

INCH-POUND

MIL-DTL-24784/10B (SH)

15 February 2002

SUPERSEDING

MIL-DTL-24784/10A(SH)

15 March 1999

ASSOCIATED DETAIL SPECIFICATION  
TRAINING AID BOOKLET (TAB) REQUIREMENTS FOR  
NAVAL SHIPS SYSTEMS

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

1. SCOPE

1.1 Scope. This specification sets forth requirements for the preparation of Training Aid Booklets (TABs) for use on naval ships (see 6.1).

1.2 TAB coverage. The TAB is a schematic and pictorial representation of systems and equipment installed aboard a specific ship. TAB coverage does not include maintenance information, nor does the TAB coverage include the internal details of nomenclature type or otherwise uniquely identified systems or equipment documented by other technical manuals supplied aboard ship.

2. APPLICABLE DOCUMENTS

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

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, ATTN SEA 05Q, 1333 Isaac Hull Ave SE Stop 5160, Washington Navy Yard DC 20376-5160 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

AREA TMSS

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

2.2 Government documents.

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

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-DTL-24784      Manuals, Technical: General Acquisition and Development Requirements.

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

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

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Y32.4              Graphic Symbols for Plumbing Fixtures for Diagrams Used in  
Architecture and Building Construction.  
ANSI Y32.10             Graphic Symbols for Fluid Power Diagrams.

(Application for copies should be addressed to the American National Standards Institute, Inc., 11 West 42<sup>nd</sup> Street, New York, NY 10036.)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME Y14.38M         Abbreviations and Acronyms

(Application for copies should be addressed to the American Society of Mechanical Engineers, 345 East 47<sup>th</sup> Street, New York, NY 10017.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM F1000      Standard Practice for Piping System Drawing Symbols

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 315      Graphic Symbols for Electrical and Electronics Diagrams (DoD adapted).

(Application for copies should be addressed to the Institute of Electrical and Electronics Engineers, Inc., 445 Hoes Lane, P.O. Box 1331, Piscataway, N.J. 08855-1331).

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

3.1 General. The requirements for acquiring the product described herein shall consist of this document and MIL-DTL-24784.

3.2 Security classifications, distribution statement and destruction notice. The security classifications, distribution statement and destruction notice shall be in accordance with MIL-DTL-24784.

3.3 Deliverable products and data items. Deliverable products and data items shall be in accordance with MIL-DTL-24784 (see 6.2).

3.3.1 Final reproducible copy Final reproducible copy (FRC) shall be developed in accordance with MIL-DTL-24784 and exceptions noted herein (see 6.2).

3.3.1.1 Format and layout. All typed and illustrative matter developed for final production shall be in a horizontal (landscape) format. Layout of text pages shall be in accordance with figure 10-1. Layout of illustration pages shall be in accordance with figure 10-2 or figure 10-3, as appropriate.

3.3.1.2 Marginal copy. Marginal copy shall consist of running heads and feet of illustration titles. Marginal copy shall be located on each page as indicated in figures 10-2 and 10-3. Typography requirements (see 6.2) shall be as indicated in Table I. Format for 4-1/4 by 11 inch TABs shall be in accordance with figure 10-2 and shall maintain the same margins and marginal copy.

TABLE I. Typography and lettering.

Use	Face and point	Case
Publication number	10 point	
Security Classification (supplement only)	12 point bold	Upper
Note (word only)	12 point extra bold	Upper
Danger (word only)	12 point extra bold	Upper
Caution (word only)	12 point extra bold	Upper
Warning (word only)	12 point extra bold	Upper
Diagram titles	12 point	Upper
Diagram Legends	8 point	Upper
Diagrams, plan views, and so forth	Not less than a letter size of 0.050 inch. Type shall be sans serif and shall be equivalent to that obtained by reducing Varityper 1040-12A, IBM 12 or 14 point registry, or IBM 14 point directory	
Front matter, general information text, and other large blocks of written matter	Upper case letter size not less than 0.060 inch with lower case letters of corresponding size. Type shall be equivalent to reductions of Varityper 1040-12a, IBM 12 or 14 point registry, or IBM 14 point directory	Upper or upper and lower

3.3.1.3 Running heads. The running head for each page shall include the ship applicability notation (ship class or hull number), security classification (supplement) or distribution limitation, NAVSEA publication identification number, and the generic title of the diagram or contents (see 3.6.6.1).

3.3.1.4 Running feet.

3.3.1.4.1 Page number positioning. All page numbers shall be located at the lower outside of the page, approximately 1/4 inch from the bottom and 1/4 inch from the outside edge.

3.3.1.5 Page size. Unless otherwise specified in the technical manual contract requirements (TMCR) (see 6.2), the page size for all preliminary and final TABs shall be 11 by 8-1/2 inches with a maximum image area of 9-1/2 by 7-1/2 inches (see figure 10-1). Alternate page size, when so specified in the TMCR, shall be 4-1/4 by 11 inches (see 6.2).

3.4 Arrangement. Unless otherwise specified in the TMCR (see 6.2), the manual shall be arranged in a standardized format [that is, front matter, technical content, appendices, glossaries, indices and Technical Manual Deficiency Evaluation Report (TMDER)] and appropriately divided by volume, part, chapter and section in accordance with MIL-DTL-24784 and the following.

3.4.1 Division of coverage. The TAB shall consist of at least two unclassified volumes. A third volume (supplement) shall be used when classified information must be included in the TAB coverage. The division of coverage shall be as follows:

- a. Volume 1 - Piping systems.
- b. Volume 2 - Electrical and electronic systems.
- c. Volume 3 - Supplement (classified data applicable to both volumes).

3.4.2 Volume and part limitation. Volumes, or parts thereof, shall not exceed 500 pages (250 sheets).

3.4.3 Cover or title page. The cover or title page shall be prepared in a horizontal (landscape) format as shown in MIL-DTL-24784.

3.5 Format and development instructions. Unless otherwise specified in the TMCR (see 6.2), the writing style, safety precautions, tabular material, graphics, and numbering shall be in accordance with MIL-DTL-24784.

3.5.1 Illustration titles. Titles shall be located adjacent to the page number. The primary source document from which the illustration was developed shall be identified immediately below the illustration title in the manner shown in figures 10-2 and 10-3.

3.5.2 Line widths. Line artwork shall be prepared with line widths of sufficient size and strength to reproduce a minimum final line width, without dropout (when reduced), of 0.01 inch.

3.5.3 Piping illustrations. Pipe sizes shall be indicated by line width. A code to indicate the pipe size scale shall appear on the illustration. Recommended pipe size scale for oversized artwork is shown on figure 10-4.

3.5.4 Electrical system illustrations. Electrical distribution wire and cable sizes shall be annotated on the illustration. Bus bars shall be depicted in rectangular form and identified accordingly.

3.5.5 Illustration size. All original artwork shall be prepared for reproduction at final sizes as indicated in table II. Original artwork shall not exceed the maximum size indicated.

TABLE II. Illustration sizes.

Maximum original	Final	Final format (printed page)
23- <sup>3</sup> / <sub>4</sub> by 18- <sup>3</sup> / <sub>4</sub>	9- <sup>1</sup> / <sub>2</sub> by 7- <sup>1</sup> / <sub>2</sub>	Single illustration page (see figure 10-2)
23- <sup>3</sup> / <sub>4</sub> by 8- <sup>3</sup> / <sub>4</sub>	9- <sup>1</sup> / <sub>2</sub> by 3- <sup>1</sup> / <sub>2</sub>	Double illustration page (see figure 10-3)

3.5.6 Multiple or parallel installations. Only one system shall be illustrated when multiple or parallel systems or components are installed in the ship. A note shall be added to the illustration to indicate the existence of the system(s) or component(s) not shown.

3.5.7 Color in illustrations When specified in the TMCR (see 6.2), only the Pantone PMS colors and variations of use identified in table III shall be used for TABs. The color-coded drawing copies shall identify each color by number and variation of use.

TABLE III. Printing colors and variations.

Color	Pantone PMS number	Acceptable for use as			
		Solid area	Solid thin line	40 percent screened area	40 percent screened line
Red	185	Yes	Yes	Yes	Yes
Yellow	108	Yes	Yes	No	No
Green	354	Yes	Yes	Yes	Yes
Blue	299	Yes	Yes	Yes	Yes
Orange	151	Yes	Yes	No	No
Purple	253	Yes	Yes	No	No
Black	-	Yes	Yes	Yes	Yes

3.6 Technical content. The technical content of each volume of the TAB shall be as specified in 3.6.1 through 3.6.6 and shall be arranged as follows:

- a. General information (see 3.6.1).
- b. List of abbreviations (see 3.6.2).
- c. List of symbols (see 3.6.3).
- d. System and component designation tables (see 3.6.4).
- e. Perspective and plan views (see 3.6.5).
- f. System and component diagrams (see 3.6.6).

3.6.1 General information. The general information page(s) shall provide as a minimum the following data:

- a. Full title and Government identification numbers of all volumes and separately bound parts of volumes comprising the TAB (including supplements).
- b. Explanation of the purpose and scope of the TAB.
- c. Explicit applicability of the TAB.
- d. A brief synopsis of the content of each volume.
- e. A brief description of the graphic techniques used in the TAB.
- f. A statement on reporting of errors (see TMDER in MIL-DTL-24784).

3.6.1.1 Use of general information page(s). The general information page(s) shall be included in each volume of the TAB, and shall be identical.

3.6.1.2 Multipart volumes. When multiple parts are used for Volume 1 or Volume 2 (or both) of the TAB, the general information page(s) shall be included only in Part 1 of each volume.

3.6.2 List of abbreviations. A complete listing of abbreviations and their meaning shall be included in each volume immediately following the general information page(s). For multipart volumes, the list of abbreviations shall appear in Part 1 only.

3.6.2.1 Nonstandard abbreviations. The use of nonstandard abbreviations shall be held to a minimum. Nonstandard abbreviations shall be used only when no authorized equivalent exists in MIL-STD-12. When used, nonstandard abbreviations shall not be in conflict with a MIL-STD-12 abbreviation.

3.6.3 List of symbols. A list of symbols shall be included in each volume (Part 1 only, on multipart volumes) of the TAB, immediately following the list of abbreviations. The listing for each volume shall be limited to symbols used in the applicable volume but shall be inclusive of all symbols used therein.

3.6.3.1 Symbols. Graphic symbols for use on TAB diagrams shall be in accordance with the following:

- a. Electrical and electronic - IEEE 315.
- b. Plumbing - ANSI Y32.4.
- c. Fluid power - ANSI Y32.10.
- d. Piping - ASTM F1000.

3.6.3.1.1 Nonstandard symbols. The use of nonstandard symbols shall be held to a minimum. Nonstandard symbols shall be used only when no authorized equivalent exists in the documents specified above. Where nonstandard symbols are used, explanations shall be provided. When used, nonstandard symbols shall not be in conflict with the above documents.

3.6.4 System and component designation tables. Data shall be included in tabular form to explain the use of color codes, piping system designators, location identification numbers for controls and instruments, switchboard and circuit breaker identifications, and so forth, and shall be arranged in logical order immediately following the list of symbols. Any other data that will enable users to better understand the TAB shall be presented in additional tables or by suitable notes positioned near the system or component illustrations to which they apply.

3.6.5 Perspective and plan views. Perspective and plan views (see figure 10-5) shall be included in the TAB to illustrate such specific aspects of the ship as:

- a. Antenna and mast arrangements.
- b. Exterior installations including superstructure details and cavity drain systems.
- c. Compartment and access arrangements.
- d. Arrangement of tanks.
- e. Electrical generator location and numbering.
- f. Bulkheads (pressure).
- g. Hull and hull openings.
- h. Tanks and compartments (volumes).

3.6.6 System and component diagrams. Each installed system (piping, electrical, and electronic) shall be illustrated through the use of functional schematic diagrams (see figures 10-6 and 10-7). Where essential to the understanding of system operation, components of the system shall be separately illustrated and may be depicted using other types of drawings such as perspective, orthographic projection, cross-section, or isometric projection. Text shall be restricted to safety precautions and shall only be used to provide instructions or explanations which cannot be covered adequately by annotating the illustrations. Systems which shall be covered include, but are not limited to the following categories:

- a. High pressure air systems.
- b. Low pressure air systems.
- c. Ventilation systems.
- d. Gas (refrigerants, oxygen, compressed gasses, and so forth) distribution systems.
- e. Water (potable, sea water, air conditioning, chilled water for electronic system cooling, waste, drain, and so forth) systems.
- f. Hydraulic systems.
- g. Electric power [60 hertz (Hz) and 400 Hz, alternating current (ac), 250 volts direct current (Vdc), and battery] generation and distribution systems.
- h. Interior communication (IC) systems.
- i. Fire alarm, firefighting, and damage control systems.
- j. Steam systems.
- k. Feed and condensate systems.
- l. Distilling plant systems.
- m. Fuel and lube oil systems.
- n. Those systems presently covered by the engine room fluid systems composite.
- o. Salvage systems.
- p. Oxygen generator, CO<sub>2</sub> scrubber, CO-H<sub>2</sub> burner.
- q. Electronic equipment cooling flow.
- r. Escape systems.

3.6.6.1 Specific examples. Specific examples of system and component diagrams to be included are presented below. Note that the generic categories and titles under which the examples have been placed are neither exclusive nor all-encompassing.

## VOLUME I - PIPING

### Air Conditioning and Ventilation:

Air Conditioning Chilled Water System  
 Refrigerant 11 Air Conditioning Plant  
 Ventilation and Air Conditioning Control System  
 Ventilation System  
 Ventilation Flow Diagram

Atmosphere Systems and Components:

- Atmosphere Analyzing System
- CO<sub>2</sub> Removal System
- CO-H<sub>2</sub> Burner
- Lithium Bromide Absorption System
- Main Oxygen System
- Oxygen Generator System

Compressed Air Systems and Components:

- High Pressure Air System
- HP Air System Air Dryer
- HP Air Compressor Condensate Drain
- 700 lb/in<sup>2</sup> Service Air System
- 100 and 150 lb/in<sup>2</sup> Service Air Systems
- 20 lb/in<sup>2</sup> Service Air System
- Diesel Engine Air Start

Emergency Systems:

- Air Salvage System
- Emergency Air Breathing System
- Forward and After Escape Trunks

Fuel Oil Systems:

- Diesel Generator Fuel System
- Fuel and Compensating Water System
- Fuel Filter Separator

Fresh Water Systems and Components:

- Fresh Water Drain Collecting System
- Plumbing System
- Potable Water System
- 3000 Gallons per Day Distilling System
- 1800 Gallons per Day Distilling System
- Auxiliary Fresh Water Cooling System
- Diesel Generator Fresh Water Cooling System

Hydraulic Systems and Components:

- Hydraulic Power Plant
- Main and Vital Hydraulic System

- External Hydraulic System
- Snorkel Mast Hydraulic Operation
- Periscope Hydraulic Operation
- Antenna Masts Hydraulic Operation
- Hydraulic Accumulator Indicators
- Steering Hydraulic System
- Fairwater Planes Hydraulic System
- Stern Planes Hydraulic System
- Windlass and Capstan Hydraulic Operation
- Steering and Diving Control Station

Lube Oil Systems and Components:

- Diesel Generator Lub Oil System
- Main Lub Oil System
- Shaft Lube Oil System
- SSTG Lube Oil System
- Turbine Lube Oil Fill, Transfer, and Purification System

MBT Systems and Components:

- MBT Flooding and Venting
- MBT HP Blow System
- MBT HP Blow Valves
- MBT LP Blow System

Sea Water Systems and Components:

- Main Sea Water Cooling System
- Main and Auxiliary Sea Water Hull and Backup Valve Operation
- Auxiliary Sea Water Cooling System
- Air Conditioning Sea Water Cooling System
- Diesel Generator Sea Water Cooling System
- Drain System
- Auxiliary Drain System
- Gravity Drains
- Surge Tank Arrangement

Snorkel System:

- Snorkel System and Panels
- Inboard and Outboard Induction and Ventilation Exhaust Valves
- Induction Head Valve
- Inboard and Outboard Diesel Exhaust Valves

Steam Systems and Components:

- Auxiliary Steam System
- Gland Seal and Exhaust Systems
- High Pressure Steam Drain System
- Steam Generator Cutout Valve Operation
- Main Steam Root Valve and Crossover Valve Operation

Trim System and Components:

- Trim System Suction and Discharge Valves
- Trim System - Forward and Aft
- Hovering and Depth Control System

Miscellaneous Systems and Components:

- Battery Electrolyte Agitation System
- Clutch Control System
- Depth Gage Piping
- Floating Wire Antenna Operating Gear
- Forward and After Signal Ejectors
- Mode Selector Switch
- Propulsion Turbine Throttle Valve and Governor Operation
- Refrigeration System
- SSTG Throttle Valve and Governor Operation
- Torpedo Loading, Stowage and Handling
- Torpedo Firing Sequence
- Torpedo Tube Hydraulic System
- Torpedo Tube Flood and Drain System
- Trash Disposal Unit
- Trash Disposal Compactor
- Vibration Reducer Control System

VOLUME II - ELECTRIC - ELECTRONICS

Electric Propulsion:

- Electric Propulsion Motor Control
- Propulsion Clutch and Hydraulic Pump Control
- Secondary Propulsion Motor Control
- Storage Battery - Cell Arrangement and Metering

Electric Power Generation and Control:

- Electric Power Sources and Major Circuit Breakers
- Motor Generator Sets Operating Controls
- Ship Service Turbine Generator Sets Operating Controls
- Diesel Generator Control
- Electric Power Generation Block Diagram
- 400 Hz Motor Generator Sets Control
- Synchronizing Scheme Diagram
- Electric Plant Circuit Breakers Control
- Ground Detection

Electric Power Distribution and Lighting:

- Ship Service 400 Hz Power Distribution
- Outboard Lighting
- Ship Service Lighting Power Distribution
- Emergency Lighting Power Distribution

Electrical Auxiliaries:

- Lube Oil and Fuel Oil Equipment
- Auxiliary Sea Water Cooling Pumps Equipment
- Main Sea Water Cooling Pumps Equipment
- Auxiliary Fresh Water Cooling Pumps Equipment
- Main Feed Pumps Equipment
- Main Condensate Pumps Equipment
- Ventilation and Heating Equipment
- Air Conditioning Equipment
- High Pressure Air Compressor and Low Pressure Blower Equipment
- Trim and Drain Pumps and Submersible Pumps Equipment
- Hydraulic Power Plant Equipment
- Distilling Equipment
- Atmosphere Analyzer System
- Hydrocarbon Analyzer System
- Air Sampling and Analysis Equipment
- Atmosphere Cleansing and Replenishment Equipment

Galley and Laundry Equipment  
Refrigeration Equipment

Interior Communications:

Main Ballast Tank Vent Valves Indicators and Control System  
Ballast Control Panel  
Ballast Control Panel Common Alarm Circuits  
Depth and Course Control System  
Hovering and Depth Control System  
Ship Control Panel  
Pressure Indicating System  
Snorkel System  
Hull Opening Indicator and Control System  
Trim and Drain Indicator and Control System  
High Pressure Air Indicator and Control System  
Electronic Mast Position and Hoist Control System  
Remote Tank Level Indicator System  
Trim and Drain Pump Remote Flow Indicator System  
Refrigeration Temperature Indicator System  
Hydraulic Accumulator Contents Indicator System  
Rudder, Fairwater and Stern Planes Angle Indicator System  
Depth Indicator System  
Ship Safety Alarm System  
Dead Reckoning System  
Maneuvering Room Panel Common Alarm Circuits  
Reactor Compartment Bilge Liquid Level Indicator and Alarm System  
Propeller Shaft Revolution Indicator System  
Engine Order and Wrong Direction Indicator System  
Battery Electrolyte Agitation System  
Battery Air Flow Indicator System  
Hydrogen Detector System  
Gyrocompass Repeater and Gyrocompass System  
Underwater Log and Dummy Log System  
Ships Angle Indicator System  
Trim Angle Indicator System  
Main and Auxiliary Sea Water System Status Panel  
Sea Water Valve Control and Position Indicator System  
Salinity Indicator System  
Temperature Monitoring System  
Electronic Equipment Cooling Water Temperature and Flow  
Monitoring System  
Propeller Shaft IC Circuit  
Diesel Generator IC Circuit  
Integrated Announcing System

Officer Call System  
Dial Telephone System  
Sound Powered Telephone System

Steam Plant:

Steam Plant Valve Position Indicator System  
Steam Plant Alarms

Electronic Systems:

Hz Electronics Power Distribution  
Hz Electronics Power Distribution

ECM Systems

Radar Systems:

Surface Search  
Air Search  
Tracking  
IFF

Radio Systems:

Communications  
Tactical  
LORAN  
SatNav  
RDF

Sonar Systems:

Receiving  
Detecting Ranging  
Depth Sounding  
Distress Alert  
Underwater Telephone  
Tracking - Speed  
Hydrophone and Transducer Arrangement

#### 4. VERIFICATION

4.1 Quality assurance provisions. The quality assurance requirements for delivery of book plans, review draft copies, preliminary technical manuals, final reproducible copy, technical manuals, replenishment materials, changes and revisions shall be in accordance with MIL-DTL-24784.

## 5. PACKAGING

### 5.1 Packaging.

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

## 6. NOTES

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

6.1 Intended use. TABs prepared in accordance with this specification are primarily intended as a training aid for use by the ship crews in studying the installed systems of the ship. The TAB is also intended to be used as a reference document by engineering and technical personnel.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of the specification (or any TMCR referencing this specification).
- b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3).
- c. Type and quantity of deliverable products (see 3.3).
- d. When FRC developed other than as specified in MIL-DTL-24784 (see 3.3.1).
- e. Typography, if other than specified (see 3.3.1.2).
- f. Page size (see 3.3.1.5).
- g. Arrangement other than standardized format (see 3.4).
- h. Indicate format items, if other than specified (see 3.5).
- i. Color in illustrations, if other than specified (see 3.5.7 and MIL-DTL-24784).
- j. Packaging requirements (see 5.1).

6.2.1 Distribution statement. A statement will be provided by the Government defining the conditions of availability for distribution, release, or disclosure of the data contained in the TAB. This statement must be included on the cover and title page in the appropriate location.

6.2.2 Page size. Only when the increased cost of production can be justified by the effectiveness of the page layout will the alternate page size of 4-1/4 by 11 inches be specified. When this alternate is specified, the acquisition documents must prohibit the use of foldouts and foldups (see 3.3.1.5).

6.3 Definitions. The words or phrases used throughout this specification are defined in MIL-DTL-24784.

6.4 Subject term (key word) listing.

Equipment  
Pictorial

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

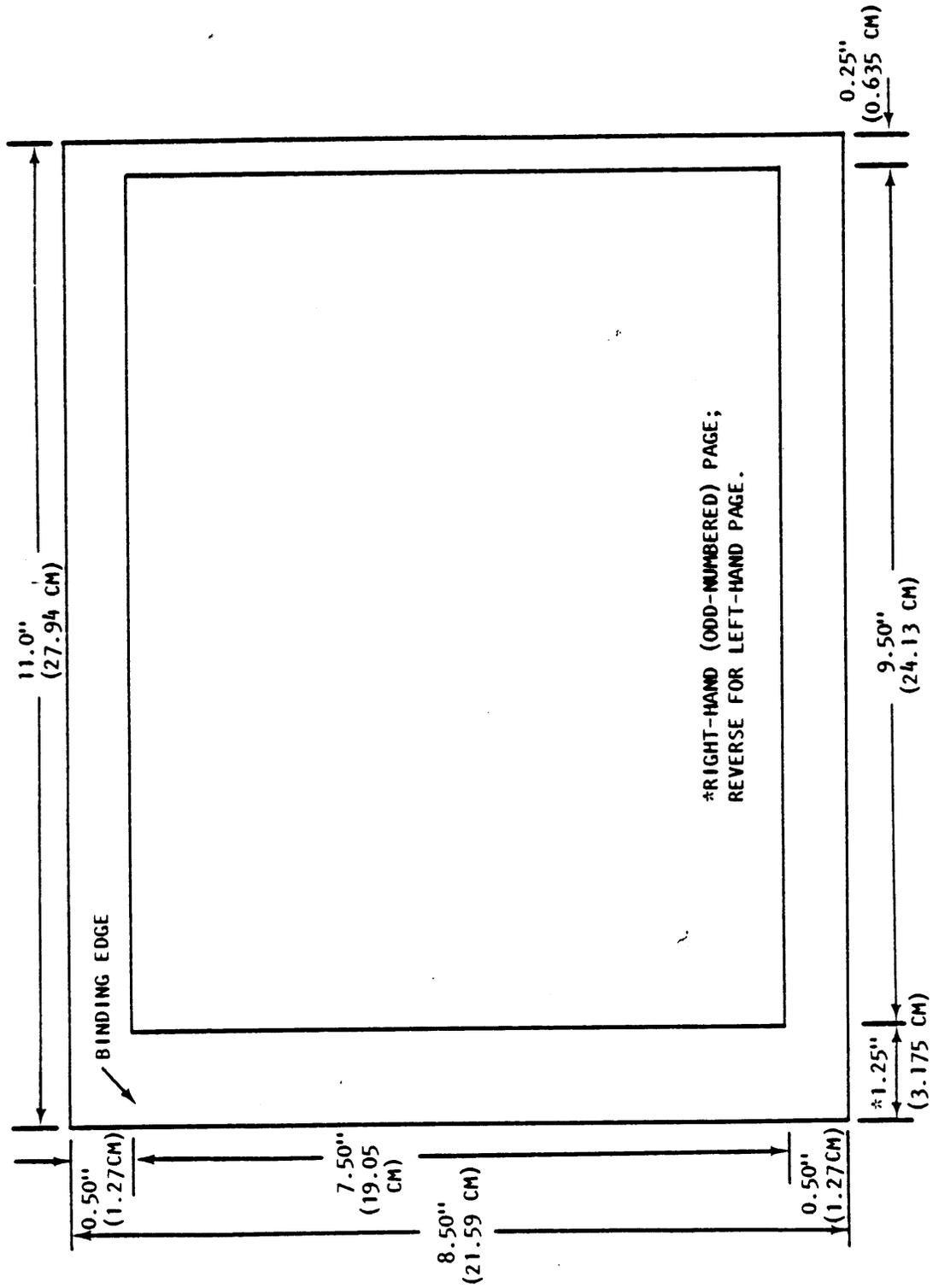


FIGURE 10-1. Page size and format.

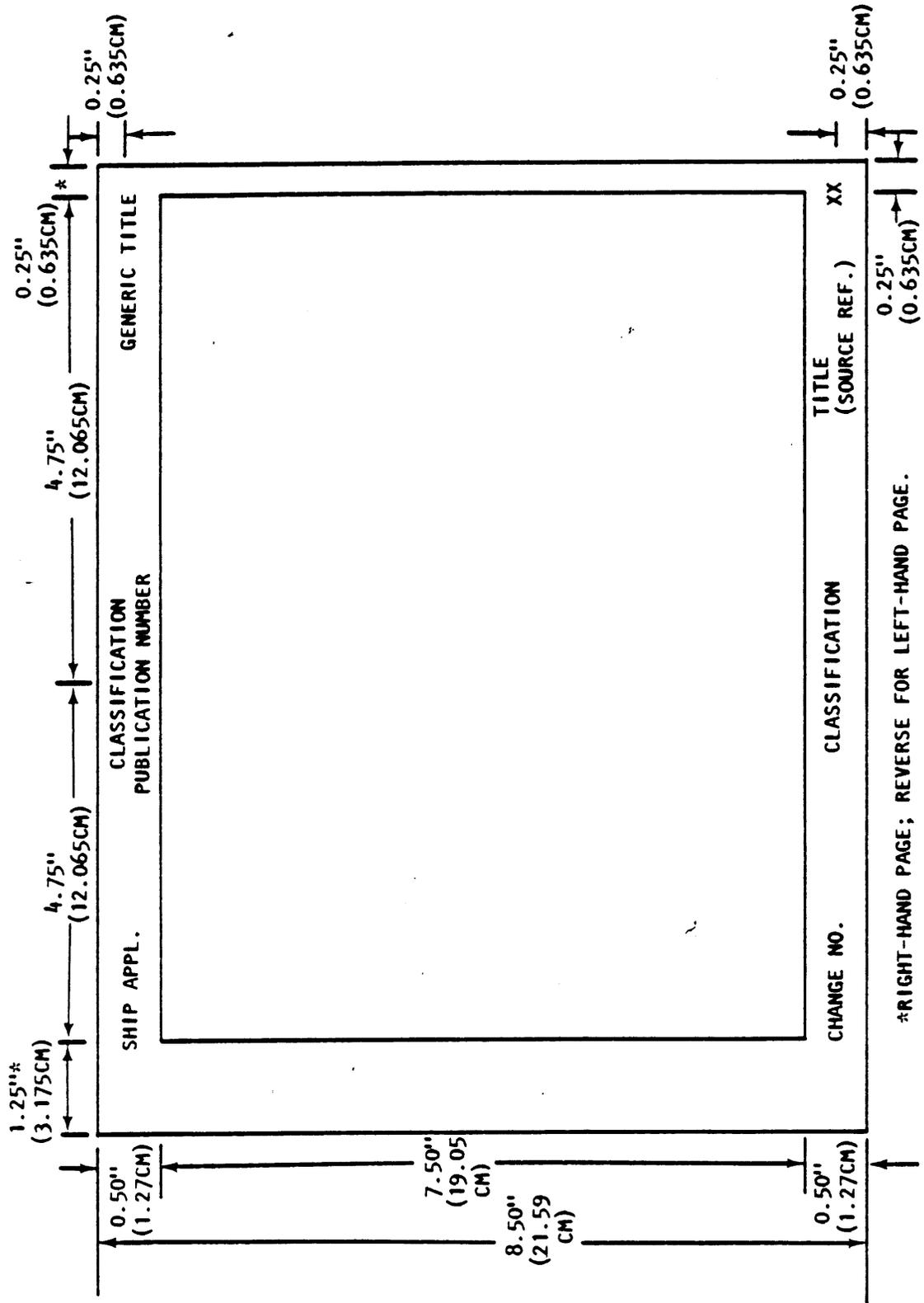


FIGURE 10-2. Single illustration page layout and dimensions.

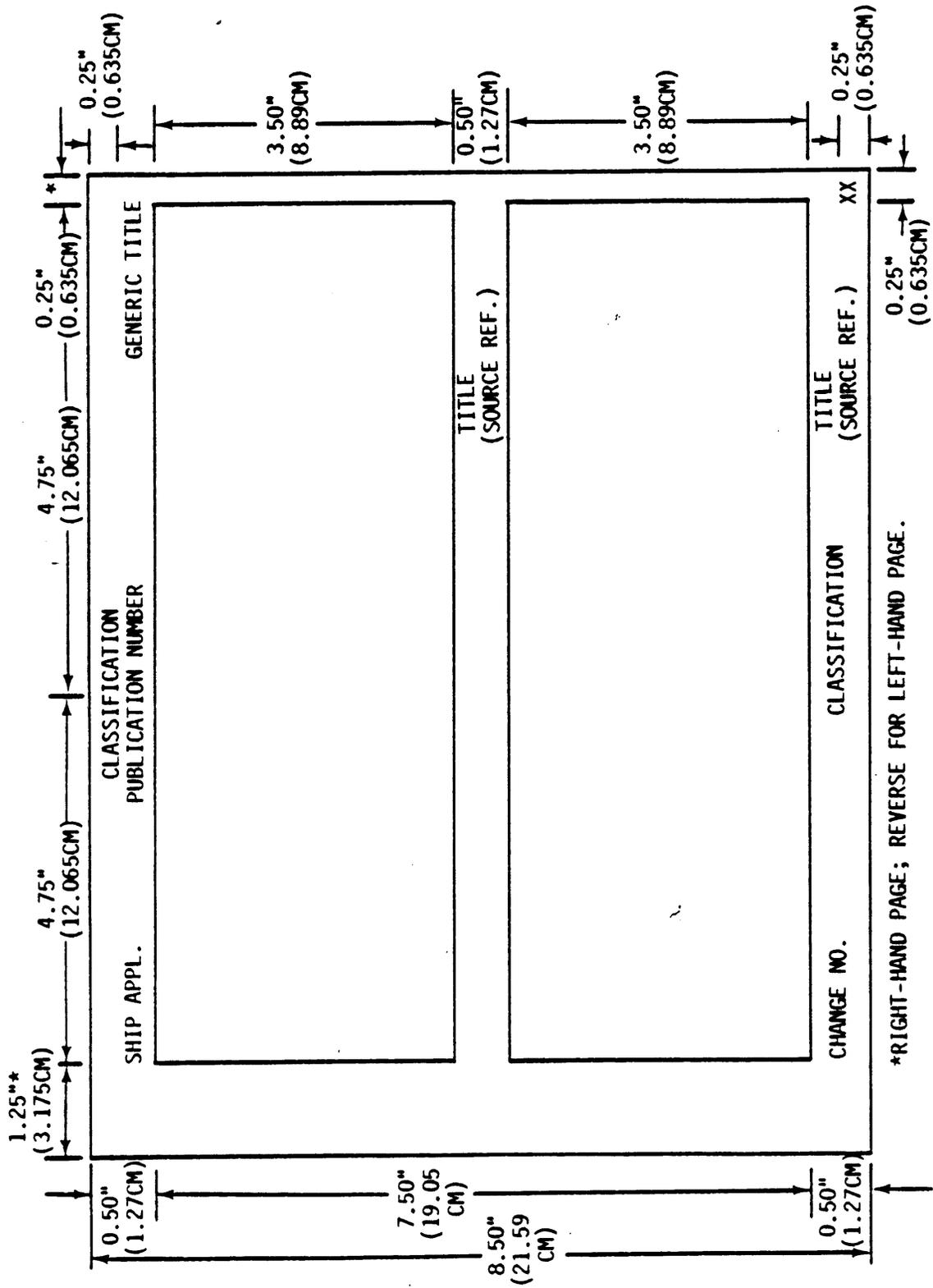
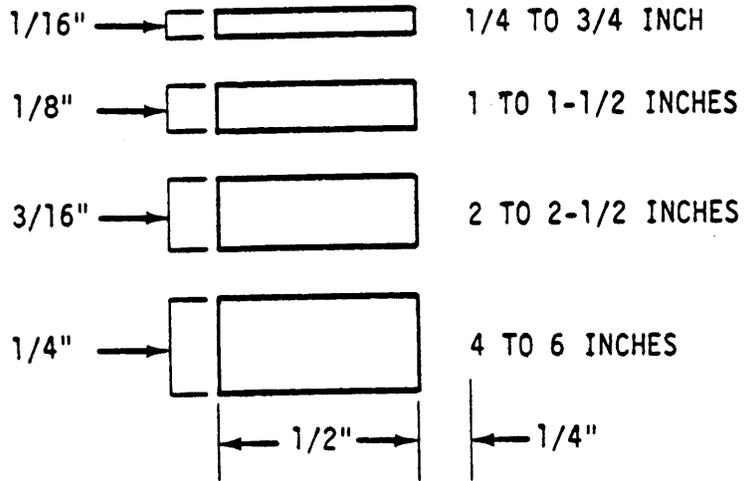


FIGURE 10-3. Double illustration page layout and dimensions.

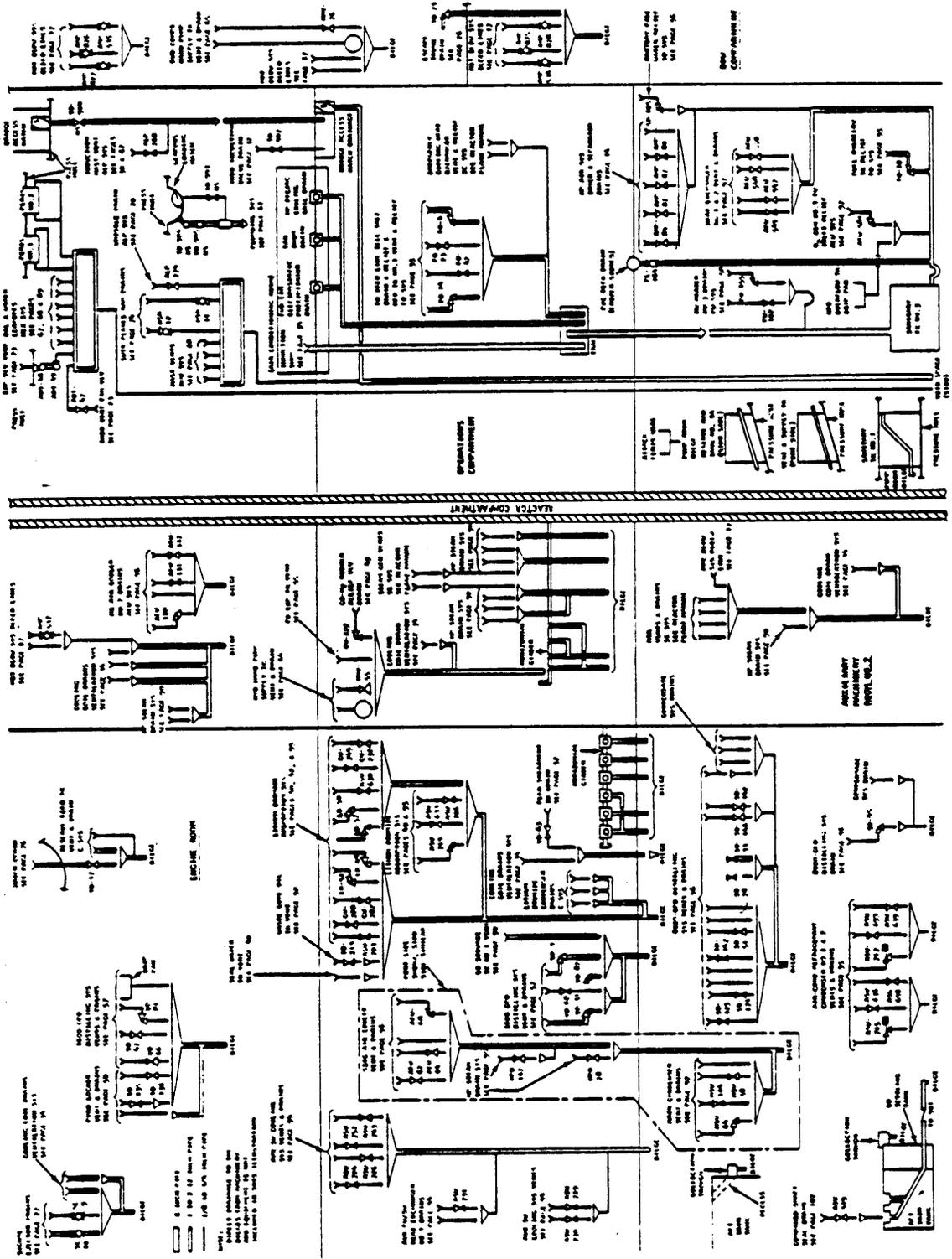


NOTE

PIPE SIZING IS SUBJECT TO VARY, AS IT IS DEVELOPED FROM THE PIPE SIZES THAT ARE INDICATED ON THE SYSTEM DIAGRAM BEING USED.

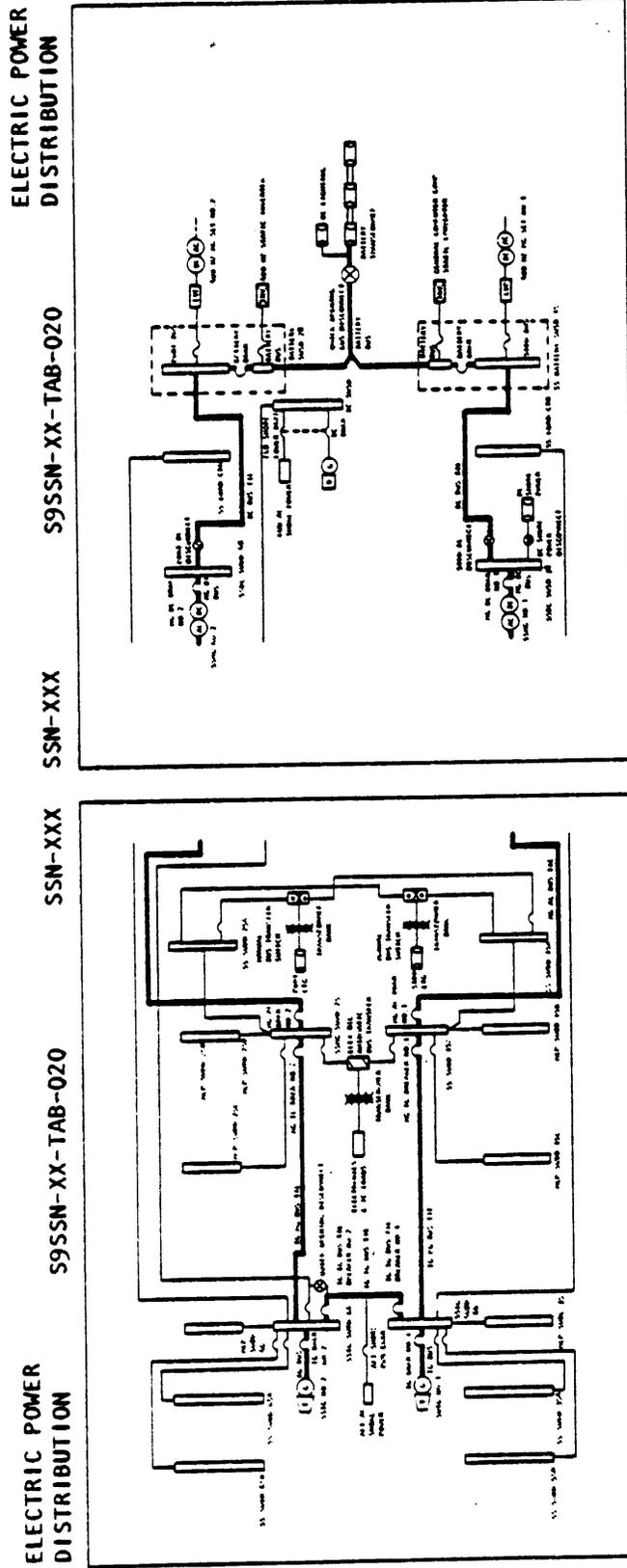
FIGURE 10-4. Recommended pipe size scale.





**GRAVITY DRAIN SYSTEM** NOTE: Sample shows arrangement only. Does not meet minimum legibility requirements or other requirements such as figure number, source reference, manual number.

FIGURE 10-6. Functional schematic diagram. (Sample)



22 FIGURE XX. SHIP SERVICE POWER SYSTEM ORIGINAL (SOURCE REFERENCE)  
 ORIGINAL FIGURE XX. SHIP SERVICE POWER SYSTEM 23 (SOURCE REFERENCE)

NOTE: Sample shows arrangement only. Does not meet minimum legibility requirements.

FIGURE 10-7. Functional schematic diagram, 2-page spread. (Sample)

Custodian:  
Navy - SH

Review Activity:  
Navy - EC

Preparing activity:  
Navy - SH  
(Project TMSS-N319)

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4,5,6, and 7 and send to preparing activity.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

### I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER  
MIL-DTL-24784/10B (SH)

2. DOCUMENT DATE (YYYYMMDD)  
15 February 2002

3. DOCUMENT TITLE

**TRAINING AID BOOKLET (TAB) REQUIREMENTS FOR NAVAL SHIPS SYSTEMS**

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

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (*Last, First, Middle Initial*)

b. ORGANIZATION

c. ADDRESS (*Include Zip Code*)

d. TELEPHONE (*Include Area Code*)

(1) Commercial

(2) DSN  
(if applicable)

7. DATE SUBMITTED  
(YYYYMMDD)

8. PREPARING ACTIVITY

a. NAME

SEA 05Q

b. TELEPHONE (*Include Area Code*)

(1) Commercial  
(202) 781-3726

(2) DSN

c. ADDRESS (*Include Zip Code*)

Commander, Naval Sea Systems Command  
ATTN: SEA 05Q, 1333 Isaac Hull Ave SE Stop 5160,  
Washington Navy Yard DC 20376-5160

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:

Defense Standardization Program Office (DLSC-LM)  
8725 John J. Kingman Road, Suite 2533,  
Fort Belvoir, VA 22060-6221  
Telephone (703) 767-6888 DSN 427-6888