SW551-A2-MMI-010

0640-LP-106–0407 **REVISION 5**

TECHNICAL MANUAL
DESCRIPTION, ASSEMBLY, AND TEST

MINES MK 62 AND 63

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FOREWORD

This manual contains description, upgrading, and downgrading for Mine, Underwater, Mk 62/63.

Chapters in this manual are arranged in the following order:

Chapter 1 - Introduction
Chapter 2 - Mine Descriptions
Chapter 3 - Shop Procedures
Chapter 4 - Assembly
Chapter 5 - Disassembly
Appendix A - Repackaging Mine Components
Appendix B - Procedure For Using Weapons Dolly Mk 11 For the Assembly of Mine Mk 63
Appendix C - Illustrated Parts Breakdown (IPB)
Appendix D - Test Set Preparation Job Sheets

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SAFETY SUMMARY

GENERAL SAFETY INSTRUCTIONS

This manual describes physical and chemical processes which may cause injury or death to personnel, or damage to equipment if not properly followed. This safety summary includes general safety precautions and instructions that must be understood and applied during operation and maintenance to ensure personnel safety and protection of equipment. Prior to performing any task, the WARNINGs, CAUTIONs and NOTEs included in that task shall be reviewed and understood. Personnel should familiarize themselves with safety procedures referenced in the appendices of this manual.

WARNINGS CAUTIONS AND NOTES

WARNINGs and CAUTIONs are used in this manual to highlight operating or maintenance procedures, practices, conditions or statements which are considered essential to protection of personnel (WARNING) or equipment (CAUTION). WARNINGs and CAUTIONs immediately precede the step or procedure to which they apply. WARNINGs and CAUTIONs consist of four parts: heading (WARNING or CAUTION), a statement of the hazard, minimum precautions, and possible result if disregarded. NOTEs are used in this manual to highlight operating or maintenance procedures, practices, conditions or statements which are not essential to protection of personnel or equipment. NOTEs may precede or follow the step or procedure, depending upon the information to be highlighted. The headings used and their definitions are as follows.

WARNING

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in injury to, or death of, personnel or long term health hazards.

CAUTION

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in damage to, or destruction of, equipment or loss of mission effectiveness.

NOTE

Highlights a non-essential operating or maintenance procedure, condition, or statement.

SAFETY PRECAUTIONS

The following safety precautions shall be observed while performing procedures in this manual.

WARNING

Cleaning with compressed air can create airborne particles that may enter eyes or penetrate skin. Pressure shall not exceed 30 psig. Wear goggles. Do not direct compressed air against skin.

Under no circumstances should any person service or adjust electrical equipment, without the presence of another person in the immediate vicinity who is capable of securing live circuits and rendering first aid.

Procedures herein often require the handling of hazardous materials. Personnel shall become familiar with hazards and comply with guidance listed in applicable Material Safety Data Sheets (MSDS).

Personnel shall become familiar with Personal Protective Equipment (PPE) requirements listed in individual job sheets and shall correctly utilize PPE during completion of those job sheets.

Cadmium corrosion products may contain cadmium salts which are toxic when inhaled or ingested, or may cause local skin irritation. Do not sand, scrape, or perform any operation on the cadmium coated material that may cause cadmium dust. Wear PPE in accordance with local health and safety regulations when handling or working on cadmium coated material.

CAUTION

Personnel shall review appropriate procedures prior to operating test equipment Failure to comply could result in damage to equipment.

Do not use metal tools to remove preformed packing. Scratches could result in corrosion, pitting, or other damage.

To avoid damage to equipment, ensure electrostatic discharge (ESD) safety precautions are observed, where applicable.

CHAPTER 1
INTRODUCTION

1.1 PURPOSE AND SCOPE

The primary purpose of this manual is to provide assembly and disassembly instructions for personnel responsible for preparation of Mines Mk 62 and 63. Brief functional and physical descriptions of Mines Mk 62 and 63 are provided in this manual. Operational characteristics for Mines Mk 62 and 63 are explained in greater detail in OP 2637. Technical data on the components are contained in SW550-AA-MMI-010.

1.2 MINES

Mine Mk 62 is a 500-lb weapon. Mine Mk 63 is a 1000-lb weapon. Mines Mk 62 and 63 are aircraft-laid and can be utilized as land mines or may be laid in shallow to deep water as bottom mines. The component interchangeability concept of the mine permits defective components to be quickly and easily replaced without greatly affecting the operational readiness of the weapon. This concept also allows Mines Mk 62 and 63 to be identical to their bomb counterpart in appearance, external configuration, weight, center of gravity, ballistics, handling, and loading.

1.3 AUTHORIZED CONFIGURATION DATA

Variations in the use of assembly level items within an authorized mine mod configuration are shown in Table 1-1 through Table 1-3.

Specification of the mod or mods to be assembled will be found in the master record sheet (MRS) data issued to the assembly activity. Also specified will be the mine setting codes. Except as may be directed by overriding orders from an operational commander, only components or combinations of components specified in Table 1-1 through Table 1-3 are authorized for assembly.

1.4 MASTER RECORD SHEET EXPLAINED

1.4.1 Purpose. The master record sheet (MRS) is used to provide assembly and operational data but also to provide serial numbers for such units as bombs, target detecting devices (TDDs), and boosters. A properly executed MRS provides significant component identification data and a summation of the principal actions and settings as applied to the assembly of mines.

1.4.2 Use. For all weapons covered in this manual, an MRS shall be completed to show, among other data, the minefield planners' specified operational settings. It is the decision of the Commanding Officer or the Officer in Charge as to the necessity of MRS for subassemblies. Detailed instructions for using the MRS are in SW550-F0-PMS-010.

Table 1-1. Authorized Operational Assemblies for Mine Mk 62

Component	Mod	0					
	OA	02	03	06	09	12	13
Battery Mk 130		1	1	1	1	1	1
Bomb Fin Mk 15		1	1				
Bomb Fin BSU-86/B or BSU-86A/B					1		
Bomb Mk 82 or BLU-111A/B		1	1	1	1	1	1
Tail Section Mk 16 Mod 0				1			
Cable and Strap Assembly		1					

Table 1-1. Authorized Operational Assemblies for Mine Mk 62 - Continued.

Component	Mod	0					
	OA	02	03	06	09	12	13
Kit, Conversion, Mk 130		1	1	1	1	1	1
Tail Section Mk 16 Mod 1						1	1

Table 1-2. Authorized Operational Assemblies for Mine Mk 63

Component	Mod	0		
	OA	02	03	06
Battery Mk 130		1	1	1
Bomb Mk 83 or BLU-110A/B		1	1	1
Bomb Fin Adapter ADU-320A/B		1	1	
Bomb Fin MAU-91A/B		1	1	
Tail Section Mk 12				1
Cable and Strap Assembly		1		
Kit, Conversion, Mk 130		1	1	1

Table 1-3. Approved Aircraft Flight Configurations for Mine Mk 62 With Tail Section Mk 16

Mod 0	Mine Variables	F/A-18	B-1	B-2
OA 06	Tail Section Mk 16 Mod 0	1		
OA 12	Tail Section Mk 16 Mod 1		1	
OA 13	Tail Section Mk 16 Mod 1			1
Fin Configuration		X	+	+
Suspension Lugs		MS3314	MS3314	MS3314
Max. No. of Mines	Single Stores	5	84	80
	VER Stores	10		

1.5 ITEM IDENTIFICATION

Item names used in this manual conform to the DOD standardized names used in FEDLOG and TW010-AA-ORD-010 Authorized Configuration Data for Mines. Major weapon components and special-purpose test equipment, to which mark-mod designators have been assigned, are identified herein by their item name and mark-mod designators. Component parts, hazardous materials, and special tools are identified by drawing or part numbers. These numbers, when referred to MAD or FEDLOG, cross-reference to national stock numbers, DOD logistics codes, piece-parts information, and to all printed data pertinent to supply, maintenance, and use of the item.

1.6 HOW TO USE THIS BOOK

Chapter 4 and Chapter 5 of this manual contain detailed assembly and disassembly instructions in the form of removable job sheets. In addition to specific instructions and illustrations, each job sheet lists the assembly-level items, piece-parts, and support items (tools and bulk items) needed to perform the job. Numbers in parentheses in these lists give item quantities required per weapon. Since this manual covers

assembly and disassembly operations, the job sheets are divided into two indexed groups (assembly and disassembly).

The job sheets within each group are numbered consecutively to allow orderly return to the manual after use. For the performance of specific assembly or disassembly operations, consult the appropriate index; then use only the job sheets that are specified for a specific operation. Each job sheet is complete in itself, i.e., contains all the instructions, illustrations, and lists of components, and support items necessary to perform the specified tasks. Setting up can easily be tailored to the requirements of any operation. Where only a few weapons are to be maintained in one shop, entire groups of job sheets can be performed in numerical order by one or two minemen. For a larger operation, an assembly line can be set up and appropriate job sheets assigned to the various work stations.

Some assembly/disassembly procedures in this manual are such that they can be performed simultaneously; e.g., procedures for bomb preparation, fin preparation, and operational settings. In such cases, it is permissible to perform those operations simultaneously even though they may follow one another in numerical order. The Commanding Officer or Officer In Charge (CO/OIC) may authorize procedural deviations in order to meet operational requirements provided that such job sheets do not relate to personnel safety or to explosives handling and testing within the scope of OP 5 and OP 4.

Appendix A provides repackaging instructions for mine components.

Appendix B details the procedure for using Weapons Dolly Mk 11 for assembly.

Appendix C contains an Illustrated Parts Breakdown (IPB) for the weapons contained in this manual. Illustrations for individual components are provided in SW550-AA-MMI-010.

Appendix D provides Test Set Preparation job sheets.

1.7 QUALITY ASSURANCE REQUIREMENTS

Inspection requirements are included within the assembly procedures as operational steps located at recommended points of inspection. Changes to the sequence and location of inspections are allowed provided all inspections are performed and no safety requirements are violated. Inspections shall be recorded in accordance with local activity plan in support of NAVSEAINST 8020.14 (series). Inspectors need not be specifically designated inspectors; they may be line supervisors or any qualified personnel as determined by the CO/OIC.

1.8 RELATED PUBLICATIONS

Additional mine maintenance documents related to this manual are listed in Table 1-4:

Table 1-4. Related Publications

SW550-AA-MMI-010	Technical Manual For Mine Components, Description and Class-B Criteria
SW550-F0-PMS-010	Underwater Mine Maintenance System
SW023-AB-WHS-010	Mines, Handling, Packaging and Transportation
OP 4	Ammunition and Explosives Safety Afloat
OP 5	Ammunition and Explosives Safety Ashore
OP 3565	Radio Frequency Hazards to Ordnance, Personnel and Fuel
NAVSEAINST 8020.14	Shore Station Explosives Safety Inspection Program
OPNAVINST 8550.12	Mine and Destructor Assembly Configuration, Definitions and Use

1.9 DEFECT REPORTING

SW550-F0-PMS-010 establishes and describes the system of defect reporting prescribed for mines. That system includes provisions for recommending improvements to hardware and to this manual.

CHAPTER 2
MINE DESCRIPTIONS

2.1 CHARACTERISTICS

Mines, Mk 62 and 63, a re 500-lb and 1000-lb, aircraft-laid, bottom or land mines. The detection system responds to either magnetic or magnetic and seismic target influences.

2.2 WEIGHTS AND DIMENSIONS

Figure 2-1 and Figure 2-2 show the typical weights and dimensions of the assembled Mines Mk 62 and Mk 63.

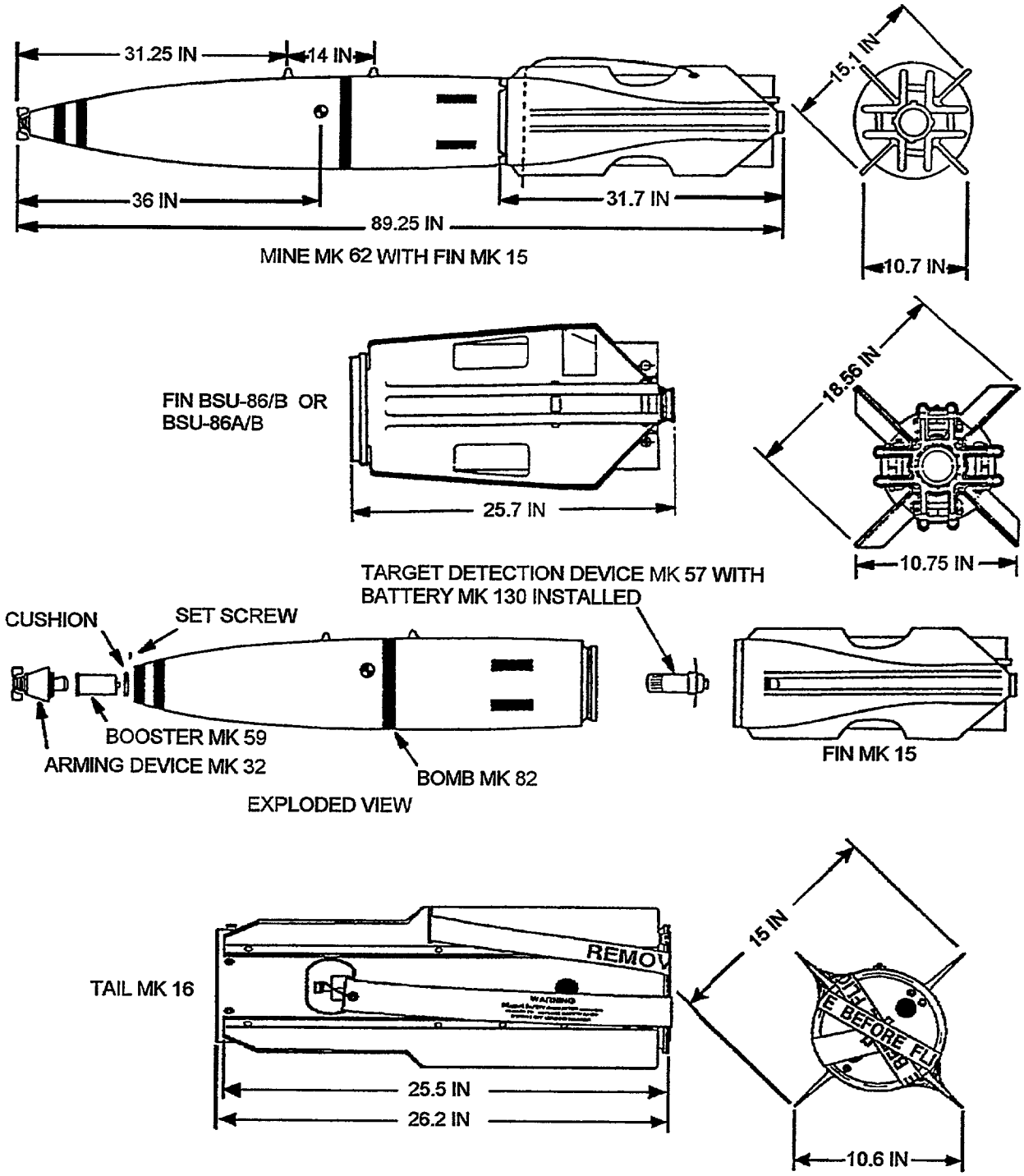


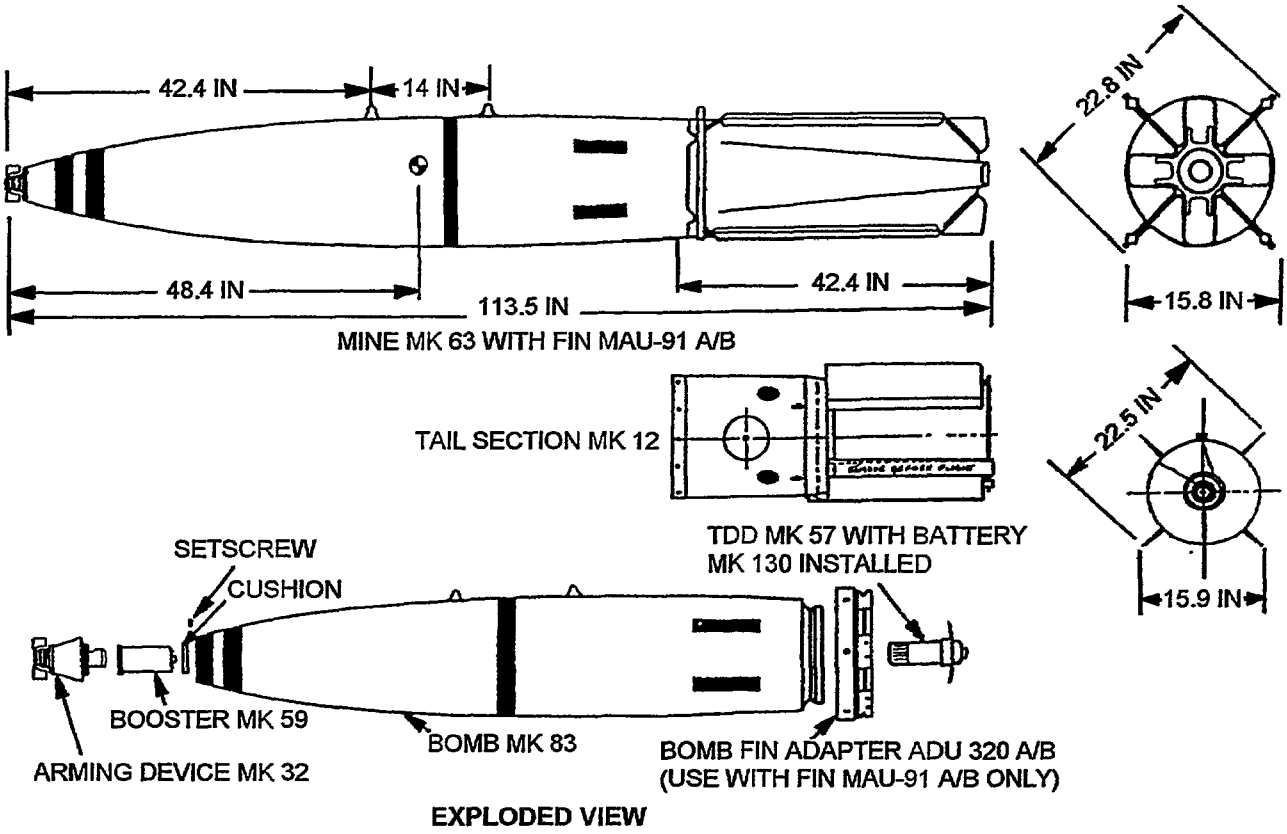
Figure 2-1. Mine, Mk 62 Weights and Dimensions (Sheet 1)

MAJOR COMPONENTS	WEIGHT (LB)	DIMENSIONS (IN)
Arming Device Mk 32	7.4	6.9 Long x 4.5 dia
Battery Mk 130	1	2.7 Long x 2.5 dia
Bomb Mk 82 with MS3314 Susp. Lugs	491[1,2]	60 Long x 11.1 dia.
Bomb Fin Mk 15	62.7	31.7 Long x 15.1 dia
Bomb Fin Assy, BSU-86/B or BSU-86A/B	68.0	25.7 Long x 18.56 dia
Booster Mk 59 and Cushion	2.75	6.5 Long x 3.3 dia
TDD Mk 57	4	8.75 Long x 7.25 dia
Tail Section Mk 16	50	26.2 Long x 15 dia
Mine Mk 62 w/Tail Section Mk 16	556[2]	89.6 Long x 15 dia
Mine Mk 62 w/Fin Mk 15	569[2]	89.25 Long x 15.1 dia
Mine Mk 62 w/BSU-86/B	574.3[2]	83.25 Long x 18.56 dia

[1] *Weight of bomb is ±5%*

[2] *For Thermal-Protected bombs add additional 13 lb.*

Figure 2-1. Mine, Mk 62 Weights and Dimensions (Sheet 2)



MAJOR COMPONENTS	WEIGHT (LB)	DIMENSIONS (IN)
Arming Device Mk 32	7.4	6.9 Long x 4.5 dia
Battery Mk 130	1	2.7 Long x 2.5 dia
Bomb Mk 83 with MS3314 Susp. Lugs	923[1,2]	72.5 Long x 14.2 dia
Bomb Fin MAU-91A/B	120	38.5 Long x 22.8 dia
Bomb Fin Adapter ADU-320A/B (with Fin MAU-91A/B only)	10.25	2.25 Long x 14.25 dia
Booster Mk 59 and Cushion	2.75	6.5 Long x 3.3 dia
Tail Section Mk 12	80	35.5 Long x 22.5 dia
TDD Mk 57	4	8.75 Long x 7.25 dia
Mine, Mk 63 with Fin MAU-91A/B only	1069[2]	113.5 Long x 22.8 Wide
Mine, Mk 63 with Tail Section Mk 12	1018[2]	111.5 Long x 22.6 Wide

[1] *Weight of bomb is ±5%*

[2] *For Thermal-Protected bombs add additional 15 lb.*

Figure 2-2. Mine, Mk 63 Weights and Dimensions

CHAPTER 3
SHOP PROCEDURES

3.1 PURPOSE

This chapter presents specific shop procedures to be followed when performing the assembly and disassembly of Mines Mk 62 and 63. For shore based activities, SW550-AA-MMI-010 and OP 5 dictate additional standard shop practices which are mandatory. For afloat operations, OP 4 dictates standard shop practices that are mandatory.

3.2 MINE HANDLING

Assembly of mines is accomplished by intermediate level mine assembly units performing independent preparation, assembly, and tests in a prescribed sequence. This is to be accomplished at segregated locations. If only one or two weapons are required and time is available, one crew can perform all the preparation, assembly, and test procedures by completing one sequence at a time and then progressing to the next. This crew can also progress from one assembly location to another as safety regulations permit.

Assembly on a production basis must be approached differently, so that the most weapons can be made available in the least amount of time. Several crews must operate simultaneously in separate locations, each performing an independent stage of preparation, assembly, and test. This permits assembly to progress in an assembly line operation. For disassembly, mines that have not been planted are first taken to an explosive-handling area for removal of Arming Device Mk 32 and Booster Mk 59. This can be done by Mineman (MN) or Aviation Ordnanceman (AO) personnel, provided the weapons have not been damaged. Assembled mines that evidence damage must be rendered safe only by Explosive Ordnance Disposal (EOD) personnel following approved EOD procedures. After being rendered safe, the weapons can be moved to a general shop area for disassembly. Although separate locations provide the safest and most desirable assembly line operation, this requirement may be modified at the discretion of the Commanding Officer. Safety can still be maintained if the mines are properly handled.

To facilitate mine handling as performed by mine assembly units, various items of handling equipment are available. All are described in SWO23-AB-WHS-010. Installation and operating instructions and operation, service and repair information for the bomb assembly stand can be found in NAVAIR 11-120-8 and NAVAIR 19-25-27 technical manuals.

3.3 WATERTIGHT OPENINGS

Lubrication to be applied at mine openings to assist watertight integrity is specified in the applicable job sheets in this manual. The requirements governing installation of preformed packing vary according to the assembly being performed.

Used preformed packings must never be installed when assembling mines. At time of installation, all new preformed packings are required to have a light coat of grease applied as specified. Prior to installation, all preformed packings are inspected for cuts, abrasions, and other damage or deformities. If any irregularity is found, the preformed packing must be cut and discarded.

3.4 TESTING REQUIREMENTS

Instructions associated with test (Class-C) of the assembled mines are contained in the job sheets in this manual and are predicated on the use of Class-C special-purpose test sets and equipment Class-C test sets are approved for use in areas where high explosives are handled or stored. Class-C (Mk 503) is described in ST100-AS-MMI-010/020/030 and is required to have a current calibration label. Class-C (Mk 595) is described in this manual. Class-C tests are vital to safety and operational predictability and are therefore mandatory at specified steps of all mine assembly operations.

Class-B testing is normally performed by intermediate maintenance activities (IMAs) when selecting material for installation in mines. Class-B criteria for use during programmed maintenance of mines are contained in SW550-AA-MMI-010.

3.5 PAINTING, STENCILING, AND COLOR CODING

In addition to the thermal coating or paint applied for safety or preservation purposes, weapons and their components may require stenciling for identification data and color coding to identify explosive contents in accordance with international agreements. Instructions in the job sheets in this manual are restricted to the needs to alter such stenciled information to ensure it reflects changes made in the course of assembly or disassembly. Instructions for periodic restoration of the thermal coating or paint at an IMA, as may be required for continued safety or preservation, are found in SW550-AA-MMI-010.

3.6 PACKAGING

Mine components are packaged in metal crates, wooden crates, wooden adapters/steel pallets, storage drums and ammunition boxes.

3.6.1 Unpackaging. When unpackaging, always reserve an adequate supply of packaging material on hand to repackage components if the mine is disassembled. Therefore, unpackage components as follows:

1. Carefully open all containers (e.g., crates, drums, and ammunition boxes). Do not discard any parts.
2. Do not discard any packaging material.
3. Remove items from containers and, if present, replace packaging material.
4. Secure containers and place in a designated storage area.

3.6.2 Battery Mk 130 Mod 1 Unpackaging.

a. Prior to unpackaging a battery, open the valve located on the outside of the storage container. If a caustic odor is noted, vacate the area and contact HazMat Team. If no caustic odor is present, proceed to step b. If caustic odor is present, emergency procedures apply; vacate and secure area and notify HazMat Team.

b. Do not discard any packaging material.

c. Remove the desired quantity of batteries from storage container. If present, replace packaging material.

d. Prior to build-up, remove outer plastic wrap from battery (do not discard), and perform visual inspection for damage that could affect fit or function. Do not discard any packaging material.

e. Secure container(s) and place in designated storage location.

3.6.3 Repackaging For repackaging refer to appendix A or SW550-AA-MMI-010.

3.7 ASSEMBLY CONFIGURATION

OPNAVINST 8550.12 (series) sets forth guidance for assembly configurations pertaining to stowage of weapons and associated components. Operational Commanders designate the configurations of assembly that are required, taking into consideration the operational requirements, facilities, and personnel available. For mines Mk 62 and 63, configurations A and F are authorized.

3.8 EMERGENCY HANDLING OF ARMED MINES

The following procedures provide positive guidance for the safe handling of inadvertently armed mines in accordance with established EOD procedures. If both of the following conditions exist, notify EOD personnel:

1. The arming wire is withdrawn from the target detecting device pop-out pin.
2. The arming wire restraint(s) is withdrawn from the arming device.

If both of the above conditions exist, a white S on green background is not visible in upper window of arming device, and EOD personnel are not immediately available, do not move the mine. Clear all personnel from area and notify EOD.

3.9 EXPLOSIVE HANDLING PRACTICES

The processes of assembling, disassembling, handling, and testing mines and their components require constant attention to the prevention of damage and injuries, which can be expected if explosive items are

misused or mishandled. The following paragraphs discuss some standard practices designed to prevent such accidents. Additional safety practices for explosive handling are found in OP 4 (Ammunition Afloat), OP 5 (Ammunition Ashore), and SW550-AA-MMI-010.

Electromagnetic radiation (EMR) is radio frequency energy from such sources as radars and communications transmitters. The radio frequency spectrum used by the Navy extends from VLF to EHF. Transmission power of the EMR, may approach 10 kilowatts for communications equipment, while peak power outputs for radars extend to about 5 megawatts. The danger from such radiation is the initiation of the electro-explosive devices (EEDs) such as the detonators used in Mines Mk 62 and 63. EMR may enter a weapon as a wave radiated through any opening. The most susceptible periods are during assembly and disassembly in electromagnetic fields. Detailed restrictions and the necessary general and theoretical analysis to enable the reader to make intelligent assessments of the hazards present may be found in Technical Manual "Radio Frequency Hazards to Ordnance, Personnel, and Fuel" NAVSEA OP 3565/NAVAIR 16-1-529. Precautions for radiation hazards (RADHAZ) are referred to as HERO (Hazard of Electromagnetic Radiation to Ordnance) requirements. In addition, the safety regulations provided in OP 5 must be known and followed.

Booster Mk 59 is sensitive to EMR energy which can induce stray currents within the electric detonator of the booster, and may cause initiation of the detonator. However, this will not cause the main charge to detonate. Because of the EMR sensitivity, boosters should be unpackaged and handled in bomb assembly area, or at the discretion of the Commanding Officer/Officer in Charge (CO/OIC), other EMR-free areas such as the Special Aircraft Stowage Spaces (SASS). For this reason, it is required that mines be assembled in an environment free of EMR to prevent a hazardous condition. Once the booster is installed in the bomb and the arming device is secured, the booster is sufficiently shielded to prevent the electric detonator from initiating in an EMR environment. If the mine must be disassembled, the booster should be removed only after the mine is returned to an EMR-free environment. If the booster should ever be found unshielded in an EMR environment, either with or without the protective booster plug installed, immediately notify EOD. The protective plug in the cup end of the booster is designed to safely contain the firing of the detonator.

3.10 MINE LIFE

Mine armed life is determined by certain weapon settings, the battery, and environmental conditions surrounding the weapon. OP 2637 contains the operational characteristics of mines. Battery storage life data is contained in SW550-AA-MMI-010.

3.11 STORAGE REQUIREMENTS

Kits with live boosters and arming devices require magazine storage. Any spare boosters or arming devices are also magazine stored.

3.11.1 Battery Mk 130. Refer to SW550-AA-MMI-010 for storage requirements.

3.11.2 Target Detecting Device Mk 57. Target Detecting Device Mk 57 has a 5-year maintenance cycle.

3.11.3 Assembled or Partially Assembled Weapons. When necessary to enhance operational readiness and when specifically authorized, weapons can be stored in an assembled or partially assembled condition. When assembled or partially assembled weapons are stored, the shelf life of the battery and the retest requirements of the TDD must be considered.

3.12 MAINTENANCE

Mine test sets must undergo programmed maintenance. Specific maintenance instructions, along with related information concerning calibration, are provided in SW550-F0-PMS-010 and in ST100-AS-MMI-010/020/030.

Maintenance consists of tests and inspections of mine components and replacement of items with established shelf-life limitations, (e.g., batteries). Maintenance requirements for Mines Mk 62, Mk 63, and assembly level items are in SW550-F0-PMS-010.

3.13 MINE SETTINGS

Provisions a re made on the master record sheet for the mine settings. For mines this code indicates the required settings for the selectors, indicators and switches for programming the TDD Mk 57 using the preset programmer section of Test Set Mk 595 Mod 0 or 1.

3.14 DELIVERY TO THE PLANTING AGENT

All mines must be assembled to Assembly Configuration A before delivery to the mine planting agent. A Configuration A weapon is defined in paragraph 3.7. Configuration A weapons must be checked before aircraft delivery to ensure weapon interface with designated delivery aircraft. Loading mines aboard planting aircraft is the responsibility of aircraft squadron personnel and is performed in accordance with appendix NAVAIR or appendix USAF manuals.

3.15 TROUBLESHOOTING FLOW CHARTS

This manual provides a flow chart for troubleshooting systems test failures. To use the chart, enter at the top of the page and proceed toward the bottom. Symbols used in the chart are described below:

1. Terminal Point. Elongated circled symbol appears at the beginning and end of each flow chart on which it is appropriate to indicate the starting point and/or completion point of a process. The circle includes applicable words to orient the user.
2. Input/Output. Parallelogram symbol indicates material input or output to or from the work area. Input materials are items necessary for assembly or test. Output materials may be issue, storage or shipment. Arrows indicate whether material flow is in or out.
3. Decision Point, Diamond symbol asks a question that can only be answered yes or no. The path to be followed out of the box depends on the answer to the question.
4. Job Box. Rectangle symbol identifies job to be accomplished. Each job is assigned a number which precedes the job title. This is the number of the job sheet which contains step-by-step procedures necessary for task completion.
5. Clarification Item. Open-end rectangle symbol, connected by a dash line to an applicable point in the flow chart, denotes a reference item, descriptive comment or explanatory note.

CHAPTER 4
ASSEMBLY

Job Sheet	Title
job sheet 4-1	BOMB PREPARATION (MK 82 and 83)
job sheet 4-2	PRESET PROGRAMMING TARGET DETECTING DEVICE MK 57
job sheet 4-3	TARGET DETECTING DEVICE INSTALLATION
job sheet 4-4	BOMB FIN MK 15 PREPARATION
job sheet 4-5	BOMB FIN BSU-86/B OR BSU-86A/B PREPARATION
job sheet 4-6	BOMB FIN MAU-91A/B PREPARATION
job sheet 4-7	TAIL SECTION MK 12 PREPARATION
job sheet 4-8	TAIL SECTION MK 16 PREPARATION
job sheet 4-9	BOMB FIN MK 15 INSTALLATION
job sheet 4-10	BOMB FIN BSU-86/B OR 86A/B INSTALLATION
job sheet 4-11	BOMB FIN MAU-91A/B INSTALLATION
job sheet 4-12	TAIL SECTION MK 12 INSTALLATION
job sheet 4-13	TAIL SECTION MK 16 INSTALLATION
job sheet 4-14	ARMING DEVICE AND BOOSTER INSTALLATION
job sheet 4-15	ARMING WIRE RETAINER INSTALLATION AND ARMING CABLE/ARMING WIRE RIGGING
job sheet 4-16	ARMING WIRE INSTALLATION AND FINAL PREPARATION FOR DELIVERY FOR B-1 AND B-2 AIRCRAFT
job sheet 4-17	FINAL PREPARATION FOR DELIVERY MINE MK 62 WITH FIN MK 15 OR BSU-86/B OR BSU-86A/B
job sheet 4-18	FINAL PREPARATION FOR DELIVERY MINE MK 62 WITH TAIL SECTION MK 16
job sheet 4-19	FINAL PREPARATION FOR DELIVERY MINE MK 63 WITH FIN MAU-91A/B
job sheet 4-20	FINAL PREPARATION FOR DELIVERY MINE MK 63 WITH TAIL SECTION MK 12

Table 4-1 lists the applicable job sheets for assembly of various Operational Assemblies (OAs). This table should be used as a guide for assembly of Mines Mk 62 and Mk 63.

Table 4-1. Job Sheets Required To Assemble Mine

Job Sheet Required to Assemble Mine		Mk 62						Mk 63		
Job Sheet No.	Job Sheet Title	02	03	06	09	12	13	02	03	06
job sheet 4-1	Bomb Preparation	X	X	X	X	X	X	X	X	X
job sheet 4-2	Preset Programming Target Detecting Device Mk 57	X	X	X	X	X	X	X	X	X
job sheet 4-3	Target Detecting Device Installation	X	X	X	X	X	X	X	X	X
job sheet 4-4	Bomb Fin Mk 15 Preparation	X	X							
job sheet 4-5	Bomb Fin BSU-86/B or BSU-86/AB Preparation				X					
job sheet 4-6	Bomb Fin MAU-91A/B Preparation							X	X	
job sheet 4-7	Tail Section Mk 12 Preparation									X
job sheet 4-8	Tail Section Mk 16 Preparation			X		X	X			
job sheet 4-9	Bomb Fin Mk 15 Installation	X	X							
job sheet 4-10	Bomb Fin BSU-86/B or BSU-86A/B Installation				X					
job sheet 4-11	Bomb Fin MAU-91 A/B Installation							X	X	
job sheet 4-12	Tail Section Mk 12 Installation									X
job sheet 4-13	Tail Section Mk 16 Installation			X		X	X			
job sheet 4-14	Arming Device and Booster Installation	X	X	X	X	X	X	X	X	X
job sheet 4-15	Arming Wire Retainer Installation and Arming Cable/Arming Wire Rigging			X		X	X			X
job sheet 4-16	Arming Wire Installation and Final Preparation for Delivery for B-1 and B-2 Aircraft					X	X			
job sheet 4-17	Final Preparation for Delivery Mine Mk 62 with Fin Mk 15 or BSU-86/B or BSU-86A/B	X	X		X					
job sheet 4-18	Final Preparation for Delivery Mine Mk 62 with Tail Section Mk 16			X						

Table 4-1. Job Sheets Required To Assemble Mine - Continued.

Job Sheet Required to Assemble Mine		Mk 62						Mk 63		
Job Sheet No.	Job Sheet Title	02	03	06	09	12	13	02	03	06
job sheet 4-19	Final Preparation for Delivery Mine Mk 63 with Fin MAU-91A/B							X	X	
job sheet 4-20	Final Preparation for Delivery Mine Mk 63 with Tail Section Mk 12									X

JOB SHEET 4-1 BOMB PREPARATION (MK 82/BLU–111A/B AND MK 83/BLU-110A/B)

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Bomb, General Purpose, Mk 82 or BLU-111A/B[1]	Bomb, General Purpose, Mk 83 or BLU-110A/B[2]

SUPPORT ITEMS

Adapter, soc-wr, 3/8M x 1/2F dr	Handle, rev-ratchet, 1/2 dr
Attachment, int-soc, 3/16 x 3/8 dr	Handle, speeder, soc-wr, 1/2 dr
Attachment, int-soc, 7/32 x 3/8 dr	Knife
Carrier, Weapons, Mk 49 Mod 1	Lug, Suspension, Mk 6 Mod 1, 923AS283
Cloth, cleaning, disposable, 12 x 15	Lug, Suspension, MS3314 (2)
Compound, cleaning*	Screwdriver, sch-screw, ball-tip 3/16
Cutter, steel-strap, heavy duty	Screwdriver, sch-screw, ball-tip 7/32
Dolly, Weapon, Mk 11	Stand, Bomb Assembly, A/F 32K-1
Faceshield, protective	Tape, press-sens, adh, green, 1W
Gloves, leather	Wool, copper
Grease, pneumatic systems, MIL-G-4343*	Wrench, adjustable, spanner, 2-in
Hammer, soft-face	Wrench, adjustable, spanner, 3-in

**Hazardous Material*

[1] *Mine Mk 62.*
[2] *Mine Mk 63.*

4-1.1 BOMB PREPARATION

WARNING

Potential eye hazard exists when unpalletizing bombs; wear protective faceshield and gloves.

a. Put on faceshield and gloves. Unpalletize bombs.

b. Remove shipping plugs from suspension lug wells, if present (Figure 4-1A).

c. If suspension lugs are not installed on bombs, install lugs. Verify lugs turn freely; if not, remove lugs. Using PPE per MSDS, clean lugs and lug wells with cleaning compound.

NOTE

When preparing Bomb Mk 83 or BLU-110A/B for assembly to Mine Mk 63, IMAs have the option to use Weapons Dolly Mk 11 as an alternate platform to using Bomb Assembly Stand AF/32K-1/1A. If this option is taken, proceed to Appendix B in this manual.

d. With suspension lugs up (12 o'clock), place bombs on bomb assembly stand or skid (Figure 4-1B). Dolly Mk 11 may be used as an alternate platform for Mk 83/BLU-110A/B only (Appendix B).

e. Mine Mk 62 Only: If suspension lugs are installed, verify MS3314 is die stamped on bottom of each lug. If not, replace lugs with MS3314 lugs.

f. Mine Mk 63 Only: If suspension lugs are installed, verify MS3314 or Mk 6 Mod 1 is die stamped on bottom of each lug. Suspension lug Mk 6 Mod 1 must be installed if bomb is stenciled "AWC No. 318 INC." at nose or between suspension lugs.

g. Connect ordnance ground to either suspension lug on bomb case.

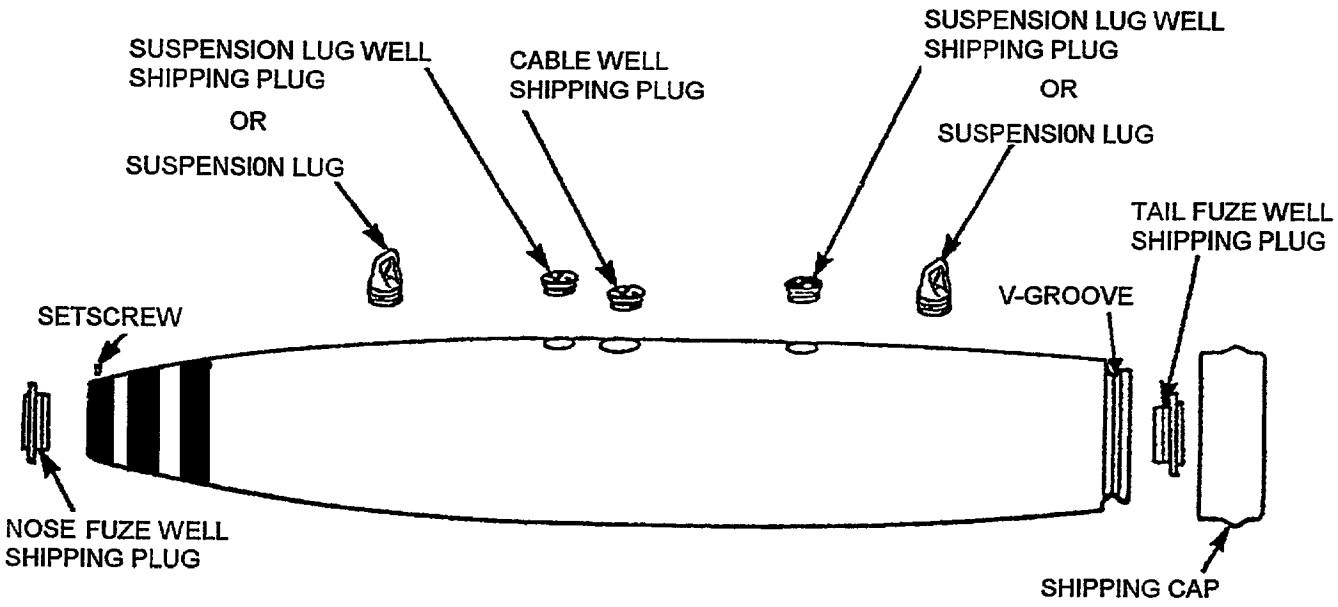


Figure 4-1A. Bomb Preparation

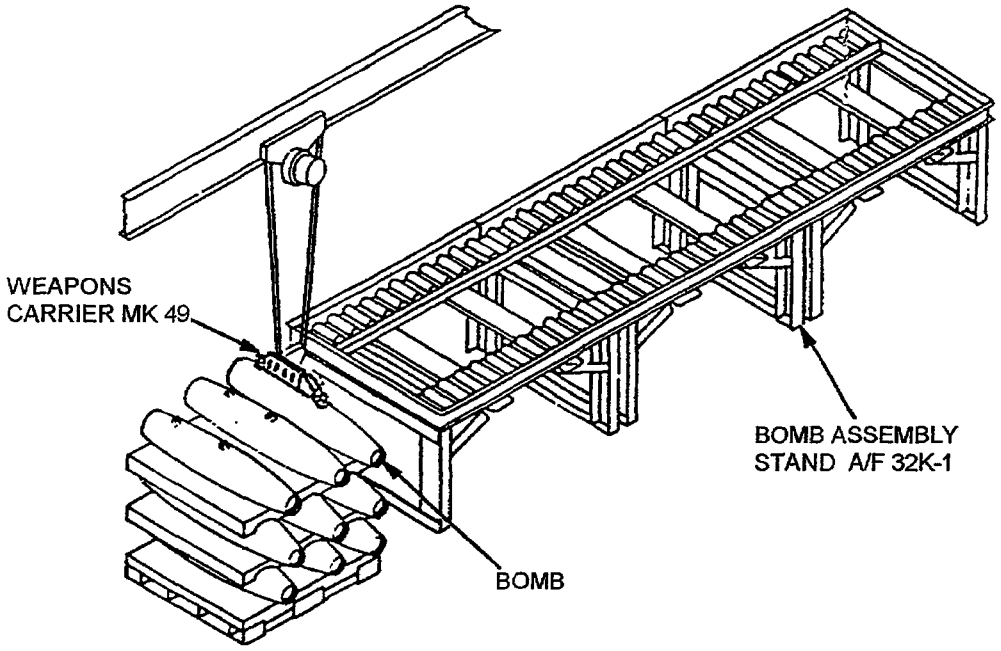


Figure 4-1B. Typical Bomb Handling Equipment

CAUTION

Do not use a screwdriver to pry plastic shipping cap off aft end of bomb. This may damage preformed packing seating surface. Use soft-face hammer to remove plastic shipping cap.

NOTE

The externally thermal protected bomb may have a plastic aft shipping cap instead of the metal type. The plastic cap does not require washers and screws.

h. Remove screws, washers, aft shipping cap and tail fuze well shipping plug.

i. Remove cable well shipping plug (Figure 4-1A).

j. Remove set screw and nose fuze well shipping plug (Figure 4-1A).

k. Set aside all components removed for mine disassembly (if applicable).

l. Bombs Afloat and Bombs Not in Maintenance Program: Visually inspect bomb to verify serviceability as follows:

(1) Verify that cable well and forward and aft fuze well are free of any exudate or foreign matter.

(2) Verify that cable well and forward and aft fuze wells are free of any moisture, corrosion, or dirt. (Dirt or corrosion may be removed with a damp cloth.)

(3) Verify that cable assembly connectors in both fuze wells are undamaged and aligned with bomb centerline.

(4) Verify that bomb body does not exhibit external damage that will affect its fit or function. Ensure V-groove is clean and undamaged.

(5) Verify that nose set screw hole is completely threaded.

(6) Verify that all other threaded surfaces are not fouled or damaged.

(7) Verify that preformed packing seating surfaces shown in Figure 4-1C through Figure 4-1F have no gashes, grooves, pits, or scratches deeper than 1/32 inch. Bombs with aft face

painted are acceptable provided the paint does not exhibit scratches, drips, runs, chips, or flaking in TDD preformed packing seating area. (Reject units exceeding limits.)

(8) Verify that the cable well (Figure 4-1C) does not have thermal coating overspray. Restore units with overspray, by removing with pocket knife and copper wool. Using PPE per MSDS, apply a light coat of grease to cleaned area.

(9) Verify that beveled surface is present on forward end of nose fuze well. Verify that nose fuze well threads do not extend completely to forward face of bomb. (Reject)

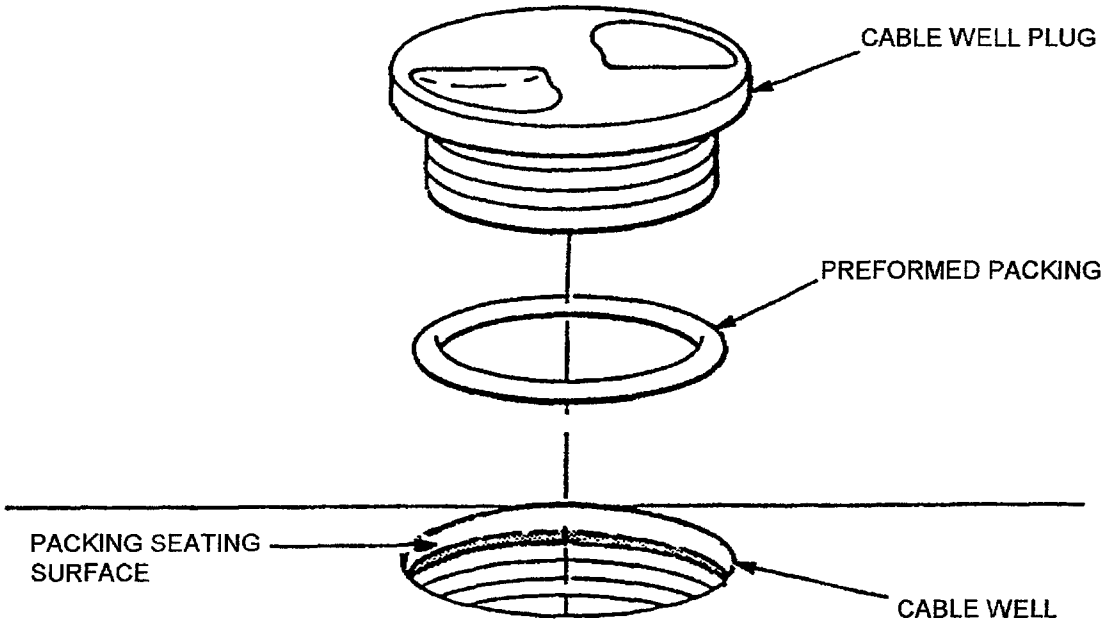


Figure 4-1C. Cable Well Inspection Points

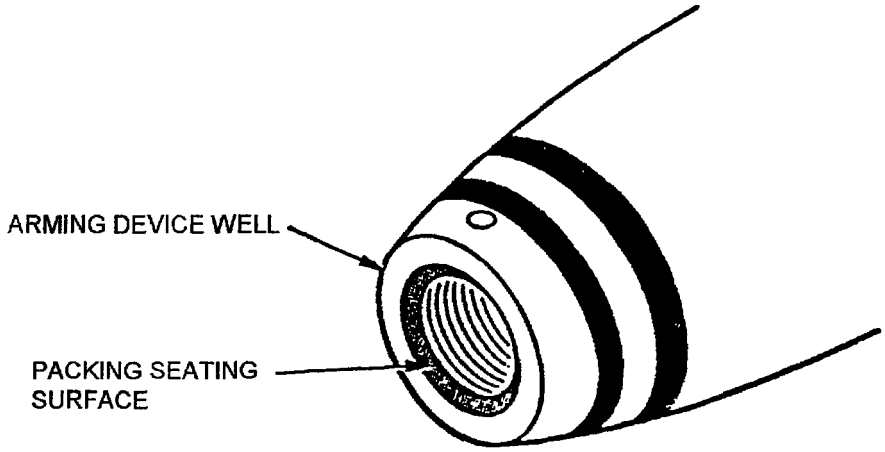


Figure 4-1D. Arming Device Well Inspection Points

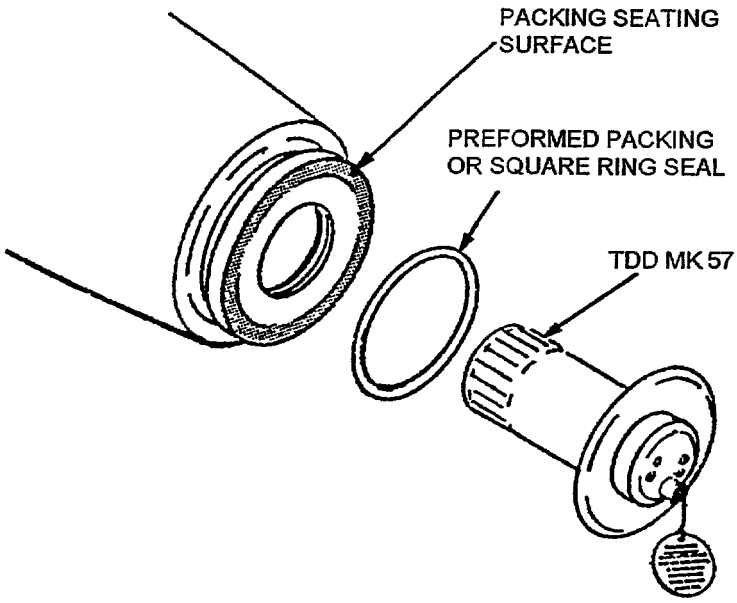


Figure 4-1E. Bomb Body Mk 82/BLU–111A/B Inspection Points

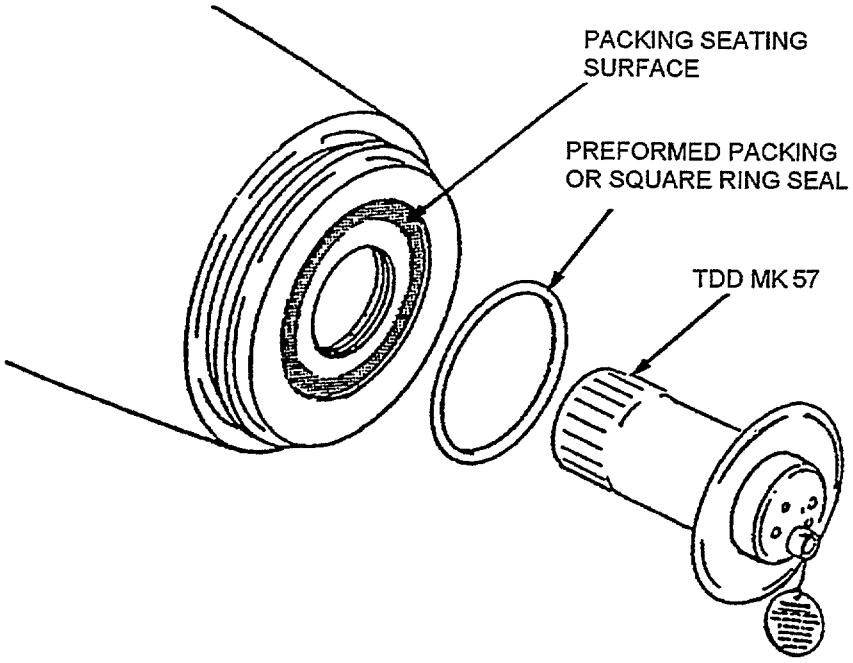


Figure 4-1F. Bomb Body Mk 83/BLU–110A/B Inspection Points

JOB SHEET 4-2 PRESET PROGRAMMING TARGET DETECTING DEVICE MK 57

MATERIALS

COMPONENTS

Battery Mk 130 Mod 0 or 1, 3018351 or 7354712

Target Detecting Device, Mk 57 Mod 0 or 1, 3192006 or 5479628[1]

SUPPORT ITEMS

Battery, dry, 6V, 6135-00-643-1310[2]

Battery, Mk 112 Mod 0 or 1, (2), WS12633/8 or WS12633/21

Cable Assembly CA-1451, 6916006[2]

Cord, antistatic, 5-ft, w/male snaps, 3M PART NO. 3043 (2)[3]

Knife

Mat, floor, antistatic, 4 x 6-ft, w/1 5-ft cord, 3M PART NO. 1864[3]

Mat, workbench, antistatic, 2 x 4-ft. 3M PART NO. 8210[3]

Strap, wrist, MFG PART NO. 30113[3]

Test Set, Underwater Mine, Mk 595 Mod 0 or 1, 3280818 or 6169180

[1] *Contained in Conversion Kit Mk 130 Mod 1.*
[2] *Batteries, dry 6V, and Cable Assembly CA-1451 may be used in place of CA-1355 (supplied with Test Set Mk 595) and Batteries Mk 112.*
[3] *Not required for shipboard procedures.*

4-2.1 PREPARATION FOR INSTALLATION OF BATTERY MK 130 INTO TDD (SHORE STATION)

WARNING

Use caution when entering Battery Mk 130 Mod 1 storage location to obtain battery for assembly into TDD Mk 57. If caustic odor is present, vacate and secure the area and notify HazMat team immediately (SW550-AA-MMI-010 and local procedures apply). Failure to do so can result in injury to personnel.

Do not pierce, crush, burn, drop, cannibalize, dismantle, modify, short-circuit, charge, or otherwise carelessly handle the Battery Mk 130 Mod 1. If Battery Mk 130 Mod 1 shows evidence of bulging, heat, cracks, or leaks, or if battery is making a hissing sound, evacuate the area and refer to SW550-AA-MMI-010 and local procedures. Do not approach a battery in this condition without proper PPE.

Lithium Thionyl Chloride (LiSOC12) batteries contain liquid thionyl chloride (SOC12), which fumes upon exposure to air. The vapor is highly toxic and the battery must not be abused in any way that may cause the battery to rupture.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject).

TDD Mk 57 contains components which are vulnerable to Electrostatic Discharge (ESD). Installation of battery must be performed using the provided ESD procedures.

NOTE

TDD Mk 57 is contained in Conversion Kit Mk 130.

a. If battery storage container shows damage sufficient to have caused damage to its contents, do not open; tag and notify HazMat team. Damaged containers must be checked by qualified personnel wearing appropriate PPE in the event damage to battery has occurred and resulted in battery leak.

WARNING

Prior to opening Battery Mk 130 Mod 1 container, open the vent located on the container. If caustic odor is present, do not open the container; vacate and secure the area and notify HazMat team immediately (SW550-AA-MMI-010 and local procedures apply). Failure to do so can result in injury to personnel.

b. Remove battery, TDD, and miscellaneous parts from their containers and set aside all packaging material for repackaging (if applicable). Retain miscellaneous parts for TDD and arming device installation.

c. Check battery for damage that will affect function. If battery shows evidence of leaks, bulging, etc., reject battery.

d. Inspect TDD for presence of safety pin and warning tag (Figure 4-2A).

e. Prepare an ESD work area as follows:

(1) Place a 2- by 4-foot antistatic mat on a flat, level workbench.

(2) Place an 4- by 6-foot antistatic floor mat (with cord) on the deck in front of the workbench.

(3) Connect the antistatic floor mat to shop ground using the attached 15-foot cord.

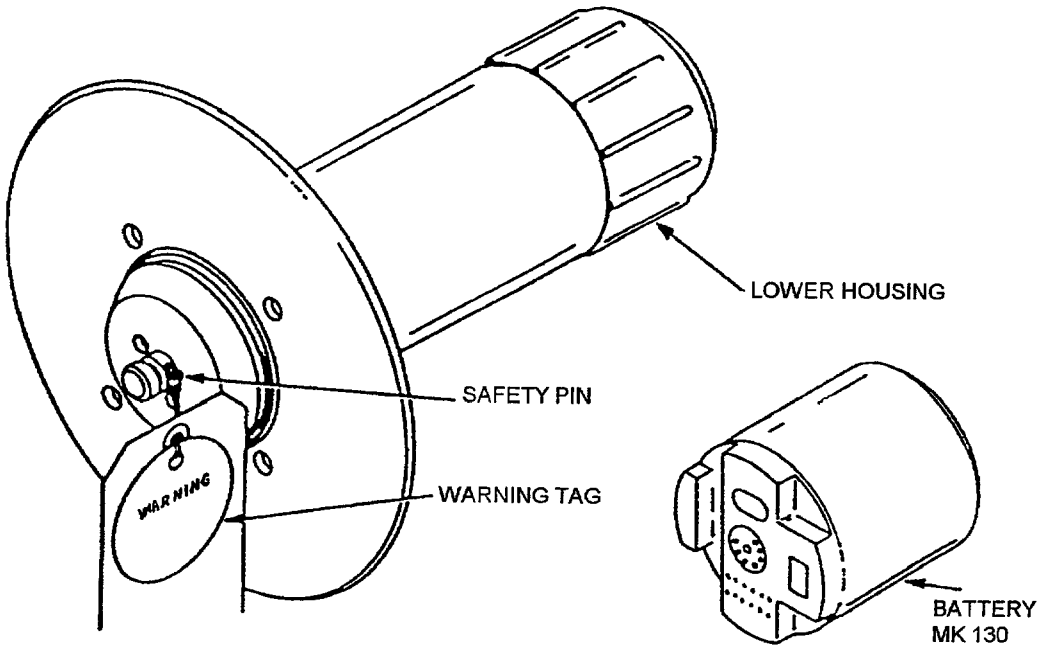


Figure 4-2A. Target Detecting Device Mk 57 and Battery Mk 130

(4) Connect the 2- by 4-foot antistatic mat to antistatic floor mat using a 5-foot cord with male snaps.

(5) Connect wrist strap to the 2- by 4-foot antistatic mat using a second 5-foot cord with male snaps.

(6) Test wrist strap and ground in accordance with OP 5.

f. Inspector, verify step d and step e.

4-2.2 INSTALLATION OF BATTERY MK 130 INTO TDD (SHORE STATION)

a. Place TDD on antistatic mat on workbench.

b. Place battery on antistatic mat.

c. Put on wrist strap.

d. Unscrew lower housing from TDD and set aside.

e. Insert battery into base of TDD (Figure 4-2B). Ensure that molded connector of battery mates firmly with molded connector in base of TDD (Figure 4-2C).

f. Using care not to damage threads, screw lower housing onto base of TDD until it firmly contacts battery.

g. Remove wrist strap.

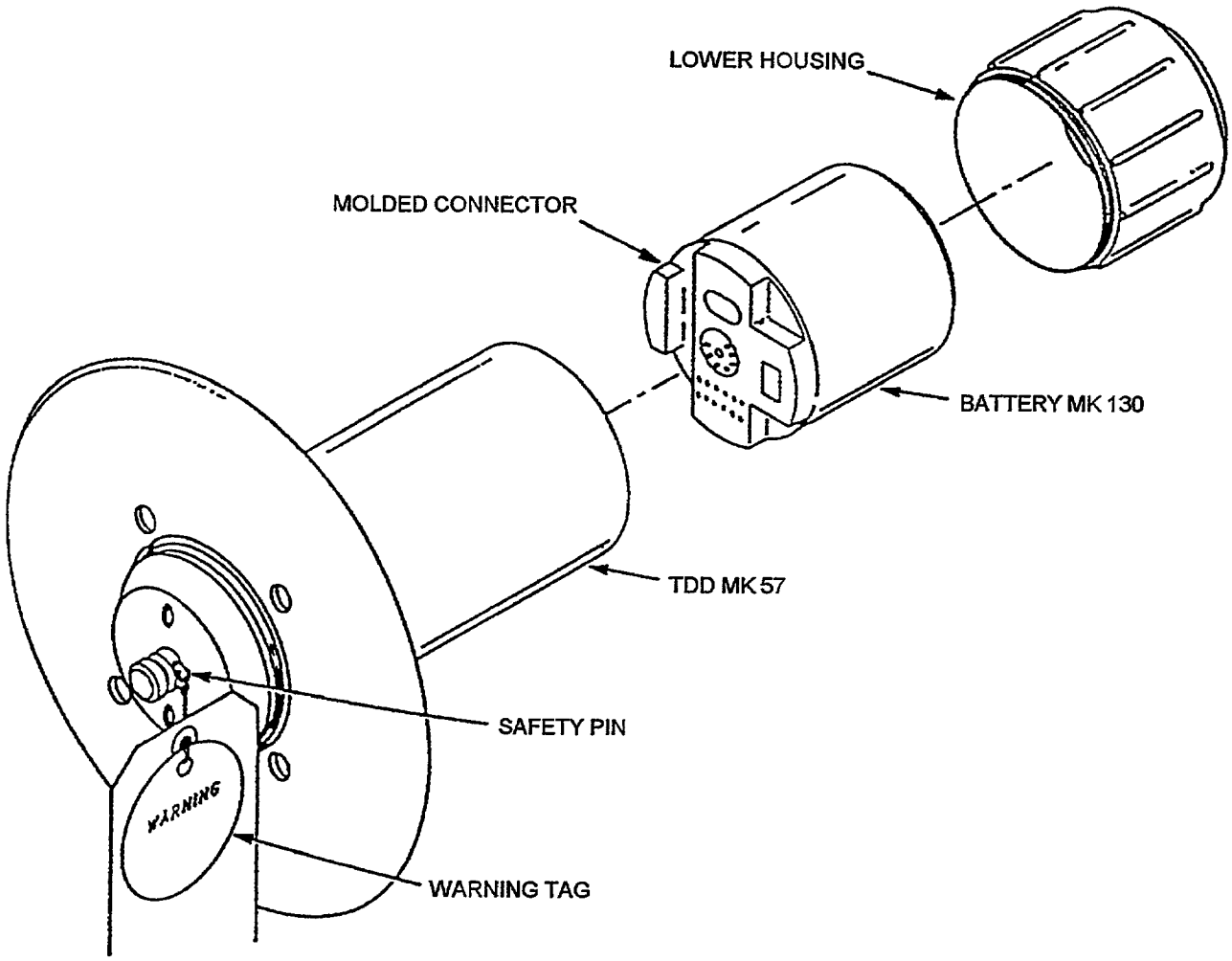


Figure 4-2B. Installation of Battery Mk 130 into TDD Mk 57

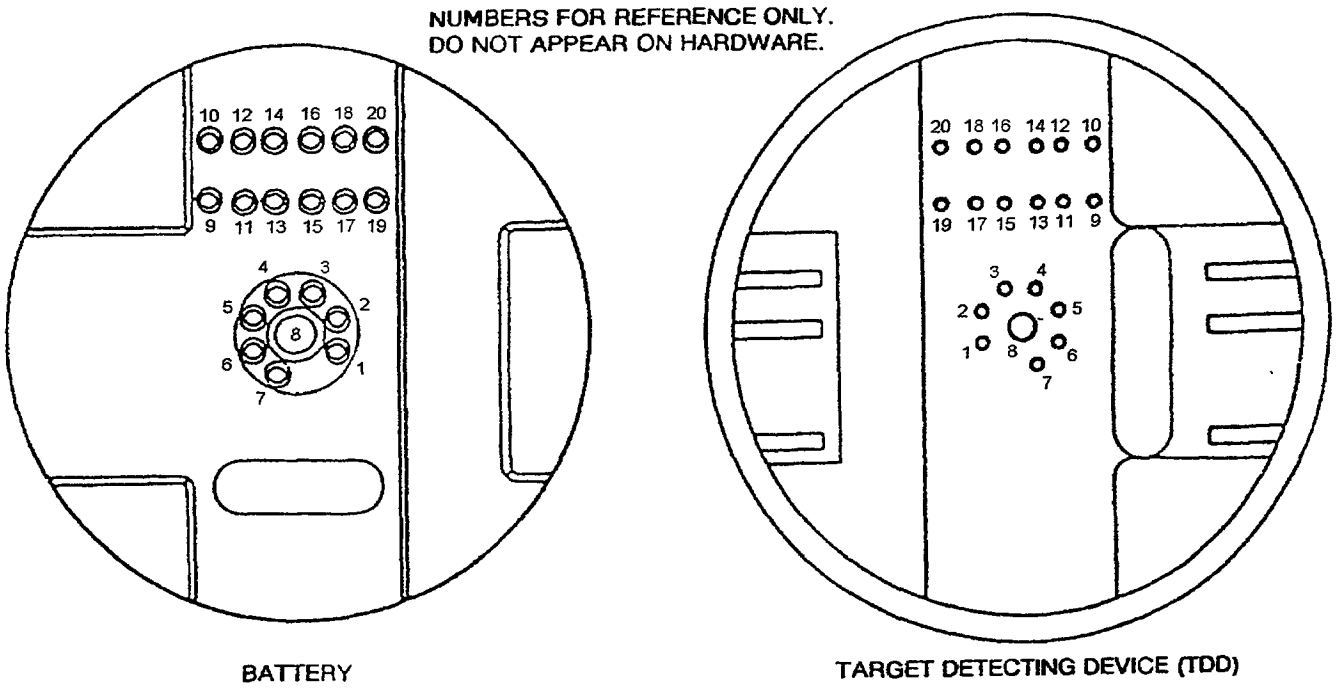


Figure 4-2C. Battery Mk 130 Socket and TDD Mk 57 Pin Arrangement

4-2.3 INSTALLATION OF BATTERY MK 130 INTO TDD (SHIPBOARD)

WARNING

Use caution when entering Battery Mk 130 Mod 1 storage location to obtain battery for assembly into TDD Mk 57. If caustic odor is present, vacate and secure the area and notify HazMat team immediately (SW550-AA-MMI-010 and local procedures apply). Failure to do so can result in injury to personnel.

Do not pierce, crush, burn, drop, cannibalize, dismantle, modify, short-circuit, charge, or otherwise carelessly handle the Battery Mk 130 Mod 1. If Battery Mk 130 Mod 1 shows evidence of bulging, heat, cracks, or leaks, or if battery is making a hissing sound, evacuate the area and refer to SW550-AA-MMI-010 and local procedures. Do not approach a battery in this condition without proper PPE.

Lithium Thionyl Chloride (LiSOC12) batteries contain liquid thionyl chloride (30012), which fumes upon exposure to air. The vapor is highly toxic and the battery must not be abused in any way that may cause the battery to rupture.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject).

TDD Mk 57 contains components vulnerable to damage from ESD. Handle TDD Mk 57 by housing only. Do not touch pins on connector plate of TDD.

a. If battery storage container shows damage sufficient to have caused damage to its contents, do not open; tag and notify HazMat team. Damaged containers must be checked by qualified personnel wearing appropriate PPE in the event damage to battery has occurred and resulted in battery leak.

WARNING

Prior to opening Battery Mk 130 Mod 1 container, open the vent located on the container. If caustic odor is present, do not open the container; vacate and secure the area and notify HazMat team immediately (SW550-AA-MMI-010 and local procedures apply). Failure to do so can result in injury to personnel.

b. Remove battery, TDD, and miscellaneous parts from their containers and set aside all packaging material for repackaging (if applicable). Retain miscellaneous parts for TDD and arming device installation.

c. Check battery for damage that will affect function. If battery shows evidence of leaks, bulging, etc., reject battery.

d. Inspect TDD for presence of safety pin and warning tag (Figure 4-2A).

e. Unscrew and remove lower housing from TDD.

f. Insert battery into base of TDD (Figure 4-2B). Ensure molded connector of battery mates firmly with molded connector in base of TDD (Figure 4-2C).

g. Using care not to damage threads, screw lower housing onto base of TDD until it firmly contacts battery.

4-2.4 PRESET PROGRAMMING

CAUTION

Operate relief valve before unlatching test set case.

a. Place test set on a suitable workbench and operate relief valve.

b. Separate the top section (preset programmer section, Figure 4-2D) from the bottom section (system test section, Figure 4-2E).

c. Locate the calibration sticker on the panel of the preset programmer section and verify that the test set is within calibration cycle.

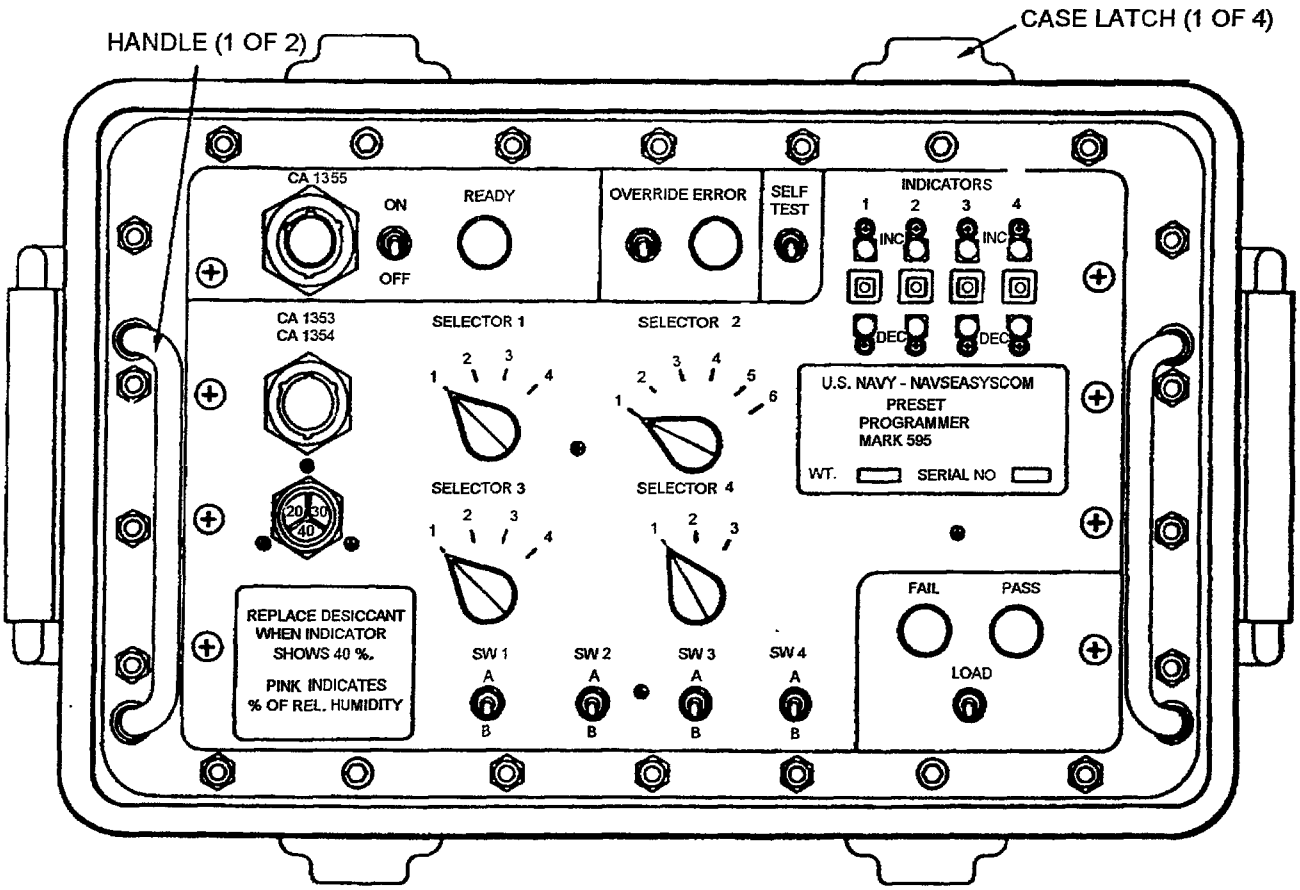


Figure 4-2D. Test Set Mk 595 Mod 1, Top Section (Preset Programmer Section)

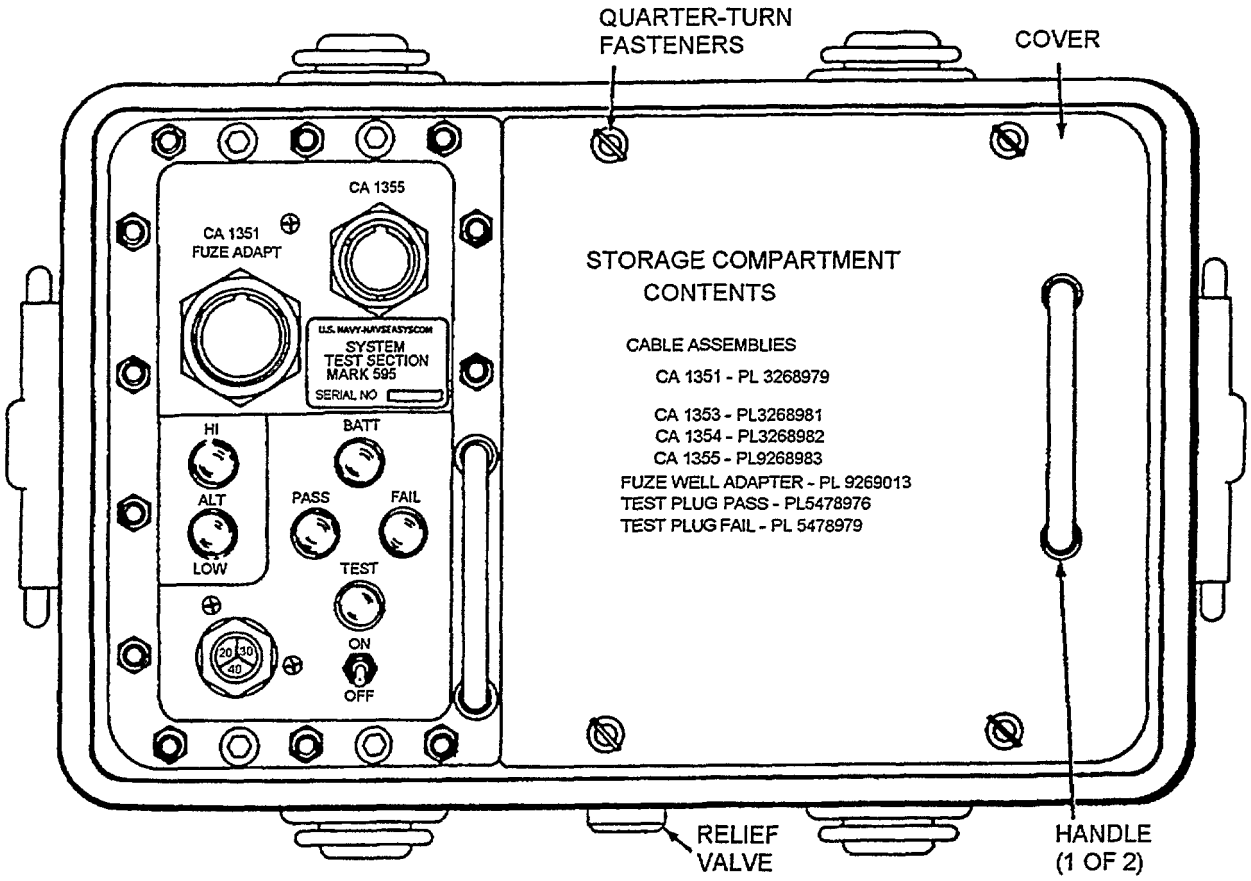


Figure 4-2E. Test Set Mk 595 Mod 1, Bottom Section (System Test Section)

d. Once daily, perform the preset programmer section self test in appendix D.1 before programming TDDs.

e. Open test set storage compartment (Figure 4-2E) and remove Cable Assembly CA-1354 (Figure 4-2F).

f. Connect Cable Assembly CA-1354 connector P1 to panel connector CA-1354 on the preset programmer section.

NOTE

If using Mk 112 batteries, use Cable Assembly CA-1355 and proceed to step g.
If using 6-volt batteries, use Cable Assembly CA-1451 and proceed to step h.

g. Remove cable assembly CA-1355 from storage compartment. Connect connector P1 to panel connector CA-1355 on the preset programmer section and connect the P2 and P3 legs each to a Battery Mk 112.

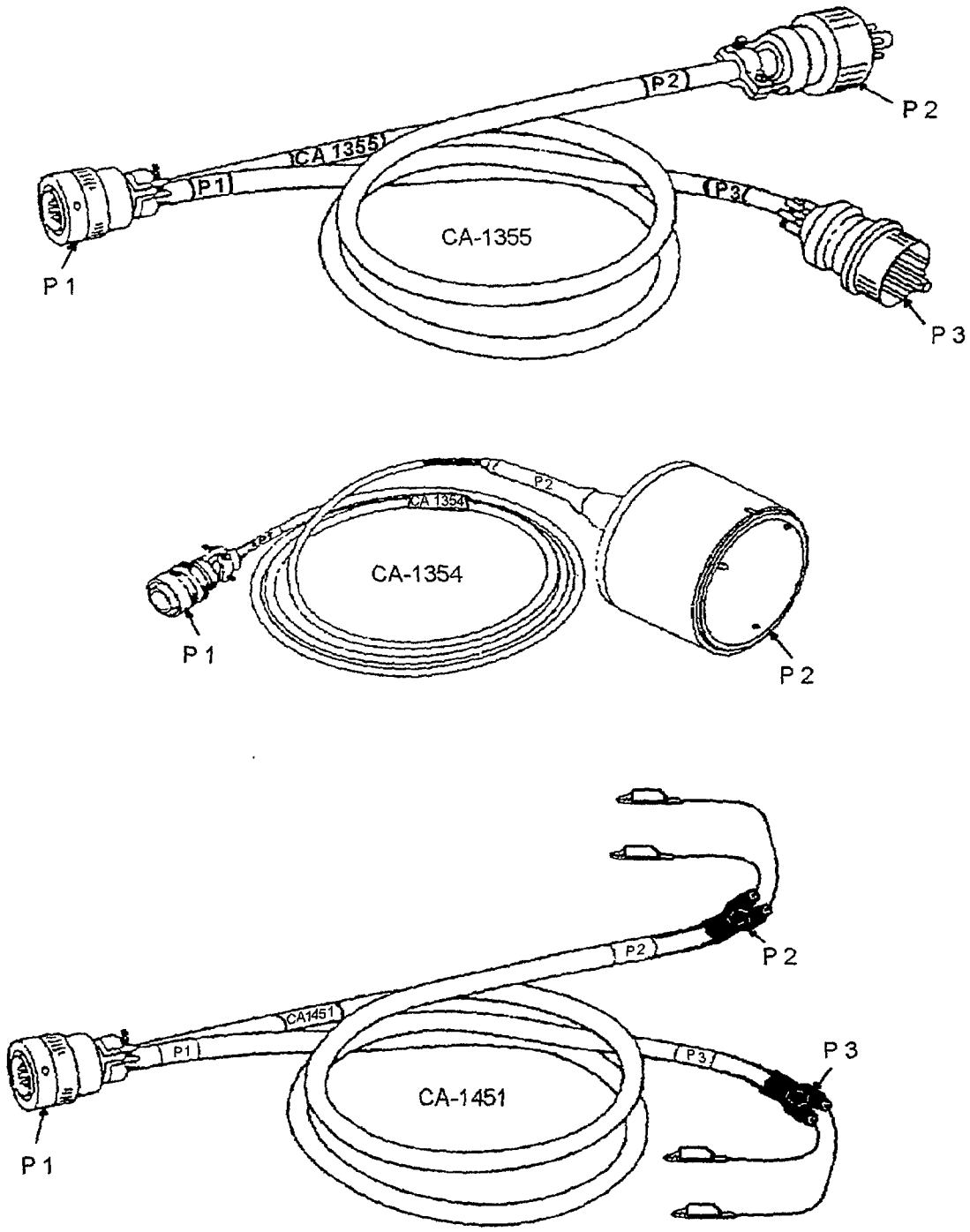


Figure 4-2F. Cable Assemblies CA-1355, CA-1354, and CA-1451

CAUTION

When connecting the P2 and P3 legs of CA-1451 to the 6-volt batteries, ensure proper polarity is observed or the test set will not function.

h. Connect Cable Assembly CA-1451 connector P1 to panel connector CA-1355 on the preset programmer section. Connect the black P2 connector to the negative (center) battery spring

connector and the red P2 connector to the positive battery (outside) spring connector. Repeat for the P3 leg of CA-1451.

i. Operate ON/OFF switch to ON. READY lamp must light

4-2.5 TDD MK 57 PRESET PROGRAMMING

NOTE

The ERROR lamp indicates an erroneous combination of settings. If the ERROR lamp lights, refer to the master record sheet (MRS). If the settings are in agreement with the MRS, contact Officer in Charge (OIC) and verify combinations of settings are correct. Overriding the error conditions requires authorization from the OIC.

Should operation of the test set be unsatisfactory or appear erratic, go to Appendix D.1 and perform self test before rejecting the test set.

If READY lamp dims or goes out when LOAD switch is pressed or when ERROR lamp flashes, replace batteries powering test set.

a. Install TDD MK 57 (Battery Installed) in the bomb electrical plug (P2) of Cable Assembly CA-1354.

b. Refer to the MRS for specified settings and rotate SELECTORS 1 through 4; operate switches SW1 through SW4; and set INDICATORS 1 through 4.

c. Inspector, verify step b and witness steps d through h.

d. Operate LOAD switch and release IF:

(1) The PASS lamp lights within a few seconds, the TDD is now programmed. Proceed to step h.

(2) The FAIL lamp lights, and error lamp did not flash, proceed as follows:

(a) Perform the self test in Appendix D.1. If the test set fails the self test, reject the test set.

(b) If the test set passes the self test, reprogram the TDD by repeating step a through d.

(c) If the FAIL lamp lights, replace TDD Mk 57 and repeat step a through d. If PASS lamp lights, reject original TDD Mk 57, and proceed to step h.

(d) If FAIL lamp lights, reject the TDD.

(3) The ERROR lamp lights, the presets are non-standard. Continue at step e.

e. Verify the settings on the test set agree with the master record sheet.

(1) If incorrect, make corrective settings and return to step d.

(2) If correct, obtain permission from the CO/OIC to load non-standard presets per step f.

f. Operate and hold the OVERRIDE switch, then operate and release the LOAD switch. Release the OVERRIDE switch.

g. The PASS lamp must light in a few seconds. The TDD is now programmed. If the FAIL lamp lights, reject the TDD.

CAUTION

Do not turn test set power off until TDD is disconnected from Cable Assembly CA-1354 receptacle; otherwise, the program can be jeopardized.

h. Disconnect the TDD from CA-1354 receptacle. Do not turn test set power off until TDD is disconnected from Cable Assembly CA-1354 receptacle.

NOTE

If more TDDs are to be programmed, return to step a and repeat the procedure until programming is completed.

i. Operate ON/OFF switch to OFF.

j. Secure test set as directed in Appendix D.3, after last TDD is programmed.

k. Inspector, validate battery installation and TDD programming.

JOB SHEET 4-3 TARGET DETECTING DEVICE INSTALLATION

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-10 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Bomb, General Purpose, Mk 82 or BLU-111A/B, per job sheet 4-1[1]

Bomb, General Purpose, Mk 83 or BLU-110A/B per job sheet 4-1[2]

Packing, Preformed (Cable Well), MS29513-225[3]

Packing, Preformed (TDD), MS9021-166[4]

Plug, cable well, 2494209[3]

Seal, Square Ring (TDD), 6375125[3]

Target Detecting Device, Mk 57, per job sheet 4-2

SUPPORT ITEMS

Adapter, torque wrench, 6375303

Brush, stencil[5]

Cloth, cleaning, disposable, 12 x 15

Gage, thickness, 0.00015 to 0.2000

Grease, pneumatic systems, MIL-G-4343*

Ink, stencil, white, TT-I-1795 TY III*[6]

Ink, stencil, white, TT-I-1795 TY I*[6]

Knife

Stencil Board, oiled, 20 x 32

Stencil Cutter, spcl, 1/2-in characters

Stencil Cutter, spcl, 1-in characters

Tape, masking, flat, 1W[5]

Wrench, spanner, 1-1/4 dia

Wrench, spanner, 3-1/2 dia

Wrench, torque, 0-175 ft-lb, 1/2 in

**Hazardous Material*

[1] *Mine Mk 62.*
[2] *Mine Mk 63.*
[3] *Contained in Conversion Kit Mk 130 Mod 1.*
[4] *Limited standard - use only if square ring seal 6375125 is unavailable.*
[5] *These items to be used when marking mines in magazines afloat (having positive emergency ventilation systems to remove solvent vapors).*
[6] *If white stencil ink is not available, use only suitable white paint for striping bomb cases.*

4-3.1 INSTALLATION OF TDD MK 57

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject).

a. Clean square ring seal/preformed packing groove on underside of TDD flange (Figure 4-3A) and seal/packing seat on aft end of bomb with cleaning cloth.

b. Inspector, witness step c or step d and step e, as applicable.

CAUTION

When installing grease on TDD preformed packing, be careful not to stretch packing. Preformed packing must remain in flange groove while installing TDD to ensure watertight seat.

c. Using PPE per MSDS, grease the square ring seal and install it in its groove. Spread the excess grease over seal, smoothing it out so that it aids in retaining the seal in groove.

d. If square seal is not available, install preformed packing as follows:

(1) Preformed packing must conform exactly in size to the groove in the flange of the TDD so that, when installed, it lies perfectly within the confines of the groove.

(2) Fit-test by placing new preformed packing in groove on underside of TDD flange. If packing does not lie in groove as required, remove it and stretch until it does; then remove packing from groove.

(3) Using PPE per MSDS, apply a liberal amount of grease in the groove of the flange.

(4) Using PPE per MSDS, grease the preformed packing (fit-tested above) and install it in its groove; then spread the excess grease over packing, smoothing it out so that it aids in retaining the packing in groove.

e. Using PPE per MSDS, grease threads on TDD flange.

f. Using PPE per MSDS, lightly grease flanged surface of bomb which interfaces with preformed packing installed on flange of TDD.

g. Ensure that the pop-out pin on the TDD is secured with tagged safety pin.

h. Ensure that aft bomb cable connector aligns with bomb centerline.

i. Inspector, verify step f, step g, and step h; then, witness steps j through m, and validate TDD installation.

j. Insert TDD into aft fuze well ensuring preformed packing/square ring seal remains in flange.

k. Using torque wrench adapter, torque TDD flange to 50 ft-lb. If adapter is not available, use a 3-1/2 inch spanner wrench to install TDD and apply as much hand pressure as possible to ensure a watertight seal.

l. Align arming wire hole in pop-out pin for + or X fin orientation (Figure 4-3B) by turning TDD clockwise. TDD must rotate so that cotter pin is in lower safety pin hole of pop-out pin as shown in Figure 4-3B.

m. Rotate TDD clockwise 360 degrees from its oriented position.

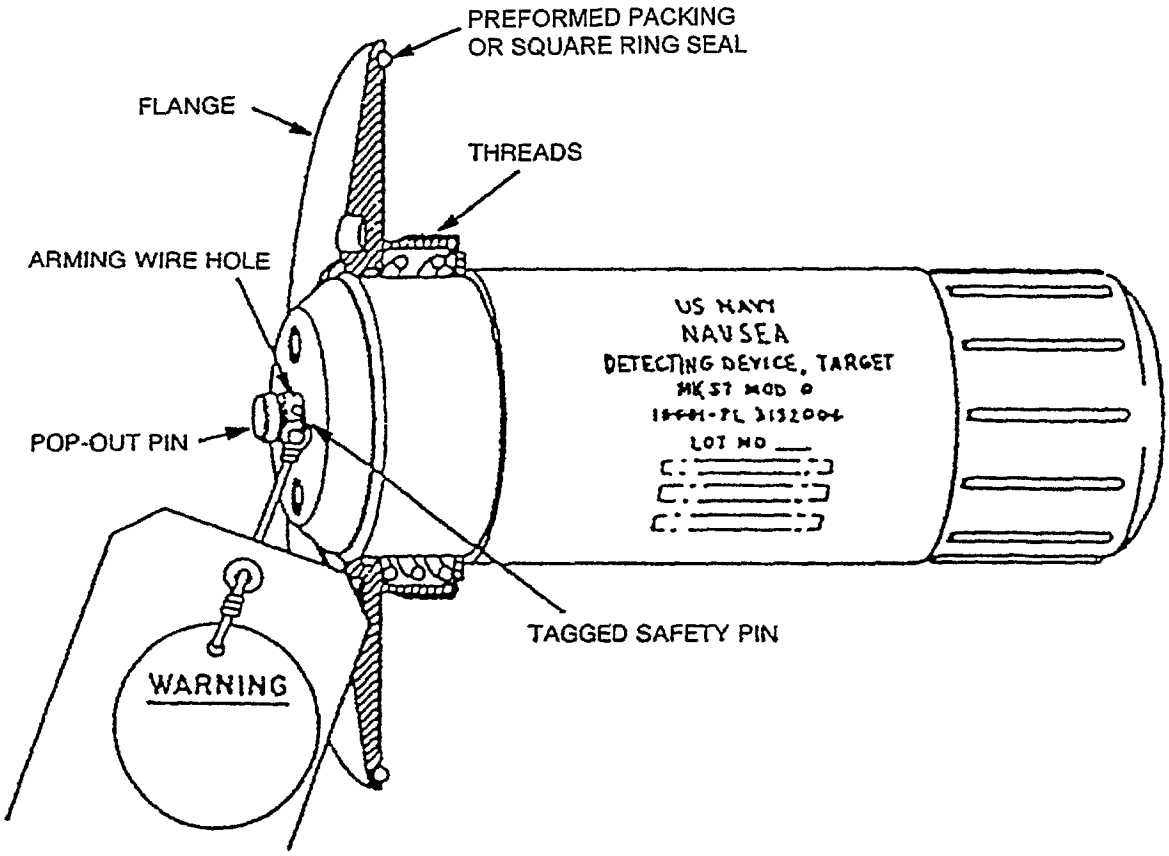
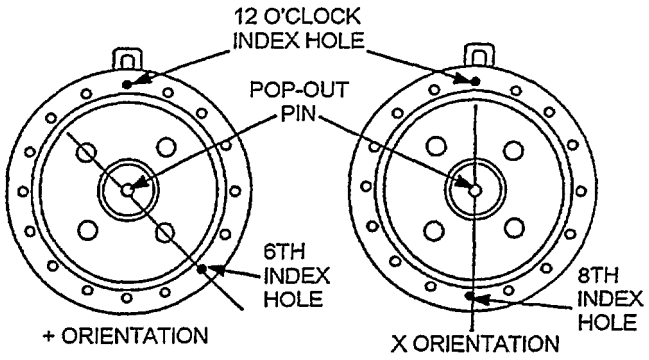
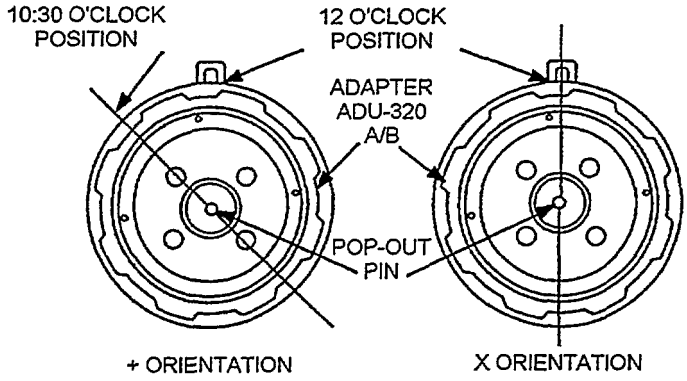


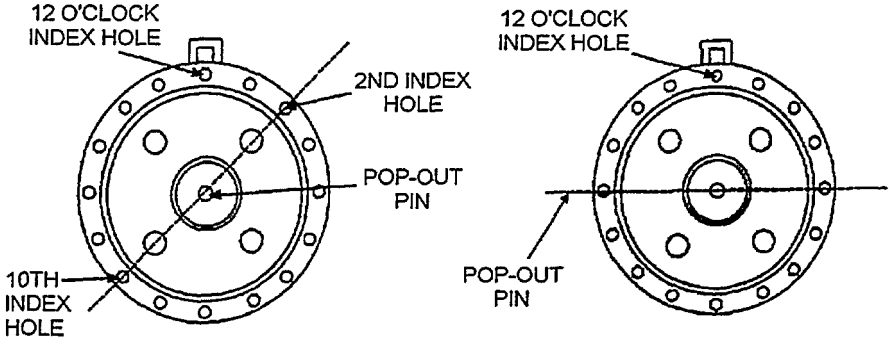
Figure 4-3A. TDD Mk 57 (Battery Installed)



Bomb Mk 82/BLU-111A/B Configured with Fin Mk 15 or BSU-86B o BSU-86A/B



Bomb Mk 83/BLU-110A/B Configured with Fin MAU-91A/B



Bomb Mk 82/BLU-111A/B Configured with Tail Section Mk 16
or
Bomb Mk 83/BLU-110A/B Configured with Tail Section Mk 12

Figure 4-3B. Pop-Out Pin Hole Orientation (TDD)

4-3.2 CABLE WELL PLUG INSTALLATION AND MINE IDENTIFICATION

a. Clean preformed packing seating surfaces in cable well and groove on underside of cable well plug (Figure 4-3C).

b. Using PPE per MSDS, lightly grease threads and new preformed packing. Install packing in cable well plug groove.

c. Inspector, verify step b; then witness step d.

CAUTION

Packing must remain in plug groove while installing to ensure watertight seal.

d. Install cable well plug and tighten securely.

e. Using PPE per MSDS, paint a white band approximately 1 inch wide around bomb just forward of aft suspension lug; then paint four horizontal stripes approximately 6 inches long on aft end of bomb at 90 degrees intervals starting at 45 degrees from top dead center (Figure 4-3D).

f. External Thermal Protected: Using PPE per MSDS, stencil the mine control number on the nose adjacent to the arming device in 1-inch white characters with stencil ink.

g. Nonthermal Protected: Using PPE per MSDS, stencil the mine control number on the nose adjacent to the arming device in 1/2-inch white characters with stencil ink.

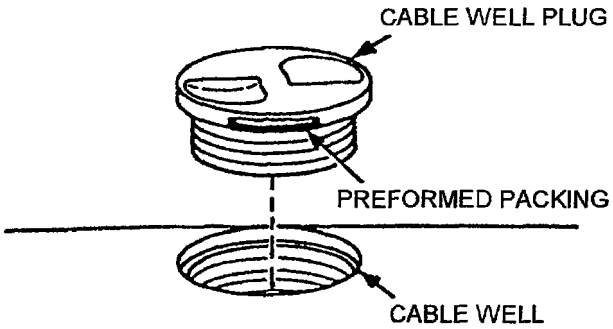


Figure 4-3C. Cable Well Plug Installation

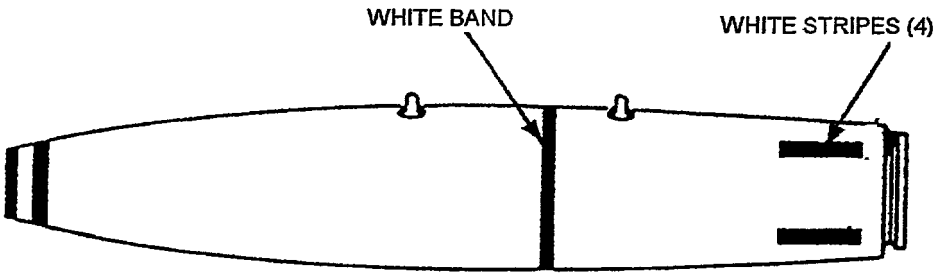


Figure 4-3D. Mine Identification

JOB SHEET 4-4 BOMB FIN MK 15 PREPARATION

WARNING

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Fin, Bomb, Mk 15[1]	Setscrew Set, aluminum, 1/2-13UNC-2A x 3/4, 5178213 (8)[2]

SUPPORT ITEMS

Attachment, int-soc, 1/4 x 3/8 dr	Ink, stencil, white, TT-I-1795 TY III*
Cutter, steel-strap, heavy duty	Pliers, str-nose, w/cutter, 6L
Faceshield, protective	Screwdriver Bit, corn, 3/8 tip x 3/8 dr
Gloves, leather	Screwdriver, sch-screw, ball-tip 1/4
Handle, rev-ratchet, 3/8 dr	Stencil Board, oiled, 20 x 32
Handle, speeder, soc-wr, 3/8 dr	Stencil Cutter, spcl, 1/2-in characters

**Hazardous Material*

[1] *Fin Mk 15 Mod 6 must be used for F/A-18 and B-52 aircraft.*
[2] *Contained in Conversion Kit Mk 130 Mod 1.*

4-4.1 BOMB FIN MK 15 PREPARATION

WARNING

Potential eye hazard exists when uncrating fins; wear protective faceshield and gloves.

Fin weighs approximately 66 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

CAUTION

Do not bend release band latch during handling as it may cause fin to malfunction.

a. Put on faceshield and gloves.

b. Uncrate bomb fin and position fin on deck with release band latch up (Figure 4-4A). Retain crate for repacking (if applicable).

c. Remove faceshield and gloves.

d. If present, remove suspensions lugs from crate.

e. Remove eight steel setscrews from fin and retain for disassembly (if applicable).

f. Install eight aluminum setscrews in fin.

g. After setscrews have been installed, using PPE per MSDS, stencil the following on fin blade near arming wire slot in 1/2-inch white characters "ALUMINUM SETSCREWS INSTALLED."

h. Ensure setscrews on circumference of fin are backed out enough to allow fin to slip over aft end of bomb.

i. Remove plastic protective cap on aft end of fin and retain for fin repackaging (if applicable).

WARNING

Release band springs open violently when safety pin is pulled from latch. Personnel injury could result.

j. While suppressing release band latch with one hand, remove safety pin from forward side of latch and reinsert it from aft side. Safety pin must be installed in hole closest to hinge.

k. Inspector, validate Bomb Fin Mk 15 Preparation.

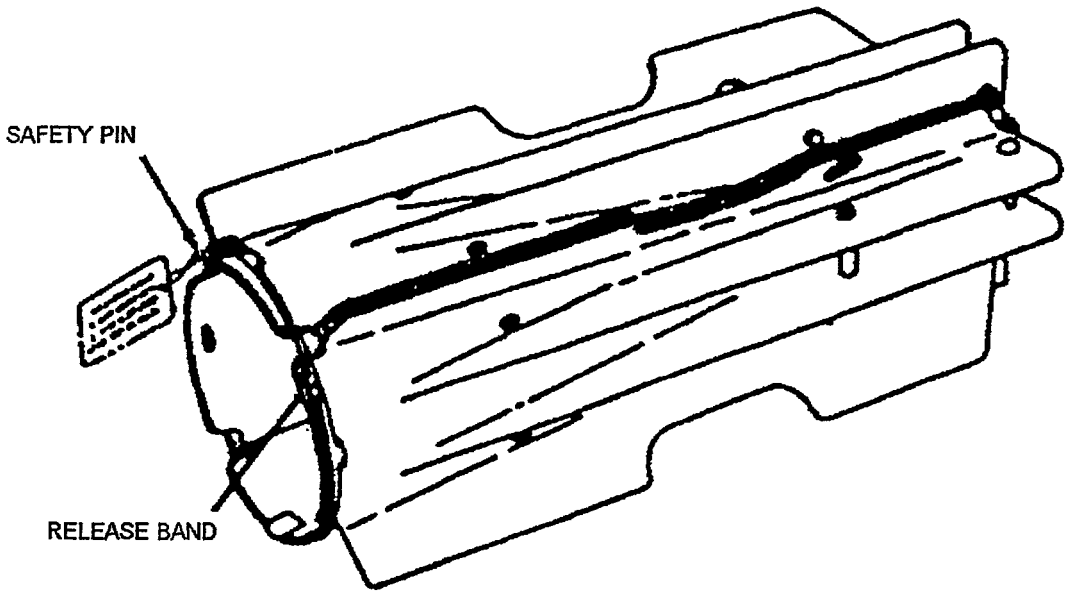


Figure 4-4A. Bomb Fin Mk 15

JOB SHEET 4-5 BOMB FIN BSU-86/B OR BSU-86A/B PREPARATION

WARNING

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Fin, Bomb, BSU-86/B, 923AS159 or Fin, Bomb, BSU-86A/B, 1232-01-437-8275	Setscrew Set, aluminum, 1/2-12UNC-2A x 3/4, 5178213 (8)[1]

SUPPORT ITEMS

Attachment, int-soc, 1/4 x 3/8 dr	Pliers, wrench, 8-1/2L (4)
Cutter, steel-strap, heavy duty	Rule, machinist, steel, 6L
Faceshield, protective	Screwdriver Bit, cam, 3/8 tip x 3/8 dr
Gloves, leather	Screwdriver, sch-screw, ball-tip 1/4
Handle, rev-ratchet, 3/8 dr	Screwdriver, flat-tip, 3/8 tip x 8L
Handle, speeder, soc-wr, 3/8 dr	Stencil Board, oiled, 20 x 32
Ink, stencil, white, TT-I-1795 TY III*	Stencil Cutter, spcl, 1/2-in characters
Pliers, str-nose, w/cutter, 6L	

Hazardous Material

[1] *Contained in Conversion Kit Mk 130 Mod 1.*

4-5.1 INSTRUCTIONS

WARNING

Potential eye hazard exists when uncrating fins; wear protective faceshield and gloves.

Fin weighs approximately 66 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

CAUTION

Do not bend release band latch during handling as it may cause fin to malfunction.

a. Put on faceshield and gloves.
b. Cut and remove metal banding material.
c. Remove faceshield and gloves.
d. Remove top adapter section.
e. Ensure release band and warming tag assembly are present.
f. Remove fin from bottom adapter section and place on deck.
g. Remove plastic cap from aft end support and retain for repackaging (if applicable).

h. Inspect fin as follows:

(1) Inspect fin for stencils "AWB 328 INCORPORATED" and "AWB 349 INCORPORATED." If either stencil is not present, reject and subject fin to Class-B Criteria of SW550-AA-MMI-010.

(2) If fin has prefix DRF in the lot number, inspect for reidentification as BSU-86A/B NSN 2E 1325-01-437-8275 NALC EA53 in accordance with AWC 419. If AWC 419 has not been installed and fin has not been reidentified, reject and subject fin to Class-B Criteria of SW550-AA-MMI-010.

WARNING

Fin release band and fin are spring loaded. Release the band with caution. Personnel injury could result.

i. Inspect fin for damage and corrosion as follows:

(1) Ensure that release band is free of corrosion.

(2) Remove cotter pin from fin latch. Ensure latch opens freely.

(3) If fins extend automatically at least 1/2 inch when cotter pin is removed and can be extended to contact shock absorber by hand, the fin is operative. Inoperative fins shall not be used.

(4) Check that link pins and link pin retainers are present, not damaged, and properly positioned in the drag links.

(5) Fin release bands that are damaged or corroded such that its fit or function is affected should be rejected.

j. If fin is operative:

(1) Close fins and clamp them together with vise grip pliers.

(2) Relatch release band and insert warning tag assembly in hole furthest from hinge (Figure 4-5A, detail A).

(3) Remove vise grip pliers.

k. Ensure band, retainer, and release assembly is not damaged. Verify band has not slipped off the end of the fin blade. The band is very close to the fin blade edge. If band slips off, compress fin blade and slide release band on the fin assembly.

l. Ensure release assembly, clamp, and retainer band latch clip are not deformed in such a way that would prevent the lever from disengaging the band.

m. Ensure spring arming wire (SAW), both cables, and SAW housing are not damaged. Inspect safety clip and verify the length of wire extending beyond J-hook (Figure 4-5A) of the safety clip is 3/8 inch. Cut wire if necessary.

n. Remove eight setscrews from fin and retain for disassembly (if applicable).

o. Install eight aluminum setscrews in fin.

p. After setscrews have been installed and using PPE per MSDS, stencil the following on fin blade near arming wire slot in 1/2-inch white characters "ALUMINUM SETSCREWS INSTALLED."

q. Ensure setscrews on circumference of fin are backed out enough to allow fin to slip over aft end of bomb.

r. Inspector, validate Bomb Fin BSU-86 preparation.

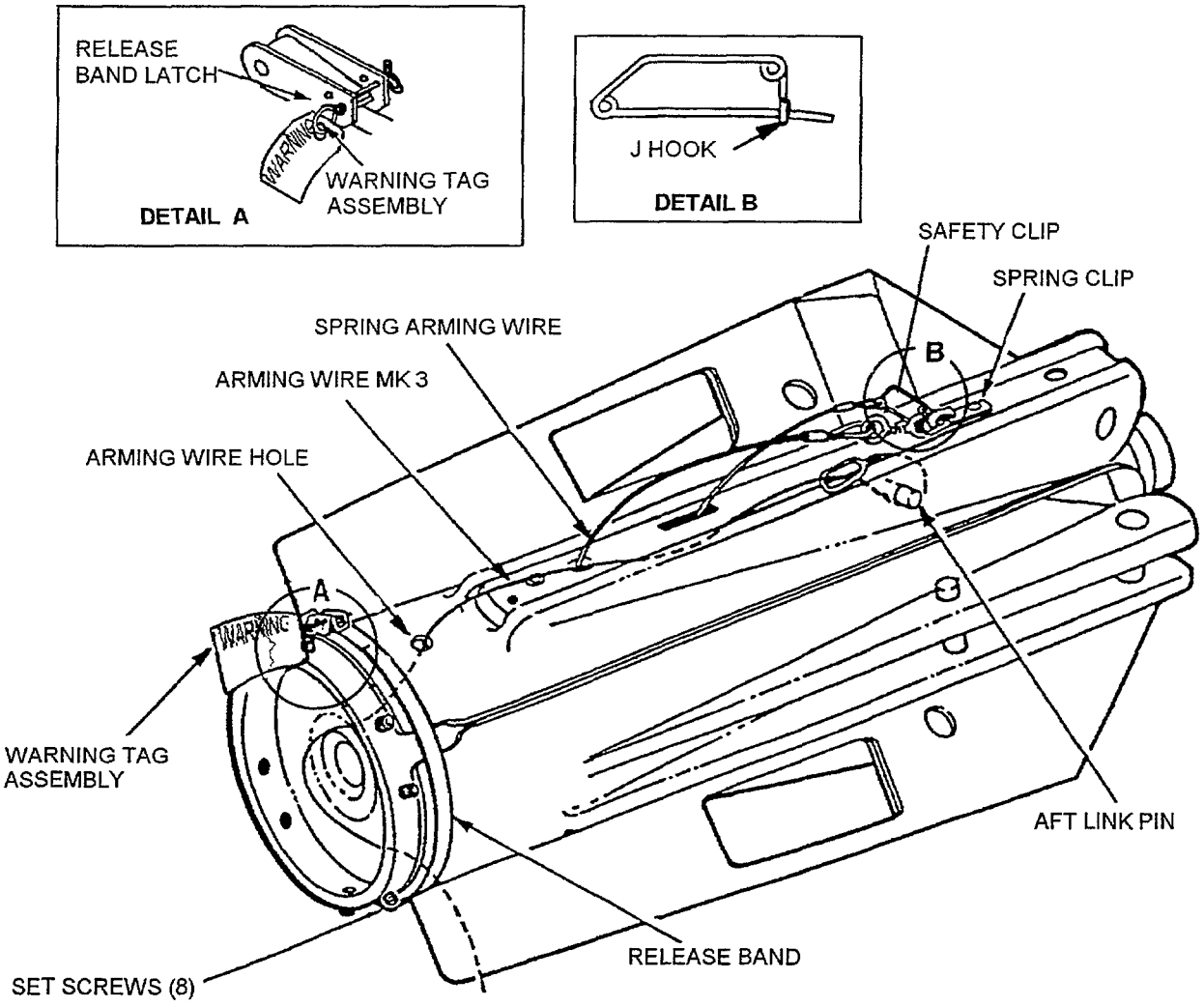


Figure 4-5A. Bomb Fin BSU-86/B or BSU-86A/B

JOB SHEET 4-6 BOMB FIN MAU-91A/B PREPARATION

WARNING

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Fin, Bomb, MAU-91A/B, 65E12320

SUPPORT ITEMS

Cutter, steel-strap, heavy duty	Pliers, slip joint, str-nose, 8L
Faceshield, protective	Pliers, str-nose, w/cutter, 6L
Gloves, leather	Pliers, wrench, 8-1/2L (4)
Grease, pneumatic systems, MIL-G-4343*	Screwdriver, flat-tip, 7/32 x 12 blade

**Hazardous Material*

4-6.1 BOMB FINS MAU-91A/B PREPARATION

WARNING

Potential eye-hazard exists when uncrating fins; wear protective faceshield and gloves. If garter spring is inadvertently released it could cause personnel injury.

Fins weighs approximately 120 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

CAUTION

Do not bend release band latch during handling as it may cause fin to malfunction.

a. Put on faceshield and gloves.

b. Uncrate bomb fin and position fin on deck with fin release lanyard guide on top (Figure 4-6A). Retain wooden adapters for repackaging (if applicable). If present, remove suspension lugs from aft adapter cap.

c. Remove faceshield and gloves.

d. Verify that set of 1/4-inch arming wire holes are in top fin blade, support flange, and bottom fin blade. Hole in top blade should be between 1-inch slot and lanyard guide. If arming wire holes are not present, reject fin.

e. Verify that release band is not bent or misaligned and that safety pin is installed in latch. Reject fin.

f. Verify fin release lanyard is routed outside of fin release band and release band is positioned 23 degrees from top dead center as shown in Figure 4-6A. Lanyard release should be routed as follows: Route lanyard exiting fin release lanyard guide through the fin release lanyard pin in its stowed position clipped to the fin upright, then circling forward of the fin release band and to the

interior of the fin body. If release band is not in correct position, adjust release band per steps g through p. If release band and lanyard are correct, proceed to step q.

g. Lay fin on its side with fin release lanyard guide up (Figure 4-6A).

h. Put on faceshield.

i. Holding release band latch securely, pull safety pin, and carefully unlatch release band.

j. For Misaligned Bands: Bend out retaining clamp which secures release band to fin blade with screwdriver. Adjust release band to correct position.

k. Ensure energy absorber is slid forward. Compress fin blades and clamp in place with vise grips (Figure 4-6B). Verify the edges of closed fin blades are over spring links and do not rest against spring section of garter spring.

l. Install release band around fin ensuring fin release lanyard is routed outside of release band and engaging tabs on band with slots in fin section (Figure 4-6A and Figure 4-6B). Do not catch fin release lanyard between band and fin blade.

m. Close release band latch by inserting band tab into latch and closing latch (Figure 4-6C).

n. For Double Latch Bands Only: Insert safety pin from aft side into non-eyelet holes closest to large lever pivot. If cotter type pin is used, bend ends of pin outward. Ensure safety pin engages both levers and tab is secured by small lever.

o. For Single Latch Bands Only: Insert safety pin from aft side into non-eyelet holes closest to lever. If cotter type pin is used, bend ends of pin outward. Ensure tab is secured by lever.

p. Remove vise grip pliers.

q. Remove faceshield.

r. For Reposition Bands Bend retaining clamp back into original position.

s. Using PPE per MSDS, apply thin coat of grease to the release band latch and the safety pin.

t. Verify that the sides of the release band latch are not bent inward far enough to prevent proper operation of the latch. (Restore by grasping side of latch with pliers and bending it into place.)

NOTE

Fin sleeve is a steel cylinder 4.75 inches in diameter and 7.5 inches long. Three notched indentations 120 degrees apart on the outer end of sleeve prevent sleeve from sliding into fin. A retaining tab bent outward 10 degrees prevents sleeve from sliding out of fin.

u. Stand fin on deck with release band down. With aft end facing up, inspect for presence of sleeve (identified by three notched indentations) located between clevis pin assembly and spring assembly support. Sleeve extends down 1 inch above energy absorber. If sleeve is not present, reject fin (Figure 4-6D).

v. Verify sleeve is retained in fin by tab using one of the following procedures:

(1) Reach down between fin blades and clevis pin assembly and pull up on sleeve until firm metal-to-metal contact is heard.

(2) Reach down between fin blades and clevis pin assembly, verify tab, locate on sleeve just below bottom of clevis pin assembly, is bent out approximately 10 degrees. If tab is not present or will not retain the sleeve, reject fin (Figure 4-6D).

w. Inspector, validate Bomb Fin MAU-91A/B preparation.

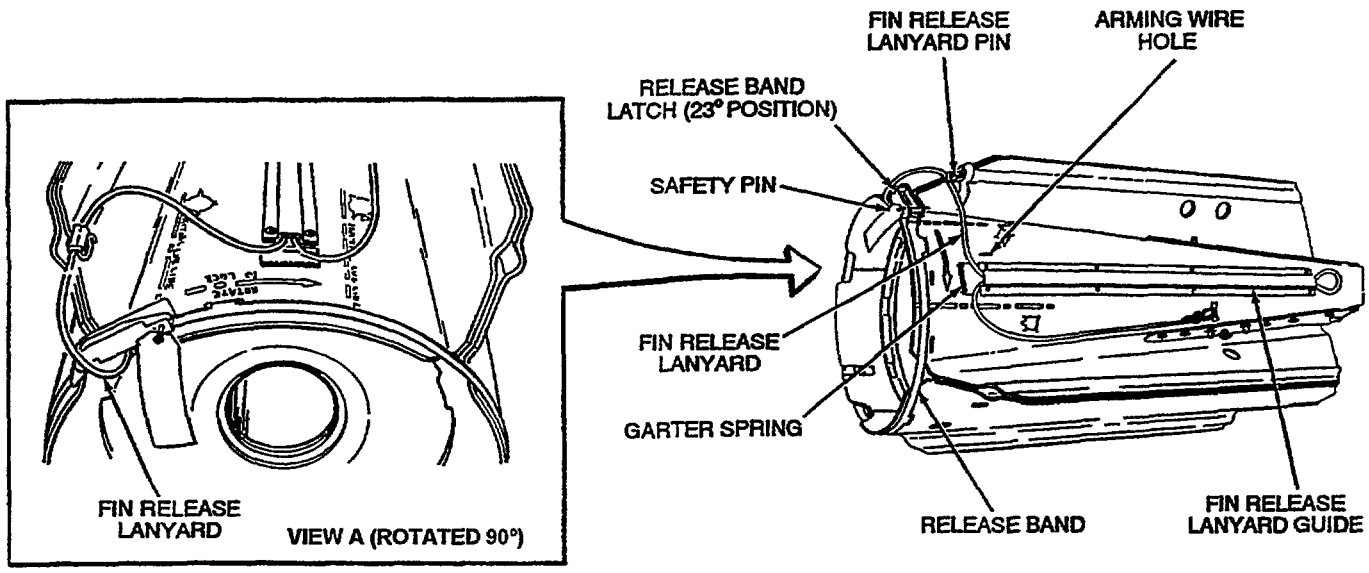


Figure 4-6A. Bomb Fin MAU-91A/B

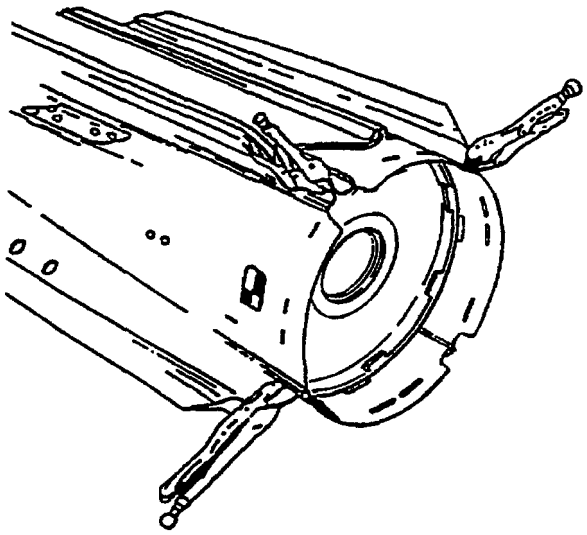


Figure 4-6B. Fin Closure

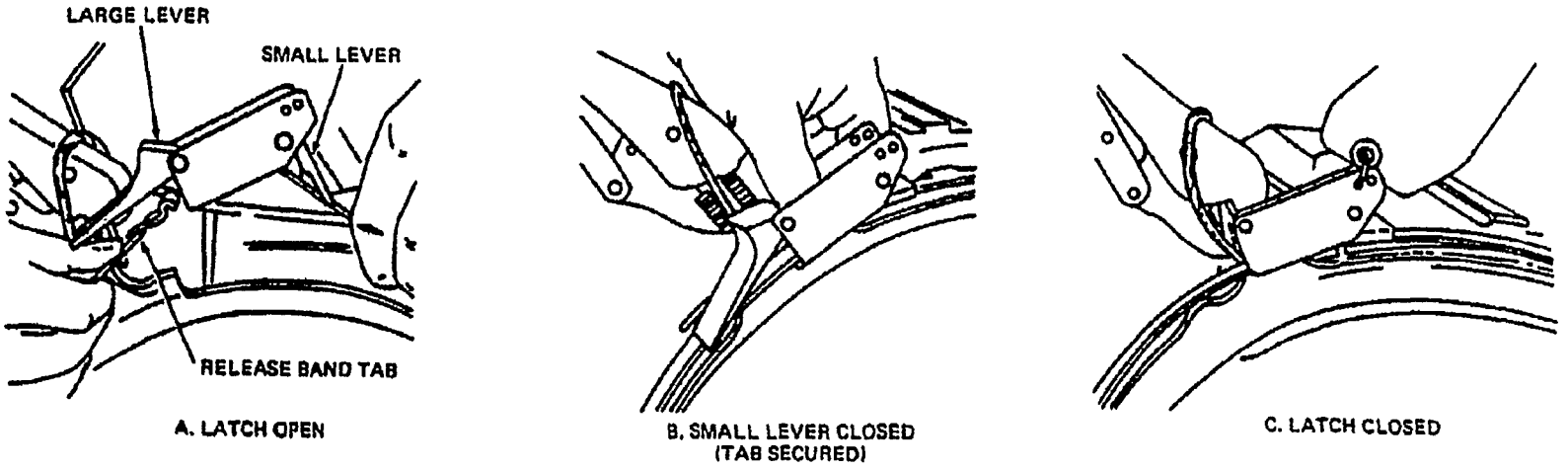


Figure 4-6C. Securing Release Band

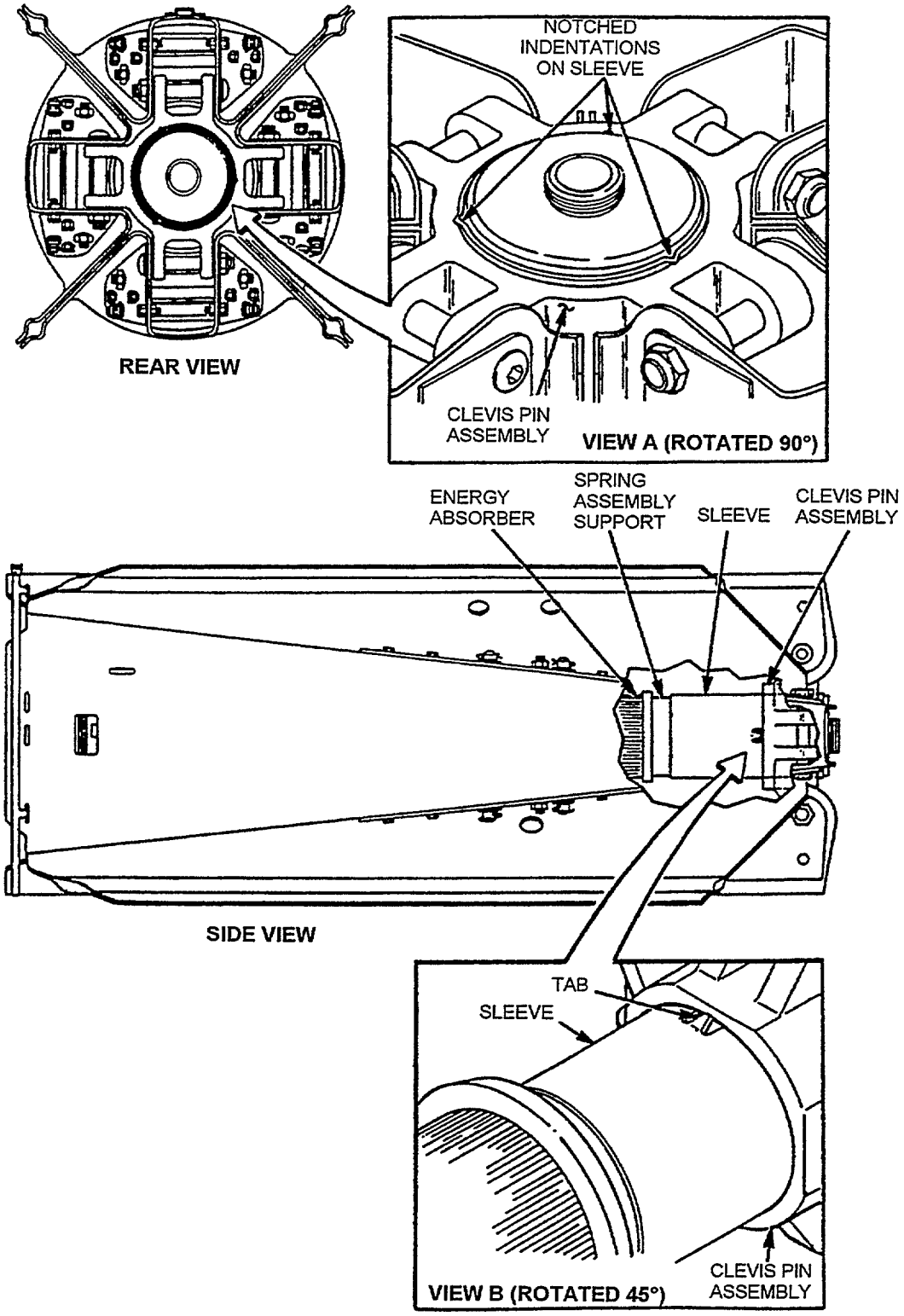


Figure 4-6D. Bomb Fin MAU-91A/B

JOB SHEET 4-7 TAIL SECTION MK 12 PREPARATION

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Kit, Mine, Flight Gear Mk 166, 5561720

SUPPORT ITEMS

Cutter, steel strap, heavy duty
Faceshield, protective
Gloves, leather
Handle, rev-ratchet, 3/8 dr
Pliers, slip joint, str-nose, 8L
Screwdriver, flat-tip, 3/8 tip x 8L
Socket, 12-pt, deep-lg, 9/16 x 3/8 dr

4-7.1 UNPACKAGING FLIGHT GEAR KIT MK 166

WARNING

Tail Section Mk 12 contains a small amount of explosives (Hazard Class 1.4S). Handle carefully when opening. Personnel injury could result.

Flight Gear Kit weighs approximately 175 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

NOTE

Tail Section Mk 12 is going to be converted to have a safety streamer similar to the Tail Section Mk 16. This conversion will be accomplished by ECI 0285. Assembly procedures for the two configurations vary slightly, so both are included in this publication. Upon receipt of necessary hardware, ECI 0285 should be performed.

Two safety harness assemblies are authorized for use on the Tail Section Mk 12, a yellow and a red harness. The two harnesses are identical except for color. The yellow harness is standard; the red harness an alternate, but is required for afloat operations. The red safety harness option has been discontinued and will be replaced with the yellow harness when ECI 0285 is performed.

a. Stand the shipping container upright.

b. For units that are being prepared for afloat loads and have not had ECI 0285 performed, verify that ECI 0201 (red safety harness installed) has been completed.

c. Cut and remove the security seal from the shipping container locking ring. Dispose of the lead seal in accordance with local regulations.

d. Remove the nut from the container locking ring bolt.

e. Remove the container locking ring bolt and the locking ring from the container. If necessary, use the screwdriver to assist in removing the locking ring.

f. Remove the container cover and the fiberboard fillers from the container.

g. Remove the arming wire retainer, the plastic bag containing three 1/4-20 x 1-inch setscrews and the two coiled arming wires from the top support in the container (Figure 4-7A).

h. Remove the top support from the container.

i. Ensure the bolts on the aft end of the tail section (under the safety harness assembly) are safety wired.

WARNING

Tail Section Mk 12 weighs approximately 80 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

j. Carefully remove the Tail Section Mk 12 from the container, and handle the tail section as an explosive item in accordance with local safety regulations.

k. Install the top support and fiberboard filler(s) in the shipping container.

l. Install the shipping container cover, locking ring, locking ring bolt and nut on the shipping container.

m. Set aside the shipping container for repackaging.

4-7.2 TAIL SECTION PREPARATION

a. Check periphery of tail section and verify that all setscrews (12) are present; then, if necessary, back out setscrews just enough to permit section to slip over aft end of bomb.

b. Check tail end of section and verify that the safety harness is in place (Figure 4-7B). If ECI 0285 has been performed, verify warning streamer is in place.

c. Inspector, verify step a and step b; then, validate Tail Section Mk 12 Preparation.

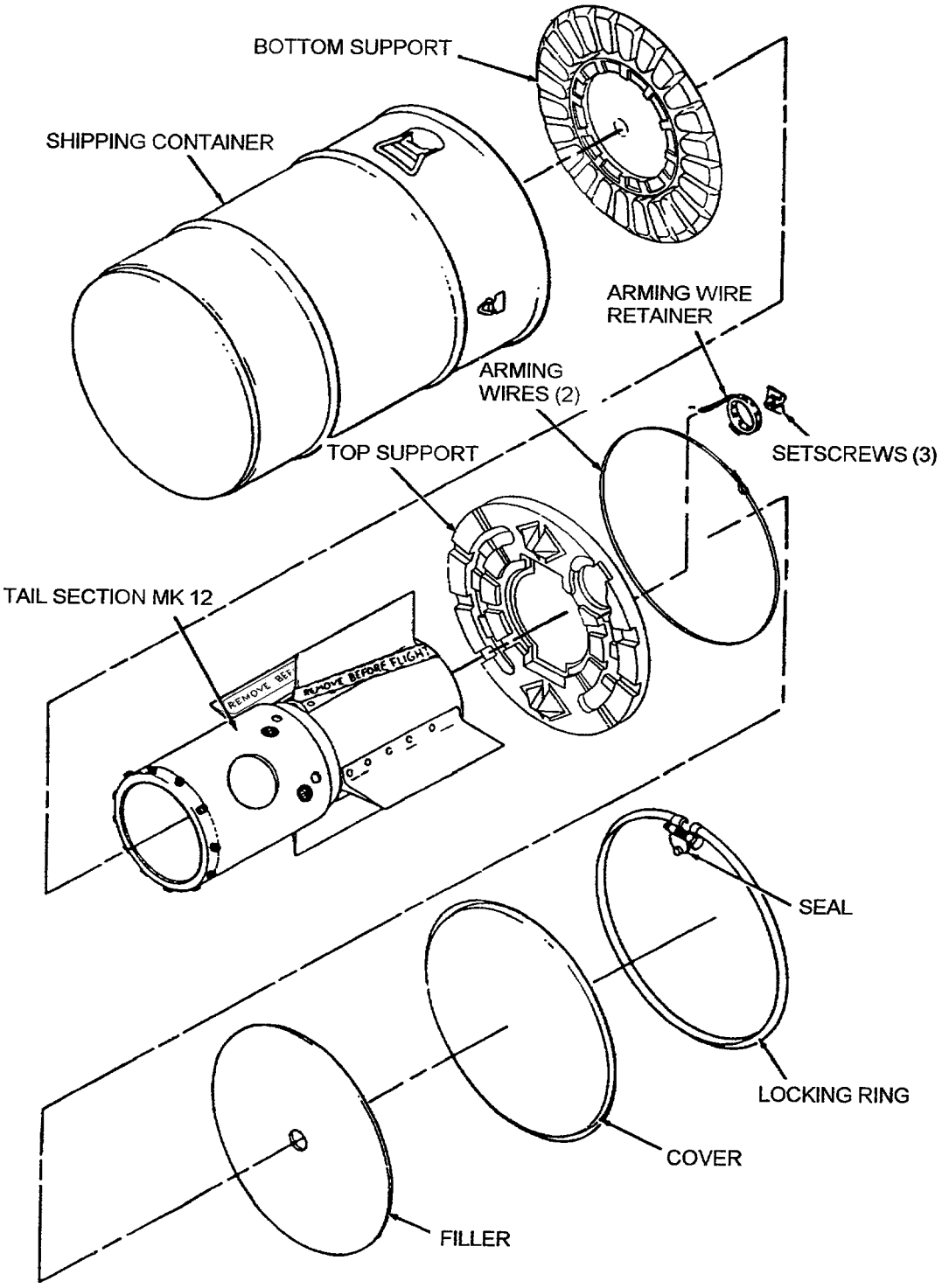


Figure 4-7A. Flight Gear Kit Mk 166 Unpackaging

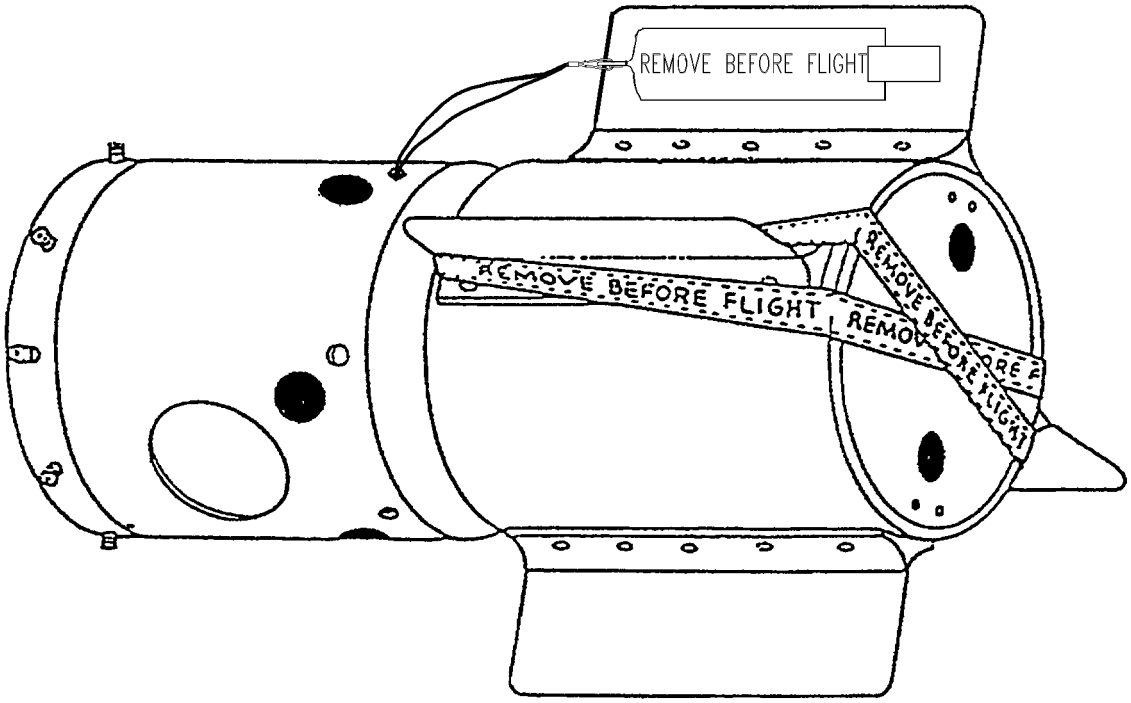


Figure 4-7B. Tail Section Mk 12

JOB SHEET 4-8 TAIL SECTION MK 16 PREPARATION

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Kit, Mine Flight Gear, Mk 164[1]

SUPPORT ITEMS

Attachment, int-soc, 1/4 x.3/8 dr
Cloth, cleaning, disposable, 12 x 15
Compound, antiseize, MIL-T-22361*
Extension, soc-wr, 3L x 3/8 dr
Handle, rev-ratchet, 3/8 dr
Handle, speeder, soc-wr, 3/8 dr
Pliers, slip joint, str-nose, 8L
Pliers, wire-twister
Screwdriver, sch-screw, ball-tip 1/4
Socket, 12-pt, reg-lg, 5/16 x 3/8 dr
Tape, press-sens, adh, green, 1W
Wire, safety, MS20995C47
Wrench, torque, 0-150 in-lb, 3/8 dr
Wrench, torque, aud, rcht, 30-250 in-lb, 3/8 dr

**Hazardous Material*

[1] *B-1 and B-2 Aircraft must use Mine Flight Gear Kit Mk 164 Mod 1. All other aircraft use Mine Flight Gear Kit Mk 164 Mod 0. Refer to SW550–AA-MMI-010 Class-B criteria for differences.*

4-8.1 UNPACKAGING TAIL SECTION MK 16

WARNING

Tail Section Mk 16 contains a small quantity of hazardous material. Handle carefully when opening.

Flight Gear Kit weighs about 80 pounds. To prevent injury, use proper precautions and sufficient personnel when handling.

a. Cut and remove lead seals securing shipping container assembly latches. Dispose of lead seals per local regulations.

b. Open container latches and remove cover and fillers from container (Figure 4-8A).

WARNING

Use caution when removing coiled hose clamp and solenoid arming cable assembly from top support. Components can uncoil with enough force to cause injury to personnel.

c. Remove top support with tail components from container. If still attached, remove foam cushion from tube assembly.

d. If present, remove tube assembly, arming wire retainer, arming accessory kit, hose clamp, and solenoid arming cable assembly from top support.

If the tail is placed on end during assembly, ensure no moisture accumulates in or around the control unit. Moisture build-up will freeze during high altitude flight and may cause improper operation of the tail.

e. Carefully remove tail from container and handle the tail section as an explosive item in accordance with local safety regulation.

f. Install the top support and polyethylene fillers back in the shipping container.

g. Install the shipping container lid on the shipping container.

h. Set aside the shipping container for repackaging.

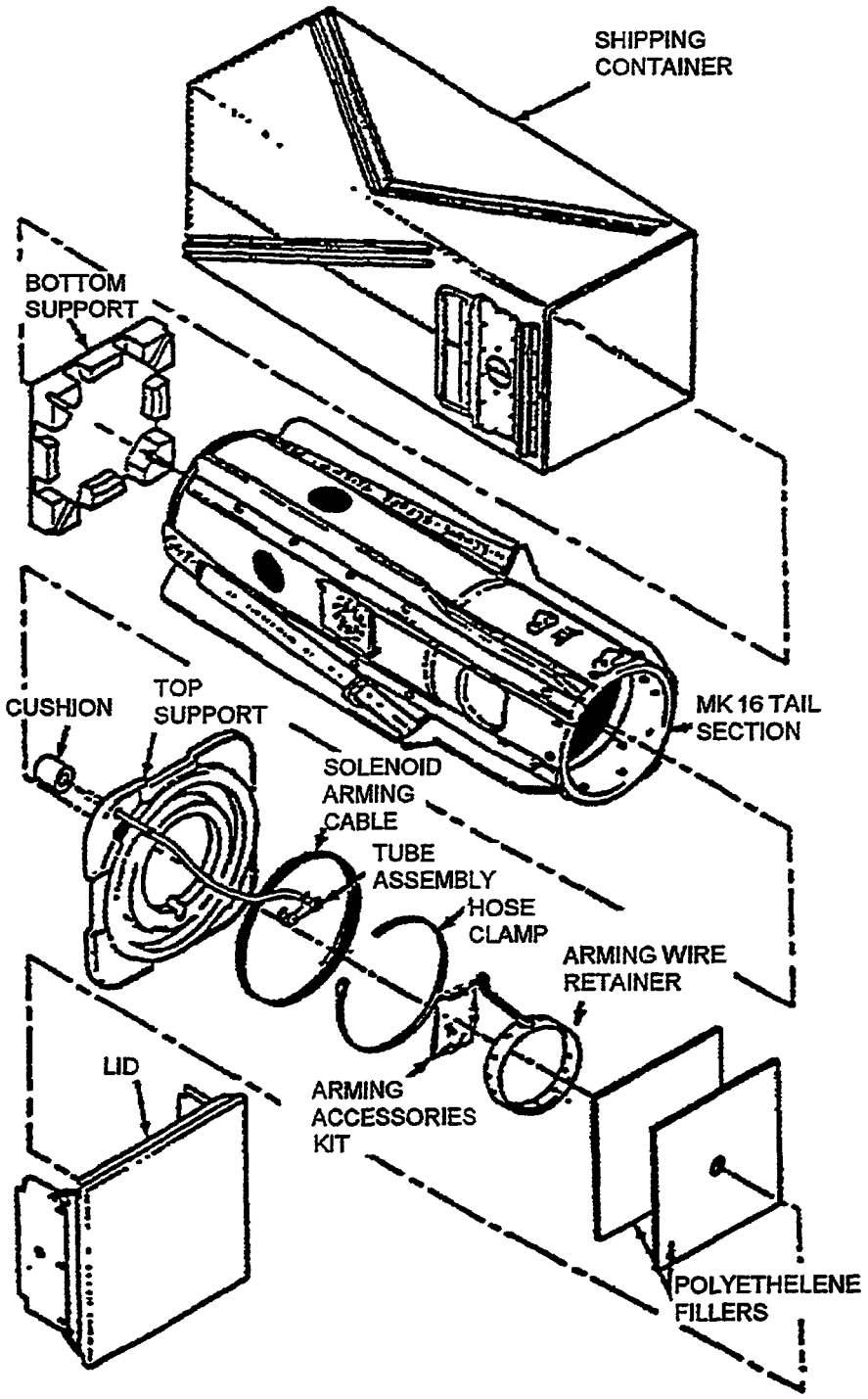


Figure 4-8A. Mine Flight Gear Kit Mk 164 Unpackaging

4-8.2 TAIL SECTION PREPARATION

WARNING

Control unit safety knob screw flange must be flush against end of control unit. If the safety strap, control unit safety pin, and the safety knob are removed, the tail section cover and parachute will be ejected from the tail with enough force to cause severe injury.

CAUTION

If tail section is being prepared for B-1 or B-2 aircraft, it must be modified in accordance with SW550–AA-MMI–010 prior to use. Failure to change the actuator in accordance with SW550–AA-MMI–010 may cause the parachute to deploy prior to the mine clearing the bomb bay.

a. Ensure control unit safety knob screw flange is flush against end of control unit. If safety knob is loose, tighten hand-tight.

b. Ensure safety pin of arming lanyard assembly is installed in control unit (Figure 4-8B, detail A).

WARNING

Looseness of tail section end plate could lead to premature tail section actuation during flight, endangering pilot and aircraft.

c. Attempt to move end plate of tail in, out, and laterally by hand. If end plate is loose, reject tail.

d. Ensure the bolts on the tail cover of the tail section (under the safety harness assembly) are safety wired. (Reject)

CAUTION

Nicks or burrs on rolled end of tube assembly could cause fraying or cuts to lanyard during flight, resulting in tail failure.

e. Verify rolled end of tube assembly is free of nicks or burrs. (Reject)

f. Ensure safety harness is tight on tail; tighten as necessary.

g. If necessary, rotate control unit housing so safety pin on arming lanyard assembly is aligned with spring pin in tail as shown in Figure 4-8B.

h. For B-1 and B-2 Aircraft: (Mine Flight Gear Kit Mk 164 Mod 1) Proceed to job sheet 4-13.

i. Pull the arming lanyard through the tail arming lanyard hole as follows:

(1) Cut a piece of safety wire approximately 36 inches long.

(2) Thread the safety wire through the eye of the arming lanyard.

(3) Thread the two ends of the safety wire through the tail arming lanyard hole, then use the safety wire to pull the arming lanyard through the arming lanyard hole.

(4) Remove safety wire from lanyard eye. Ensure arming lanyard leads directly to tail arming lanyard hole and is not wrapped around control unit.

j. Obtain swivel assembly and Aero-7/BRU Lanyard (red) from pockets in warning flag assembly.

k. Arming Lanyard Installation:

(1) Inspector, witness step (2).

(2) Using lanyard obtained in step i, attach one end of lanyard extension to arming lanyard (Figure 4-8C). Pull lanyard extension/arming lanyard knot tight.

l. Ensure forward edge of tape securing TDD arming cable to inside of tail is at least 2 inches back from forward edge of tail.

m. Check periphery of tail section and verify that eight setscrews are present. If necessary, back out setscrews just enough to permit section to slip over aft end of bomb.

n. Using PPE per MSDS, apply a light coating of antiseize compound to bottoms and exposed threads of tail setscrews.

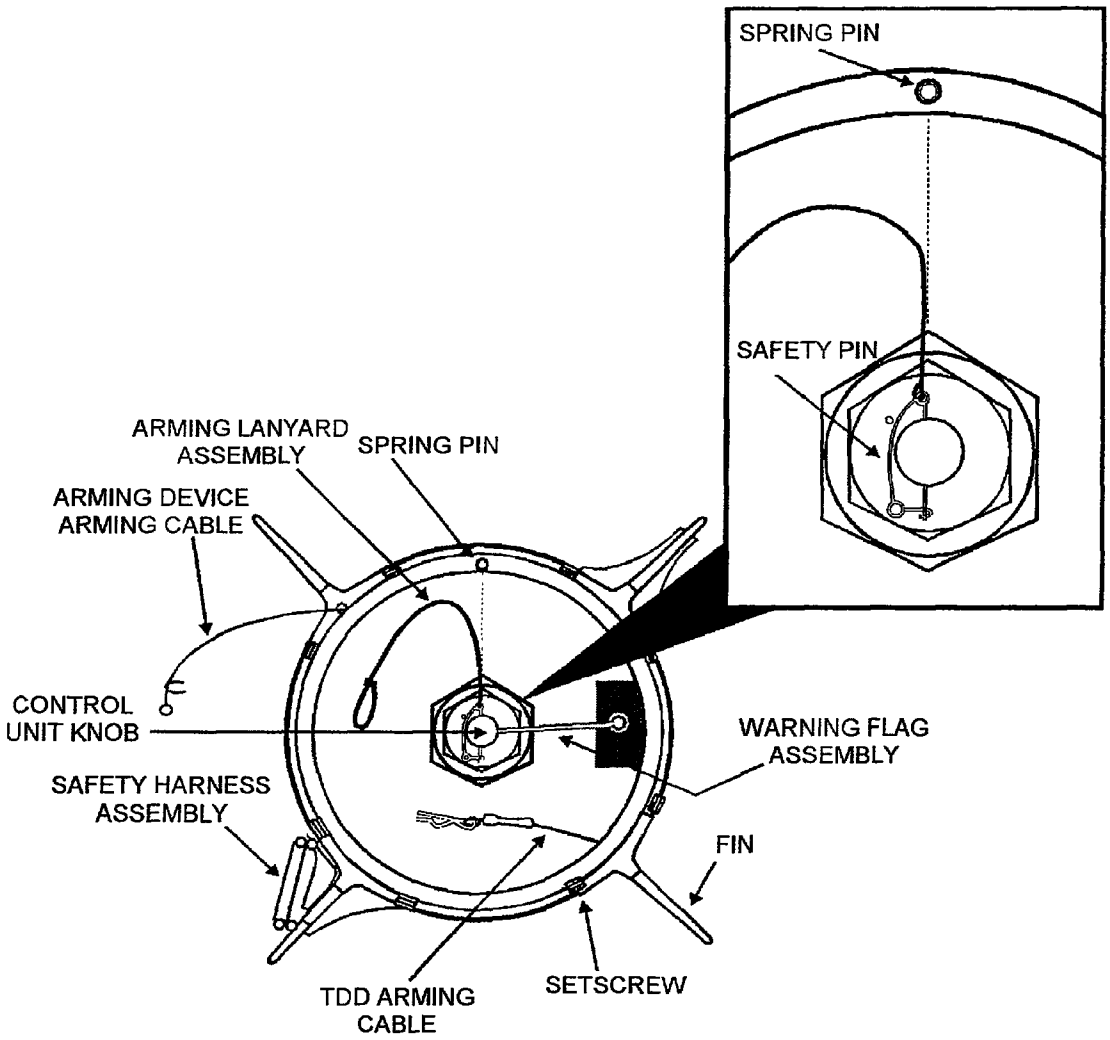


Figure 4-8B. Tail Section Mk 16 Control Unit

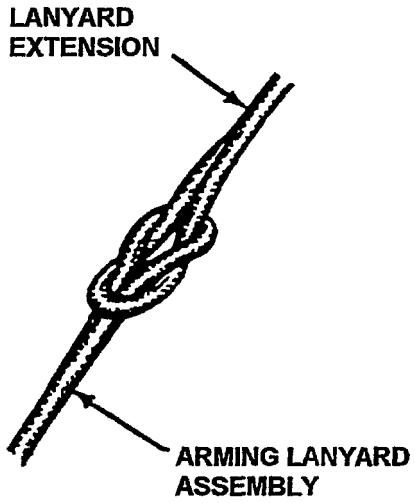


Figure 4-8C. Lanyard Extension Installation

JOB SHEET 4-9 BOMB FIN MK 15 INSTALLATION

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP4.

MATERIALS

COMPONENTS

Arming Wire Mk 3, 375994
Bomb, General-Purpose, Mk 82 or BLU-111A/B, per job sheet 4-3
Cable and Strap Assembly, delayed arming, 3162285[1]
Fin, Bomb, Mk 15 per job sheet 4-4[2]
Lug, suspension, MS3314 (2)
Pin, fin release, Blackwell, 5781220
Release Band Assembly, 2880289[3]

SUPPORT ITEMS

Attachment, int-soc, 1/4 x 3/8 dr
Cutter, bolt, 14L
Handle, rev-ratchet, 3/8 dr
Handle, speeder, soc-wr, 3/8 dr
Knife
Pliers, str-nose, w/cutter, 6L
Pliers, special, for beryllium clip, 68D33277
Pliers, wrench, 8-1/2L (4)[3]
Rule, machinist, steel, 6L
Screwdriver Bit, com, 3/8 tip x 3/8 dr
Strap, tie-down, electrical, MS3367-1-9
Tape, press-sens, adh, olive, 3W
Wire, lock, steel, znpl, 0.047 dia[3]
Wrench, spanner, 1-1/4 dia

[1] *For B-52 and P-3 Aircraft internal carriage only.*
[2] *Mod 6 fins must be used for B-52 and F/A-18 aircraft.*
[3] *Required when fin interference is encountered using externally thermal protected Bomb Mk 82 Mod 2 or BLU-111A/B.*

4-9.1 SUSPENSION LUG INSTALLATION

a. Verify ordnance ground is connected to bomb case.

b. Verify suspension lugs are screwed into lug wells until outer edge of bottom of lug eyes are flush with bomb body. In some cases, lugs may not screw flush; this is acceptable as long as there exists a 3-1/2 thread engagement (Figure 4-9A).

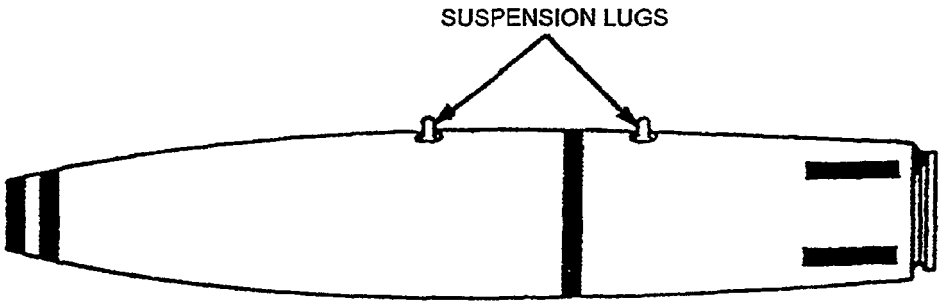


Figure 4-9A. Suspension Lug Installation

4-9.2 ARMING WIRE AND FIN INSTALLATION

WARNING

Keep clear of release band while installing arming wire. If accidentally released, it may fly upward with enough force to injure personnel.

a. Thread swivel end of Arming Wire Mk 3 under link pin (forward to aft) and install free end of arming wire through swivel end and pull free end forward.

b. Thread free end of wire through small hole in top of fin flange (Figure 4-9B).

WARNING

Fin weighs approximately 66 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

NOTE

If fin interference is encountered using Mk 82 Mod 2 or BLU-111A/B externally thermal protected bomb, a longer release band assembly is required.

c. Verify there is no fin-to-bomb interference. Proceed to step d. If interference is encountered, replace release band as follows:

(1) Clamp fin together with wrench pliers.

(2) Remove safety pin from release band latch. Remove release band and wire or clamp (Figure 4-9C).

(3) Discard clamp.

(4) Install longer release band, close latch and insert safety pin from the aft side, into release band latch hole farthest from release band latch lever.

(5) Remove wrench pliers.

(6) Secure release band to bottom fin blade with four turns of wire around release band and then through adjacent cutout/slot in fin (Figure 4-9C, detail A).

(7) Twist ends together and bend back against fin.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject). Remove TDD per job sheet 5-7.

Pop-out pin must be properly aligned to ensure arming wire does not break on withdrawal.

d. Ensure pop-out pin has been oriented for + or X fin orientation (Figure 4-9D).

e. X Fin Orientation: Position fin near aft end of bomb, align fin support index pin with fourth index hole clockwise on bomb body, and bend ends of TDD warming tag pin together (Figure 4-9D).

f. + Fin Orientation: Position fin near aft end of bomb, align fin support index pin with second index hole clockwise on bomb body, and bend ends of TDD warming tag pin together (Figure 4-9D).

CAUTION

Sharp bends or loops in arming wire can cause kinks; care should be taken to ensure arming wire does not kink or jam during installation

g. Thread free end of arming wire through pop-out pin and small hole in bottom of fin flange (Figure 4-9B). Pull slack wire below bottom of fin. Ensure arming wire is not kinked or jammed.

CAUTION

Do not remove warning tag pin from TDD unless arming wire has been properly installed.

h. Ensure pop-out pin remains aligned in + or X fin orientation. Remove warming tag pin from TDD and retain for disassembly (if applicable).

WARNING

Keep clear of release band while installing fin. If accidentally released, it may fly upward with enough force to injure personnel.

i. Keeping arming wire taut, press fin against bomb body. Ensure fin support index pin aligns and engages in proper index hole.

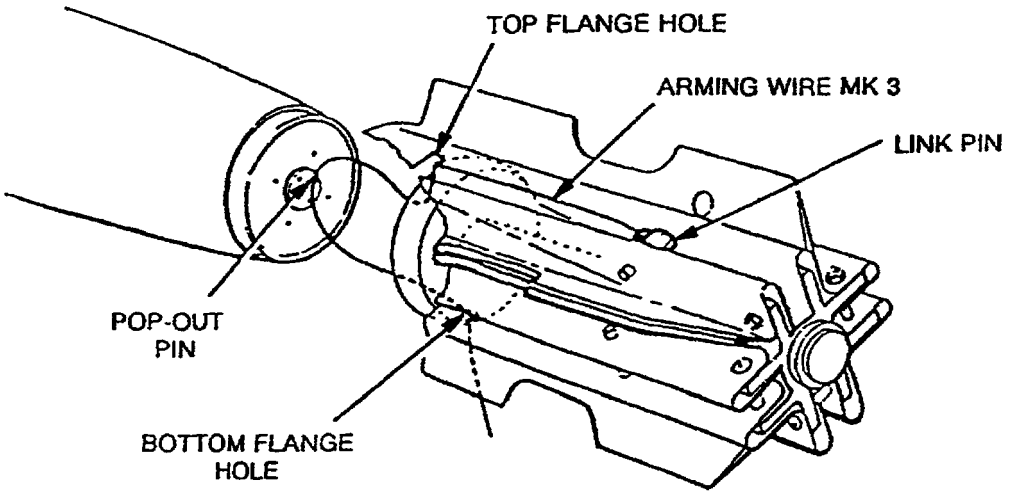


Figure 4-9B. Bomb Fin Mk 15 Arming Wire Rigging

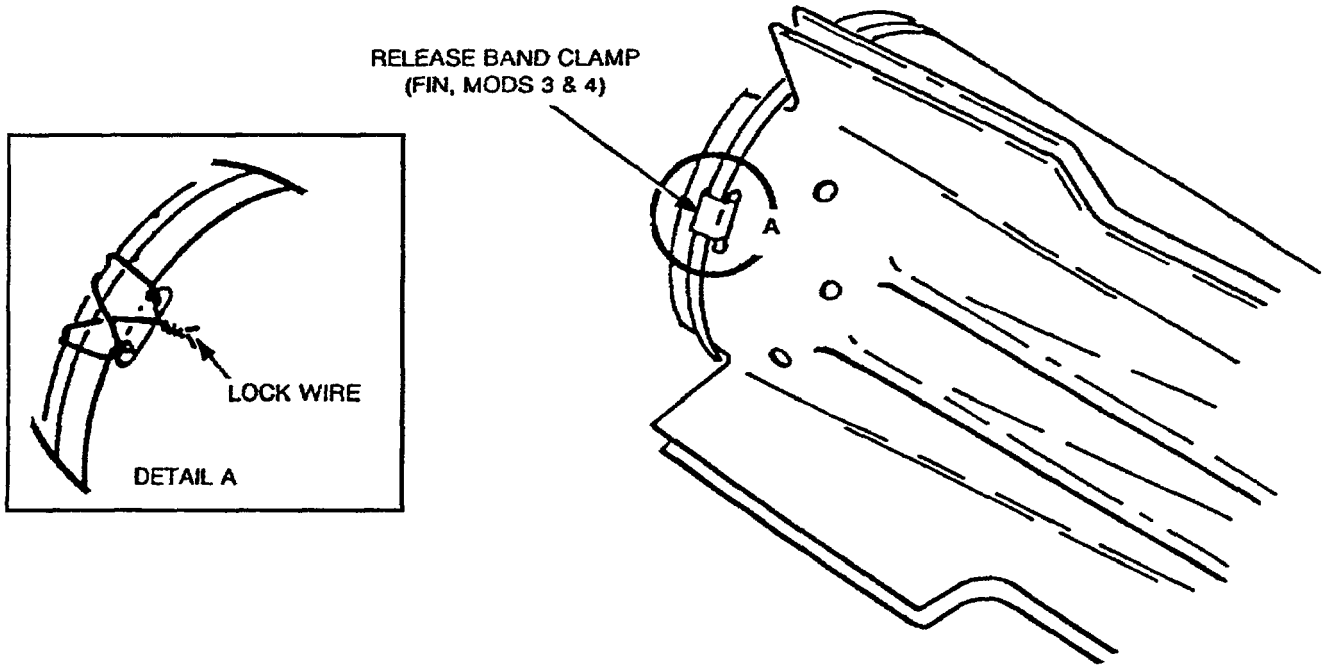


Figure 4-9C. Release Band Secured

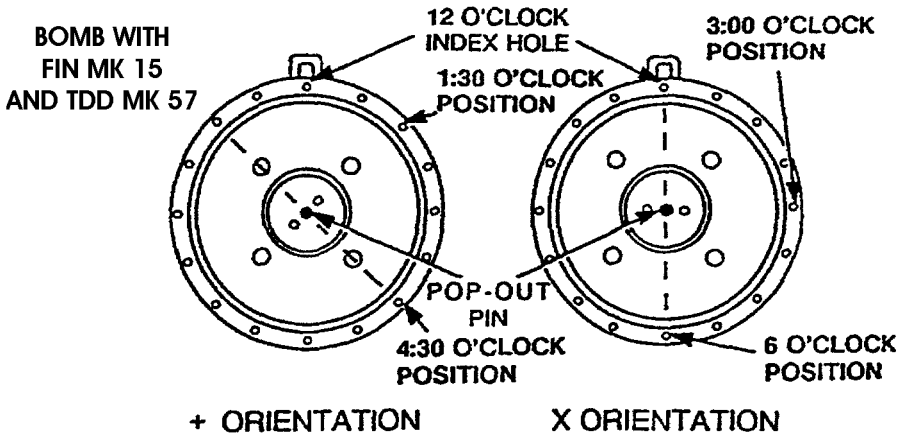


Figure 4-9D. Pop-Out Pin Orientation

CAUTION

Replacement setscrews are made from aluminum and care should be taken not to overtighten.

j. After verifying that aluminum setscrews have been installed, refer to Figure 4-9E and tighten setscrew No. 1 until snug; then back it off one-half turn. Tighten No. 2 and No. 3 until snug; then back off No. 3 one-half turn. Tighten Nos. 4, 5, 6, 7, and 8 in order; then retighten Nos. 1, 2, 3, and 4.

k. Inspector, verify step a, step b, step f, step g, step h, and step i, as applicable, and witness step l, step m and step n, as applicable.

CAUTION

Sharp bends or loops in arming wire can cause kinks. Take care to ensure arming wire does not kink or jam during installation

NOTE

Properly installed Arming Wire Mk 3 should form a natural curve into the hole of the top fin blade without forming a permanent bend in the wire.

l. With Arming Wire Mk 3 secured to fin link pin (Figure 4-9B), ensure arming wire is not kinked or jammed by pulling alternately on top and bottom portions of wire. Pull free end of arming wire below fin to remove excess slack without creating a permanent bend in the wire where it enters the top fin blade. Cut arming wire 6 inches from bottom of fin.

m. B-52 Aircraft Internal Carriage: Install cable and strap assembly as follows:

(1) Cut cable and strap assembly along dotted line marked "CUT FOR MK 82."

(2) Remove Dexter clip from lanyard and discard.

(3) Position cable and strap assembly on bomb midway between suspension lugs, with arrow pointing forward and aligned with suspension lugs.

(4) Pass pad end of strap assembly through tension buckle, pull tight to bomb, and secure by pressing fastener (Velcro) pads together. Pads must be tight to ensure strap assembly cannot move.

(5) Remove beryllium clip and Fahnestock clips from Blackwell pin.

(6) Pass the arming clip of the cable and strap assembly through the eye of the Blackwell pin.

(7) Pass the Blackwell pin through the aft suspension lug. Loop the cable and strap assembly arming clip around the aft suspension lug. Secure lanyard by attaching the arming clip to the lanyard. Wrap arming clip with three turns of pressure sensitive tape or tie down strap; cut off excess tie down strap.

WARNING

Release band springs open violently when safety pin is pulled from latch. Personnel injury could result.

(8) While pulling lanyard from cable and strap assembly, install the Blackwell pin through the two inside holes in the release band latch. Secure the pin in place with one beryllium clip and two Fahnestock clips, positioning them as close to the latch as possible. Use pliers to facilitate beryllium clip installation (Figure 4-9F).

(9) Pull on lanyard to make it taut. Secure lanyard to bomb with two or three 4-inch lengths of pressure sensitive tape, extending the tape at least 2 inches on both sides of the lanyard (Figure 4-9F).

n. P-3 Aircraft Internal Carriage: Install cable and strap assembly as follows:

(1) Cut cable and strap assembly along dotted line marked "CUT FOR MK 82."

(2) Position cable and strap assembly on bomb in front of aft suspension lug, with arrow pointing forward and to the left of lug about 1 inch (Figure 4-9G).

(3) Pass pad end of strap assembly through tension buckle, pull tight to bomb, and secure by pressing fastener (Velcro) pads together. Pads must be tight to ensure strap assembly cannot move.

(4) Pass the arming clip of the cable and strap assembly through a safety clip (Figure 4-9G).

(5) Pass the safety clip through the aft suspension lug. Loop the cable and strap assembly arming clip around the aft suspension lug. Secure lanyard by attaching the arming clip to the lanyard. Wrap arming clip with three turns of pressure sensitive tape or tie down strap; cut off excess tie down strap.

WARNING

Release band springs open violently when safety pin is pulled from latch; personnel injury could result.

(6) While pulling lanyard from cable and strap assembly, install the safety clip through the two inside holes in the release band latch; then close the clip.

(7) Pull on lanyard to make it taut. Secure lanyard to bomb with two or three 4-inch lengths of pressure sensitive tape, extending the tape at least 2 inches on both sides of the lanyard (Figure 4-9G).

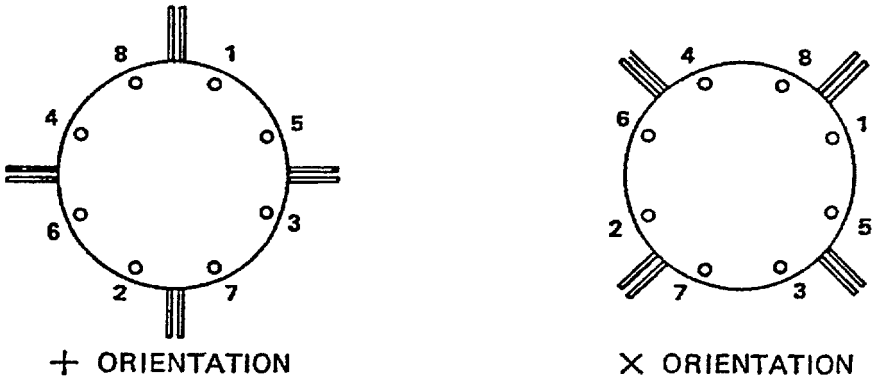


Figure 4-9E. Bomb Fin Mk 15 Installation

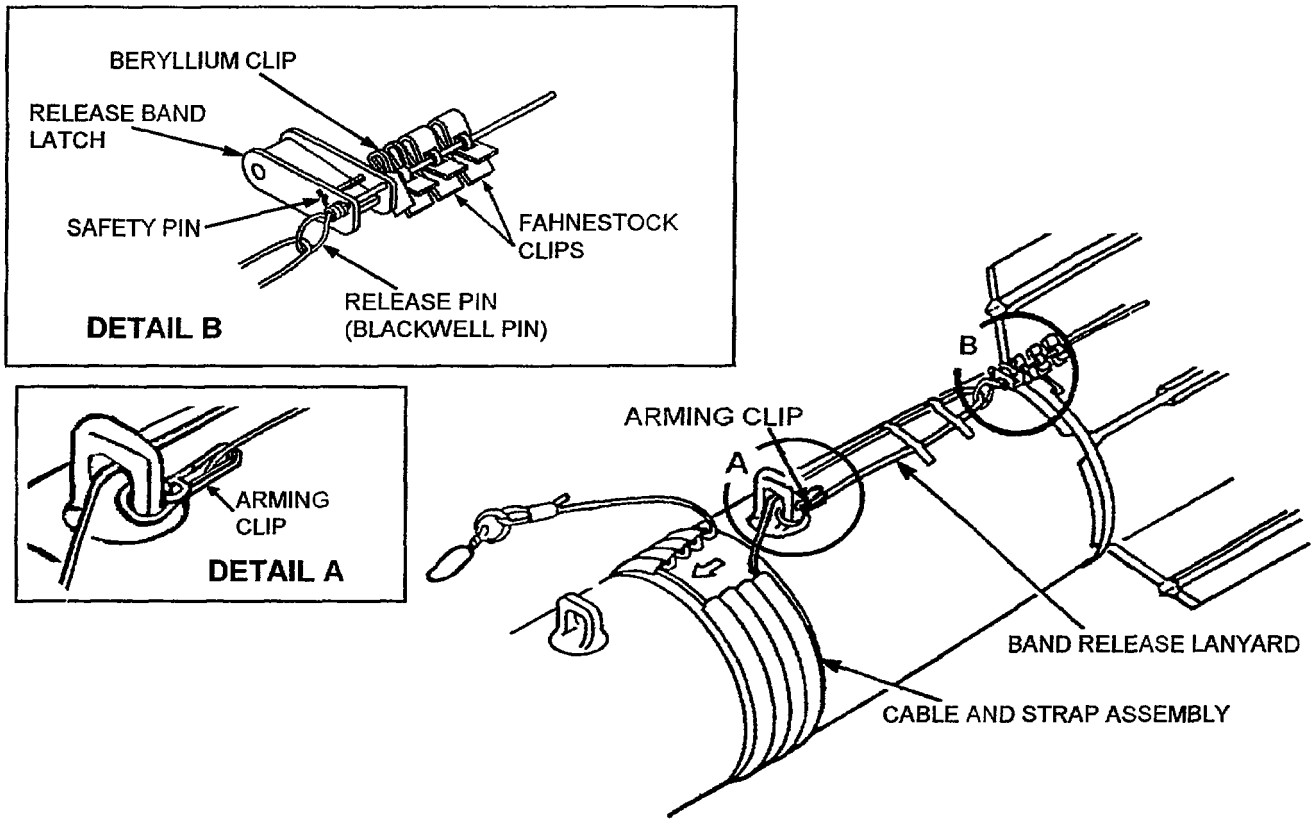


Figure 4-9F. Cable and Strap Assembly Installation (B-52 Aircraft)

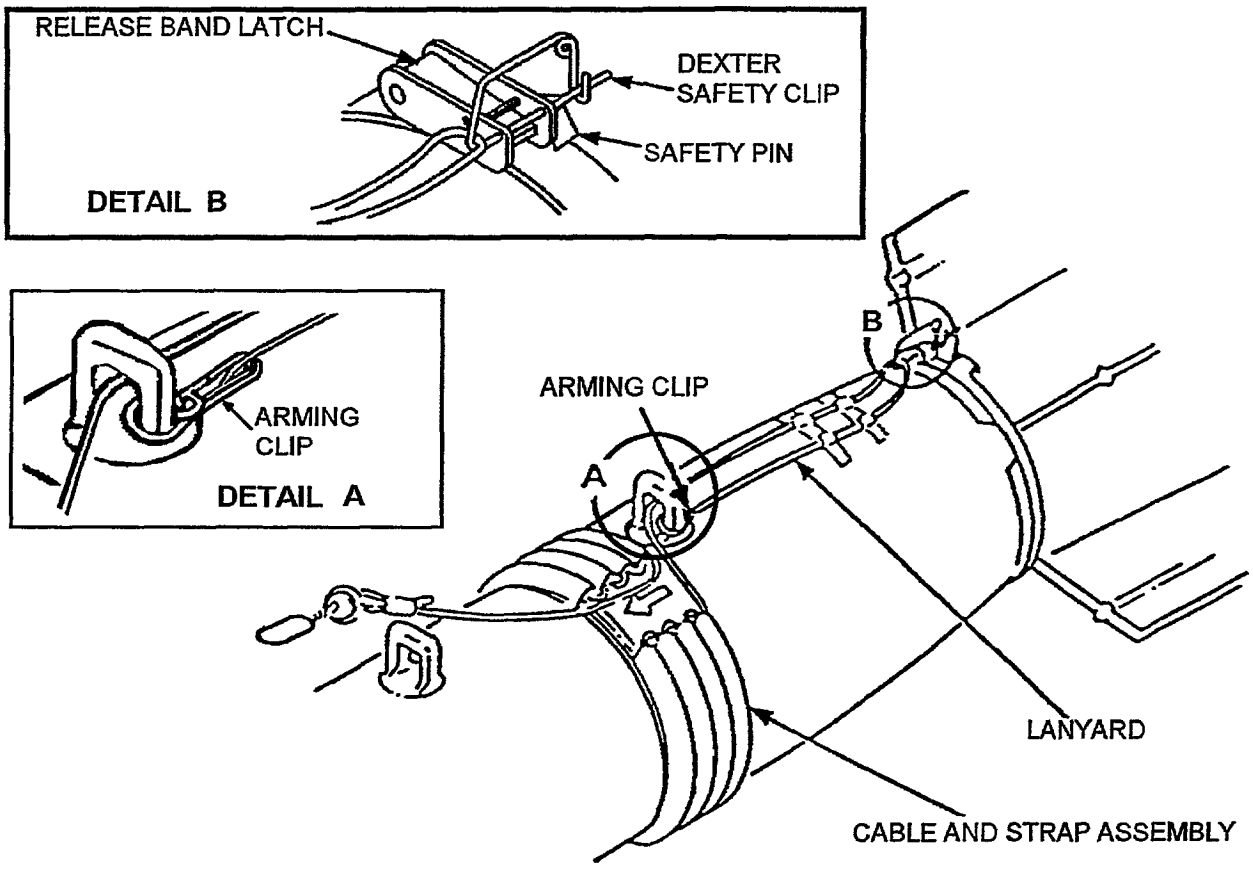


Figure 4-9G. Cable and Strap Assembly Installation (P-3 Aircraft)

JOB SHEET 4-10 BOMB FIN BSU-86/B OR 86A/B INSTALLATION

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Arming Wire Mk 3, 0375994

Bomb, General Purpose, Mk 82 or BLU-111A/B per job sheet 4-3

Fin, Bomb, BSU-86/B, 923AS159 or Fin, Bomb, BSU-86A/B, 1325-01-437-8275

Lug, suspension, MS3314 (2)

SUPPORT ITEMS

Pliers, str-nose, w/cutter, 6L

Screwdriver, flat-tip, 3/8 tip x 8L

Wrench, spanner, 1-1/4 dia

4-10.1 SUSPENSION LUG INSTALLATION

a. Verify ordnance ground is connected to bomb case.

b. Verify suspension lugs are screwed into lug wells until outer edge of bottom of lug eyes are flush with bomb body. In some cases, lugs may not screw flush; this is acceptable as long as there exists a 3-1/2 thread engagement (Figure 4-10A).)

4-10.2 ARMING WIRE AND FIN INSTALLATION

WARNING

Keep clear of release band while installing arming wire. If accidentally released, it may fly upward with enough force to injure personnel.

a. Run free end of arming wire from aft to forward under aft link pin, along spring arming wire assembly (Figure 4-10B). Pass free end through arming wire swivel; then pass free end of wire through arming wire hole of fin.

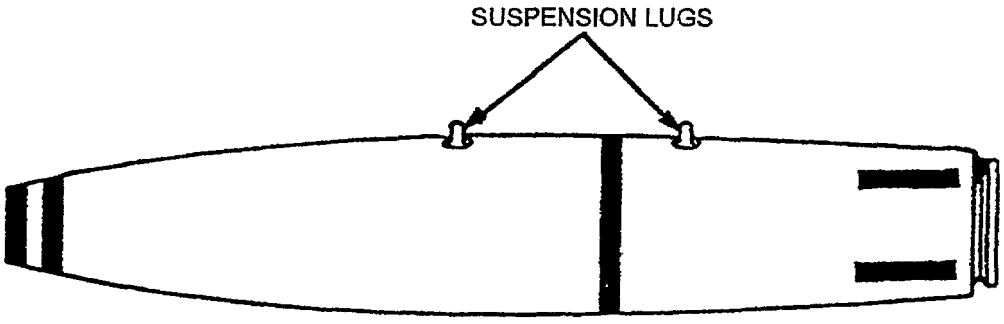


Figure 4-10A. Suspension Lug Installation

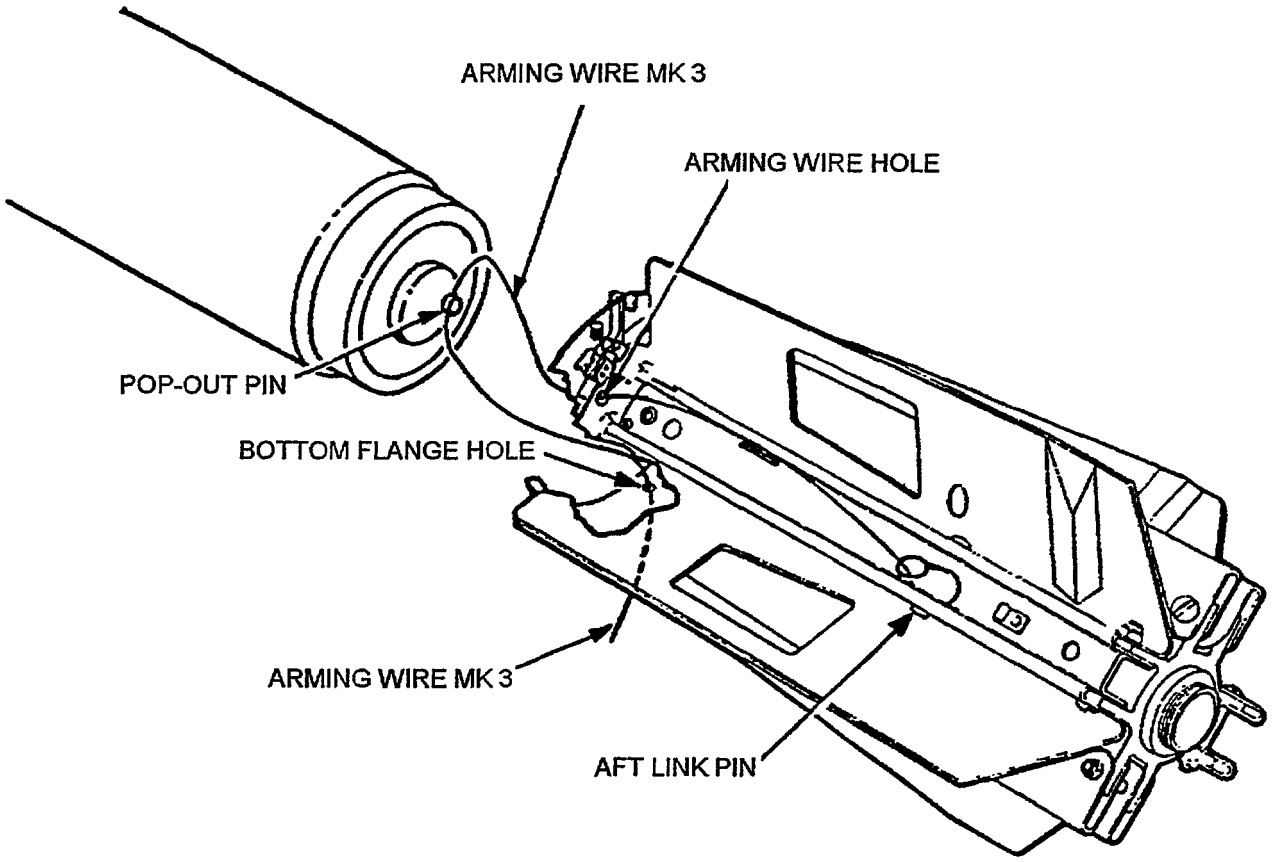


Figure 4-10B. Fin BSU-86/B or BSU-86A/B Arming Wire Mk 3 Rigging

WARNING

Release band springs open violently when safety pin is pulled from latch. Personnel injury could result.

Fin weighs about 66 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject). Remove TDD per job sheet 5-7.

Pop-out pin must be properly aligned to ensure arming wire does not break on withdrawal.

b. Ensure pop-out pin has been oriented for X fin orientation (Figure 4-10C).

c. Position fin near aft end of bomb, align fin support index pin with index hole at nine o'clock position on bomb body, and bend ends of TDD warning tag pin together.

d. Referring to Figure 4-10B, thread free end of arming wire through pop-out pin and small hole in bottom of fin flange. Pull slack wire below bottom of fin. Ensure arming wire is not kinked or jammed.

CAUTION

Do not remove warning tag pin from TDD unless arming wire has been properly installed.

e. Ensure pop-out pin remains in X fin orientation. Remove warning tag pin from TDD and retain for disassembly (if applicable).

WARNING

Keep clear of release band while installing fin. If accidentally released, it may fly upward with enough force to injure personnel.

f. Keeping arming wire taut, press fin against bomb body. Ensure fin support index pin aligns and engages in proper index hole.

CAUTION

Replacement setscrews are made from aluminum; care should be taken not to overtighten.

g. After verifying that aluminum setscrews have been installed, refer to Figure 4-10D and tighten setscrew No. 1 until snug; then back it off one-half turn. Tighten No. 2 and No. 3 until snug; then back off No. 3 one-half turn. Tighten Nos. 4, 5, 6, 7, and 8 in order; then tighten Nos. 1, 2, 3, and 4.

h. Inspector, verify step a, step c, step d, and step e, and witness step j and step k, then validate Bomb Fin BSU-86/B or BSU-86A/B installation.

i. Pull free end of arming wire below fin until all slack is removed. Cut wire approximately 6 inches from bottom of fin.

j. Remove Dexter safety clip from swivel ring and install in vacant hole of fin release band latch in aft side of fin.

k. Remove safety pin and tag from forward side of release band latch and reinsert from aft side.

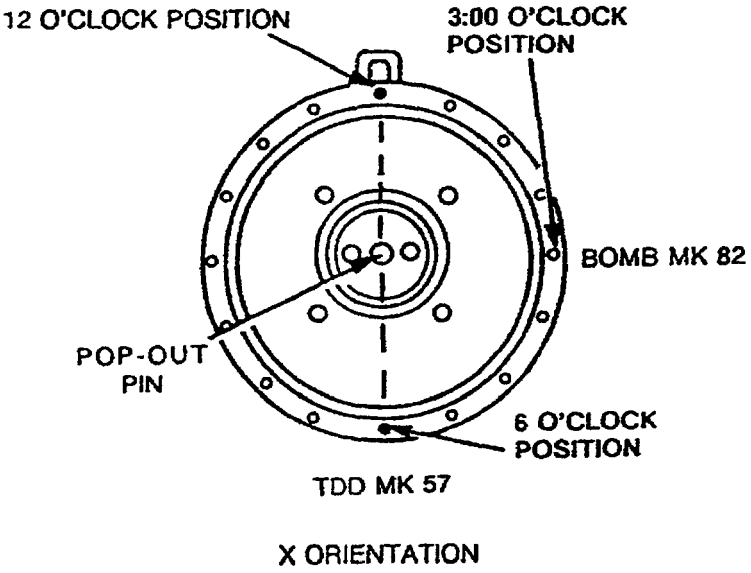


Figure 4-10C. Pop-Out Pin Orientation

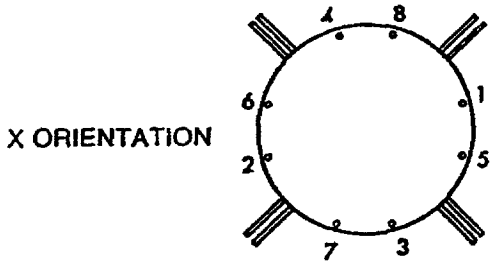


Figure 4-10D. Bomb Fin BSU-86/B or BSU-86A/B Installation

JOB SHEET 4-11 BOMB FIN MAU-91A/B INSTALLATION

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Adapter, Bomb Fin ADU-320A/B, 5387521
Arming Wire Mk 3, 0375994
Bomb, General-Purpose, Mk 83 or BLU-110A/B, per job sheet 4-3
Cable and Strap Assembly, delayed arming, 3162285[1]
Fin, Bomb, MAU-91A/B, per job sheet 4-6
Lug, suspension, MS3314 (2)

SUPPORT ITEMS

Attachment, int-soc, 1/4 x 3/8 dr
Cutter, bolt, 14L
Flashlight, 2-cell
Hammer, insert-face, 3 dia
Pliers, special, for beryllium clip, 68D33277
Pliers, str-nose, w/cutter, 6L
Rule, machinist, steel, 6L
Screwdriver, bolster, 3/8 x 12 blade (2)
Screwdriver, sch-screw, ball-tip 1/4
Socket, 12-pt, deep-lg, 1/2 x 1/2 dr
Tape, press-sens, adh, olive, 3W
Wrench, spanner, 1-1/4 dia
Wrench, torque, 0-150 in-lb, 3/8 dr

[1] *For P-3 Aircraft internal carriage only.*

4-11.1 SUSPENSION LUG INSTALLATION

a. Verify ordnance ground is connected to bomb case.

b. Verify suspension lugs are screwed into lug wells until outer edge of bottom of lug eyes are flush with bomb body. In some cases, lugs may not screw flush; this is acceptable as long as there exists a 3-1/2 thread engagement. (Figure 4-11A).

4-11.2 BOMB FIN ADAPTER ADU-320A/B INSTALLATION

a. Uncrate bomb fin adapters, remove polyethylene bag and remove locking pin assembly from bomb fin adapter (Figure 4-11B).

b. Ensure setscrews on circumference of adapter are backed out enough to allow adapter to slip over aft end of bomb.

c. Align adapter "BOMB LUG CENTERLINE" indicator with aft suspension lug (Figure 4-11C) and engage index pin on adapter with index pin hole on bomb; then position adapter against bomb.

d. Inspector, witness step e.

e. Torque setscrews at the 12, 6, 3, and 9 o'clock positions to 7 ft-lb. Torque all remaining setscrews to 7 ft-lb.

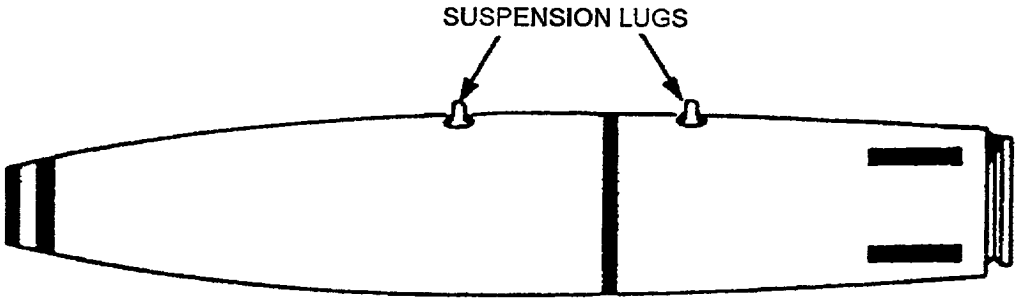


Figure 4-11A. Suspension Lug Installation

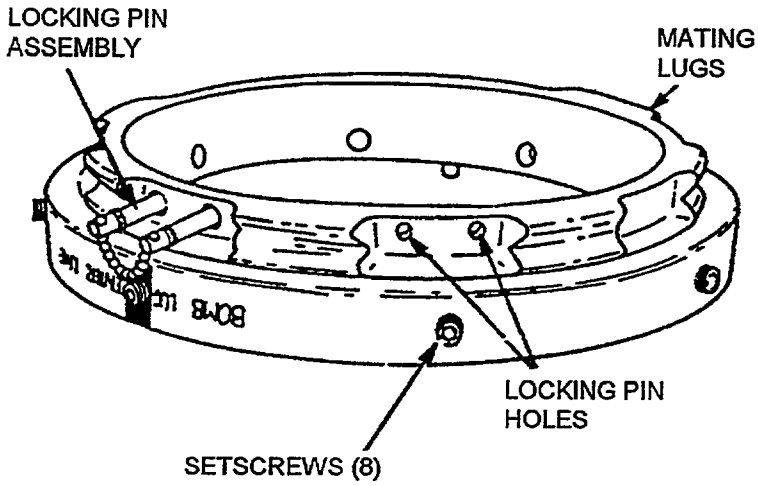


Figure 4-11B. Bomb Fin Adapter ADU-320A/B

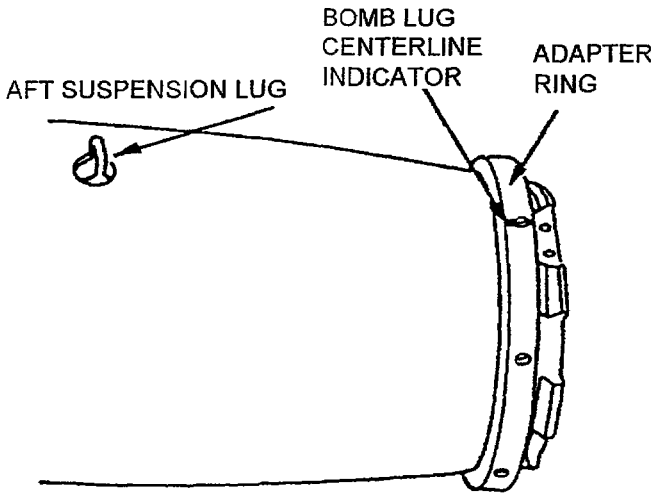


Figure 4-11C. Bomb Fin Adapter ADU-320A/B Installation

4-11.3 ARMING WIRE AND FIN INSTALLATION

a. Loop arming wire through holes in fin blade (Figure 4-11D).

b. Thread free end of wire through arming wire hole in top of fin.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject). Remove TDD per job sheet 5-7.

Pop-out pin must be properly aligned to ensure arming wire does not break on withdrawal.

c. Ensure bomb fin adapter bomb lug centerline indicator is aligned with suspension lug.

d. Ensure pop-out pin has been oriented for + or X fin orientation (Figure 4-11E).

WARNING

Fin weighs approximately 120 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

e. X Fin Orientation: Position fin near aft end of bomb, and orient fin so X fin "INITIAL LUG LINE" stenciling on fin aligns with "BOMB LUG CENTERLINE" indicator on bomb fin adapter.

f. + Fin Orientation: Position fin near aft end of bomb, and orient fin so + fin "INITIAL LUG LINE" stenciling on fin aligns with "BOMB LUG CENTERLINE" indicator on bomb fin adapter.

CAUTION

Sharp bends or loops in arming wire can cause kinks; care should be taken to ensure arming wire does not kink or jam during installation

NOTE

Properly installed Arming Wire Mk 3 should form a natural curve into the hole of the top fin blade without forming a permanent bend in the wire.

A piece of tubing from the arming wire guide may be used to thread arming wire through fin.

g. Pass free end of Arming Wire Mk 3 through pop-out pin in TDD (Figure 4-11D); then pass it through small hole in bottom of fin. Remove slack by pulling on wire at bottom of fin, ensuring that wire is not kinked or jammed.

CAUTION

Do not remove warning tag pin from TDD unless arming wire has been properly installed.

h. Ensure pop-out pin remains aligned in + or X fin orientation. Remove warning tag and pin from TDD and retain for disassembly (if applicable).

WARNING

Keep clear of release band while installing fin. If accidentally released, it may fly upward with enough force to injure personnel.

i. Inspector, verify step a and step b, and steps e through h as applicable.

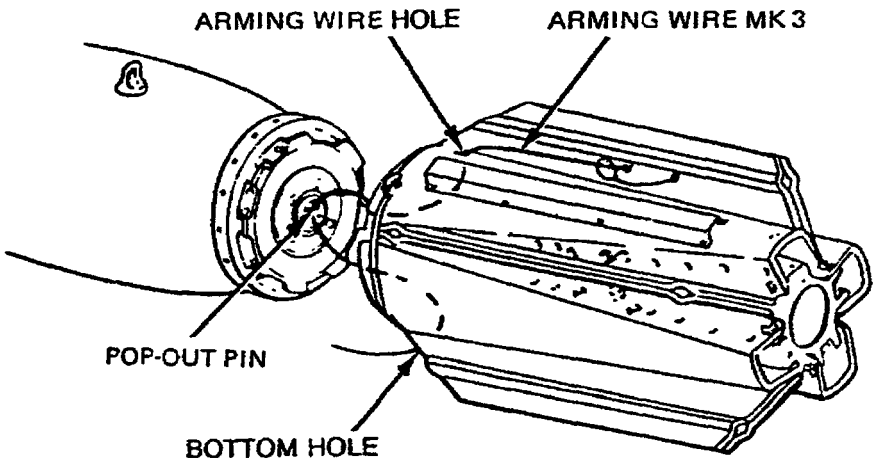


Figure 4-11D. Bomb Fin MAU-91A/B Arming Wire Rigging

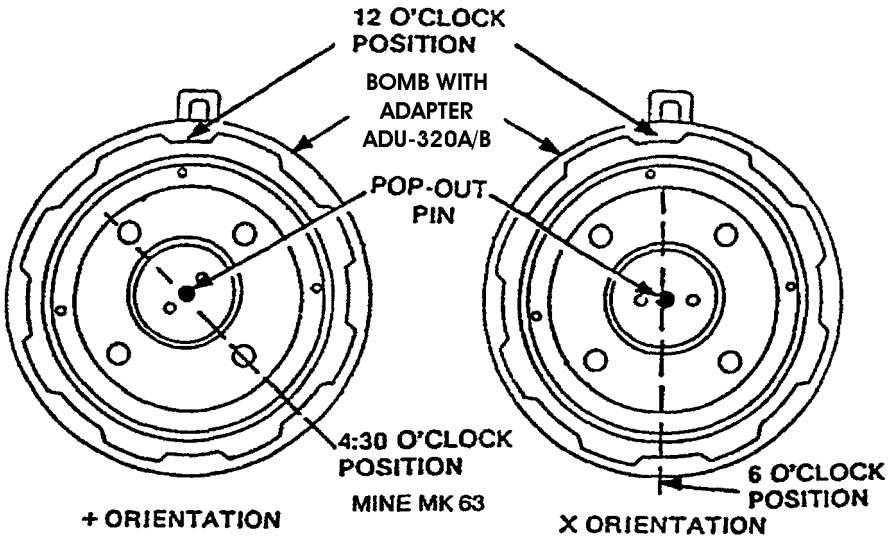


Figure 4-11E. Pop-Out Pin Orientation

j. Keeping arming wire taut, press fin against bomb fin adapter. Rotate fin to engage lugs on fin with lugs on adapter.

   1. For + Fin Orientation: Joint between fin sections should be aligned with suspension lugs.
   2. For X Fin Orientation: Pin hole access cutout should be aligned with suspension lugs.

k. Through pin hole access cutout only, expose locking pin holes. Roll top section of garter spring forward into space between fin support flange and bomb fin adapter.

l. Align locking pin holes in fin support flange with bomb fin adapter holes. Orient fin, if required.

m. Inspector witness step n and step o.

n. Insert locking pin assembly into bomb fin adapter holes ensuring chain does not pass over fin release lanyard (Figure 4-11F). Using an insert face hammer, drive pins in until they bottom. For alternate locking pin 3132254, install only until the C-ring bottoms against ADU-320A/B.

o. Through fin cutouts, finish rolling garter spring forward into space between fin support flange and bomb fin adapter.

p. Shake end of fin to ensure it is properly secured.

q. Ensure garter spring eyes are seated. If eyes are caught between fin and adapter, pry fin sections out to allow garter spring to seat properly.

r. Verify safety pin is installed in fin release band latch from the aft side.

s. For External Carriage Only:

1. If present, remove tape from swivel loop of fin release lanyard. Pass swivel loop through aft suspension lug, ensuring a 1-inch loop remains in aft end of lanyard guide. Secure the lanyard to bomb with tape, positioning the tape immediately behind the aft suspension lug.
2. All Aircraft Except F/A-18: If present, remove tape from release lanyard pin and insert into forward side of release band latch. Install Fahnestock clip on end of release pin.
3. F/A-18 Aircraft Only: If present, remove tape from release lanyard pin and insert into forward side of release band latch. Do not install Fahnestock clip on end of release pin.

t. With Arming Wire Mk 3 secured to fin blade (Figure 4-11D), ensure arming wire is not kinked or jammed by pulling alternately on top and bottom portion of wire.

u. Pull free end of arming wire below fin until all slack is removed, and cut wire 6 inches from bottom of fin.

v. P-3 Internal Carriage: Install cable and strap assembly as follows:

(1) Remove fin release lanyard from fin as follows (Figure 4-11G):

(a) Remove tape from swivel loop end of fin release lanyard.

(b) Remove tape securing fin release lanyard pin to fin section.

(c) Pull fin release lanyard from release lanyard guide on fin.

(d) Some fin release lanyards are secured to fin clevis bolt, while others are attached to fin support link bolt. If lanyard is attached to clevis bolt, cut lanyard loop on clevis bolt, pull lanyard free from fin from forward end of fin, and proceed to step (g). If lanyard is attached to support link bolt, proceed to step (e).

(e) Work lanyard up as far as possible between fin sections (Figure 4-11G).

(f) Cut lanyard as close to fin sections as possible.

(g) Discard lanyard remnant.

(2) Position cable and strap assembly on bomb in front of aft suspension lug, with arrow pointing forward and to the left of lug about 1 inch.

(3) Pass pad end of strap assembly through tension buckle, pull tight to bomb, and secure by pressing fastener (Velcro) pads together. Pads must be tight to ensure strap assembly cannot move.

(4) Pass the arming clip of the cable and strap assembly through a safety clip (Figure 4-11H).

(5) Pass the safety clip through the aft suspension lug. Loop the cable and strap assembly arming clip around the aft suspension lug. Secure lanyard by attaching the arming clip to the lanyard. Wrap arming clip with three turns of pressure sensitive tape or tie down strap; cut off excess tie down strap.

WARNING

Release band springs open violently when safety pin is pulled from latch; personnel injury could result.

(6) While pulling lanyard from cable and strap assembly, install the safety clip through the two inside holes in the release band latch; then close the clip.

(7) Pull on lanyard to make it taut. Secure lanyard to bomb with two or three 4-inch lengths of pressure sensitive tape, extending the tape at least 2 inches on both sides of the lanyard (Figure 4-11H).

w. Inspector, verify step q, step s, and step v, as applicable.

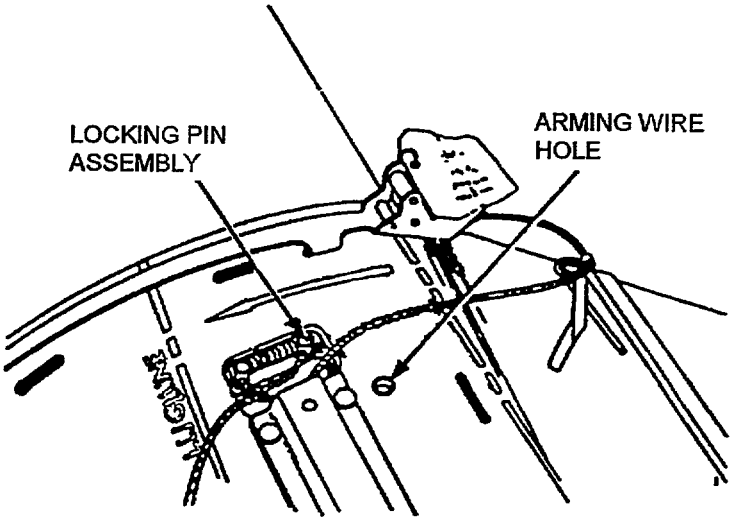
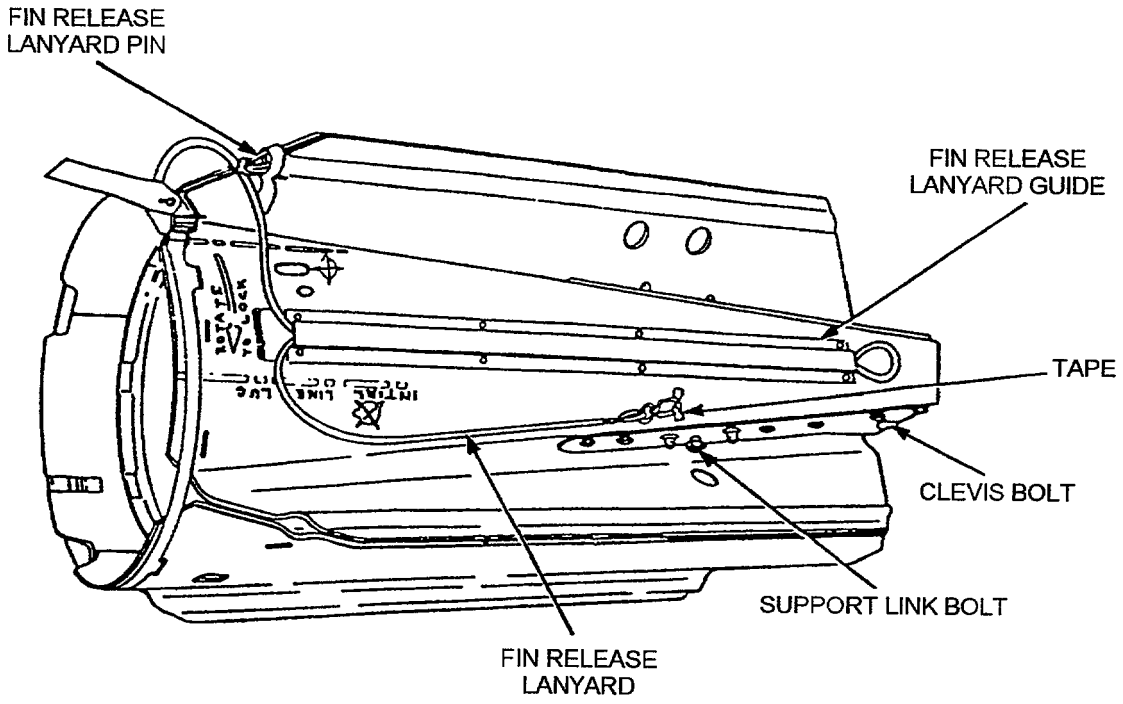
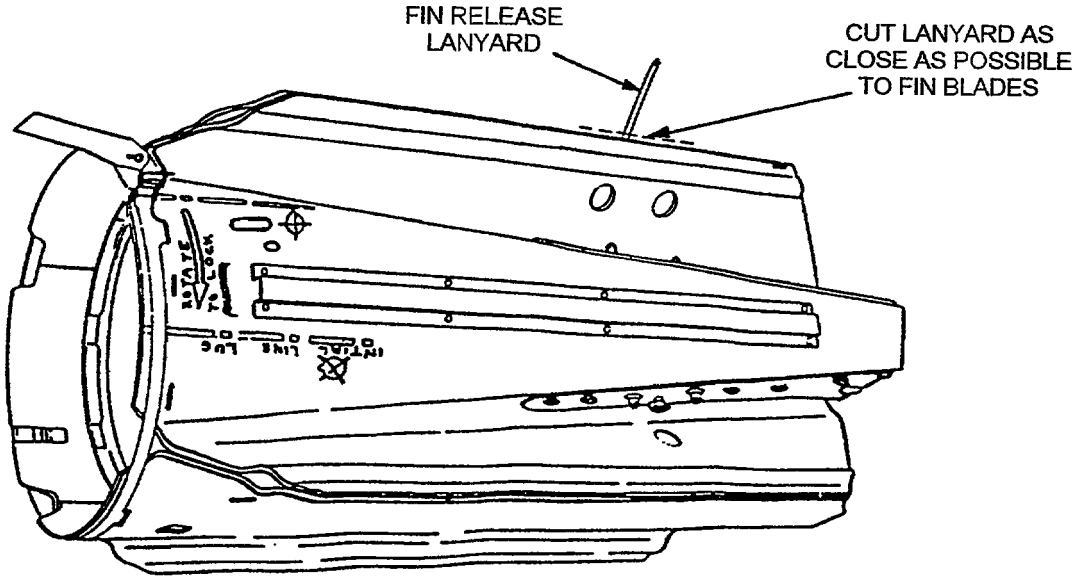


Figure 4-11F. Locking Pin Installation



VIEW A



VIEW B

Figure 4-11G. Bomb Fin MAU-91A/B Fin Release Lanyard Modification

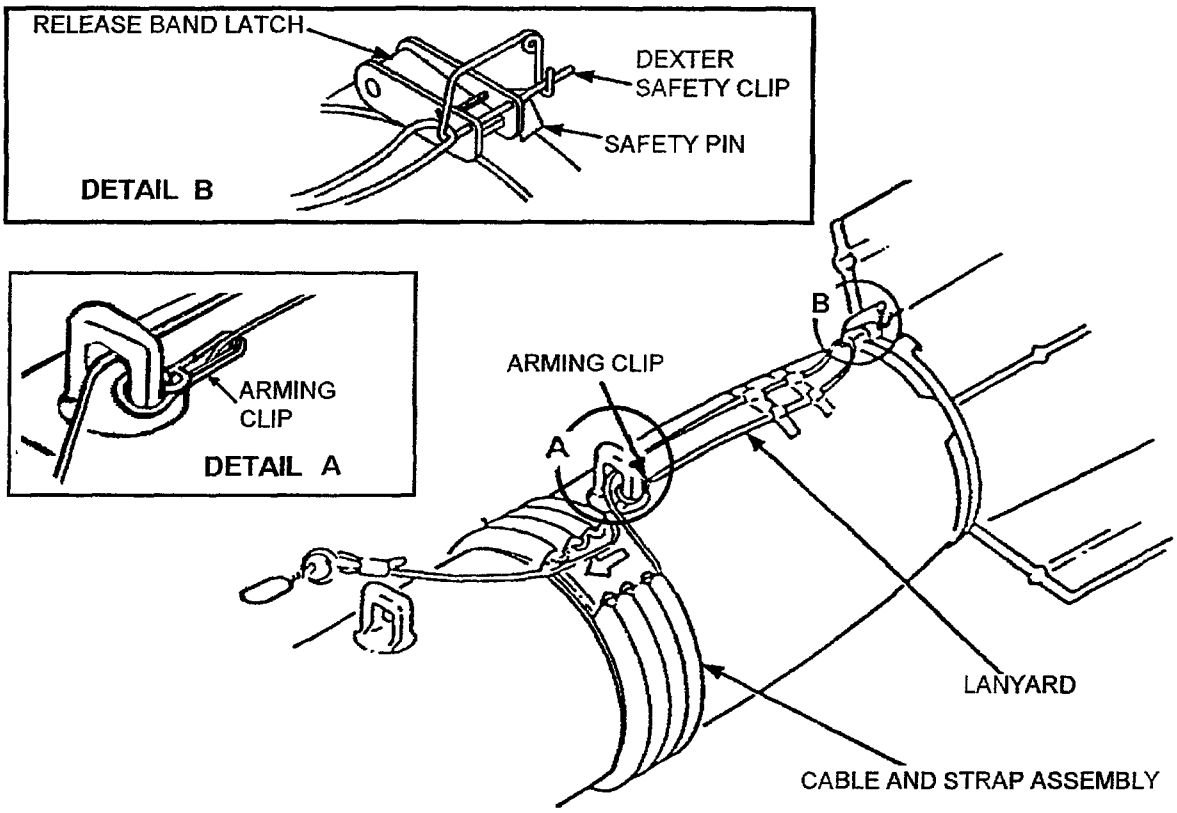


Figure 4-11H. Cable and Strap Assembly Installation (P-3 Aircraft)

JOB SHEET 4-12 TAIL SECTION MK 12 INSTALLATION

WARNING

The following procedures require handling of an explosive loaded component IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Arming Wire, 5561762[1]
Bomb, General Purpose, Mk 83 or BLU-110A/B, per job sheet 4-3
Lug, suspension, MS3314 (2)
Tail Section Mk 12 Mod 0, per job sheet 4-7

SUPPORT ITEMS

Arming Wire Mk 9, remnant
Attachment, int-soc, 1/4 x 3/8 dr
Flashlight, 2-cell
Handle, rev-ratchet, 3/8 dr
Kit, Mine, Arming Hardware, Mk 165 Mod 0[2]
Pliers, slip joint, str-nose, 8L
Rule, machinist, steel, 6L
Screwdriver, flat-tip, 3/8 tip x 8L
Socket, 12-pt, deep-lg, 9/16 x 3/8 dr
Tape, press-sens, adh, olive, 3W
Wrench, spanner, 1-1/4 dia
Wrench, open-end, 9/16 - 5/8
Wrench, torque, aud-ind, 5-75 ft-lb. 3/8 dr

[1] *Removed from container for Tail Section Mk 12 in job sheet 4-7.*
[2] *Required for F/A-18 and P-3 Aircraft only.*

4-12.1 SUSPENSION LUG INSTALLATION

a. Verify ordnance ground is connected to bomb case.

b. Verify suspension lugs are screwed into lug wells until outer edge of bottom of lug eyes are flush with bomb body. In some cases, lugs may not screw flush; this is acceptable as long as there exists a 3-1/2 thread engagement (Figure 4-12A).)

4-12.2 TAIL SECTION MK 12 INSTALLATION

NOTE

Tail Section Mk 12 is going to be converted to have a safety streamer similar to the Tail Section Mk 16. This conversion will be accomplished by ECI 0285. Assembly procedures for the configuration with ECI 0285 performed and the configuration without the ECI performed vary slightly, so both are included in this publication. Upon receipt of necessary hardware, ECI 0285 should be performed. ECI 0285 will add a warning streamer with safety pins attached. Prior to ECI 0285, the safety pins are attached to the safety harness.

a. Check control unit, inside tail section, and verify that two safety pins are installed as shown in Figure 4-12B. If ECI 0285 has been performed, the safety pins will be attached to cables from the warning streamer. If ECI 0285 has not been performed, the safety pins will be attached to cables from the safety harness.

CAUTION

Do not remove warning tag pin from TDD unless arming wire remnant has been properly installed.

b. Check pop-out pin in TDD and verify that it is positioned for X fin orientation (Figure 4-12C). Insert arming wire remnant in vacant hole in TDD and remove safety pin and warning tag.

c. Inspector, witness step d, step e, and step f, as applicable.

d. X Fin Orientation: Position tail section near aft end of bomb. Orient the section so that the spring pin (Figure 4-12B) on the section aligns with the topmost (12 o'clock) index pin hole on the bomb.

e. Mount tail section on bomb with the 12 setscrews aligned with V-groove in aft end of bomb (Figure 4-12D). Tighten all setscrews so that they seat in V-groove. Shake the end of the section to determine if it is firmly seated on bomb.

f. Secure the tail section to bomb as follows:

(1) Torque the four setscrews at the 1, 7, 4, and 10 o'clock positions, in that order, to 20 ft-lb.

(2) Starting at the 1 o'clock position and moving in a clockwise direction, torque all screws to 20 ft-lb.

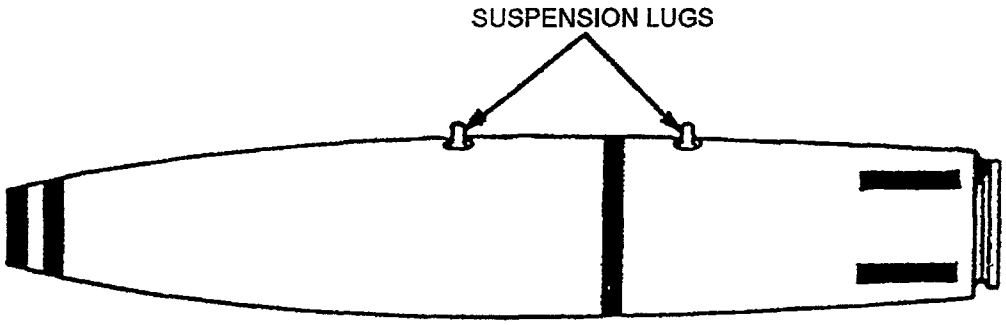


Figure 4-12A. Suspension Lug Installation

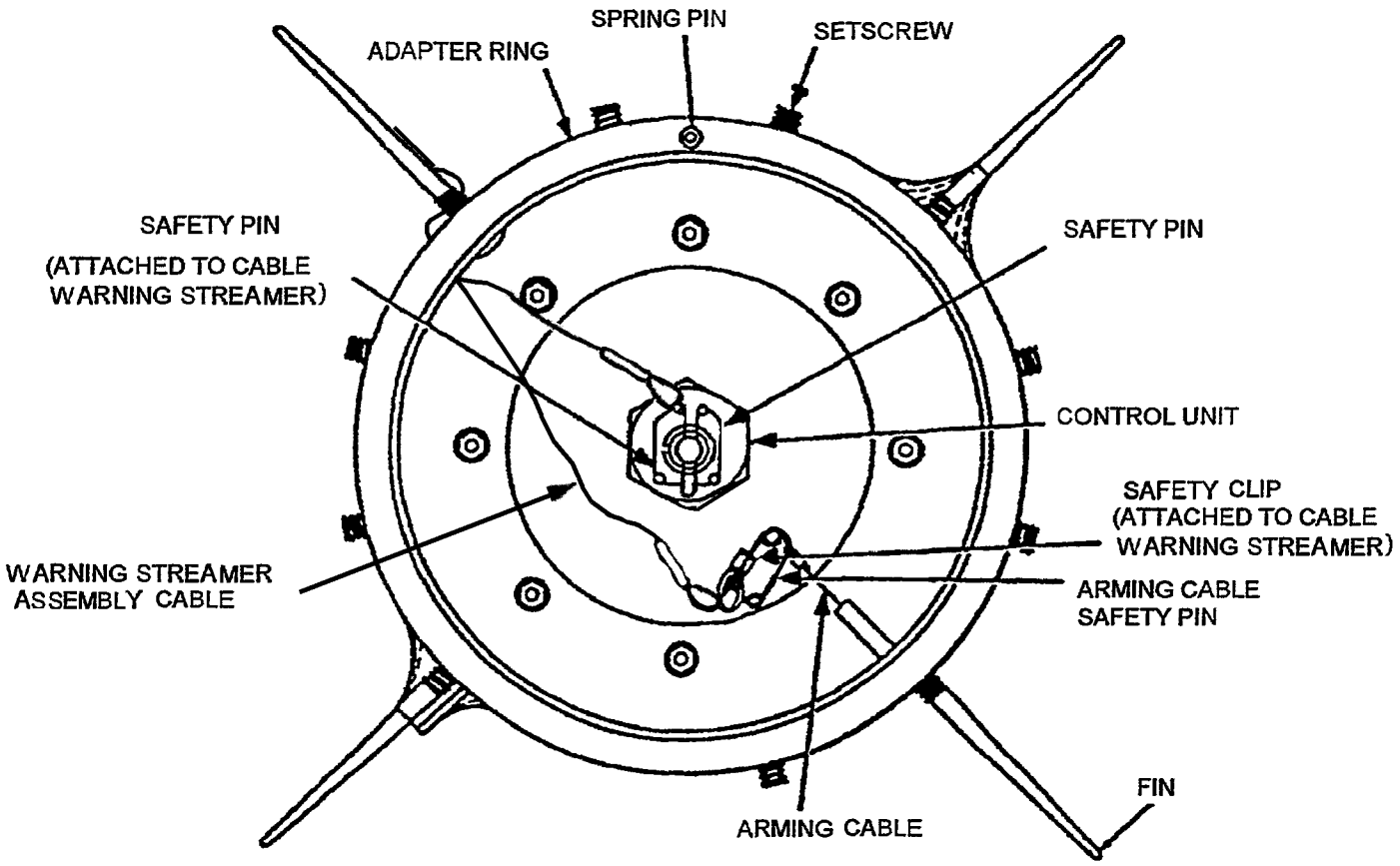


Figure 4-12B. Tail Section Mk 12 Control Unit

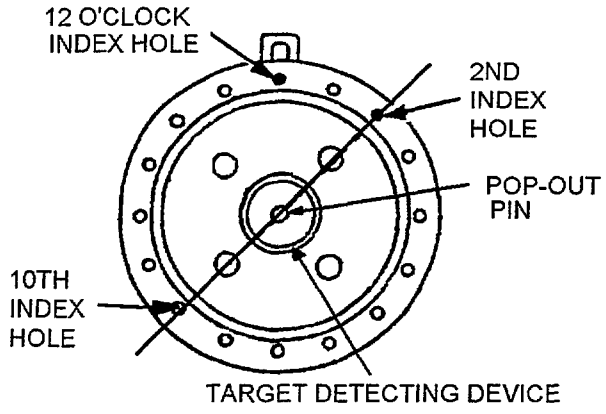


Figure 4-12C. Pop-Out Pin Orientation

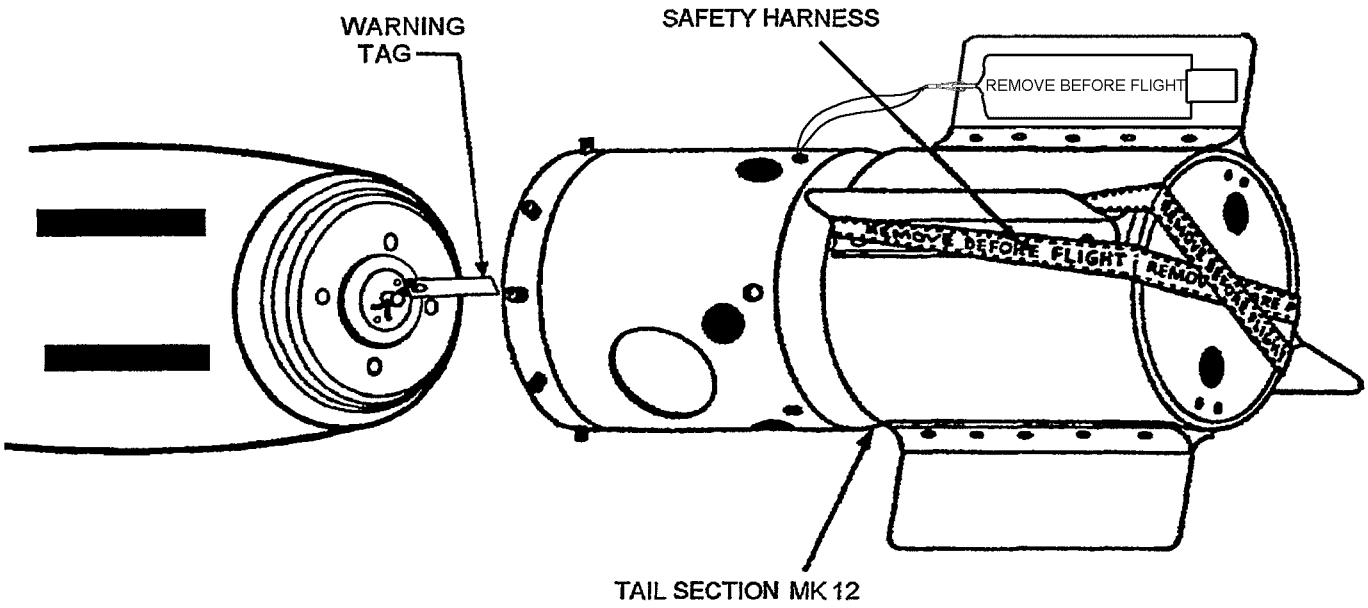


Figure 4-12D. Tail Section Mk 12 Installation

4-12.3 ARMING CABLE INSTALLATION

a. Reach into the access holes in tail section and free the arming cable safety pin from the loop on the Fahnestock clip attached to warning streamer cable (Figure 4-12B).

b. Inspector, witness step c, step d, and step e.

c. Let the TDD leg of the arming cable relax in your hand, with no twists on the cable.

d. While looking at the end of the cable, twist the TDD leg of the arming cable one full 360-degree turn clockwise. Install the safety clip up through the vacant TDD pop-out pin hole, and close safety clip. When the safety clip is released, the arming cable tension should position the safety clip against the center of the TDD; if it does not, remove the safety clip and twist the arming cable another 360-degree turn clockwise. Repeat until the released safety clip positions itself.

e. With the arming cable safety pin installed in pop-out pin of TDD, remove arming wire remnant from pop-out pin in TDD.

4-12.4 CONTROL UNIT ARMING WIRE INSTALLATION

a. For B-52 Aircraft Only: Rig arming wire as follows:

(1) Reach into interior of tail section and remove the free safety pin from the control unit, leaving the safety pin attached to warning streamer in place. If necessary, rotate control unit housing to orient safety pin vertically, as shown (Figure 4-12B).

(2) Pass the straight end of arming wire through the 3/4-inch hole in tail section directly above the control unit. Pass the wire through the vacant hole in control unit, then pass it through the 3/4-inch hole in tail section directly below control unit. Take care not to tangle arming wire with cable attached to warning streamer (Figure 4-12E).

CAUTION

Sharp bends or loops in arming wire can cause kinks; care should be taken to ensure arming wire does not kink or jam during installation.

NOTE

Properly installed arming wire should form a natural curve into the hole of the top fin blade, without forming a permanent bend in the wire.

(3) Verify wire is not kinked or jammed by alternately pulling it upward where it exits the top of the section, then downward where it exits the bottom of the section. Adjust the wire to allow about 6 inches to extend below tail section.

(4) Withdraw the Fahnestock clip attached to warning streamer cable from tail section. Slip the Fahnestock clip onto the 6-inch length of arming wire extending below tail section. Position the clip snugly against bottom of tail section.

(5) Route arming wire toward nose of bomb. Secure in place on bomb with pressure-sensitive tape, 3 inches from the looped end and immediately behind the aft suspension lug.

b. For F/A-18 and P-3 Aircraft Only: Rig arming wire as follows:

NOTE

Ensure suspension lugs are screwed into lug wells until outer edge of bottom of lug eye is flush with bomb body.

(1) Reach into interior of tail section and remove free safety pin from the control unit, leaving the safety pin attached to warning streamer or safety harness in place. If necessary, rotate control unit housing to orient safety pin vertically (Figure 4-12B).

(2) Pass the loop end of the arming wire through the forward side of the forward suspension lug. Pass the straight end of the wire through the loop end, drawing on the wire until a 1-1/2 inch loop is formed (Figure 4-12F).

(3) Remove the self-adjusting arming adapter from the Arming Hardware Kit Mk 165.

(4) Pass the arming wire through the ring of the self-adjusting arming adapter.

(5) Insert free end of arming wire through the 3/4-inch hole in tail section directly above the control unit. Pass free end through the vacant hole in control unit and out the 3/4-inch hole at the bottom of tail section.

CAUTION

Sharp bends or loops in arming wire can cause kinks; care should be taken to ensure arming wire does not kink or jam during installation

NOTE

Properly installed arming wire should form a natural curve into the hole of the top fin blade without forming a permanent bend in the wire.

(6) Verify wire is not kinked or jammed by alternately pulling the wire upward where it exits the top of the section and downward where it exits the bottom of the tail section.

(7) Without causing a permanent bend in the wire where it enters the tail section, remove slack from control wire by pulling downward on wire where it exits the bottom of the section. Trim wire to extend 6 inches below tail section.

(8) Reach into access hole in tail section and free the Fahnestock clip on the end of wire attached to warning streamer by removing tape securing it to bottom of tail section.

(9) Pull clip out of section and slip it onto protruding wire at bottom of section. Position clip snugly against bottom of tail section.

c. Inspector, verify step a or b; then validate Tail Section Mk 12 installation.

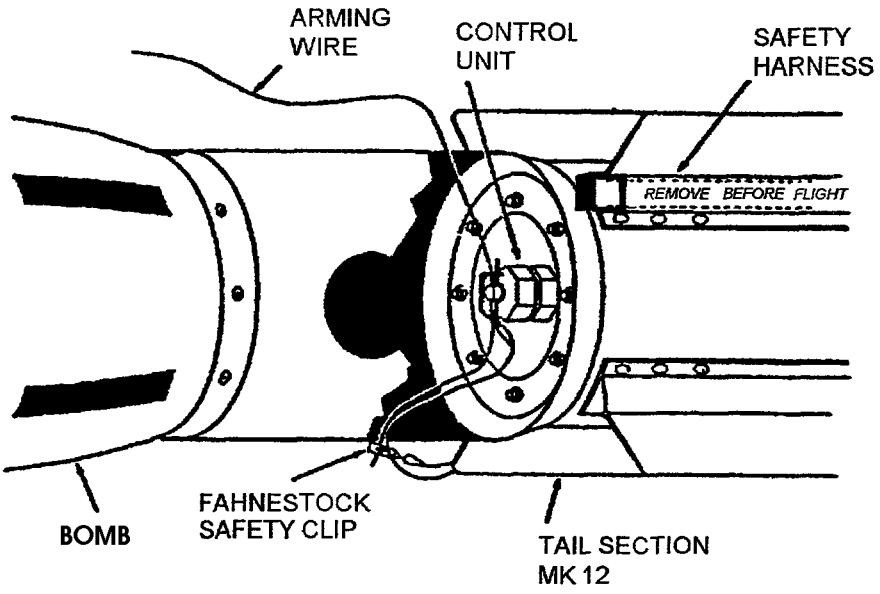


Figure 4-12E. Tail Section Mk 12 Control Unit Arming Wire Installation

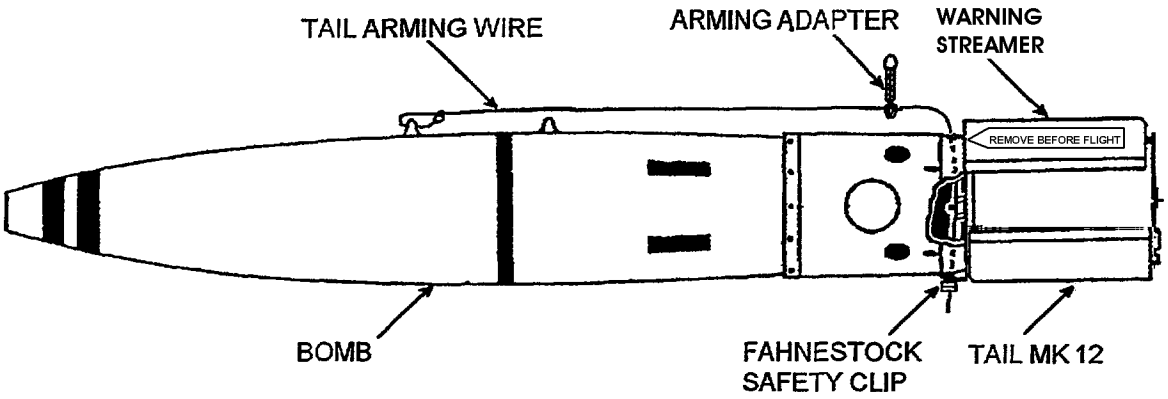


Figure 4-12F. Arming Wire Rigging for F/A-18 and P-3 Aircraft

JOB SHEET 4-13 TAIL SECTION MK 16 INSTALLATION

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Bomb, General Purpose, Mk 82 or BLU-111A/B, per job sheet 4-3	Tail Section Mk 16 Mod 0, 6011525, or Tail Section Mk 16 Mod 1, 7354710, per job sheet 4-8

SUPPORT ITEMS

Arming Wire Mk 9, remnant	Pliers, wire-twister
Attachment, int-soc, 1/4 x 3/8 dr	Screwdriver, common, 1/4 x 6L
Cloth, cleaning, disposable, 12 x 15	Screwdriver, sch-screw, ball-tip 1/4
Extension, soc-wr, 3L x 3/8 dr	Socket, 12-pt, reg-lg, 5/16 x 3/8 dr
Handle, rev-ratchet, 3/8 dr	Tape, press-sens, adh, green, 1W
Handle, speeder, soc-wr, 3/8 dr	Wire, safety, MS20995C47
Nut driver, 5/16, 5120-00-770-0024	Wrench, torque, 0-150 in-lb, 3/8 dr
Pliers, slip joint, str-nose, 8L	

4-13.1 TAIL SECTION INSTALLATION

WARNING

Tail Section Mk 16 contains a small quantity of hazardous material. Handle carefully when opening.

Actuation of the control unit with the safety strap removed will eject the parachute from the tail section, endangering handlers and nearby personnel. Be sure that at least one safety pin is installed in control unit at all times while handling.

NOTE

Warning streamers may not be included in all arming accessory kits. If no warning streamer is included in the arming accessory kit, a length of Arming Wire Mk 9 may be used in place of the warming streamer.

a. If available, remove warning streamer from arming accessory kit. Insert warning streamer safety pin or Arming Wire Mk 9 remnant in vacant hole in TDD (Figure 4-13A).

b. Remove cotter pin and warning tag from TDD. Place cotter pin and warning tag in TDD shipping container for reassembly, if necessary.

c. For F/A-18 Aircraft: Verify arming wire holes in pop-out pin are aligned on aft end of bomb, as shown in Figure 4-13B, OA 06.

d. For B-1 and B-2 Aircraft: Verify arming wire holes in pop-out pin are aligned with the fourth index hole on aft end of bomb, as shown in Figure 4-13B, OA 12 and 13.

e. For F/A-18 Aircraft: Position tail section near aft end of bomb (Figure 4-13C). Orient the tail so the index pin on the tail section aligns with the topmost (12 o'clock) index pin hole on the bomb.

f. For B-1 and B-2 Aircraft: Position tail section near aft end of bomb (Figure 4-13C). Orient the tail so the index pin on the tail section aligns with the second index pin hole on the bomb.

CAUTION

Setscrews of tail section must seat firmly in V-groove of bomb to ensure proper installation.

g. Mount tail section on bomb with the eight setscrews aligned with V-groove in aft end of bomb. Tighten all setscrews until they are snug so they seat in V-groove. Shake the end of tail section to determine if it is firmly seated on bomb.

h. Inspector, verify step e or step f and witness step i.

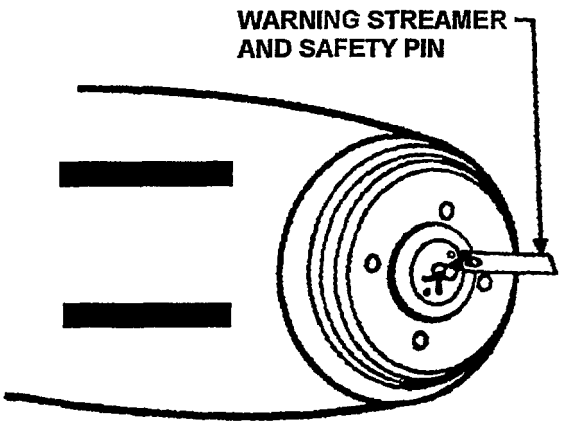


Figure 4-13A. Safety Pin in TDD

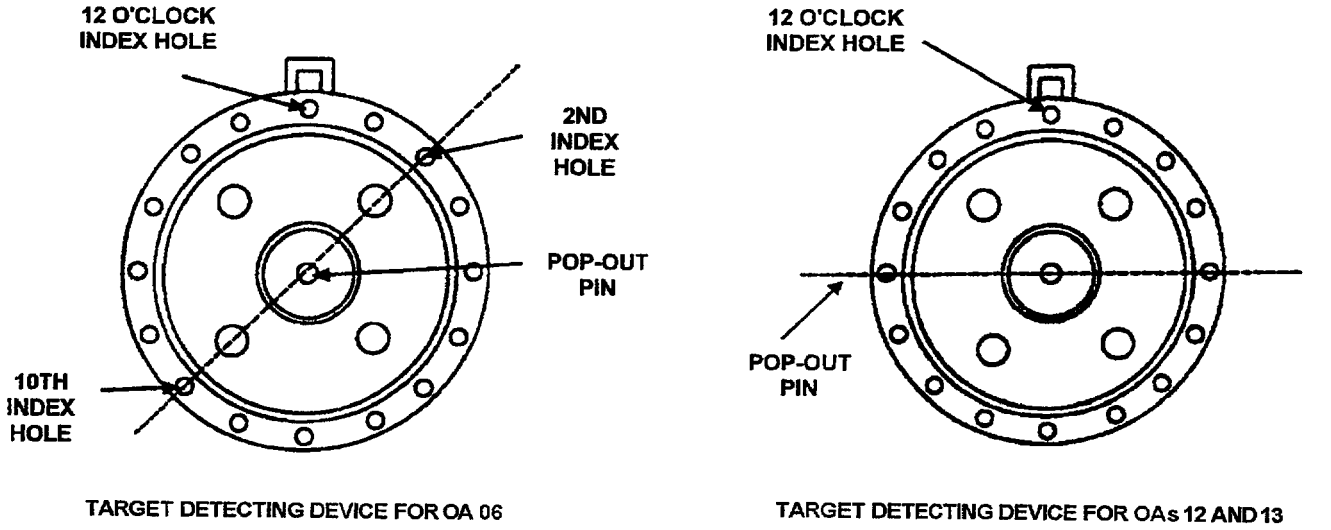


Figure 4-13B. TDD Pop-Out Pin Orientation

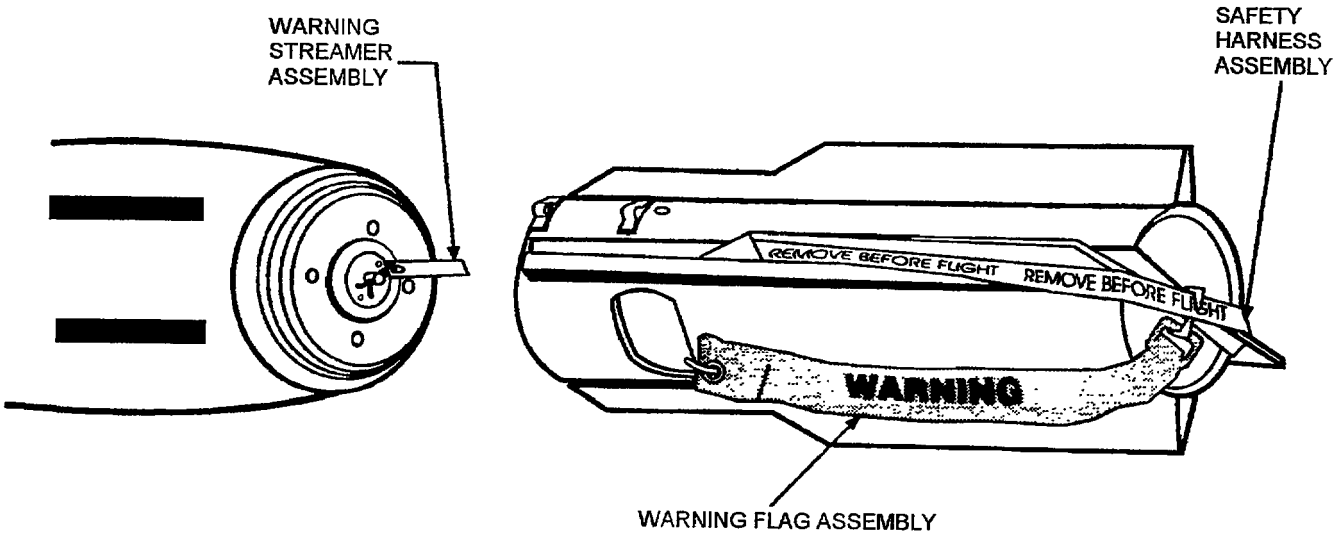


Figure 4-13C. Tail Section Mk 16 Installation

i. Secure the tail section to bomb as follows:

(1) Torque the four setscrews at approximately the 1, 7, 4 and 10 o'clock positions, in that order, to 15 ft-lb.

(2) Starting at the 1 o'clock position and moving in a clockwise direction, torque all screws to 15 ft-lb.

j. For B-1 and B-2 Aircraft Only: Proceed to step n.

k. Position tube assembly so rolled end of tube assembly is pointing forward, away from tail section, and curved portion of tube assembly is right of the tail centerline when viewed from rear of tail (Figure 4-13D).

l. Position bracket on tube assembly so its channel is up and it is positioned forward against rolled end of tube assembly.

m. Carefully insert straight end of tube through forward and aft tube guides on top of tail until collar on tube assembly is fully engaged in forward tube guide (Figure 4-13D, detail A).

NOTE

Two different types of arming cables exist on the Tail Section Mk 16: one cable has a Dexter clip; the other has a hitch pin. Refer to Figure 4-13E.

n. Remove tape securing TDD arming cable safety pin to tail. Determine if the tail being installed has a Dexter clip or hitch pin. Perform step o or step p as applicable.

o. Dexter Clip Installation:

(1) Let the TDD arming cable relax in your hand (no twists on the cable).

(2) While looking at the end of cable, twist the TDD safety pin leg one full 360-degree turn clockwise. Install the safety pin up through the vacant TDD pop-out pin hole, and close safety clip. When the safety pin is released, the arming cable tension should position the safety pin against the center of the TDD. If it does not, remove the safety pin and twist the arming cable another 360-degree turn clockwise; repeat until the released safety pin positions itself against the TDD.

p. Hitch Pin Installation: Insert the pin up through the vacant TDD pop-out pin hole (Figure 4-13A).

CAUTION

Do not remove warning streamer assembly or Arming Wire Mk 9 remnant from TDD pop-out pin unless safety pin on TDD arming cable has been installed in pop-out pin. If warning streamer assembly or arming wire is removed before TDD is safed with arming cable safety pin, TDD must be replaced.

q. Remove warning streamer assembly or Mk 9 Arming Wire remnant from pop-out pin and set aside for possible reuse during disassembly.

r. For B-1 and B-2 Aircraft Only: Proceed to job sheet 4-14.

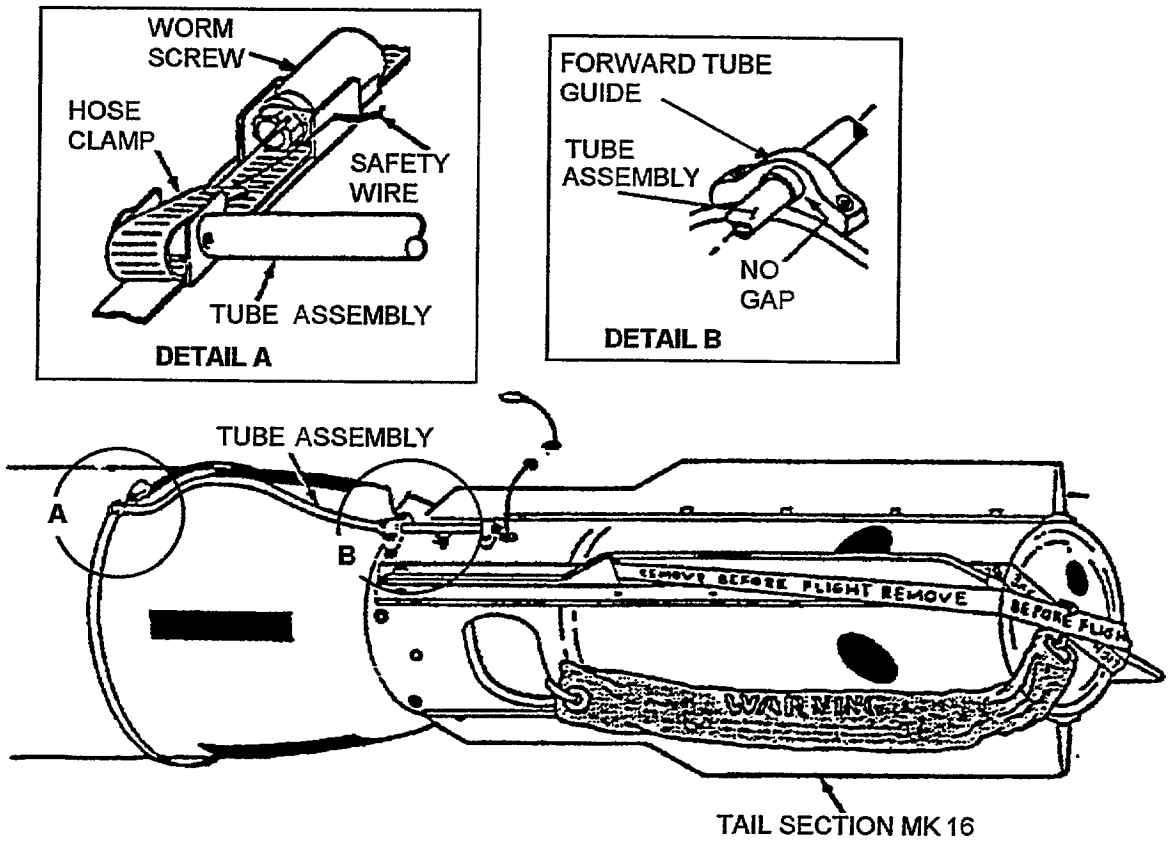


Figure 4-13D. Tube Assembly and Hose Clamp Installation

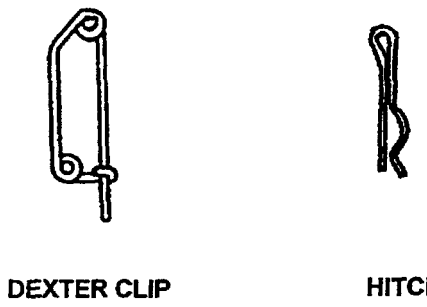


Figure 4-13E. TDD Arming Cable Safety Pins

4-13.2 HOSE CLAMP AND LANYARD INSTALLATION

a. With worm screw of hose clamp facing up, lay slotted end of strap in channel of bracket that contains safety wire holes, and push end of strap through opening under the tube (Figure 4-13D, detail B).

b. Pull slotted end of strap through tube bracket, wrap hose clamp strap around bomb, and start slotted end of strap in worm screw. Tighten clamp until most slack is removed, but clamp still moves (Figure 4-13D).

c. Center hex head of worm screw between safety wire holes of bracket.

CAUTION

Do not over torque worm screw; hose clamp strap fails at approximately 60 in-lb.

d. Inspector, verify step a, step b, and step c; and witness step e.

e. Ensure hex head of worm screw is centered between safety wire holes of tube bracket, and no gap exists between the tube assembly and the forward bracket on the tail. Torque worm screw to 45 in-lb.

f. Bend end of hose clamp strap back over tube assembly. Thread a length of safety wire through slot on end of strap and through both safety wire holes, passing over hex head of worm screw (Figure 4-13D, detail B).

CAUTION

Ensure twisted ends of safety wire are on aft side of tube assembly bracket so twisted ends do not foul lanyard extension where it exits tube assembly.

g. Twist ends of safety wire together on aft side of bracket with wire twister pliers. Cut and discard excess wire.

h. Feed length of safety wire through tube assembly.

i. Using safety wire, pull lanyard extension through tube assembly; then remove safety wire. Take care to prevent snagging and fraying the lanyard or lanyard extension.

j. Attach the lanyard extension to the swivel assembly (Figure 4-13F), then pull connection tight.

CAUTION

Ensure tape is not on arming lanyard or swivel assembly link eye. Tape residue could prevent lanyard from pulling free from tube assembly or foul the solenoid in the aircraft rack.

k. Tape swivel assembly swagged sleeve to strap of hose clamp. o not apply tape over arming lanyard or swivel assembly link eye.

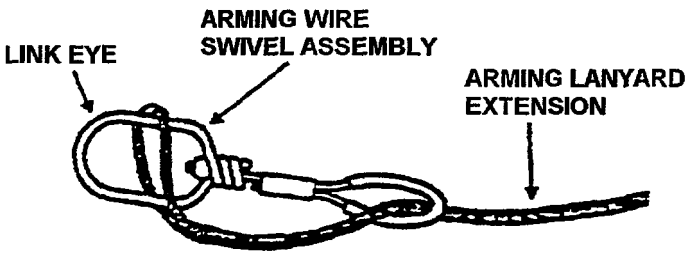


Figure 4-13F. Swivel Assembly Installation

JOB SHEET 4-14 ARMING DEVICE AND BOOSTER INSTALLATION

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Arming Device, Mk 32[1]

Battery Mk 112 Mod 0 or 1 (2) WS12633/8 or WS12633/21

Bomb, General-Purpose, Mk 82 or BLU-111A/B, per job sheet 4-9, job sheet 4-10, or job sheet 4-13[2]

Bomb, General Purpose, Mk 83 or BLU-110A/B, per job sheet 4-11 or job sheet 4-12[3]

Booster, Mk 59[1]

Cushion, 2499474[1]

Packing, preformed, MS29513-237 (arming device)[1]

Setscrew, sch, dog-pt, 3/8-16UNC-3A x 5/8, per job sheet 4-1[4]

Setscrew, Seal Assembly, 5479526[1]

SUPPORT ITEMS

Adhesive, rubber-base, MMM-A-1617 TY II*

Attachment, int-soc, 3/16 x 3/8 dr

Battery, dry, 6V, 6135-00-643-1310 (2)[5]

Cable Assembly CA-1451, 6916006[5]

Cloth, cleaning, disposable, 12 x 15

Faceshield, protective

Grease, pneumatic systems, MIL-G-4343*

Screwdriver, flat-tip, 3/16 x 3 blade

Screwdriver, sch-screw, ball-tip 3/16

Tape, anti-seizing, teflon, 1/4W

Tape, press-sens, adh, double-back, 3W

Test Set, Mk 503 Mod 4, 6916132

Test Set, Underwater Mine, Mk 595, Mod 1, 6169180

Wrench, spanner

Wrench, torque, 0-150 in-lb, 3/8 dr

**Hazardous Material*

[1] *Contained in Conversion Kit Mk 130 Mod 1.*
[2] *Mine Mk 62.*
[3] *Mine Mk 63.*
[4] *Limited Standard - Use only if seal assembly setscrew is unavailable.*
[5] *Maybe used in place of CA-1355 (supplied with Test Set Mk 595) and Batteries Mk 112.*

4-14.1 ARMING DEVICE AND BOOSTER PREPARATION

WARNING

Black "A" on red background in either or both arming windows indicates device is armed. If armed prior to installation, push in lock pin, remove explosive relay, set device aside, and notify EOD. Potential safety hazard exists when handling or installing booster; wear protective faceshield.

Booster Mk 59 is sensitive to EMR energy, which can cause initiation of the detonator. Booster and arming device installation must be performed in an EMR-free environment.

a. Put on faceshield. Remove arming device and booster from containers; retain packaging material.

b. Inspect arming device as follows:

(1) Verify safety wire or twisted piece of arming wire is installed through arming vane. (Replace)

(2) Verify white "S" on green background shows in upper window and nothing shows in lower window. (Reject)

(3) Verify that vanes are not bent or damaged. (Reject)

(4) Verify arming device does not exhibit damage that will affect its fit or function. (Reject)

(5) Using PPE per MSDS, lightly grease the arming device threads and new preformed packing and install on steel collar (Figure 4-14A).

WARNING

Do not use any booster that has rust or moisture inside of unit container or evident on the booster itself. Potential explosive hazard exists when booster has rust or moisture.

CAUTION

Do not use boosters that have loose, partially withdrawn, or missing connector inserts in the spring-loaded connector.

c. Inspect booster container and booster for rust and moisture. Do not remove safety plug or safety cover assembly from any unit that has rust or moisture. (Reject)

(1) If there is not external evidence of moisture, remove safety plug and safety cover assembly and inspect for rust or moisture. (Reject)

(2) Inspect booster cavity for damage. (Reject) Using cleaning cloth, wipe out any dust, lint, or foreign matter.

(3) Verify that component does not exhibit external damage that will affect its fit or function. (Reject)

(4) Ensure preformed packing on cover does not stick to booster. Retain the safety plug and safety cover assembly for disassembly, if applicable.

(5) Inspect connector insert. If loose, partially withdrawn or missing, reject booster (Figure 4-14B).

d. Inspect booster for loose crimp between the housing and the flange by lightly twisting while holding housing (Figure 4-14B). (Reject)

e. Ensure spring-loaded connector is present on aft end of booster and securely installed (Figure 4-14B).

f. Inspector, verify step b and step e.

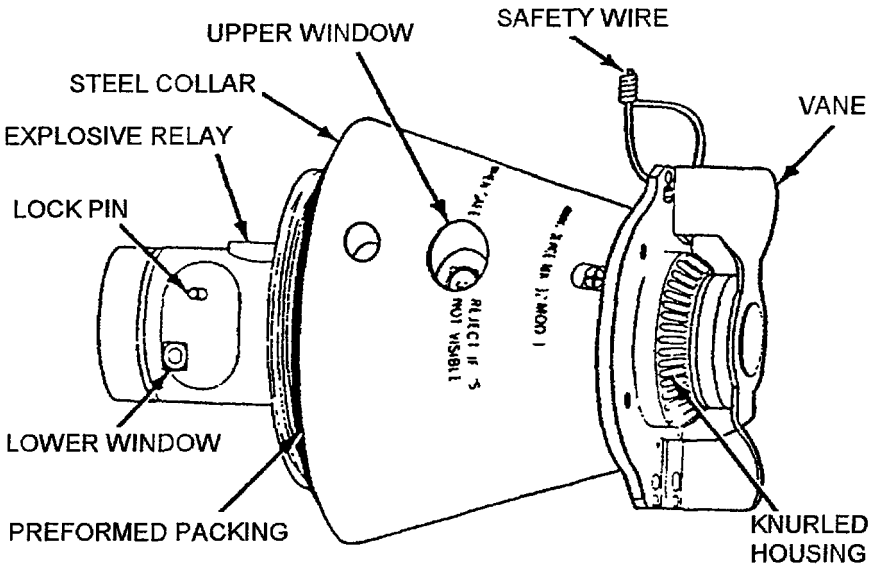


Figure 4-14A. Arming Device Mk 32

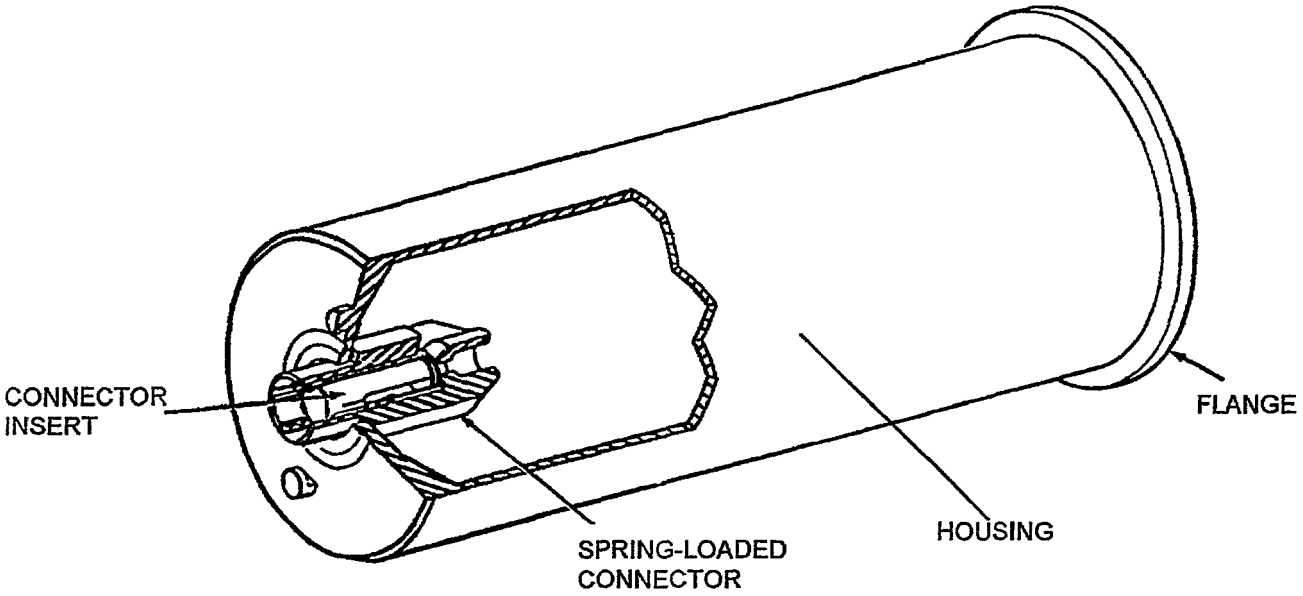


Figure 4-14B. Booster Inspection

4-14.2 MINE TEST WITH TEST SET MK 595

CAUTION

Operate relief valve before unlatching test set case.

NOTE

Mine test may be performed using either the Test Set Mk 595 or Test Set Mk 503 Mod 4.

a. Place Test Set Mk 595 on a suitable workbench and operate relief valve.

b. Unlatch the four latches on the test set case. Separate the top section (preset programming section) from the bottom section (system test section, Figure 4-14C).

c. Locate calibration sticker on front panel of test set and verify that test set is within calibration cycle.

d. Once daily, perform the system test section self test in appendix D before performing system tests.

e. Open test storage compartment (Figure 4-14C), remove Cable Assembly CA-1355 and the fuze well adapter (Figure 4-14D).

f. Verify that ON/OFF switch on system test section is in OFF position (Figure 4-14C).

NOTE

If using Cable Assembly CA-1355 and Batteries Mk 112, proceed to step g. If using Cable Assembly CA-1451 and 6-volt batteries, proceed to step h.

g. Connect P1 leg of CA-1355 connector on system test section. Connect P2 and P3 legs to Batteries Mk 112 (Figure 4-14E). Proceed to step i.

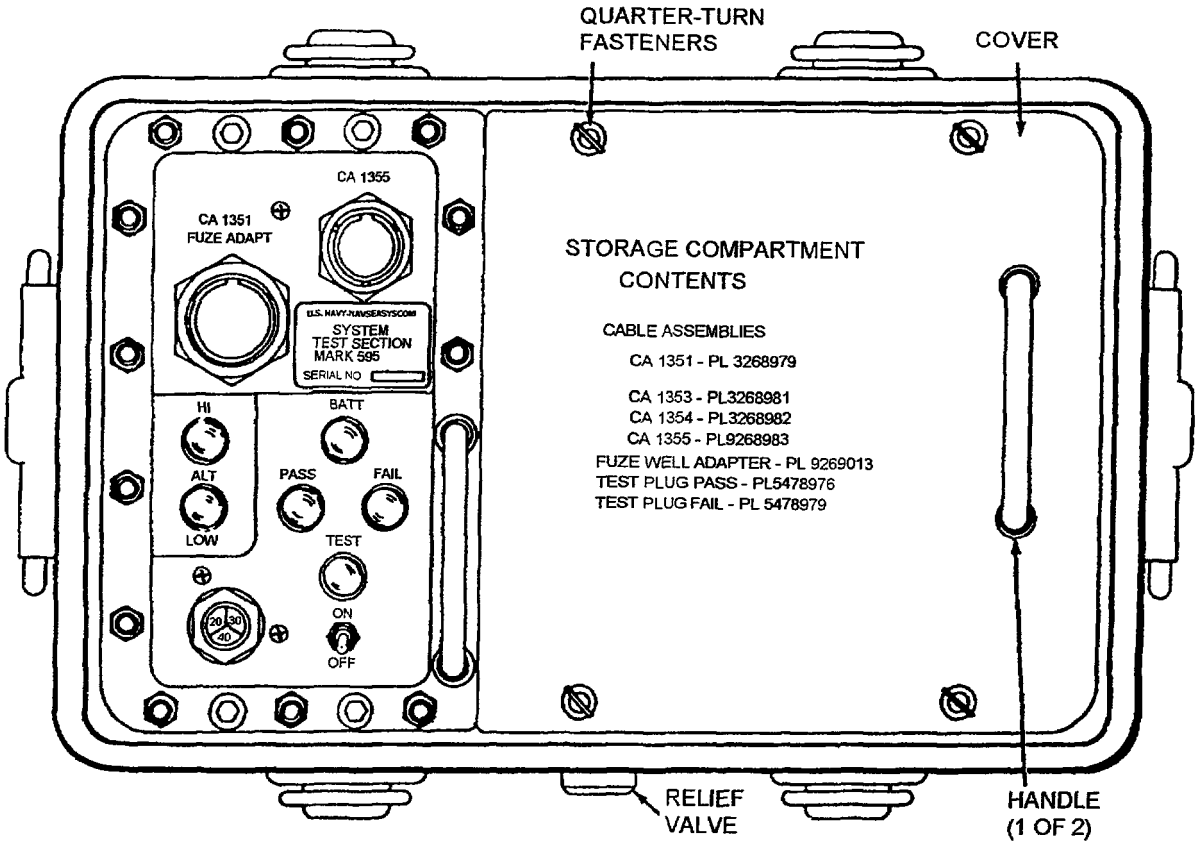


Figure 4-14C. Test Set, Mine Mk 595 Mod 1, System Test Section

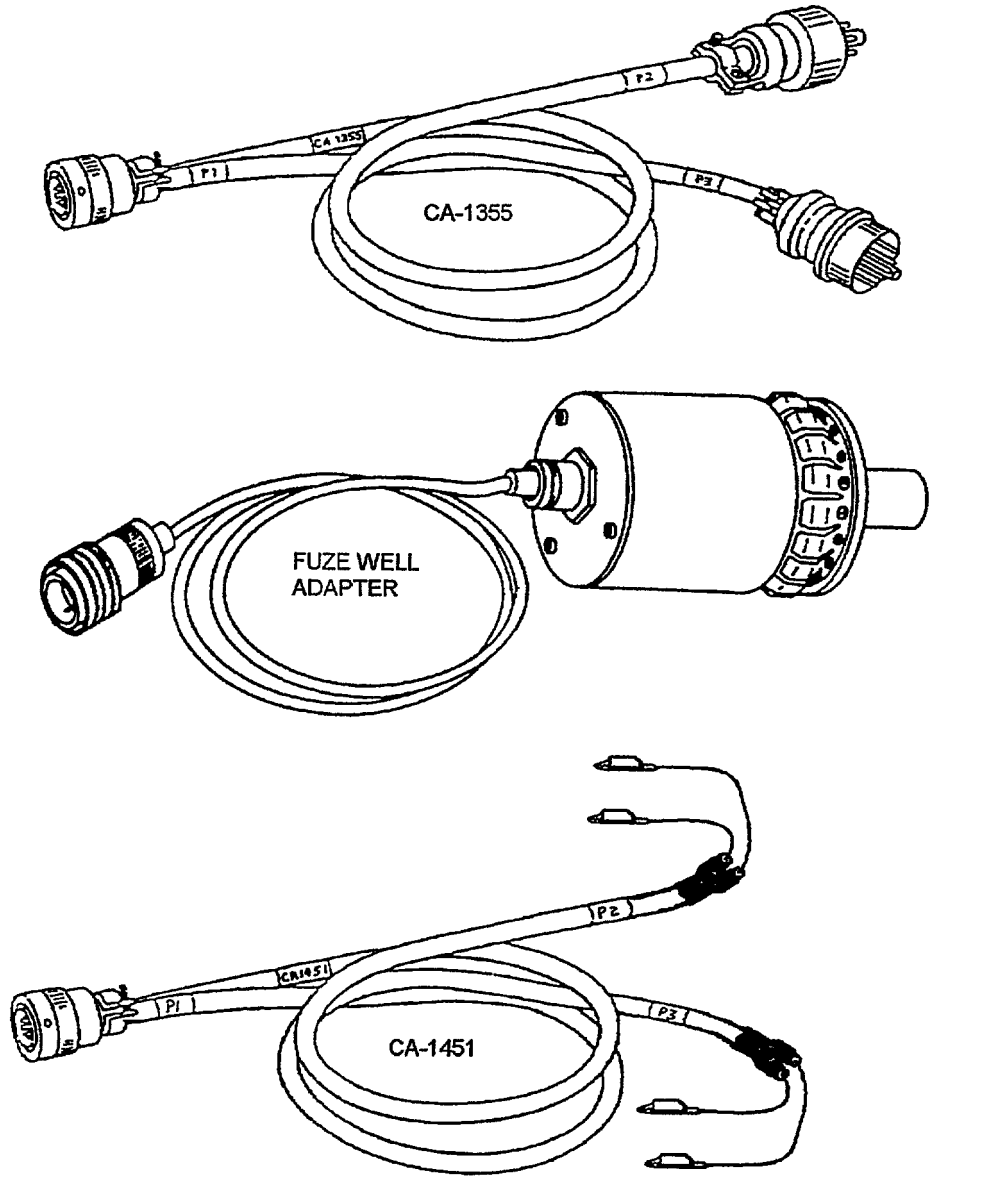


Figure 4-14D. Cable Assemblies CA-1355, CA-1451, and Fuze Well Adapter

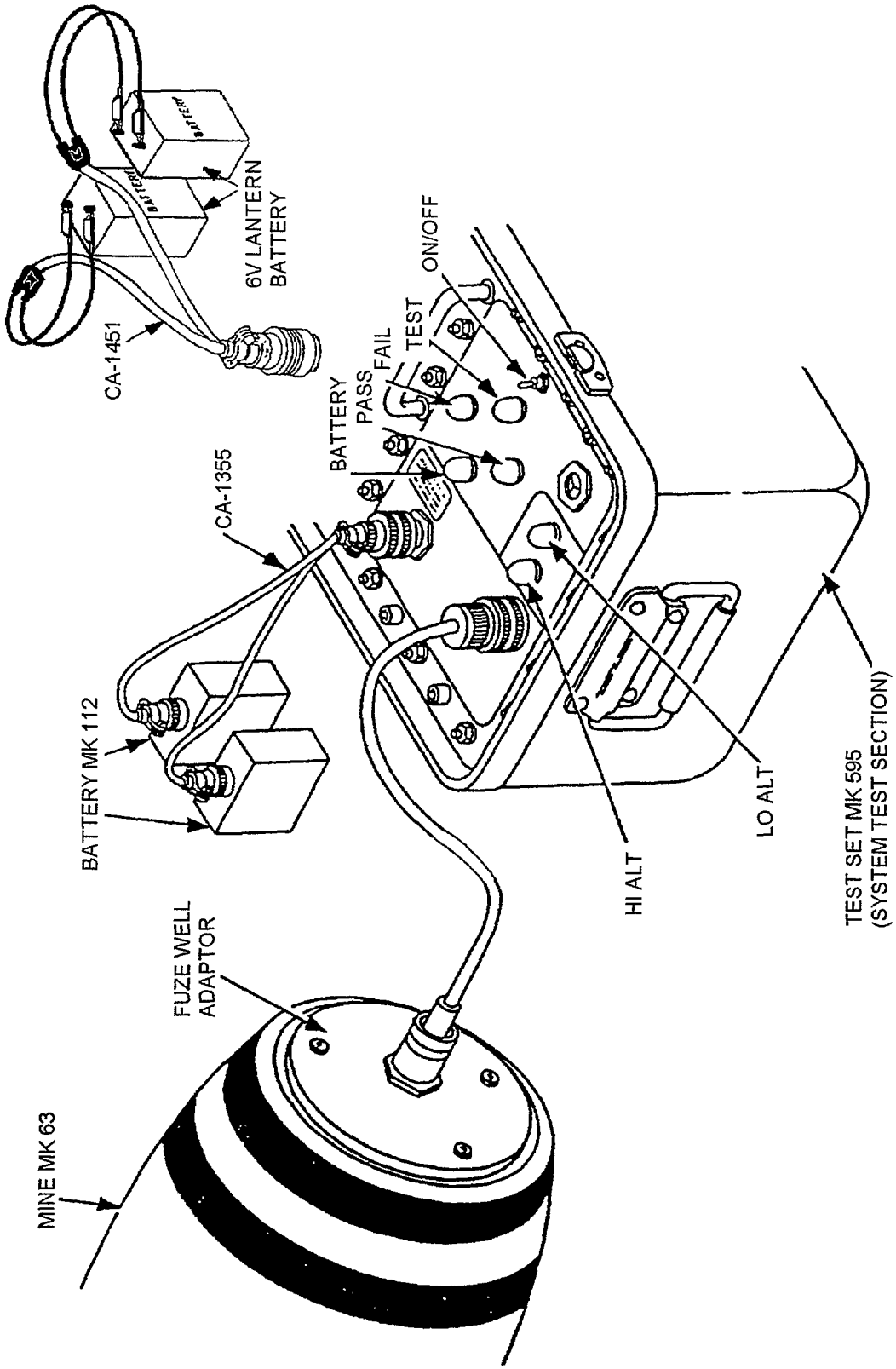


Figure 4-14E. System Test Set-Up

h. Connect Cable Assembly CA-1451 connector P1 to panel connector CA-1355 on system test section. Connect the black P2 connector to the negative (center) battery spring connector and red P2 connector to positive battery (outside) spring connector. Repeat for the P3 leg of Cable Assembly CA-1451.

i. Connect the P1 connector of fuze well adapter to CA-1351 panel connector on system test section (Figure 4-14E).

j. Firmly install fuze well adapter into nose fuze well of the bomb (Figure 4-14F). Verify the male connector in the nose fuze well mates with the fuze well adapter.

NOTE

If operation of the test set is unsatisfactory or appears erratic, go to appendix D, and perform self test before rejecting test set.

k. Inspector, witness step l.

l. Operate ON/OFF switch to ON. All lamps shall light for about a second, then all lamps except the TEST lamp shall go out. Approximately 1 minute after start of test, the test lamp shall go out. If the PASS lamp lights, the weapon has passed the system test. Proceed to step m. If the FAIL lamp lights, hold fuze well adapter firmly in and repeat test. If the FAIL lamp still lights, perform step m and step n and go on to the applicable troubleshooting chart (Figure 4-14G or Figure 4-14H).

m. Operate ON/OFF switch to OFF.

n. Remove fuze well adapter from nose fuze well of bomb.

o. If additional system tests are to be performed, return to step j and repeat procedure until testing is completed. If this is the last mine to be tested, set test set aside for repackaging.

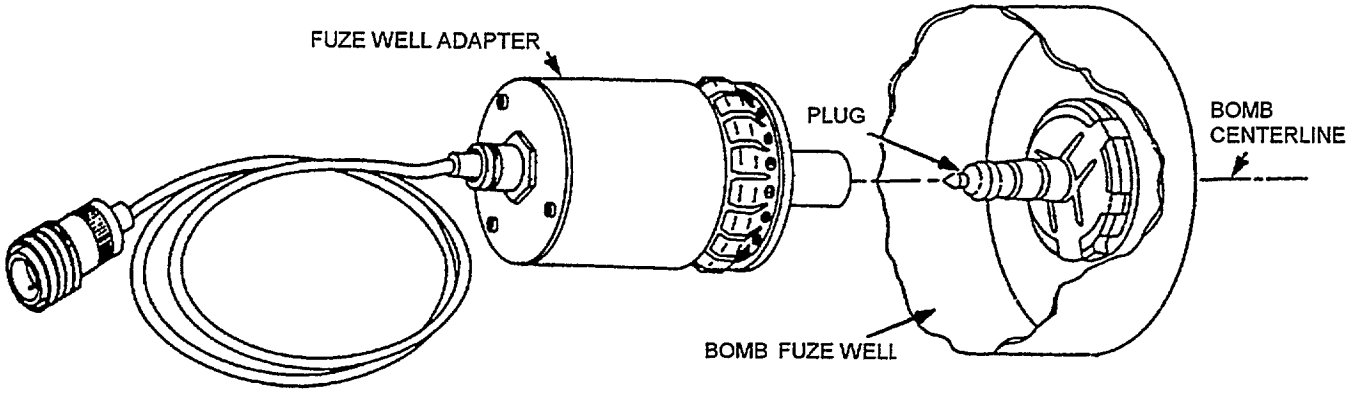


Figure 4-14F. Fuze Well Adapter/Nose Fuze Well Plug Interface

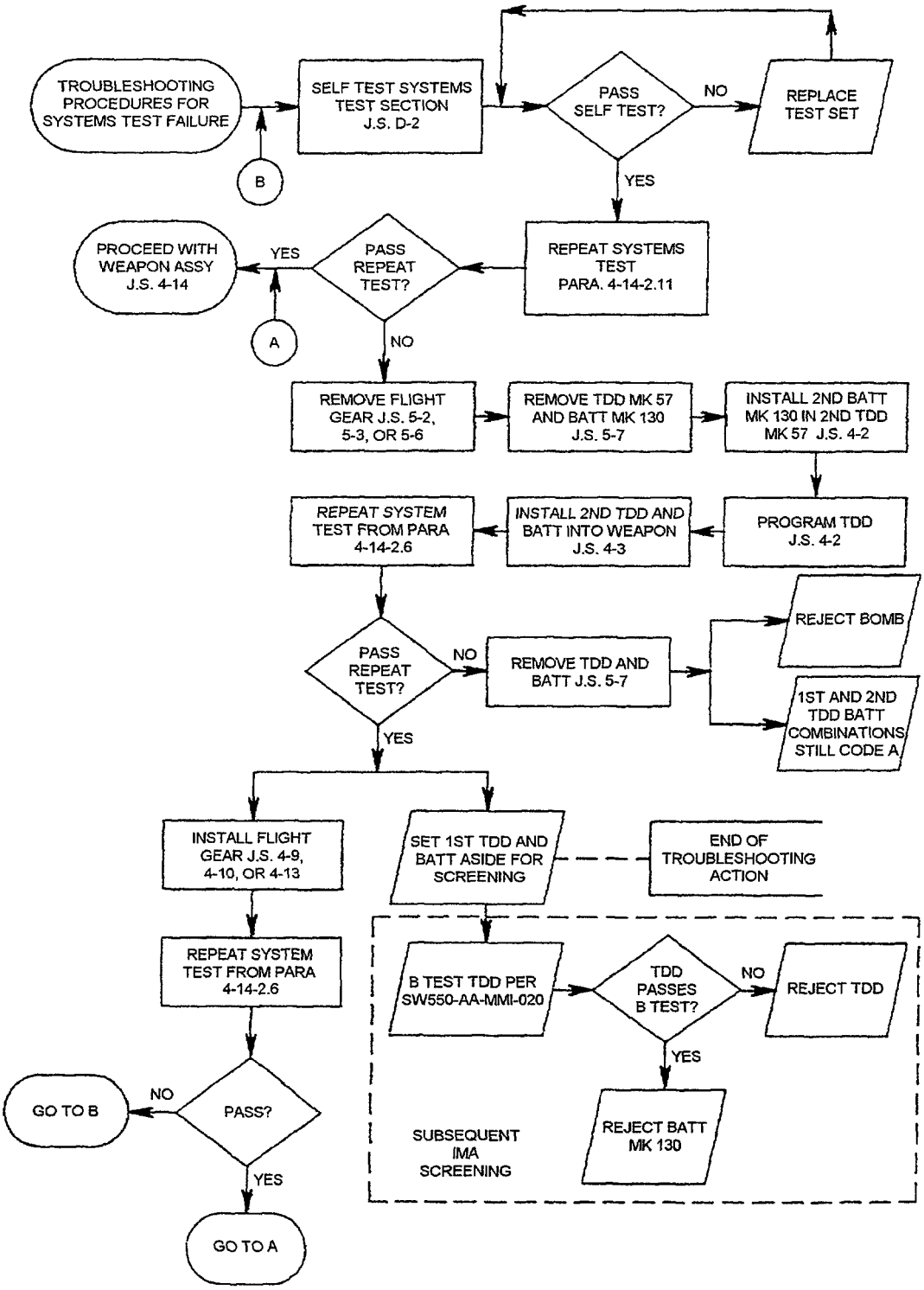


Figure 4-14G. Troubleshooting Procedure for System Test of Mine Mk 62

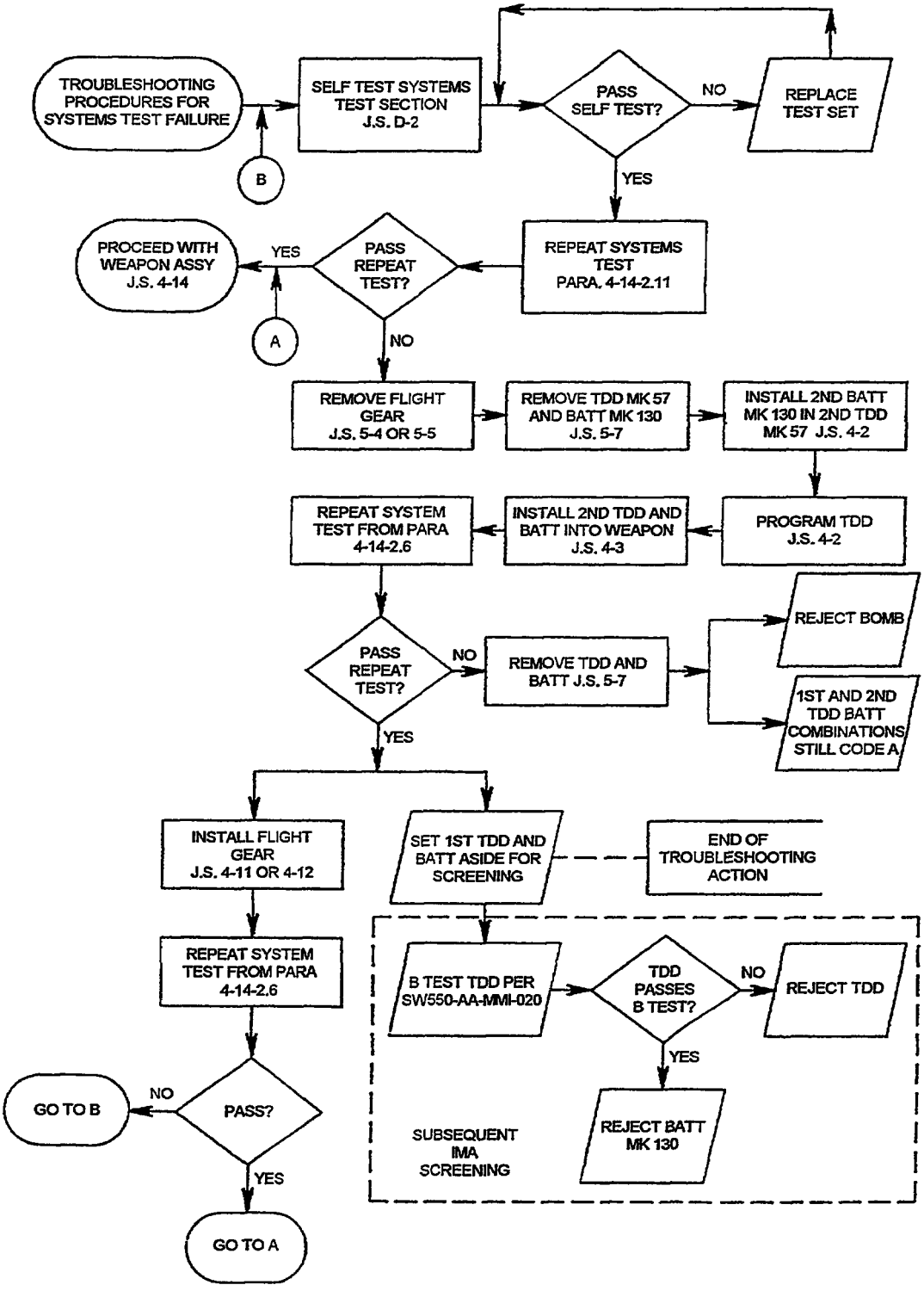


Figure 4-14H. Troubleshooting Procedure for System Test of Mine Mk 63

4-14.3 MINE TEST WITH TEST SET MK 503 MOD 4

CAUTION

Handle Test Set Mk 503 by housing only; pushing on meter face may break protective glass cover.

a. Verify Test Set Mk 503 Mod 4 is in calibration.

b. Verify alignment mark on test set body is within milled band on holder; align as necessary (Figure 4-14I).

c. Check meter indication. If test set meter is not zeroed, zero meter with adjustment screw on meter face.

NOTE

Perform self test of Test Set Mk 503: (1) beginning of each workshift; (2) after testing 25 weapons; (3) whenever necessary to ensure test set is functioning properly.

d. Perform self test as follows:

1. Press button on meter face. Meter must deflect full scale; then release button.
2. If meter does not deflect full scale, verify alignment marks are aligned per step b.
3. If meter still does not deflect full scale when button is pressed, reject test set.
4. Insert test plug in aft end of test set. Press plug firmly, and observe test set meter.
5. Meter must indicate in BLUE. If it does not indicate in BLUE, remove test plug and replace test set battery.
6. Repeat test. Reject test set if it fails again.

e. Inspector, witness step f.

f. Insert test set into nose fuze well. Push in and hold against base of fuze well. Press and hold button on meter bezel. Meter must indicate in the GREEN.

g. Release button and remove test set from nose of fuze well.

h. If more weapons are to be tested, return to step f.

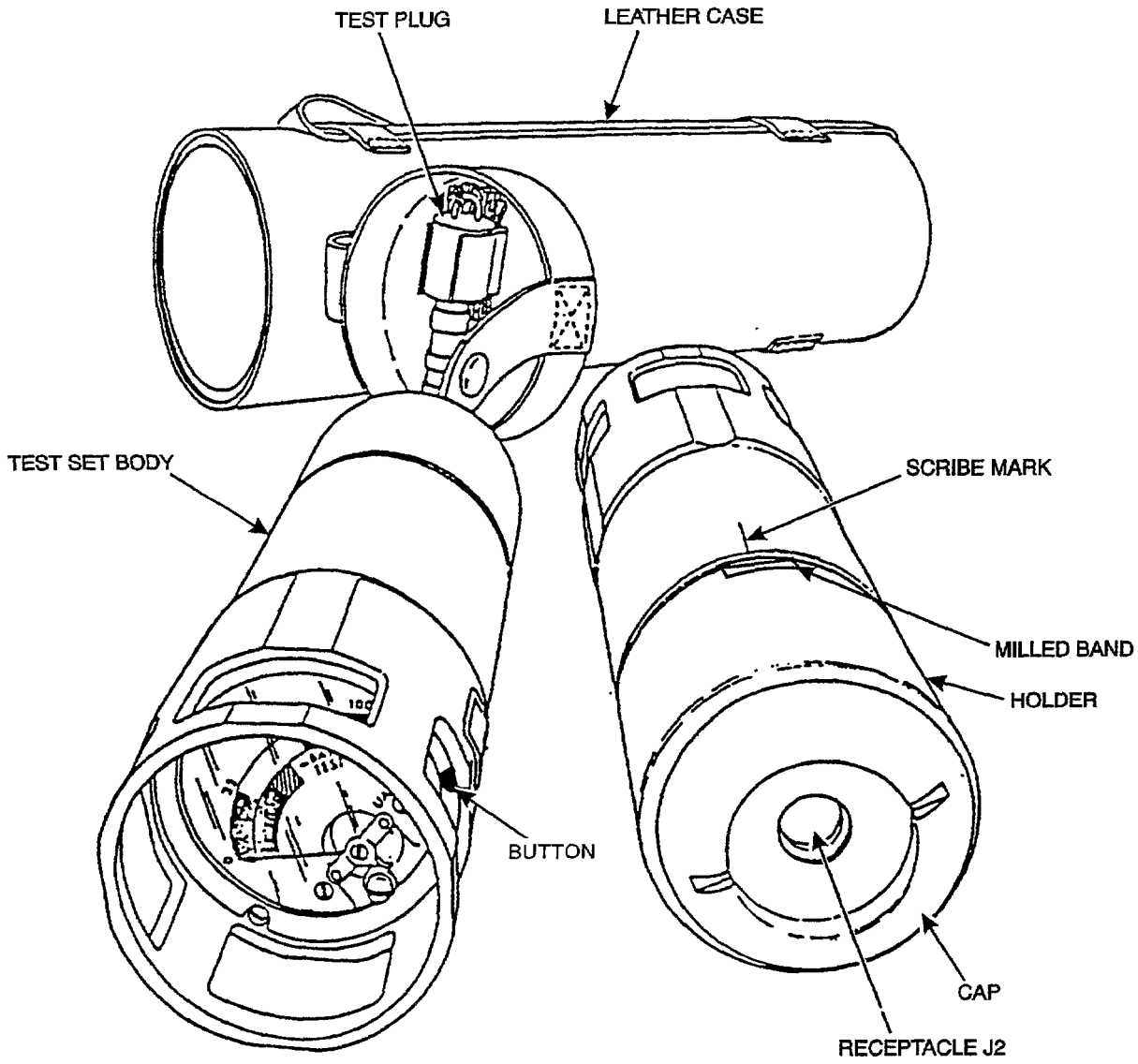


Figure 4-14I. Test Set Mk 503 Mod 4

4-14.4 ARMING DEVICE AND BOOSTER INSTALLATION

a. Put on faceshield. Stick the adhesive side of cushion to aft end of booster, ensuring that spring-loaded connector extends through center of cushion. If adhesive on cushion is not tacky enough to make it stick, using PPE per MSDS, apply a light coat of adhesive or double-backed tape to the cushion.

CAUTION

Weapon will not detonate if explosive relay is not aligned with square cutout on booster.

b. Ensure "S" is visible in upper window of arming device and explosive relay is aligned with square cutout on booster.

c. Insert arming device into booster until it bottoms.

d. Holding arming device and booster together, insert both into nose fuze well. Ensure cushion remains in place and booster seats securely onto cable assembly plug without snagging contact clips in booster connector (Figure 4-14J).

CAUTION

Do not tighten the Arming Device Mk 32 using the window well. Damage to window can result in damage to internal part.

e. Using a spanner wrench, tighten arming device to nose of bomb. Ensuring that the flat of the arming device collar bottoms on the flat on the nose of the bomb so as to obtain a watertight seal. On some bombs, the arming device collar may not contact the bomb at all points around the circumference of the collar, a condition which is acceptable. On the other hand, if the collar does not contact the bomb at any point around its circumference (Figure 4-14J), reject the bomb. Remove faceshield.

NOTE

Seal assembly setscrew is standard to be used in bomb. If unavailable, use setscrew, sch, dog-pt, 3/8-1 6UNC-3A x 5/8. Step f and step g detail the procedures applicable to the setscrew to be used.

f. If the seal assembly setscrew is used, install as follows:

(1) Using PPE per MSDS, lightly grease threads and rubber seal of seal assembly setscrew.

(2) Install seal assembly setscrew and torque to 70 in-lb.

g. If the 3/8-1 6UNC-3A x 5/8 dog-pt setscrew is used, install as follows:

1. Wrap Teflon tape around setscrew, covering all threads.
2. Install setscrew; ensure Teflon tape remains on setscrew.
3. Tighten setscrew securely, using hand torque only on socket screwdriver.
4. Using hand torque only (no tools) check engagement of setscrew by attempting to move arming device counterclockwise. If the arming device can be moved, retighten setscrew.

h. Inspector, verify "S" is visible in upper window of arming device. Verify step e and step f or step g.Validate arming device and booster installation.

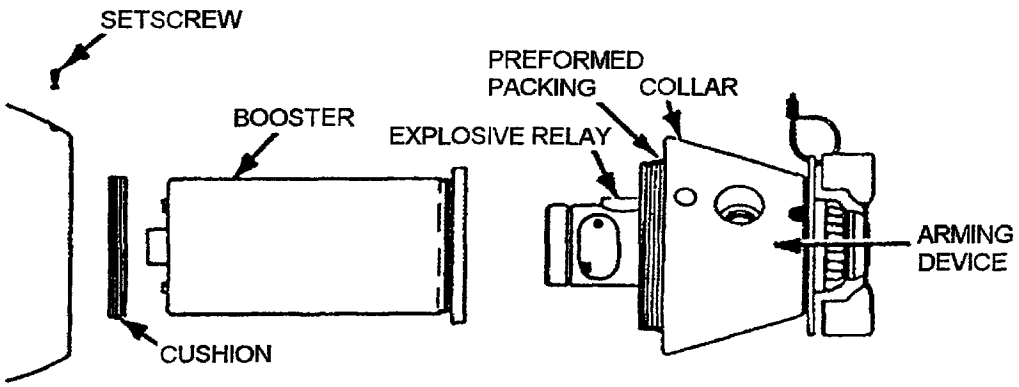


Figure 4-14J. Arming Device and Booster Installation

JOB SHEET 4-15 ARMING WIRE RETAINER INSTALLATION AND ARMING CABLE/ARMING WIRE RIGGING

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Arming Wire Mk 9, 2430878

Bomb, General Purpose, Mk 82 or BLU-111A/B, per job sheet 4-14

Bomb, General Purpose, Mk 83 or BLU-110A/B, per job sheet 4-14

Kit, Mine, Arming Hardware, Mk 165 Mod 0[1],[2]

Retainer, arming wire, 5561722[3]

Setscrew, sch, 1/4-20 (2)[3]

SUPPORT ITEMS

Attachment, int-soc, 1/8 x 3/8 dr

Attachment, int-sac, 5/32 x 3/8 dr

Cloth, cleaning, disposable, 12 x 15

Compound, antiseize*

Flashlight

Grease, pneumatic systems, MIL-G-4343*

Handle, rev-ratchet, 3/8 dr

Pliers, str-nose, w/cutter, 6L

Rule, machinist, steel, 6L

Socket, 12-pt, reg-lg, 7/16 x 3/8 dr

Tape, press-sens, adh, olive

Wrench, torque, 0-150 in-lb, 3/8 dr

**Hazardous Material*

[1] *Required for F/A-18 and P-3 Aircraft only.*
[2] *Contained in Conversion Kit Mk 130 Mod 1.*
[3] *Removed from packaging for Tail Section Mk 12 or Mk 16 per job sheet 4-7 or job sheet 4-8.*

4-15.1 ARMING WIRE RETAINER INSTALLATION

a. Position the arming wire retainer on Arming Device Mk 32 with the rod attached to retainer pointing aft as shown (Figure 4-15A).

b. Standing directly in front of arming device, rotate the retainer so as to position the rod at a point between 9 and 10 o'clock. Align two of the setscrew holes in the retainer with two spanner wrench holes in the arming device (Figure 4-15A).

c. Remove two of the three 1/4-20 setscrews from plastic bag; set the other aside as it will not be used.

d. Using PPE per MSDS, lightly grease and wipe threads of two 1/4-20 setscrews.

e. Inspector, verify steps a through c and witness step f.

f. Install the two setscrews in the two holes in the retainer that align with the two holes in the arming device. Torque screws to 30 in-lb.

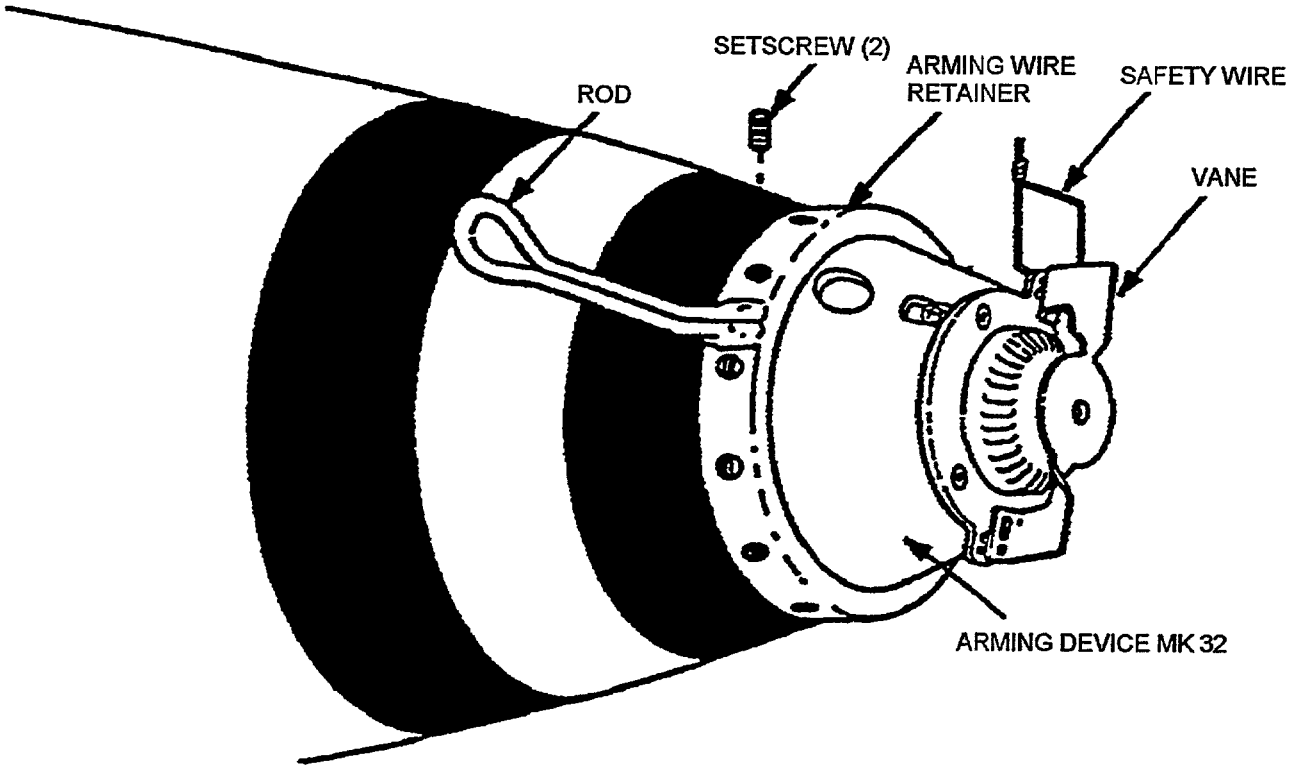


Figure 4-15A. Arming Wire Retainer Installation

4-15.2 ARMING DEVICE ARMING CABLE RIGGING

a. Tail Section Mk 12:

(1) Reach into access hole in tail section and remove bag taped to inside wall containing one arming device arming cable, with safety pin and cinch tab, and one solenoid arming cable, with safety pin and cinch tab (Figure 4-15B.

(2) Remove both cables from bag. The solenoid arming cable is used with the B-52 and rigged per paragraph 4-15.3.

(3) Uncoil the arming device arming cable, connected to tail section, and pass it through the 3/4-inch hole located above and forward of the access hole.

b. Tail Section Mk 16:

(1) Remove plastic bag(taped to side of tail section containing one arming device arming cable, with Dexter clip and cinch tab.

(2) Remove cable from bag. Uncoil the arming device arming cable.

c. Rig the arming device arming cable as follows (Figure 4-15C):

(1) Remove strap securing bomb to dolly or assembly stand. Route cable with Dexter clip and cinch tab, along the right side of bomb, as viewed from tail section.

(2) Pass ball fitting swaged to end of cable, through retainer rod (Figure 4-15C, view A).

(3) Slide the Dexter clip along cable to eye of rod. Open clip and pass the straight leg through the eye of the rod, then work the other parts of clip through eye until pin is positioned between the rod and the arming device (Figure 4-15C, view A).

NOTE

Arming device arming cable will always be on the right; solenoid arming cable will be on the left as viewed from the tail end of the mine. Each is connected to a different vane of the arming device.

(4) Install the Dexter clip in outer holes of arming device arming vane, (Figure 4-15C, view B). If vanes are positioned exactly at 6 and 12 o'clock positions, install the Dexter clip in 6 o'clock vane. If vanes are located at any other position, install safety clip in vane between the 6 and 12 o'clock positions.

(5) Return the ball fitting to the arming wire retainer and pass it through the eye of the rod a second time (Figure 4-15C, view B).

(6) With notched end of cinch tab up and positioned as shown (Figure 4-15D, view B), pass the ball fitting through the larger of the two holes in tab.

(7) Slip the arming cable into the slot connecting the large hole to the small hole in cinch tab. Secure the ball fitting in place by inserting its shank into the small hole of tab (Figure 4-15D, view B).

Since a 35-pound pull on the arming cable will withdraw the Dexter clip from the arming device, be careful not to exceed this pull when performing the following procedures.

(8) Slide the cinch tab aft on cable to remove all slack and to make cable taut; then rotate notched end of tab forward and insert both legs of cable into notches to secure rigging in place (Figure 4-15D, view C).

(9) Secure mine to dolly or assembly stand.

d. For B-1 and B-2: Proceed to job sheet 4-16.

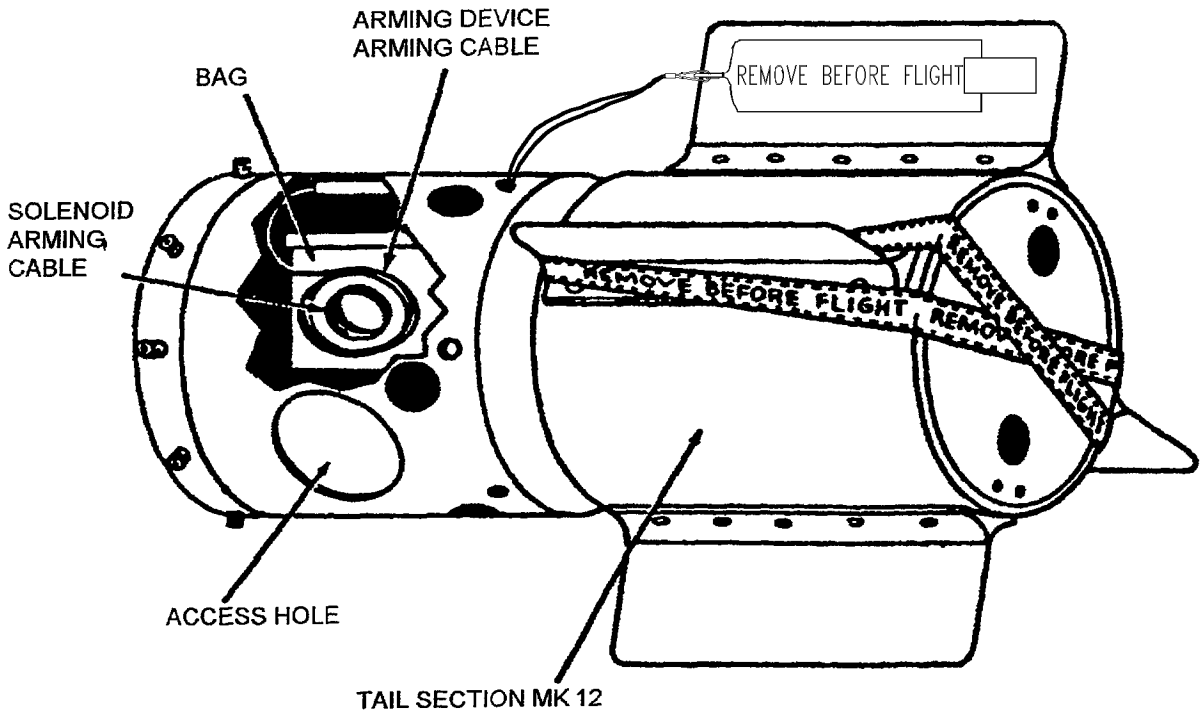


Figure 4-15B. Arming Cable (Arming Device and Solenoid) Removal from Tail Section Mk 12 (Mine Mk 63)

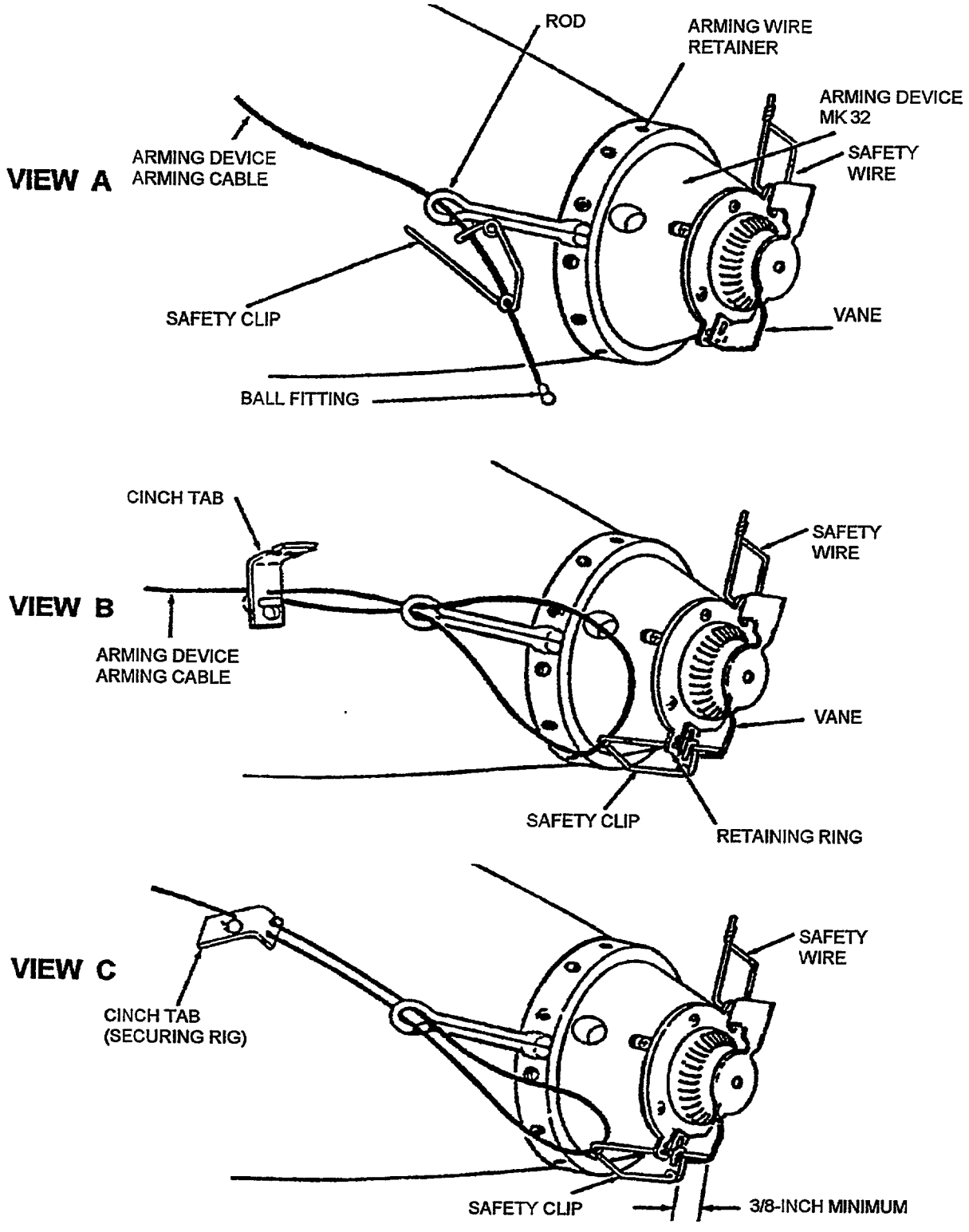


Figure 4-15C. Arming Device Arming Cable Rigging

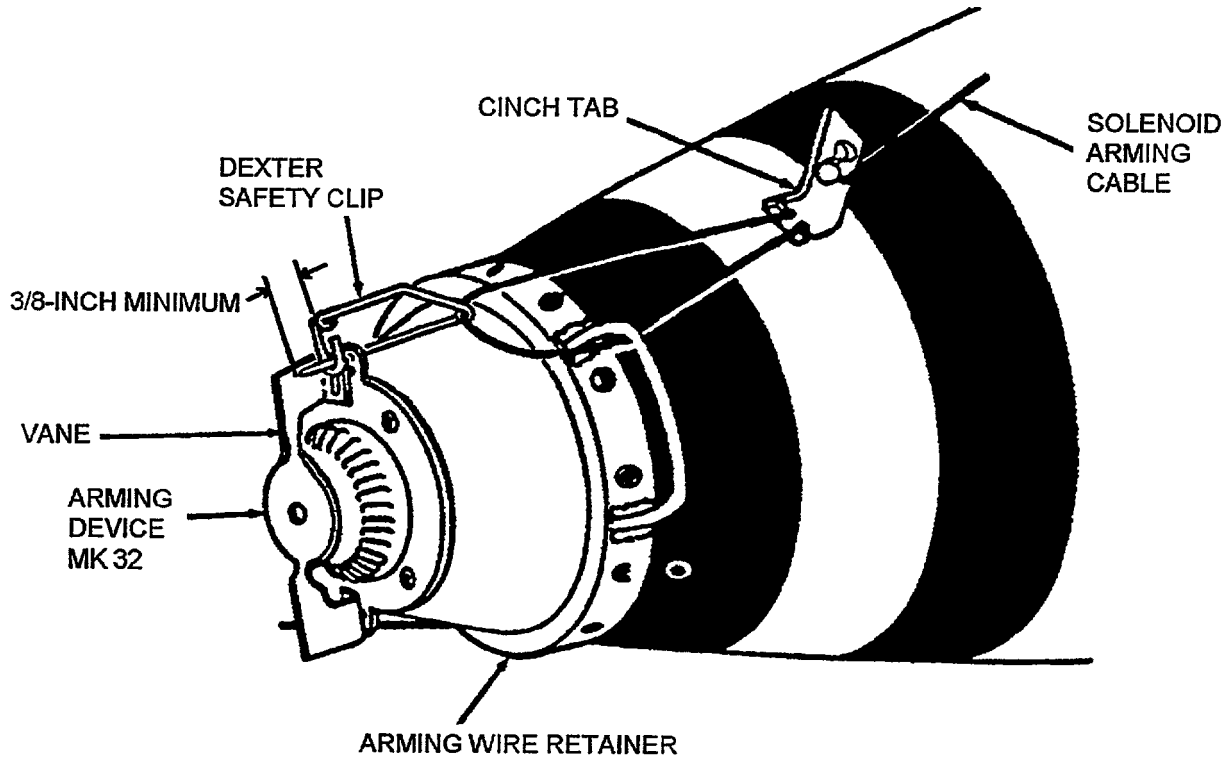


Figure 4-15D. Tail Section Mk 12 Solenoid Arming Cable Rigging

4-15.3 TAIL SECTION MK 12 (B-52 [EXTERNAL] AIRCRAFT ONLY)

a. Place the 2-inch ring of the solenoid arming cable, previously removed from tail section, over the forward suspension lug of bomb.

b. Remove the safety wire and tag securing the arming vane in place on arming device.

c. Rig the solenoid arming cable as follows (Figure 4-15D):

(1) Pass the solenoid arming cable along right side of bomb body, as viewed from nose. Pass the ball fitting (swaged to end of cable) and safety clip (assembled on cable) through the bail on the arming wire retainer, as shown.

(2) Open the safety pin and insert the straight leg into the outer hole in the retaining ring of the arming device and into the outside hole in the upper vane of the arming device; then close the pin, fastening it in place as shown.

(3) Position the cinch tab, notched end up, a few inches behind the bail of the arming wire retainer. Return the ball fitting directly to the cinch tab and pass it through the larger of the two holes in the tab. Do not pass the ball fitting through the bail when returning it to the cinch tab.

(4) Slip the arming cable into the slot connecting the large hole to the small hole in cinch tab. Secure the ball fitting in place by inserting its shank into the small hole of tab.

CAUTION

Since a 35-lb pull on the arming cable will withdraw the safety clip from the arming device, be careful not to exceed this pull when performing the following procedure.

(5) Slide the cinch tab aft on cable to remove all slack and to make the cable taut. Rotate notched end of tab forward and insert both legs of cable into the notches to secure the rigging in place as shown.

d. Inspector, verify step a, step b, and step c.

4-15.4 ARMING WIRE MK 9 INSTALLATION (FOR TAIL SECTION MK 12; F/A-18 AND P-3 AIRCRAFT ONLY)

a. Remove the safety wire and tag securing arming vane in place on arming device.

b. Ensure suspension lugs are screwed into lug wells until outer edge of bottom of lug eyes are flush with bomb body.

c. Pass the swivel end of Arming Wire Mk 9 through back side of aft suspension lug (Figure 4-15E). Pass the straight end of wire through loop of swivel; draw on wire until 1-1/2 inch loop is formed at the suspension lug.

d. Route arming wire along left side of bomb, as viewed from the tail end.

e. Remove a safety clip, a Nicropress sleeve, and Swivel and Ring Assembly MAU-182 from the Arming Hardware Kit Mk 165. Open the safety clip and install in vane (outer hole) of arming device (Figure 4-15F). Close the clip and slide aft.

f. Slip ring of Swivel and Ring Assembly MAU-182 onto arming wire (Figure 4-15F). Slip a Nicropress sleeve onto the wire.

g. Pass arming wire through eye of safety clip. Draw wire taut, being careful not to reduce size of the 1-1/2 inch loop formed in wire at suspension lug.

h. Bend the free end of wire back on itself. Slide the Nicropress sleeve over the free end to within an inch or so of the safety clip. Bend the free end back on sleeve and cut off excess wire in line with forward edge of sleeve (Figure 4-15E).

i. Secure the Nicropress sleeve in place by crimping it to the arming wire with pliers, ensuring short segment of wire lies flat on sleeve, as shown in Figure 4-15E.

j. Secure the wire with pressure sensitive tape, positioning the tape lengthwise along the axis of the bomb at the location shown in Figure 4-15F.

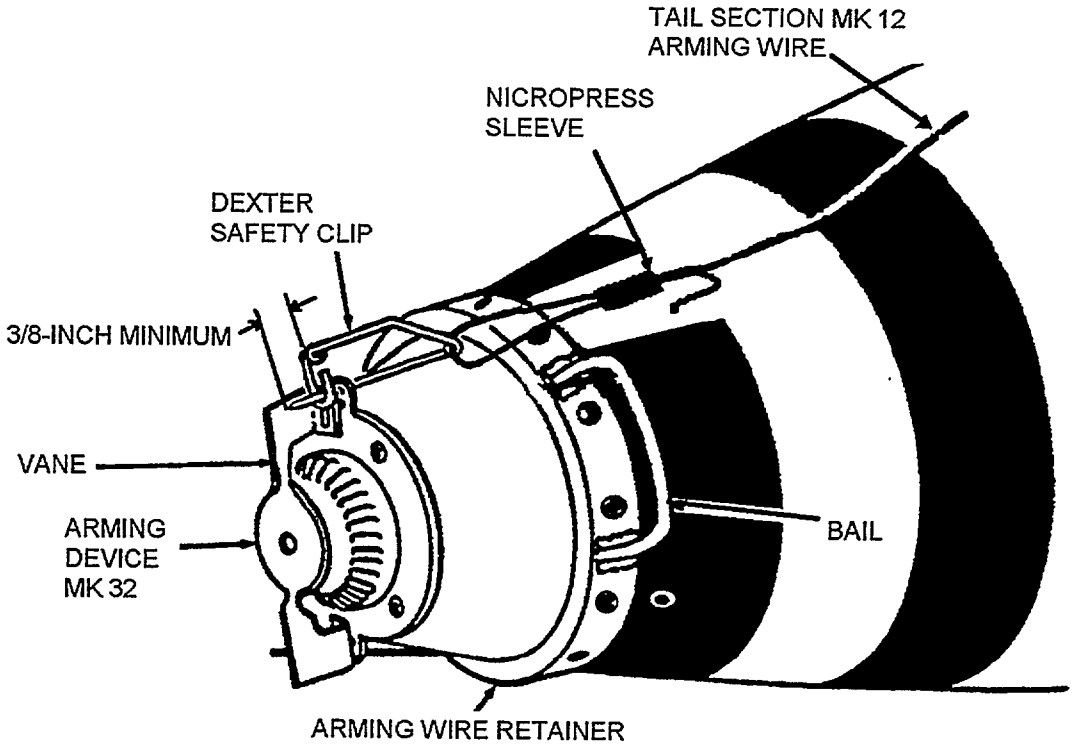


Figure 4-15E. Details of Tail Section Mk 12 Arming Device Arming Wire Rigging for F/A-18 and P-3 Aircraft

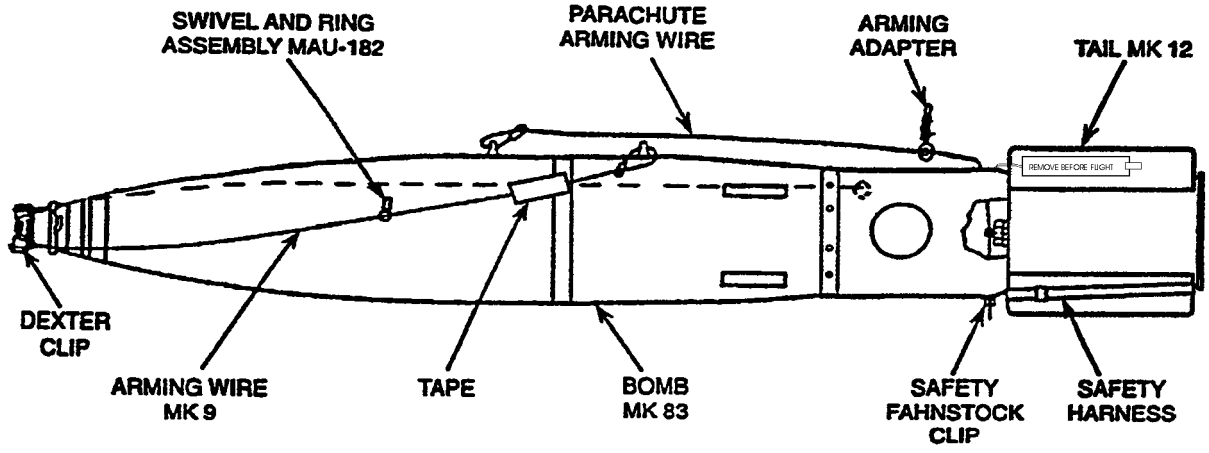


Figure 4-15F. Tail Section Mk 12 Arming Device Arming Wire Rigging for F/A-18 and P-3 Aircraft

4-15.5 TAIL SECTION MK 16 SOLENOID ARMING CABLE RIGGING (F/A-18 AIRCRAFT ONLY)

a. Remove shoulder screw, antitorque washer, and 1/4-28 x 3/4 hex-head bolt from Arming Accessory Kit.

b. Clean shoulder screw threads, then using PPE per MSDS, apply a light coating of antiseize compound to threads.

c. Open safety pin on end of solenoid arming cable, and then remove and discard safety wire securing ends of arming cable together.

d. Remove safety wire and tag from arming device vane.

e. Install the arming wire guide as shown in Figure 4-15G, using the arming wire retainer mounting hole that best aligns with the arming device vane safety pin holes.

f. Torque shoulder screw to 60 in-lb. Ensure arming wire guide rotates freely after shoulder screw is tightened.

g. Install safety pin through outer hole of the arming device vane, and close safety pin.

h. If strap securing mine to dolly or bomb assembly stand will interfere with solenoid arming cable installation, remove strap.

CAUTION

To prevent the solenoid arming cable from becoming slack, ensure there is not twist in the cable before attaching elongated loop of the cable to the tail.

i. Using PPE per MSDS, apply a light coat of antiseize compound to the threads on the hex-head bolt that will fasten the antitorque washer to the tail and install as shown in Figure 4-15H. Ensure elongated loop is in track of antitorque washer.

CAUTION

Do not pull solenoid arming cable taut to point where cable pulls safety pin from arming device.

j. Pull arming cable taut, then torque hex-head bolt to 96 in-lb.

k. If securing strap was removed from mine in step h, reinstall securing strap.

l. Tape extractor lanyard assembly of solenoid arming cable to bomb, forward of aft suspension lug. Apply tape over cable, not arming wire swivel.

m. Inspector, verify solenoid arming cable installation.

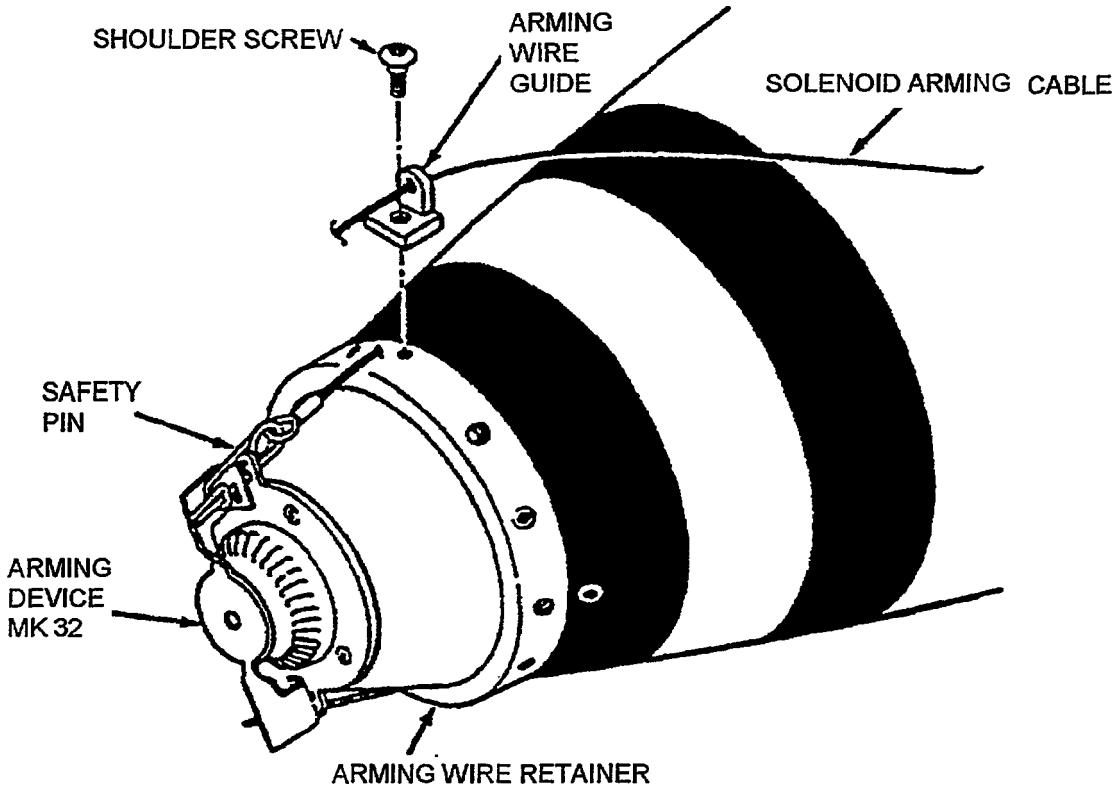


Figure 4-15G. Tail Section Mk 16 Solenoid Arming Cable to Arming Device Installation

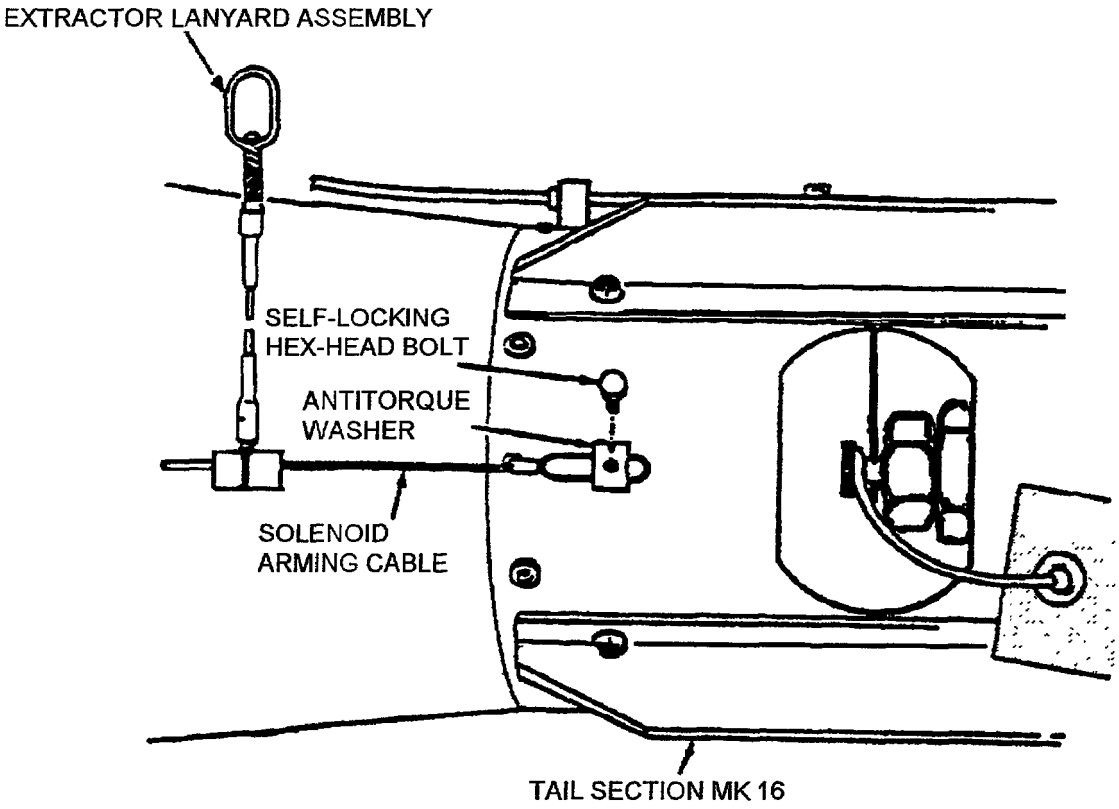


Figure 4-15H. Solenoid Arming Cable to Tail Section Mk 16 Installation

JOB SHEET 4-16 ARMING WIRE INSTALLATION AND FINAL PREPARATION FOR DELIVERY FOR B-1 AND B-2 AIRCRAFT

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Arming wire, Altered 7116338[1]	Bomb, General Purpose, Mk 82 or BLU-111A/B, per job sheet 4-15

SUPPORT ITEMS

Brush, fountain, stencil	Pliers, str-nose, w/cutter, 6L
Cloth, cleaning, disposable, 12 x 15	Tape, measuring, steel, 8-ft
Compound, cleaning*	Tape, press-sens, adh, olive

**Hazardous Material*

[1] See Appendix E for fabrication instructions.

4-16.1 INSTRUCTIONS

a. Ensure that the safety pin of the arming device arming cable is installed in one vane of the arming device. Ensure that the straight leg of the safety pin is not bent (Figure 4-16A).

b. Ensure that the tension in the arming cable is adjusted taut. With cable tensioned, the exposed straight leg of the safety pin in the arming device vane shall extend a minimum of 3/8-inch (Figure 4-16A).

c. Ensure that arming device safety wire has been removed from vane of arming device (Figure 4-16A).

d. Ensure that yellow safety strap is tightened securely over cover of tail section.

e. Ensure that the arming cable hitch pin, or safety pin, is installed in hole through pop-out pin of TDD (Figure 4-16B).

f. Ensure control unit in tail section has safety knob of warning flag assembly attached to it.

4-16.2 ARMING WIRE AND SWIVEL INSTALLATION

a. Pass the swivelled loop of arming wire through the front side of the forward suspension lug. Pass the straight end of the wire through the swivelled loop, drawing on the wire until a 3-inch loop is formed at the lug.

b. While holding the safety pin on the control unit, rotate safety knob until tight, then rotate the safety knob 1/2 turn counterclockwise to take pressure off safety pin. Safety knob is properly set when straight leg of safety pin slides freely in hole of control unit.

c. Rotate the straight leg of safety pin in control unit so it points to the plastic grommet in the tail section. Safety pin must remain in control unit during this rotation.

d. Release end of red warning flag from tab on tail section cover. Open flap in warning flag and obtain swivel assembly from interior pocket of red warning flag. Note that warning flag is permanently attached to safety knob.

e. For B-1 Aircraft Only:

(1) Pass straight end of arming wire through red coated loop of the swivel assembly.

(2) Pass straight end of arming wire through the plastic grommet on the top of the tail section (Figure 4-16C).

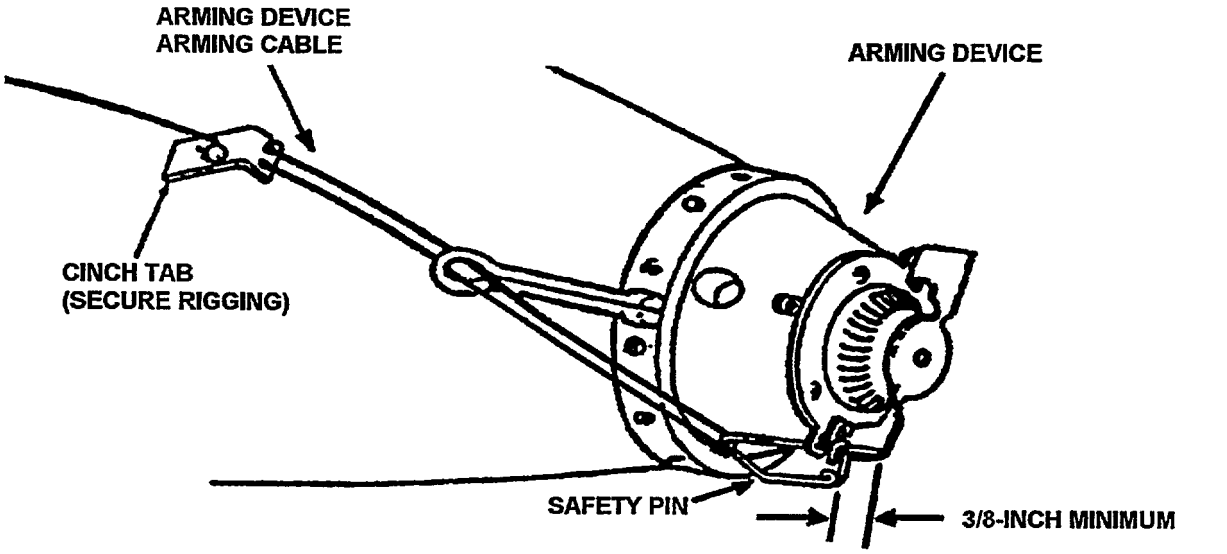
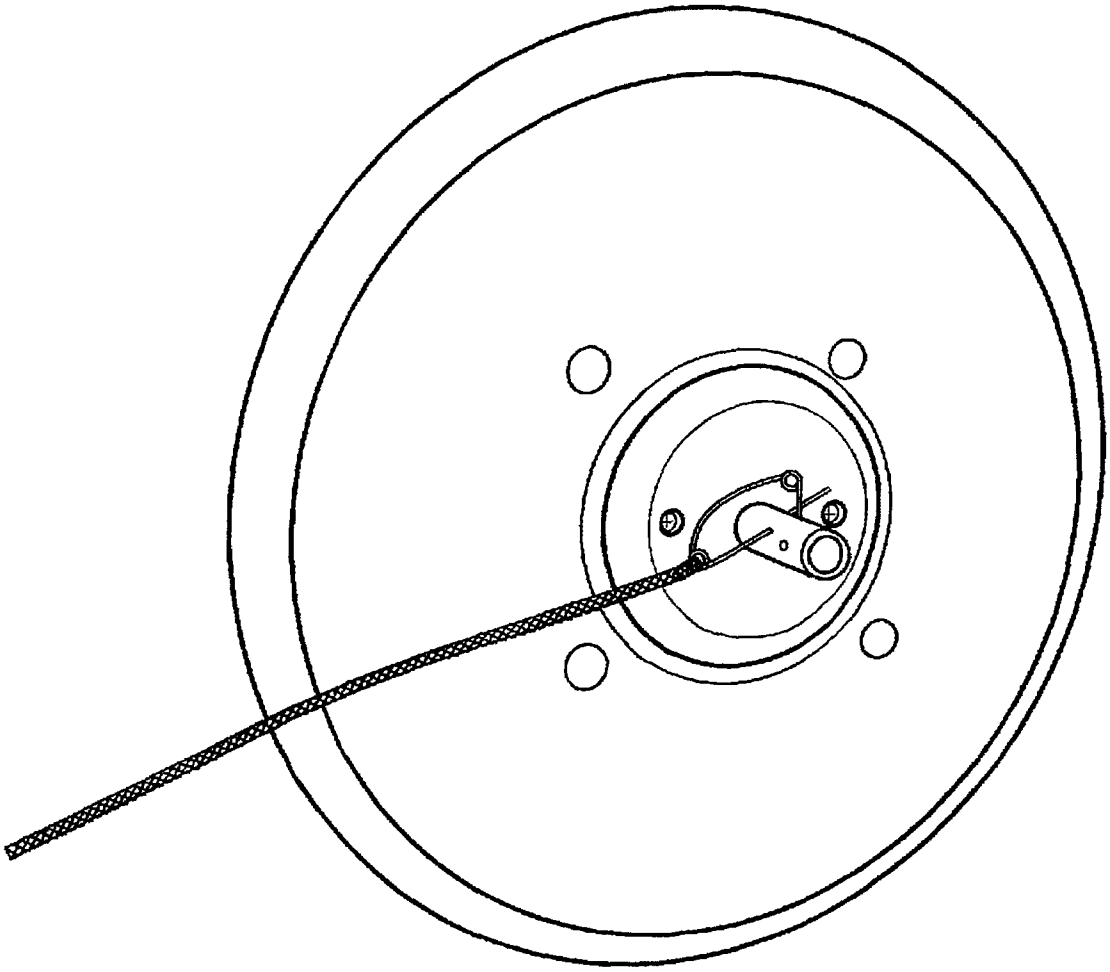


Figure 4-16A. Safety Pin of Arming Cable Installed in Arming Device



NOTE THAT ILLUSTRATION SHOWS OPEN LEG OF SAFETY PIN HELD AGAINST CENTER FACE OF TARGET DETECTING DEVICE BY TWIST IN ARMING CABLE.

NOTE THAT A HITCH PIN MAY BE PRESENT INSTEAD OF A SAFETY PIN. POSITION OF HITCH PIN ON TARGET DETECTING DEVICE WILL BE SIMILAR TO THAT OF THE SAFETY PIN SHOWN HERE.

Figure 4-16B. Arming Cable Pin Installed in TDD

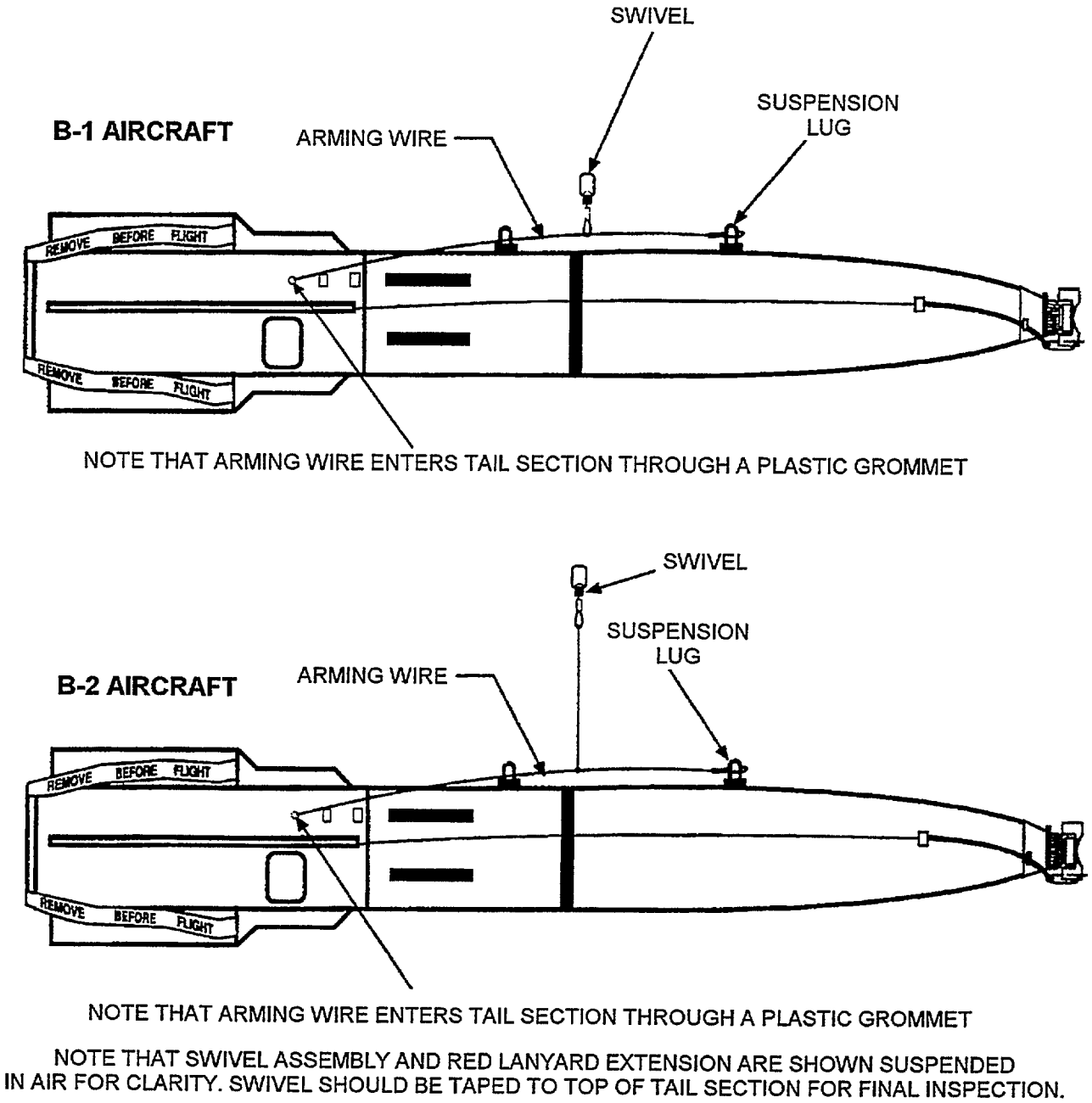


Figure 4-16C. Arming Wire Installed on Mine Mk 62

f. For B-2 Aircraft Only:

(1) Obtain red-coated Kevlar lanyard extension from pocket of warning flag.

(2) Attach the lanyard extension to the swivel assembly as shown in Figure 4-16D; then pull connection tight.

(3) Pass straight end of arming wire through the other uncoated looped end of the lanyard extension.

(4) Pass straight end of arming wire through the grommet on the top of the tail section (Figure 4-16C).

g. Pass the end of the arming wire through the vacant hole in the control unit next to the hole occupied by the safety pin. Push the end of the arming wire through the control unit until it just contacts the inside surface of the tail section.

h. While the arming wire is through the hole of the control unit, remove the safety pin from the control unit. While holding the arming wire with slack removed, loosen the safety knob by turning it counterclockwise 2 turns, thereby locking the arming wire in this position. Do not remove the safety knob from the control unit (Figure 4-16E).

i. Ensure that arming wire extending through control unit is straight and free of kinks and bends.

j. Place safety pin in pocket of warning flag assembly.

k. Using PPE per MSDS, clean bomb with cleaning compound in area where tape will be applied.

l. Tape swivel assembly to top of tail section. Tape arming wire to side of bomb body just aft of aft suspension lug. Do not apply tape over tail markings.

m. Secure end of red warning flag to metal tab on cover of tail section.

n. Ensure that swivel assembly is taped to top of tail section.

o. Ensure that stainless steel arming wire is taped to side of bomb body, just aft of aft suspension lug.

p. Inspector, validate final preparation for delivery. Table 4-16A lists variable components required for each aircraft.

NOTE

The yellow safety harness should be removed from the tail prior to transporting the assembled mine to the flight line for aircraft loading.

q. Remove yellow safety harness from tail. Place safety harness in flight gear kit shipping container for reassembly if necessary.

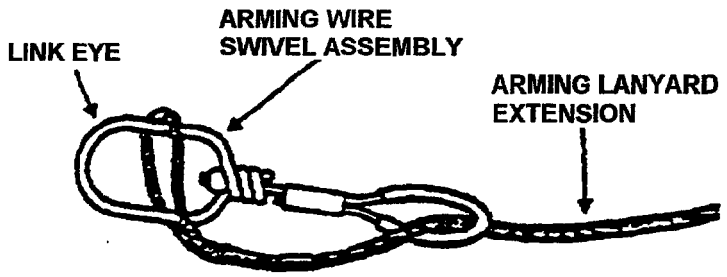


Figure 4-16D. Swivel Assembly Installation

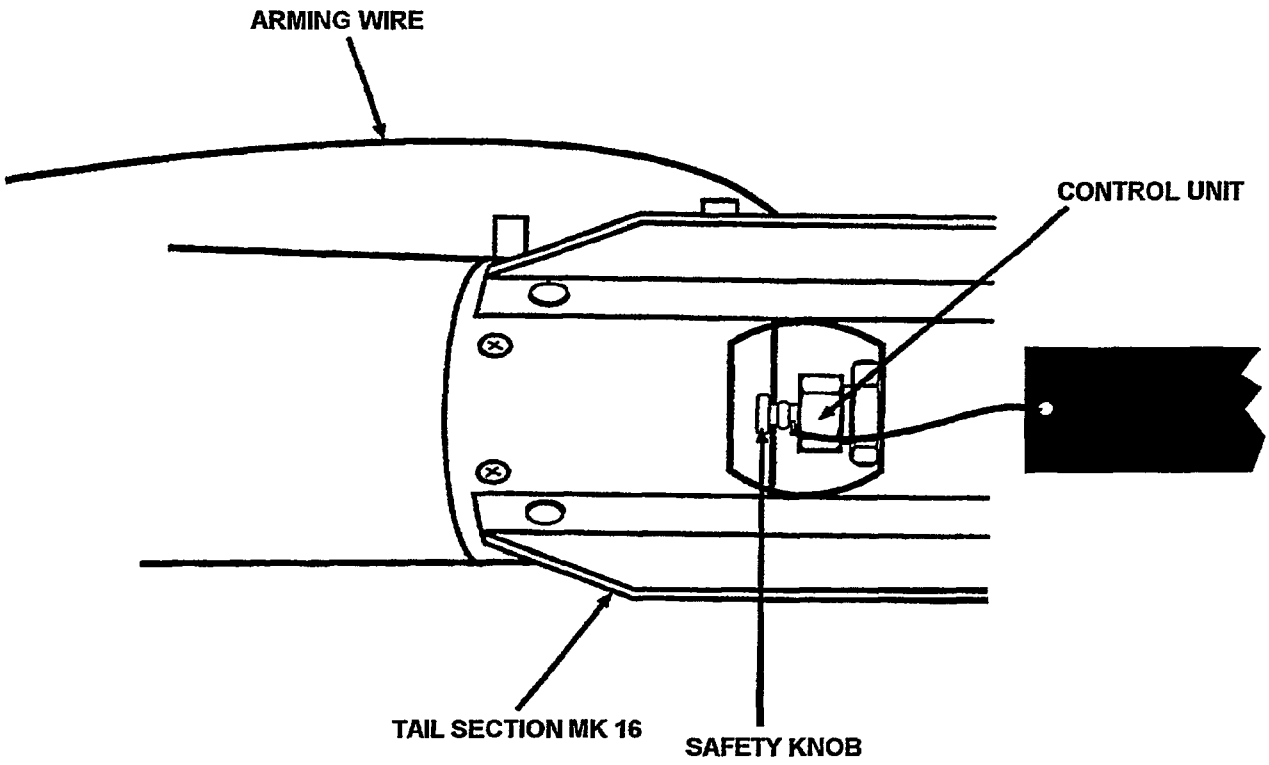


Figure 4-16E. Arming Wire Inserted Through Control Unit and Safety Knob Installed on Control Unit

Table 4-16A. Approved Aircraft Flight Configurations for Mine Mk 62 with Tail Section Mk 16 for B-1 and B-2

Mine Variables		B-1 OA 12	B-2 OA 13
Tail Section Mk 16 Mod 1		1	1
Arming Wire, Altered, 7116338-1[1]		1	
Arming Wire, Altered, 7116338-2[2]			1
Swivel Assembly		1	1
Lanyard Extension, Red			1
Fin Orientation		+	+
Suspension Lugs		MS3314	MS3314
Max No. of Mines	Single Stores	84	80

[1] Arming Wire 7116339–1 may be used as a substitute.
[2] Arming Wire 7116339–2 may be used as a substitute.

JOB SHEET 4-17 FINAL PREPARATION FOR DELIVERY MINE MK 62 WITH FIN MK 15 OR BSU-86/B OR BSU-86A/B

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Arming Wire Mk 9, 2430878[1] (2)[2] (3)[3]	Clip, Beryllium, 69D30069-1 (2)[4]
Bomb, General Purpose, Mk 82 or BLU-111A/B, per job sheet 4-14	Kit, Mine, Arming Hardware, Mk 165 Mod 0[5] [6]

SUPPORT ITEMS

Cloth, cleaning, disposable, 12 x 15	Pliers, slip joint, str-nose, 8L
Pliers, special, for beryllium clip, 68D33277[4]	Rule, machinist, steel, 6L
Pliers, diagonal-cut, plain, 6L	Tape, press-sens, adh, olive

[1] *Arming Wire Mk 9 to be provided by the activity supplying the bomb bodies.*
[2] *Internal carriage.*
[3] *External carriage.*
[4] *Required for 8-52 Aircraft only.*
[5] *F/A-18 and F-14 only.*
[6] *Contained in Conversion Kit Mk 130 Mod 1.*

4-17.1 INSTRUCTIONS

a. Refer to Figure 4-17A and Figure 4-17B and ensure fins are positioned as required by the master record sheet (MRS).

b. F/A-18 Aircraft Only: Mine Mk 62 w/Fin Mk 15 or BSU-86/B or BSU-86A/B: Install Arming Wire Mk 9 in upper vane of Arming Device Mk 32 as follows:

(1) Pass swivel end of Arming Wire Mk 9 through back side of aft suspension lug. Pass straight end of wire through eye of swive. Draw on wire until 1-1/2 inch loop is formed at the suspension lug (Figure 4-17B and Figure 4-17C).

(2) Route arming wire along left side of bomb, as viewed from the tail end.

(3) Remove a safety clip, a Nicropress sleeve, and Swivel and Ring Assembly MAU-182 from Arming Hardware Kit Mk 165.

(4) Open safety clip and install it in vane (outer hole) of arming device, as shown. Close clip and slide it aft (Figure 4-17B and Figure 4-17C).

(5) Slip ring of MAU-182 Swivel and Ring Assembly onto arming wire; then slip Nicropress sleeve onto wire also.

(6) Pass arming wire through eye of safety clip; then draw wire taut, being careful not to reduce size of the 1-1/2-inch loop formed in wire at suspension lug.

(7) Bend free end of wire back on itself. Slide Nicropress sleeve over free end to within an inch or so of the safety clip. Bend free end back on sleeve and cutoff excess wire in line with forward edge of sleeve.

(8) Secure Nicropress sleeve in place by crimping it to arming wire with pliers. Ensure that short segment of wire lies flat on sleeve, as shown.

(9) Secure wire to the bomb with pressure-sensitive tape, positioning the tape lengthwise along the axis of the bomb at the location shown in Figure 4-17B and Figure 4-17C.

c. F/A-18A Aircraft Only: Mine Mk 62 w/Fin Mk 15: Install Arming Wire Mk 9 in latch of fin release band as follows (Figure 4-17B:

(1) Pass the swivelled end of Arming Wire Mk 9 through the front side of the forward suspension lug. Pass the straight end of the wire through the swivelled loop, drawing on the wire until a 1-1/2-inch loop is formed at the lug.

(2) Remove the self-adjusting arming adapter from the Arming Hardware Kit Mk 165.

(3) Slip ring of the self-adjusting arming adapter onto the free end of the arming wire. Route the wire along the right hand side of the bomb (as viewed from the tail end) to the release band latch.

(4) Insert the wire through the vacant hole in the release band latch and into the guide tube of the Fin Mk 15, pushing it along until it exits the tail end of the fin.

(5) Pull on end of wire until slack is removed; then cut end of wire allowing 10 inches to extend beyond aft end of fin.

(6) Secure the wire to the bomb with pressure-sensitive tape, positioning the tape lengthwise along the axis of the bomb at the location shown in Figure 4-17B.

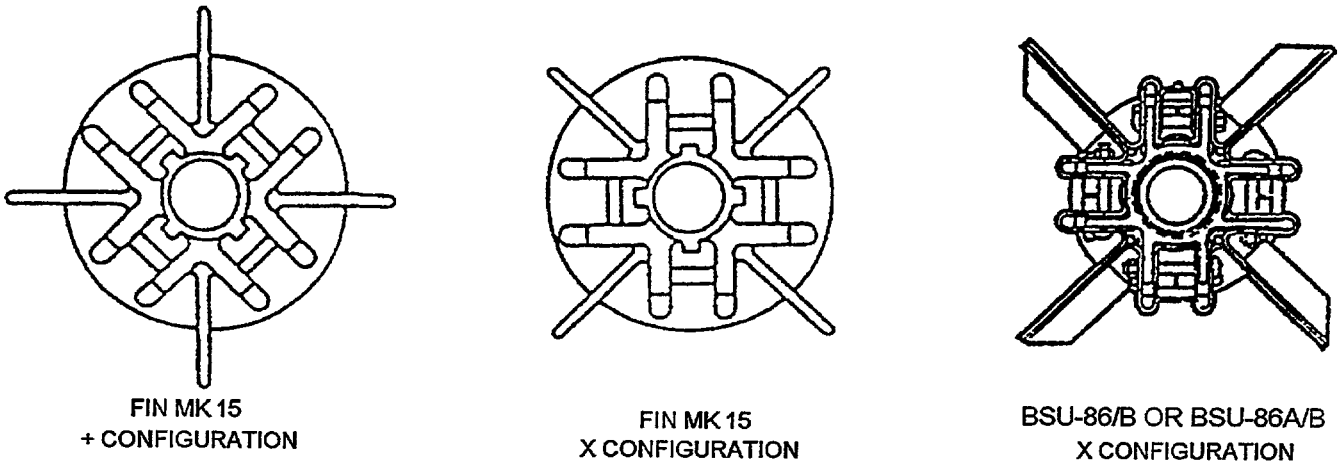


Figure 4-17A. Fin Orientation

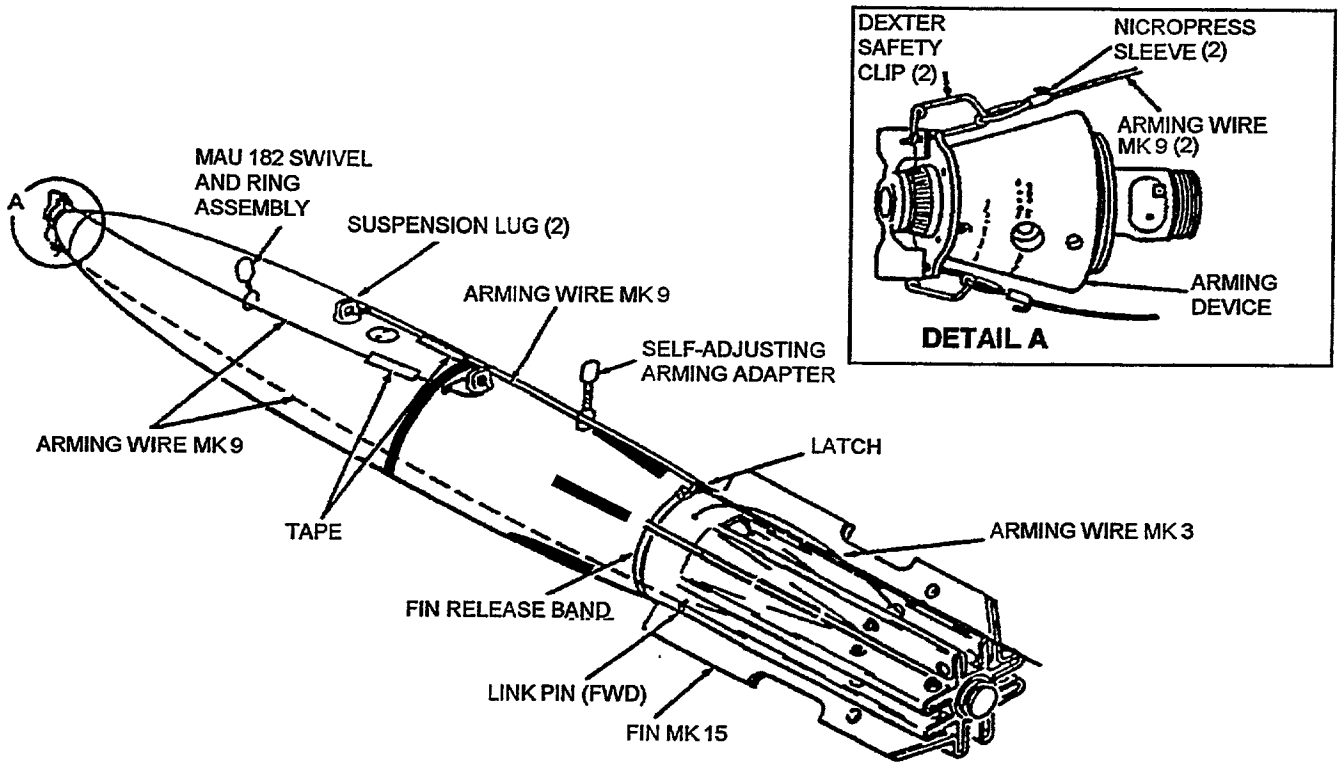


Figure 4-17B. F/A-18 Arming Wire Installation

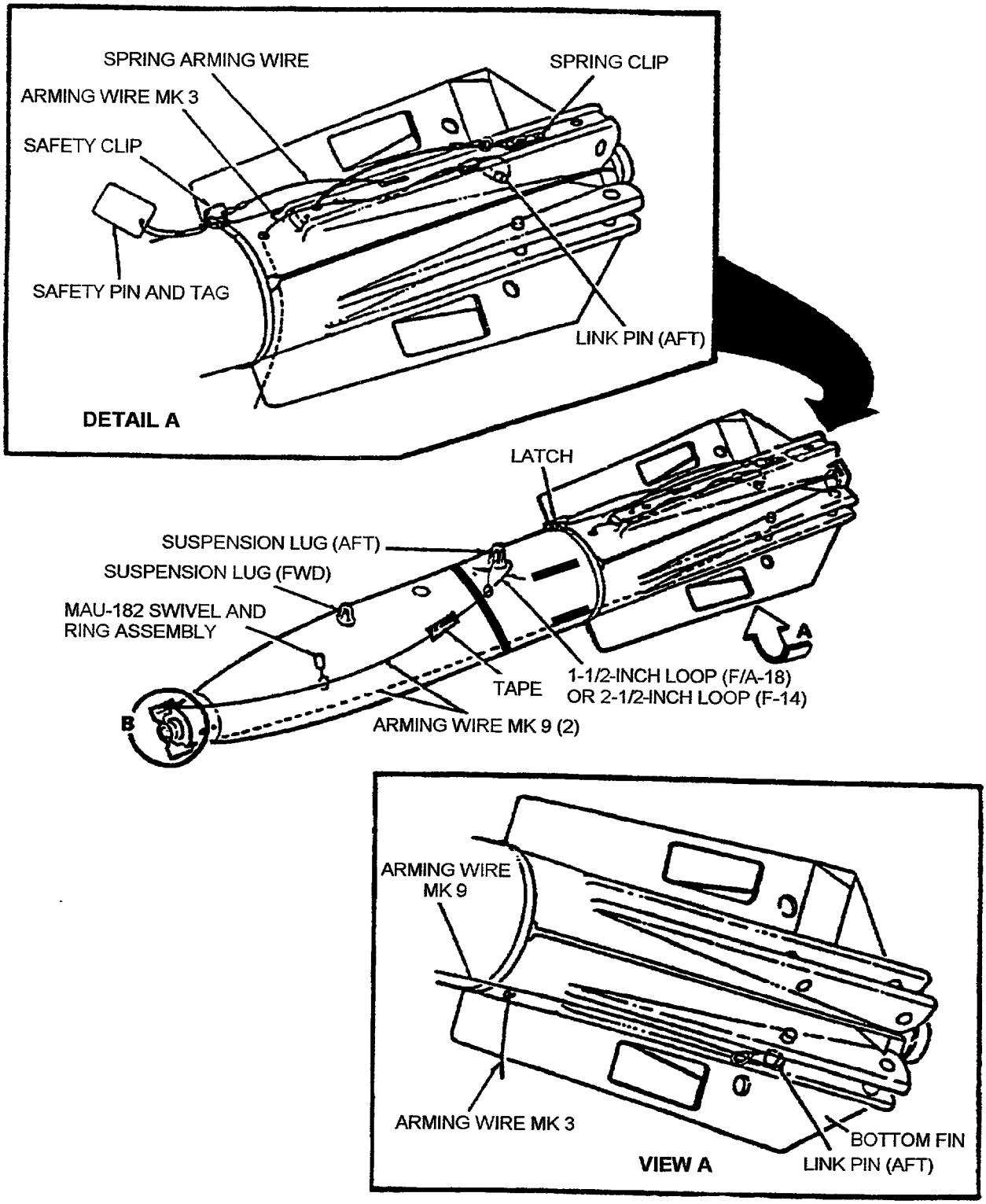


Figure 4-17C. Fin BSU-86/B or BSU-86A/B Arming Wire Installation (F/A-18 and F-14 Rigging) (Sheet 1)

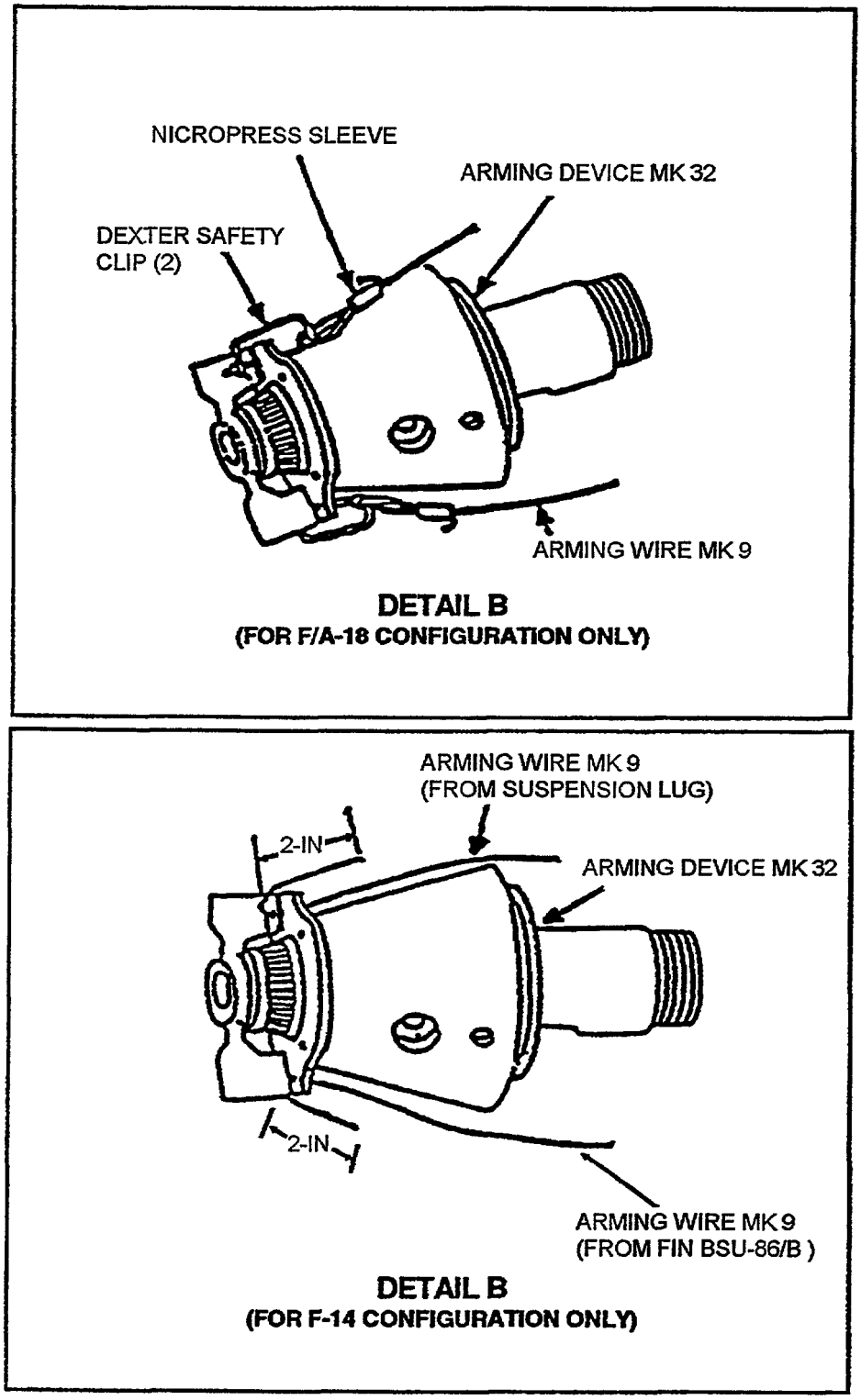


Figure 4-17C. Fin BSU-86/B or BSU-86A/B Arming Wire Installation (F/A-18 and F-14 Rigging) (Sheet 2)

d. F/A-18 Aircraft Only: Mine Mk 62 w/Fin Mk 15 or BSU-86/B or BSU-86A/B: Install Arming Wire Mk 9 in lower vane of Arming Device Mk 32 as follows (Figure 4-17B and Figure 4-17C):

(1) Loop swivel end of Arming Wire Mk 9 forward to aft end under the forwardmost link pin on the underside of fin. Pass the straight end of wire through eye of swivel at opposite end; then draw on wire until it is tightly secured to link pin.

(2) Remove a safety clip and a Nicropress sleeve from the Arming Hardware Kit Mk 165.

(3) Open the safety clip and install it in vane (outer hole) of arming device, as shown; then close the clip and slide it aft (Figure 4-17B, detail A; Figure 4-17D, detail B, as appropriate).

(4) Slip the Nicropress sleeve onto arming wire.

(5) Pass arming wire through eye of safety clip, then pull arming wire through eye so that only enough slack exists in the wire to prevent the safety clip from exerting any tension on the arming device (wire not preloaded) (Figure 4-17B and Figure 4-17C).

(6) Bend free end of wire back on itself. Slide the Nicropress sleeve over the free end to within an inch or so of the safety clip. Bend the free end back on sleeve and cut off excess wire in line with forward edge of sleeve, as shown.

(7) Secure the Nicropress sleeve in place by crimping it to arming wire with pliers. Ensure that the short segment of wire lies flat on sleeve, as shown in Figure 4-17B and Figure 4-17C.

e. F-14 Aircraft Only: Mine Mk 62 w/Fin BSU-86/B or BSU-86A/B: Install Arming Wire Mk 9 in upper vane of Arming Device Mk 32 as follows:

(1) Pass the swivel end of Arming Wire Mk 9 through the back side of aft suspension lug (Figure 4-17C). Pass straight end of wire through eye of swivel; then draw on wire until 2-1/2 inch loop is formed at the suspension lug.

(2) Route arming wire along left side of bomb, as viewed from the tail end.

(3) Remove Swivel and Ring Assembly MAU-182 from Arming Hardware Kit Mk 165. Slip ring of Swivel and Ring Assembly MAU-1 82 onto arming wire (Figure 4-17C).

(4) Pass arming wire through outer hole of upper arming device vane.

(5) Pull the arming wire through the arming device until it is tight, but maintaining the 2-1/2 inch loop at the suspension lug.

(6) Bend the arming wire back 180 degrees (toward aft end of weapon) as shown.

(7) Measure 2 inches from the end and cut off the excess wire.

f. F-14 Aircraft Only: Mine Mk 62 w/Fin BSU-86B or BSU-86A/B: Install Arming Wire Mk 9 in lower vane of Arming Device Mk 32 as follows:

(1) Loop Arming Wire Mk 9 around the forwardmost link pin on the underside of fin (Figure 4-17E). Pass the straight end of wire through eye of swivel at opposite end; draw on wire until it is tightly secured to link pin.

(2) Pass arming wire through the outer hole of the lower arming device vane (Figure 4-17C).

(3) Pull the arming wire through the arming device until it is tight.

(4) Bend the arming wire back 180 degrees (toward aft end of weapon as shown in Figure 4-17C).

(5) Measure 2 inches from bend and cut off the excess wire.

g. All Aircraft Except F/A-18 and F-14: Mine Mk 62 w/Fin Mk 15 or BSU-86/B or BSU-86A/B: Install arming wire as follows:

(1) Thread free end of Arming Wire Mk 9 under the link pin on bottom of fin (Figure 4-17D and Figure 4-17E).

(2) Loop arming wire around the link pin and through swivel loop on the other end of Arming Wire Mk 9. Pull arming wire taut. Ensure arming wire is not kinked.

(3) Insert free end of arming wire through outer hole on arming device lower vane.

(4) All Aircraft Except B-52: Secure arming wire with two Fahnestock clips snug against arming vane.

(5) B-52 Aircraft Only: Secure arming wire with one beryllium clip snug against arming vane.

(6) Cut excess arming wire about 3 inches forward of arming device vanes. Discard remnant wire.

h. All Aircraft Except F/A-1: Mine Mk 62 w/Fin Mk 15 External Carriage: Install Arming Wire Mk 9 in latch of fin release band as follows:

WARNING

Keep clear of release band while installing arming wire. If accidentally released, release band may fly upward with enough force to injure personnel.

(1) Ensure that safety pin is installed in release band latch.

(2) Thread free end of the Arming Wire Mk 9 through the open hole in the release band latch (Figure 4-17F).

(3) Locate the guide tube slot, ensuring the slot aligns with the arming wire. Thread the Arming Wire Mk 9 through the guide tube slot and continue threading until the swivel is level with the forward suspension lug. Tape in place with two or three pieces of tape.

(4) Cut the excess arming wire 3 inches from the aft end of the fin.

i. Mine Mk 62 w/Fins Mk 15 or BSU-86B or BSU-86A/B:

(1) All Aircraft Except F/A-18: Ensure one Arming Wire Mk 9 is ready for delivery with each weapon.

(2) B-52 Aircraft Only: Ensure one beryllium clip is ready for delivery with each weapon.

(3) Remove safety wires and tag from arming vanes on arming device.

(4) Ensure Arming Wire Mk 3 extends 6 inches below bottom of fin.

(5) Ensure safety pin and warning tag are installed in fin from aft side of latch.

j. Inspector, verify step a through i, as applicable; then validate final preparation for delivery. Table 4-17A lists variable components as required for each aircraft.

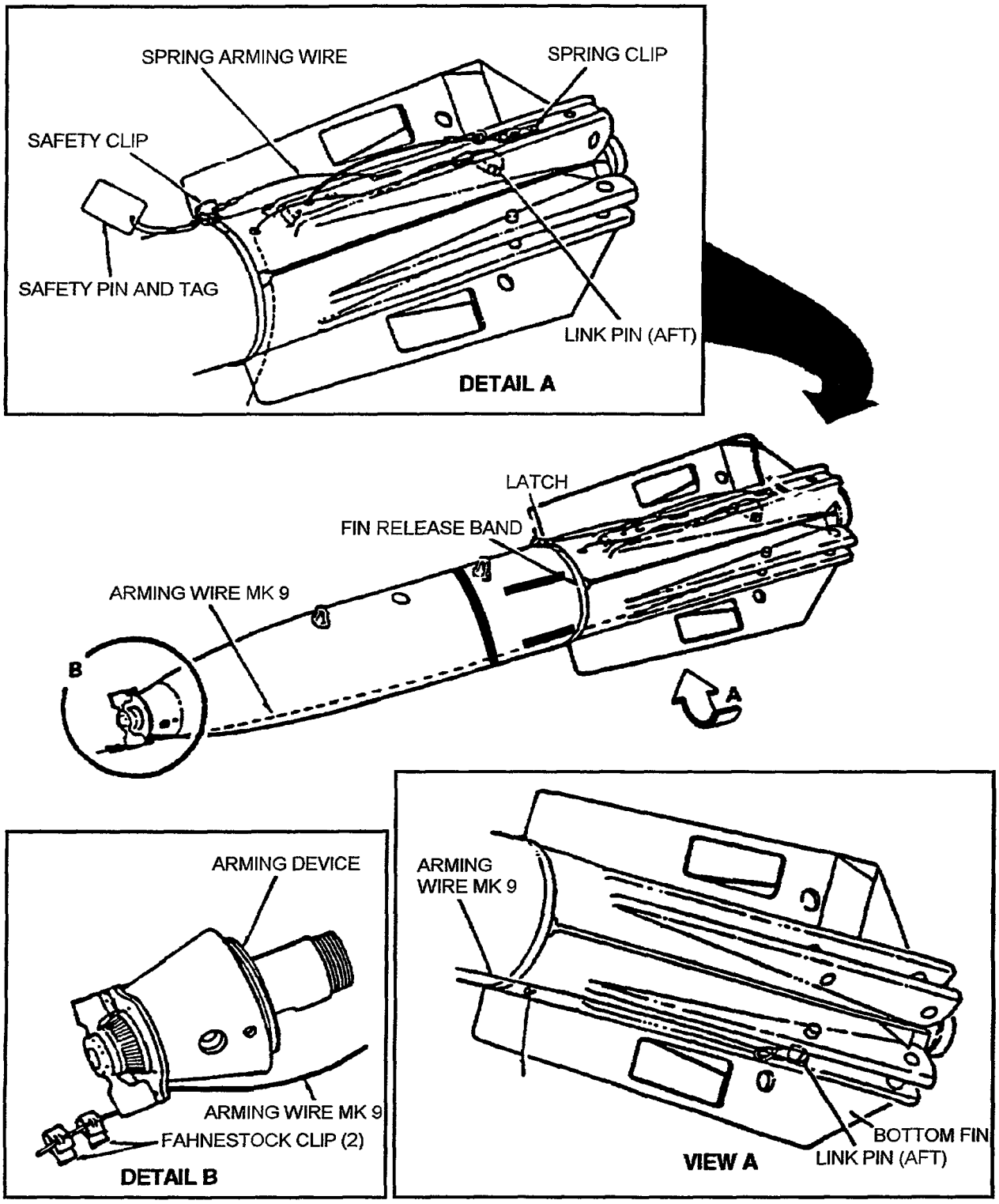


Figure 4-17D. Fin BSU-86/B or BSU-86A/B Arming Wire Installation (P-3 Rigging)

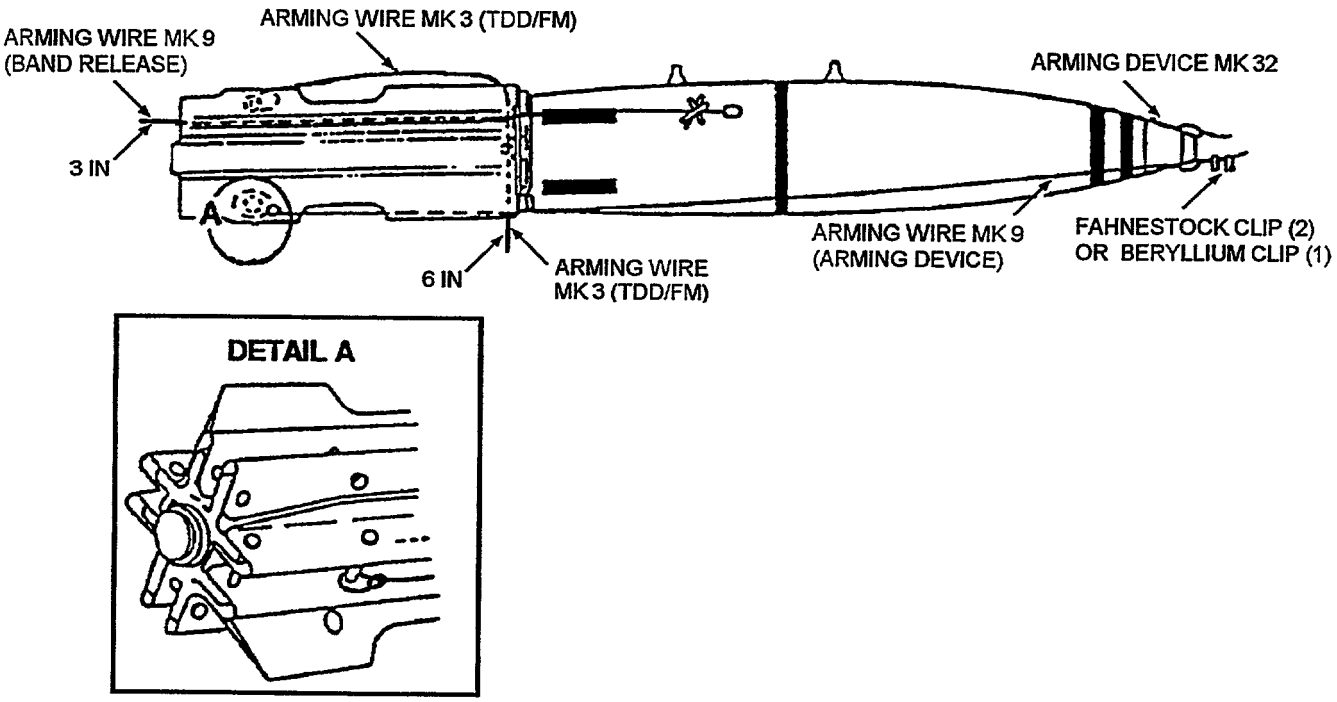


Figure 4-17E. Arming Wire Installation for Bomb Fin Mk 15

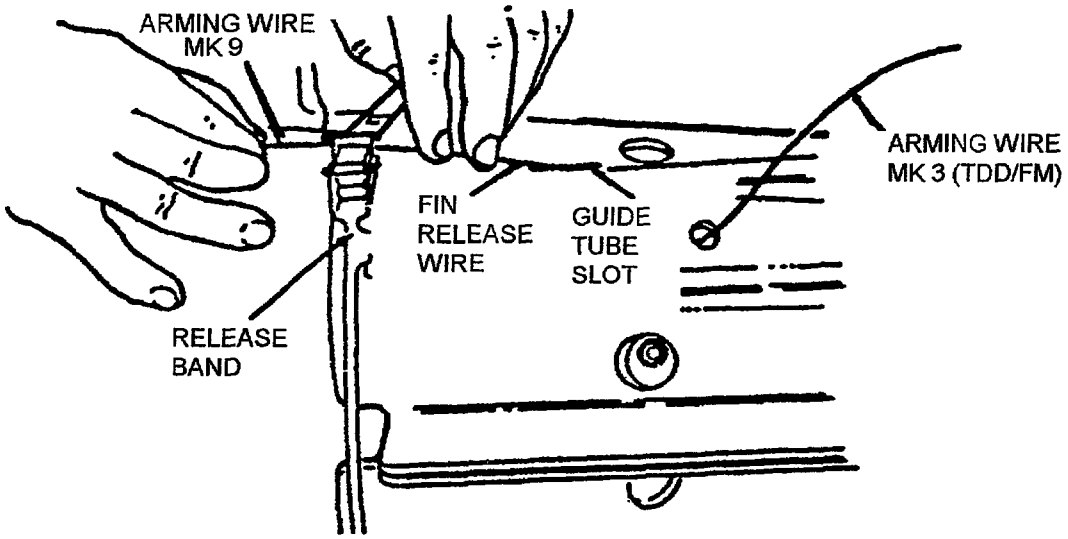


Figure 4-17F. Arming Wire Mk 9 Installation in Release Band Latch

Table 4-17A. Approved Aircraft Flight Configurations for Mine Mk 62 with Fin Mk 15 or BSU-86/B or BSU-86A/B

OA	Mine Variables	F-14	B-52 Wings	B-52 Bomb Bay	P-3 Wings	P-3 Bomb Bay	F/A-18
02	Beryllium Clip			2[1]			
	Cable & Strap Assy[2]			1		1	
	Blackwell Pin[3]			1			
	Bomb Fin Mk 15			1		1	
	Arming Wire Mk 9			2		2	
03	Beryllium Clip		2				
	Bomb Fin Mk 15[4]		1		1		1
	Nicropress Sleeve						2
	Arming Wire Mk 9		3		3		3
	Safety Clip (Dexter)						2
	MAU-182 Swivel						1
	Self-Adj. Arming Adapter						1
09	Bomb Fin BSU-86/B or BSU-86A/B	1			1		1
	Nicropress Sleeve						2
	Arming Wire Mk 9	2			2		2
	Safety Clip (Dexter)						2
	MAU-182 Swivel	1					1
Fin Orientation		X	X	+	X	X	X
Suspension Lugs		MS3314	MS3314	MS3314	MS3314	MS3314	MS3314
Max No. of Mines	Single Stores	4	18	27	10	8	5
	MER Stores		24				
	VER Stores						10

[1] *Required in addition to beryllium clip supplied with Blackwell pin.*
[2] *Includes one Dexter clip for use with P-3 aircraft.*
[3] *Includes two Fahnestock clips and one beryllium clip for use with B-52 aircraft.*
[4] *F/A-18 must use Fin Mk 15 Mod 6.*

JOB SHEET 4-18 FINAL PREPARATION FOR DELIVERY MINE MK 62 (OA-06) WITH TAIL SECTION MK 16

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Mine Mk 62, per job sheet 4-15

4-18.1 FINAL PREPARATION MINE MK 62

a. Ensure the arming device cable safety pin and the solenoid arming cable safety pin are installed in the arming vanes of the arming device.

b. Verify the TDD arming cable Dexter clip is installed in the pop-out pin of the TDD.

c. Verify control unit in tail is safed by Dexter clip and safety knob of warning flag assembly.

d. Verify collar on tube assembly is fully engaged and firmly seated against the forward tube guide on tail.

e. Verify tube assembly bracket is against rolled end of tube assembly.

f. Verify hose clamp is tight and is perpendicular to axis of mine (not cocked).

g. Verify end of hose clamp strap is bent back over tube assembly and safety wired to tube assembly bracket.

h. Inspector, verify steps a through g, OA and fin configuration (Table 4-18A), and witness step i.

i. Remove safety strap from tail. Place safety strap in tail shipping container for reassembly, if necessary.

Table 4-18A. Approved Aircraft Flight Configurations for Mine Mk 62 with Tail Section Mk 16 for F/A-18

Mine Variables		F/A-18 OA 06
Tail Section Mk 16 with Actuator Mk 32		1
Arming Wire Swivel Assembly		1
Hose Clamp		1
Tube Assembly		1
Fin Orientation		X
Suspension Lugs		MS3314
Maximum No. of Mines	Single Stores	5
	VER Stores	10

JOB SHEET 4-19 FINAL PREPARATION FOR DELIVERY MINE MK 63 WITH FIN MAU-91A/B

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Arming Wire, Mk 9, 2430878 (2)[1]	Kit, Mine, Arming Hardware, Mk 165 Mod 0[3] [4]
Bomb, General-Purpose, Mk 83 or BLU-110A/B, per job sheet 4-15	Lug, suspension, Mk 6 Mod 1, 30003-923AS283 (may not be required)
Clip, beryllium, 69030069-1 (2)[2]	

SUPPORT ITEMS

Pliers, slip joint, str-nose, 8L	Pliers, special, for beryllium clip, 68033277[2]
Pliers, diagonal-cut, plain, 6L	Tape, press-sens, adh, olive

[1] *Arming wire Mk 9 to be provided by the activity supplying the bomb.*
[2] *Required for B-52 Aircraft only.*
[3] *Required for F/A-18.*
[4] *Contained in Conversion Kit Mk 130 Mod 1.*

4-19.1 FINAL PREPARATION OF MINE MK 63 WITH FIN MAU-91A/B

WARNING

Suspension lugs must have a minimum of 3-1/2 threads (turns) of engagement to provide adequate strength.

a. F/A-18 Aircraft Only: Verify aft suspension lug is screwed into lug well until outer edge of bottom of lug eye is flush with bomb body, and then unscrew it 5-1/2 turns. If less than 3-1/2 threads remain engaged in the bomb body, replace the MS 3314 lug with a Mk 6 lug.

b. F/A-18 Aircraft Only: Screw the aft suspension lug flush with bomb body and then unscrew it two turns from flush.

c. Verify forward lug is flush with bomb body.

d. Referring to Table 4-19A, Figure 4-19A, and master record sheet (MRS), verify that fins are positioned as required.

e. F/A-18 Aircraft Only: Install Arming Wire Mk 9 in upper vane of Arming Device Mk 32 as follows:

(1) Pass the swivel end of Arming Wire Mk 9 through back side of aft suspension lug. Pass the straight end of wire through eye of swivel and draw on wire until a 1-1/2 inch loop is formed at the suspension lug (Figure 4-19B).

(2) Route the arming wire along left side of bomb, as viewed from the tail end.

(3) Remove a safety clip, a Nicropress sleeve, and a Swivel and Ring Assembly MAU-182 from the Arming Hardware Kit Mk 165.

(4) Open the safety clip and install it in vane (outer hole) of arming device, (Figure 4-19B); then close the clip and slide it aft.

(5) Slip the Swivel and Ring Assembly MAU-182 onto arming wire; then slip the Nicropress sleeve onto the wire also.

(6) Pass arming wire through eye of safety clip. Draw the wire taut, being careful not to reduce the size of the 1-1/2 inch loop formed in wire at the suspension lug.

(7) Bend the free end of the wire back on itself. Slide the Nicropress sleeve over the free end to within an inch or so of the safety clip. Bend the free end back on sleeve and cut off excess wire in line with forward edge of sleeve (Figure 4-19B).

(8) Secure the Nicropress sleeve in place by crimping it to arming wire with pliers. Ensure that the short segment of wire lies flat on sleeve.

(9) Secure the wire to the bomb with pressure-sensitive tape, positioning the tape lengthwise along the axis of the bomb at the location shown in Figure 4-19B.

Table 4-19A. Approved Aircraft Flight Configurations for Mine Mk 63 with Fin MAU-91A/B

MOD 0	Mine Variables	B-52[1] Wings	P-3 Wings	P-3 Bomb Bay	F/A-18
OA 02	Bomb Fin Adapter ADU-320A/B			1	
	Bomb Fin MAU-91A/B			1	
	Cable & Strap Assy[2]			1	
	Fahnestock Safety Clip			1	
	Arming Wire Mk 9			2	
OA 03	Beryllium Clip	2			
	Bomb Fin Adapter ADU-320A/B	1	1		1
	Bomb Fin MAU-91A/B	1	1		1
	Fahnestock Safety Clip	1	1		
	Nicropress Sleeve				2
	Arming Wire Mk 9	2	2		2
	Safety Clip (Dexter)				2
	MAU-182 Swivel				1
Fin Configuration		X	X	X	X
Suspension Lugs[3]		Mk 6	MS3314	MS3314	MS3314
Max. No. of Mines	Single Stores/HSAB	18	8	3	4

[1] *Bomb Bay carriage not authorized for 8-52 G/H model aircraft.*
[2] *Includes one Dexter Clip for use with P-3 Aircraft.*
[3] *Suspension Lugs Mk 6 Mod 1 must be used if bomb is stenciled "AWC NO. 318 INC." at nose or between suspension lugs.*

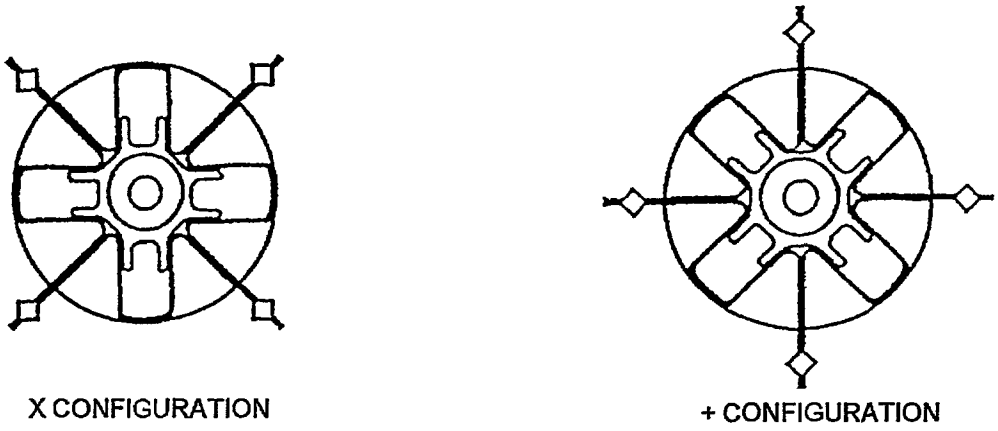


Figure 4-19A. MAU-91A/B Fin Orientation

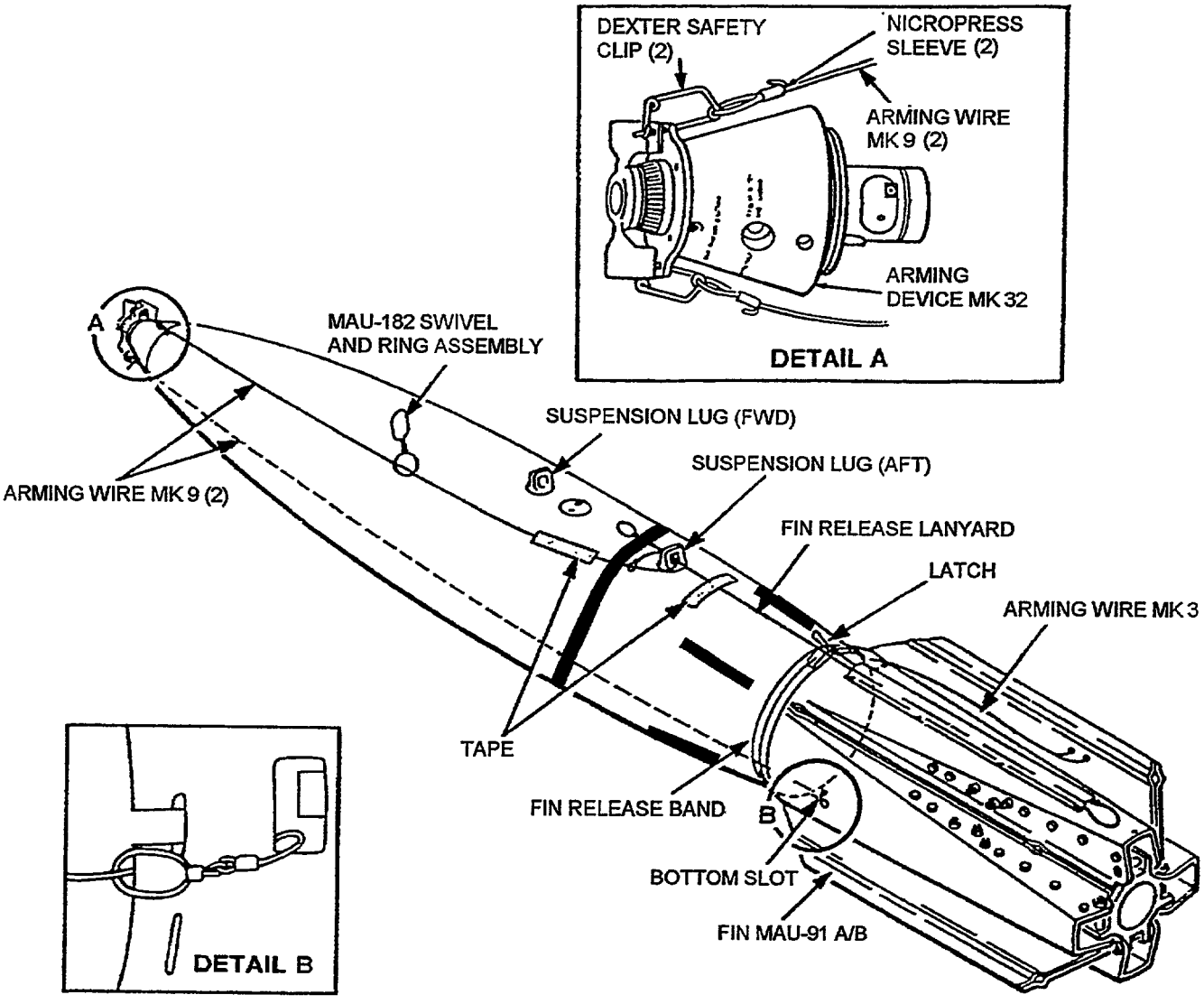


Figure 4-19B. Mine Mk 63 (w/Fin MAU-91A/B) Arming Wire Installation (F/A-18 Rigging)

f. F/A-18 Aircraft Only: Install Arming Wire Mk 9 in lower vane of Arming Device Mk 32 as follows (Figure 4-19B):

(1) Pass the straight end of Arming Wire Mk 9 through the bottom slot in Fin MAU-91A/B, which is located immediately behind the release band. Pass the straight end of wire through the eye of swivel at opposite end; then draw on wire until it is tightly secured to slot.

(2) Remove a safety clip and a Nicropress sleeve from the Arming Hardware Kit Mk 165.

(3) Open the safety clip and install it in vane (outer hole) of arming device (Figure 4-19B, detail A); then close the clip and slide it aft.

(4) Slip the Nicropress sleeve onto arming wire.

(5) Pass arming wire through eye of safety clip. Pull arming wire through eye so that only enough slack exists in the wire to prevent the safety clip from exerting any tension on the arming device (wire not preloaded).

(6) Bend the free end of wire back on itself and slide the Nicropress sleeve over the free end to within an inch or so of the safety clip. Bend the free end back on sleeve and cut off excess wire in line with forward edge of sleeve.

(7) Secure the Nicropress sleeve in place by crimping it to arming wire with pliers. Ensure that the short segment of wire lies flat on sleeve, as shown in Figure 4-19B.

g. All Aircraft Except F/A-18: Install arming wire as follows:

(1) Thread free end of Arming Wire Mk 9 through large fin cutout on bottom of fin (Figure 4-19C).

(2) Thread arming wire through swivel loop on the other end of Arming Wire Mk 9; pull arming wire taut. Ensure arming wire is not kinked.

(3) Insert free end of arming wire through outer hole on arming device lower vane.

(4) All Aircraft Except B-52: Secure arming wire with two Fahnestock clips snug against arming vane.

(5) B-52 Only: Secure arming wire with one beryllium clip snug against arming vane.

(6) Cut excess arming wire about 3 inches forward of arming device vane; discard remnant wire.

h. Remove safety wire(s) and warning tag from arming vanes of arming device.

i. Verify Arming Wire Mk 3 extends at least 6 inches below bottom on fin blade.

j. All Aircraft Except F/A-18: Ensure one Arming Wire Mk 9 is ready for delivery with each weapon.

k. B-52 Aircraft Only: Ensure one beryllium clip is ready for delivery with each weapon.

l. Ensure safety pin and warning tag are installed in fin latch from aft side.

m. Table 4-19A lists variable components as required for each aircraft.

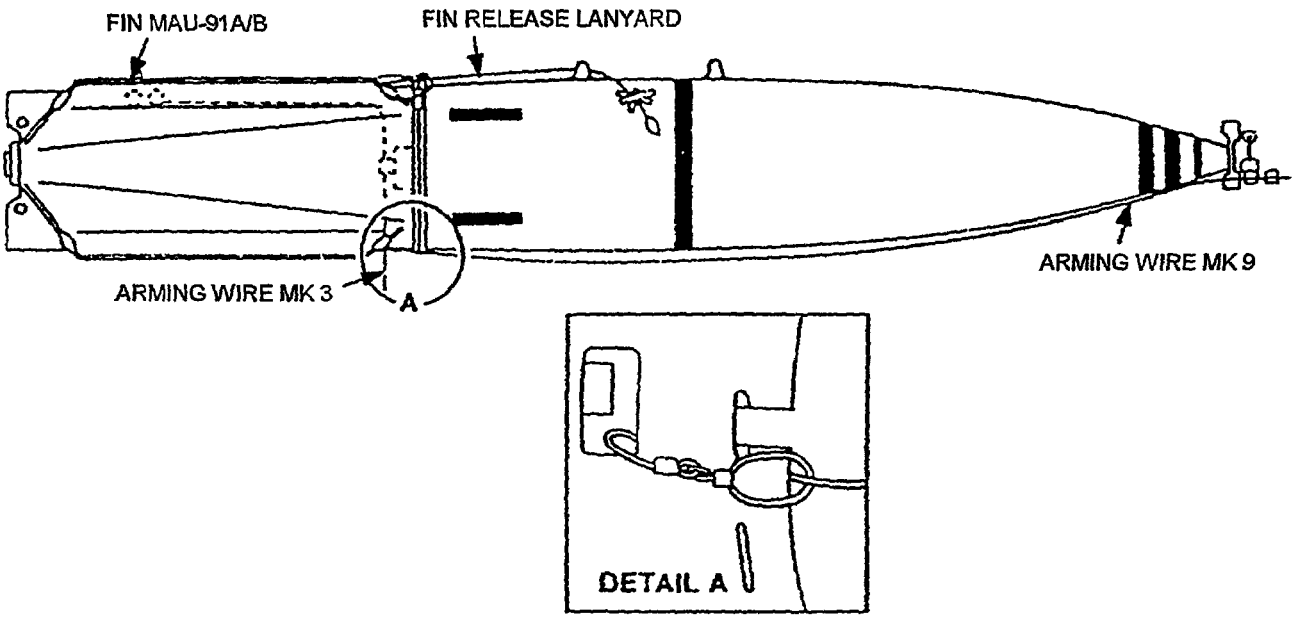


Figure 4-19C. Arming Wire Installation for Bomb Fin MAU-91A/B

JOB SHEET 4-20 FINAL PREPARATION FOR DELIVERY MINE MK 63 WITH TAIL SECTION MK 12

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Bomb, General Purpose, Mk 83 or BLU-110A/B, per job sheet 4-17

SUPPORT ITEMS

Cloth, cleaning, disposable, 12 x 15	Pliers, str-nose, w/cutter, 6L
Compound, cleaning*	Tape, press-sens, adh, olive

**Hazardous Material*

4-20.1 FINAL PREPARATION MINE MK 63

NOTE

Tail Section Mk 12 is going to be converted to have a safety streamer similar to the Tail Section Mk 16. This conversion will be accomplished by ECI 0285. Assembly procedures for the configuration with ECI 0285 performed and the configuration without the ECI performed vary slightly, so both are included in this publication. Upon receipt of necessary hardware, ECI 0285 should be performed. ECI 0285 will add a warning streamer with safety pins attached. Prior to ECI 0285, the safety pins are attached to the safety harness.

a. B-52 Aircraft Only: Make final preparation for delivery to the aircraft as follows:

(1) Verify the arming device cable safety pin and the solenoid arming cable safety pin are installed in the arming vanes of the arming device.

(2) Verify the TDD arming cable safety clip is installed in the pop-out pin of the TDD.

(3) Verify arming wire is installed in the control unit and it is secured by the Fahnestock safety clip on the warning streamer assembly.

(4) Verify warning streamer or safety harness safety pin is installed in the control unit.

(5) Verify safety harness assembly is tight on the tail section. If necessary, tighten safety harness assembly by pulling the free end of the harness at the buckle.

b. F/A-18 and P-3 Aircraft Only: Final preparation for delivery to the aircraft is as follows:

(1) Verify arming cable safety pin is installed in the arming vane of the arming device.

(2) Verify suspension lugs are screwed into lug wells until outer edge of bottom of lug eyes are flush with bomb body.

(3) Verify Arming Wire Mk 9 is lassoed to the aft suspension lug, routed through a Swivel and Ring Assembly MAU-182, and its safety clip is installed in the arming vane of the arming device.

(4) Verify arming TDD cable safety clip is installed in the pop-out pin of the TDD.

(5) Verify arming wire is lassoed to the forward suspension lug, routed through the arming adapter, installed in the control unit, and secured by the safety Fahnestock clip on the warning streamer assembly.

(6) Verify warning streamer or safety harness safety pin is installed in control unit

(7) Table 4-20A lists variable components as required for each aircraft.

c. If ECI 0285 has not been performed, leave safety harness on tail section. It will be removed by the aviation personnel prior to aircraft launch. If ECI 0285 has been performed, ensure warning streamer is in place, then remove safety harness from tail. Place safety harness in tail shipping container for reassembly, if necessary.

Table 4-20A. Mine Mk 63 with Tail Section Mk 12

Mod 0	Mines Variable	B-52 Wings	F/A-18	P-3 Wings
OA 06	Tail Section Mk 12	1	1	1
Fin Configuration		X	X	X
Suspension Lugs[1]		MS3314	MS3314	MS3314
Max. No. of Mines	Single Stores/HSAB	18	5	8
	TER Stores[1]		0	0
	MER Stores		0	0

[1] *Suspension Lugs Mk 6 Mod 1 must be used if bomb is stenciled at nose or between suspension lugs with "AWC No. 318 INC."*

CHAPTER 5
DISASSEMBLY

Job Sheet	Title
job sheet 5-1	ARMING DEVICE, AND BOOSTER REMOVAL
job sheet 5-2	BOMB FIN MK 15 MODS 3, 4, AND 6 REMOVAL
job sheet 5-3	BOMB FIN BSU-86/B OR BSU-86A/B REMOVAL
job sheet 5-4	BOMB FINS MAU-91A/B REMOVAL
job sheet 5-5	TAIL SECTION MK 12 REMOVAL
job sheet 5-6	TAIL SECTION MK 16 REMOVAL
job sheet 5-7	TARGET DETECTING DEVICE (TDD) MK 57 AND BATTERY REMOVAL
job sheet 5-8	BOMB MK 82/BLU–111A/B PREPARATION FOR STORAGE
job sheet 5-9	BOMB MK 83/BLU–110A/B PREPARATION FOR STORAGE

JOB SHEET 5-1 ARMING DEVICE, AND BOOSTER REMOVAL

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Mine Mk 62, assembled
Mine Mk 63, assembled
The following items are required to perform this job sheet and were removed during assembly:
Clip, safety, 5561759
Cover, booster, protective, 2432748
Plug, booster, protective, 2432758
Wire, safety (arming device)

SUPPORT ITEMS

Attachment, int-soc, 1/8 x 3/8 dr
Attachment, int-soc, 3/16 x 3/8 dr
Attachment, int-soc, 1/4 x 3/8 dr
Attachment, int-soc, 5/32 x 3/8 dr
Carrier, Weapons, Mk 49, 808AS100
Dolly, Weapon, Mk 11
Faceshield, protective
Handle, rev-ratchet, 3/8 dr
Screwdriver, sch-screw, ball-tip 3/16
Screwdriver, sch-screw, ball-tip 1/4
Socket, 12-pt, reg-lg, 7/16 x 3/8 dr
Stand, Bomb Assembly, A/F 32K-1
Wrench, spanner

5-1.1 PREPARATION

WARNING

Weapon must be considered armed if arming wire is missing from TDD Mk 57; immediately clear area and notify EOD.

Booster Mk 59 is sensitive to EMR energy which can cause initiation of the detonator. Booster and arming device removal must be performed in an EMR-free environment.

Black "A" on red background in either or both windows indicates device is armed. If armed, immediately clear area and notify EOD.

Potential explosive hazard exists when handling or removing booster; wear protective faceshield.

a. Install safety clip or safety wire in vane of arming device. If safety wire is used, ensure it is twisted sufficiently to retain it in the arming device.

b. Verify that a white "S" on a green background is visible in the upper window of arming device (Figure 5-1A).

c. Place weapon on assembly stand or Dolly Mk 11, as appropriate, with suspension lugs up (12 o'clock).

d. Connect bomb case to an ordnance ground.

e. If Tail Section Mk 12 is installed, proceed to paragraph 5-1.2 If Tail Section Mk 16 is installed, proceed to paragraph 5-1.3.

f. If present, remove arming wire installed in lower vane of arming device and secured to fin and discard.

g. If present, remove arming wire installed in upper vane of arming device and secured to aft lug and discard.

h. Proceed to Arming Device and Booster Removal in paragraph 5-1.4.

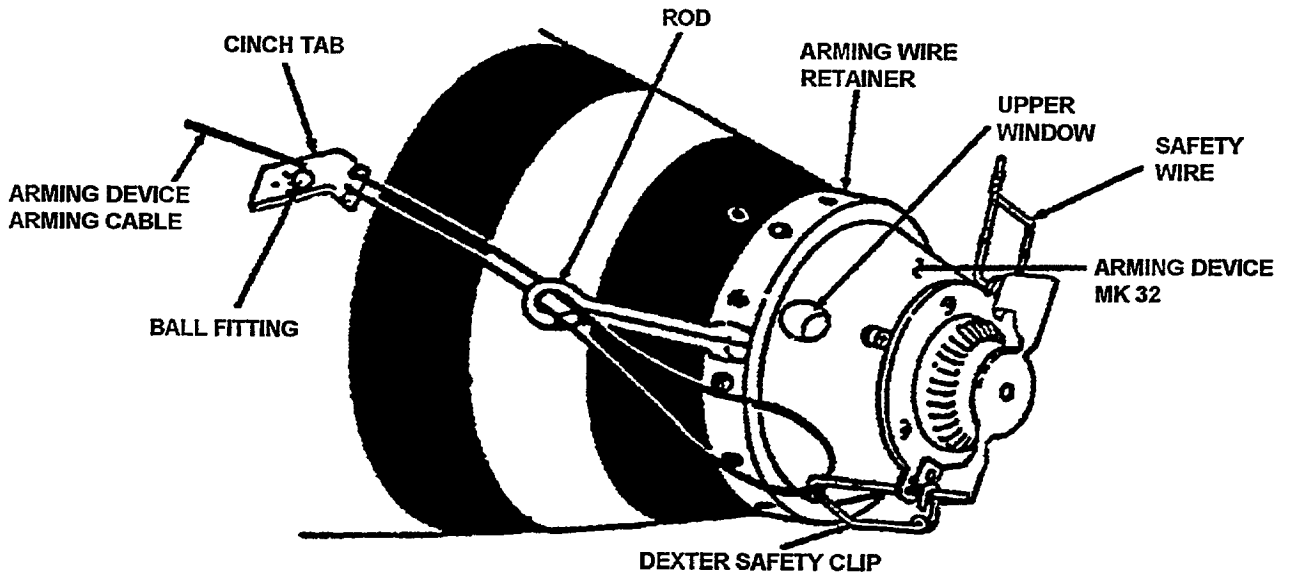


Figure 5-1A. Arming Device Arming Cable Removal

5-1.2 TAIL SECTION MK 12 ONLY: ARMING WIRE RETAINER REMOVAL

a. B-52 Weapons Only: Verify that the safety clip attached to solenoid arming cable is installed in arming device vane (Figure 5-1B).

b. Verify that the safety clip attached to arming device arming cable is installed in arming device vane (Figure 5-1A).

c. Verify that the safety clip on the TDD arming cable is installed in the pop-out pin of the TDD.

d. Verify that the safety harness is properly installed on the Tail Section Mk 12; if not, install per appendix A.

e. Verify that the warning streamer or safety harness clip is installed in the control unit striker; if not, install it.

f. B-52 Weapons Only: Remove the tension on the solenoid arming cable by slipping the cable out of notches in cinch tab. Remove the safety clip, attached to the cable, from vane in arming device. Do not cut arming cable.

g. B-52 Weapons Only: Pull the ball fitting on end of cable out of small hole in cinch tab. Slip the cable into the large hole in the tab and remove the ball fitting from the tab. Remove the ring attached to cable from forward suspension lug. Remove the cable from the bomb. Insert safety wire and tag in inner vane hole.

h. Remove the tension on the arming device arming cable by slipping the cable out of notches in cinch tab. Remove the safety clip attached to cable from vane in arming device. Do not cut arming cable.

i. Pull the ball fitting on end of cable out of small hole in cinch tab. Slip the cable into the large hole in tab. Remove ball fitting from tab.

j. Pull the ball fitting through eye in retainer rod. Pass the safety clip through eye of rod, starting with the hooked segment first and working the other parts of the clip through the eye until the clip is free of retainer. Pull the ball fitting through eye of rod.

k. F/A-18 and P-3 Weapons Only: If present, remove Arming Wire Mk 9 installed in vane of arming device.

l. Remove the two setscrews securing the arming wire retainer to the arming device and remove retainer from arming device. Retain the setscrews and retainer for repackaging.

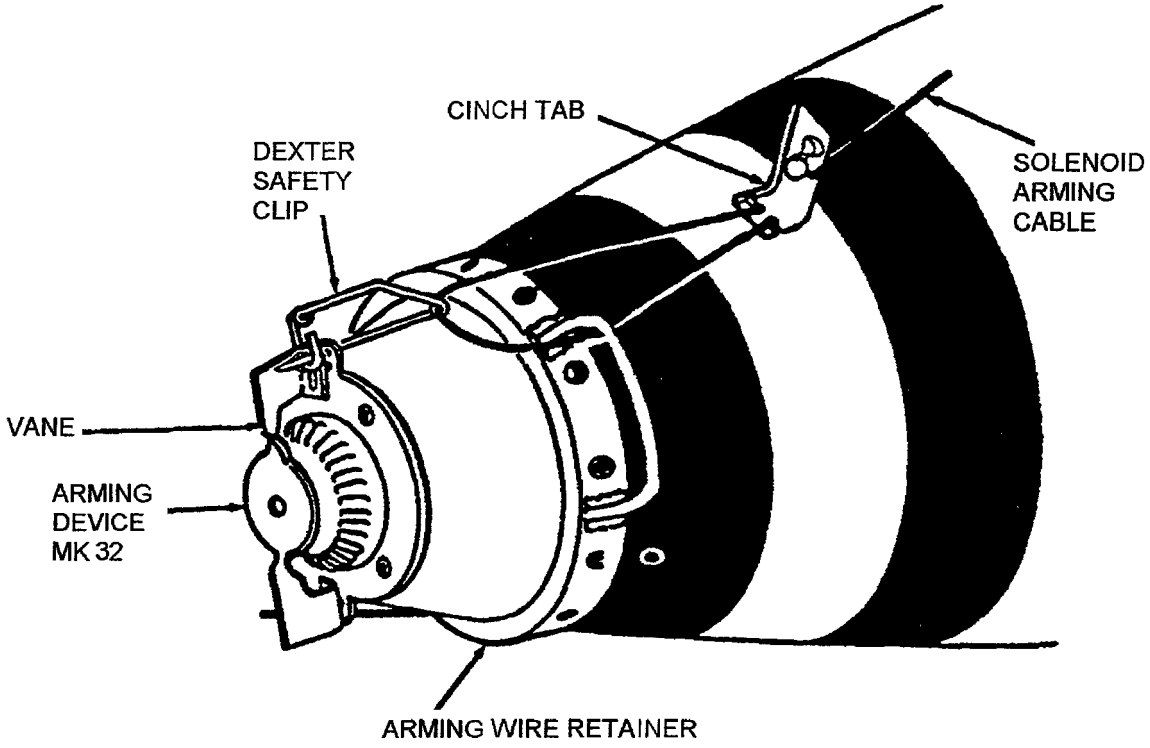


Figure 5-1B. Arming Device and Booster Removal

5-1.3 TAIL SECTION MK 16 ARMING WIRE RETAINER REMOVAL

a. Verify the safety knob of warming flag assembly is installed on control unit and safety knob flange is flush against end of control unit.

b. Verify the safety clip attached to the solenoid arming cable is installed in one set of arming device vanes (Figure 5-1C).

c. Verify the Dexter clip attached to the arming device cable is installed in the other set of arming device vanes (Figure 5-1A).

d. Verify the Dexter clip on the TDD arming cable is installed in the pop-out pin of the TDD.

e. Install safety harness on tail section (Figure 5-1D).

f. If present, remove solenoid arming cable as follows:

(1) Remove bolt and antitorque washer securing solenoid arming cable to tail.

(2) Remove shoulder screw securing solenoid arming wire guide to arming wire retainer.

(3) Verify a safety clip is installed in vane of arming device.

(4) Use flat tip screwdriver to twist open and remove solenoid cable safety clip from arming device vanes.

(5) Set solenoid arming cable and associated hardware aside for repackaging.

g. Remove the tension on the arming device arming cable by slipping the cable out of notches in cinch tab. Remove the Dexter clip attached to cable from vane in arming device. Do not cut arming cable.

h. Pull the ball fitting on end of cable out of small hole in cinch tab, then slip the cable into the large hole in tab. Remove ball fitting from tab.

i. Pull the ball fitting through eye in retainer rod. Pass the safety clip through eye of rod, starting with the hooked segment first and working the other parts of the clip through the eye until the clip is free of the retainer. Pull the ball fitting through eye of rod.

j. Drape the arming device arming cable over the tail section temporarily.

k. Remove the two setscrews securing the arming device retainer to the arming device. Remove retainer from arming device. Set the setscrews and retainer aside for repackaging.

l. For B-1 and B-2 Aircraft:

(1) Remove flag from end of tail.

(2) Open flag and remove safety pin.

(3) Tighten red knot on control unit one full tum and install safety pin.

(4) Tighten red knob 1/2 turn and remove arming wire from control unit.

(5) Set lanyard and swivel aside for repackaging.

(6) Reconnect flag to end of tail.

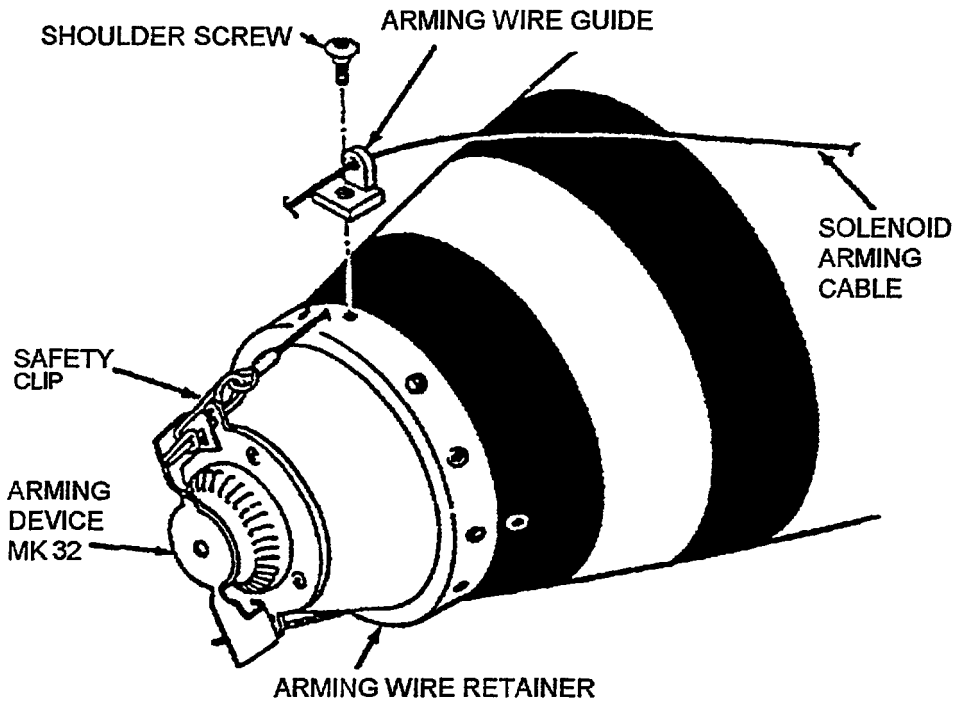


Figure 5-1C. Tail Section Mk 16 Solenoid Arming Cable Removal from Arming Device

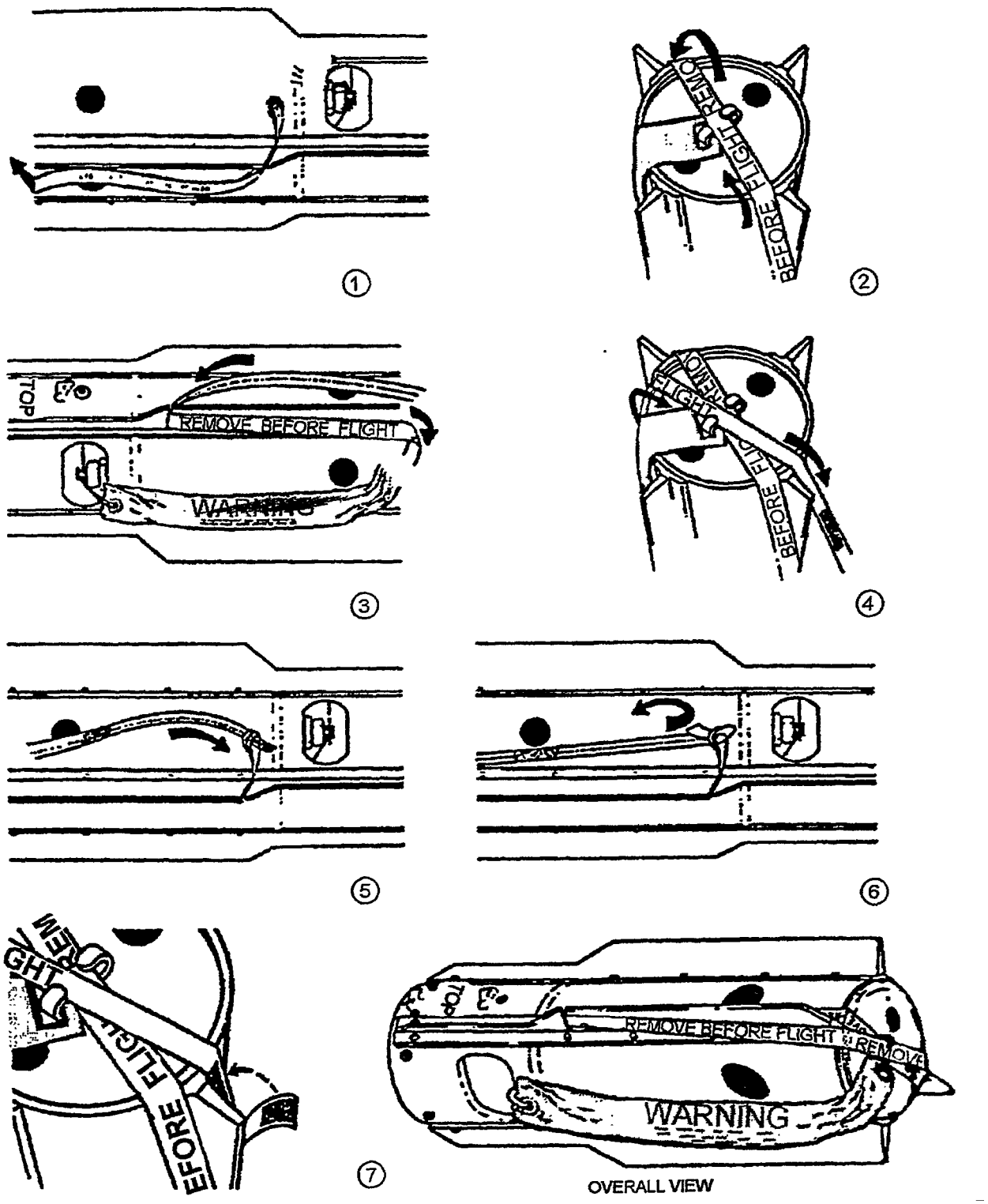


Figure 5-1D. Tail Section Mk 16 Safety Harness Assembly Installation

5-1.4 ARMING DEVICE AND BOOSTER REMOVAL

a. Remove the setscrew securing arming device to nose of bomb (Figure 5-1E). If seal assembly setscrew was used, discard the setscrew. If dog-pt setscrew was used, remove and discard Teflon

tape from setscrew and retain screw for installation on bomb per job sheet 5-8 or job sheet 5-9, as appropriate.

CAUTION

Do not loosen the Arming Device Mk 32 using the window well. To do so can result in damage to internal parts.

NOTE

If the arming device is difficult to remove, shift direction of torque by tightening and loosening. Use manual force only. Do not use hammering impact force to remove the arming device.

b. Put on faceshield. Loosen steel collar and remove arming device from nose fuze well, allowing booster to remain in nose fuze well (Figure 5-1E).

c. Remove and discard preformed packing from arming device.

d. Remove booster and cushion from nose fuze well.

e. Install protective cover in booster.

f. Remove and discard cushion from bottom of booster.

g. Install protective plug on booster.

h. Set the arming device and booster aside for repackaging.

i. Remove faceshield.

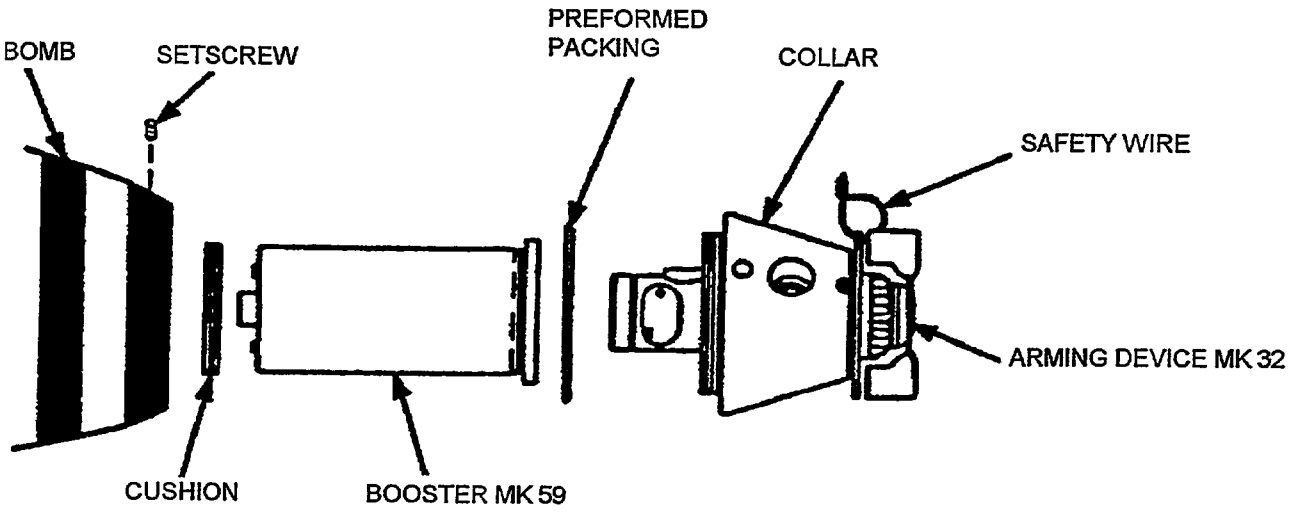


Figure 5-1E. Arming Device and Booster Removal

JOB SHEET 5-2 BOMB FIN MK 15 MODS 3, 4, AND 6 REMOVAL

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Mine Mk 62, per job sheet 5-1

The following items required to perform this job sheet were removed during assembly or aircraft loading:

Pin, safety (release band)

Setscrew, sch, 1/2-13UNC-3A x 3/4, MSS1963-139 (8)

Tag, warning (TDD), 3281024

SUPPORT ITEMS

Attachment, int-soc, 1/4 x 3/8 dr

Handle, rev-ratchet, 3/8 dr

Handle, speeder, soc-wr, 3/8 dr

Knife

Paint, enamel, ammo, olive-drab, No. X34087, TT-E-516 TY I CL 1*

Pliers, special, for beryllium clip, 68D33277

Pliers, str-nose, w/cutter, 6L

Screwdriver Bit, corn, 3/8 tip x 3/8 dr

Screwdriver, sch-screw, ball-tip 1/4

**Hazardous Material*

5-2.1 BOMB FIN AND ARMING WIRE MK 3 REMOVAL

WARNING

Keep clear of release band while removing fin. If accidentally released, it may fly upward with enough force to injure personnel.

a. Ensure safety pin is installed in release band; if not, install safety pin.

b. If required, remove cable and strap assembly as follows (Figure 5-2A):

(1) Remove tape securing lanyard to bomb; then cut tie-down strap securing arming clip lanyard.

(2) Remove arming clip from lanyard.

(3) Pull lanyard through aft suspension lug, through safety clip, and again through aft suspension lug. Remove Dexter safety clip from release band latch.

(4) Loosen fastener (Velcro) pads and pull end of strap through tension buckle and remove cable and strap assembly. If cable and strap assembly have been cut, reject.

c. Cut arming wire flush with top and bottom of fin and discard arming wire (Figure 5-2B). Remove arming wire from link pin and discard.

d. External Carriage Only Remove Arming Wire Mk 9 installed in fin release band.

WARNING

Fin weighs approximately 66 pounds; use proper precautions and sufficient personnel when handling.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject).

e. Loosen all setscrews on circumference of fin. Carefully disengage fin from wire and remove fin. Do not remove remaining arming wire from pop-out pin.

f. Insert TDD warning tag pin through open hole in pop-out pin.

g. Spread ends of warning tag pin.

h. Remove and discard remaining arming wire.

i. Remove eight aluminum setscrews from fin and retain.

j. Install eight steel setscrews in fin. Retain fin for repackaging.

k. Using PPE per MSDS, paint out "ALUMINUM SETSCREWS INSTALLED" stenciling from fin blade at 11 o’clock position.

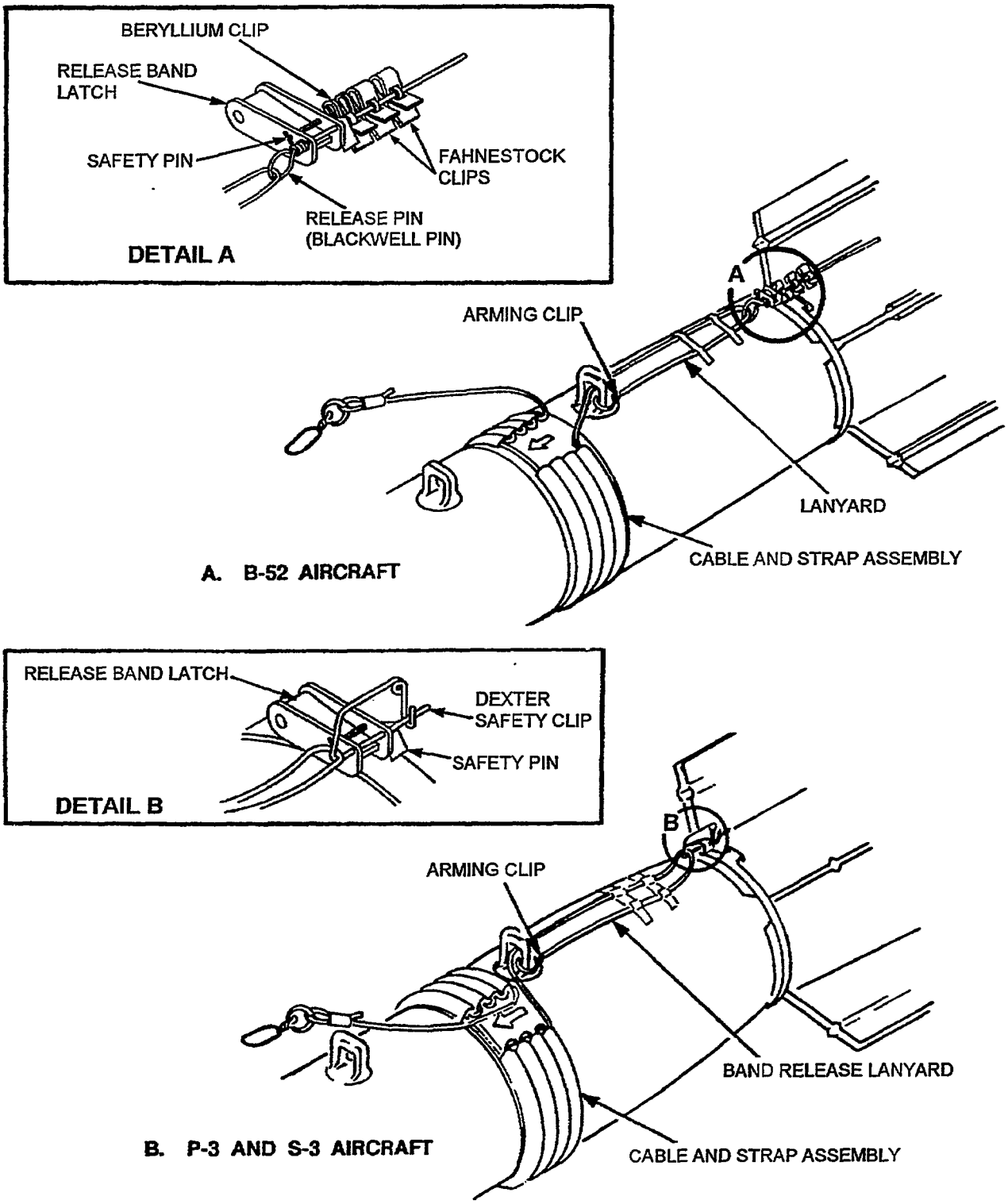


Figure 5-2A. Cable and Strap Assembly

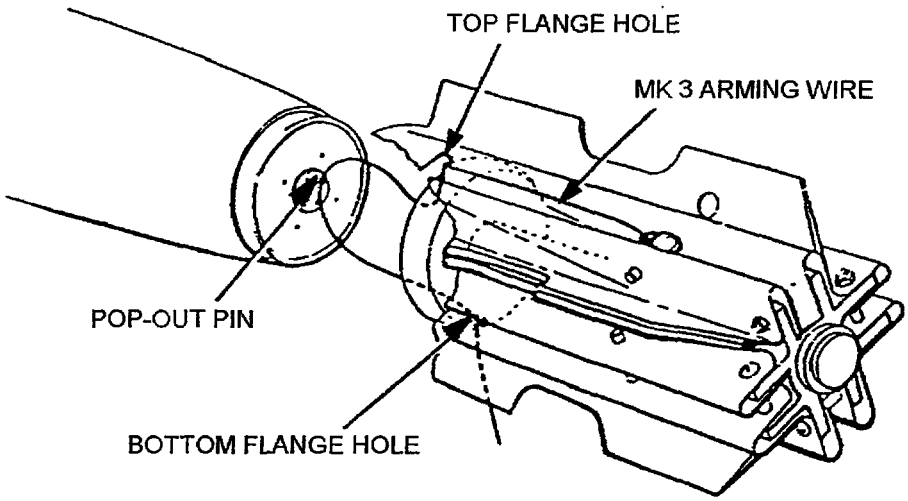


Figure 5-2B. Arming Wire and Fin Mk 15 Removal

JOB SHEET 5-3 BOMB FIN BSU-86/B OR BSU-86A/B REMOVAL

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Mine Mk 62, per job sheet 5-1

The following items are required to perform this job sheet and were removed during assembly or aircraft loading:

Pin, safety (release band)

Setscrew, sch, 1/2-13UNC-3A x 3/4, MS51963-139 (8)

Tag, warning (TDD), 3281024

SUPPORT ITEMS

Attachment, int-soc. 1/4 x 3/8 dr

Handle, rev-ratchet, 3/8 dr

Handle, speeder, soc-wr, 3/8 dr

Paint, enamel, ammo, olive-drab, No. X34087, TT-E-516 TY I CL 1*

Pliers, special, for beryllium clip, 68D33277

Pliers, str-nose, w/cutter, 6L

Screwdriver Bit, com, 3/8 tip x 3/8 dr

Screwdriver, sch-screw, ball-tip 1/4

**Hazardous Material*

5-3.1 BOMB FIN AND ARMING WIRE REMOVAL

WARNING

Keep clear of release band while removing fin. If accidentally released, it may fly upward with enough force to injure personnel.

a. Ensure safety pin is installed in large diameter hole of release band latch.

b. Cut Arming Wire Mk 3 flush with top and bottom of fin and discard arming wire (Figure 5-3A).

c. If safety clip is installed in release band latch, remove and connect to swivel that is installed in spring clip on fin.

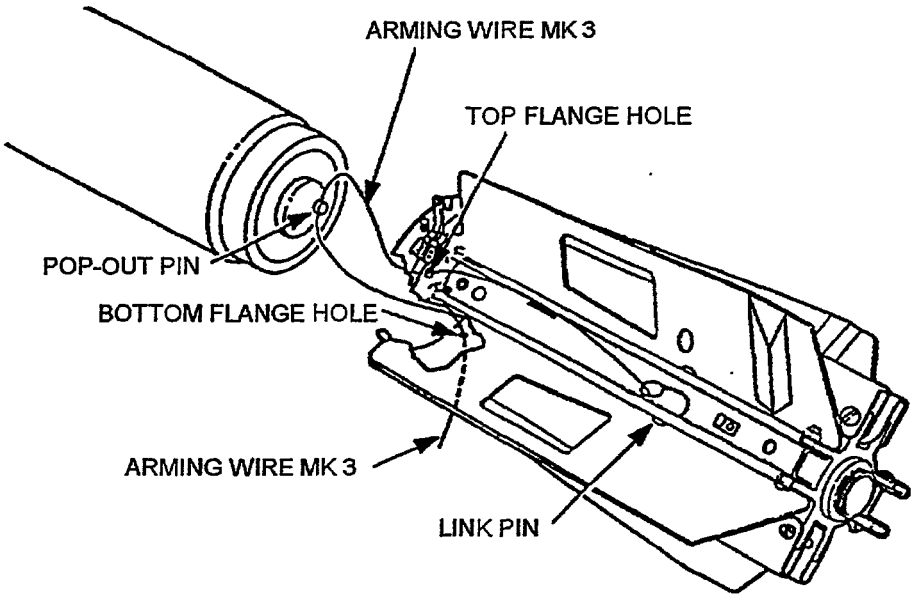


Figure 5-3A. Arming Wire and Fin BSU-86/8 or BSU-86A/B Removal

WARNING

The fin weight approximately 66 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject).

d. Loosen all setscrews on circumference of fin. Carefully disengage fin from wire and remove fin. Do not remove remaining arming wire from pop-out pin.

e. Insert TDD warning tag pin through open hole in pop-out pin.

f. Spread ends of warning tag pin.

g. Remove and discard remaining arming wire.

h. Remove eight aluminum setscrews from fin and retain.

i. Install 8 setscrews in fin and retain for repackaging.

j. Using PPE per MSDS, paint out "ALUMINUM SETSCREWS INSTALLED" stenciling from fin blade.

k. Reinstall plastic cap on aft end of fin support, if available.

JOB SHEET 5-4 BOMB FINS MAU-91A/B REMOVAL

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Mine Mk 63, per job sheet 5-1

Pin, safety (release band)

The following items are required to perform this job sheet and were removed during assembly or aircraft loading:

Tag, warning (TDD), 3281024

SUPPORT ITEMS

Pliers, str-nose, w/cutter, 6L

Pliers, wrench, 8-1/2L (4)

Screwdriver, bolster, 3/8 x 12 blade (2)

5-4.1 BOMB FIN AND ARMING WIRE REMOVAL

WARNING

Ensure that safety pin is not pulled from the release band latch. Band will release with sufficient force to injure personnel.

a. Verify that a safety pin is installed in release band latch.

b. Internal Carriage Only: Remove cable and strap assembly as follows (Figure 5-4A):

(1) Remove tape securing lanyard to bomb. Cut tie-down strap securing arming clip to lanyard.

(2) Remove arming clip from lanyard.

(3) B-52 Aircraft Rigging Only: Pull lanyard through aft suspension lug, through Blackwell pin, and again through aft suspension lug. Remove Fahnestock and beryllium clips from Blackwell pin and remove pin from release band latch.

(4) P-3 Aircraft Rigging Only: Pull lanyard through aft suspension lug, through Dexter clip, and again through aft suspension lug. Remove Dexter clip from release band latch.

c. Cut Arming Wire Mk 3 flush with top and bottom of fin and discard arming wire (Figure 5-4B).

WARNING

Keep clear of release band while removing safety pin. If accidentally released, it may fly upward with enough force to injure personnel.

d. Put on faceshield.

e. Holding release band latch securely, pull safety pins from latch.

f. Ensure that end of arming wire still protrudes from support flange, and carefully open fin blades.

g. Work garter spring over locking pin assembly. Start at spring joint closest to pin assembly and work along spring (Figure 5-4C).

h. Work remaining garter spring into groove on support flange.

i. Verify that fin shock absorber is in the forward position. Close fin. Using four wrench pliers, secure fin in the closed position (Figure 5-4D).

j. Install release band around fin, engaging tabs on band with slots in fin sections. Do not catch fin release wire under band.

k. Secure release band to fin as follows (Figure 5-4E):

(1) Close release band latch by inserting band tab into latch and closing latch.

(2) For Double Latch Bands Only Insert safety pin into hole closest to large lever pivot. If cotter type pin is used, bend ends of pin outward. Ensure safety pin engages both levers and tab is secured by small lever.

(3) For Single Latch Bands Only Insert safety pin into hole closest to lever. If cotter type pin is used, bend ends of pin outward. Ensure tab is secured by lever.

l. Remove wrench pliers from fin.

m. Remove faceshield.

WARNING

Potential hazard exists when locking pin assembly is removed. Do not rotate fin; rotation could cause fin to disengage from bomb fin adapter.

NOTE

If locking pins are tight, lift aft end of fin to reduce tension on the pins. If the pins are still tight, lock wrench pliers on pin and ensure chain is free. Slowly work the pin free. Repeat the procedure for the other pin. If the chain breaks, discard it and retain pins for reuse.

n. Pull locking pin assembly from support flange. Retain for repackaging.

WARNING

Fin weighs approximately 120 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

CAUTION

If TDD pop-out pin is released, it will start the arming cycle. The TDD must not be used. (Reject).

o. Carefully rotate fin clockwise until fin disengages from adapter, and remove fin. Do not remove remaining arming wire from pop-out pin.

p. Insert TDD warning tag pin through open hole in pop-out pin.

q. Spread ends of warning tag pin.

r. Remove and discard remaining arming wire.

s. Set fin aside for repackaging.

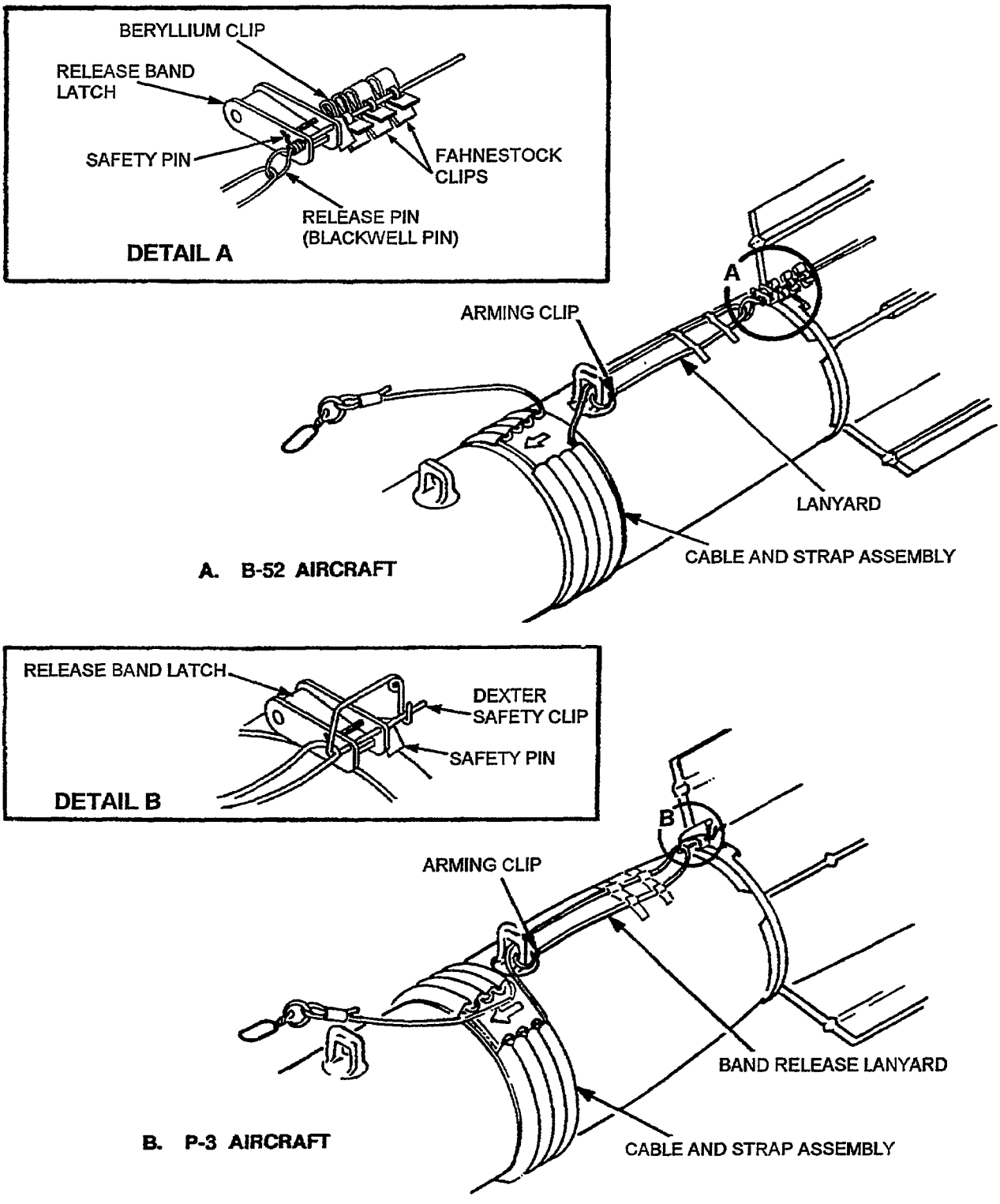


Figure 5-4A. Cable and Strap Assembly Removal

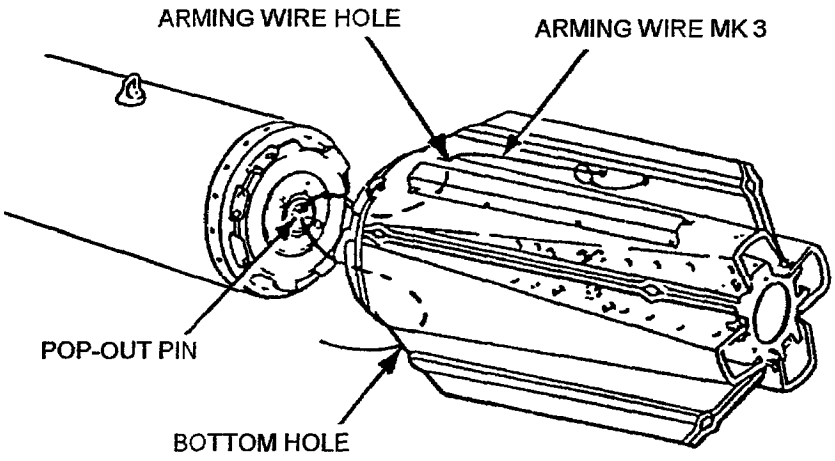


Figure 5-4B. Arming Wire and Fin MAU-91A/B Removal

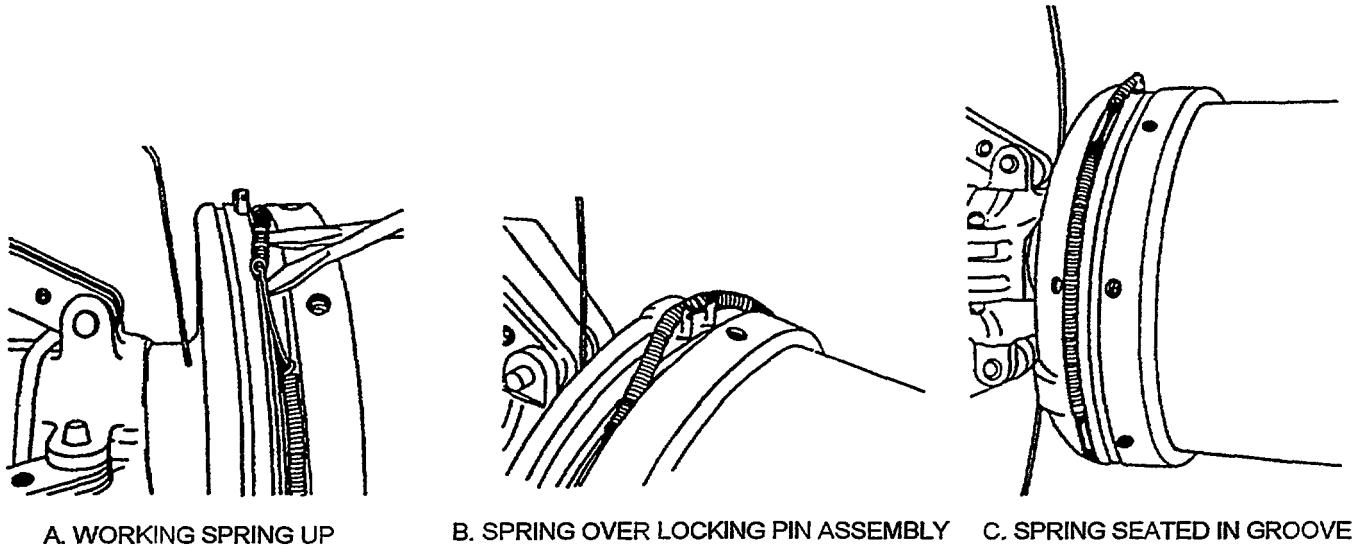


Figure 5-4C. Seating Garter Spring

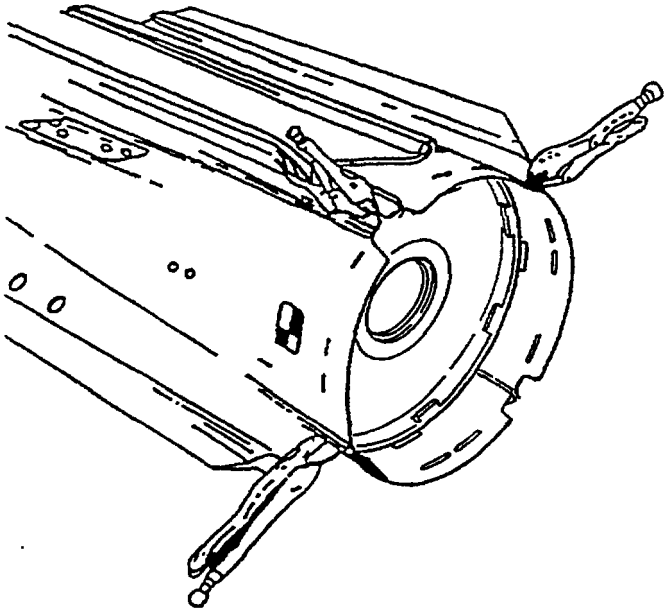
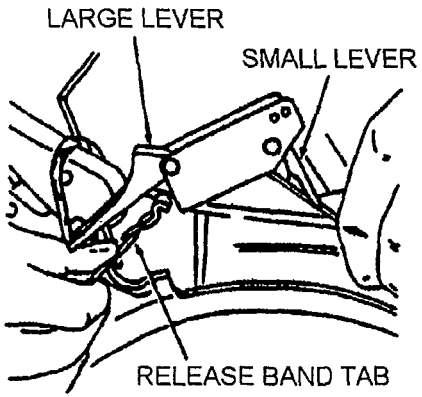
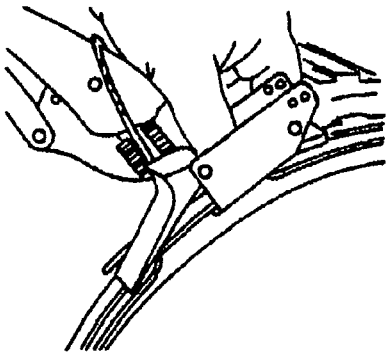


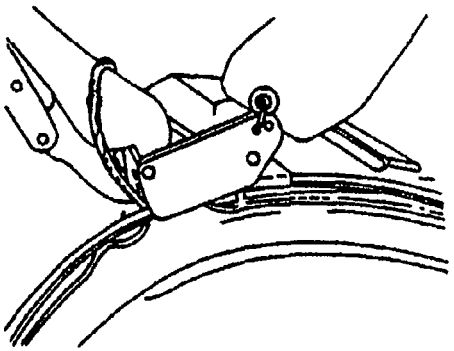
Figure 5-4D. Fin Held Closed



A. LATCH OPEN

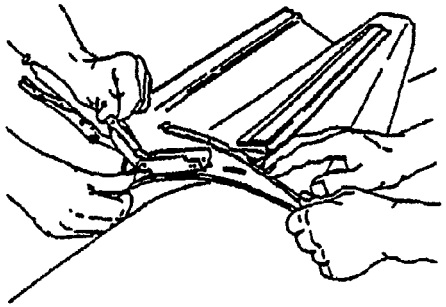


B. SMALL LEVER CLOSED
(TAB SECURED)

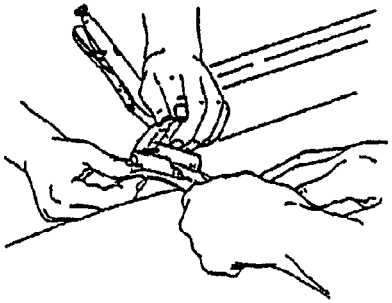


C. LATCH CLOSED

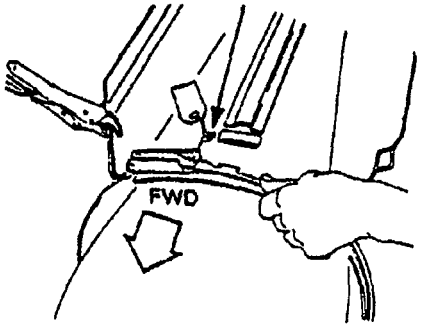
DOUBLE LATCH



A. LATCH OPEN



B. RELEASE BAND LATCH CLOSED



C. BAND LATCH SECURED WITH
SAFETY PIN

SINGLE LATCH

Figure 5-4E. Securing Release Band

JOB SHEET 5-5 TAIL SECTION MK 12 REMOVAL

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Mine Mk 63 w/Tail Section Mk 12, per job sheet 5-1	Warning Streamer Assembly, 7613398 (removed during loading)
Pin, safety (Control Unit), 5561759	Tag, warning (TDD), 3281024 (removed during assembly)

SUPPORT ITEMS

Attachment, int-soc. 1/4 x 3/8 dr	Handle, speeder, soc-wr, 3/8 dr
Bag, plastic PPP-B-26, Type II, Style 3, size 8 x 8 (arming device arming cable)	Tape, press-sens, adh, olive, 3W
Flashlight, 2-cell	

5-5.1 TAIL SECTION MK 12 REMOVAL

WARNING

Tail Section Mk 12 contains a small quantity of hazardous material (ammunition non-explosive). Handle carefully when opening.

a. Verify that a safety harness is installed on tail section and secured in place. If not, install safety harness per appendix A.

b. Verify that the safety pin attached to the TDD arming cable is installed in pop-out pin.

c. Verify that the safety pin attached to the warning streamer or safety harness is installed in control unit; if not, install it.

d. Verify that the bolts on aft end of tail section (under the safety harness assembly) are safety wired.

e. Ensure that the safety harness is tightly installed on tail section. If necessary, tighten harness by pulling on free end at buckle.

f. Form a 3-inch coil of the solenoid arming cable; then form a 3-inch coil of the arming device arming cable.

g. Place the two coiled cables in an 8 x 8-inch plastic bag. Using pressure-sensitive tape, secure the plastic bag to the inside wall of tail section as shown in Figure 5-5A.

h. Install safety pin in pop-out pin of TDD, spreading the ends of pin to secure it in place. Remove the arming cable safety pin from pop-out pin.

i. Remove the Fahnestock clip, attached to warning streamer or safety harness, from arming wire where it exits tail section directly below control unit (Figure 5-5B).

WARNING

Before removing arming wire from control unit, be sure that the safety pin, attached to warning streamer or safety harness is installed in control unit. Personnel injury could result.

j. Verify safety pin is installed in control unit, then withdraw arming wire from control unit (Figure 5-5B). Install second safety pin in vacant hole of control unit as shown in Figure 5-5C.

k. Pass the Fahnestock clip, attached to warning streamer or safety harness, through the 3/4-inch hole directly below control unit. Attach the loop of the clip to the safety pin of the TDD arming cable as shown.

WARNING

Tail Section Mk 12 weighs about 80 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

CAUTION

Do not use the safety harness straps to remove the tail section from the bomb body. Safety harness could be damaged.

l. Remove tail section from bomb by loosening the 12 setscrews just enough to allow section to slip off. Do not back-out screws all the way.

m. Set tail and parts aside for packaging.

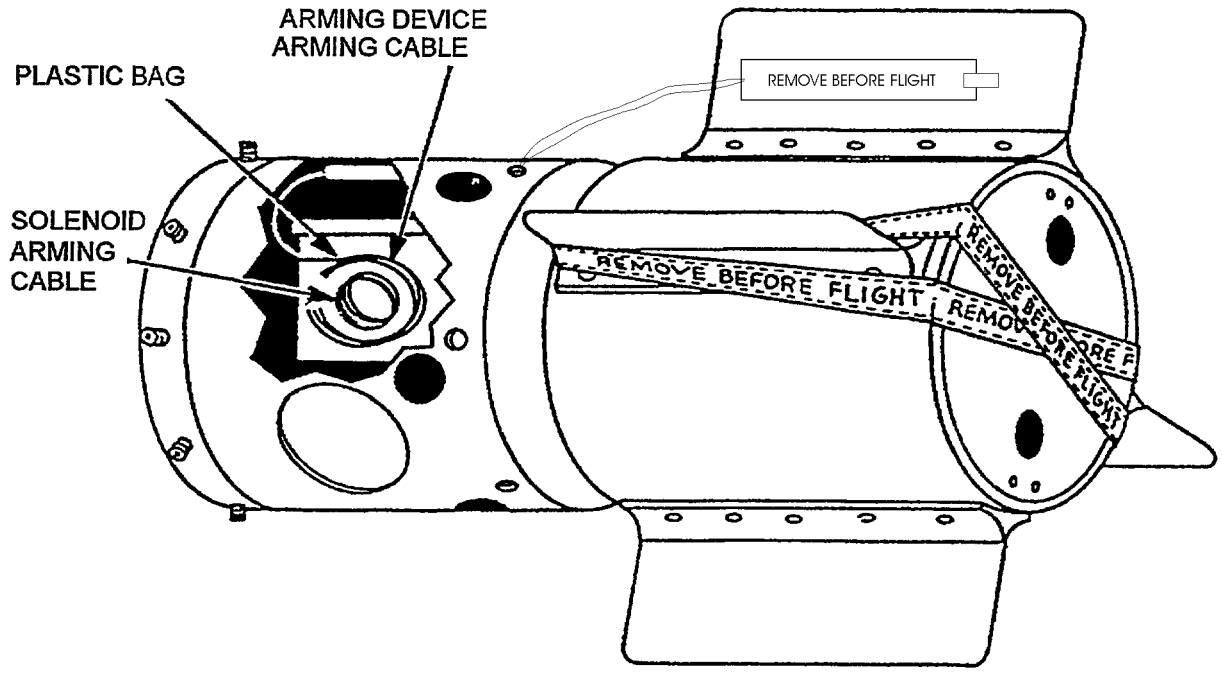


Figure 5-5A. Securing Arming Cable to Tail Section

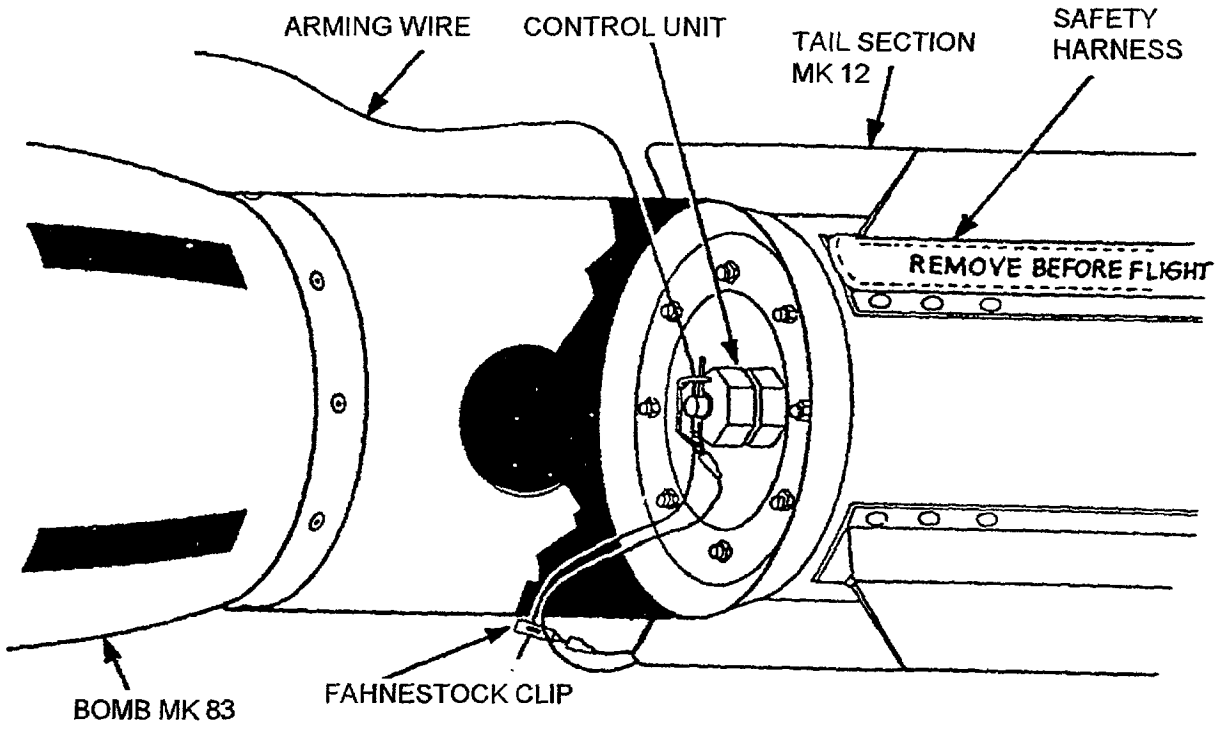


Figure 5-5B. Arming Wire Removal

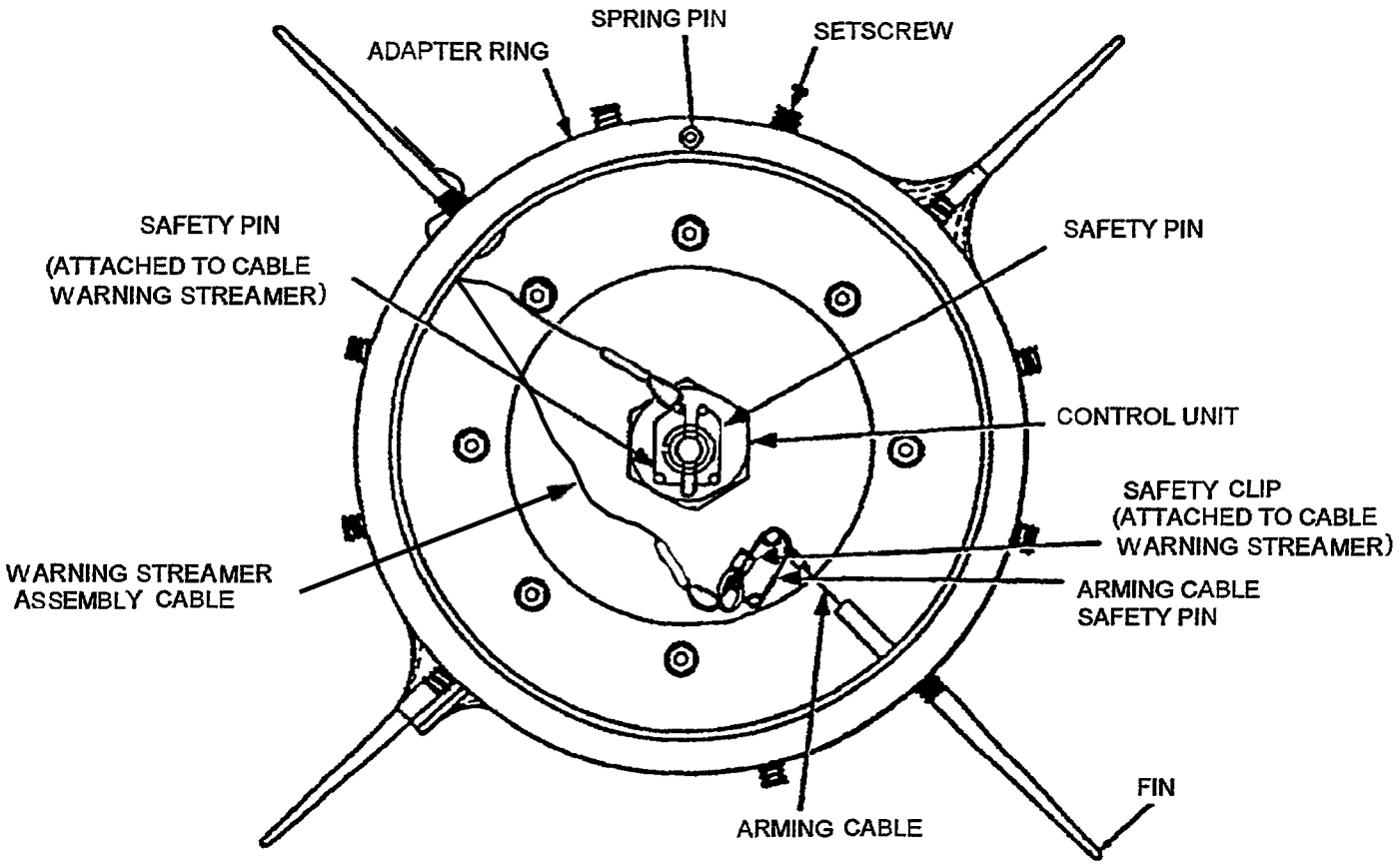


Figure 5-5C. Tail Section Mk 12

JOB SHEET 5-6 TAIL SECTION MK 16 REMOVAL

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Mine Mk 62 w/Tail Section Mk 16, per job sheet 5-1	Tag, warning (TDD), 3281024 (removed during assembly)

SUPPORT ITEMS

Attachment, int-soc, 1/4 x 3/8 dr	Nut driver, 5/16
Bag, plastic, PPP-B-26, type II, style 3, size 8 x 8 (arming device arming cable)	Pliers, slip joint, str-nose, 8L
Extension, soc-wr, 3L x 3/8 dr	Screwdriver, common, 1/4 x 6L
Flashlight, 2-cell	Socket, 12-pt, reg-lg, 5/16 x 3/8 dr
Handle, rev-ratchet, 3/8 dr	Tape, press sens, adh, olive, 3W
Handle, speeder, soc-wr, 3/8 dr	Wire, safety, MS20995C47

5-6.1 TAIL SECTION MK 16 REMOVAL

WARNING

Tail Section Mk 16 contains a small quantity of hazardous material (ammunition non-explosive). Handle carefully when opening.

If screw flange on safety knob of warning flag assembly is not flush against end of control unit, striker is not properly secured and may cause tail cover and parachute to eject from tail with enough force to cause injury.

a. Verify the safety knob of warning flag assembly is installed on control unit and safety knob flange is flush against end of control unit.

b. Form a 3-inch coil of the arming device arming cable.

c. Place the coiled cable in an 8 x 8-inch plastic bag. Using pressure-sensitive tape, secure the plastic bag to the outside wall of the tail section, as shown (Figure 5-6A).

d. Insert warning streamer safety pin or piece of Arming Wire Mk 9 in vacant hole to TDD.

e. Remove safety pin from TDD.

f. Verify Dexter clip attached to lanyard is installed in control unit.

g. Remove swivel assembly from lanyard extension.

h. If present, carefully pull lanyard and lanyard extension aft through the tube assembly. Remove lanyard extension from lanyard. Place lanyard extension in pouch in red warning flag.

i. If present, reaching inside tail section pull lanyard through lanyard hole in tail section. Lanyard remains inside tail section, attached to Dexter clip in control unit.

j. If present, cut and remove safety wire securing end of hose clamp to bracket.

k. Bend end of hose clamp back over tube. Remove hose clamp and tube assembly.

CAUTION

Do not use safety harness assembly to lift tail when removing tail section from bomb; safety harness could be damaged.

l. Remove tail section from bomb by loosening the eight setscrews just enough to allow section to slip off. Do not back-out screws all the way.

m. Install safety pin in pop-out pin of TDD, spreading the ends of pin to secure it in place. Remove piece of arming wire/warning streamer.

n. Set tail section and associated components aside for repackaging.

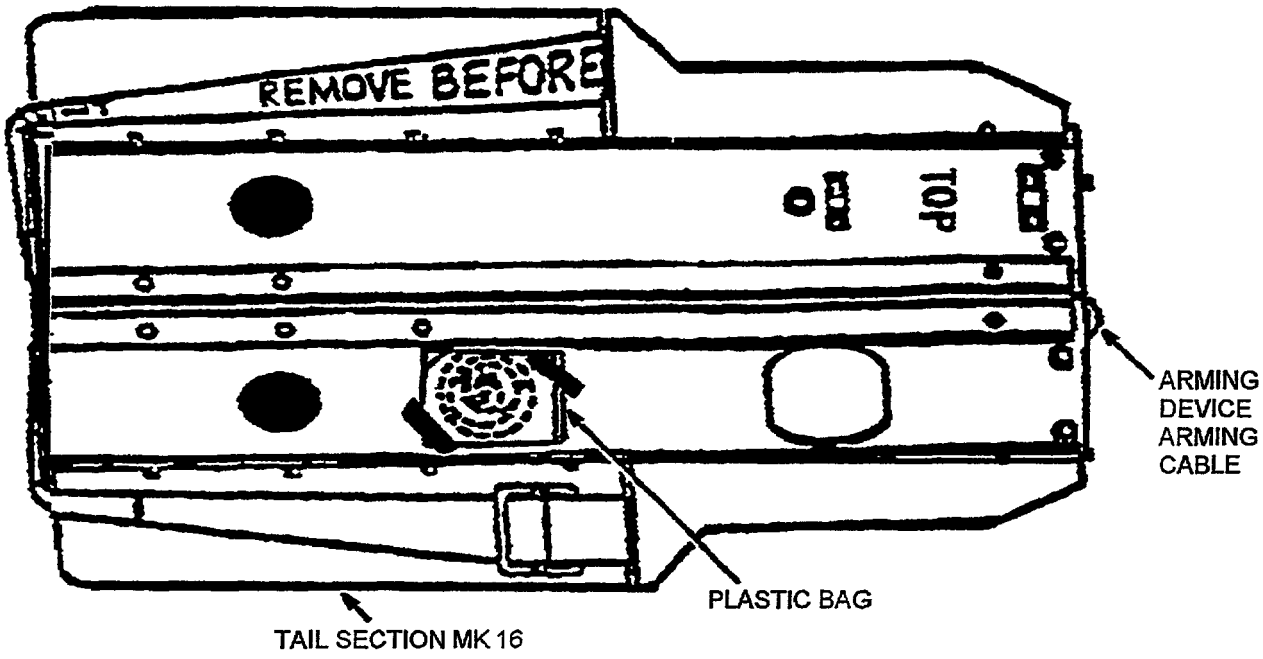


Figure 5-6A. Arming Device Arming Cable Repackaging

JOB SHEET 5-7 TARGET DETECTING DEVICE (TDD) MK 57 AND BATTERY REMOVAL

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Mine Mk 62, per job sheet 5-2, job sheet 5-3, or job sheet 5-6

Mine Mk 63, per job sheet 5-4 or job sheet 5-5

SUPPORT ITEMS

Cloth, cleaning, disposable, 12 x 15

Cord, antistatic, 5-ft, w/male snaps, 3M PN 3043 (2)[1]

Knife

Grease, pneumatic systems, MIL-G-4343*

Mat, floor, antistatic, 4- x 6-ft, w/15-ft cord, 3M PN 1864[1]

Mat, workbench, antistatic, 2- x 4-ft, 3M PN 8210[1]

Strap, wrist, Mfg PN 30113[1]

Wrench, spanner, 3-1/2 dia

**Hazardous Material*

[1] *Not required for shipboard procedures.*

5-7.1 REMOVAL OF TDD AND BATTERY (SHORE STATION)

WARNING

If base plug or fuze well liner retainer on aft end of bomb body begins to rotate while TDD is being removed, stop rotating and notify EOD personnel.

a. Turn the TDD flange counterclockwise to remove TDD and battery from aft fuze well (Figure 5-7A). Ensure base plug or fuze well liner retainer (Figure 5-7B) on aft end does not rotate.

b. Remove and discard used square ring seal or preformed packing, as applicable.

CAUTION

TDD Mk 57 contains components which are vulnerable to ESD. Battery removal must be performed using ESD-protective equipment.

c. Prepare an ESD work area as follows:

(1) Place a 2- by 4-foot antistatic mat on a flat, level workbench.

(2) Place a 4- by 6-foot antistatic floor mat, with cord, on deck in front of the workbench.

(3) Connect the antistatic floor mat to shop ground using the attached 15-foot cord.

(4) Connect the 2- by 4-foot antistatic mat to antistatic floor mat using a 5-foot cord with male snaps.

(5) Connect wrist strap to the 2- by 4-foot antistatic mat using a second 5-foot cord with male snaps.

(6) Test wrist strap and ground in accordance with OP 5.

d. Place assembled TDD on antistatic mat on workbench.

e. Put on wrist strap.

f. Using hands only, unscrew lower housing from TDD (Figure 5-7C).

g. Separate battery from TDD by gently pulling battery straight back from TDD.

h. Using PPE per MSDS, clean and lightly grease lower housing threads.

i. Screw lower housing onto TDD.

j. Remove wrist strap.

k. Set TDD and battery aside for repackaging.

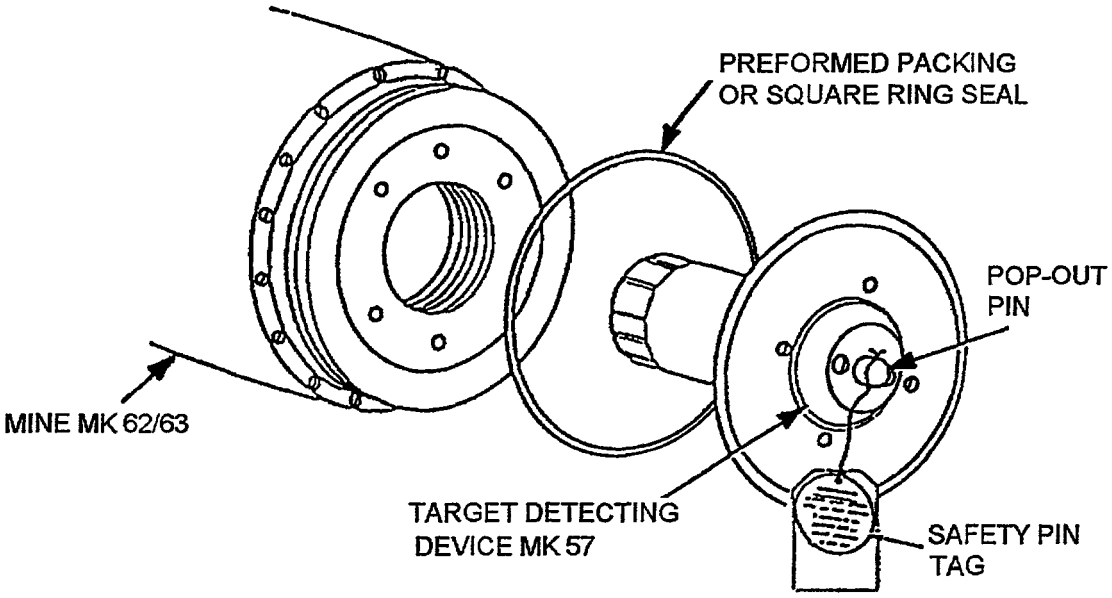


Figure 5-7A. Removal of TDD and Battery

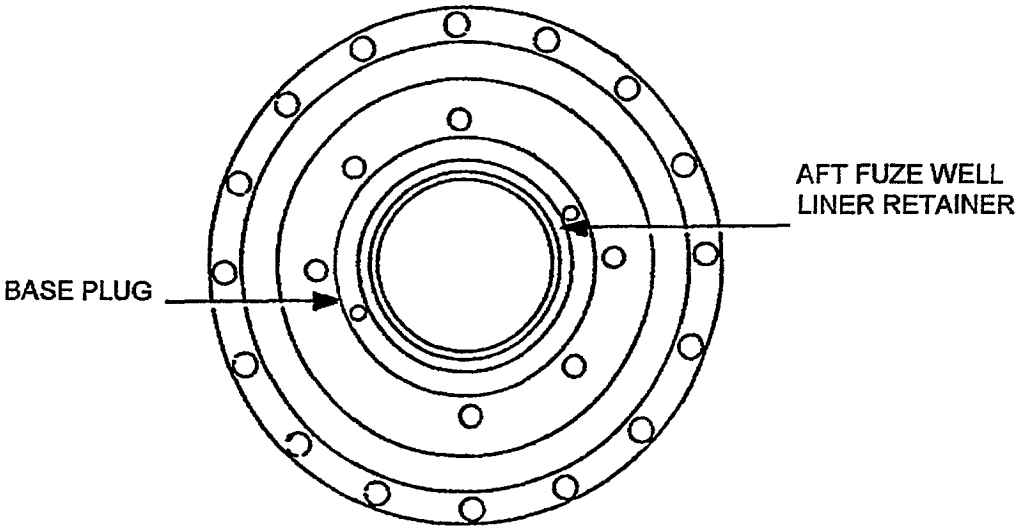


Figure 5-7B. Bomb Mk 83, Aft End

5-7.2 REMOVAL OF TDD AND BATTERY (SHIPBOARD)

WARNING

If base plug orifice well liner retainer on aft end of bomb body begins to rotate while TDD is being removed, stop rotating and notify EOD personnel.

a. Turn the TDD flange counterclockwise to remove TDD and battery from aft fuze well (Figure 5-7A). Ensure base plug and aft fuse liner retainer on aft end of bomb (Figure 5-7B) does not rotate.

b. Remove and discard used preformed packing or square ring seal.

CAUTION

TDD Mk 57 contains components vulnerable to damage from ESD. Handle TDD Mk 57 by housing only. DO NOT touch pins on connector plate of TDD.

c. Unscrew and remove lower housing from TDD (Figure 5-7C).

d. Separate battery from TDD by gently pulling battery straight back from TDD.

e. Using PPE per MSDS, clean and lightly grease lower housing threads.

f. Screw lower housing onto TDD.

g. Set TDD and battery aside for repackaging.

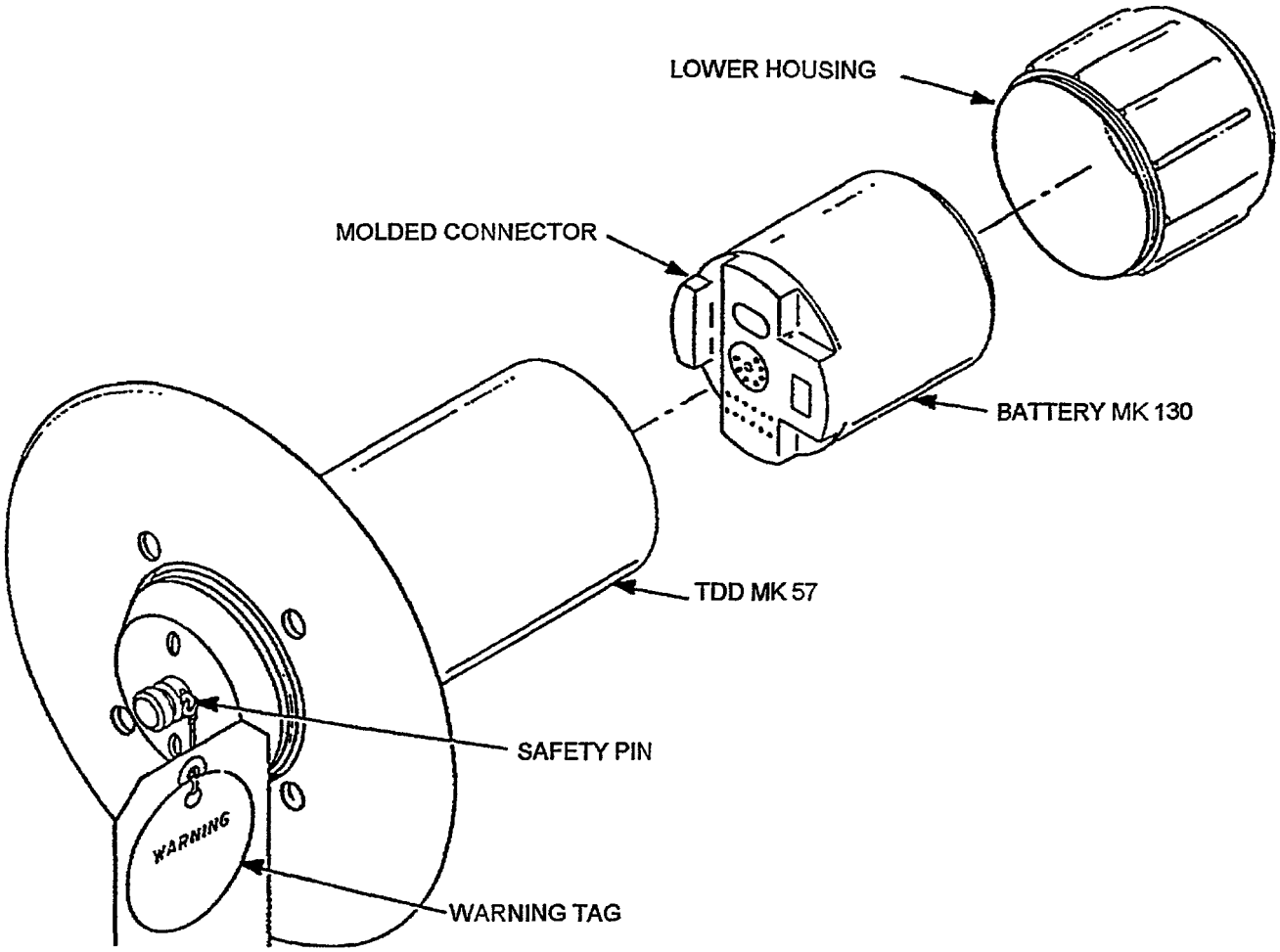


Figure 5-7C. Removal of Battery from TDD

JOB SHEET 5-8 BOMB MK 82 PREPARATION FOR STORAGE

WARNING

The following procedures require handling of an explosive loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturer's Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Bomb Mk 82 or BLU-111A/B

The following items, removed during assembly, are required to perform this job sheet:

Cap, shipping, rear, 1212105

Plug, shipping, cable well, 2519634

Plug, shipping, fuze well, 2518425 (2)

Screw, cap, sch, 5/16-18UNC-3A x 3/4, MS16997-78 (4)

Setscrew, sch, dog-pt, 3/8-16UNC-3A x 5/8, 4902485

Washer, lock, 5/16, MS35338-45 (4)

SUPPORT ITEMS

Brush, paint, oval, 1 x 2-3/8

Bomb, pallet, frame MHU-122/E[1]

Carrier, Weapons, Mk 49, 808AS100

Faceshield, protective

Gloves, leather

Grease, pneumatic systems, MIL-G-4343*

Hammer, ball-peen, 4 oz

Paint, enamel, ammo, olive-drab, No. X34087, TT-E-516 TY I CL 1*[2]

Paint, MIL-DTL-24441/27A*[3]

Punch, center, 3/8 dia, 4L

Screwdriver, sch-screw, ball-tip 1/4

Screwdriver, sch-screw, ball-tip 3/16

Strapping, flat, steel, 1/2 x 0.015

Stretching and Sealing Machine, hard strap

Wrench, adjustable, spanner, 2-in

**Hazardous Material*

[1] *Required for externally thermal-protected bomb; for other pelletizing requirements, consult appropriate WR/MIL Standard.*
[2] *For Mk 82*
[3] *For BLU-111A/B*

5-8.1 IDENTIFICATION REMOVAL

a. **Bomb Mk 82:** Using PPE per MSDS, cover the four white stripes and white band located on the bomb (Figure 5-8A) with olive drab paint .

b. **Bomb BLU-111A/B:** Using PPE per MSDS, cover the four white stripes and white band located on the bomb (Figure 5-8A) with gray paint .

5-8.2 BOMB STORAGE INSTRUCTIONS

a. Using PPE per MSDS, lightly grease threads in nose and tail fuze wells (Figure 5-8B).

b. Using PPE per MSDS, lightly grease preformed packings on both fuze well shipping plugs.

c. Install both nose and tail fuze well shipping plugs (Figure 5-8B) and hand-tighten.

d. Using PPE per MSDS, lightly grease threads in forward setscrew hole.

e. Install setscrew previously removed (Figure 5-8B).

f. Using ballpeen hammer and punch, remove cable well plug.

g. Cut and discard packing.

h. Using PPE per MSDS, lightly grease threads in cable well and install cable well shipping plug (Figure 5-8B).

i. Set aside cable well plug for repackaging.

NOTE

The externally thermal-protected bomb may have a plastic aft shipping cap instead of the metal type. The plastic cap does not require washers and screws.

j. Install shipping cap, using washers and screws, on aft end of bomb and tighten.

k. Remove ordnance ground from bomb case.

l. Place bomb on pallet (Figure 5-8C).

m. Remove suspension lugs from lug wells. Using PPE per MSDS, grease lug well threads.

n. Reinstall suspension lugs or suspension lug well shipping plugs.

o. Install and secure the bombs to the pallet per appropriate WR/MIL-STD.

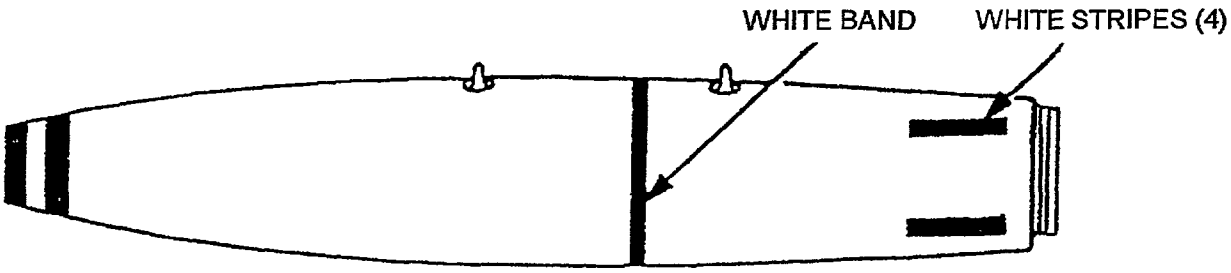


Figure 5-8A. Identification Removal

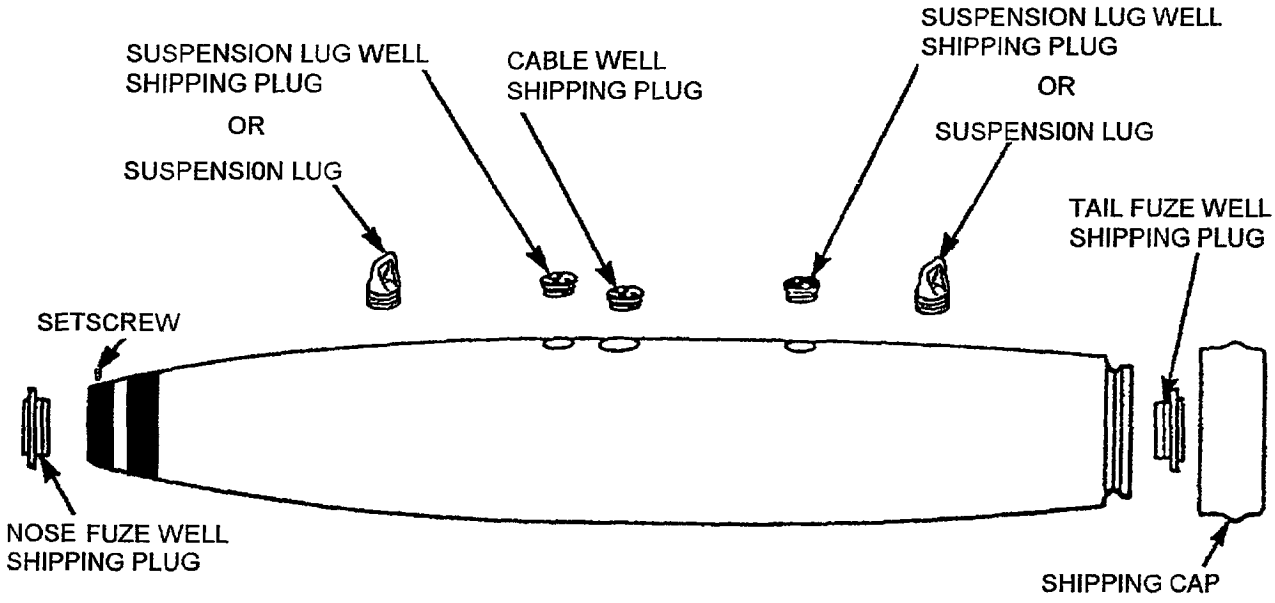


Figure 5-8B. Bomb Preparation for Storage

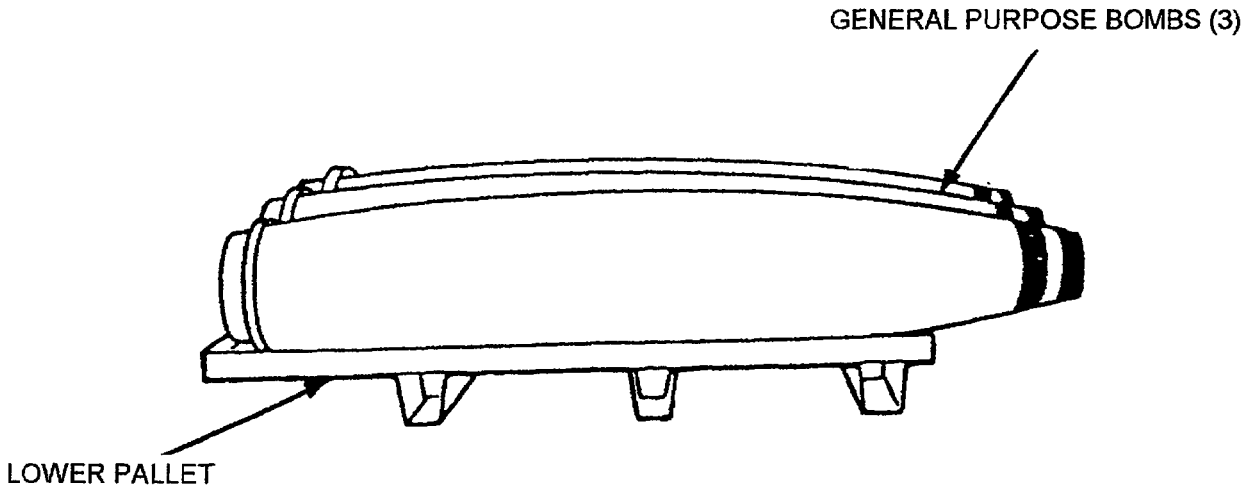


Figure 5-8C. Bomb Placement

JOB SHEET 5-9 BOMB MK 83 PREPARATION FOR STORAGE

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturers Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Bomb Mk 83 or BLU-110A/B

The following items are required to perform this job sheet and were removed during assembly:

Cap, shipping, rear, 1212105

Plug, shipping, cable well, 2519634

Plug, shipping, fuze well, 2518425 (2)

Screw, cap, sch, 5/16-18UNC-3A x 3/4, MS16997-78 (4)

Setscrew, sch, dog-pt, 3/8-16UNC-3A x 5/8, 4902485

Washer, lock, 5/16, MS35338-45 (4)

SUPPORT ITEMS

Attachment, int-soc. 3/16 x 3/8 dr

Attachment, int-soc. 1/4 x 3/8 dr

Attachment, int-soc, 7/32 x 3/8 dr

Bomb, pallet, frame, MHU-122/E[1]

Carrier, Weapons, Mk 49, 808AS100

Cloth, cleaning, disposable, 12 x 15

Faceshield, protective

Gloves, leather

Grease, pneumatic systems, MIL-G-4343*

Hammer, ball-peen, 8 oz

Handle, rev-ratchet, 3/8 dr

Handle, speeder, soc-wr, 3/8 dr

Paint, enamel, ammo, olive-drab, No. X34087, TT-E-516 TY I CL 1*[2]

Paint, MIL-DTL-24441/27A*[3]

Punch, center, 3/8 dia, 4L

Screwdriver, sch-screw, ball-tip 1/4

Strapping, flat steel, 1 1/4 x 0.035

Stretching and Sealing Machine, hard strap

Wrench, adjustable, spanner, 2-in

**Hazardous Material*

[1] *Required for externally thermal protected bomb. For other pelletizing requirements, consult appropriate WR/MIL Standard.*
[2] *For Mk 83*
[3] *For BLU-110A/B*

5-9.1 IDENTIFICATION REMOVAL

a. **Bomb Mk 83:** Using PPE per MSDS, cover the four white stripes and white band located on the bomb (Figure 5-9A) with olive drab paint .

b. **Bomb BLU-110A/B:** Using PPE per MSDS, cover the four white stripes and white band located on the bomb (Figure 5-9A) with gray paint .

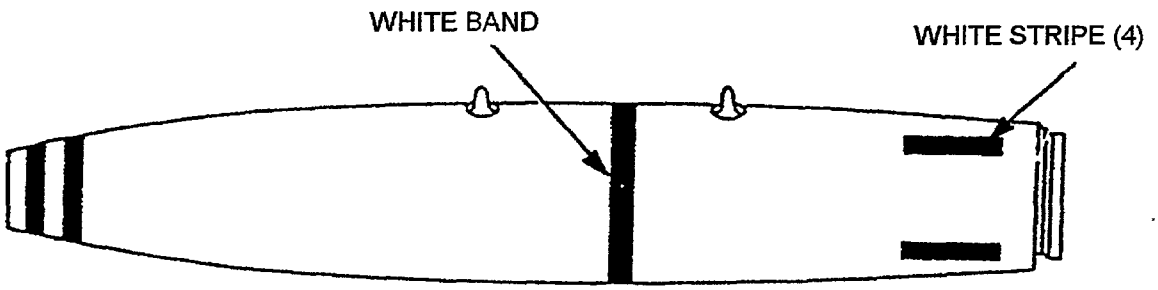


Figure 5-9A. Identification Removal

5-9.2 BOMB FIN ADAPTER ADU-320A/B REMOVAL

a. Loosen all setscrews on circumference on bomb fin adapter. Carefully disengage adapter from bomb (Figure 5-9B). Retain bomb fin adapter for repackaging.

b. Insert locking pin assembly into bomb fin adapter (Figure 5-9C).

5-9.3 BOMB STORAGE INSTRUCTIONS

a. Using PPE per MSDS, lightly grease threads in nose and tail fuze wells (Figure 5-9D).

b. Using PPE per MSDS, lightly grease preformed packings on both fuze well shipping plugs.

c. Install both nose and tail fuze well shipping plugs (Figure 5-9D) and hand-tighten.

d. Using PPE per MSDS, lightly grease threads in forward setscrew hole.

e. Install setscrew previously removed (Figure 5-9D).

f. Using ballpeen hammer and punch, remove cable well plug.

g. Cut and discard packing.

h. Using PPE per MSDS, lightly grease threads in cable well and install cable well shipping plug.

i. Set aside cable well plug for repackaging.

NOTE

The externally thermal protected bomb may have a plastic aft shipping cap instead of the metal type. The plastic cap does not require washers and screws.

j. Install shipping cap, washers and screws on aft end of bomb.

k. Remove ordnance ground from bomb case.

l. Place bombs on pallet as shown in Figure 5-9E.

m. Remove suspension lugs from lug wells. Using PPE per MSDS, grease lug well threads.

n. Reinstall suspension lugs.

o. Install and secure the bombs to the pallet per appropriate WR/MIL-STD.

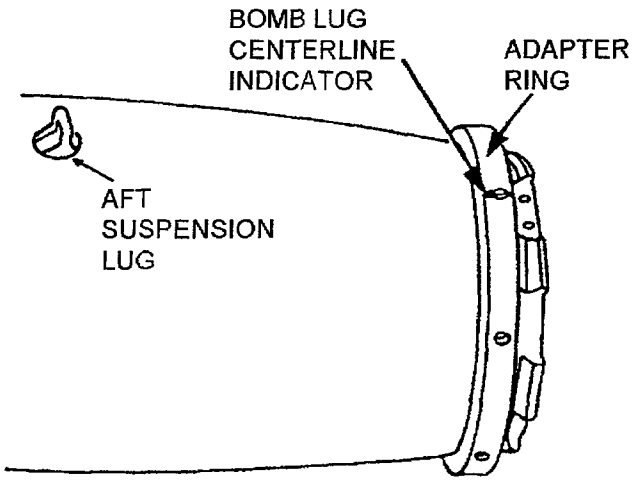


Figure 5-9B. Adapter ADU-320A/B Removal

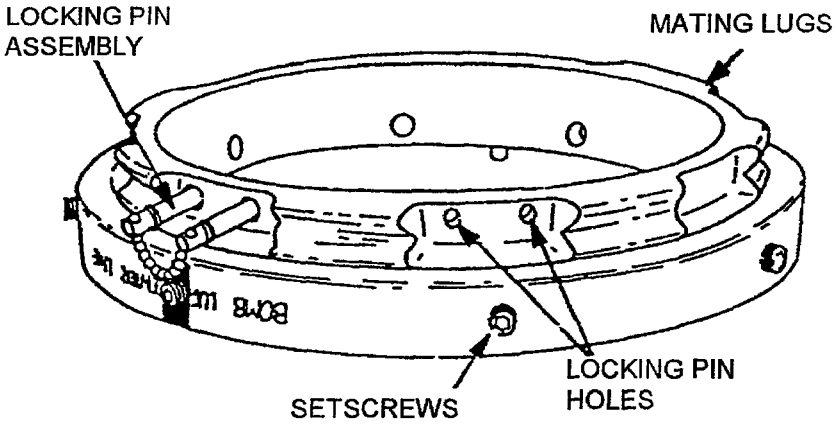


Figure 5-9C. Bomb Fin Adapter ADU-320A/B

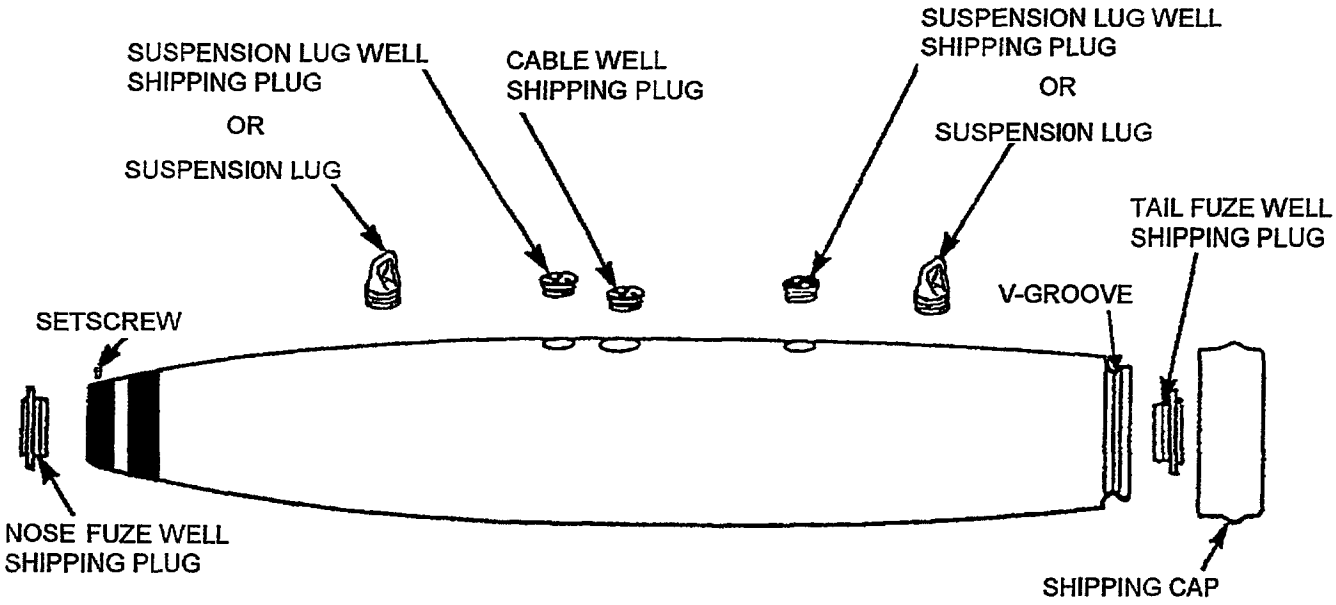


Figure 5-9D. Bomb Preparation for Storage

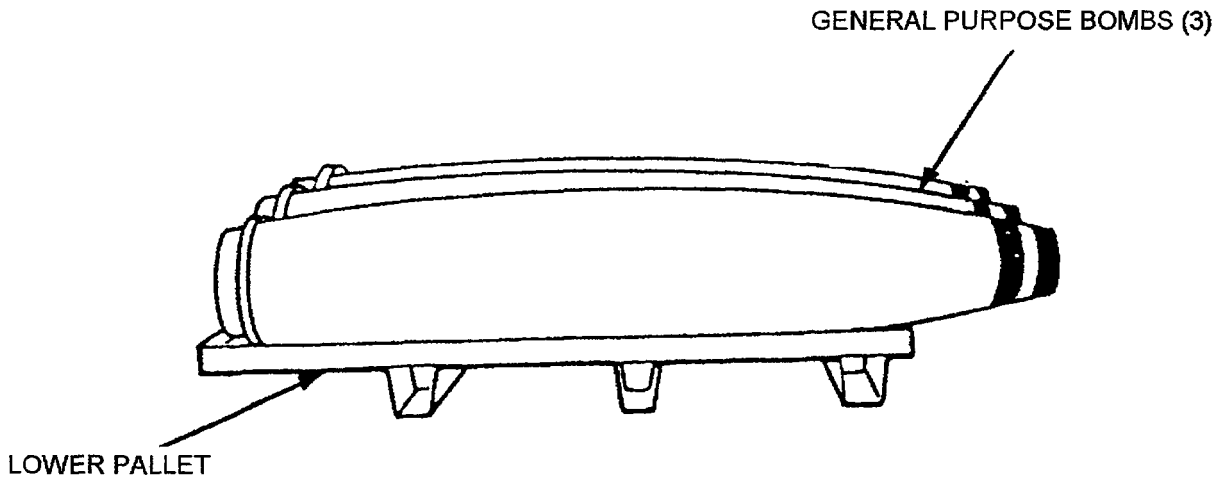


Figure 5-9E. Bomb Placement

APPENDIX A
REPACKAGING MINE COMPONENTS

This appendix provides repackaging instructions for Battery Mk 130, Tail Section Mk 12, Bomb/Mine Conversion Kit Mk 130, Adapter, Bomb Fin ADU-320A/B, Bomb Fin Mk 15, and Bomb Fin MAU-91A/B for shipboard use only. Instructions are also provided for installing the safety harness on Tail Section Mk 12.

A.1 ADAPTER, BOMB-FIN, ADU-320A/B REPACKAGING

MATERIALS

COMPONENTS

Adapter, Bomb-Fin, ADU-320A/B, 5387521

SUPPORT ITEMS

Bag, polyethylene[1]

Box, wooden, shipping, for Adapter, Bomb-Fin, ADU-320A/B[2]

Cushion, material, cell 3/4 thk 23W

Faceshield, protective

Gloves, leather

Tape, press-sens, adh, olive, 3W

[1] *Box and polyethylene bag were original packaging material.*
[2] *Boxes are secured to Mk 3 Mod 0 or Mk 12 Mod 0 steel pallet for shipping purposes.*

A.1.1 REPACKAGING INSTRUCTIONS

WARNING

Potential eye-hazard exists when repackaging adapters; wear protective faceshield and gloves.

a. Ensure all setscrews on circumference of adapter are flush with outer surface.
b. Insert fin adapter into bag, fold end of bag over, and tape.
c. Place four fin adapters into each box, mating lugs down. Add cushioning material as necessary to restrict movement.
d. Put on faceshield and gloves.
e. Install box top and secure box with two steel bands.
f. Inspector, verify steps c and e.
g. Tag boxes with appropriate information.
h. Place 18 boxes on steel pallet and secure to pallet for a unit load of 72 fin adapters.
i. Remove faceshield and gloves.

A.2 BATTERY MK 130 REPACKAGING

MATERIALS

COMPONENTS

Ammunition Box Mk 1 Mod 0, Small Arms, containing:[1]

Top Filler (3)

Cushion (3)

Support (3)

Liner

Container, M548 Altered, containing:[2]	Top Filler (as required)
Liner	Battery Mk 130 Mod 0, 3018351 or Battery Mk 130 Mod 1, 7354712
Foam Cushion (4)	
Battery Support (3)	

SUPPORT ITEMS

Pliers, diagonal-cut, plain, 6L	Seal, traceable
Pliers, str-nose, w/cutter, 6L	Tape, press-sens, adh, olive

[1] *For use with Battery Mk 130 Mod 0.*
[2] *For use with Battery Mk 130 Mod 1.*

NOTE

Due to different storage requirements, Battery Mk 130 Mod 0 and Battery Mk 130 Mod 1 must never be packaged in the same container.

A.2.1 BATTERY MK 130 MOD 0 REPACKAGING (Figure A-1)

a. Unlatch cover and remove all packaging material from battery shipping container.
b. Place batteries in plastic bags and seal bags with tape.
c. Ensure liner and bottom filler are present.
d. Place bottom cushion support and bottom battery support in container.
e. Place 15 bagged and sealed batteries into bottom battery support.
f. Place middle cushion support and middle battery support in container.
g. Place 15 bagged and sealed batteries into middle battery support.
h. Place top cushion support and top battery support in container.
i. Place remaining batteries into top battery support.
j. Place remaining cushion support and fillers as required for tight pack.
k. Inspector, verify step e though j.
l. Replace cover and secure six latches.
m. Place container in refrigerated storage.

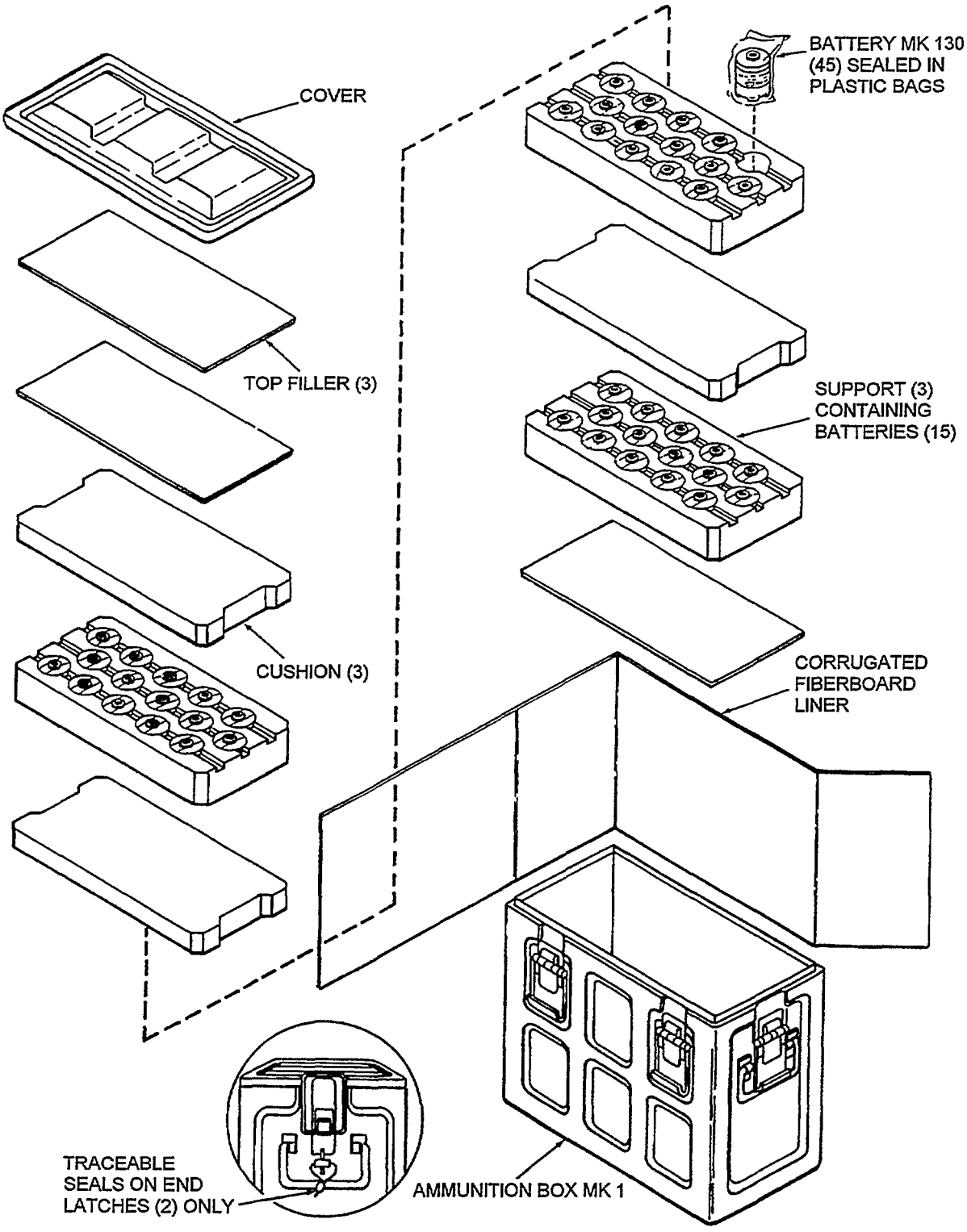


Figure A-1. Battery Mk 130 Mod 0 Repackaging

A.2.2 BATTERY MK 130 MOD 1 REPACKAGING (Figure A-2)

a. Unlatch cover and remove all packaging material from battery shipping container.

b. Place batteries in self-locking plastic bags and seal.

c. Ensure liner and bottom foam cushion are present.
d. Place bottom battery support in container.
e. Place 10 bagged batteries into bottom battery support.
f. Place middle foam cushion and middle battery support in container.
g. Place 10 bagged batteries into middle battery support.
h. Place top foam cushion and top battery support in container.
i. Place 10 bagged batteries into top battery support.
j. Inspector, verify step e through i.
k. Place top foam cushion support and fillers as required for tight pack.
l. Replace cover, secure latches, and seal both ends with traceable antipilferage seals.
m. Ensure identification and hazardous materials marking on container are in accordance with SW550-AA-MMI-010.

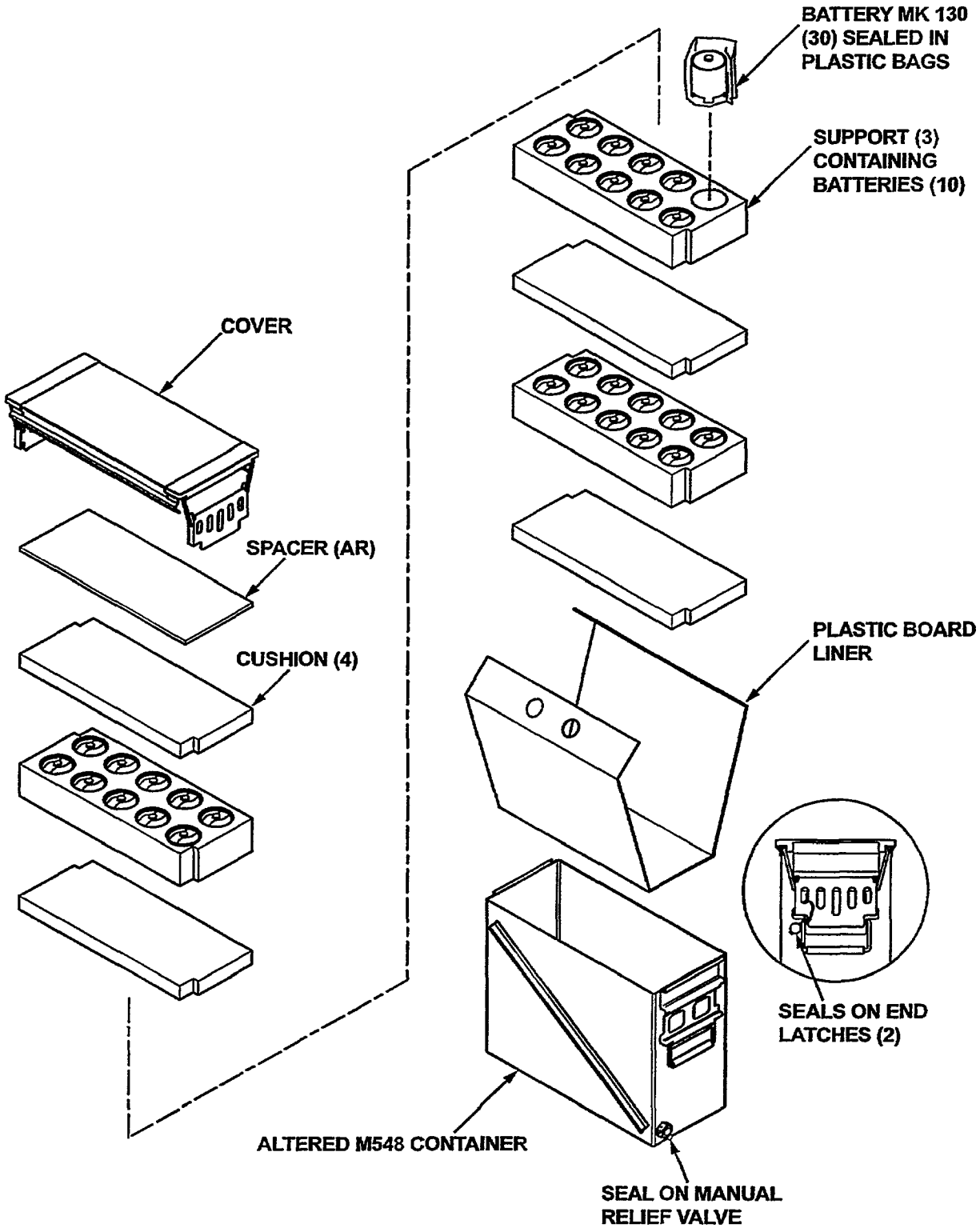


Figure A-2. Battery Mk 130 Mod 1 Repackaging

A.3 BOMB FIN MK 15 REPACKAGING

WARNING

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturer's Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS

COMPONENTS

Cap, fin protective	Lug, suspension, MS3314
Fin, Bomb Mk 15	

SUPPORT ITEMS

Crate, Bomb Fin, Mk 28 Mod 0[1]	Sealer, steel-strapping, 1-1/4 in x 0.035
Cutter, steel-strap, heavy duty	Stretcher, steel-strapping
Faceshield, protective	Strapping, flat-steel 1-1/4 x 0.035
Gloves, leather	Strapping, flat-steel 3/4 x 0.035
Grease, pneumatic systems, MIL-G-4343*	Tape, press-sens, adh, olive, 3W
Pliers, str-nose, w/cutter, 6L	Wire, lock, steel, znpl, 0.047 dia

* **Hazardous Material*

[1] *Most bomb fins are packaged in metal crates secured to Mk 12 Mod 0 steel pallet; however, in some instances, the adapter ADU-3831E secured to Mk 12 Mod 0 steel pallet may be used for shipping purposes.*

WARNING

Potential eye-hazard exists when repackaging fins; wear protective faceshield and gloves. Do not bend release band latch during handling.

Keep clear of release band while repackaging fin. If accidentally released, it may fly upward with enough force to injure personnel.

A.3.1 REPACKAGING INSTRUCTIONS

a. Ensure plastic protective cap or tape is installed over threads on aft end of fin.

b. Using PPE per MSDS, apply a thin coat of grease to the release band latch, safety pin and all setscrew threads.

c. If present, secure suspension lugs to crate assembly bottom.

WARNING

Fin weighs approximately 66 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

d. Place fin on bottom of crate with aft end up.

e. Install the two sides over the crate bottom.

f. Spread upper portions of sides and place top of crate over fin.

g. Move sides over the edges of the top.

WARNING

Potential eye-hazard exists when repackaging fins; wear protective faceshield and gloves. Do not bend release band latch during handling.

Keep clear of release band while repackaging fin, If accidentally released, it may fly upward with enough force to injure personnel.

h. Put on faceshield and gloves.

i. Secure crate with one steel shipping band around center of the sides of the crate.

j. Remove faceshield and gloves.

k. Tag crate with appropriate information.

A.4 BOMB FIN MAU-91A/B REPACKAGING

WARNING

The following procedure involves the use of hazardous materials. Ensure all personnel are familiar with the hazards listed in the specific manufacturer's Material Safety Data Sheet (MSDS) and that Personal Protective Equipment (PPE) guidance is followed.

MATERIALS	
COMPONENTS	
Bomb Fin MAU-91A/B	Lug, suspension, MS3314
SUPPORT ITEMS	
Arming wire remnant	Sealer, steel-strapping, 1-1/4 in x 0.035
Crate, Bomb Fin, MAU-91A/B[1]	Stretcher, steel-strapping
Cutter, steel-strap, heavy duty	Strapping, flat-steel 1-1/4 x 0.035
Faceshield, protective	Strapping, flat-steel 3/4 x 0.035
Gloves, leather	Tape, press-sens, adh, olive, 3W
Grease, pneumatic systems, MIL-G-4343*	Wire, lock, steel, znpl, 0.047 dia
Pliers, str-nose, w/cutter, 6L	Wooden Adapters (retained)

* **Hazardous Material*

[1] *The MAU-91A/B are packaged with wooden adapters secured to Mk 3 Mod 0 steel pallets for shipping purposes.*

A.4.1 REPACKAGING INSTRUCTIONS

WARNING

Potential eye-hazard exists when repackaging fins; wear protective faceshield and gloves. Do not bend release band latch during handling.

a. If release lanyard was removed during assembly, reject fin. Ensure tagged safety pin is in release band latch. Using PPE per MSDS, apply a thin coat of grease to the release band latch and safety pin.

WARNING

Ensure tagged safety pin is securely installed in release band latch prior to removing release pin to prevent opening of fin. Personnel injury could result.

b. If installed, remove release pin from latch.

c. Tape swivel loop of fin release lanyard to top of fin.

NOTE

Hooked piece of arming wire may be necessary to form loop.

d. Ensure loop of wire, approximately one Inch diameter, protrudes from aft end of lanyard guide.

e. If present, secure suspension lugs to adapter's aft cap.

WARNING

Fin weighs approximately 120 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

f. Place forward end of fin in forward cap, being careful not to damage release band latch assembly.

g. Place aft end of fin in aft cap, being careful not to damage suspension lugs if present.

WARNING

Potential eye-hazard exists when repackaging fins; wear protective faceshield and gloves. Do not bend release band latch during handling.

h. Put on faceshield and gloves.

i. Secure crate with one steel shipping band.

j. Remove faceshield and gloves.

k. Tag crate with appropriate information.

A.5 TAIL SECTION MK 12 SAFETY HARNESS INSTALLATION

MATERIALS	
COMPONENTS	
Tail Section Mk 12, per job sheet 5-5	Safety Harness Assembly
SUPPORT ITEMS	
Tape, press-sens, adh, olive	

A.5.1 SAFETY HARNESS

a. Referring to Figure A-3, install safety harness on tail section as follows:

WARNING

Tail Section Mk 12 contains a small quantity of hazardous material (ammunition non-explosive). Handle carefully when opening. Personnel injury could result.

Avoid standing directly behind tail cover during safety harness installation; pack opener could accidentally activate and eject parachute.

NOTE

Since it is mandatory that a safety harness be installed on tail section when packaged in its storage and shipping container or when installed on weapon for storage, these procedures are predicated on a fully assembled weapon which has been prepared for final delivery to the planting vehicle but whose mission was subsequently aborted.

(1) Orient the top of tail section as shown in View 1; then wrap the safety harness around Fin A, as shown, and crisscross the harness so that the relative positions of the buckle and the pads (hook and pile) are as shown in View 1.

(2) With the slit in the harness centered on the tail cover, as shown in View 2, pass the pad-end of harness through the slit and wrap it around Fin B, as shown in View 2.

(3) Pass the pad-end of harness through both of the metal loops of the buckle as shown in View 3; then pass the pad end around the upper loop of the buckle and through the lower loop of the buckle as shown in View 4.

(4) Pull on pad-end to tighten harness in place on fins, positioning the buckle 2-1/2 to 3 inches from trailing edge of Fin B, as shown in View 5.

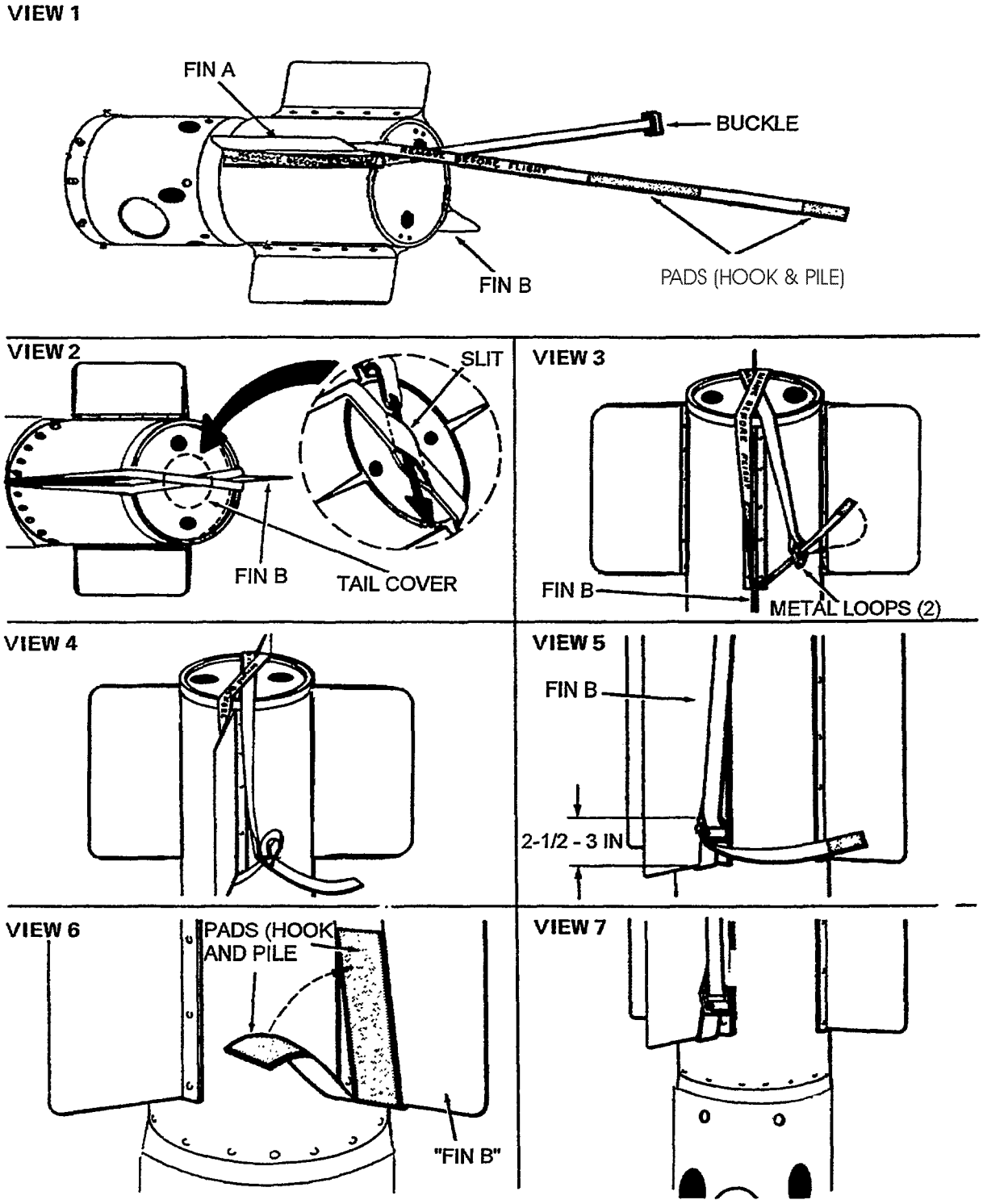


Figure A-3. Safety Harness Installation

(5) Wrap the pad-end of harness around trailing edge of Fin B and adhere it to the hook and pile end on the harness located on opposite side of fin as shown in View 6.

b. Inspector, verify harness installation.

A.6 KIT FLIGHT GEAR MK 166 REPACKAGING

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Kit, Flight Gear, Mk 166, 5561720, containing: Arming Wire, 5561721 (2), Retainer, arming wire, 5561722, Setscrew, sch, 1/4-20UNC-3A x 1, MS51020-63 (3), Shipping and Storage Container	Tail Section, per job sheet 5-5

SUPPORT ITEMS

Adapter, soc-wr, 3/8M dr x 1/2F dr	Screwdriver, flat-tip, 3/8 tip x 8L
Bag, plastic, PPP-B-26, TY11, Style 3, Size 3 x 3	Seal, traceable
Hammer, rawhide-insert, 4-1/2 lb	Socket, 12-pt, deep-lg, 9/16 x 3/8 dr
Handle, rev-ratchet, 3/8 dr	Tape, press-sens, adh, olive, 3W
Pliers, slip joint, str-nose, 8L	Wrench, open-end, 9/16 - 5/8
Press, lead-seal, hand	

A.6.1 REPACKAGING TAIL SECTION MK 12

WARNING

Tail Section Mk 12 contains a small quantity of hazardous material (ammunition non-explosive). Handle carefully when opening. Personnel injury could result.

Flight Gear Kit weighs approximately 175 pounds. To prevent injury use proper precautions and sufficient personnel when handling.

a. Referring to Figure A-4, prepare shipping and storage container (drum type) for packing Tail Section Mk 12 as follows:

(1) Remove locking ring from container.

(2) Remove cover and gasket.

(3) Remove filler and top support.

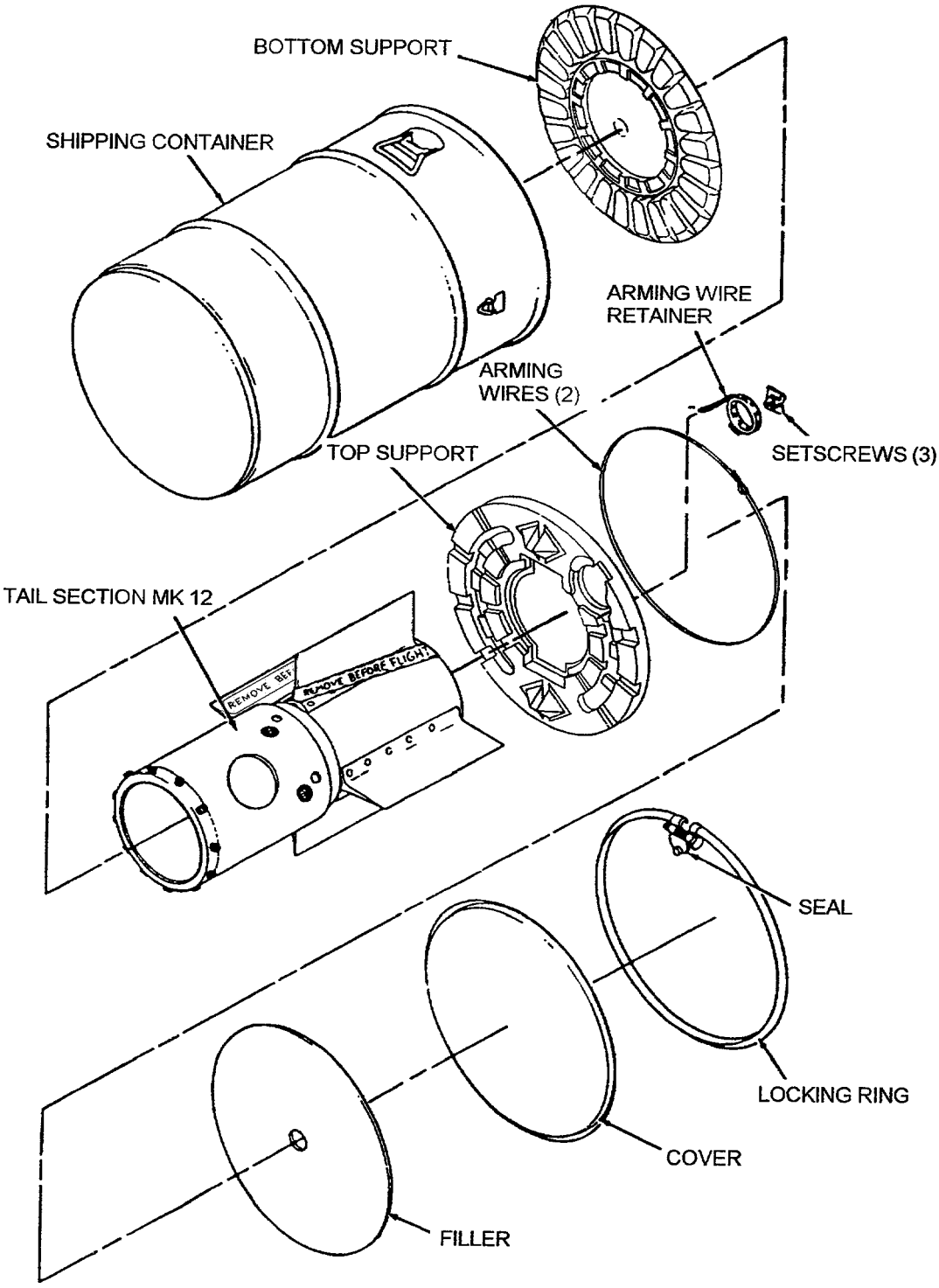


Figure A-4. Kit Flight Gear Mk 166

(4) Verify that bolts on aft end of tail section are safety wired.

(5) Verify that safety harness is installed.

(6) If ECI 0285 has been performed, verify the warning streamer is installed.

b. Referring to Figure A-4, package tail section in container as follows:

CAUTION

Do not use safety harness assembly to lift tail. Safety harness could be damaged.

(1) Being careful not to lift the tail section by its safety harness, place the tail section in container, fin-end up, so that the tail section is centered on bottom support.

(2) Position top support over end of tail section with fins aligned with slots in support as shown.

c. Referring to Figure A-5, containerize the two arming wires 5561721, the arming-wire retainer, and three setscrews MS51020 as follows:

(1) Form a 22-inch coil of the two arming wires, binding them together with pressure-sensitive tape; then place the coiled wires over top support as shown.

(2) Insert the rod of the retainer into hole of top support; then position the ring of the retainer on the boss of top support as shown.

(3) Place the three setscrews in a 3 x 3-inch plastic bag and seal with pressure-sensitive tape; then place bag in recess of top support as shown.

d. Inspector, verify step b and step c.

e. Referring to Figure A-4, secure tail section in container as follows:

(1) Place filler over top support.

(2) Position cover in place on drum, secure with locking ring, and seal.

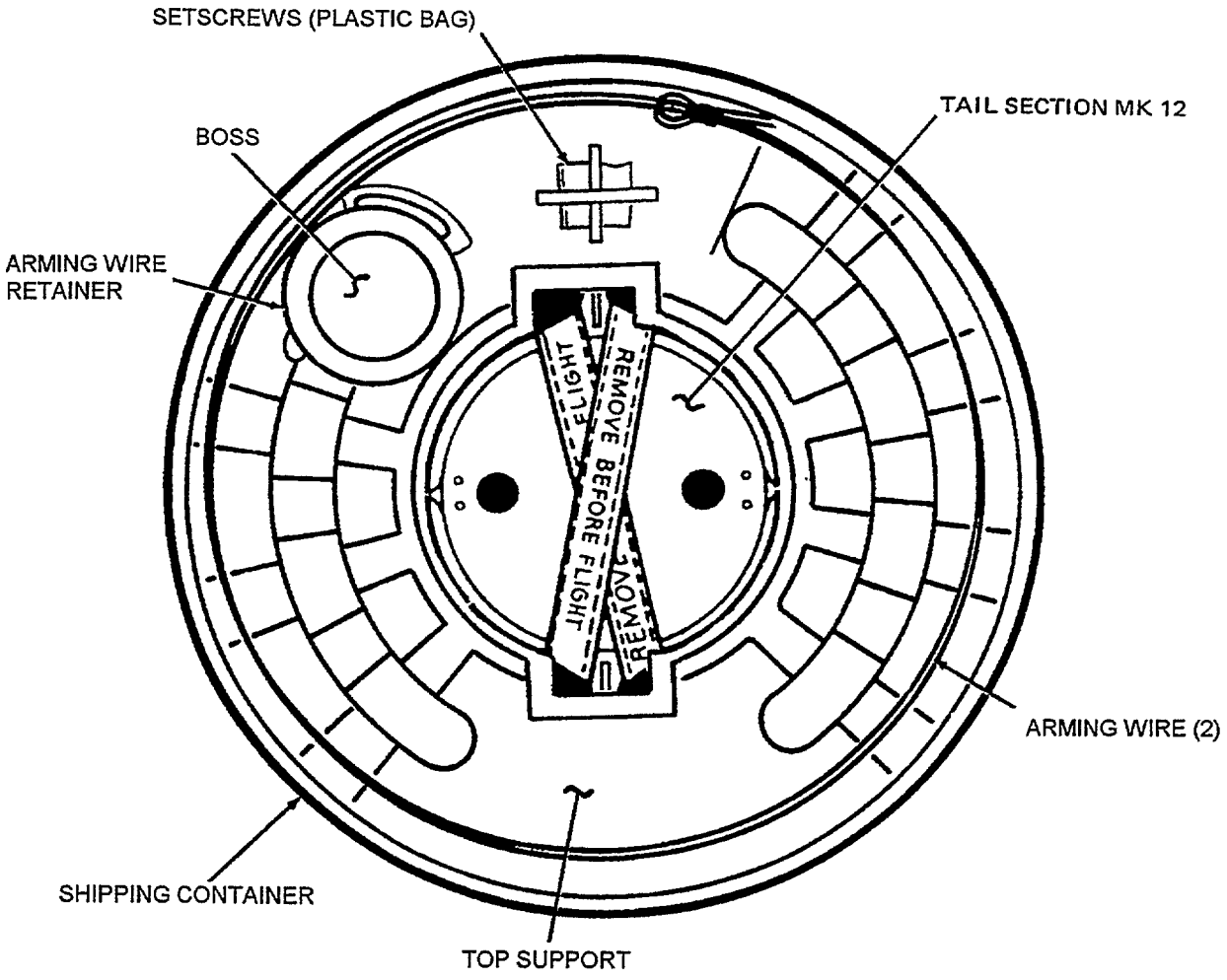


Figure A-5. Packaging Accessories in Shipping Container

A.7 BOMB/MINE CONVERSION KIT MK 130 REPACKAGING

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Aluminum Setscrews (8)
Arming Device Mk 32
Arming Hardware Kit Mk 165
Booster Mk 59
Target Detecting Device Mk 57

The following items are supplied with the kit and were removed during assembly:

Ammunition Box Mk 1, small arms (modification container)
Container (arming device)
Container (booster)
Container (inner)

Container (outer)	Spacer (bottom)
Container (intermediate)	Spacer (middle)
Container (misc. parts)	Spacer (top) (2)
Cushion (misc. parts) (2)	Support (arming device) (2)
Lids (tear strip can) (2)	Support (booster) (2)

SUPPORT ITEMS

Cutter, steel-strap, heavy duty	Sealer, steel-strapping, 1-1/4 in x 0.035
Faceshield, protective	Stretcher, steel-strapping
Foil, aluminum	Strapping, flat-steel 1-1/4 x 0.035
Pliers, diagonal-cut, plain, 6L	Strapping, flat-steel 3/4 x 0.035
Pliers, str-nose, w/cutter, 6L	Tape, aluminum foil, 7510-00-684-8803
Seal, traceable (2)	Tape, press-sens, adh, olive

A.7.1 INTERMEDIATE CONTAINER REPACKAGING (Figure A-6)

WARNING

Booster Mk 59 is sensitive to EMR energy which can cause an initiation of the detonator. Booster must be unpackaged and repackaged in an EMR free environment. Potential explosive hazard exists when handling booster; wear protective faceshield.

NOTE

Repackaging is to allow return of fleet retrograde.

a. Unlatch and remove modification container cover. Remove all repackaging material from modification container. Ensure modification container is empty.
b. Ensure lid and cushions are present.
c. Put on faceshield.
d. Carefully place arming device between styrofoam supports and insert into arming device unit container with arming vane up.
e. Replace arming device unit container lid and close tightly.
f. Seal arming device unit container with tape.
g. Inspect booster unit container. Ensure lid and supports are present.
h. Ensure protective covers are installed on both ends of booster.
i. Carefully place booster between styrofoam supports and insert into booster unit container, flange up.
j. Place lid on booster unit container then tape one or more thicknesses of foil or foil tape over end. Apply strips of tape over foil or foil tape to protect it from puncture. Then cover entire booster unit container with foil or foil tape.
k. Open intermediate container and place right side up.
l. Place bottom spacer in bottom of intermediate container with cutout up.
m. Place arming device unit container into intermediate container so that it seats in spacer cutout.
n. Place middle spacer with large cutout down over arming device unit container.
o. Place booster unit container in intermediate container. Ensure it seats in cutout.

p. Fit top spacer over booster unit container.

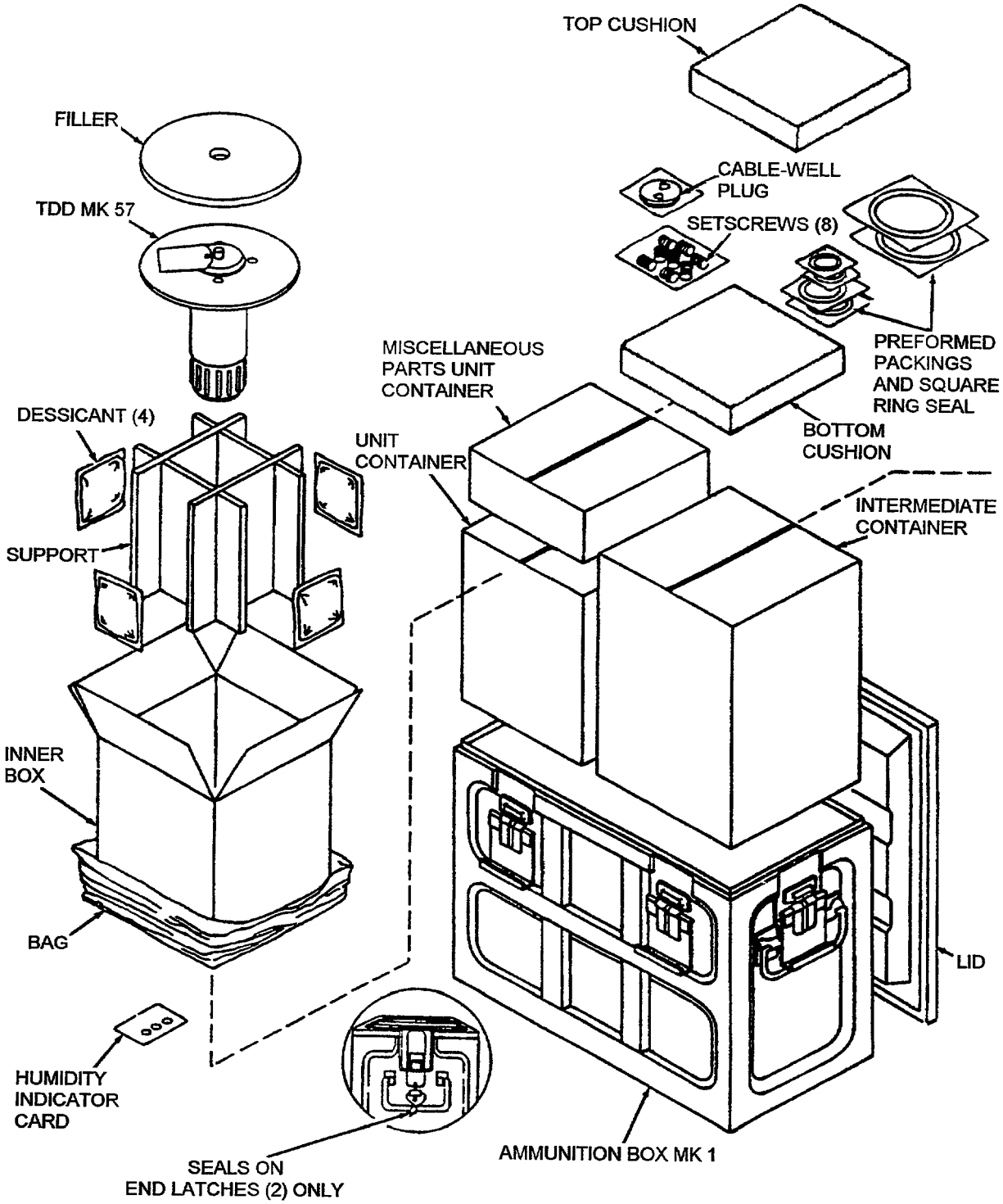


Figure A-6. Bomb/Mine Conversion Kit Mk 130 Repackaging (Sheet 1)

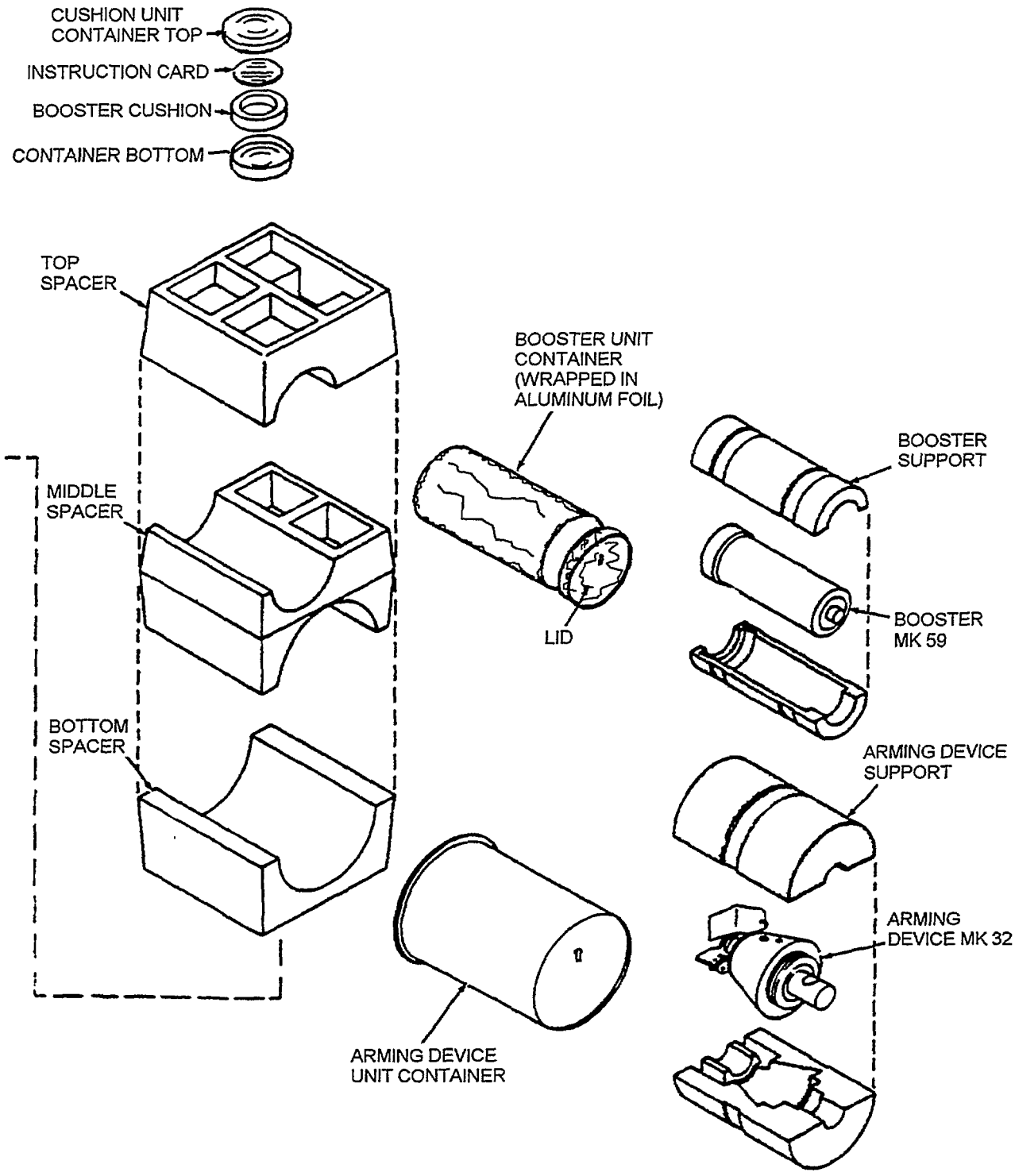


Figure A-6. Bomb/Mine Conversion Kit Mk 130 Repackaging (Sheet 2)

q. Close intermediate container and seal with tape.

r. Set intermediate container aside for repackaging.

s. Remove faceshield.

A.7.2 TDD MK 57 UNIT CONTAINER REPACKAGING

a. Inspect TDD Mk 57 unit container. Ensure support and filler are present in inner box (Figure A-6). Inspect humidity indicator card; if indicator is pink, replace desiccants.
b. Insert TDD into container, flange up, so it enters middle support cavity.
c. Seat TDD flange on support.
d. Place filler over TDD flange so cutout fits over pop-out pin.
e. Close inner box and seal with tape.
f. Place inner box inside bag and close bag.
g. Place bag in outer container and seal with tape.
h. Set TDD Mk 57 Unit container aside for repackaging.

A.7.3 MISCELLANEOUS PARTS CONTAINER REPACKAGING

a. Inspect miscellaneous parts container. Ensure two cushions are present.
b. Remove top cushion.
c. If present, place the following components on bottom cushion:
   Arming Hardware Kit Mk 165
   Cushion (Booster)
   Packing, preformed, MS29513-237 (Arming device)
   Packing, preformed, MS29513-225 (Cable well)
   Plug, cable-well
   Set screw seal assembly
   Setscrews (8)
   Square ring seal, 6375125
d. Replace top cushion.
e. Close miscellaneous parts container and seal with tape.
f. Set container aside for repackaging.

A.7.4 BOMB/MINE CONVERSION KIT MK 130 REPACKAGING

a. Place intermediate container (Figure A-6) into Small Arms Ammunition Box, right side up, and push to one end.
b. Place TDD Mk 57 unit container next to intermediate container, right side up.
c. Place miscellaneous parts unit container on top of TOO Mk 57 unit container.
d. Inspector, verify Kit Mk 130 repackaging.
e. Install lid and secure latches.
f. Secure latch on each end with seal.

A.8 KIT FLIGHT GEAR MK 164 mod 0 or mod 1 REPACKAGING

WARNING

The following procedures require handling of an explosive-loaded component. IMA handle in accordance with safety practices in SW550-AA-MMI-010 and OP 5. Forces afloat handle in accordance with OP 4.

MATERIALS

COMPONENTS

Bolt, hex-hd, slf-lkg, 1/4-28 x 3/4
Cable, solenoid arming
Clamp, hose
Container, shipping and storage

Cushion (tube assembly)	Tube Assembly
Retainer, arming wire, 5561722	Washer, antitorque
Screw, shoulder	Setscrew, sch (arming wire retainer), 1/4-20UNC-3A x 1, MS51020-63 (3)
Streamer, warning (if available)	
Tail Section Mk 16, per job sheet 5-6	

SUPPORT ITEMS

Bag, plastic, 4 x 4-1/2, 6011549	Seal, traceable (2)
Press, lead-seal, hand	Wire, safety, MS20995-C20

A.8.1 REPACKAGING TAIL SECTION MK 16

NOTE

If solenoid arming cable was modified, kit must remain Mk 164 Mod 1. The Mod 0 kit must have the solenoid arming cable intact.

a. Referring to Figure A-7, prepare shipping and storage container for packing Tail Section Mk 16 as follows:
   (1) Remove container lid, top support, and polyethylene fillers from container.
   (2) Verify bottom support is properly situated in bottom of container.
   (3) Verify safety harness is installed.
   (4) Ensure eight setscrews are installed in forward edge of tail section.

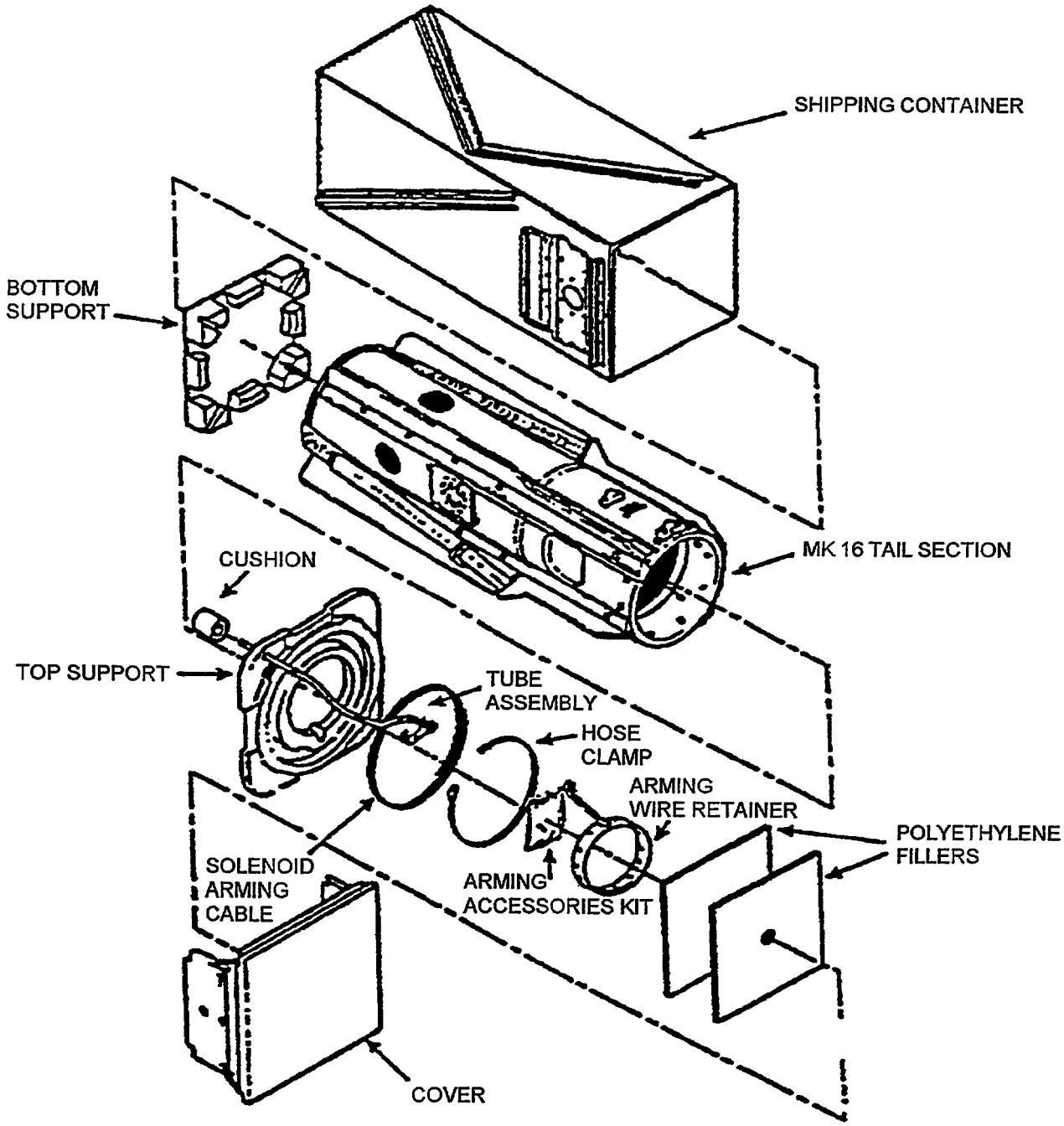


Figure A-7. Mine Flight Gear Kit Mk 164 Mod 0

WARNING

If screw flange on safety knob of warning flag assembly is not flush against end of control unit, striker is not properly secured and may cause tail cover and parachute to eject from tail with enough force to cause injury.

(5) Verify screw flange on safety knob of warning flag assembly is flush against end of control unit assembly. If necessary, hold safety pin, and screw safety knob flush against control unit.

(6) Verify 8 x 8-inch plastic bag containing coiled arming device arming cable is taped to tail between two fins as shown in Figure A-8.

(7) Ensure swivel assembly and two lanyard extensions are installed in pockets of warning flag assembly.

CAUTION

Do not use safety harness assembly to lift tail when installing tail section in shipping container. Safety harness could be damaged.

b. Carefully install tail in container with open end of tail up. Ensure fins are aligned with corners of container.

c. Install end of tube assembly through hole in top support as shown in Figure A-7. Install cushion on end of tube assembly. Then install top support with tube assembly in shipping container, aligning spring pin hole in top support with spring pin on tail section.

d. Coil hose clamp and install in circular indentation around central dish of top support. Worm screw barrel should be in cutout in top support.

e. Coil solenoid arming cable and install cable in cutouts on outer edge of circular portion of top support.

f. Position sliding arming wire guide and lanyard assembly on solenoid arming cable in a corner of top support. The clip-on solenoid arming cable may be fastened to the opposite end of wire to assist packaging.

g. Install the following in a 4 x 4-1/2-inch plastic bag to make up arming accessories kit:
Arming wire retainer setscrews (3)
Antitorque washer
1/4-28 x 3/4 self-locking bolt
Shoulder screw
Warning streamer (if available).

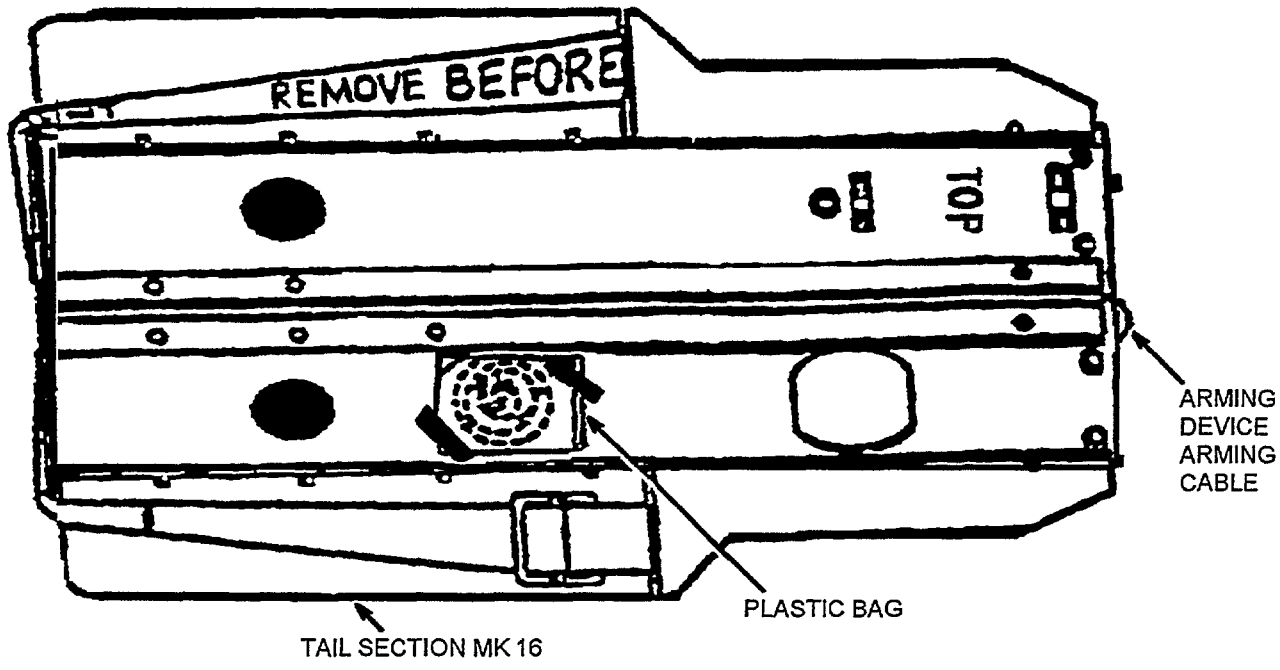


Figure A-8. Arming Device Arming Cable Packaging

h. Install arming accessories kit in center of top support.
i. Install arming wire retainer in center dish of top support with rod through cutout.
j. Inspector, verify step b through i.
k. Install fillers on top support to provide snug fit when container lid is installed.
l. Install lid on shipping container and secure latches with seals.

APPENDIX B
PROCEDURE FOR USING WEAPONS DOLLY MK 11 FOR THE ASSEMBLY OF MINE MK 63

NOTE

In conjunction with the bomb preparation procedures in job sheet 4-1, Weapons Dolly Mk 11 has been approved for use as an alternate platform to Bomb Assembly Stand A/F 32K 1/1A for the assembly of Mine Mk 63. The dolly may be used in lieu of the stand at IMAs when it is determined that it is a more convenient and expeditious means for weapons assembly.

MATERIALS

COMPONENTS

Carrier, Weapons, Mk 49
Cutter, steel-strap, heavy duty
Dolly, Weapons, Mk 11
Faceshield, protective
Gloves, leather
Sealer, steel-strapping, 1-1/4 in x 0.035
Strapping, flat-steel 1-1/4 x 0.035
Strapping, flat-steel 3/4 x 0.035
Stretching and Sealing Machine, hard strap

B.1 BOMB MK 83 or BLU-110A/B (3)

a. Position Dolly Mk 11 next to palletized Bombs Mk 83 or BLU-110A/B (see job sheet 4-1).

b. Engage the position lock at each end of dolly; then place all four wheel assemblies in the stowed position as shown in Figure B-1.

c. Attach Weapon Carrier Mk 49 to the lugs of the Bomb in the center saddle of pallet. Lift bomb so that it clears pallet, and turn the bomb 180 degrees so that its tail end is positioned directly above the noses of the other two bombs. Reposition the bomb in center saddle of pallet, so that its tail end overhangs the pallet approximately 6 inches.

d. Using Weapons Carrier Mk 49, reposition the two bombs in the two outboard saddles so that their tail ends overhang the pallet approximately 6 inches, but at the opposite end from the tail of the bomb in the center saddle.

e. Using a forklift, carefully place the three palletized bombs on the Mk 11 Dolly, positioning the pallet so that it is centered on frame of dolly as shown in Figure B-2.

f. Put on faceshield and gloves.

g. Secure the palletized bombs to the dolly using steel strapping (Figure B-2).

h. Proceed to step e of paragraph 4-1.1 in job sheet 4-1 of this manual.

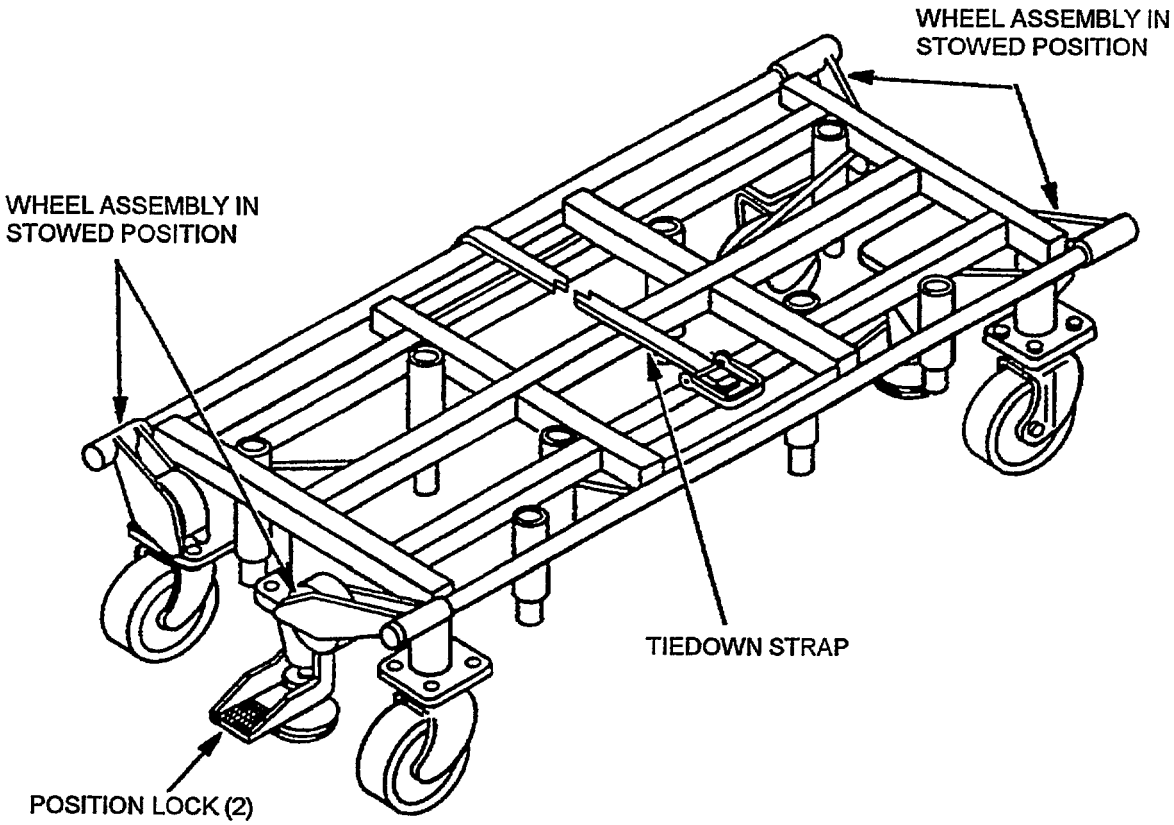


Figure B-1. Weapons Dolly Mk 11 Preparation

B.2 SINGLE BOMB MK 83 or BLU-110A/B

a. Dolly Mk 11 on must have its four wheel assemblies laterally adjusted to the size and CG of the bomb to ensure a safe, secure, and handling operation.

b. Referring to Figure B-3, adjust wheel assemblies for correct placement.

c. Place bomb on dolly and secure in place with tiedown strap.

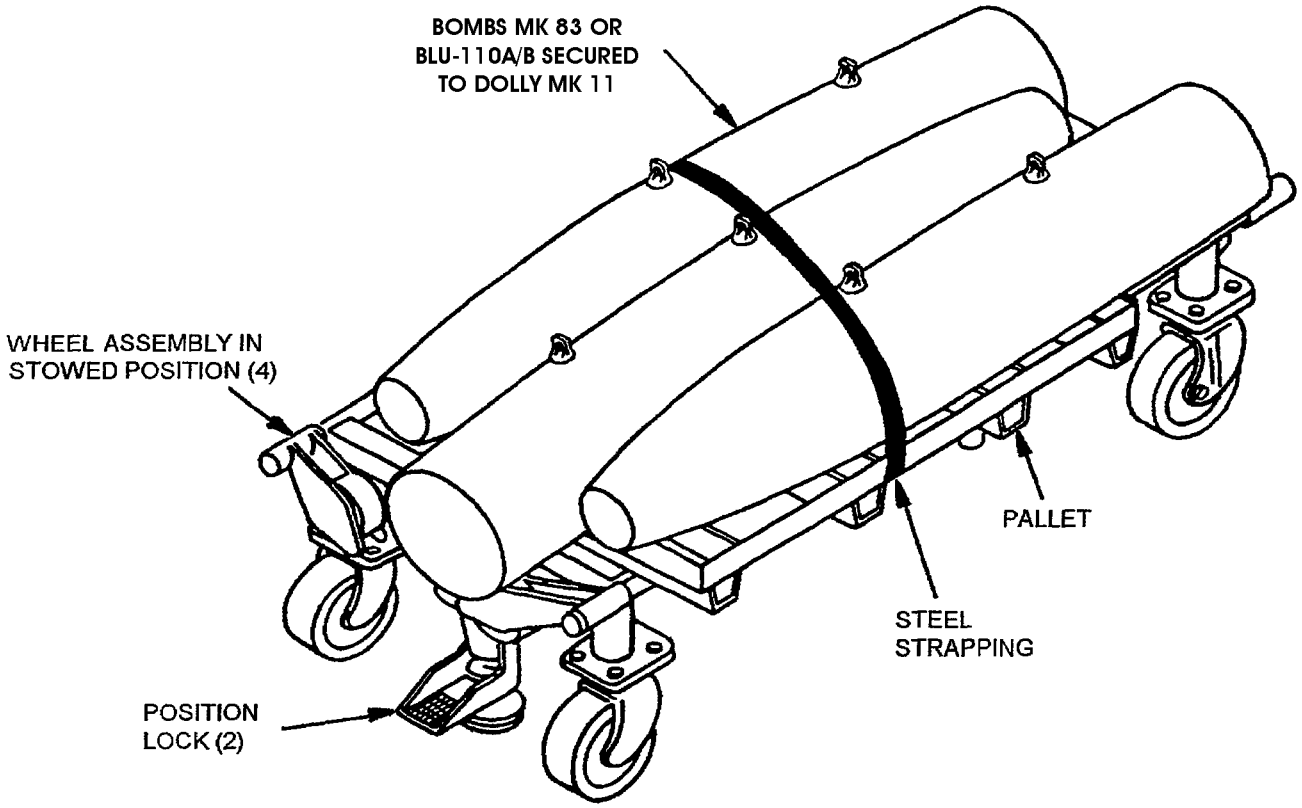


Figure B-2. Palletized Bombs Secured to Dolly Mk 11

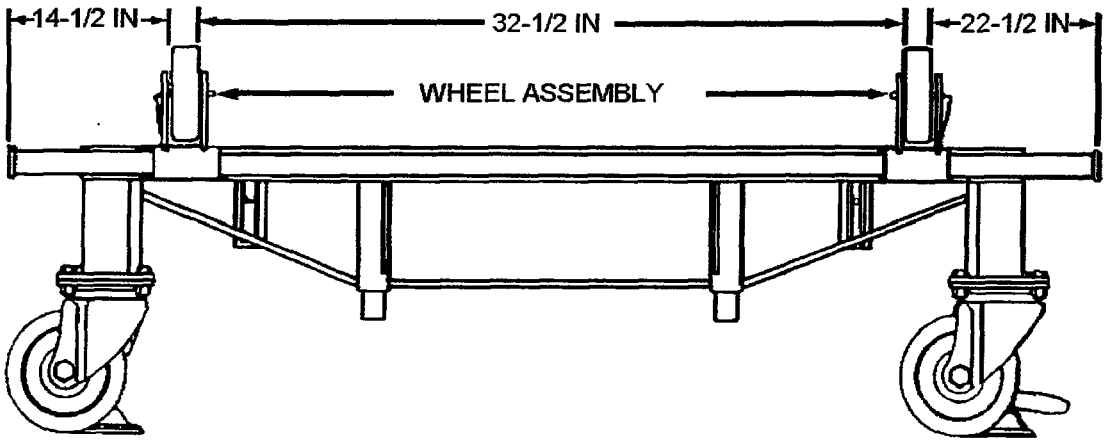


Figure B-3. Dolly Mk 11 Wheel Placement for Mine Mk 63

APPENDIX C
ILLUSTRATED PARTS BREAKDOWN (IPB)

This appendix contains the IPB for Mines Mk 62 and 63.

Table C-1. Mine Mk 62 with Bomb Fin Mk 15 (Figure C-1)

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
1	6169038	Arming Device, Mk 32[1]	1
2	MS29513-237	Packing, preformed[1]	1
3	2421706	Booster Mk 59[1]	1
4	2499474	Cushion[1]	1
5	5479526	Setscrew, Seal[1],[3]	1
6	4902392	Bomb, General-Purpose, Mk 82	1
	923AS331	Bomb, General-Purpose BLU-111A/B	
7	MS3314	Lug, suspension, MS3314	2
8	2494209	Plug, cable well[1]	1
9	MS29513-225	Packing, preformed[1]	1
10	3162285	Cable and Strap Assembly (delayed arming)	1
11	6375125	Seal, square ring[1]	1
12	3192006	Device, Target Detecting Assembly, Mk 57 Mod 0[1],[2]	1
	5479628	Device, Target Detecting Assembly, Mk 57 Mod 1[1],[2]	
13	2880011	Fin, Bomb, Mk 15	1
14	5178213	Setscrew, AL, 1/2-13UNC-2A x 3/4[1]	8
15	1568356	Release Band Assembly	1
16	1561421	Pin, safety, release band	1
17	375994	Arming Wire Mk3	1

[1] *Included in Conversion Kit Mk 130.*
[2] *Battery Mk 130 installed.*
[3] *Alternate Setscrew, sch, dog-pt, 3/8-16UNC-3A x 5/8, 4902485.*

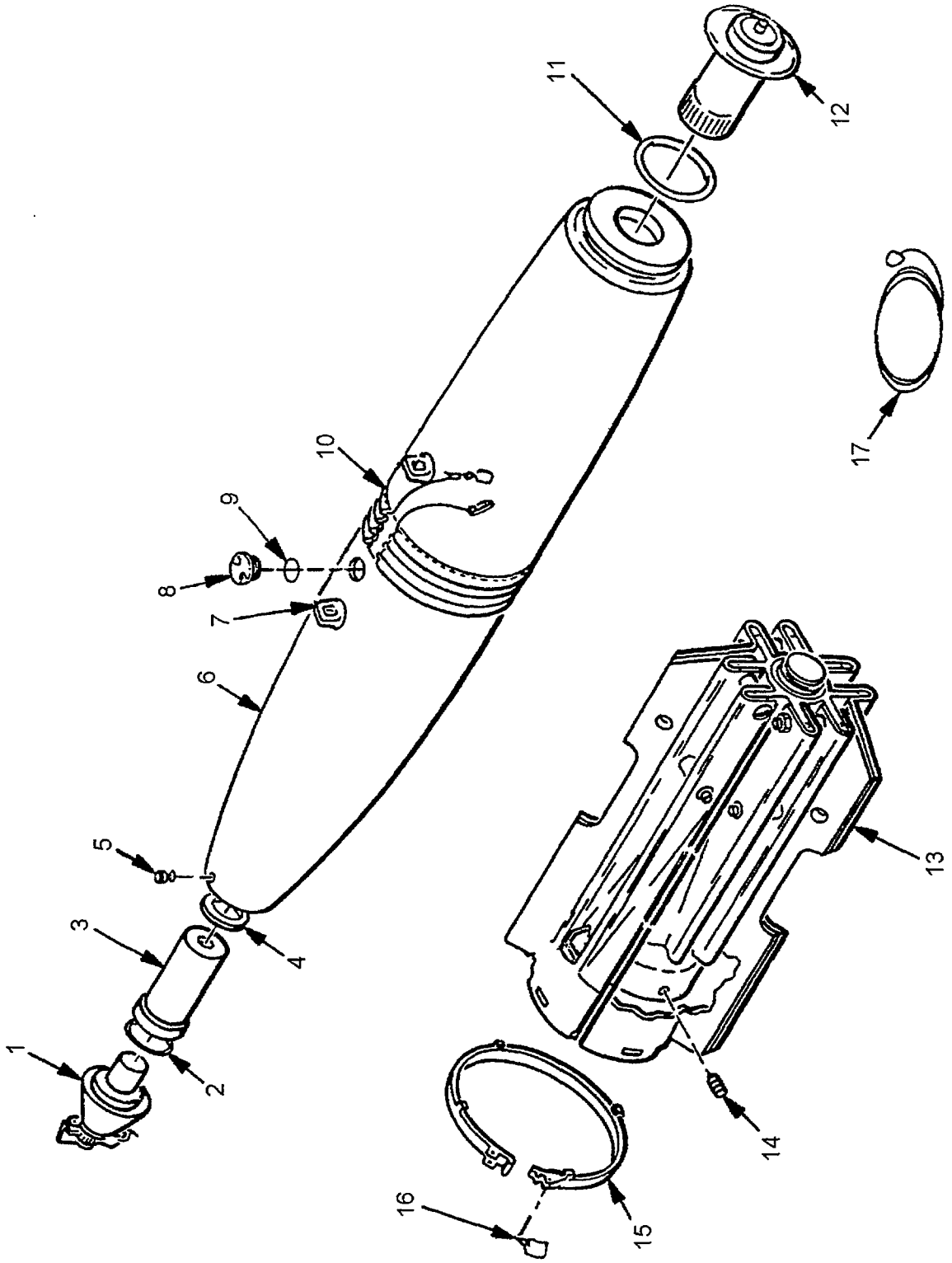


Figure C-1. Mine Mk 62 with Bomb Fin Mk 15

Table C-2. Mine Mk 62 with Bomb Fin BSU-86/B or BSU-86A/B (Figure C-2)

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
1	6169038	Arming Device, Mk 32[1]	1
2	MS29513-237	Packing, preformed[1]	1
3	2421706	Booster Mk 59[1]	1
4	5479526	Setscrew, Seal Assembly[1],[3]	1
5	2499474	Cushion[1]	1
6	4902392	Bomb, General-Purpose, Mk 82	1
	923AS331	Bomb, General-Purpose BLU-111A/B	
7	MS3314	Lug, suspension, MS3314	2
8	2494209	Plug, cable well[1]	1
9	6375125	Seal, Square Ring[1]	1
10	3192006	Device, Target Detecting Assembly, Mk 57 Mod 0[1],[2]	1
	5479628	Device, Target Detecting Assembly, Mk 57 Mod 1[1],[2]	
11, 12		Safety Pin and Tag	1
13	5178213	Setscrew, AL, 1/2-13UNC-2A x 3/4[1]	8
14	1568356	Release Band Assembly	1
15	923AS159	Fin, Bomb, BSU-86/B	1
	923AS348	Fin, Bomb, BSU-86A/B	

[1] *Included in Conversion Kit Mk 130.*
[2] *Battery Mk 130 installed.*
[3] *Alternate Setscrew, sch, dog-pt, 3/8-16UNC-3A x 5/8, 4902485.*

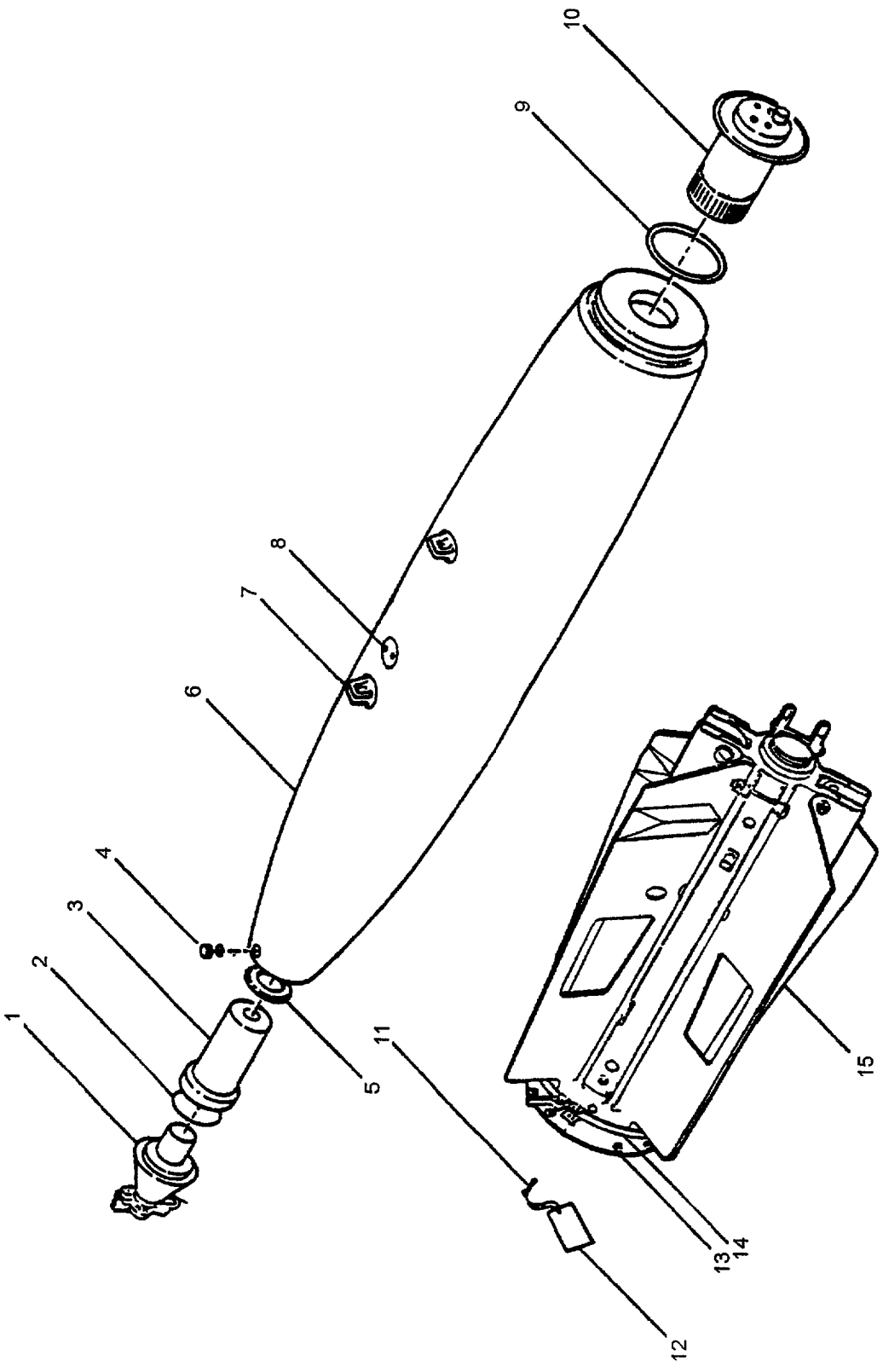


Figure C-2. Mine Mk 62 with Bomb Fin BSU-86/B or BSU-86A/B

Table C-3. Mine Mk 62 with Tail Section Mk 16 (OA-06) (Figure C-3)

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
1		Arming Device Arming Cables[5]	1
2	6169038	Arming Device, Mk 32	1
3	6011573	Solenoid Arming Cable Assembly	1
4	6011564	Retainer, Arming Wire	1
5	MS51021-63	Setscrew, sch, cup-pt, 1/4-20UNC-3A x 1	2
6	6011576	Screw, Shoulder	1
7	MS29513-237	Packing, preformed	1
8	2421706	Booster, Mk 59	1
9	2499474	Cushion	1
10	5479526	Setscrew, Seal Assembly	1
11	1380901	Bomb, GP, 500-lb. Mk 82 Mod 1[2]	1
	1380901	Bomb, GP, 500-lb. int-thr-prot, Mk 82 Mod 1[2]	
	4902393	Bomb, GP, 500-lb. ext-thr-prot, Mk 82 Mod 2[2]	
	923AS331	Bomb, General-Purpose BLU-111A/B[2]	
12	MS3314	Lug, Suspension, MS3314	2
13	MS29513-225	Packing, preformed	1
14	2494209	Plug, cable-well	1
15	6011593	Tube Assembly	1
16	6011596	Clamp, hose	1
17	MS20995-C202	Wire, safety	1
18	6375125	Seal, Square Ring	1
19	6011595	Swivel Assembly[4]	1
20	6011568	Lanyard Extension (Aero-7A, Aero-7B, BRU-32/A, BRU-33/A)[3], [4]	1
21	6011569	Lanyard Extension (MER-7/TER-7/IMER/ITER)[4]	1
22		Arming Lanyard Assembly[5]	1
23	6011525	Tail Section Mk 16 Mod 0	1
24	6011555	Safety Harness Assembly[1]	1
25	6011587	Warning Flag Assembly[1]	1
26	MS21095-4002	Bolt, self-lkg, hex-hd, 1/4-28UNF x 3/4	1
27	6011590	Washer, antitorque	1
28		TDD Arming Cable[5]	1

Table C-3. Mine Mk 62 with Tail Section Mk 16 (OA-06) (Figure C-3) - Continued.

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
29	3192006	Device, Target Detecting Assembly, Mk 57 Mod 0[6]	1
	5479628	Device, Target Detecting Assembly, Mk 57 Mod 1[6]	

[1] *Part of Kit, Mine Flight Gear Mk 164.*
[2] *Selective item.*
[3] *Used only with F/A-18.*
[4] *Piece Part of the warning flag assembly.*
[5] *Part of Tail Section Mk 16.*
[6] *Battery Mk 130 installed.*

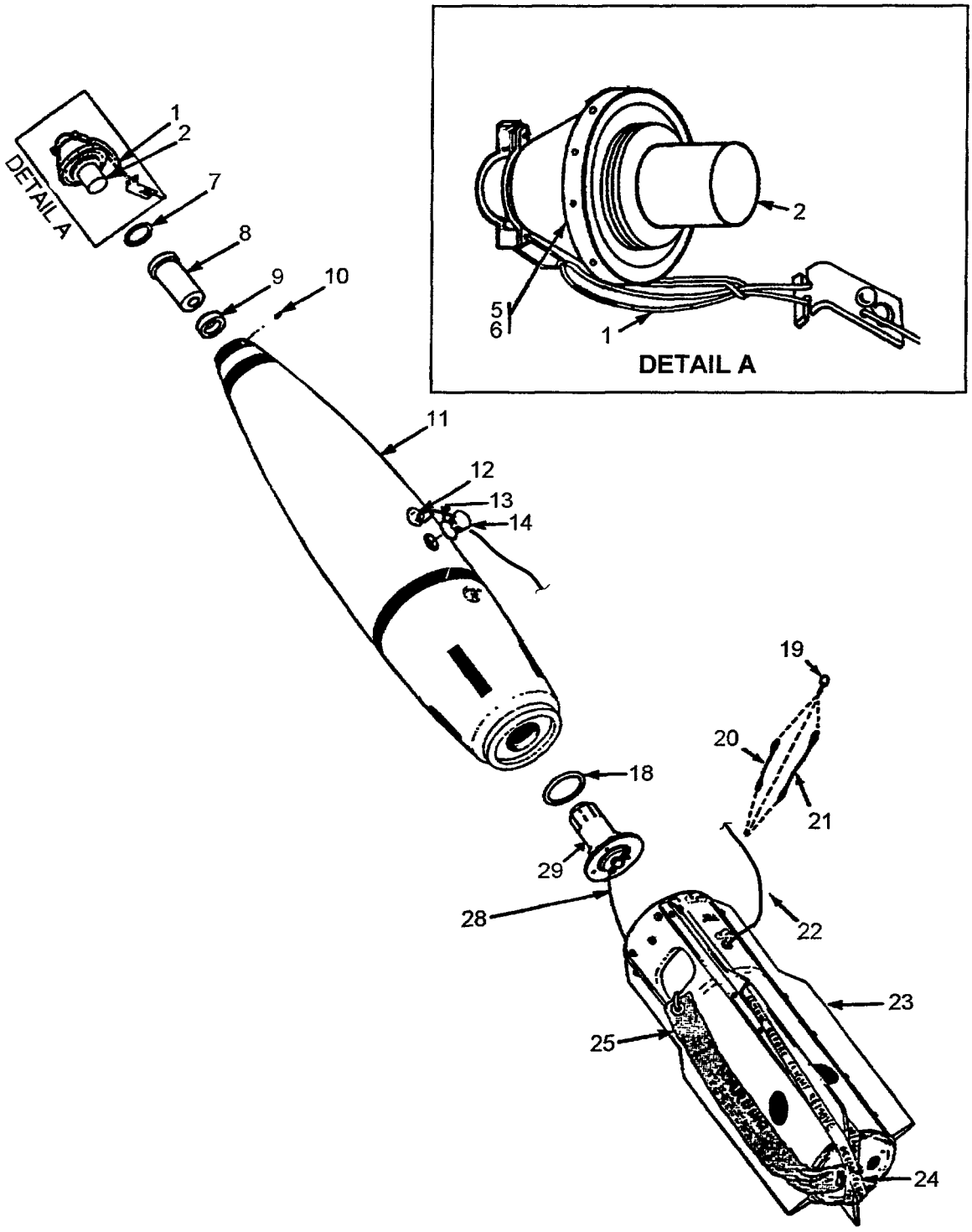


Figure C-3. Mine Mk 62 with Tail Section Mk 16 (OA-06)

Table C-4. Mine Mk 62 with Tail Section Mk 16 (OA-12/13) (Figure C-4)

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
1		Arming Device Arming Cables[4]	1
2	6169038	Arming Device, Mk 32	1
4	6011564	Retainer, Arming Wire	1
5	MS51021-63	Setscrew, sch, cup-pt, 1/4-20UNC-3A x 1	2
7	MS29513-237	Packing, preformed	1
8	2421706	Booster, Mk 59	1
9	2499474	Cushion	1
10	5479526	Setscrew, Seal Assembly	1
11	1380901	Bomb, GP, 500-lb. Mk 82 Mod 1[2]	1
	1380901	Bomb, GP, 500-lb. int-thr-prot, Mk 82 Mod 1[2]	
	4902393	Bomb, GP, 500-lb. ext-thr-prot, Mk 82 Mod 2[2]	
	923AS331	Bomb, General-Purpose BLU-111A/B[2]	
12	MS3314	Lug, Suspension, MS3314	2
13	MS29513-225	Packing, preformed	1
14	2494209	Plug, cable-well	1
15	6011593	Tube Assembly	1
18	6375125	Seal, Square Ring	1
19	6011595	Swivel Assembly[3]	1
20	6011568	Lanyard Extension (Aero-7A, Aero-7B, BRU-32/A, BRU-33/A) [3]	1
21	6011569	Lanyard Extension (MER-7/TER-7/IMER/ITER)[3]	1
22	7116338	Arming Wire, Altered	1
23	7354710	Tail Section Mk 16 Mod 1	1
24	6011555	Safety Harness Assembly[1]	1
25	6011587	Warning Flag Assembly[1]	1
28		TDD Arming Cable[4]	1
29	3192006	Device, Target Detecting Assembly, Mk 57 Mod 0[5]	1
	5479628	Device, Target Detecting Assembly, Mk 57 Mod 1[5]	

[1] *Part of Kit, Mine Flight Gear Mk 164.*
[2] *Selective item.*
[3] *Piece Part of the warning flag assembly.*
[4] *Part of Tail Section Mk 16.*
[5] *Battery Mk 130 installed.*

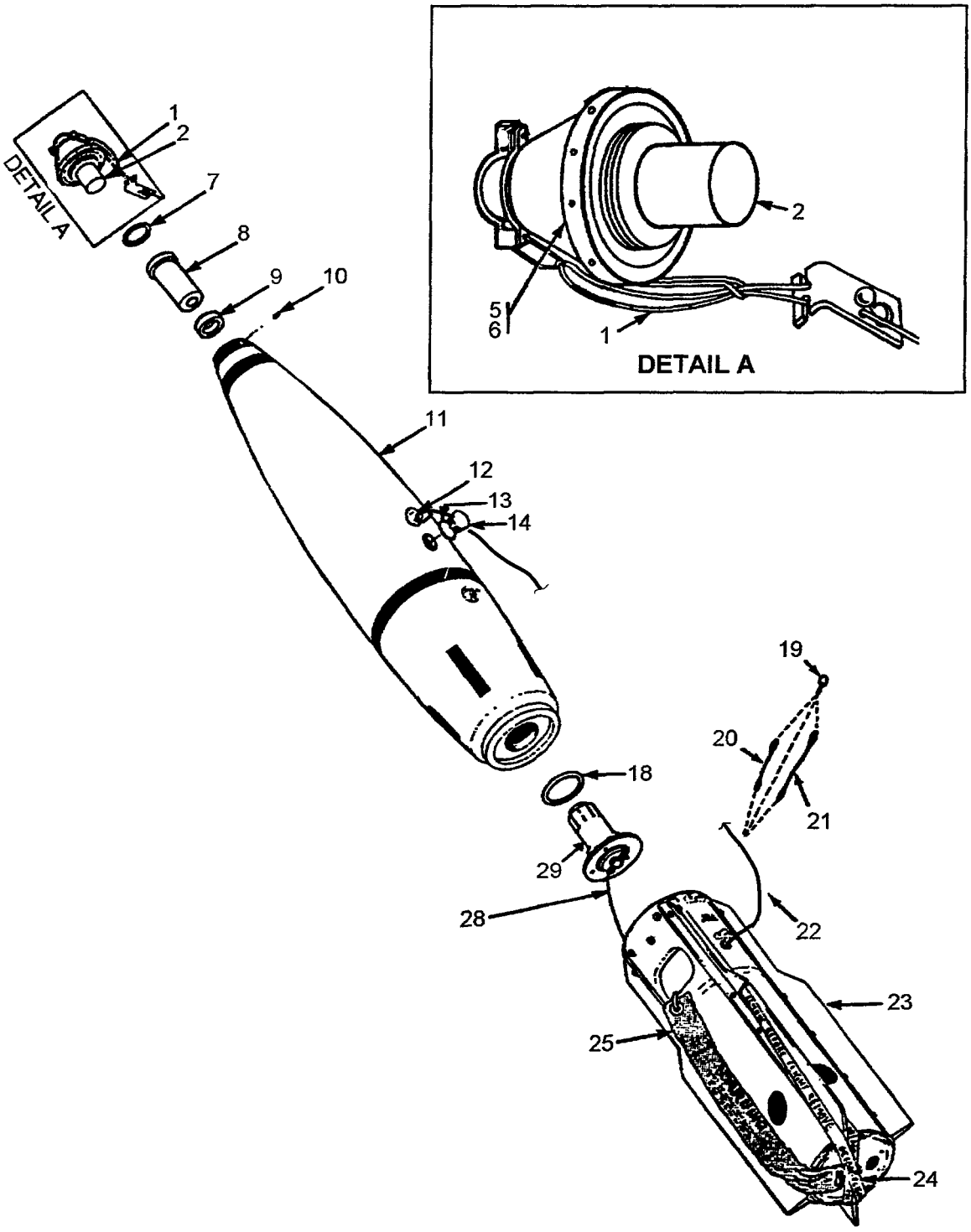


Figure C-4. Mine Mk 62 with Tail Section Mk 16 (OA-12/13)

Table C-5. Mine Mk 63 with Bomb Fin MAU-91A/B (Figure C-5)

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
1	6169038	Arming Device, Mk 32[1]	1
2	MS29513-237	Packing, preformed[1]	1
3	2421706	Booster Mk 59[1]	1
4	2499474	Cushion[1]	1
5	5479526	Setscrew, Seal Assembly[1],[3]	1
6	4902089	Bomb, General-Purpose, Mk 83	1
	923AS654	Bomb, General-Purpose BLU-110A/B	
7	MS3314	Lug, suspension, MS3314	2
	923AS283	Lug, Suspension, Mk 6 Mod 1[4]	
8	2494209	Plug, cable well[1]	1
9	MS29513-225	Packing, preformed (cable well)[1]	1
10	3162285	Cable and Strap Assembly (delayed arming)	1
11	6375125	Seal, Square Ring[1]	1
12	3192006	Device, Target Detecting Assembly, Mk 57 Mod 0[1], [2]	1
	5479628	Device, Target Detecting Assembly, Mk 57 Mod 1[1], [2]	
13	65E12320	Fin Assy, Bomb, MAU-91A/B	1
14	69B4869	Release Band Assembly	1
15	65B12319	Pin, safety, release band	1
16	5387521	Adapter, Bomb-Fin, ADU-320A/B	1
17	MS51021-96	Setscrew, sch-cup-pt, 1/2-13UNC-3A x 1	8
18	2602238	Pin Assembly, locking	1
	3132254	Pin Assembly, locking	
19	0375994	Arming Wire Mk3	1

[1] *Included in Conversion Kit Mk 130.*
[2] *Battery Mk 130 installed.*
[3] *Alternate Setscrew, sch, dog-pt, 3/8-16UNC-3A x 5/8, 4902485.*
[4] *Suspension Lugs Mk 6 Mad 1 must be used if bomb is stenciled at nose or between suspension tugs with AWC No. 318 INC.*

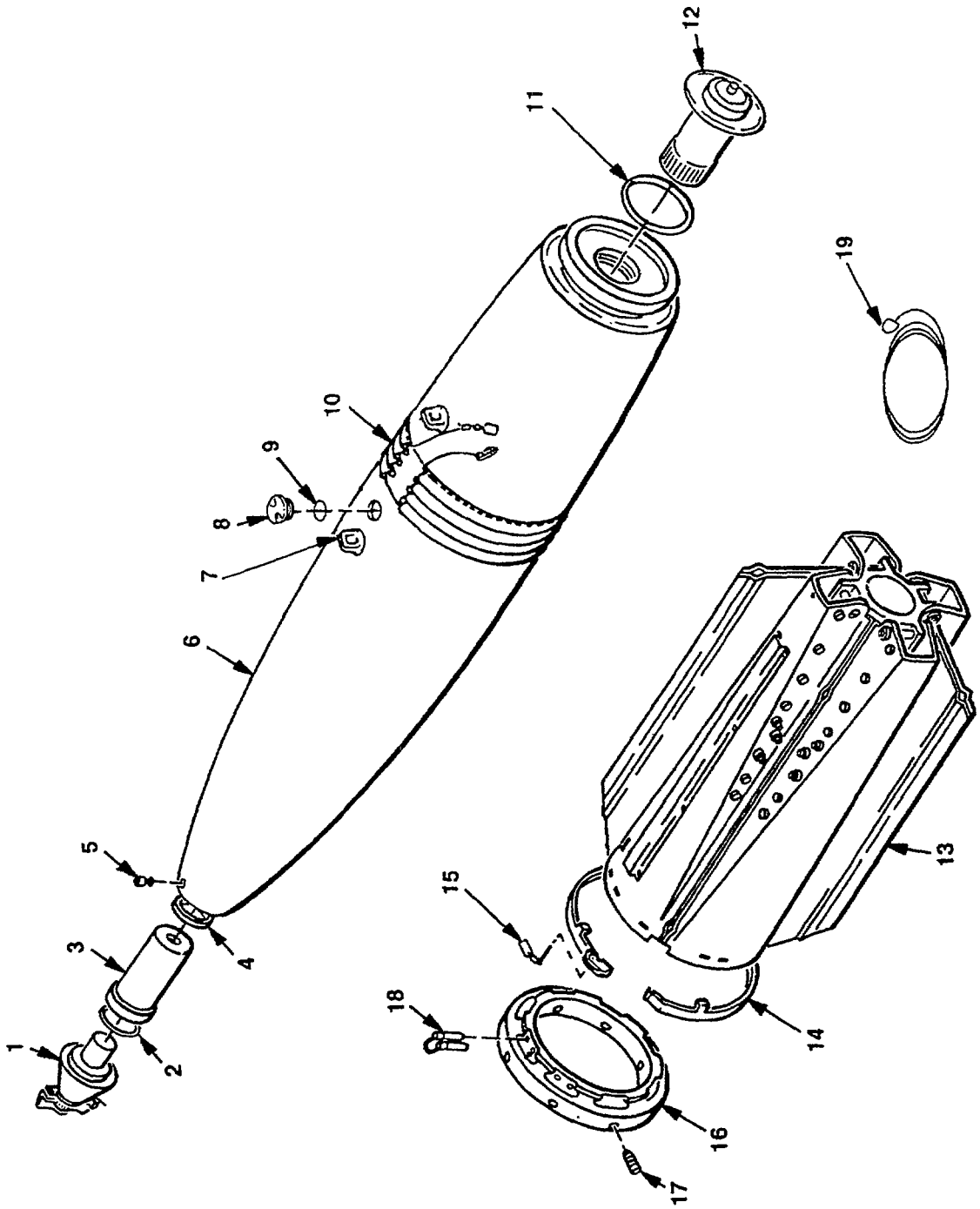


Figure C-5. Mine Mk 63 with Bomb Fin MAU-91A/B

Table C-6. Mine Mk 63 with Tail Section Mk 12 (Figure C-6)

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
1	6122686	Arming Device Arming Cable	1
2	6169038	Arming Device, Mk 32[1]	1
3	5561775	Solenoid Arming Cable[2], [7]	1
4	5561722	Retainer, arming wire[2]	1
5	MS51021-63	Setscrew, sch, cup pt, 1/4-20UNC-3A x 1[2]	2
6	MS29513-237	Packing, preformed[1]	1
7	2421706	Booster, Mk 59[1]	1
8	2499474	Cushion[1]	1
9	5479526	Setscrew, seal assembly[1], [3]	1
10	4902089	Bomb, general-purpose, Mk 83	1
	923AS654	Bomb, General-Purpose BLU-110A/B	
11	MS3314	Lug, suspension, MS3314	2
	923AS283	Lug, suspension, Mk 6 Mod 1[4]	
12	MS29513-225	Packing, preformed[1]	1
13	2494209	Plug, cable-well[1]	1
14	6375125	Seal, square ring[1]	1
15	3192006	Device, Target Detecting Assembly, Mk 57 Mod 0[1], [5]	1
	5479628	Device, Target Detecting Assembly, Mk 57 Mod 1[1], [5]	
16	5561721	Arming Wire, stainless steel (to control unit)[2]	1
17	5561756	Tail Section Mk 12[2]	1
18	5561758	Safety harness Assembly[2]	1
19	MS51964-110	Setscrew, hexagon[2]	12
20	2430878	Arming Wire, Mk 9[6]	1
21	3284116	Clip, safety, Dexter[1], [6]	1
22	291AS114	Sleeve, Nicropress[1], [6]	1
23	923AS188	Adapter, arming, self-adjusting[1], [6]	1
24	923AS190	Swivel and Ring Assembly, MAU-182[1], [6]	1

Table C-6. Mine Mk 63 with Tail Section Mk 12 (Figure C-6) - Continued.

INDEX	PART NO.	DESCRIPTION	QUANTITY PER ASSEMBLY
25	7613398	Warning Streamer Assembly [2]	1

[1] *Included in Conversion Kit Mk 130.*
[2] *Kit Flight Gear Mk 166.*
[3] *Alternate Setscrew, sch, dog-pt, 3/8-16UNC-3A x 5/8, 4902485.*
[4] *Suspension Lugs Mk 6 Mod 1 must be used if bomb is stenciled at nose or between lugs with AWC No. 318 INC.*
[5] *Battery Mk 130 installed.*
[6] *For F/A-18 and P-3 aircraft only.*
[7] *For B-52 aircraft only.*

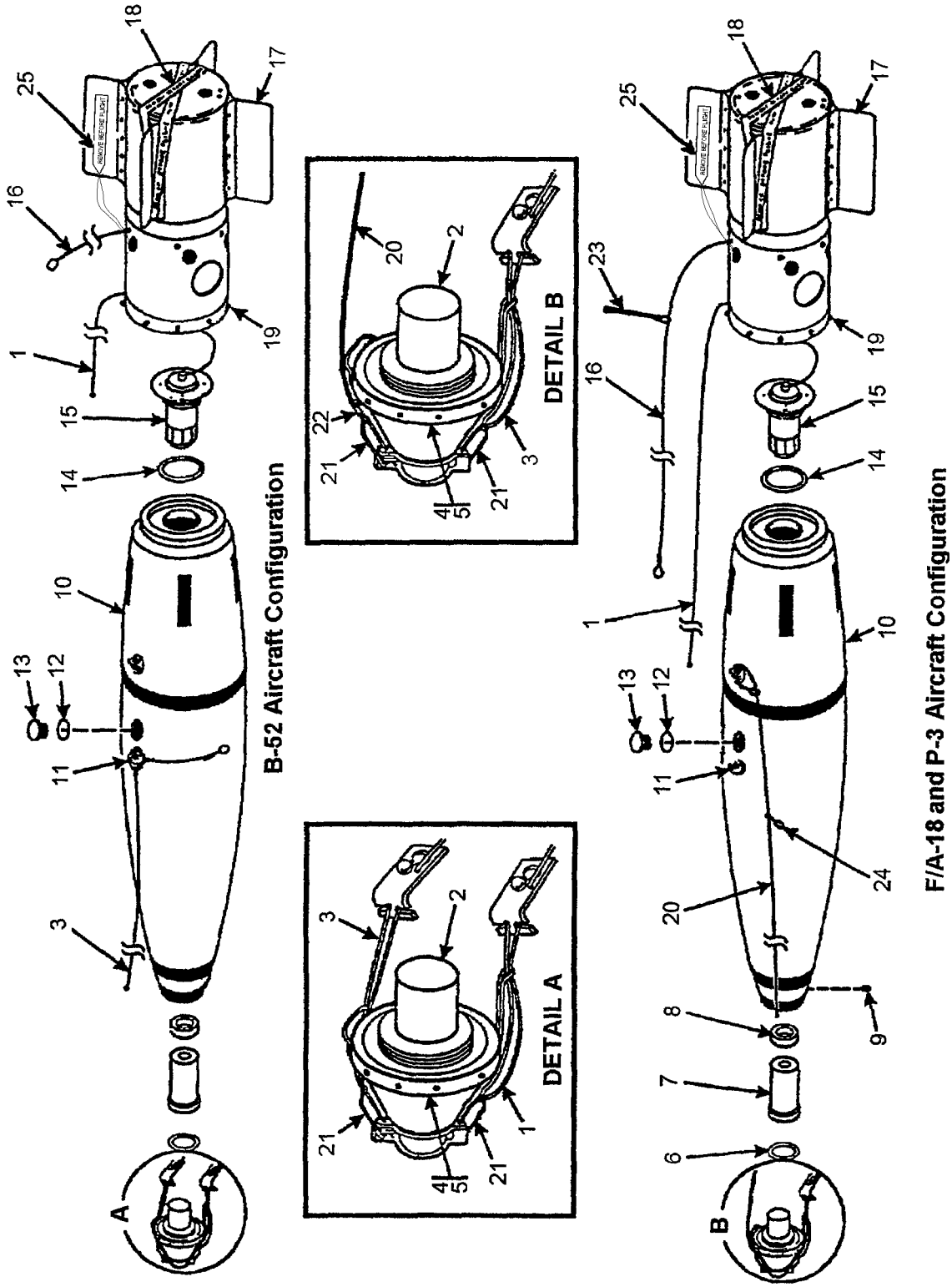


Figure C-6. Mine Mk 63 with Tail Section Mk 12

APPENDIX D
TEST SET PREPARATION

This appendix provides instructions for setting up and conducting Preset Programmer and system test section self tests, and repackaging the test set.

D.1 PRESET PROGRAMMER SECTION SELF TEST

MATERIALS

COMPONENTS

Test Set, Underwater Mine, Mk 595 Mod 0 or 1, 3280818 or 6169180

SUPPORT ITEMS

Battery, dry, 6V, 6135-00-643-1310 (2)[1]
Cable Assembly CA-1451, 6916006[1]
Battery, Mk 112 Mod 0 or Mod 1, WS12633/8 or WS12633/21 (2)

[1] *Batteries, dry, 6V, and Cable Assembly CA-1451 maybe used in place of CA-1355 (supplied with Test Set Mk 595) and Batteries Mk 112.*

D.1.1 GENERAL INSTRUCTIONS

1. The preset programmer section (Figure D-1) Self Test is performed upon receipt of the test set, upon removal from storage and at the beginning of each day of use. The purpose is to ensure that the test set meets general requirements for conducting Class C testing of Mod 0 configurations of the Mk 62, Mk 63, Underwater Mines. If deficiencies in test set operation are experienced, tag the test set defective and set aside for maintenance repair.

D.1.2 SELF TEST SET-UP

a. Place the preset programmer section on the work bench, oriented so that panel labels are readable.
b. Rotate SELECTORS 1 through 4 to position 1.
c. Operate switches SW 1 through 4 to position B.
d. Operate INDICATORS 1 through 4 to 0.
e. Ensure that ON/OFF switch is in the OFF position.
f. Connect Cable Assembly CA-1354 (Figure D-2) to the CA-1354/1353 panel connector.

NOTE

If using Cable Assembly CA-1355 and Batteries Mk 112, proceed to step g.

If using Cable Assembly CA-1451 and 6-volt batteries, proceed to step h.

g. Connect P1 of Cable Assembly CA-1355 (Figure D-2) to the CA-1355 panel connector and the P2 and P3 legs of the Cable Assembly each to a Battery Mk 112 proceed to paragraph D.1.3.

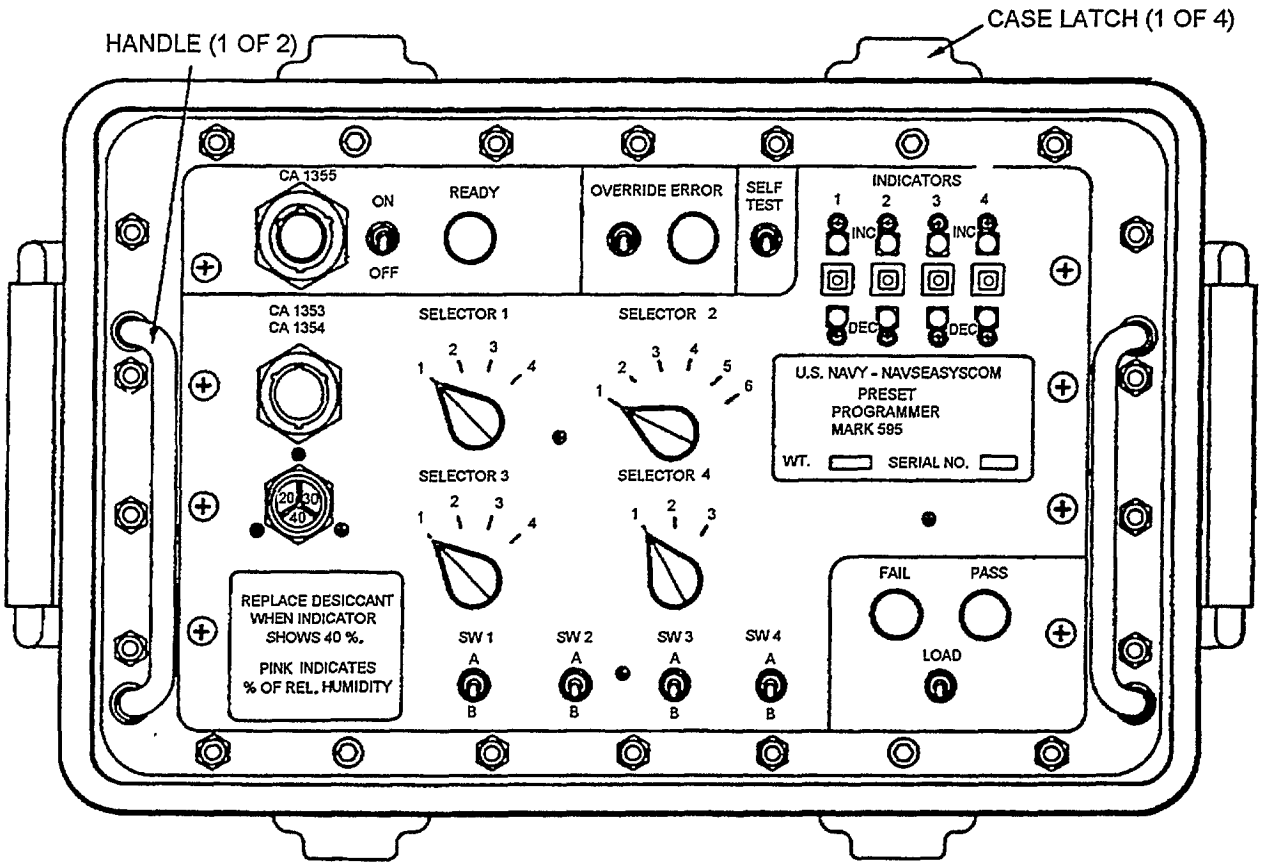


Figure D-1. Test Set Mk 595 Mod 0 or 1, Preset Programmer Section

NOTE

When connecting the P2 and P3 legs of Cable Assembly CA-1451 to the 6-volt batteries, ensure proper polarity is observed or the test set will not function.

h. Connect Cable Assembly CA-1451 connector P1 to panel connector CA-1355 on the preset programmer section. Connect the black P2 connector to the negative (center) battery spring connector and the red P2 connector to the positive battery (outside) spring connector. Repeat for the P3 leg of Cable Assembly CA-1451.

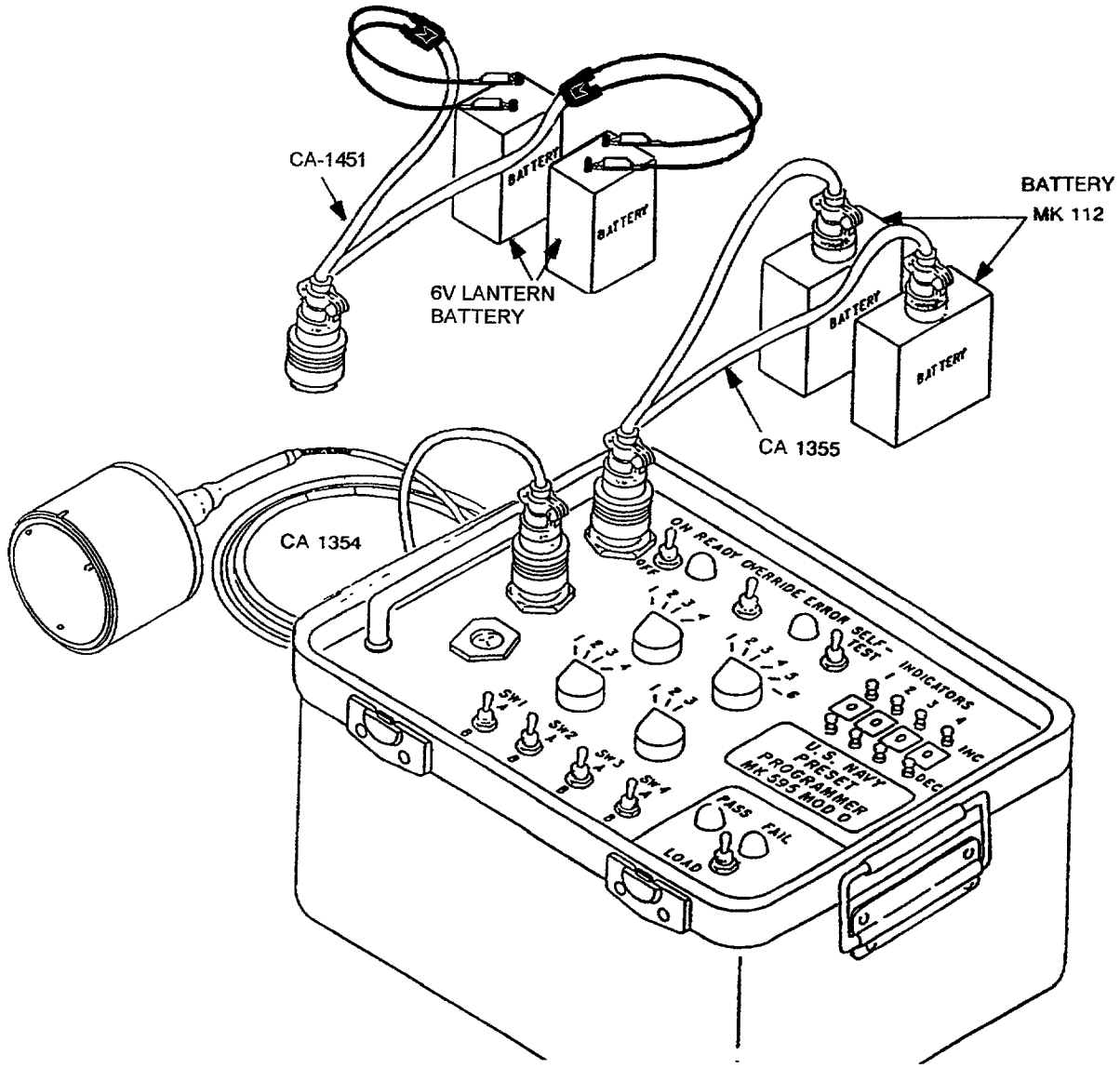


Figure D-2. Preset Programmer Section (Top Section) Self Test Set-Up

D.1.3 PRESET PROGRAMMER SECTION SELF TEST

NOTE

If the preset programmer section fails any one of the steps listed, it must be rejected, tagged as defective with fault identified and set aside for repair.

In Step a, if READY lamp does not light, replace the two batteries. If READY lamp still fails to light, interchange bulb with another position; If READY lamp fails to light after battery replacement, reject the test set.

a. Operate the ON/OFF switch to ON. The READY lamp must light and remain lit.

b. Operate switch SW2 to position A.

c. Operate and release the LOAD switch. The FAIL lamp must light.

d. Operate switch SW2 to position B.

NOTE

In step e if error lamps does not flash on and off replace batteries. During self test ready lamp must not dim/flash when load/self-test switches are pressed or when error lamp flashes. Replace batteries, if lamp still dim/flashes reject test set.

e. Operate and release LOAD switch. The ERROR lamp must flash on and off for approximately ten seconds and then go out. The FAIL lamp must light.

f. Operate and release the SELF TEST switch. The PASS lamp must light.

g. Ensure that switches SW 1 through 4 are in position B and that INDICATORS 1 through 4 are set to 0.

NOTE

The PASS position for all SELECTOR switches, when performing SELECTOR switch Self Test, is position 1. During SELECTOR switch Self Test, ensure that all SELECTOR switches except the switch under test are set to position 1.

h. Rotate SELECTOR switch 1 to position 2. Operate and release the SELF TEST switch; the FAIL lamp must light. Rotate SELECTOR switch 1 to position 3 and then 4, operate and release SELF TEST switch while at each position; FAIL lamp must light. Rotate SELECTOR switch 1 to position 1.

i. In like manner, conduct Self Test of the SELECTOR switches 2 through 4. Upon operating and releasing the SELF TEST switch, FAIL lamp must light for each switch position indicated in Table D-1. After testing each SELECTOR switch, return the SELECTOR to position 1 before testing the next SELECTOR switch.

Table D-1. Selector Switch Self Test FAIL Criteria

SELECTOR SWITCH	FAIL POSITIONS
SELECTOR 2	2, 3, 4, 5 and 6
SELECTOR 3	2, 3 and 4
SELECTOR 4	2 and 3

j. Ensure that SELECTORS 1 through 4 are in position 1, INDICATORS 1 through 4 are set to 0, and switches SW 2 through 4 are in position B.

k. Operate switch SW 1 to position A; then operate and release SELF TEST switch. The FAIL lamp must light. Operate switch SW 1 position B. Repeat this step for switches SW 2 through 4.

l. Ensure that SELECTORS 1 through 4 are in position 1, and switches SW 1 through 4 are in position B.

NOTE

When conducting Self Test of INDICATOR switch, ensure that all INDICATORS except the switch under test are set to 0.

m. Operate INDICATOR 1 to position 1. Operate and release the SELF TEST switch; FAIL lamp must light. Operate INDICATOR 1 to positions 2 through 7. Operate and release the SELF TEST switch while INDICATOR is in each position. Fail lamp must light at each position. Operate INDICATOR 0 to position 0.

n. In like manner, conduct Self Test of INDICATORS 2 through 4. Upon operating and releasing the SELF TEST switch, FAIL lamp must light for positions 1 through 7 for each INDICATOR under test.

o. Return all SELECTOR switches to position 1, all SW switches to position B and all INDICATOR switches to 0.

p. Operate and release SELF TEST switch. The PASS lamp must light.

q. Operate the ON/OFF switch to OFF.

D.2 SYSTEM TEST SECTION SELF TEST

MATERIALS

COMPONENTS

Test Set, Underwater Mine, Mk 595 Mod 1, 6169180

SUPPORT ITEMS

Battery, dry, 6V, 6135-00-643-1310 (2)[1]

Battery, Mk 112 Mod 0 or Mod 1, WS12633/8 or WS12633/21 (2)

Cable Assembly CA-1451, 6916006[1]

Stopwatch, lab, 30 mm register

[1] *Batteries, dry, 6V, and Cable Assembly CA-1451 maybe used in place of CA-1355 (supplied with Test Set Mk 595) and Batteries Mk 112.*

D.2.1 GENERAL INSTRUCTIONS

1. The system test section (Figure D-3) Self Test is performed to ensure that the test set meets general requirements for conducting Class C testing of Mod 0 configurations of Underwater Mines Mk 62 and Mk 63.

D.2.2 SELF TEST SET-UP

NOTE

If the system test section fails any one of the steps listed, it will be rejected, tagged as defective, fault identified and set aside for repair.

a. Retain Cable Assembly CA-1355 with batteries connected for this test set-up. Ensure that Cable Assembly CA-1354 has been retuned to the storage compartment and remove the PASS Test Plug and the FAIL Test Plug (Figure D-4) for use in this procedure.

b. Place the system test section on the workbench, oriented so that panel labels are readable.

c. Ensure that ON/OFF switch is in the OFF position.

d. Connect P1 of Cable Assembly CA-1355 to the CA-1355 panel connector of the system test section and ensure that the P2 and P3 legs of the cable assembly are each connected to a Battery Mk 112 (Figure D-5).

D.2.3 SYSTEM TEST SECTION SELF TEST

a. Connect the PASS Test Plug to the CA-1351 /FUZE ADAPT panel connector of the system test section.

b. Ensure that the stopwatch is set to 0.

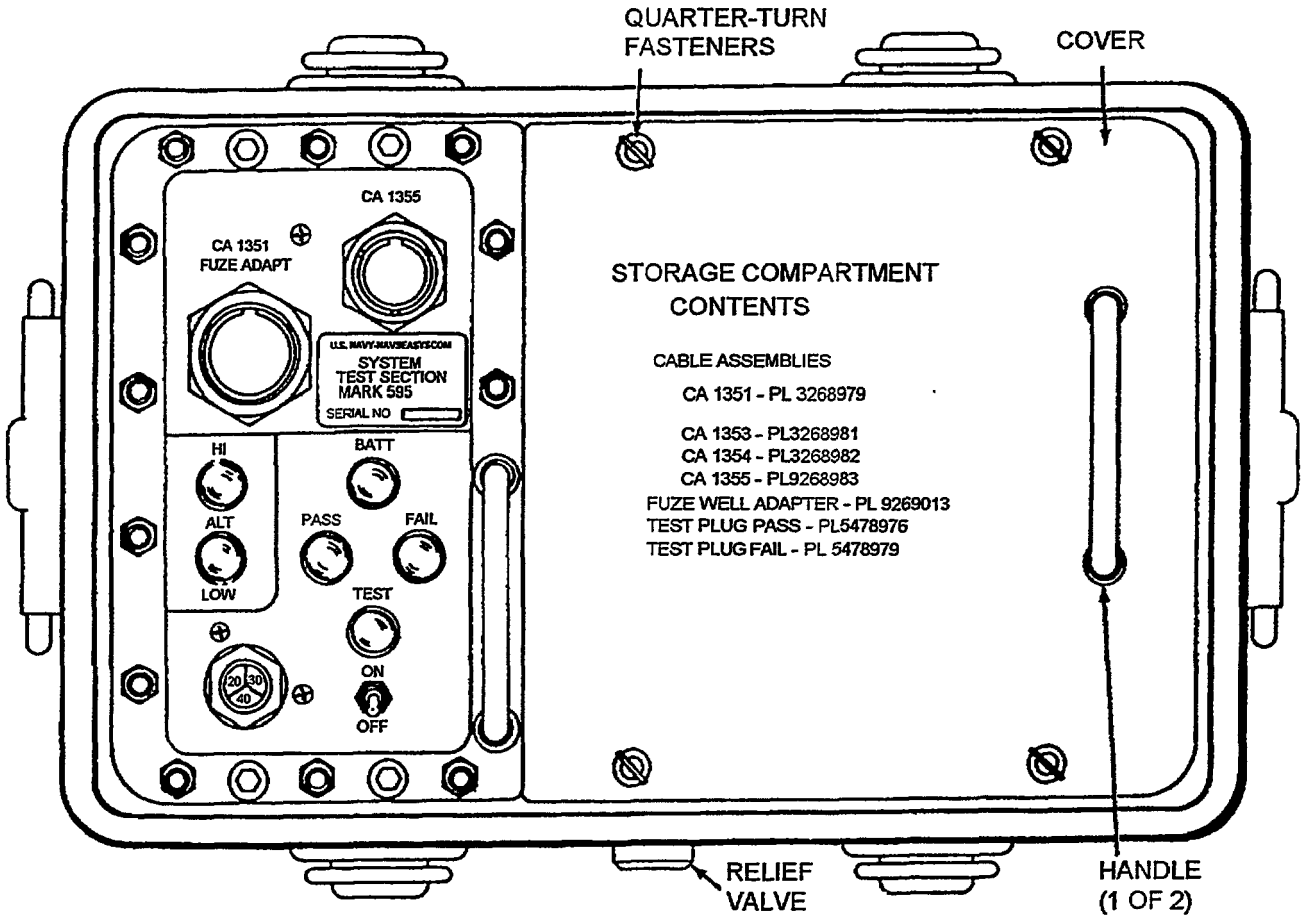


Figure D-3. Test Set Mk 595 Mod 1, System Test Section

NOTE

In Step c, if the BATT lamp lights after the specified time delay, it is an indication that the voltage of the Mk 112 Batteries is low.

c. Operate the ON/OFF switch on the system test section to ON and simultaneously start the watch, All lamps on the system test section must light for approximately 1 second and then all except the TEST lamp must go out After a time delay of 60 ± 2 seconds, the LO ALT and PASS lamps must light and the TEST lamp must go out.

d. Operate the ON/OFF switch to OFF and reset the watch to 0.

e. Remove the PASS Test Plug from CA-1351/FUZE ADAPT panel connector and install the FAIL Test Plug in the same receptacle.

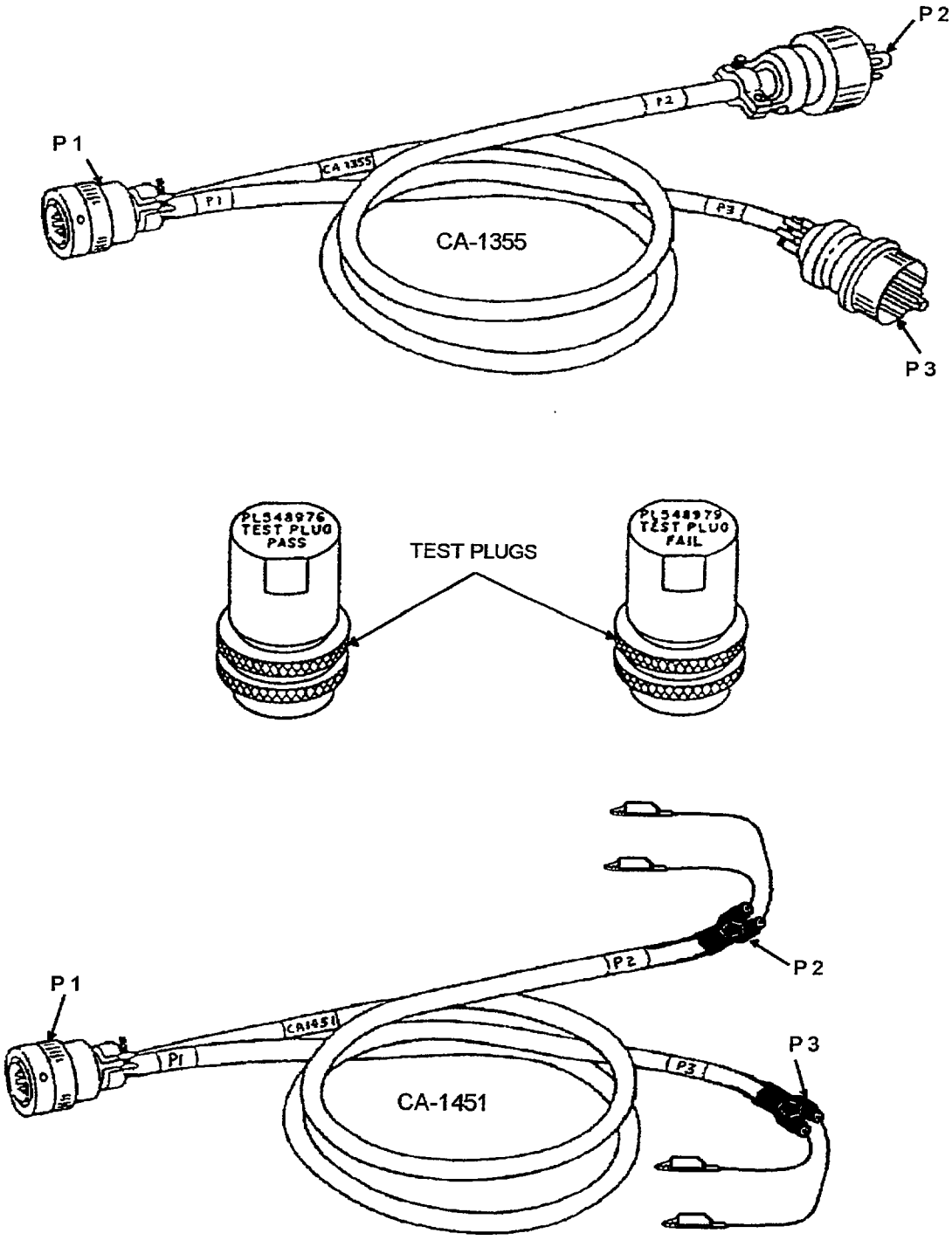


Figure D-4. Required Associated Test Equipment

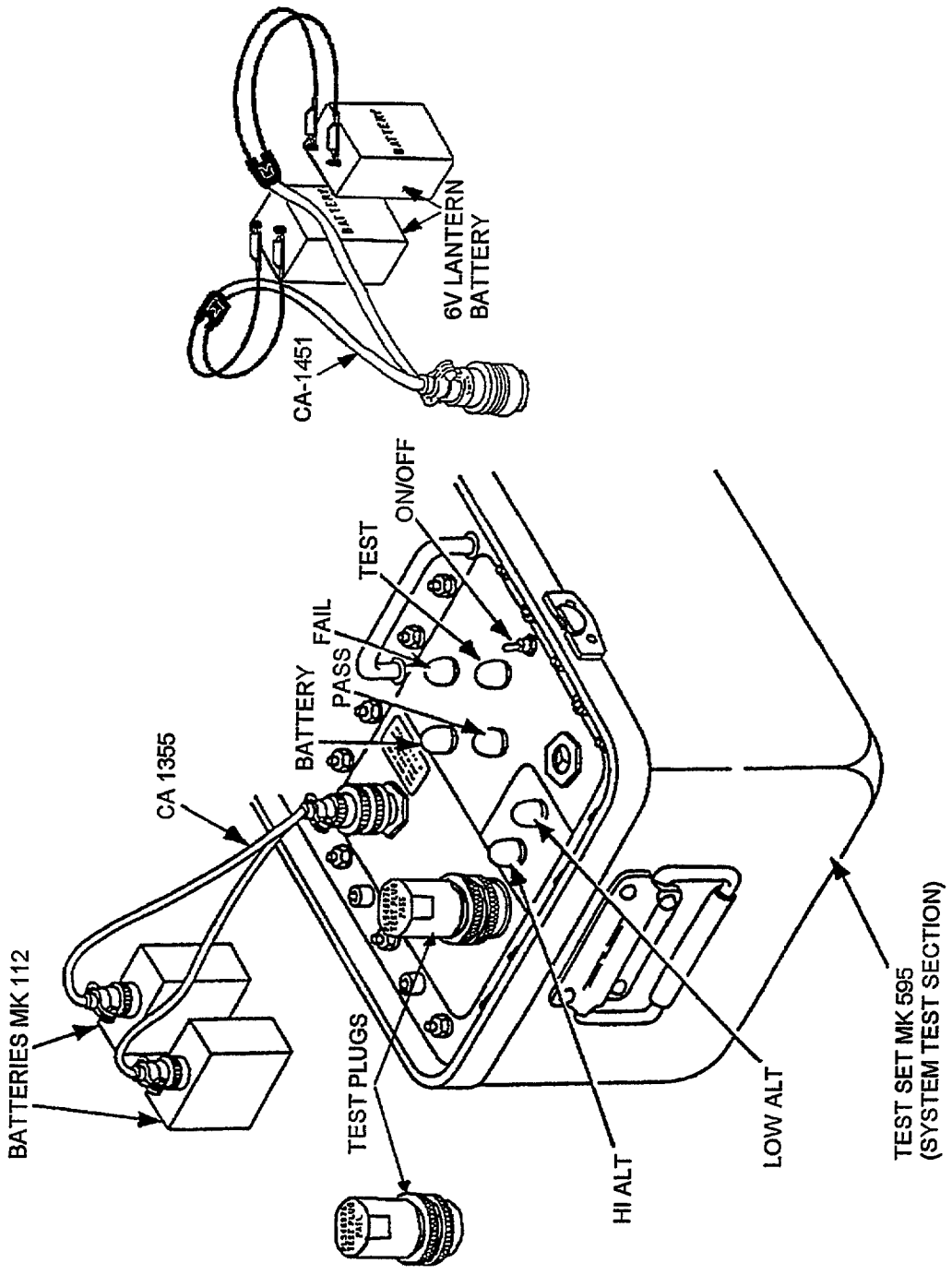


Figure D-5. System Test Section Self Test Set-Up

f. Operate the ON/OFF switch on the system test section to ON and simultaneously start the watch. All lamps must light for approximately 1 second and then all except the TEST lamp must go out. After a time delay of 60±2 seconds, the HI ALT, BATT and FAIL lamps must light and the TEST lamp must go out.

g. Operate the ON/OFF switch on the system test section to OFF.

h. Remove the FAIL Test Plug from the CA-1351/FUZE ADAPT panel receptacle and disconnect Cable Assembly CA-1355 from the system test section.

D.3 REPACKAGING TEST SET MK 595

MATERIALS

COMPONENTS

Battery, Mk 112 Mod 0 or Mod 1 WS12633/8 or WS12633/21 (2)
Cable Assembly CA-1351
Cable Assembly CA-1353
Cable Assembly CA-1354
Cable Assembly CA-1355
Fail Test Plug
Fuze Well Adapter
Pass Test Plug
Test Set, Underwater Mine, Mk 595, 6169180

SUPPORT ITEMS

Screwdriver, common, 3/16 x 3 blade

D.3.1 GENERAL INSTRUCTIONS

1. The procedures in this job sheet will be performed at the end of the work day or completion of use of the test set, prior to placing the test set (Figure D-6) in storage or prior to shipment of the test set.

D.3.2 TEST SET REPACKAGING

a. Operate the ON/OFF switch of the system test section to OFF.

b. Operate the ON/OFF switch of the preset programmer section to OFF.

c. Rotate SELECTORS 1 through 4 to position 1.

d. Operate switches SW 1 through 4 to position B.

e. Operate INDICATORS 1 through 4 to position 0.

f. Disconnect Cable Assembly CA-1355 from the Mk 112 Batteries. Do not store batteries in test set.

g. Remove storage compartment cover and place Cable Assemblies CA-1351 and CA-1355 and PASS and FAIL Test Plugs in storage compartment. Ensure that Cable Assemblies CA-1353 and CA-1354 and the Fuze Well Adapter are in the storage compartment.

h. Replace storage compartment cover and fasten the four quarter-turn fasteners.

i. Place top section of test set on bottom section and fasten the four case latches.

j. Return batteries to refrigerated storage and properly stow test set.

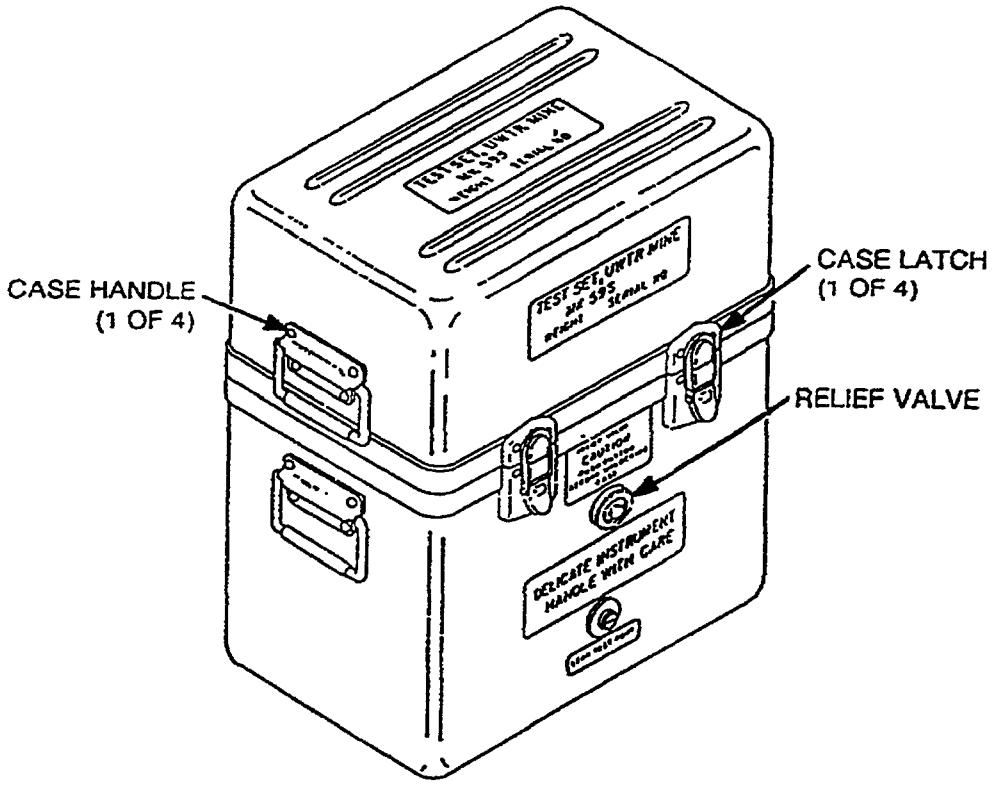


Figure D-6. Test Set, Mk 595

APPENDIX E
ARMING WIRE FABRICATION FOR B-1 AND B-2 AIRCRAFT

MATERIALS

COMPONENTS

Solenoid Cable Assembly, 6011573

SUPPORT ITEMS

Pliers, str-nose, w/cutter, 6L
Swaging Sleeve, MS51844
Swaging Tool
Tape, measuring, steel, 8-ft
Wire, stainless steel, 1/16 dia, Type 316, ASTM-A313

E.1 FABRICATING THE ARMING WIRE, ALTERED, 7116338

Alter the solenoid cable assembly as follows (Figure E-1):

a. Straighten the stainless steel wire and ensure it is free of kinks and bends.

b. Measure the required length of the wire from the looped end, according to the appropriate dimensions in Table E-1.

c. Cut the required length of the wire at the end in which the safety pin is attached.

d. Remove lanyard extractor assembly.

e. Remove arming wire guide to be left with arming wire as shown in Figure E-2.

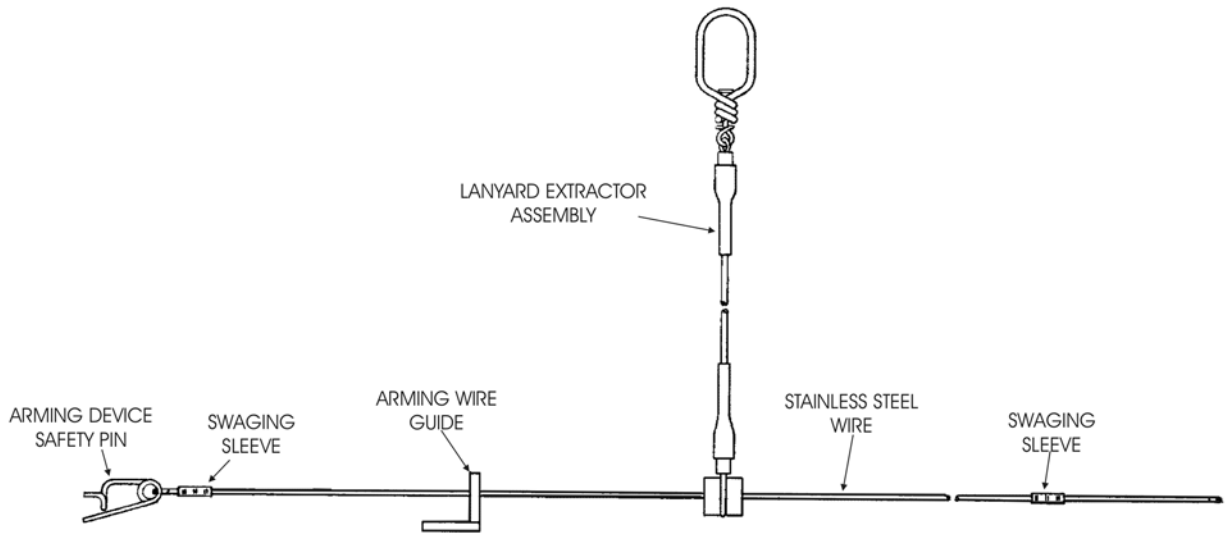


Figure E-1. Solenoid Cable Assembly

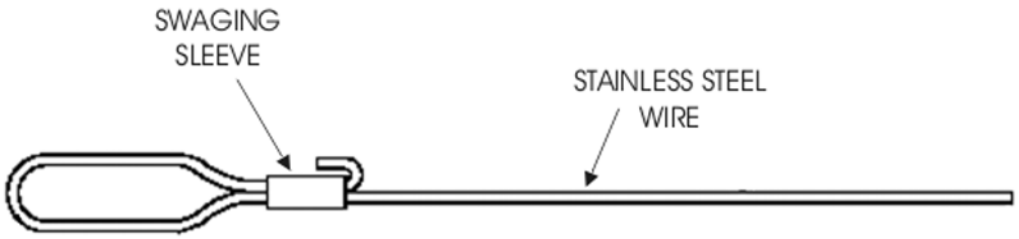


Figure E-2. Arming Wire, Altered, 7116338

Table E-1. Arming Wire Dimensions

Arming Wire	Aircraft	Dimensions	Option Type
7116338-1	B-1	55 ±1/4 inches	Primary
7116338-2	B-2	52 ±1/4 inches	Primary
7116339-1	B-1	55 ±1/4 inches	Alternate
7116339-2	B-2	52 ±1/4 inches	Alternate

E.2 FABRICATING THE ARMING WIRE, 7116339

NOTE

Arming Wire, Altered, 7116338 is the primary arming wire component option to be used in accordance with the installation procedures of appropriate job sheets. If the solenoid cable assembly has already been cut beyond the needed length or if its stainless steel wire has been damaged, then Arming Wire 7116339 can be used as a substitute.

Fabricate arming wire 7116339 as follows (Figure E-3):

a. Obtain stainless steel wire, type 316 ASTM-A313, minimum 60 inches in length.

b. Straighten the wire and ensure it is free of kinks and bends.

c. Slide one swaging sleeve onto the steel wire.

d. Starting from a point 3-inches from the end of the wire, form a tear-drop shaped loop measuring 5/16-inch maximum width by 3-inches length.

e. Slide the swaging sleeve back over the end of the loop until it is 2 inches from the end of the loop.

f. Using the swaging tool, swage the sleeve in place.

g. Put a 180° bend in the approximately 1/2-inch length of remaining wire protruding from the back of the swage.

h. Referring to Table E-1, measure the appropriate length of arming wire from the looped end of the wire and trim to the required length.

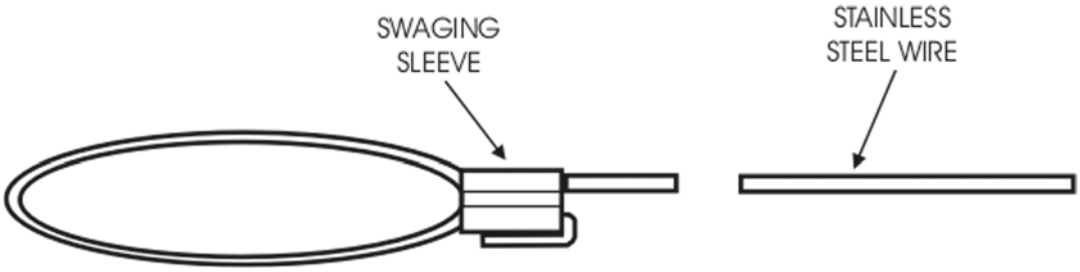


Figure E-3. Arming Wire, 7116339