secured to the Attitude Stand for the Mk 612 and Mk 698 Test Sets.

ASSOCIATED EQUIPMENT. Attitude Stand for Mk 612 and Mk 698 Test Sets.

**FIXTURE, FRONT
MK 39 MOD 0
DWG 7117176-9
NSN 8T 1450-01-494-8551**

DESCRIPTION. Front Fixture Mk 39 Mod 0 is a steel and aluminum assembly.



REFERENCE DATA:	
ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny	
Periodic Test	SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/861D000
Op. Proc.	OR-67/195
EIC/WUC . . . . .	.861D000
SM&R Code	PEHOD

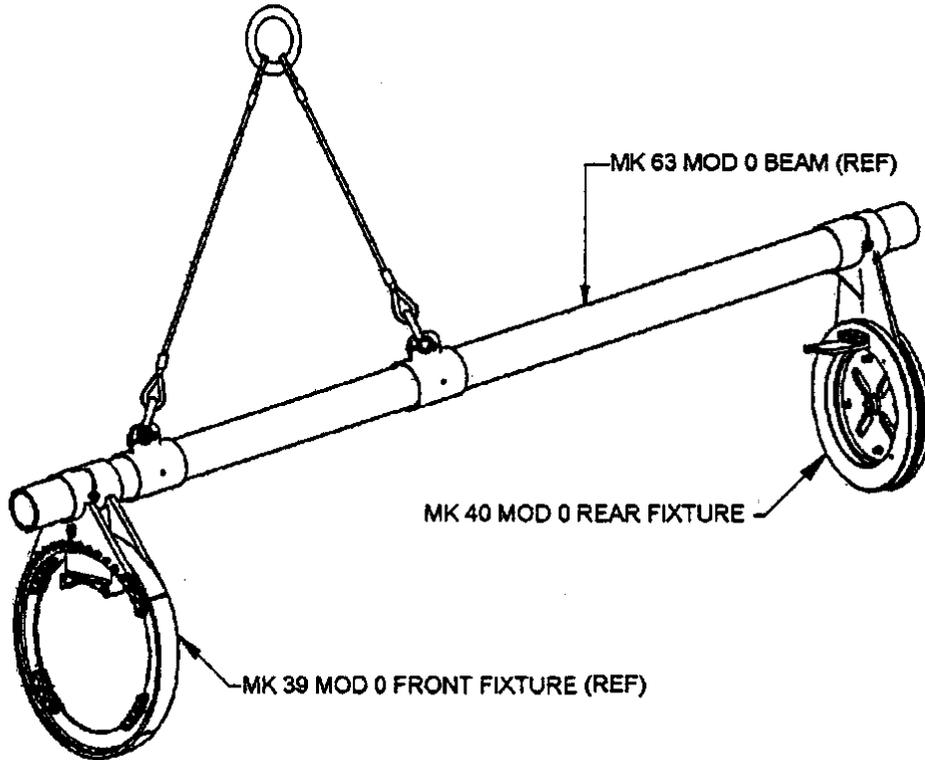
PHYSICAL DATA:	
Inside diameter	7.5 inches
Outside diameter	9.5 inches
Width	2.5 inches
Height	12.25 inches
Weight	22.5 pounds
SWL	500 pounds

APPLICATION. Front Fixture Mk 39 Mod 0, when installed on the Beam Mk 63 Mod 0 along with the Rear Fixture Mk 40, is used to lift and rotate the VLS (Vertical Launching System) Mk 41 variant of the ESSM (Evolved SEASPARROW Missile) during the ENCAN/DECAN process. The front fixture is used only when assembled to the Beam Mk 63 with the Rear Fixture Mk 40 Mod 0.

ASSOCIATED EQUIPMENT. Beam Mk 63 Mod 0 and Rear Fixture Mk 40 Mod 0.

**FIXTURE, REAR
MK 40 MOD 0
DWG 7117189-9
NSN 8T 1450-01-494-8563**

DESCRIPTION. Rear Fixture Mk 40 Mod 0 is a steel and aluminum assembly.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/861E000
Op. Proc.	OR-67/195
EIC/WUC	861E000
SM&R Code	PEHOD

PHYSICAL DATA:	
Outside diameter	7.0 inches
Width	3.673 inches
Height	11.00 inches
Weight	15.0 pounds
SWL	200 pounds

APPLICATION. Rear Fixture Mk 40 Mod 0, when installed on the Beam Mk 63 Mod 0 along with the Front Fixture Mk 39, is used to lift and rotate the VLS (Vertical Launching System) Mk 41 variant of the ESSM (Evolved SEASPARROW Missile) during the ENCAN/DECAN process. The rear fixture is used only when assembled to the Beam Mk 63 with the Front Fixture Mk 39 Mod 0.

ASSOCIATED EQUIPMENT. Beam Mk 63 Mod 0 and Front Fixture Mk 39 Mod 0.

**FIXTURE, WARHEAD
MK 52 MOD 0
DL 7516907
NSN NOT ASSIGNED**

DESCRIPTION. Warhead Fixture Mk 52 Mod 0 is constructed of aluminum with an eyebolt attached to the top for lifting purposes.



REFERENCE DATA:

ISEA . . .PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test [SG420-AP-MMA-010](#)
PMS/Maint. Insts OR-99/7516907
Op. Proc. OR-67/221
EIC/WUC. None
SM&R Code None

PHYSICAL DATA:

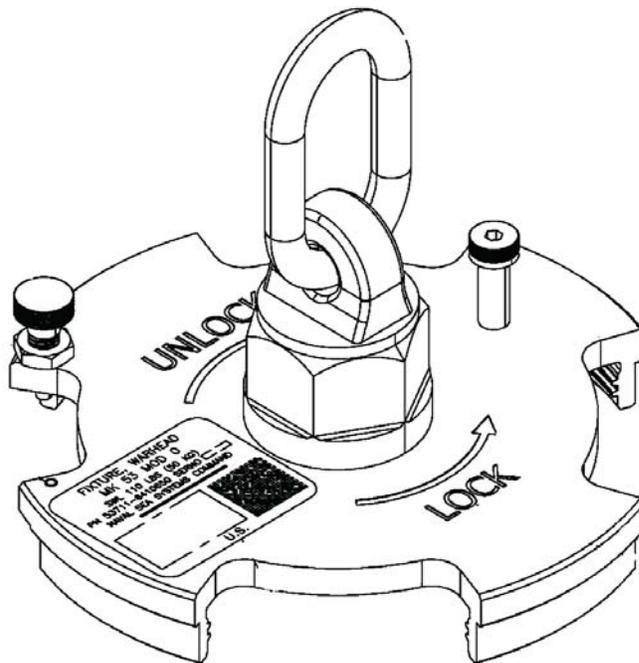
Outside diameter 7.06 inches
Width 2.25 inches
Height 11.62 inches
Weight 3.3 pounds
SWL 100 pounds

APPLICATION. Warhead Fixture Mk 52 Mod 0 contains a slot to accept the handle of the inner portion of the CNU-125/E Container containing the Mk 139 Mod 0 Evolved Sea Sparrow Missile (ESSM) Warhead.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Warhead Fixture Mk 52 Mod 0.

**FIXTURE, WARHEAD
MK 53 MOD 0
DL 8410650
NSN NOT ASSIGNED**

DESCRIPTION. The Mk 53 Mod 0 Warhead Fixture is of steel and aluminum construction. The main components are an aluminum threaded retainer and a steel swivel hoist ring attached to the center of the retainer. Attached to the retainer is a hand retractable spring plunger with a thin hex nut. The spring plunger is used as a locking mechanism to keep the retainer threaded to the warhead during the handling process. A dowel pin on the other side of the retainer prevents the threads from slipping in the other direction. A shoulder screw is used to attach a grounding strap while attached to the warhead.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test NAVSEA SG420-AP-MMA-010
 PMS/Maint. Insts OR-99/8410650
 Op. Proc. OR-67/220
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

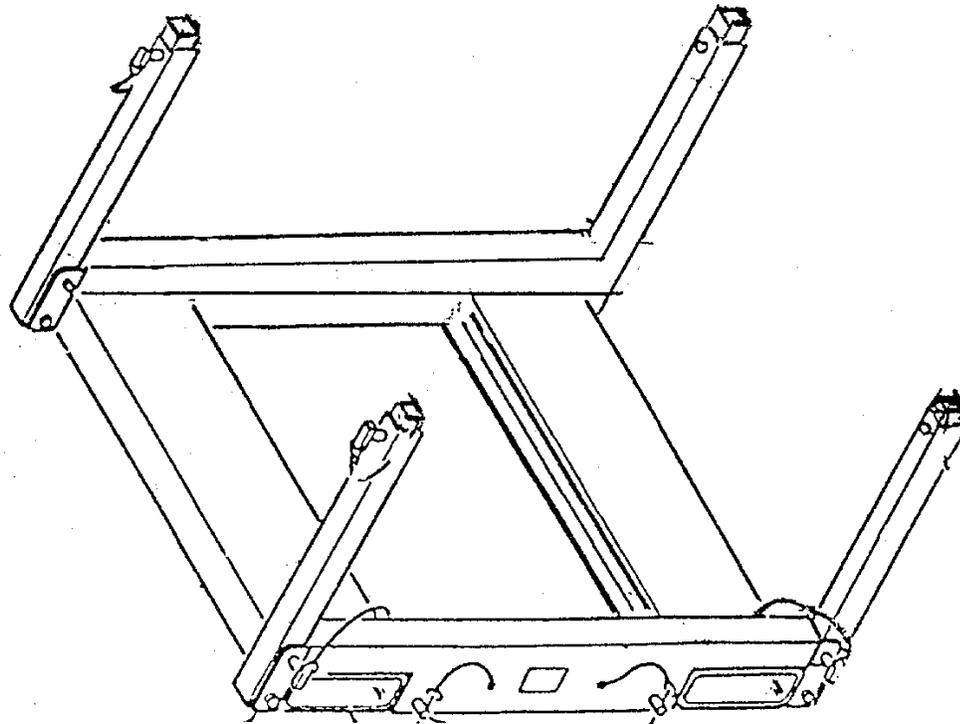
Diameter 8.50 inches
 Height 3.00 inches
 Weight 4.85 pounds
 SWL 110 pounds

APPLICATION. Warhead Fixture Mk 53 Mod 0 is used to handle one Evolved Sea Sparrow Missile (ESSM) Warhead.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Warhead Fixture Mk 52 Mod 0.

**FIXTURE, POD HANDLING
HLU-246/E
P/N 665AS200
NSN 1R 1730-00-200-6677**

DESCRIPTION. The POD Handling Fixture HLU-246/E is a steel structure which consist of a base framework and four vertical support arms. The base has built in forklift pockets and the attachment point for the vertical support arms. The vertical support arms are designed to allow suspending one ECM Pod.



REFERENCE DATA:	
ISEA	NAWC-WD Pt Mugu
Periodic Test	NAVAIR 19-25E-62
PMS/Maint. Insts	NAVAIR 19-25E-62
Op. Proc.	NAVAIR 19-25E-62
EIC/WUC	None
SM&R Code	PAOZZ

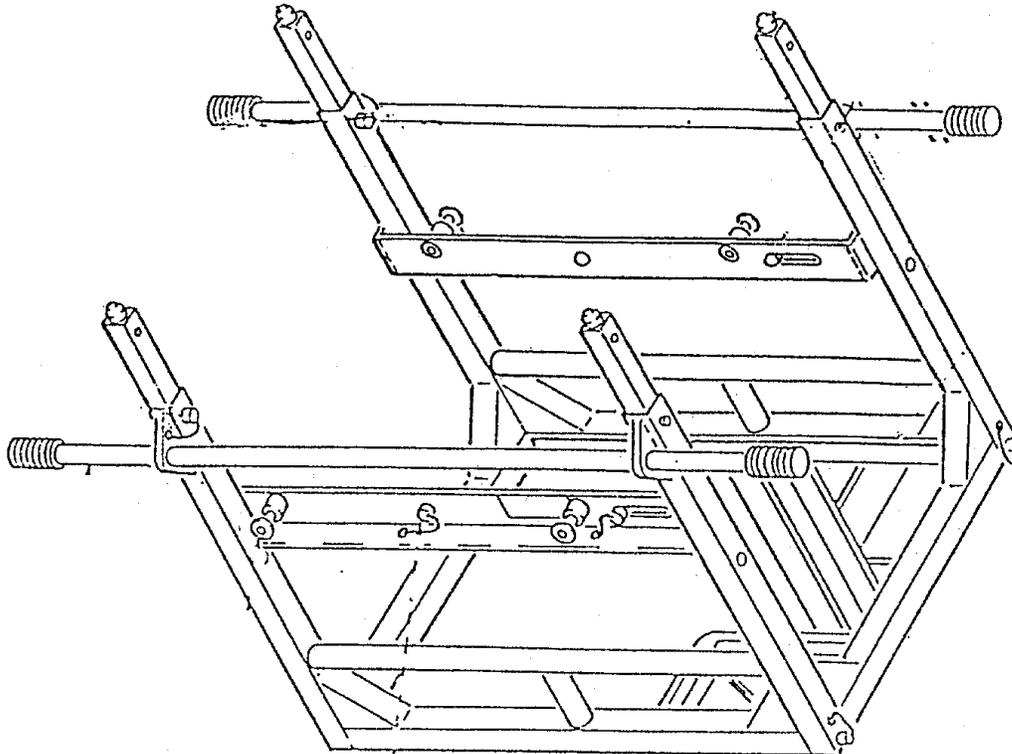
PHYSICAL DATA:	
Length	45.00 inches
Width	32.00 inches
Height	30.00 inches
Weight (without adapters)	100 pounds
SWL	1500 pounds

APPLICATION. POD Handling Fixture HLU-246/E is designed to suspend one AN/ALQ-76 or AN/ALQ-99 ECM POD from four vertical support arms attached to a base framework. The AN/ALQ-76 PODs require the use of four POD Suspension Adapter Hangars to mate with the basic POD Handling Fixture. The AN/ALQ-99 PODs require the use of two POD Suspension Adapter Bars to mate with the basic POD Handling Fixture. With the proper adapters, the handling fixture provides a means to handle or temporarily store the supported ECM POD.

ASSOCIATED EQUIPMENT. Transloader Trailer A/M 48M-1.

**FIXTURE, WRA HANDLING
MSU-157A/E
P/N 655AS475
NSN 1R 1730-01-039-8523**

DESCRIPTION. WRA Handling Fixture MSU-157A/E is fabricated from aluminum and consists of a base framework and vertical support. The vertical supports include attachment points for the ECM Pods and bar handles for manual handling. The MSU-157A/E also has two bars welded to it for forklift handling which is a design addition not found on the MSU-157/E.



REFERENCE DATA:

ISEA NAWC-WD Pt. Mugu
 Periodic Test Not Required
 PMS/Maint. Insts NAVAIR 19-25E-62
 Op. Proc. ... NAVAIR 01-85ADC-2-28, 19-25E-62
 EIC/WUC 76XC000
 SM&R Code PAOZZ

PHYSICAL DATA:

Length 35 inches
 Width 22.5 inches
 Height 22.5 inches
 Weight 20 pounds
 SWL N/A

APPLICATION. WRA Handling Fixture MSU-157A/E facilitates loading and unloading of WRA's from AN/ALQ-76 and AN/ALQ-99 ECM POD strongbacks. The handling fixture also provides a maintenance and storage capacity for the WRA's.

ASSOCIATED EQUIPMENT. MSU-153B/E WRA Service Stands.

**LIFTING FIXTURE, ENGINE ASSEMBLY
P/N 8243688
NSN 9B 4910-010595-4329**

DESCRIPTION. The Engine Assembly Lifting Fixture is a metal eyebolt type assembly.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	OR-99/8243688
Op. Proc.	
.	Mk 48 Torpedo Technical Manuals
.	SW513-EO-PRO-050 and 060
EIC/WUC	None
SM&R Code	PAHGZ
NALC/DODIC	NONE

PHYSICAL DATA:	
Diameter	5.968 inches
Height	6.880 inches
Weight	11.00 pounds
SWL	700 pounds

APPLICATION. The Engine Assembly Lifting Fixture is used to lift Mk 48 Torpedo Engine Assemblies during Torpedo Turnaround at Mk 48 Torpedo Maintenance Activities.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Engine Assembly Lifting Fixture.

LIFTING FIXTURE, ENGINE ASSEMBLY

P/N 8243694

NSN 9B 4910-01-611-0770

DESCRIPTION. The Engine Assembly Lifting Fixture is a metal eyebolt type assembly with a locking thumb knob.



REFERENCE DATA:

ISEA . . PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test [NAVSEA SG420-AP-MMA-010](#)
PMS/Maint. Insts OR-99/8243694
Op. Proc.
 Mk 48 Torpedo Technical Manuals
 SW513-EO-PRO-050 and OP 4024 Vol. 1
EIC/WUC None
SM&R Code PAHGZ
NALC/DODIC NONE

PHYSICAL DATA:

Diameter (CAP) 3.75 inches
Width (OVERALL) 5.725 inches
Height 6.875 inches
Weight 7.00 pounds
SWL 600 pounds

APPLICATION. The Engine Assembly Lifting Fixture is used to lift Mk 48 Torpedo Engine Assemblies during Torpedo Turnaround at Mk 48 Torpedo Maintenance Activities.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Engine Shaft Assembly Lifting Fixture.

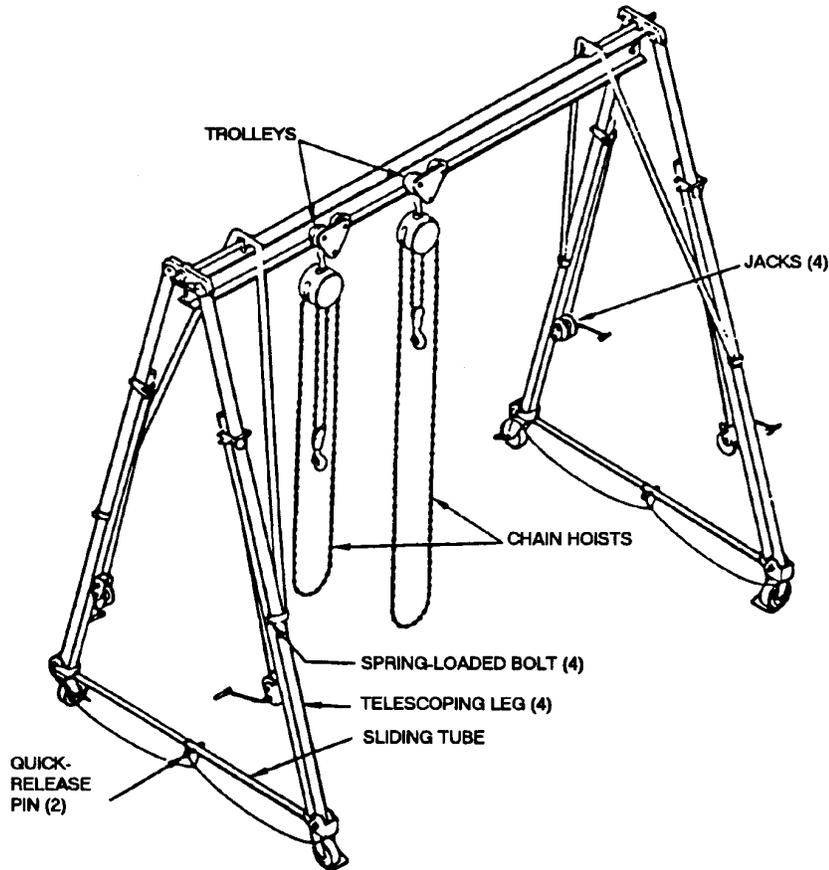
CHAPTER 26

FRAMES

26-1. GENERAL. This chapter covers frames used in stacking weapons and explosives. Reference should be made to the particular item sheet for detailed information.

**A-FRAME, GANTRY
(MMC 1G00543)
P/N 2491780-3
NSN NOT ASSIGNED**

DESCRIPTION. Gantry A-Frame consists of two trolleys and two air or two chain hoists suspended from a 15 foot I-beam supported at each end by a steel A-Frame. The hoists can be positioned anywhere along the I-beam. Four independent spring-loaded bolts and jacks attached to the A-frame legs adjust the height of the gantry. Four casters permit easy maneuvering of the entire structure.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVFAC P-307
PMS/Maint. Insts	NAVSEA SW023-AB-WHS-010
Op. Proc.	NAVSEA SW023-AB-WHS-010
EIC/WUC	None
SM&R Code	None

PHYSICAL DATA:	
Length	180.00 inches
Width	72.00 inches
Height	120.00 - 204.00 inches
Weight	1148 pounds
SWL	4000 pounds

APPLICATION. Gantry A-Frame is used for suspending one portion of various mines when mating the other portion of the same mine.

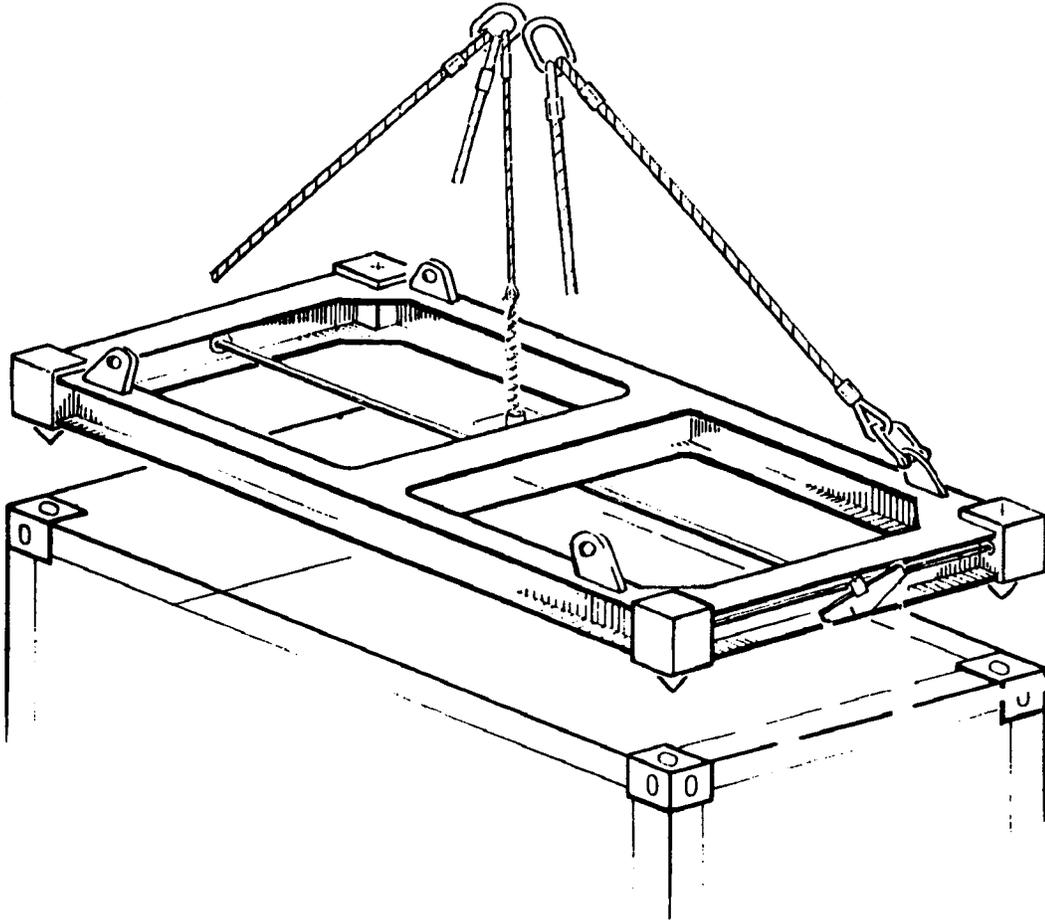
ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Gantry A-Frame.

FRAME, INTERMODAL CONTAINER LIFTING

MIL-S-52713

NSN 9Z 3990-01-212-2623

DESCRIPTION. Intermodal Container Lifting Frame consists of a hoist bridle assembly of wire rope construction, a rigid steel I-beam frame assembly and four or more freight container coupling devices (corner fittings).



REFERENCE DATA:	
ISEA	COMNAVSEASYSKOM
Periodic Test	NAVFAC P-307
PMS/Maint. Insts	Per applicable mfg. specs
Op. Proc.	Per applicable mfg. specs
EIC/WUC	Not Required
SM&R Code	Not Required

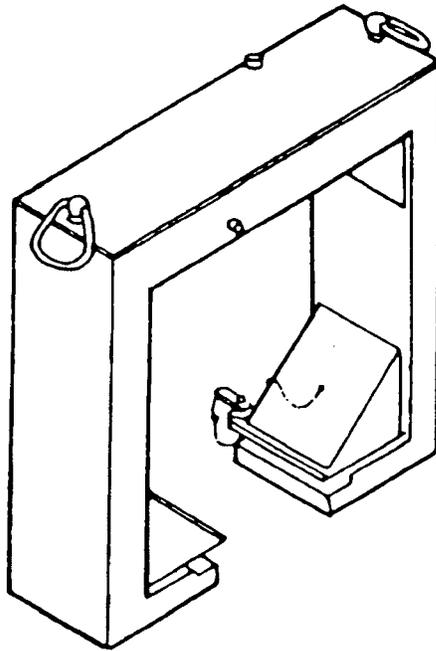
PHYSICAL DATA:	
Length	120.00 - 480.00 inches
Width	96.00 inches
Height	72.00 - 120.00 inches
Weight	1800 - 6500 pounds
SWL	22,400 - 72,000 pounds

APPLICATION. Intermodal Container Lifting Frame is used to couple, lift, transport and discharge ISO and American National Standards Institute (ANSI) Series freight containers used in intermodal (land, air, rail, marine) service between highway semitrailers, railroad cars, ocean-going ships and storage areas.

ASSOCIATED EQUIPMENT. Dockside hoists and cranes, crawler cranes, truck cranes and container handling vehicles.

**FRAME, SMALL STACKING
MHU-64/E
P/N 2560365
NSN 6R 1450-00-151-4116**

DESCRIPTION. Small Stacking Frame MHU-64/E is an aluminum reinforced frame with recesses for mating with another stacking frame. Quick release pins are secured by lanyards. Tie-down strap rings are attached to the upper support rail.



OBSOLESCE

REFERENCE DATA:

ISEA COMNAVAIRSYSCOM
 Periodic Test Not Required
 PMS/Maint. Insts .. NAVAIR AG-000AO-MEB-000
 Op. Proc. NAVAIR AG-000AO-MEB-000
 EIC/WUC 21G5X
 SM&R Code None

PHYSICAL DATA:

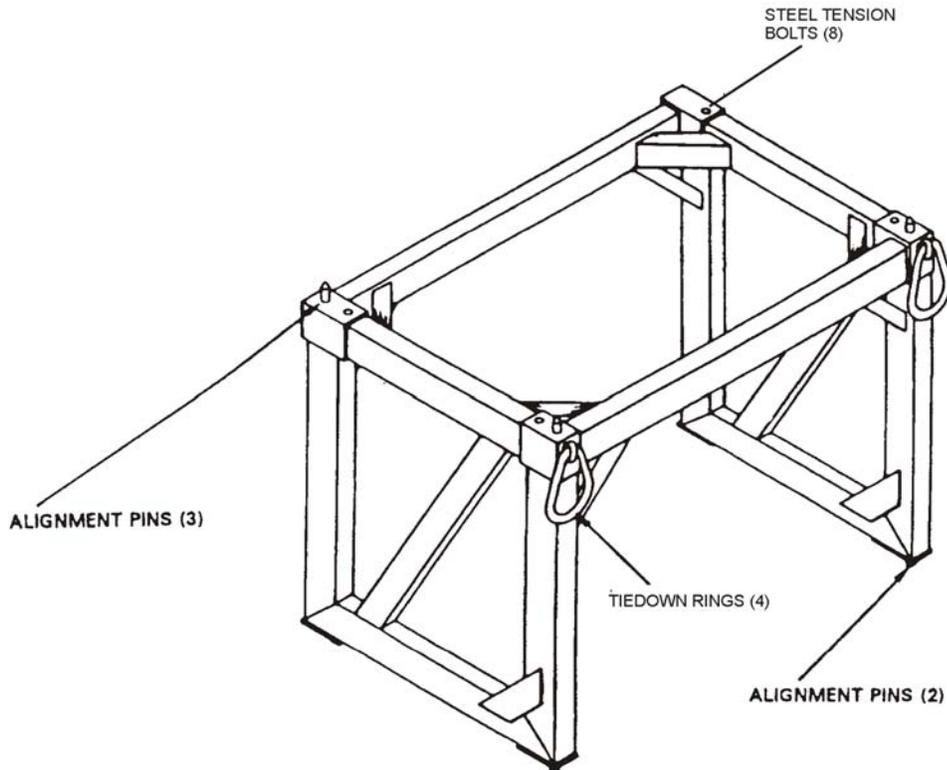
Length 24.00 inches
 Width 7.00 inches
 Height 26.25 inches
 Weight 43 pounds
 SWL (used in pairs) 600 pounds
 Cube 2.55 cubic feet

APPLICATION. Small Stacking Frame MHU-64/E is used when stacking Small Universal Cradles MHU-63/E two high. Two frames must be used, one frame at each end. The frames are attached to the main support rails of the lower cradles with quick-release pins. The upper cradle is secured to the frame by tiedown straps which go over the weapon, connecting to lifting rings on the main upper support rail of the frame. The mated frames and cradles may be stowed or they may be transported on various trailers. Small Stacking Frame MHU-64/E is obsolescent with no replacement item.

ASSOCIATED EQUIPMENT. Small Universal Cradle MHU-63/E, Rough Terrain Trailer A/M32K-4A and Small Munitions Trailer MHU-151/M.

**FRAME, CANISTER STACKING
MK 5 MOD 0
PL 5497288-9
NSN 8T 1450-01-224-9646**

DESCRIPTION. Canister Stacking Frame Mk 5 Mod 0 consists of a steel frame weldment and is equipped with five stacking/alignment pins and eight steel tension bolts used to secure frame to VLS Canister shock isolation skids. Some stacking frames are equipped with four tiedown rings, and some without the four tiedown rings. Either configuration is authorized for use.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/R68, OR-99/86B5000
Op. Proc.	OR-68/177; SPI-PHST-143
EIC/WUC	86B5
SM&R Code	PFOGG
NALC	5W09

PHYSICAL DATA:	
Length	38.96 inches
Width	30.67 inches
Height	31.30 inches
Stacking Height	29.72 inches
Weight	227 pounds
SWL	N/A

APPLICATION. Canister Stacking Frame Mk 5 Mod 0 is used in sets of two to allow stacking of a second VLS Canister for magazine storage and transportation.

ASSOCIATED EQUIPMENT. Shock Isolation Skids Mk 27 Mod 0, Mk 28 Mod 0 and Mk 29 Mod 0/1, Mk 37 Mod 0 and Bar, Lift Mk 5 Mod 0.

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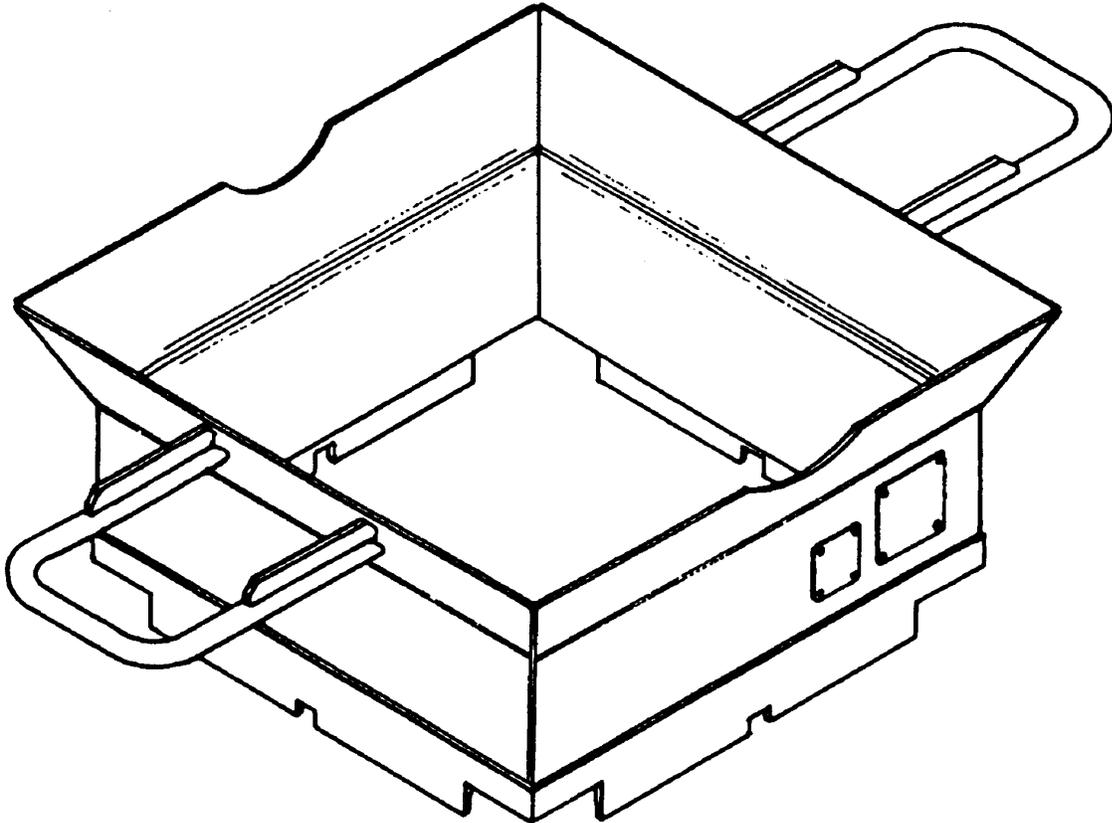
CHAPTER 27

GUIDE

27-1. GENERAL. This section contains only one guide used in handling weapons and explosives. Refer to the item sheet for all descriptive information.

**GUIDE, CELL
MK 115 MOD 0
PL 5497614-9
NSN 8T 1450-01-262-1146**

DESCRIPTION. Cell Guide Mk 115 Mod 0 is an aluminum box shaped weldment. The top of the four box walls are flared outward. The cell guide has two handles on opposing box walls.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	MIP 7221/H01, OR-99/86BP000
Op. Proc.	OR-67/129
EIC/WUC	86BP
SM&R Code	PA5GG
NALC	4W48

PHYSICAL DATA:	
Length	31.25 inches
Width	31.25 inches
Height	15.00 inches
Weight	55 pounds
SWL	N/A

APPLICATION. Cell Guide Mk 115 Mod 0 is used to guide the VLS canister or Adapter Assembly Canister Mk 18 Mods 0 and 1 into a cell aboard ship.

ASSOCIATED EQUIPMENT. Adapter Assembly Canister Mk 18 and Plenum Cell Cover Mk 18 Mod 0.

CHAPTER 28

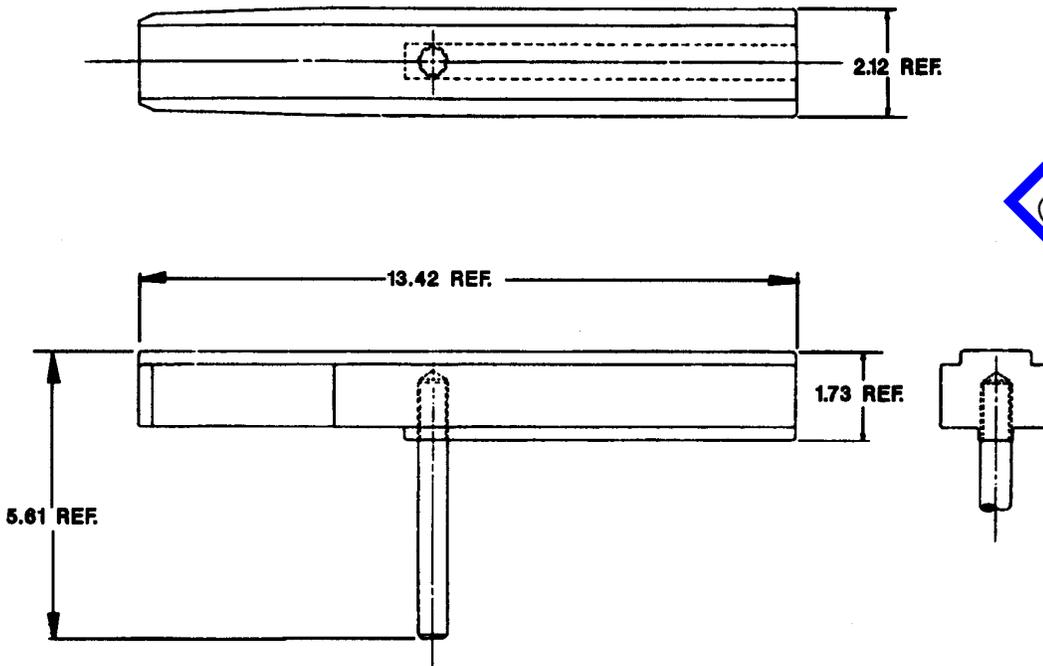
GAUGES

28-1. GENERAL. This section contains gauges used in various weapons assembly procedures. Refer to the item sheets for all descriptive information.

28-2. DESCRIPTION. Gauges covered are: (1) gauges used in positioning weapons during assembly are telescoping metal rods with prescribed settings and pivoting arms that assist ordnance personnel in prepositioning weapons on Airborne Weapons Support Equipment (AWSE) and (2) gauges used to preset weapons attachment lugs and preadjust bomb rack sway braces. Construction is either metal or plastic.

**GAUGE, RAMMER HEAD CHANNEL
DL 2643010
NSN NOT ASSIGNED**

DESCRIPTION. Rammer Head Channel Gauge is a calibrated, tapered steel bar with a threaded removable handle.



OBSOLESCE

REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC	None
SM&R Code	None

PHYSICAL DATA:	
Length	13.42 inches
Width	2.12 inches
Height	5.61 inches
Weight	12 pounds
SWL	N/A

APPLICATION. Rammer Head Channel Gauge is used aboard CLF ships to determine alignment of the rammer head track on the Missile Transfer Dolly, Mk 30 Mod 0 prior to engagement to the missile launcher. Used at depot levels of maintenance for rail to adapter head and rammer head surface alignment. Rammer Head Channel Gauge is obsolescent and is used only by FMS countries.

ASSOCIATED EQUIPMENT. Missile Transfer Dolly Mk 30 Mods 0 and 1.

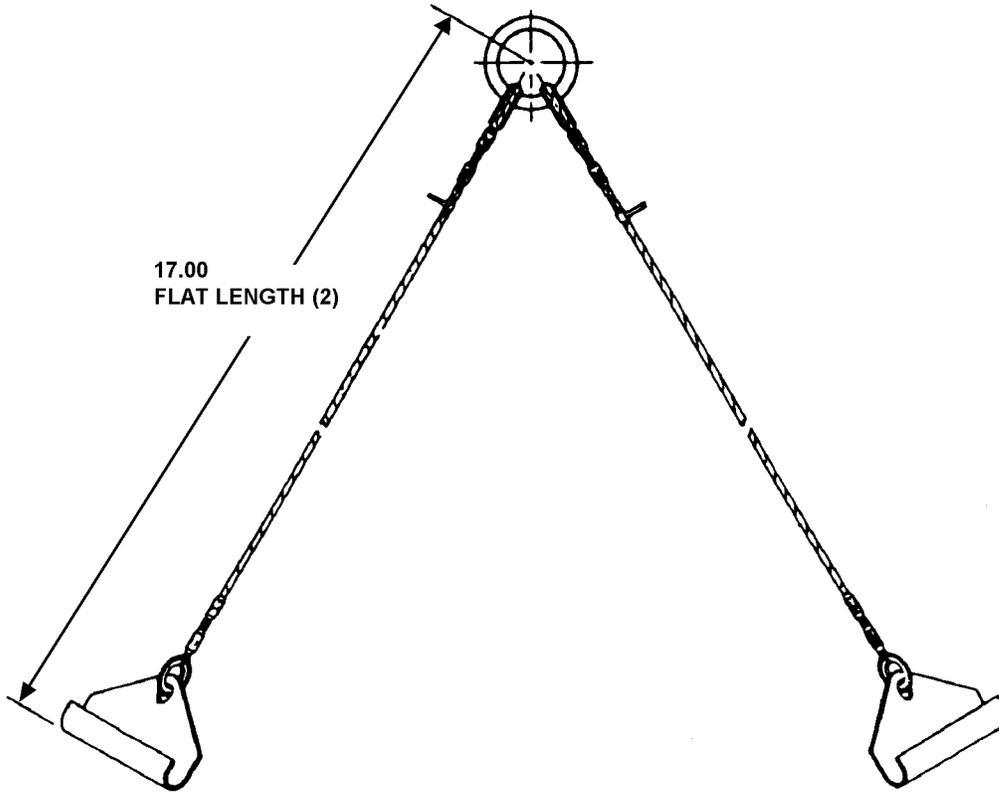
CHAPTER 29

HARNESSES

29-1. GENERAL. This chapter covers two harnesses used during weapons loading operations. Reference should be made to the particular item sheet for detailed information.

HARNES ASSEMBLY, TORPEDO MOUNTED DISPENSER
NAVSEA DWG 3237681
NSN 9B 3940-01-024-1758

DESCRIPTION. Harness Assembly for Torpedo Mounted Dispenser consists of two wire rope legs interconnected with a steel ring, which serves as a lifting eye. The legs are each terminated with a hook assembly.



REFERENCE DATA:	
ISEA	NUWC Newport
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7521/R18
Op. Proc.	OP 4443
EIC/WUC	None
SM&R Code	PAHZZ

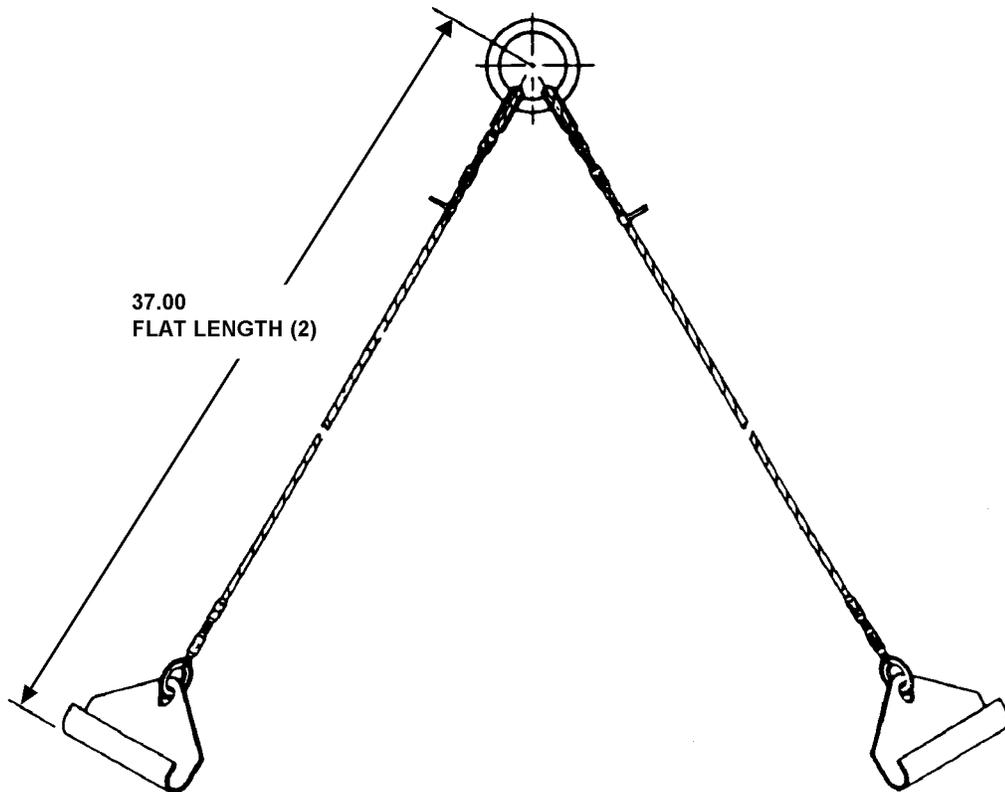
PHYSICAL DATA:	
Length	34.00 inches
Width	5.00 inches
Height	N/A
Weight	3 pounds
SWL	350 pounds

APPLICATION. Harness Assembly, Torpedo Mounted Dispenser is used to handle Torpedo Mounted Dispensers (TMD) Mk 10 Mods 0, 1 or 2 at TMD depots, RFI activities and Heavyweight Torpedo IMA's.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Harness Assembly, Torpedo Mounted Dispenser.

**HARNESS ASSEMBLY,
CONTAINER MK 594
NAVSEA DWG 3246022
NSN 9B 3940-01-048-4043**

DESCRIPTION. Harness Assembly Container Mk 594 consists of two wire rope legs interconnected with a steel ring, which serves as a lifting eye. The legs are each terminated with a hook assembly.



REFERENCE DATA:	
ISEA	NUWC Newport
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	MIP 7521/R18
Op. Proc.	OP 4443
EIC/WUC	None
SM&R Code	PAHZZ

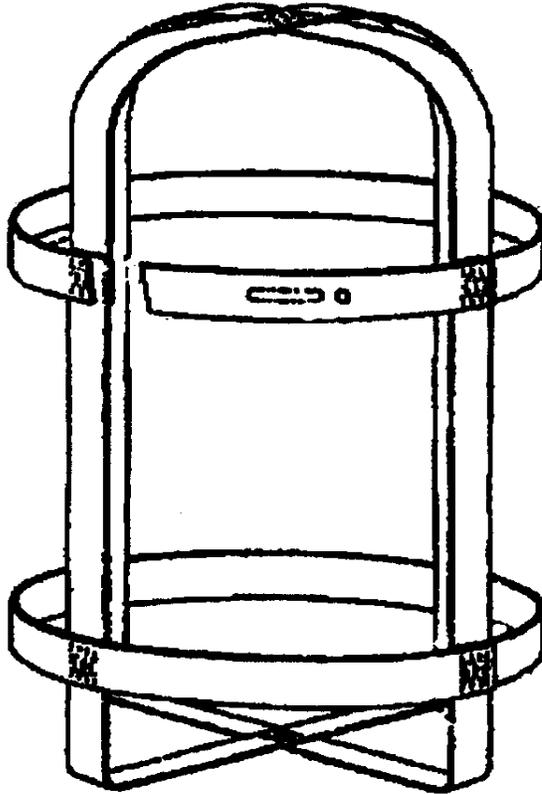
PHYSICAL DATA:	
Length	74.00 inches
Width	5.00 inches
Height	N/A
Weight	5 pounds
SWL	400 pounds

APPLICATION. Container Mk 594 Harness Assembly is used to handle Container Mk 594 Mods 0, 1 or 2 loaded with a Torpedo Mounted Dispenser (TMD) at TMD depots, RFI activities and Heavyweight Torpedo IMA's.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Container Mk 594 Harness Assembly.

HARNES, HANDLING
DWG 1330160-2 AND 1330160-3
NSN 9B 4921-00-678-2015 (1330160-2)
NSN NOT ASSIGNED (1330160-3)

DESCRIPTION. Handling Harness is constructed of multiple lengths of nylon webbing stitched together with nylon thread. The webbing intersects and is sewn together at the top of the harness to create a lifting point.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	SW515-A5-MIB-020
Op. Proc.	SW515-A5-MIB-020
EIC/WUC	N/A
SM&R Code	N/A

PHYSICAL DATA:	
Length (1330160-2)	80 inches
Length (1330160-3)	104 inches
Diameter	12.75 inches
Height	N/A
Weight	0.15 pounds or 2.4 ounces
SWL	150 pounds

APPLICATION. Handling Harness is included as an integral part of the container for either the Torpedo Mk 46 Warhead or Exercise Head in the Container Mk 301 (1330160-2), or the Torpedo Exercise Head Mk 46 in the Container Mk 538 (1330160-3). The item to be packaged is lowered into the container while the harness is in place around the component. It remains in place during storage and shipment of the component and is used when removing the component from the container. The handling harness is stored in the empty container. Note that the handling harness associated with Drawing 1330160-1 is no longer used.

ASSOCIATED EQUIPMENT. Applicable Torpedo Mk 46 component containers are the Mk 301 and Mk 538.

CHAPTER 30

HOISTS

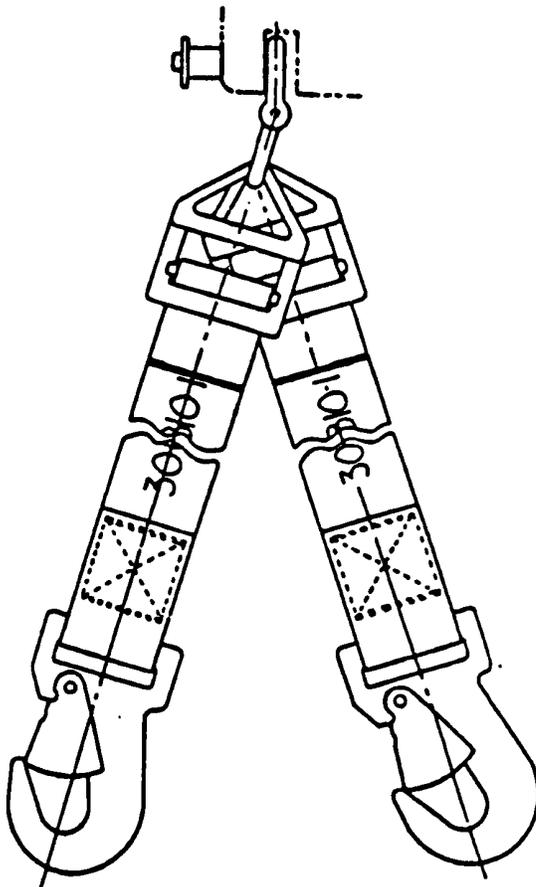
30-1. GENERAL. This chapter covers hoists used in handling weapons, ammunition, and explosives. Reference should be made to the particular item sheet for detailed information.

30-2. DESCRIPTION. Generally, hoists mechanisms give a mechanical advantage for raising or lowering heavy loads.

30-3. OPERATION. Chain hoists are used for lifting a variety of heavy loads when a means of overhead support is available. In selecting a hoist, several factors must be considered: the weight of the load, the height it is to be lifted and the type of hoisting arrangement required. The weight of the load shall not exceed the safe working load (SWL) of the intended hoist.

HOIST, STRAP ASSEMBLY
P/N 1470AS810-1
NSN 1R 1680-01-345-3124

DESCRIPTION. Hoist Strap Assembly consists of two 39-inch long nylon web straps, each with a snap hook attached at the end and a ring at the other end. The two rings are both attached to a common connecting link. The strap assembly is used in pairs.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.....	NAVAIR AG-420VB-OMP-010
EIC/WUC	22BZO
SM&R Code	PAFZZ

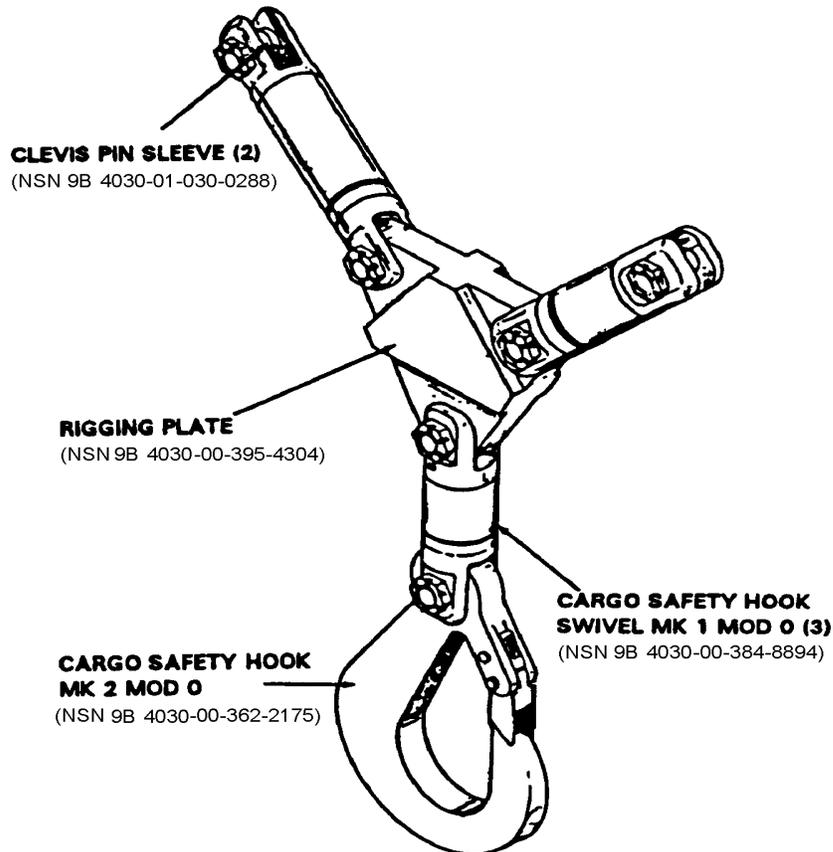
PHYSICAL DATA:	
Length (each strap)	39.00 inches
Width (per strap)	1.72 inches
Height (per strap)	0.07 inches
Weight (per assembly)	4 pounds
SWL (per assembly)	2500 pounds

APPLICATION. Hoist Strap Assembly is used in conjunction with 25MM Hoisting Beam HLU-329/E for lifting the AV-8B Bomb Lift Trailer (P/N 75D75005-1001) for stacking purposes.

ASSOCIATED EQUIPMENT. Bomb-Stores Loading Lift Trailer (P/N 75D750005-1001) and Hoisting Beam HLU-329/E.

**HOISTER ASSEMBLY, CARGO
MK 20 MOD 0
DWG 563891
NSN 9B 4030-01-373-5083**

DESCRIPTION. Cargo Hoister Assembly Mk 20 Mod 0 consists of Cargo Safety Hook Mk 2 Mod 0, Rigging Plate and three Cargo Safety Hook Swivels Mk 1 Mod 0 (two with clevis pin sleeves). Cargo Hoister Assembly must be procured by individual component stock numbers.



REFERENCE DATA:

ISEA PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test [NAVSEA SG420-AP-MMA-010](#)
 PMS/Maint. Insts MIP 7721/R25
 Op. Proc. NAVSEA S9571-AA-MMA-010,
 MSC TW023-AB-WHS-010
 EIC/WUC 89GE
 SM&R Code PAOGG

PHYSICAL DATA:

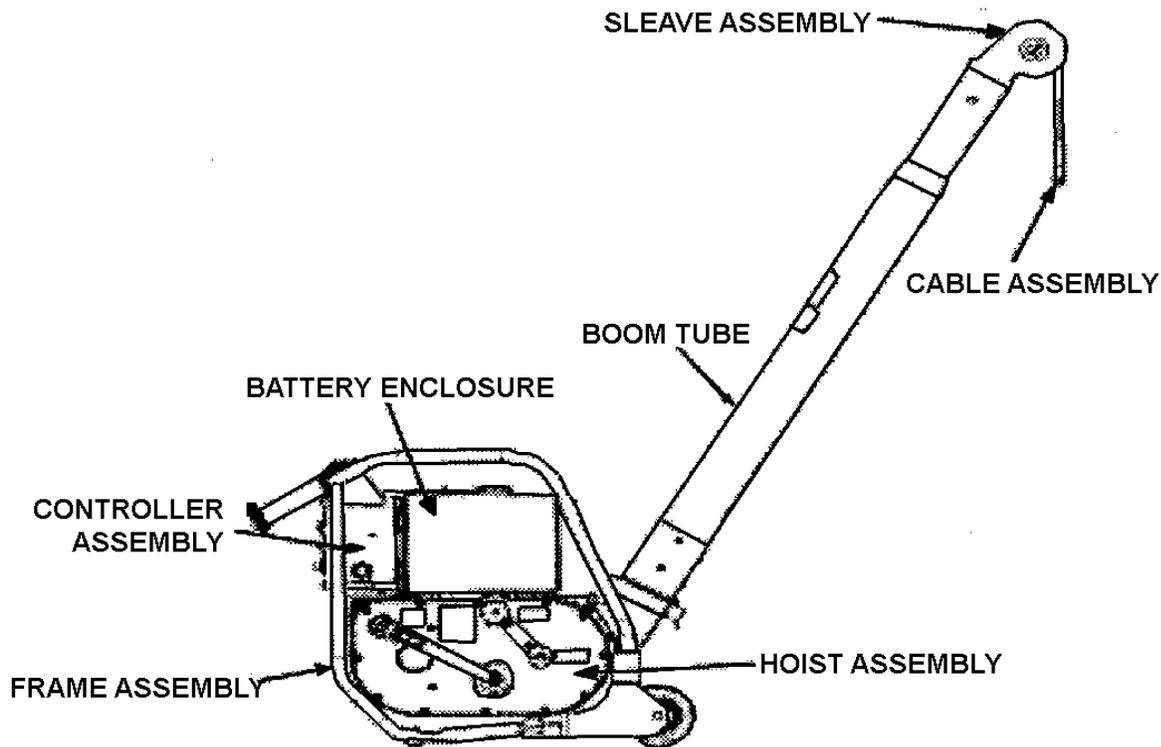
Length 16.00 inches
 Width 2.00 inches
 Height 40.00 inches
 Weight 95 pounds
 SWL 10,000 pounds

APPLICATION. Cargo Hoister Assembly Mk 20 Mod 0 is used for connected transfer-at-sea operations and for general stevedoring operations.

ASSOCIATED EQUIPMENT. Adapter Assembly Cargo Hook Trolley (STREAM).

**HOISTING UNIT, BOMB
HLU-196D/E
P/N 3590AS100-1
NSN 6R 1730-01-447-4628**

DESCRIPTION. Bomb Hoisting Unit HLU-196D/E is a lightweight, portable unit designed to load various weapons/stores on naval aircraft. The Bomb Hoisting Unit consists of a gear driven mechanism, battery operated motor, cable drum assembly, load brake assembly, battery pack, electronic controller, battery charger, A/C adapter, removable boom assembly and a 19-foot cable assembly.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR 19-600-242-6-2
PMS/Maint. Insts	NAVAIR 19-15BA-47
Op. Proc.	NAVAIR 19-15BA-47
EIC/WUC	22FLO
SM&R Code	PEOGK

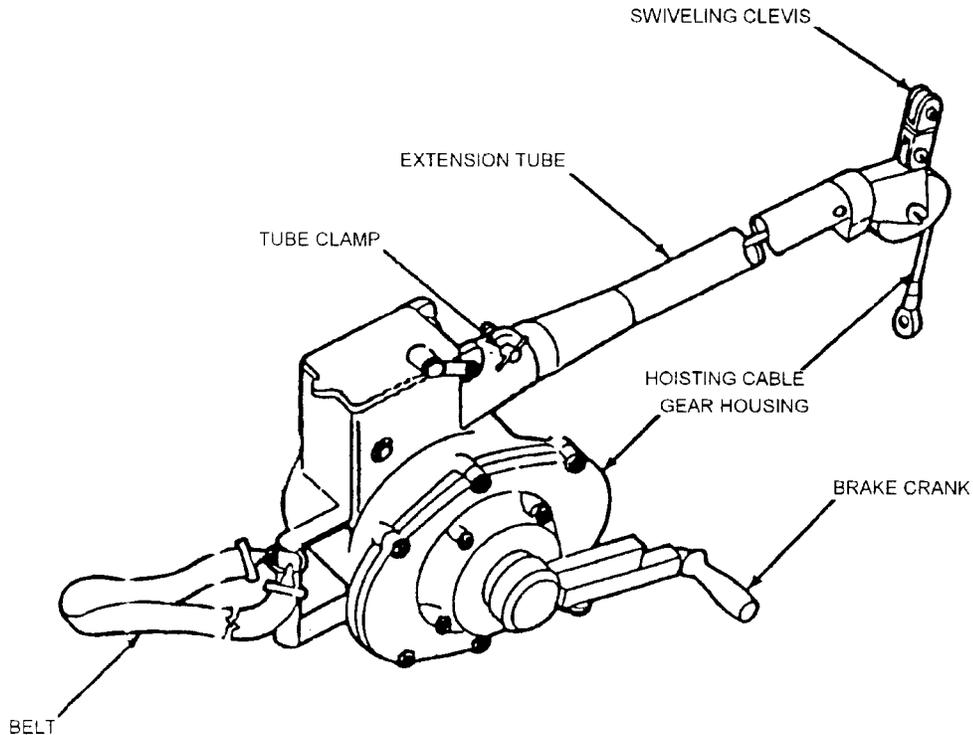
PHYSICAL DATA:	
Length	47.00 inches
Width	18.00 inches
Height	48.00 inches
Weight	123 pounds
SWL (single point lift)	1500 pounds
SWL (double point lift)	3000 pounds

APPLICATION. Bomb Hoisting Unit HLU-196D/E is used singly to hoist various weapons and stores. It is used with a variety of hoisting beams, adapters and trolleys.

ASSOCIATED EQUIPMENT. A wide variety of hoisting beams, adapters and trolleys are used with Bomb Hoisting Unit HLU-196D/E.

**HOIST, BOMB
HLU-288/E
P/N 1353AS100-1
NSN 1R 1730-01-161-8623**

DESCRIPTION. Bomb Hoist HLU-288/E consists of a gear train, drum and cable, brake mechanism, extension tube, and a right-hand brake crank. The cable drum rotates in the direction opposite to that of the brake crank. The brake crank is used to hoist and lower the load. After a load is lifted, a clutch-type brake locks the gear train.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	NAVAIR AG-420BO-MRC-010
PMS/Maint. Insts	NAVAIR AG-420BO-S22-000
Op. Proc.	NAVAIR AG-420BO-S22-000
EIC/WUC	22FMO
SM&R Code	PEOGG

PHYSICAL DATA:	
Length	56.00 inches
Width	14.00 inches
Height	18.00 inches
Weight	54 pounds
SWL (single point lift)	2240 pounds
SWL (double point lift)	4480 pounds

APPLICATION. The Bomb Hoist HLU-288/E is used with SHOLS adapters to load various stores, weapon replaceable assemblies and weapons onto a variety of aircraft. Bomb Hoist HLU-288/E replaces Bomb Hoist AERO 14C which is obsolete. Bomb Hoist HLU-288/E is used to install and remove the M61 gun in the F/A-18 Aircraft and the FLIR pod.

ASSOCIATED EQUIPMENT. A wide variety of hoisting beams, adapters and trolleys are used with Bomb Hoisting Unit HLU-288/E.

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CHAPTER 31

HOOKS

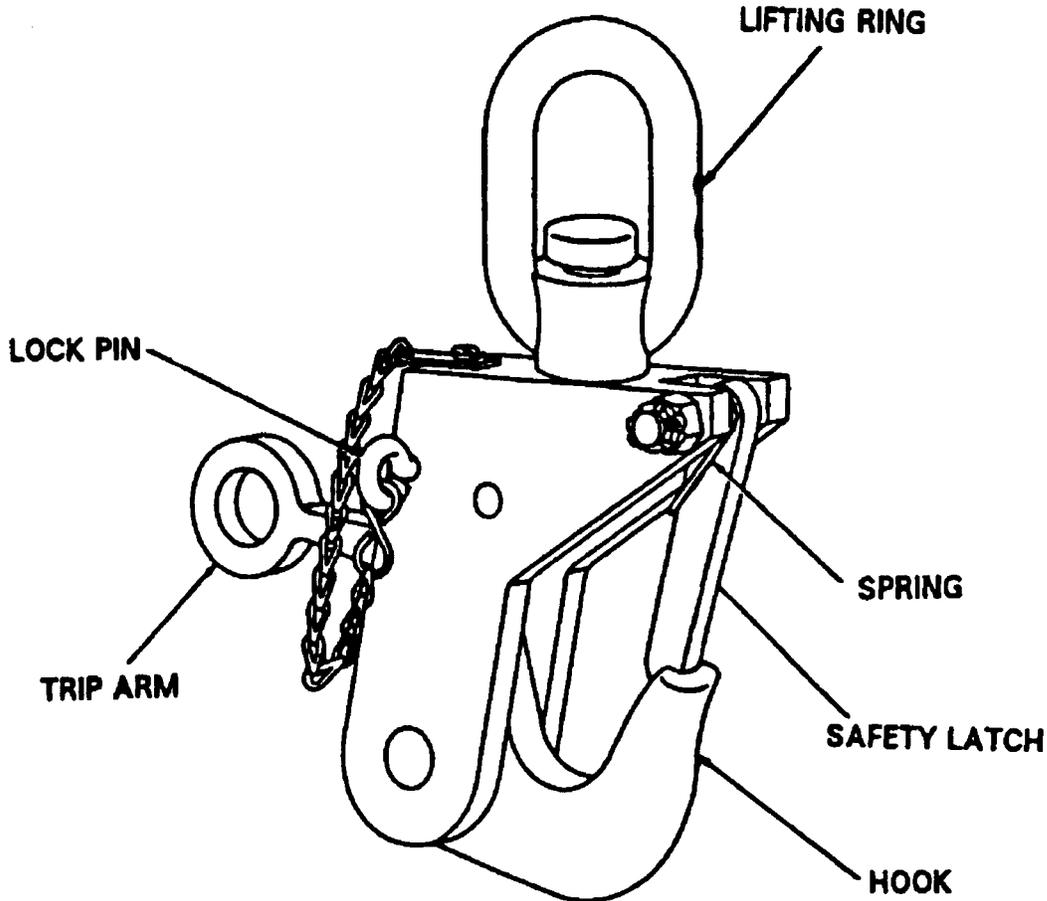
31-1. GENERAL. This chapter covers hooks used in handling weapons, ammunition, and explosives. Reference should be made to the particular item sheet for detailed information.

31-2. DESCRIPTION. Hooks described in this chapter are of the general cargo and hoisting type. The cargo hook is constructed steel having a short leg extending from its base toward the point of the hook to prevent a sling or line from slipping off the hook. Some styles are furnished with swivels, links, and the like for special uses. The hoisting hook is constructed steel having a relatively narrow, shallow throat.

31-3. OPERATION. The hooks described in this chapter are used with hoisting devices for general cargo handling and other lifting operations. When selecting a hook, consideration should be given to the lifting capacity of the hook and the type required (fixed eye, bail, hoist, swivel, shank and trip).

**HOOK, TRIP
LD 296135
NSN NOT ASSIGNED**

DESCRIPTION. Trip Hook is a device designed to release a suspended load the instant a lanyard, attached to the hook, is pulled. The hook supports the mine or anchor to be planted so that it can be released at any desired moment during planting operations.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	None
Op. Proc.	None
EIC/WUC . . . . .	.8983
SM&R Code	None

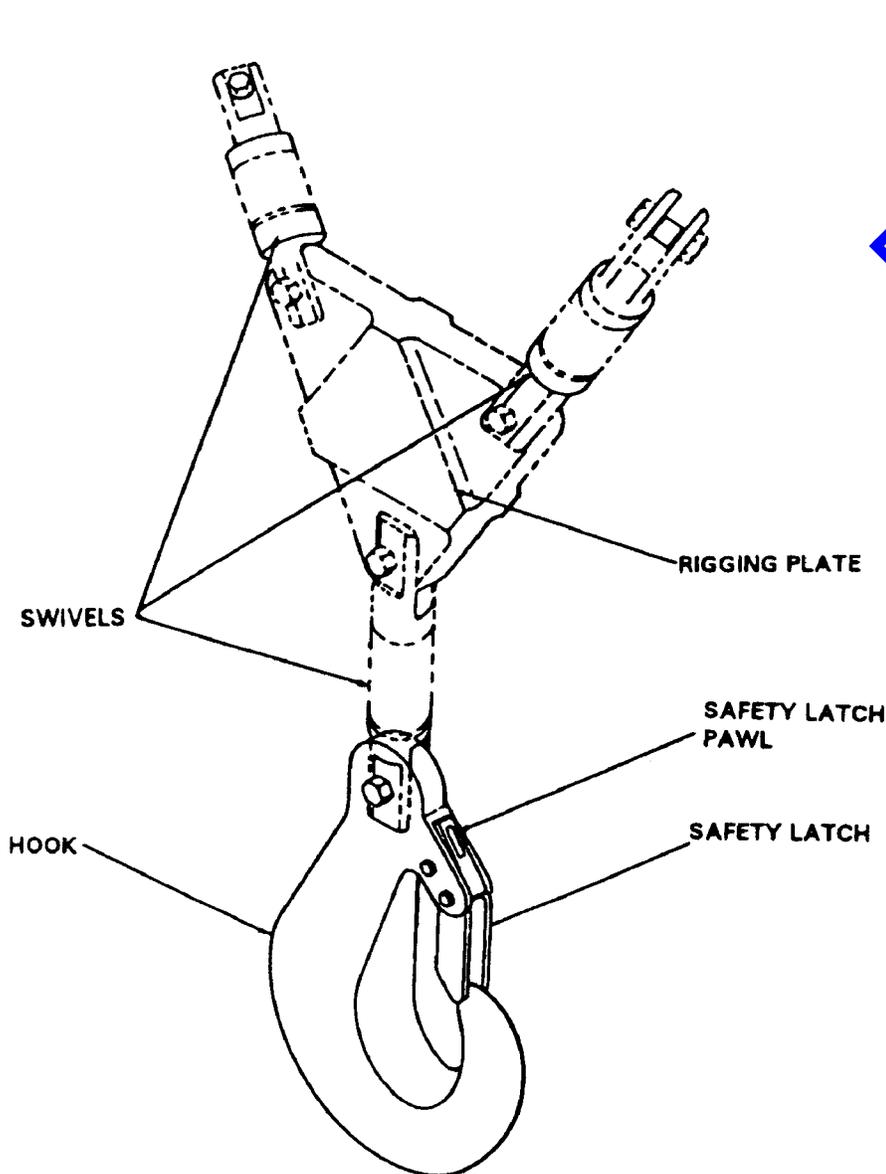
PHYSICAL DATA:	
Length	10.50 inches
Width	5.00 inches
Height	13.75 inches
Weight . . . . .	.9 pounds
SWL . . . . .	.600 pounds

APPLICATION. Trip Hook is used with Controlled Mine Systems Mk 1 Mod 0 and Mk 2 Mod 0.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Trip Hook.

**HOOK, CARGO SAFETY
MK 2 MOD 0
LD 563869
NSN 9B 4030-00-362-2175**

DESCRIPTION. Cargo Safety Hook Mk 2 Mod 0 is a modification of Cargo Hook Mk 1 Mod 0 (Port Chicago Hook). The safety latch has been changed from gravity functioning to spring-loaded. The general hook shape has been altered making a slightly larger hook (17 inches long instead of 15.5 inches) with a greater throat opening (2.13 inches instead of 1.63 inches). A pawl secures the safety latch in the closed position and also holds the latch open when coupling and uncoupling the hook. The hook will easily accommodate four loops of standard 3.5 inch manila rope. Note that the three Cargo Swivel Safety Hooks Mk 1 Mod 0, Rigging Plate (Dwg. 593163) and connecting bolts do not come with the Cargo Safety Hook Mk 2 Mod 0. Instead, these items must be ordered separately.



OBSOLESCE

**HOOK, CARGO SAFETY
MK 2 MOD 0
LD 563869
NSN 9C 4030-00-362-2175**

REFERENCE DATA:

Refer to Mk 20 Hoister Assembly Drawing

PHYSICAL DATA:

Length 10.80 inches
Width 2.00 inches
Height 17.00 inches
Weight 38 pounds
SWL 10,000 pounds

APPLICATION. Cargo Safety Hook Mk 2 Mod 0 is used for connected transfer-at-sea operations and for general stevedoring operations. Cargo Safety Hook Mk 2 Mod 0 is obsolescent and is replaced by Cargo Hoister Assembly Mk 20 Mod 0.

ASSOCIATED EQUIPMENT. Cargo Swivel Safety Hook Mk 1 Mod 0 and Rigging Plate.

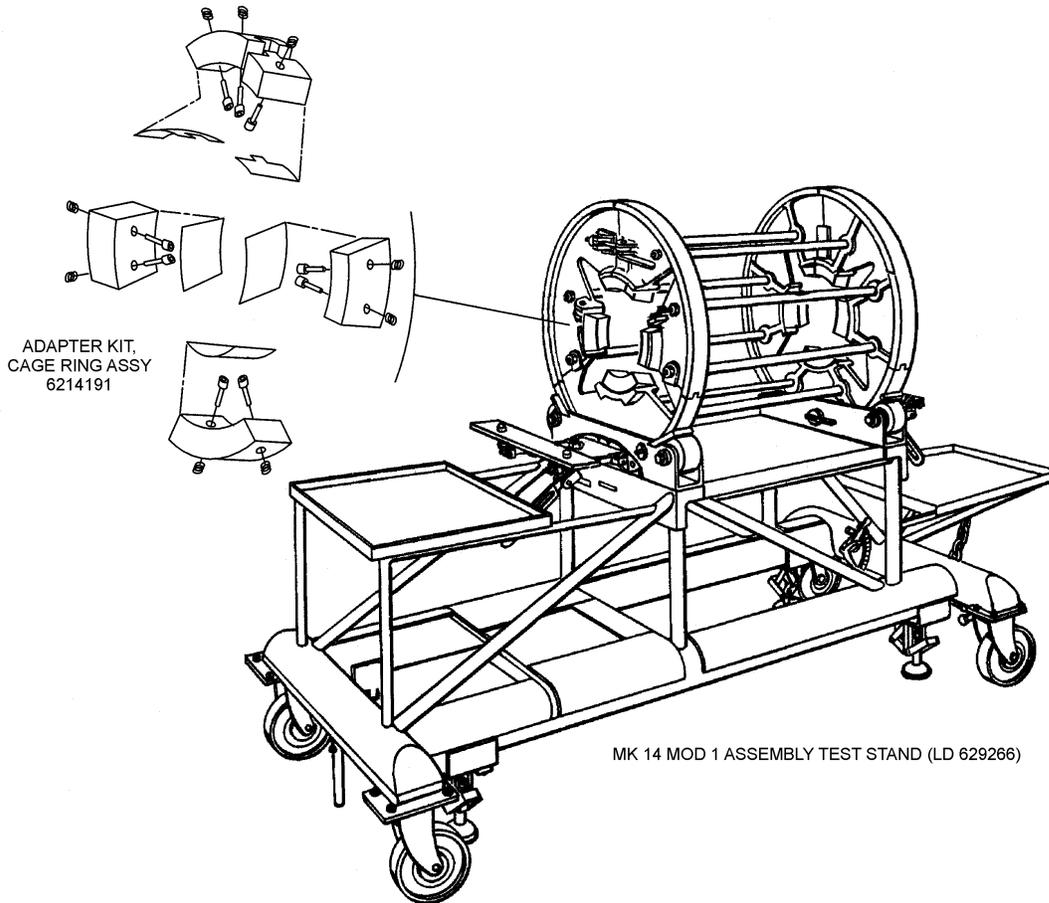
CHAPTER 32

KIT

32-1. GENERAL. This section covers kits used during weapons loading operations. Refer to the item sheets for all descriptive information.

**ADAPTER KIT, CAGE RING ASSEMBLY
DWG 6214191
NSN NOT ASSIGNED**

DESCRIPTION. Cage Ring Assembly Adapter Kit (6214191) is comprised of 10 aluminum spacers with rubber pads which are bolted on the Assembly Test Stand's Mk 14 Mod 1 forward and aft cage rings. The spacers (five/ring) reduce the cage ring assembly inside diameter so it can receive the ESSM propulsion section.



REFERENCE DATA:

ISEA . . . PHST Center/NSWC IHEODTD Det Picatinny
 Periodic Test Not Required
 PMS/Maint. Insts OR-99/86Y3000
 Op. Proc. OR-67/205
 EIC/WUC None
 SM&R Code None

PHYSICAL DATA:

Length N/A
 Width N/A
 Height N/A
 Weight 28 pounds
 SWL 1650 pounds

APPLICATION. Cage Ring Assembly Adapter Kit was developed to enable the Assembly Test Stand Mk 14 Mod 1 to handle the Evolved SEASPARROW Missile (ESSM) propulsion section.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Cage Ring Assembly Adapter Kit (6214191).

**KIT, SLIDE ASSEMBLY
DL 6214195
NSN NOT ASSIGNED**

DESCRIPTION. Slide Assembly Kit (6214195) is comprised of an 1-3/4-inch high x 1-1/4-inch wide x 15-1/2-inch long aluminum slide bar, two 2-1/4-inch high x 2-inch wide x 5-inch long aluminum U-shaped roller slide, and two 3/8-inch diameter quick-release pins. The slide bar has six positioning holes and four mounting holes, each roller slide has two threaded attachment holes for the dolly pillow block/long roller assemblies, and one 3/8-inch positioning hole. The slide bars are bolted to the dolly carrier after removal of the dolly pillow block/long roller assemblies. The roller slides are installed on the slide bars and dolly pillow block/long roller assemblies are installed on the roller slides. The quick-release pins are used to position/lock the roller slides on the slide bar at the long roller center to center distance required for the ESSM section diameter to be processed. Two slide assembly kits are installed on the dolly.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	Not Required
PMS/Maint. Insts	OR-99/86X1000, 86XY000
Op. Proc.	OR-67/206
EIC/WUC	None
SM&R Code	None

PHYSICAL DATA:	
Length	N/A
Width	N/A
Height	N/A
Weight	N/A
SWL (Mod 0 Dolly)	360 pounds
SWL (Mod 1 Dolly)	360 pounds

APPLICATION. Slide Assembly Kit was developed to enable the Missile Section Dollies Mk 19 Mods 0 and 1 to handle Evolved SEASPARROW Missile (ESSM) sections; steering control units; auto-pilot battery units; warheads; exercise heads; and target detecting devices (TDD's) during missile assembly and disassembly operations. The Missile Section Dolly Mk 19 Mod 1 roller extension (2644921) is removed from the dolly when adapted for ESSM sections.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with Slide Assembly Kit.

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CHAPTER 33

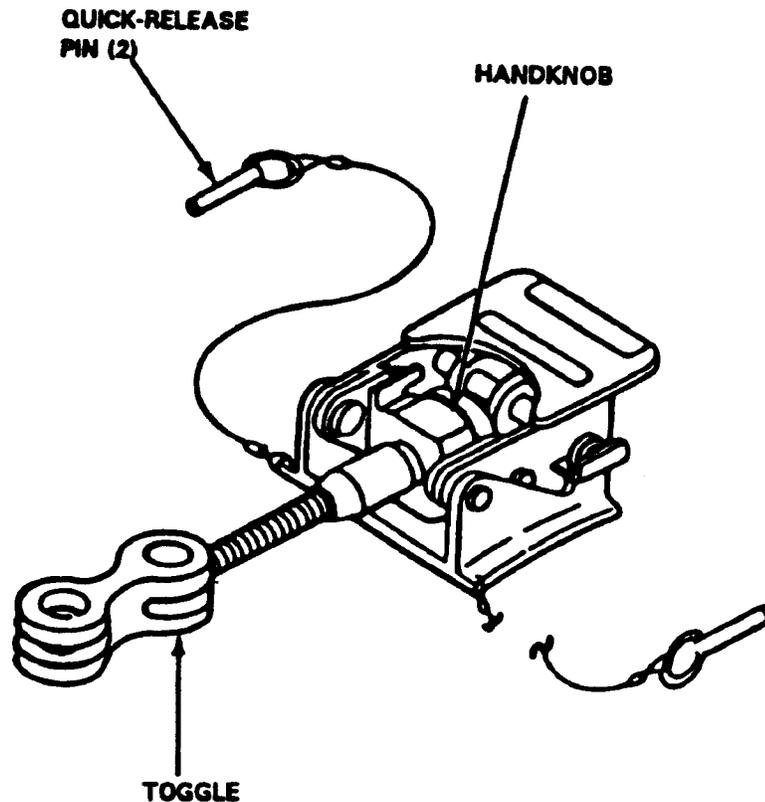
LATCH

33-1. GENERAL. This section covers only one latch used during weapons loading operations. Refer to the item sheet for all descriptive information.

33-2. DESCRIPTION. Latches are a metal weldment with different components such as eyelets, lugs and safety pins. Latches are used together with different bands and hoists to load aircraft with weapons and stores.

**LATCH ASSEMBLY, BAND
HLK-278
P/N 65A101D3-1
NSN 1R 1730-01-141-2281**

DESCRIPTION. Band Latch Assembly HLK-278 consists of a base plate, a toggle and an adjustment screw with hand knob. A quick-release pin is provided for securing the latch assembly to a hoist cable.



REFERENCE DATA:	
ISEA	NAWC-AD Lakehurst
Periodic Test	Not Required
PMS/Maint. Insts	NAVAIR AG-241AO-MRC-000
	and -010
Op. Proc.	NAVAIR 19-15BD-6
EIC/WUC	22BZO
SM&R Code	PAOZZ

PHYSICAL DATA:	
Length	9.00 inches
Width	3.00 inches
Height	1.50 inches
Weight	1 pound
SWL	3200 pounds

APPLICATION. Band Latch Assembly HLK-278 is used to clamp a hoisting band around various weapons for loading/downloading to/from aircraft using single-point hoisting. The band latch also tightens the band using a toggle action. Final tensioning is accomplished by adjustment of the hand knob.

ASSOCIATED EQUIPMENT. Hoisting Band HLK-275A, Hoisting Band HLK-276A, Hoisting Band HLK-277, and Anchor Fitting Assembly HLK-279.

CHAPTER 34

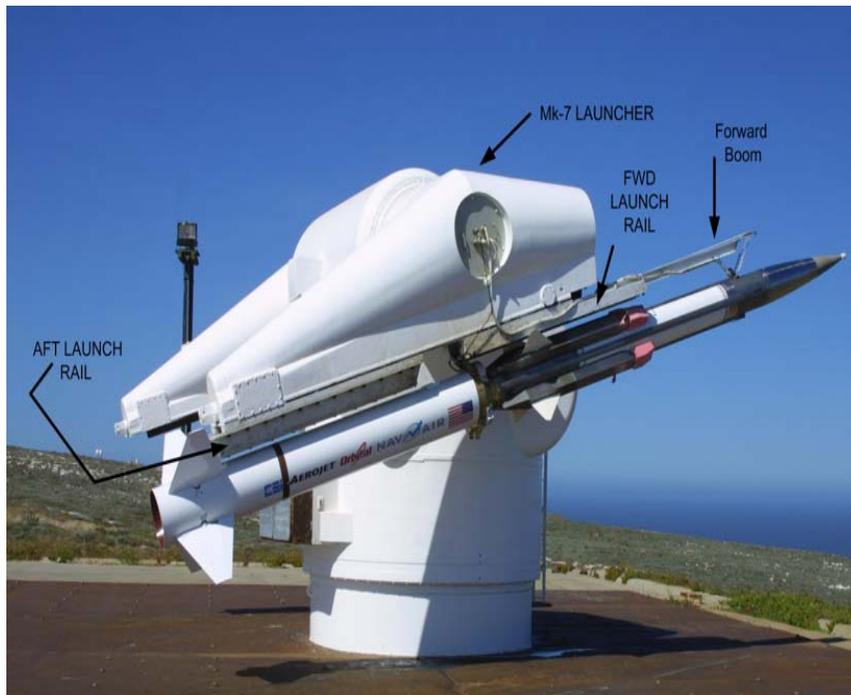
LAUNCH

34-1. GENERAL. This section covers the Launch Interface Kit (LIK) which is mounted to the underside of a Mk 7 Launcher in support of the Mk 70 Booster.

34-2. DESCRIPTION. The LIK consists of four steel, eight-foot forward and aft spacers and two steel, eight-foot forward and aft rails. An aft stop is attached behind the aft launch rails preventing the aft shoe (and therefore the entire Complete Vehicle) from slipping backward off the rails.

**LAUNCH INTERFACE KIT (LIK)
ORBITAL P/N 1030-4050
NSN NOT ASSIGNED**

DESCRIPTION. The Launch Interface Kit (LIK) consists of four steel, eight-foot forward and aft spacers and two steel, eight-foot forward and aft rails. An aft stop is attached behind the aft launch rails preventing the aft shoe (and therefore the entire Complete Vehicle) from slipping backward off the rails. The aft stop also supports the vehicle during positive vertical rotation of the launcher. The launch rails and spacers are secured to the launcher and to one another using one-inch diameter socket-head cap screws. An aluminum umbilical I-beam is attached to the forward rails via a stiffener, which allows for attachment and retraction of the Front End Subsystem (FES) umbilical cable.



REFERENCE DATA:	
ISEA . . .	PHST Center/NSWC IHEODTD Det Picatinny
Periodic Test	NAVSEA SG420-AP-MMA-010
PMS/Maint. Insts	WP15-6061
Op. Proc.	WP 42-5020, WP15-1060, WP15-1061, WP 42-5021
EIC/WUC	None
SM&R Code	None
NALC	None

PHYSICAL DATA:	
Length	291.00 inches
Width	24.75 inches
Weight	6700 pound
SWL	5374 pounds (Fwd Rail 5037 pounds & Aft Rail 337 pounds)

APPLICATION. The Launch Interface Kit (LIK) is to be mounted to the underside of a Mk 7 Launcher in support of the Mk 70 Booster.

ASSOCIATED EQUIPMENT. No particular handling equipment is associated with the Launch Interface Kit (LIK).

Ref: NAVSEAINST 4160.3A NAVSEA S0005-AA-GYD-030/TMMP

NAVSEA/SPAWAR TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (TMDER)

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7. RECOMMENDED CHANGES TO PUBLICATION

7a. Page #	7b. Para #	7c. RECOMMENDED CHANGES AND REASONS

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