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DEPARTMENT OF DEFENSE HANDBOOK FOR WIRING DATA AND SYSTEM SCHEMATIC DIAGRAMS PREPARATION OF



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FOREWORD

NOTE

The sample drawings are informational only and complete to the degree necessary to illustrate a type of drawing. Actual format and drawing should conform to the textual guidance set forth in this handbook

1. This handbook is for guidance only and cannot be cited as a requirement for wiring data and schematic diagram guidance for aerospace vehicles and aerospace support applications.
2. This handbook utilizes the intent of ISO 2042-1973-10-01, aircraft electrical circuit diagrams.
3. This handbook supplements the general guidance of ASME Y14.100, Engineering Drawing Practices, with detailed information on specific drawing guidance.
4. Following the guidance herein will:
 - a. insure uniform state-of-the-art data preparation and presentation.
 - b. enhance training and understanding of systems by use of schematics and diagrams directly reproduced from engineering data.
 - c. permit direct incorporation of engineering data into technical publications without need for redraw.
 - d. provide rapid access to aerospace vehicle wiring and system data.
 - e. provide the management activity with management and configuration control data.
 - f. provide effective engineering source document for fault isolation logic and analysis.
5. Tailoring of the use of this handbook to meet the guidance of a specific contract is encouraged.

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MIL-HDBK-863A**1 SCOPE**

This handbook is for guidance only and cannot be cited as a requirement. This engineering data (wiring data and schematic diagrams) is to be used for (1) configuration control by management activity, (2) direct incorporation into technical publications without redrawing, (3) training of maintenance personnel, and (4) development of engineering source document for fault isolation logic and analysis.

2 APPLICABLE DOCUMENTS

2.1 General. The documents listed below are not necessarily all of the documents referenced herein, but are those needed to understand the information provided by this handbook.

MIL-PRF-5480	Data, Engineering and Technical, Reproduction
MIL-STD-681	Identification Coding and Application of Hookup and Lead Wire
MIL-STD-1808	Department of Defense Interface Standard System Subsystem Sub-Subsystem Numbering

(Copies of federal and military specifications, standards and handbooks are available at <http://quicksearch.dla.mil/> or from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

PUBLICATIONS**DEFENSE SUPPLY AGENCY**

H4-1	Cataloging Handbook
H4-3	Federal Supply Code for Manufacturers

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

2.2 Government documents.**2.2.1 Specifications, standards, and handbooks.****2.2.2 Other Government documents, drawings, and publications.**

2.3 Non-Government publications. The following documents form a part of this document to extent specified herein.

ASME Y14.1	Drawing Sheet, Size and Format
ASME Y14.1M	Metric Drawing Sheet Size and Format
ASME Y14.2	Line Conventions and Lettering
ASME Y14.15	Electrical and Electronic Diagrams
ASME Y14.38	Abbreviations and Acronyms
ASME Y14.41	Digital Product Definition Data Practices
ASME Y14.100	Engineering Drawing Practices
ASME/IEEE 260	Letter Symbols for Units Used in Science and Technology
IEEE STD 91	Graphic Symbols for Logistic Diagrams (Two-state Devices)
IEEE STD 100	Reference Designations for Electrical and Electronic Parts and Equipment
IEEE STD 315	Graphic Symbols for Electrical and Electronics Diagrams (Including Reference Designation Class Designation Letters)
ISO 2042-1973-10-01	Aircraft Electrical Circuit Diagrams
SAE-AS39029	Contacts, Electrical Connector, General Specification For:
SAE-AS50881	Wiring, Aerospace Vehicle

The American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990.
<http://www.asme.org>

SAE (SAE is not an acronym), SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001.
<http://www.sae.org/servlets/index>

MIL-HDBK-863A**3 DEFINITIONS**

3.1 Aerospace vehicle functional system. A functional system is a combination of inter-related groups of equipment, sets and line replaceable units (LRUs) arranged to perform an operational function within an aerospace system. Specific system descriptions may be found in MIL-STD-1808.

3.2 Line replaceable unit (LRU). An LRU is a unit which can be removed from an aerospace system and replaced with a like operating unit, in order to restore the operational capability of the next higher system.

3.3 Management activity. A generic term used to denote the governmental organization responsible for the aerospace system during a specific phase of its acquisition/service life cycle.

3.4 Master reproducible. A deliverable original, first generation copy, or duplicate copy of a drawing.

3.5 Modification directive. The normal authorization document directing modification of an aerospace system. The directive may be in the form of a Time Compliance Technical Order (TCTO-USAF), Modification Work Order (ARMY) a Airframe Technical Directive (NAVY) Service Bulletin, etc.

3.6 Sub-system. A sub-system is a combination of related groups of equipment, sets and LRUs arranged to perform a specific function with a system and is a major sub-division of the systems. Specific sub-system descriptions may be found in MIL-STD-1808.

3.7 Sub-sub-system. A sub-sub-system is generally a single set or group of related equipment and LRUs arranged to perform a specific function of a sub-system and is a sub-division of a sub-system. A sub-sub-system of a highly complex sub-system and system may consist of more than one identical and redundant single set of equipment.

3.8 Technical publication. A technical publication is a manual containing a description of a weapon system and equipment with instructions for effective use, including one or more of the following sections: installation, preparation for use, operation, maintenance, overhaul, parts breakdown, related technical information, or procedures.

3.9 Wire harness. A wire harness consists of one or more conductors, including coaxial cables which are grouped together or treated as a separate assembly for the purpose of ease of assembly or installation.

4 GENERAL GUIDANCE

4.1 Wiring data and system schematic diagrams. The wiring data and system schematic diagrams should be prepared in bookform drawing format, in accordance with ASME Y14.100 and this handbook. Pages should be prepared, arranged and numbered in accordance with this handbook. Each modification or alteration to the aerospace system should be documented.

4.2 Drawing method. The wiring data and system schematic diagrams may be prepared and maintained in any suitable manner which is capable of being reproduced as master reproducible data conforming to the format, drawing density, drawing quality, and all other guidance of this handbook and ASME Y14.100.

4.3 Drawing size and format. Drawings should conform to the guidance of this handbook (see Figures 1 and 2), and where specified, to ASME Y14.1. All drawing dimensional guidance specified in 4.3.1 and 4.3.2 or elsewhere in this handbook refer and apply to deliverable master reproducible drawings.

4.3.1 Diagram pages. Diagram pages should be prepared on C or D size formats, as specified by procuring activity. Letters should be upper case (sans serifs preferred) with no more than 10 characters per inch (25mm). Upper case letters representing lower case letters, such as in connector pin identification, should be followed by an asterisk in accordance with ASME Y14.15. The minimum letter and number heights on wiring and schematic diagrams should be in accordance with ASME Y14.2. Letters, numbers, and symbols should be machine applied or hand scribed using templates or guides. Free-hand lettering is not permitted. Lines may be inked or photo processed. Line spacing on diagram pages should be based on a .10 inch (2.5mm) grid system with a minimum separation of .20 inch (5mm).

4.3.2 Records, indexes, lists, and general information. Record, index, general information, and list pages should be prepared for reproduction on B or C size formats (see Figures 5 through 13). NOTE: Figures containing automated printout are intended only for format presentations; automated printout is not a

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requirement. Letters should be upper case (sans serifs preferred), with no more than 10 characters to the inch (25mm). Upper case letters representing lower case letters, such as in connector pin identification, should be followed by an asterisk, in accordance with ASME Y14.15. The minimum letter and number height should be .12 inch (3.0mm) for C size format and .10 (2.5mm) for B size format. Only mechanically applied lettering, in accordance with ASME Y14.2, should be used.

4.4 Legibility and contrast. All master reproducible pages should meet the guidance of MIL-PRF-5480.

4.4.1 Reproducible master copies. When stable base reproducible masters are specified in the contract, the copies should be furnished on 3 to 4 mil erasable stable base polyester film, or as specified by procuring activity.

4.4.2 Microfilming. When microfilmed in accordance with ASME Y14.41, blow backs of Type I Class I microfilm should produce copies conforming to applicable legibility and contrast guidance.

4.5 Graphic symbols. Electrical and electronic diagram graphic symbols should conform to IEEE STD 315 and should be prepared so that the connection points are located at the intersections of a modular grid of 0.10 inch (2.5mm) increments. Dimensions for commonly used symbols should conform to Figure 3. Other symbol sizes should be relative to those shown. Terminal stud sizes should be shown by symbols on the interconnection diagrams in accordance with Figure 24. When non-handbook symbology is needed, a table or tables should be provided, as general information, which show and explain all symbols used on the drawing. This symbol library, after initial approval by the procuring activity, and subsequent updating, should be used throughout the lifetime of the aerospace system. IEEE STD 91 should be used for logic diagrams.

4.6 Unit symbols. Letter symbols for electrical and electronic units should be in accordance with ASME/IEEE 260.

4.7 Abbreviations. Abbreviations should be in accordance with ASME Y14.38.

4.8 Metric system. Metric units of measurement should be in accordance with ASME Y14.1M.

5 DETAILED GUIDANCE

5.1 Book-form wiring and schematic data. System wiring and schematic data should be prepared as book-form drawings containing the following categories of data.

<u>Category</u>	<u>Title</u>	<u>Data Category (Page Prefix)</u>
Revision	Record	1
Contents	Record	2
General	Information	3
Index of	Production Diagrams	4
Index of	Effective Diagrams	5
Index of	Modifications	6
Modification	Data Index	7
Connection	List	8
Wire Harness	List	9
Equipment	List	10
Interconnection	Diagrams	11
System Schematic	Diagrams	12
Equipment Location	Diagrams	13
Wire Harness Location	Diagrams	14

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5.1.1 Drawing title page. The drawing title page should list the system production unit numbers or serial numbers and each production contract to which the drawing is applicable. The title page should contain the title of the overall drawing. For example: "Wiring Data and System Schematics Diagrams". The title page should always bear the latest revision letter assigned to the drawing (see Figure 4).

5.1.2 Book-form drawing revision record. The revision record should be mechanically prepared and should alphabetically list each revision to the drawing by revision letter, omit I, O, Q, S, X, and Z (International V), with the date of the revision (see Figure 5). Each line listing should also contain the approval authority and a description of the change. A brief description of the change should be made on the revision page or a reference made to the revision authorization document (design change notice, engineering change order, etc.) describing the change. The change description should include in addition to the description of the change a listing by page number of each drawing page revised and each new page added by the revision and should become a part of the book-form drawing filed as supplementary revision data pages. This revision record satisfies the ASME Y14.100 requirement for a revision block containing a change history record on each page of the book-form drawing.

5.1.2.1 Revision record page numbering. Each revision record page should be numbered with a three element number. The first element should consist of the data category prefix 1 (reference 5.1). The second element should consist of a four digit number assigned sequentially, beginning with 0001 and should be the basic page numbers of the revision record. The third element should consist of a two digit number, beginning with 00 and should be used as a supplementary page number to the basic page. The pages of the change description should be numbered sequentially, beginning from the last number previously used in the revision record. Should supplementary pages to the basic page be required, they should be inserted in the revision record directly after the basic page being supplemented (see the following examples).

1	-	0001	-	02
1	-	0009	-	00
1	-	0009	-	01
(a)		(b)		(c)

- a. Data category prefix (for revision record)
- b. 0001 - 1st page of revision record.
0009 - 9th page of revision record.
0009 - 9th page of revision record.
- c. 02 - 2nd supplementary page to revision record page 0001
00 - Basic page of revision record page 0009
01 - 1st supplementary page to revision record page 0009

5.1.3 Contents record. The contents record should list each page of the drawing by page number and its latest revision letter. The record should list all pages which have at any time been released as part of the drawing without regard to current system applicability. The record should list the pages by category and page sequence in the same order that the data is to be filed or bound as a book (see Figure 6).

5.1.3.1 Contents record page numbering. Each contents page should be numbered with a three element number. The first element should consist of the data category prefix 2 (reference 5.1). The second element should consist of a four digit number assigned sequentially beginning with 0001. The third element should consist of a two digit number beginning with 00 (see the following example).

2	-	0002	-	00
(a)		(b)		(c)

- a. Data category prefix (for contents record)
- b. 2nd page of contents

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c. Basic page

5.1.4 General Information. The general information category of pages should contain information to fully explain the use and interpretation of the drawing. Sufficient data should be included to minimize the need for reference to other documents in order to interpret data contained in the drawing. Such data as handbook practices in bonding, wiring assembly, installation, etc., may be included. The data described in the following sub-paragraphs should be included as a minimum.

5.1.4.1 Drawing description. The purpose, arrangement, and use of the drawing should be fully explained. Each category of data pages should be listed and the content, interpretation, and use of each should be described. Column headings on equipment list, wire harness list, and connection lists should be shown and explained including descriptors, acronyms, or abbreviations used.

5.1.4.2 Production unit numbers. A cross reference listing or contractor production unit numbers versus government assigned serial numbers should be provided.

5.1.4.3 System identification numbers. The construction and interpretation of system identification numbers as required by 5.2 should be explained. A list should be provided of the system identification numbers that were used with the system titles. A list should, also, be included of all sub-sub-system identification numbers that were used on the drawing with their respective titles.

5.1.4.4 Higher level designations. The arrangement and interpretation of higher level designations as required by 5.2 should be explained. A table should be included listing all class letters used in the drawing with their assigned noun phrases.

5.1.4.5 Wire harness numbers. Wire harness numbers should be explained and the methods used to physically identify harnesses should be described (see 5.4).

5.1.4.6 Wire numbers. The arrangement and interpretation of wire identification numbers (reference 5.4) should be fully explained and each method used to physically identify wires such as imprinting, color coding, etc., should be explained.

5.1.4.7 Manufacturers (Vendors) list. A listing should be provided of each manufacturer (vendor) of an LRU. The list should consist of the name, address, and when assigned, the Federal Supply Code for Manufacturer (FSCM) in accordance with Cataloging Handbook H4-1.

5.1.4.8 Electromagnetic compatibility criteria. Electromagnetic compatibility category designators required by 5.5 should be listed and explained. Wire separation nomographs and other installation criteria concerning electromagnetic compatibility should be included in this section.

5.1.4.9 Wire type code. Wire type codes required by 5.6 should be explained and listed.

5.1.4.10 Symbols library. A table(s) should be provided which shows and explains all symbols used on the drawing(s). Once established and approved by the Management Activity, the same symbols should be used throughout the life cycle of the system.

5.1.4.11 Notes. Notes on drawings are used to provide supplemental information and instructions, to avoid congestion in the field of the drawing, to avoid repetition of information and to otherwise assure completeness and clarity of the data. The system notes used should be fully explained.

5.1.4.11.1 Coded notes. Coded notes are notes which are listed in the general information section and which utilize a coding symbol to indicate the locations throughout the drawing data where each note is applicable. The coding symbol should consist of a number assigned in numerical sequence and enclosed in parentheses, for example: (5). Coded notes should be used for notes required on list and index pages. Coded notes should also be used on diagrams for notes which are repetitively used. Leaders may be used with the note coding symbol on diagrams, but in general should be avoided.

5.1.4.11.2 Local notes. Local notes are numbered notes which are grouped together on a drawing and which apply only to that specific page. Local notes should be used only on diagram pages. When a numbered local note must indicate applicability at a particular location within the diagram to achieve clarity, the note number should be within a flag (for example: 5) and the numbered flag should also be entered on the diagram at the location(s) to which the note applies.

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5.1.4.12 General information page numbering. Each general information page should be numbered with a three element number. The first element should consist of the data category prefix 3 (reference 5.1). The second element should consist of a four digit number assigned sequentially beginning with 0001, and should be the basic page number of the general information. The third element should consist of a two digit number beginning with 00, and should be used as a supplementary page number to the basic page (see the following example).

3	-	0001	-	00
3	-	0002	-	01
(a)		(b)		(c)

- a. Data category prefix (for general information)
- b. 0001 - 1st page of general information
0002 - 2nd page of general information
- c. 00 - Basic page of the general information page
01 - Supplementary page to general information page 0002

5.1.5 Index of production diagrams. The index of production diagrams should list all diagrams applicable to systems as delivered from production to the government. The index should list the production unit number or government-assigned serial number of all systems which each diagram is applicable. Each diagram should be identified by page number, noun phrase, and applicable revision letter. This index should provide a permanent record of the exact "as delivered" configuration of the aerospace system. A separate page or group of pages should be prepared for each system number assigned in accordance with 5.2.1 (see Figure 7).

5.1.5.1 Index of production diagrams page numbering. Each page of the production diagram index should be assigned four element number. The first element should consist of the data category prefix 4 (reference 5.1). The second element should consist of the diagram category prefix (reference 5.1). The third element should consist of the functional system number (reference 5.2.1 and MIL-STD-1808) or location code (reference 5.1.14.1). The fourth element should consist of a two digit number assigned sequentially beginning with 01. (See the following examples.)

4	-	3	-	24	-	01
4	-	14	-	00	-	01
(a)		(b)		(c)		(d)

- a. Data category prefix (for production diagram index)
- b. Diagram category
 - 11 - Interconnection diagrams
 - 12 - Schematic diagrams
 - 13 - Equipment location diagrams
 - 14 - Wire harness location diagrams
- c. System designator (reference 5.2.1 and MIL-STD-1808)
- d. 1st page of system grouping

5.1.6 Index of effective diagrams. The index of effective diagrams should list all diagrams currently applicable and should list the production unit number or government-assigned serial numbers of all systems which each diagram is applicable. Each diagram should be identified by page number, noun phrase, configuration code, and applicable revision letter. This index should identify the current authorized applicability of each diagram and should be updated as necessary to incorporate approved modifications and

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changes upon direction of the management activity. The index should indicate modification sequencing affecting diagram applicability including superseding and superseded diagram information. The index should also identify the incorporating modification directive for all diagrams effected as a result of modifications. After a diagram has been incorporated on all systems to which it applies, superseded diagram information should be deleted upon direction of the Management Activity. A separate index page or group of index pages should be prepared for each system number assigned in accordance with 5.2.1 (see Figure 8).

5.1.6.1 Index of effective diagram page numbering. Each page of the effective diagram index should be assigned a four element number. The page number should be assigned as in 5.1.5.1 except the data category prefix in the first element should be 5.

5.1.7 Index of modification. The modification index should list each modification after delivery of the production system, affecting wiring or requiring the addition, deletion or change of an LRU (see 5.7.1). As a minimum, the index should list the modification number (sequentially assigned), modification title, the drawing number of the top installation drawing for the modification and its Federal Supply Code for Manufacturers number, the Engineering Change Proposal number or other change number, and the modification directive (see Figure 9).

5.1.7.1 Index of equipment modifications page numbering. Each page of the index of modifications should be assigned a three element numbers. The first element should consist of the data category prefix 6 (reference 5.1). The second element should consist of a four digit number assigned sequentially beginning with 0001. The third element should consist of a two digit number beginning with 00 (see the following example).

6	-	0002	-	00
(a)		(b)		(c)

- a. Data category prefix (for modification index)
- b. 2nd page of modification index
- c. Basic page

5.1.8 Modification data indexes. An individual modification index consisting of one or more pages should be prepared for each after-delivery modification affecting wiring or requiring the addition, or deletion, or change of a line replaceable unit. Each index should list the production unit or serial number of the applicable systems, the modification title, the contract number, the top installation drawing for the modification and its Federal Supply Code for Manufacturers, the modification directives and modification sequencing information. Each index should list, by page number and revision letter, all list and diagram data affected by the modification including new and superseded pages with the applicability of each page by production unit number or serial number (see Figure 10).

5.1.8.1 Modification data index page numbering. Each page of the modification data indexes should be assigned a three element number. The first element should consist of the data category prefix 7 reference 5.1). The second element should be a four digit number assigned sequentially according to the modification number (reference 5.1.7) and beginning with 0001. The third element should consist of a two digit number assigned sequentially according to the number of pages required and beginning with 01 (see the wing example).

7	-	0015	-	03
(a)		(b)		(c)

- a. Data category prefix (for modification data indexes)
- b. 15th modification
- c. 3rd page of the 15th modification data index

5.1.9 Connection list. Connection list pages should list all LRUs to which system wiring is connected and should identify each connection and the attached wiring. A separate page or group of pages should be prepared for each sub-system number for which items are listed. Items should be listed in alpha-numerical

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order by higher level designations (reference 5.2.2). All connection points on each item should be listed by alpha-numeric identifier, symbol, color code, etc. Grounds should be listed by ground point designations (see 5.2.6). For each connection, the complete wire identification (see 5.4), overall system effectivity and sub-sub-system number of the applicable interconnection diagram should be listed (see Figure 11).

5.1.9.1 Connection list page numbering. Each page of the connection list should be identified by a four element number. The first element should consist of the data category prefix 8 (reference 5.1). The second element should consist of a two digit functional system number (reference MIL-STD-1808). The third element should consist of a two digit sub-system number (reference MIL-STD-1808). The fourth element should consist of a two digit number assigned sequentially beginning with 01 (see the following example).

8	-	23	-	10	-	01
(a)		(b)		(c)		(d)

- a. Data prefix category (for connection list)
- b. Functional system (communications)
- c. Sub-system (high frequency)
- d. 1st page of connection list for the communication HF sub-system

Configuration codes should not normally be used for page identification except as noted in 5.3.2.2.

5.1.10 Wire harness list. Wire harness data pages should list all interconnecting wiring (see 4.3.2 NOTE: and Figure 12). A separate page or group of pages should be prepared for each harness. Each conductor in the harness including shields should be listed by wire number. Each line listing should include the following categories of information as applicable:

- a. Applicable revision letter for the line entry
- b. Wire number (reference 5.4)
- c. Wire type code (reference 5.6)
- d. Wire length (specify units, i.e., feet/inches (m/mm))
- e. Sub-sub-system interconnection wiring diagram number where wire is shown
- f. Termination end 1 (higher level designations for LRU at which the conductor is terminated including ground points, splice areas if termination is a splice and adjacent LRU for a shield termination reference 5.2.2 through 5.2.2.7).
- g. Terminating code (a code which identifies the part number of the terminating device to which the wire attaches and the tooling data for the termination). A three digit code (basic identification number BIN code) should be used for connector contacts in accordance with MIL-C-39029. A distinctive code determined by the aerospace system manufacturer should be used for lugs, splices and ferrules (reference 5.1.4.11.1).
- h. Connection point (connet. pt.).
Numbers under the Connet. Pt. column consisting of up to 9 alpha-numeric characters identify pin or socket number for connectors, terminal identification or ground point number for lugs, splice number for splices and ferrule number for shield connections.
- i. Termination end 2 (same as item f. above)
- j. Termination information for end 2 as required for end 1 (reference items g and h above)
- k. Modification directive incorporating line listings if applicable
- l. System serial or production number incorporating the line listing
- m. Electromagnetic compatibility category (EMC) designation for the line listing (reference 5.1.4.8)
- n. Signal code - a specific code which identifies the discrete signal carried by the wire may be included for each line listing. This code, if used, should be listed in the General Information

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category 3 data under Signal Codes. The first page of each wire harness group should identify the manufacture assembly number of the harness, system effectivity and Federal Supply Code for Manufacturers by note or other suitable method.

5.1.10.1 Wire harness list page numbering. Each page of the wire harness should be assigned a three element number. The first element should consist of the data category prefix 9 (reference 5.1). The second element should be assigned a four digit number consisting of the wire harness identifying number. The third element should consist of a two digit number assigned sequentially and beginning with 01 (see the following example).

9	-	0129	-	02
(a)		(b)		(c)

- a. Data category prefix (for wire harness lists)
- b. Harness identifier (129th harness)
- c. 2nd page of the 129th harness list

Configuration codes should not normally be used except as noted in 5.3.2.2.

5.1.11 Equipment list. Equipment list pages should list all LRUs and equipment enclosures installed in the aerospace system. A separate page or group of pages should be prepared for each functional system identification number assigned (reference 5.2.1). Items should be listed by higher level designations reference 5.2.2.1) in alpha-numerical order. Each line listing should include part number, noun phrase description, installation drawing effectivity system production unit or serial number effectivity and location by water line, station line, and buttock line reference. If the line item LRU is part of a higher assembly LRU, the location may be defined as the system higher level designation of the higher assembly in lieu of station, water, and buttock line references. The Federal supply Code for Manufacturers should be entered in the part number/FSCM code column under the part number for all parts identified by manufacturer's part number. If a code has not been assigned in Catalog Handbook H4-1, the manufacturer's name and address should be provided by means of a numerically coded note (reference 5.1.4.11.1). The applicable revision letter for each line entry should be listed. Additional data columns, such as status and use of item, change authorization, may be included (see Figure 13).

5.1.11.1 Equipment list page numbering. Each page of the equipment list should be assigned a four element number. The first element should consist of the data category prefix 10 (reference 5.1). The second element should consist of a two digit functional system number (reference MIL-STD-1808). The third element should consist of the two digit code 00 (reference general sub-system category in MIL-STD-1808). The fourth element should consist of a two digit number assigned sequentially beginning with 01 (see the following example).

1	-	24	-	00	-	02
(a)		(b)		(c)		(d)

- a. Data category prefix (for equipment list)
- b. System designator (for electrical power systems)
- c. Sub-system designator (general sub-system)
- d. 2nd page of the electrical power system equipment list

Configuration codes should not normally be used for page identification except as noted in 5.3.2.2.

5.1.12 Interconnection diagrams. Interconnection diagrams should be prepared to clearly show all wiring interconnections between LRUs of each sub-sub-system. Only one sub-sub-system should be shown on a diagram. Except for written data within equipment outlines, interconnection diagrams should not indicate signal flow. Interconnection diagrams should be of two types; point-to-point diagrams and block diagrams.

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5.1.12.1 Point-to-point interconnection diagrams. A point-to-point interconnection diagram should be prepared for each sub-sub-system depicting all wiring, connections, and line replaceable units. Aerospace system wiring provided with equipment that is connected externally to the LRU should be shown complete. Individual wires should be identified by color coding or numbers. Vendor supplied wiring should also be identified by a cartwheel symbol (reference IEEE STD 315 Item 1.12). Each diagram may consist of one or more pages as required to depict the complete sub-sub-system and its interfaces (see Figure 15).

5.1.12.2 Block interconnection diagrams. A block interconnection diagram depicts the overall interconnection relationship of line replaceable units within a sub-sub-system requiring more than 3 pages. The block interconnection diagram should show and identify by higher level designations all line replaceable units of the sub-sub-system including connectors, junction boxes, mounts, control panels, power sources, etc. Groups of terminal strips, such as those within a junction box, may be shown as a single block and the individual higher level designations tabulated within. Each wire harness should be shown and should identify the harness number and the applicable point-to-point interconnect diagram page number (see Figure 14).

5.1.12.3 Interconnection diagram page numbering. Each page of the interconnection diagrams should be assigned a four element number. The first element should consist of the data category prefix 11 (reference 5.1). The second element should consist of a two digit functional system number (reference MIL-STD-1808). The third element should consist of a two digit sub-system number (reference MIL-STD-1808). The fourth element should consist of a two digit number assigned sequentially beginning with 01 (see the following example).

11	-	23	-	11	-	03
(a)		(b)		(c)		(d)

- a. Data category prefix (for interconnection diagrams)
- b. System number (for communications system)
- c. Sub-sub-system number (for high frequency sub-system)
- d. 3rd page (of high frequency sub-sub-system interconnection diagrams)

Configuration codes (reference 5.3.2) should also be placed in the diagram page block below the page number as required. Within each sub-sub-system, the block interconnection diagram if required should appear first, followed by the point-to-point interconnection pages.

5.1.12.4 Diagram arrangement. Equipment and interconnecting wiring should be arranged so as to provide easy traceability of each wire from end to end and to minimize the number of pages required to show the entire sub-sub-system. Both end connections of each wire and the wire number should be shown on only one page of point-to-point interconnection diagram. An effort should be made to arrange pages of a multiple page diagram functionally if practicable but not in conflict with the above guidance. Information concerning wire path, seals, raceways, cable routes, hole locations, etc., should be indicated with a dashed line in accordance with IEEE STD 315. In drawing wiring lines, the break in the line for wire numbers should be large enough so that the wire number does not touch the line. On short lines, the wire number should be inserted near one end. On long lines, the wire number should be inserted near both ends. In applications where the wire number cannot be inserted into the drawn line, the wire number may be placed in an adjacent location with a leader and arrowhead to show the point of application. The wire number should be positioned so that no difficulty should be encountered in associating the proper wire with the wire leader line arrowhead. Wire numbers should be spaced evenly so that letters and numbers do not touch each other. Where the wire numbers are in a series, one above the other, they should line up at the left of the wire numbers. Object lines should be broken for feeder lines. Individual wire lines should be spaced in increments of 0.2 inch. Line crossing, bends, and jogs should be kept at a minimum.

5.1.12.5 Interface. Sub-sub-system diagram pages should cross reference all other sub-system diagram pages to which it is interfaced. An interface in this respect means a connection point where a sub-sub-system connects to another sub-sub-system or otherwise changes circuit identity from one sub-sub-system to another. The point of interface may be on a circuit breaker, switch, relay terminal, splice, connector, or other appropriate connection. A dashed line from the connection point should be used to reference the interfacing

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diagrams. Interfacing diagrams should be identified by the individual interconnection diagram page number. (For example: 33-11-01, 23-21-06, A ---33-11-01, etc.)

5.1.12.6 Critical circuit wiring. When circuit functions are so sensitive as to be affected by wire path, direction, or position, the wiring involved is regarded as critical. Critical lengths of wire or cable and critical bending radii that may affect the performance of equipment should be noted. Such critical wiring guidance can frequently be covered by drawing notes. However, in exceptional cases, a two or three dimensional delineation drawn to scale may be required for a more precise specification of guidance.

5.1.12.7 Line replaceable units or (LRUs). All internal wiring of line replaceable units should be shown with the exception of electronic equipment. The internal wiring should be shown in simple schematic form (reference Figures 14 and 15). Where several identical line replaceable units appear, the internal wiring schematic of only one need be shown.

5.1.12.8 Line replaceable unit terminals. All line replaceable unit wire terminals should be shown in the same manner as the line replaceable unit as marked by the manufacturer. Arbitrary terminal identification based on ASME Y14.15 concepts described under paragraph titled "Identification of Terminals (General)" should be used on diagrams and lists if the line replaceable unit terminals are not otherwise identified.

5.1.12.9 Busses. Busses should be identified as being neither alternating current or direct current and should show the applied voltage. Phase and frequency should be specified if applicable.

5.1.12.10 Circuit breakers. Circuit breakers should be identified by current rating and applied voltage and should have the same functional identification as that shown adjacent to the installed circuit breaker. Phase and frequency should be specified if applicable.

5.1.12.11 Fuses. Fuses should be identified by current rating, applied voltage and should have the same functional identification as that shown adjacent to the installed fuse. Phase and frequency should be specified if applicable.

5.1.12.12 Switches. Switch markings should agree with the functional identification adjacent to the installed switch.

5.1.12.13 Transformers. Transformers should be identified by their voltage and output current rating or by their voltage output.

5.1.12.14 Relays. Relays should normally be shown in their de-energized conditions. Relays should be identified and shown complete with diagram references, if applicable, on the interconnection diagram that provides control of the coil or coils.

5.1.12.15 Controls markings. All control markings which appear on the actual equipment should be repeated identically on the diagram. Controls should be indicated clearly.

5.1.12.16 Higher level designations. Each item of equipment should be identified by the higher level designations assigned in accordance with 5.2.2 and IEEE STD 200. LRUs which also have reference designation assigned by the equipment manufacturer, should in addition show the equipment manufacturer's designator in parentheses. Each connector, terminal strip, or other connecting point for interconnecting wiring which is part of a replaceable unit should be identified by the reference designation assigned by the equipment manufacturer (for example: 1J1, 1J2, 2TB1, etc.). The system identification number may be left off the interconnection diagram for equipment which is a part of that system. (Example: a 2311P1 connector can be placed on the 11-23-11-01 diagram as P1 but a 2459CB1 on the 11-23-11-01 diagram must be identified by 2459CB1 indicating it is a part of the 2459 system.)

5.1.13 System schematic diagrams. System schematic diagrams should be prepared to depict the energy paths and interrelationships between LRU within an aerospace system. The energy paths may be copper, fluids mechanical, or electromagnetic. Schematic diagrams should be structured in a logical manner that will show the complete functional performance and relationship of the systems, sub-systems and sub-sub-systems of the aerospace system. Clarity of presentation of the information depicted on the schematic diagram should be a prime requirement. Graphic presentation of LRUs should be shown by symbol, picture, or cutaway (see Figure 16). Schematic diagrams should portray a system in a sufficient detail to permit

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trouble analysis to an electrical or mechanical failure and to permit understanding of the system operation by maintenance personnel. Three levels of detail should be used in preparation of schematic diagrams. These levels are: block, simplified, and detail.

5.1.13.1 Block schematic diagrams (first level). The block schematic diagram should be complete, on one page, for the system, sub-system, or sub-sub-system being depicted. The primary purpose of the block schematic diagram is to provide a rapid understanding of the major replaceable units and their interrelationships. Signal flow information is limited to primary functions and does not include control, inhibiting, interlocking, etc. LRU representation should generally be limited to rectangular shapes with restricted use of symbols and pictorial drawing. Block schematic diagrams should be prepared for each system except those instances where 1 or 2 sub-sub-systems comprise the entire function (see Figure 17).

5.1.13.2 Simplified schematic diagrams (second level). Simplified schematic diagrams may be on more than one page. Primary purpose of simplified schematic diagrams is to supplement the block or detail schematic diagrams to provide a better understanding of the function or functions being performed. Simplified schematic diagrams are normally prepared for systems, sub-systems, or sub-sub-systems where the complexity is such that third level schematics do not enable easy understanding of the system (see Figure 18).

5.1.13.3 Detail schematic diagrams (third level). Detail schematic diagrams should be prepared for each sub-sub-system except those of such simplicity that the interconnection diagrams provide complete technical and functional understanding. The primary purpose of the detail schematic diagram is to provide sufficient information for sub-sub-system maintenance. Each sub-subsystem diagram may consist of more than one page. Graphic presentation of line replaceable units should be shown by two of the three types of graphic presentation (Figure 16) when transitioning from one energy media to another (see Figures 19 and 20).

5.1.13.4 Schematic diagram page numbering. Each page of the schematic diagram should be assigned a four element number as described in 5.1.12.3 except the first element (data category prefix) should be 12. Configuration codes (references 5.3.2) should be placed in the schematic diagram page block below the page number as required. Within each sub-system or sub-subsystem grouping the diagrams should be arranged with the block diagrams preceding the simplified diagrams which in turn precede the detail diagrams.

5.1.13.5 Schematic diagram arrangement. When practical, the diagram arrangement should correspond to the equipment location on the system. The preferred layout of a diagram is one in which energy flow is from left to right, top to bottom. Show system controls on the left to right, top to bottom. Show system controls on the left and controlled items on the right. However, to utilize available space, it is permissible to deviate from this requirement.

5.1.13.6 Symbols and pictorials. Schematic diagrams of electromechanical systems, such as the Air Conditioning System, are to be drawn showing the mechanical and electrical relationships in an integrated presentation. Mechanical linkages are to be shown by dashed lines or by isometric, orthographic, or perspective pictorials where the clarity of the function is enhanced. Use recognizable pictorial items such as a reduced size panel face of a control module, the dial of an indicator or an antenna outline, to provide a bridge between theoretical circuit and physical installation for easier assimilation by non-system trained personnel, as well as a system specialist. Dial pictorials need not reflect power off status.

5.1.13.7 Lines. Schematic symbols and pictorials should be logically grouped, with each group located on the schematic so that the complete schematic requires a minimum number of signal flow paths and crossed lines. All lines should be routed as directly as possible with a minimum number of zigzags. Use scattered ground symbols rather than long lines to a central ground. Large groups of lines that run parallel to each other should be in groups of 2 to 4 with double spacing between groups.

5.1.13.8 Line replaceable unit internal schematics. Internal simplified schematics or logic diagrams for LRUs should be drawn for at least one of each different type of LRU shown on the detail schematic diagram page. Cross references to equipment in which the common internal circuitry is shown should be placed within the LRU outline on the schematic. In lieu of this requirement on electronic units manufactured under ARINC specifications, word functions may be used provided that they agree with the specific ARINC report. (Note: An ARINC report or specification is a document that is prepared and published by Aeronautical Radio, Inc. (ARINC), 2551 Riva Road, Annapolis MD 21401. ARINC

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develops standards for electronic equipment and systems for airlines.) Logic and electrical/electronic interlock circuits should be symbolically presented. To assist function understanding, explanation by words may be used on the schematic. Antenna internal circuitry should be shown.

5.1.13.9 Line replaceable unit sub-modules. Each input to output conversion of a sub-module should be displayed with a minimum of electrical/electronic circuitry by showing it in symbolized form. The exact signal flow should be displayed between sub-modules and sub-sub-modules. Each sub-module and sub-sub-module should be identified by its function description. Sub-modules and sub-sub-modules performing basic functions (amplifier t gates, oscillators, generators, motors, etc. - see Figure 19) should not be shown in detail.

5.1.13.10 Cross reference. Cross reference information should be indicated on all detail schematic diagrams where the complete connection to components such as relays, switches, transformers, etc., are not shown on one diagram, but must be continued on another schematic diagram. Cross reference should be shown by printing the related system/sub-system/sub-sub-system number adjacent to the line that represents the interface with the other schematic diagram (for example: 34-10-03, A ---24-10-04).

5.1.13.11 Spare circuits. Spare circuits specifically assigned to a sub-sub-system should be shown on the schematics.

5.1.13.12 Test points. Test points should be shown to facilitate trouble shooting. Signal characteristics will be shown except when the characteristics are obvious. Inside the unit, the interface of BITE (Built In Test Equipment) test signals should be indicated (reference Figure 19). In-line disconnects, terminal strips, and splices need not be shown on schematic diagrams except when used as test points unless otherwise specified. Test point identification should be in accordance with ASME Y14.15.

5.1.13.13 Signal identification. Signal path nomenclature and electrical or mechanical characteristics should be shown, if needed, for trouble shooting.

5.1.13.14 Signal values. Electrical signal or impedance values should be shown, if required, to verify circuit function (in order to isolate trouble source). Show nominal and tolerance ranges.

5.1.13.15 Signal generation. The method of signal generation of sensors and transmitters should be displayed in a simplified manner.

5.1.13.16 Power source. Power sources should be shown as complete as possible on each schematic diagram. In the event this is impractical, the abbreviated power source details should be drawn with dotted lines and a cross reference added to identify the schematic diagram on which the complete power source details are shown.

5.1.13.17 Line replaceable unit identification. Detail schematics diagrams should show LRUs identified by their respective higher level designations (reference 5.2.2). Units of the system being presented should be outlined with a solid line and identified by name and system higher level designation. Equipment identification should be clearly stated adjacent to the symbols. If possible, the same nomenclature should be used as shown on the placard in the system.

5.1.13.18 Line replaceable unit ratings. Ratings should be included for line replaceable circuit breakers, fuses, resistors, capacitors, etc.

5.1.13.19 Relays and switches. Operation criteria of relay contacts and switches (both limit and manual) should be shown adjacent to the contacts. A relay should normally be shown in the de-energized condition. It should be shown complete on the schematic that provides control of the coil or coils. Reference should be made to all other schematics where the relay is shown.

5.1.13.20 Basic parts. Parts that perform a basic function need not be shown in detail as long as each function is defined by a symbol.

5.1.13.21 Unit outlines. LRU outlines should be shown on all schematic diagrams except system block schematic diagrams with a heavy solid black outline. All interfacing sub-systems should be identified with a crosshatch outline (see Figure 3).

5.1.13.22 Wiring diagram reference. Source wiring diagrams should be listed on each detail schematic diagram. A rectangular box outline should list all page numbers of affected wiring diagrams.

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5.1.14 Equipment location diagrams. Equipment location diagrams should be prepared to show the location and general shape of equipment racks, cabinets, consoles, panels, junction boxes, and bulkhead mounted electrical and electronic LRUs. A group of diagrams should be prepared for each of the following categories of equipment installations.

- 1 - Instrument and control panels
- 2 - Electrical and electronic racks
- 3 - Junction boxes and bulkheads

System number 39 (reference MIL-STD-1808) should be used to identify location diagrams. The first page or pages of each group should show the location of all items in the category with respect to the vehicle outline and zones. Each rack, panel enclosure, etc., shown should reference a succeeding page which should detail the LRUs contained therein (see Figure 21). Each item shown should be identified by its assigned higher level designation (reference 5.2.2).

5.1.14.1 Aerospace vehicle zone coding. An aerospace vehicle should be zoned for locations using the zone categories as follows:

5.1.14.1.1 Major zone.

- 1 - Fuselage, lower
- 2 - Fuselage, upper
- 3 - Empennage
- 4 - Power plants, nacelles, struts
- 5 - Left wing
- 6 - Right wing
- 7 - Landing gear and landing gear door
- 8 - Doors other than maintenance access doors
- 9 - Reserved

5.1.14.1.2 Sub-major zone. Major zones may be divided into sub-major zones which may be further divided into zones.

5.1.14.2 Equipment location diagram page numbering. Each page of the equipment location diagrams should be assigned a four element number. The first element should consist of the data category prefix 13 (reference 5.1). The second element should consist of the system number 39 which should be used for all equipment location diagrams. The third element should consist of a two digit number. The most significant digit should identify the equipment category. The least significant digit of the third element should identify the major zone location in the vehicle (reference 5.1.14.1). The fourth element should consist of a two digit number assigned sequentially beginning with 01 (see the following example).

13	-	39	-	12	-	01
(a)		(b)		(c)(d)		(e)

- a. Data category prefix (for equipment location diagrams)
- b. System number (for equipment locations)
- c. Equipment category (instrument and control panels)
- d. Major zone (upper fuselage)
- e. 1st page (of equipment location diagrams for instrument and control panels located in the upper fuselage zone)

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Configuration codes (reference 5.3.2) should be placed in the page number block below the page number as applicable.

5.1.15 Wire harness location diagrams. Wire harness location diagrams should be prepared to show the relative location and routing of all wire harnesses. These pages should consist of isometric or orthographic single line drawings and should show harness numbers, harness connector higher level designations and the approximate or relative locations of connector, harnesses, raceways, conduits and pressure seals (see Figure 22). Electromagnetic susceptible or interference generating harnesses should be noted. A group of diagrams should be prepared for each major zone of the vehicle (reference 5.1.4.1). The first page of the wire harness location diagrams should illustrate and identify the major zones of the aerospace vehicle and should also reference succeeding pages which should detail wire harness locations.

5.1.15.1 Wire harness location diagram page numbering. Each page of the wire harness location diagrams should be assigned a four element number. The element should consist of the data category prefix 14 (reference 5.1). The second element should consist of system number 91 which should be used for all wire harness location diagrams. The third element should be assigned a two digit number consisting of the system's major zone code (reference 5.1.14.1). The fourth element should consist of a two digit number assigned sequentially beginning with 01 (see the following examples).

14 - 91 - 60 - 01

(a) (b) (c) (d) (e)

- a. Data prefix category (for wire harness location diagrams)
- b. System number (for wire harness locations)
- c. Major vehicle zone (right wing)
- d. Sub-division of major zone (none)
- e. 1st page of right wing harness location diagrams

14 - 91 - 00 - 01

(a) (b) (c) (d) (e)

- a. Data category prefix (for wire harness location diagrams)
- b. System number (for wire harness location)
- c. Major zone (entire vehicle)
- d. Sub-division of major zone (none)
- e. 1st page of wire harness location diagrams (identifies and illustrates major zones of the system)

5.2 System coding method (aerospace system). The system coding method, a form of the Unit Numbering Method (IEEE STD 200), serves as a higher level designation to identify system, subsystems, sub-sub-systems and items. This higher level designation should be used to identify LRUs within the aerospace system in lieu of vendor reference designations.

5.2.1 System sub-division and higher level designations. All functional systems should be subdivided into sub-systems and all functions within each sub-system should be divided into sub-subsystems. If within a functional system there is only one group of equipment (i.e., sub-division into two or more sub-sub-systems is not appropriate), that group of equipment should be treated as a sub-sub-system of the functional system. Each functional system, sub-system, and sub-sub-system should be assigned an individual code number. These numbers are to be used in the assignment of higher level designations. Each functional system should be assigned a four digit identification number. The first two digits should be selected from MIL-STD-1808. The last two digits should be zeros. For example:

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Each sub-system should be assigned a four digit code number. The two most significant digits identify the functional system and the two least significant digits identify the sub-system. The four digit code should be selected from MIL-STD-1808 (see the following examples).

2310	HF RADIO
2320	VHF/UHF RADIO
2330	PASSENGER ADDRESS
2340	INTERPHONE
2350	AUDIO INTEGRATING
2360	STATIC DISCHARGE
2370	AUDIO/VIDEO MONITORING

Each sub-sub-system should be assigned a four digit code identification number. The three most significant digits should consist of the assigned system and sub-system number. The least significant digit should be arbitrarily assigned sequentially beginning with 1 (see the following example).

2311 HIGH FREQUENCY COMMUNICATION SUB-SUB-SYSTEM

5.2.2 Line replaceable unit (LRU) higher level designations. Higher level designations (system coded) should be assigned to all LRUs and equipment enclosures except wire harnesses and static ground points. These designations should be used for identifying and locating items on diagrams and in the aerospace system. They should also be used for correlating items in the aerospace system, with graphic symbols on diagrams and items in the list pages, the circuit descriptions and the instructions. Higher level designations, assigned by the aerospace system manufacturer, should be substituted for the reference designations assigned by the equipment manufacturers. Higher level designations assigned to LRUs should consist of a functional system, sub-system, sub-subsystem, equipment class letter(s), a sequentially assigned number, and a suffix letter when applicable (see the following example).

23	2	1	P	12	A
(a)	(b)	(c)	(d)	(e)	(f)

- Functional system number (assigned from MIL-STD-1808)
- Sub-system number (assigned from MIL-STD-1808)
- Sub-sub-system number (reference 5.2.1)
- Equipment class letter (reference 5.2.3)
- Connector unit number (assigned sequentially within each functional system beginning with the number 1; reference 5.2.4)
- Multiple element unit suffix (reference 5.2.5)

Mechanical parts, such as cams, drums, torque tubes, pedals, levers, etc., need not have higher level designations assigned.

5.2.2.1 Line replaceable unit (LRU) system coding. Except as specified in 5.2.2.2 through 5.2.6, each LRU should be to a sub-sub-system. An LRU which interfaces between more sub-sub-systems should be assigned to the sub-sub-system to which it is most functionally related.

5.2.2.2 Equipment enclosure system coding. Enclosures, consoles, and junction shields which cannot be reasonably assigned to a sub-sub-system should be assigned to the functional system number 39 (see the following example).

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39 - 22 - A - 2
 (a) (b) (c) (d) (e)

- a. System number (electrical/electronic enclosures)
- b. Sub-system number (equipment racks - reference 5.1.14)
- c. Aerospace system zone location (reference 5.1.14.1)
- d. Class letter (A - equipment rack)
- e. 2nd general purpose electrical/electronic equipment rack in aerospace system zone

5.2.2.3 Connector system coding. Connectors which mate to line replaceable units should be assigned the same system code number as that of the mating unit. In-line connectors which are part or predominately part of a specific sub-sub-system should use the applicable sub-sub-system number. In-line connectors which cannot be reasonably assigned to a specific sub-sub-system should be assigned the functional system number of which it is a part or more predominately a part. In-line bulkhead installed connectors not predominately a part of a functional system should be coded according to procedures in 5.2.2.2.

5.2.2.4 Terminal boards system coding. Terminal boards installed in equipment enclosures should use the same system code number assigned to the enclosure. Other terminal boards should be assigned the number of the sub-sub-system to which each is predominately applicable.

5.2.2.5 Relay system coding. Relays should utilize the same code number as the energizing sub-sub-system.

5.2.2.6 Fluid parts system coding. Fluid parts such as filters, actuators, conditioners, reservoirs, tc., should be assigned class letters from Table II or IEEE STD 315. When a direct electrical connection is not made, the fluid part designation may be shown only on the schematic diagram. For example, an electrically activated fluid valve reference designator would be shown on both the wiring diagram and schematic diagram. A reference designator for a fluid filter for a hydraulic fluid controlled valve would only be shown on a schematic diagram.

5.2.2.7 Splice system coding. Wiring splices or groups of splices should be assigned the class letter SA and a system number that indicates the location in the system. For example:

3935SA1 Left Wing Junction Box Splice Area 1

5.2.2.8 Ferrule system coding. Each ferrule should be assigned the same designator as the LRU to which the shielded wire, on which the ferrule is installed, connects. For example:

3441FR1 First Ferrule of Weather Radar System

5.2.3 Class letter. The letters identifying the class of an item should be selected in accordance with the lists of IEEE STD 315 and Table II. For items not specifically listed, use the letters already assigned for the most similar class of items. The letters "A" and "U" (for assembly) should not be used if more specific class letters are assigned for a particular item. NOTE: Certain item names and class designating letters may apply to either a part or an assembly.

Connector higher level designation class letters should be assigned in accordance with the following principles:

- a. The movable (less fixed) connector of a mating pair should be designated "P".
- b. The stationary (more fixed) connector of a mating pair should be designated "J".
- c. If two flexible cables are connected, the connector containing pins should be designated "J".

5.2.4 Unit number identifier. Each LRU within each system identification number and class letter group should be assigned a sequential unit number beginning with 1 and not to exceed three digits. Mating in-line connectors, "J" and "P", should be assigned the same unit number regardless of sequence. Within each system identification number and class letter group, use of an identical part number in more than one location requires assignment of a different unit number to each identical part number. Plug-in parts or

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assemblies with the same part number which have multiple application and do not have terminations for wiring, coax, piping, etc., may have the same number (for example: light bulbs, fuses). Each lamp socket assembly, fuse holder, etc., should have a unique number. Interchangeable or optional parts applicable to the same location should be assigned the same number.

Reference Designators (System Coded).

CO	antenna coupler
CT	Control unit Control panel Selector panel
CM	Computer processing Unit
CY	Encryption device
EC	End cap
FD	Fluid connector Fluid disconnect
FF	Fluid fuse
FP	Fluid pump Fluid turbine motor (nonelectrical)
FR	Fluid reservoir
FS	Fluid conditioners Fluid separator Heat exchanger Fluid filter
FT	Feed through
FU	Fluid replaceable item Filter element Chip detector
FV	Fluid control Fluid valve Fluid regulator Fluid restrictor
GD	Ground point
GS	Ground stud
JB	Junction box
MX	Multiplex unit
PL	Panel, circuit breaker/Instrument enclosure, wire terminating junction box, wire bulkhead
PT	Pigtail
RC	Recording unit Reproducing unit
SA	Splice area
SP	Splice
TE	Teletypewriter

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TS Transceiver
 Z Signal conditioning
 Tuning unit

5.2.5 Suffix letter. A suffix letter, beginning with A, should be added to the basic higher level designation to identify each portion of a multiple element unit. These elements may be removable printed circuit boards or connectors containing more than one integral jack or plug. The letters I, O, Q, S, X, and Z should not be used. For example:

(2311P19)		(2311P20)	
2311	System identification number	2311	System identification number
P	Class letter group	P	Class letter
19	Unit number	20	Unit number
2311P19A	Connector element A	2311P20	Connector
2311P19B	Connector element B	2311P20A	Connector backshell
2311P19C	Connector shell		
Multi element (plug & shell) connector		Multi element (plug & connector backshell) connector	

5.2.6 Ground point designation. Each interconnect wiring ground point should be assigned a reference designation. The ground point designation is intended for ground point identification in wire harness lists, in connection lists, and on diagrams. The ground point designation should consist of the designation GD, and a number identifier not to exceed four digits. Each ground point on the airframe structure should be assigned a number. These numbers may be grouped and assigned to areas and need not be assigned sequentially.

5.3 Page identification. All pages should contain the drawing number, federal supply code for manufacturer, latest revision letter applicable to the page, and the vehicle type and model. The guidance of ASME Y14.1 do not apply to the page (sheet) numbering described in this handbook.

5.3.1 Page titles. Each page should contain the applicable title listed in 5.1. List pages, diagram pages, and wiring modification data index pages should include title modifiers following the basic page title which further describes the specific page content. Title modifier should be included on diagram index pages when the index is sectionalized.

5.3.2 Configuration code. Configuration variations are shown in the data specified in this handbook, by two methods. Variations may be shown by serialization of applicability of data on each page (separate page variations may be made of a given page) or by the use of a configuration code which represents a specific configuration.

5.3.2.1 Diagrams. Except for minor variations suitable for explanation by means of local or coded notes, configuration differences should be shown by use of separate pages for each configuration. The configuration code element should be placed below the page number in the "page" block of the data. The configuration code included as a fifth element in the "page" block should be different for each separate page. The aerospace system manufacturer's configuration code should begin with Config 001 and be assigned through Config 499 for both production and modification. The management activities configuration code should begin with Config 500 and be assigned through Config 999.

5.3.2.2 Lists. The preferred method for showing configuration variations within the equipment lists, the wire harness lists, and the connection lists should be by specifying the serialization and applicability within the data on each page. Separate pages with configuration code page number elements may be used when

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this method is more appropriate and does not result in a significant increase in the total number of pages required. If the configuration code method is used, the index of (production/effective) diagrams (reference 5.1) should be retitled "Index of (production/effective) Diagrams and Lists". All list pages would then be indexed in the same manner as diagram pages. When a list utilizes the preferred preparation method with serialization applicability shown within each data page and different versions of that list are required to correspond to separate technical publication for different system series or models, configuration code numbers should be added to differentiate those pages applicable to each publication.

5.3.2.3 Diagram indexes. When separate wiring data or schematic diagram technical publication are to be issued for different system series or models, a separate group of index pages should be prepared to correspond to each maintenance manual. When this is required, configuration code numbers should be added to differentiate those pages applicable to each publication.

5.4 Wire identification. The wire identification system should be a non-significant (non-function) system in accordance with ASME Y14.100.

5.5 Electromagnetic compatibility categories. Procedures should be established to form categories for wires and cables according to interference and susceptibility characteristics, and an identifying code should be established for each category. Complete explanation of categories and identifying codes including separation nomographs, if applicable, should be included in the general information section. Each wire should be assigned the appropriate category identifier and the identifier should be shown in the applicable wire harness list. The identifying code should not be imprinted on the wire.

5.6 Wire type code. A system of alphabetic codes should be established to identify type of wire or cable by specification, type, class, number of conductors, etc., but excluding gauge. The codes should consist of not more than three alphabetic characters. The letters I, O, Q, S, X, and Z should not be used. The codes and associated wire type descriptors should be listed in the general information section of the drawing. The code applicable to each wire should be entered in the wire type column of the wire harness list. Buss bars on terminal boards should be identified.

5.7 Wiring/equipment modifications. A wiring/equipment modification is any addition, deletion, or alteration of the system's wiring or equipment made subsequent to original production of the system. Each modification should be separately identified and modification data should be prepared. The data developed for each modification in accordance with this handbook should reflect the exact configuration of the system after modification and, in addition, sufficient data should be prepared to accomplish the change.

5.7.1 Wiring/equipment modification identification. Each modification should be identified by a modification number assigned in numerical sequence and by a descriptive title. The number and title of each modification should be entered in the index of modifications.

5.7.2 As installed data. As installed data consists of complete new diagram pages, new or revised list and general information pages and revised index pages as are required to depict the exact configuration of the system after the modification has been performed. A separate modification data index should be prepared for each modification and should list all as installed data applicable to the modification. Each modification data index should be listed in the index of modifications and should be called out on the top drawing of the modification.

5.7.3 Installation data. Installation data consists of drawings and diagrams which provide information necessary to accomplish the addition, deletion, or alteration of the wiring or equipment. Modification installation data is not to be a part of the wiring data book-form drawings for the system and should be assigned independent drawing numbers. This installation data should be called out on the top drawing of the modification. In minor modifications, it may be possible for the modification to be performed by reference to the as installed data and installation data will not be required.

5.8 Revisions. A revision is any change or addition to the drawing after its release. Revisions should be identified in accordance with ASME Y14.100 except as noted in 5.1.2 of this handbook. All changes incorporated at the same time should be identified by the same revision letter. Each revision should be entered in the revisions section as specified in 5.1.2 and the revision letter (letters I, O, Q, S, X, and Z should not be used) should be entered in the revision letter block of each revised page or new page added

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by the change. The title page should always bear the latest revision letter assigned to the drawing. A revision column should be included at the left side of each index and list page and when a line is added or revised, the applicable revision letter should be entered in this column (see Figures 5 through 13).

NOTE

The sample drawings in the figures used in this document are informational only and complete to the degree necessary to illustrate a type of drawing. Actual format and drawing should conform to the textual guidance set forth in this handbook.

6 NOTES**6.1 Subject term (key word) listing.**

- Block
- Connection list
- Connector
- Critical circuit
- Drawing size
- Interconnection
- Line replaceable unit
- LRU
- Point to point connection
- Spare circuit
- Wire harness
- Wiring Data

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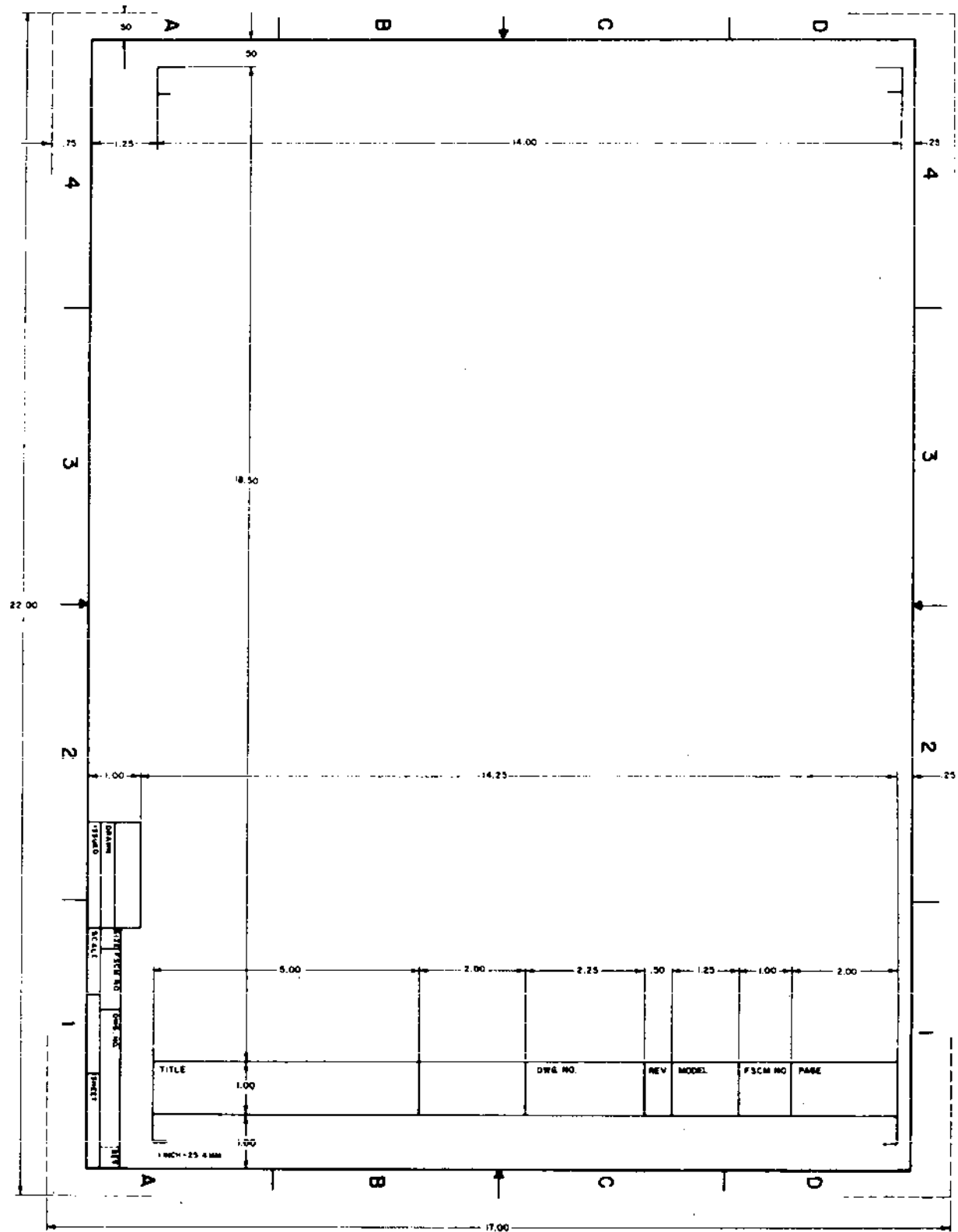


FIGURE 1. Drawing Format (C Size)

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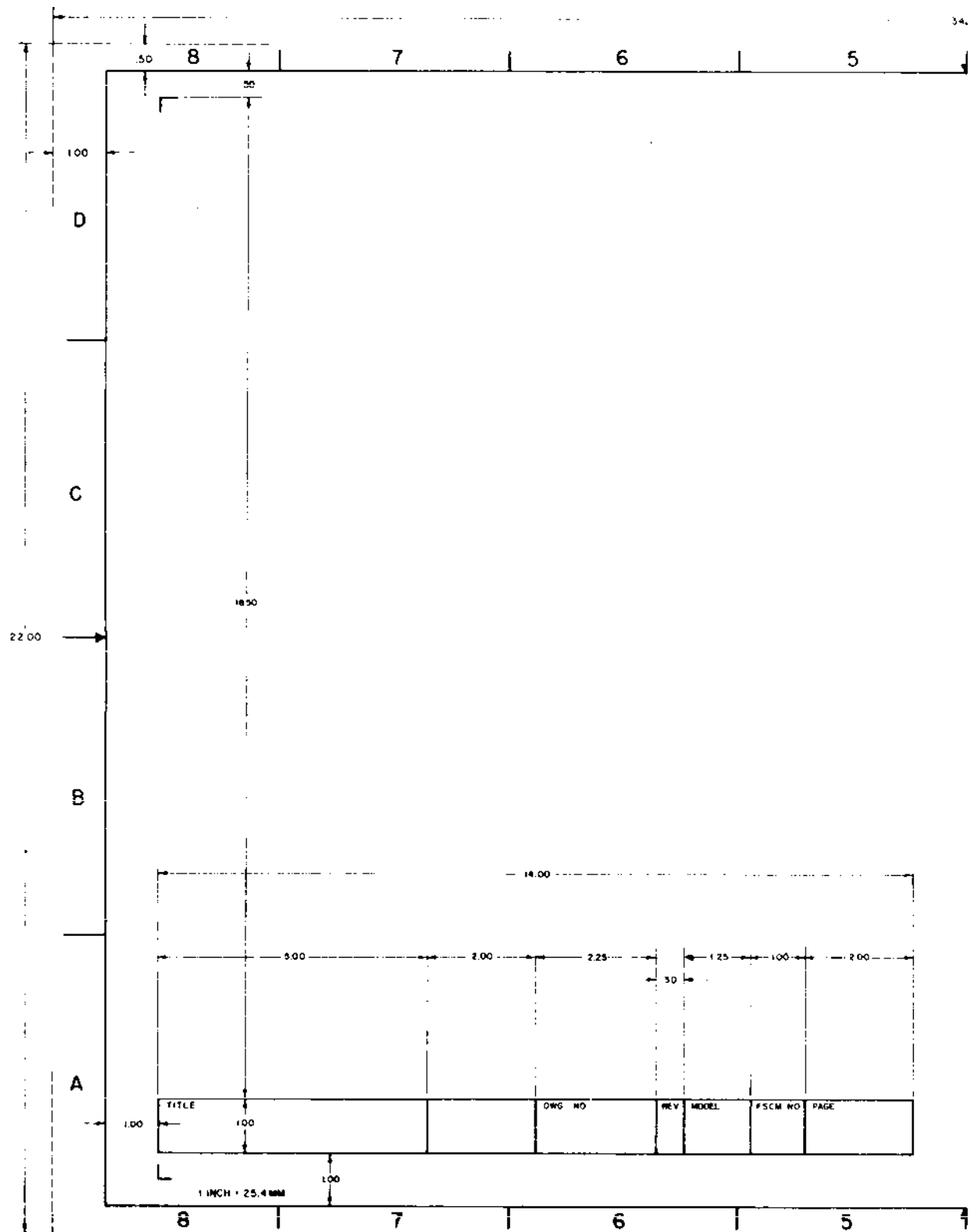


FIGURE 2. Drawing Format (D Size)

MIL-HDBK-863A

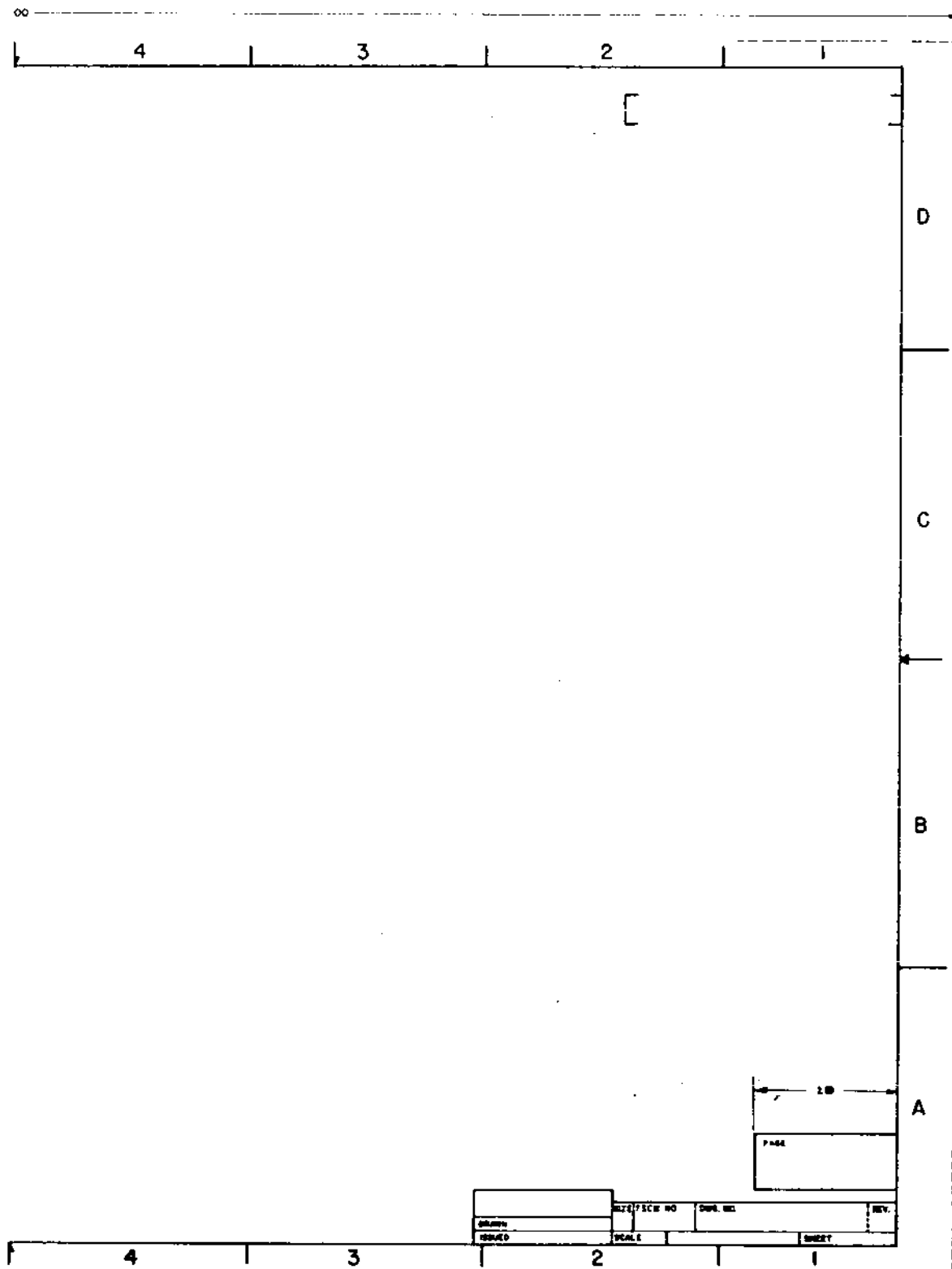


FIGURE 2. Drawing Format (D Size) - Continued.

MIL-HDBK-863A

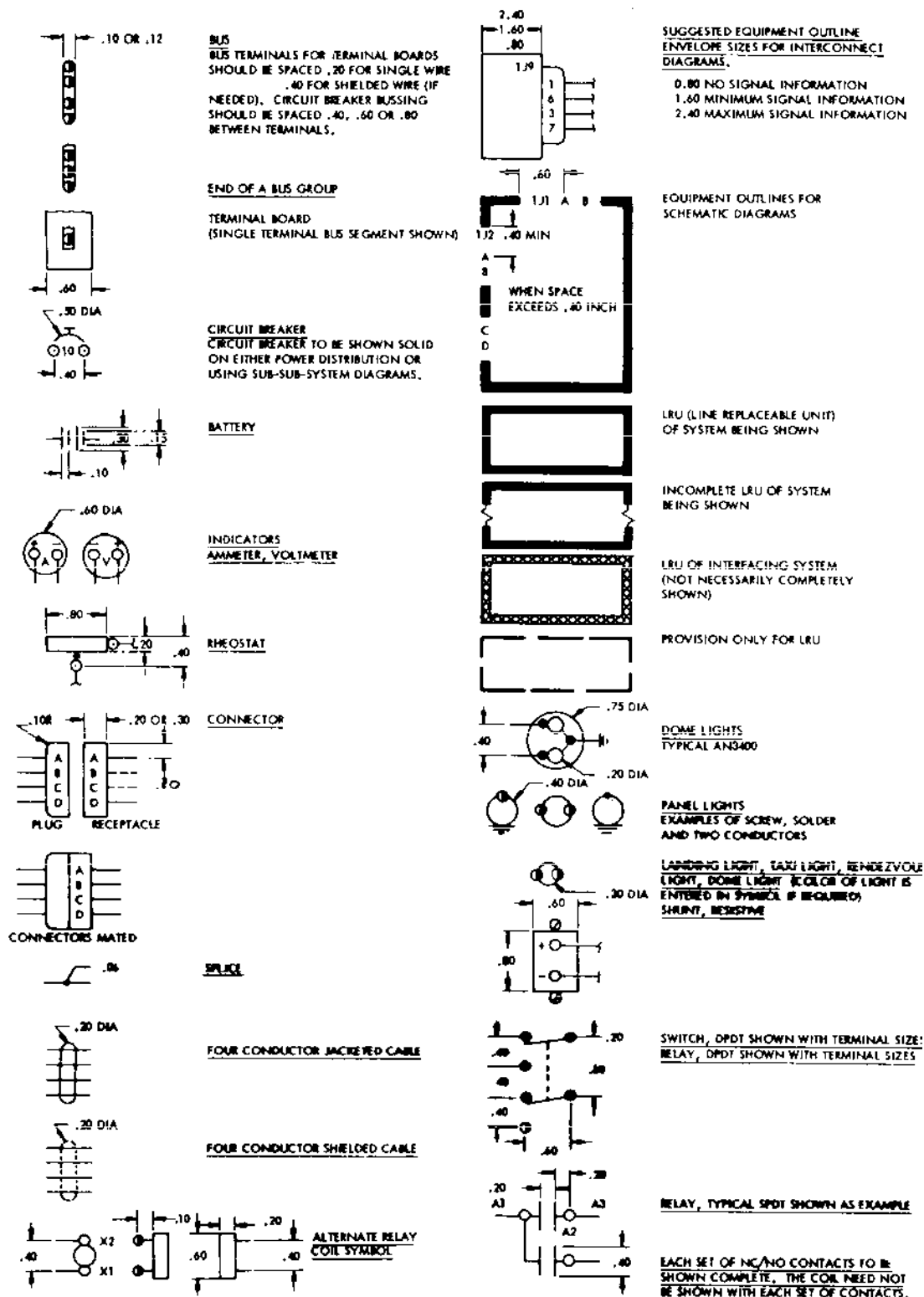


FIGURE 3. Dimensions for Common Graphic Symbols

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REVISIONS																							
REV	DESCRIPTION	DATE	APPROVAL																				
<p>FOR COMPLETE REVISION RECORD, SEE THE REVISION PAGES FOLLOWING THE TITLE PAGE. THE REVISION LETTER SHOWN IS THE CURRENT CHANGE LETTER.</p>																							
<h2 style="margin: 0;">XC-555A</h2> <h1 style="margin: 0;">STRATEGIC FREIGHTER</h1>																							
<p>CONTRACT NUMBER</p> <p>XXXXXXXXXXXXXX XXXXXXXXXXXXXX XXXXXXXXXXXXXX XXXXXXXXXXXXXX XXXXXXXXXXXXXX XXXXXXXXXXXXXX</p>		<p>UNIT NUMBERS</p> <p>001-003 004-012 013-049 050-110 111-150 150-178</p>																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">DRAFTSMAN <i>Joe C. C...</i></td> <td style="width: 10%;">DATE 10 DEC 1978</td> <td colspan="2" rowspan="3" style="text-align: center; vertical-align: top;"> <p>MIL-STD AIRCRAFT COMPANY</p> <p>54321 INDUSTRIAL BOULEVARD MUSTASSLE, OKLAHOMA 73145</p> <p>WIRING DATA AND SYSTEM SCHEMATIC DIAGRAMS</p> </td> </tr> <tr> <td>CHECKER <i>Richard D. ...</i></td> <td>10 DEC 1978</td> </tr> <tr> <td>DESIGN ENGINE <i>Alan Whitty</i></td> <td>10 DEC 1978</td> </tr> <tr> <td colspan="2" style="padding-top: 5px;"> <p>DESIGN ACTIVITY AUTHORIZATION NAME, SIGNATURE AND DATE: <i>R. ...</i> 10 DEC 1978</p> </td> <td style="width: 10%;">SIZE A</td> <td style="width: 20%;">PSCH NO. 00000</td> <td style="width: 20%;">DWG NO. 555-00010</td> <td style="width: 10%;">REV 01</td> </tr> <tr> <td colspan="2" style="padding-top: 5px;">SCALE</td> <td colspan="4" style="padding-top: 5px;">SHEET</td> </tr> </table>				DRAFTSMAN <i>Joe C. C...</i>	DATE 10 DEC 1978	<p>MIL-STD AIRCRAFT COMPANY</p> <p>54321 INDUSTRIAL BOULEVARD MUSTASSLE, OKLAHOMA 73145</p> <p>WIRING DATA AND SYSTEM SCHEMATIC DIAGRAMS</p>		CHECKER <i>Richard D. ...</i>	10 DEC 1978	DESIGN ENGINE <i>Alan Whitty</i>	10 DEC 1978	<p>DESIGN ACTIVITY AUTHORIZATION NAME, SIGNATURE AND DATE: <i>R. ...</i> 10 DEC 1978</p>		SIZE A	PSCH NO. 00000	DWG NO. 555-00010	REV 01	SCALE		SHEET			
DRAFTSMAN <i>Joe C. C...</i>	DATE 10 DEC 1978	<p>MIL-STD AIRCRAFT COMPANY</p> <p>54321 INDUSTRIAL BOULEVARD MUSTASSLE, OKLAHOMA 73145</p> <p>WIRING DATA AND SYSTEM SCHEMATIC DIAGRAMS</p>																					
CHECKER <i>Richard D. ...</i>	10 DEC 1978																						
DESIGN ENGINE <i>Alan Whitty</i>	10 DEC 1978																						
<p>DESIGN ACTIVITY AUTHORIZATION NAME, SIGNATURE AND DATE: <i>R. ...</i> 10 DEC 1978</p>		SIZE A	PSCH NO. 00000	DWG NO. 555-00010	REV 01																		
SCALE		SHEET																					

FIGURE 4. Title Page

MIL-HDBK-863A

R . CHANGE	.DATE	.APPROVED
Z . DESCRIPTION		
V .		

A ORIGINAL RELEASE	4 JANUARY 75	ENGR BUD ELIQUITT APPROVED S. WATKINS, L. LAHM APPROVED P. HUGHES, K. DUNCAN
B SEE ECO 2 - MC-1 AUTO PILOT MOD	8 MARCH 75	L. LAHM
C SEE ECO 3 - AN/ARC - 58 MOD	15 APRIL 75	C. FRICKE
D SEE ECO 4 - DUAL FLIGHT CONTROL/RGA INSTL	7 MAY 75	P. HUGHES
E SEE ECO 5 - AN/ASQ-141 SWITCH INSTL	2 SEPTEMBER 75	K. DUNCAN
F SEE ECO 6 - AN/ASQ-141 COOLING BLOWER INSTL	30 SEPTEMBER 75	R. WIENI
G WILL NOT BE RELEASED		
H SEE ECO 8 - AN/ARC-89 COMM SYSTEM INSTL	14 OCTOBER 75	S. WATKINS
I SEE ECO 9 - AN/ART-42 TRANSMITTER MOD	9 MARCH 76	J. DUNCAN
K SEE ECO 10 - AN/ASN-6 POWER SW INSTL	29 APRIL 76	A. KECK

L SEE ECO 11 - INSTL OF INTERPHONE STATION	1 JULY 76	W. SCHULTZ
M SEE ECO 12 - SECOND AN/ARC-100 RADIO INSTL	25 AUGUST 76	CHET LOWE
N SEE ECO 13 - AN/ARN-1 TACAN INSTL	27 OCTOBER 76	B. ADAMS
P SEE ECO 14 - AR-200 RECORDER REMOVAL	11 NOVEMBER 76	C. SCROOGS
R SEE ECO 15 - NICKEL CADMIUM BATTERY INSTL	15 DECEMBER 76	M. WRIGHT
T SEE ECO 16 - LANDING GEAR BRAKE ROD MOD	8 MARCH 77	E. MEZYDLO
U SEE ECO 18 - AN/ARN-30 EMERGENCY KEYS REMOVAL	29 APRIL 77	E. MILKEY
V SEE ECO 19 - FLAG ALARM LOADING RESISTOR RELOCATION	1 JULY 77	J. ANDERSON
W SEE ECO 20 - VDR - TACAN SWITCHING MOD	25 AUGUST 77	M. DELISIO
Y SEE ECO 21 - CAPACITOR INSTL - GROUND SERVICE INTERPHONE SYSTEM	13 SEPTEMBER 77	V. ELKINS

AA SEE ECO 23 - RADIO MAGNETIC INDICATOR REVISION	7 OCTOBER 77	R. FERMAN
AB SEE ECO 24 - AN/ARC-60 WIRING REVISION	10 DECEMBER 77	R. PHIPPS
AC SEE ECO 25 - FOURTH ALTERNATOR INSTL	21 JANUARY 78	J. GREEN
AD SEE ECO 26 - AN/APN-100 LORAN INSTL	22 MARCH 78	B. MAYFIELD
AE SEE ECO 27 - AN/APQ-250 RADAR INSTL	27 MAY 78	R. SMITH
AF SEE ECO 28 - AIRBORNE PERFORMANCE MONITOR INSTL	9 JULY 78	M. BROWN
AG SEE ECO 29 - ADDITIONAL INTERPHONE STA (PASSENGER)	18 SEPTEMBER 78	D. BROWN
AH SEE ECO 30 - UNF RADIO RELAY SYSTEM MOD	21 NOVEMBER 78	L. WRIGHT
AJ SEE ECO 31 - AUTO PILOT SYSTEM MOD	6 JANUARY 79	T. DIERDA
AK SEE ECO 32 - SATELLITE COMMUNICATIONS TERMINAL GROUP INSTALLATION	22 JANUARY 79	G. GREEN

AL SEE ECO 33 - AIRCRAFT LIGHTING MOD	19 FEBRUARY 79	T. ENDRES
AM SEE ECO 34 - AN/AIC-20 INTERPHONE REVISION	7 APRIL 79	R. BIRD
AN SEE ECO 35 - MULTICHANNEL RECORDER INSTL	8 JULY 79	C. DAY
AP SEE ECO 36 - REMOVAL OF AN/APN-100 LORAN	19 AUGUST 79	J. WEISIGER
AR SEE ECO 37 - SECURE SPEECH SYSTEM INSTL	4 SEPTEMBER 79	M. OVERMAN
AT SEE ECO 38 - CREW ENTRANCE LIGHT INSTL	27 SEPTEMBER 79	M. MITCHELL
AU SEE ECO 39 - ANTI SKID BRAKE SYSTEM INSTL	8 DECEMBER 79	S. MILKOWSKI
AV SEE ECO 40 - J800 ENGINE INSTL	5 FEBRUARY 80	B. FROST
AW SEE ECO 41 - AUXILIARY POWER UNIT INSTL	18 APRIL 80	D. GORDON
AY SEE ECO 42 - AN/APN-300 DOPPLER RADAR INSTL	9 AUGUST 80	M. KROPP
BA SEE ECO 43 - WATER HEATER POWER DISTRIBUTION SYSTEM INSTL	10 OCTOBER 80	K. DUNCAN

TITLE: REVISION RECORD		
.DRAWING NUMBER	.REV	.DATE
.555-00010	.BA	.10 OCT 1980

.MODEL	.PSCK NO.	.PAGE NUMBER
.XC-555A	.00000	.1-0001-00

FIGURE 5. Revision Record

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*****
PAGE      REV  .PAGE      REV  .PAGE      REV  .PAGE      REV  .PAGE      REV  .PAGE      REV  .PAGE      REV
TITLE PAGE
*****
REVISION RECORD
1-0001-00  R      1-0001-01  BF      1-0002-00  BF      1-0003-00  BF      -----
CONTENTS RECORD
2-0001-00  BF      2-0002-00  BF      2-0003-00  BF      2-0004-00  BF      2-0005-00  BF      2-0006-00  BF
GENERAL INFORMATION
3-0001-00  A      3-0002-00  A      3-0003-00  H      3-0004-00  F      3-0005-00  A      3-0006-00  A      3-0007-00  A
3-0008-00  H      3-0009-00  AA     3-0010-00  BA     3-0011-00  BD     3-0012-00  BF     3-0013-00  BF     3-0014-00  A
INDEX OF PRODUCTION DIAGRAMS
4-11-21-01  F      4-11-22-01  F      4-11-23-01  F      4-11-23-02  F      4-11-24-01  F      4-11-24-02  F      4-11-24-03  F
4-11-26-01  F      4-11-27-01  F      4-11-28-01  F      4-11-29-01  F      4-11-33-01  F      4-11-34-01  F      4-11-34-02  F
4-11-34-03  F      4-11-43-01  G      4-11-72-01  F      4-12-21-01  F      4-12-22-01  F      4-12-23-01  F      4-12-23-02  F
4-12-24-01  F      4-12-26-01  F      4-12-27-01  F      4-12-28-01  F      4-12-29-01  F      4-12-33-01  F      4-12-33-02  F
4-12-34-01  F      4-12-43-01  G      4-12-72-01  F      4-13-21-01  F      4-13-22-01  F      4-13-23-01  F      4-13-23-02  F
4-13-24-01  F      4-13-26-01  F      4-13-27-01  F      4-13-28-01  F      4-13-29-01  F      4-13-33-01  F      4-13-33-02  F
4-13-34-01  F      4-13-43-01  G      4-13-72-01  F      4-14-00-01  F      -----
INDEX OF EFFECTIVE DIAGRAMS
5-11-21-01  G      5-11-22-01  BA     5-11-23-01  BF     5-11-23-02  H      5-11-24-01  H      5-11-24-02  H      5-11-24-03  H
5-11-26-01  H      5-11-27-01  H      5-11-28-01  H      5-11-29-01  H      5-11-33-01  H      5-11-34-01  H      5-11-34-02  H
5-11-34-03  H      5-11-43-01  H      5-11-72-01  H      5-12-21-01  H      5-12-22-01  H      5-12-23-01  H      5-12-23-02  H
5-12-24-01  H      5-12-26-01  H      5-12-27-01  H      5-12-28-01  H      5-12-29-01  H      5-12-33-01  H      5-12-33-02  H
5-12-34-01  H      5-12-43-01  H      5-12-72-01  H      5-13-21-01  H      5-13-22-01  H      5-13-23-01  H      5-13-23-02  H
5-13-24-01  H      5-13-26-01  H      5-13-27-01  H      5-13-28-01  H      5-13-29-01  H      5-13-33-01  H      5-13-33-02  H
5-13-34-01  H      5-13-43-01  H      5-13-72-01  H      5-14-00-01  H      -----
INDEX OF MODIFICATIONS
6-0001-00  AT      6-0002-00  BF      6-0003-00  BF      -----
MODIFICATION DATA INDEX
7-0001-01  G      7-0002-01  H      7-0003-01  N      7-0004-01  P      7-0005-01  R      7-0005-02  R      7-0005-03  AP
7-0006-01  S      7-0007-01  T      7-0008-01  U      7-0009-01  V      7-0010-01  W      7-0011-01  AA     7-0011-02  AP
7-0012-01  AT      7-0013-01  BA     7-0014-01  BE     7-0015-01  BF     7-0015-02  BF     7-0015-03  BF     7-0015-04  BF
CONNECTION LIST
8-21-10-01  G      8-22-10-01  H      8-22-30-01  H      8-23-10-01  G      8-23-20-01  G      8-23-30-01  G      8-23-30-02  G
8-24-50-01  G      8-24-50-02  G      8-26-10-01  G      8-27-60-01  G      8-28-20-01  G      8-28-30-01  G      8-28-30-02  G
8-29-10-01  H      8-33-10-01  BA     8-33-20-01  Y      8-33-40-01  G      8-34-10-01  G      8-34-10-02  G      8-34-10-03  G
8-34-20-01  H      8-34-30-01  AA     8-34-50-01  AM     8-43-10-01  H      8-43-20-01  H      8-43-20-02  G      8-43-30-01  G
8-43-30-01  H      8-43-30-02  H      8-43-50-01  G      8-72-50-01  H      -----
WIRE HARNESS LIST
9-0001-01  G      9-0001-02  G      ----- (THIS LIST WOULD CONTINUE UNTIL ALL WIRE HARNESS
HAS BEEN LISTED. THE LAST WIRE HARNESS MIGHT BE 9-2126-01 REV G. THIS WOULD BE THE 2126 WIRE HARNESS OF
THE AEROSPACE VEHICLE.)
EQUIPMENT LIST
10-21-10-01  G      10-22-10-01  H      10-22-30-01  H      10-23-10-01  G      10-23-20-01  G      10-23-20-02  G      10-23-30-01  G
10-24-50-01  G      10-26-10-01  G      10-27-60-01  G      10-28-10-01  G      10-29-10-01  H      10-29-10-02  G      10-29-10-03  G
10-33-10-01  BA     10-33-20-01  G      10-33-40-01  G      10-33-10-01  G      10-34-20-01  H      10-32-20-02  G      10-32-20-03  G
10-34-30-01  AA     10-34-50-01  AM     10-43-10-01  H      10-43-20-01  H      10-43-30-01  H      10-43-30-02  G      10-43-40-01  G
10-43-50-01  G      10-72-50-01  H      -----
INTERCONNECTION DIAGRAMS
11-21-10-01  G      ----- (A NUMERICAL LISTING OF ALL INTERCONNECTION DIAGRAMS IS REQUIRED.)
SYSTEM SCHEMATIC DIAGRAMS
12-21-10-01  G      ----- (A NUMERICAL LISTING OF ALL SYSTEM SCHEMATIC DIAGRAMS IS REQUIRED.)
EQUIPMENT LOCATION DIAGRAMS
13-39-10-01  G      ----- (A NUMERICAL LISTING OF ALL EQUIPMENT LOCATION DIAGRAMS IS REQUIRED.)
WIRE HARNESS LOCATION DIAGRAMS
14-91-10-01  G      ----- (A NUMERICAL LISTING OF ALL WIRE HARNESS LOCATION DIAGRAMS IS REQUIRED.)

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*****
TITLE:      .DRAWING NUMBER  .REV  .DATE  .MODEL  .PSCH  .PAGE
          .555-00010        .BF    29 FEB 1982 .XC-555A  .70000  .2-0001-00
CONTENTS RECORD
*****

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FIGURE 6. Contents Record

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*****
R .DIAGRAM TITLE
Z .
V .
*****
      .DIAGRAM .--DIAGRAM---
      .NUMBER .CONF. PGS. REV
      .CHANGE .DIRECTIVE .EFFECTIVITY
*****
B GENERATOR DRIVE - CSD AND DISCONNECT 11-24-11-01 001 A 001-068
B 11-24-11-01 002 B 069-SUB
T GENERATOR DRIVE - CSD OIL COOLING 11-24-12-01 004 T 001-SUB
D GENERATOR DRIVE - CSD OIL TEMP INDICATION 11-24-13-01 001 D 001-SUB
A GENERATOR DRIVE - CSD OIL PRESSURE IND 11-24-14-01 001 A 001-SUB
D GENERATOR DRIVE - CSD LOAD CONTROL 11-24-15-01 001 D 001-SUB

A AC GENERATION AND CONTROL 11-24-21-01 001 A 001-SUB
G AC INDICATION 11-24-22-03 003 G 001-SUB
D AC PROTECTION 11-24-23-01 001 D 001-SUB
A INVERTER EMERGENCY AC POWER 11-24-24-01 001 A 001-SUB
A AIR DRIVEN EMERGENCY AC POWER 11-24-25-01 001 A 001-SUB

A DC POWER 11-24-31-01 001 A 001-SUB
A DC CONTROL 11-24-32-01 001 A 001-SUB
A DC INDICATION 11-24-33-01 001 A 001-SUB
A EMERGENCY DC POWER 11-24-34-01 001 A 001-SUB

A MAIN EXTERNAL POWER AND CONTROL 11-24-41-01 001 A 001-SUB
A GALLEY EXTERNAL POWER AND CONTROL 11-24-42-01 001 A 001-SUB

T AC POWER DISTRIBUTION AND CONTROL 11-24-51-01 001 A 001-068, 070-070

T 11-24-51-01 002 R 069-069, 071-SUB
*****
TITLE: INDEX OF PRODUCTION DIAGRAMS
ELECTRICAL POWER SYSTEM
      .DRAWING NUMBER .REV .DATE .FSCM NO .PAGE
      .553-00010 .T .1 JUL 1977 .XC-555A .00000 .4-11-24-01
*****

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FIGURE 7. Index of Production Diagrams

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DIAGRAM TITLE	DIAGRAM NUMBER	ADDS-- CONF. PGS. REV	REPLACES-- CONF. PGS. REV	MODIFICATION DIRECTIVE	EFFECTIVITY
B GENERATOR DRIVE - CSD AND DISCONNECT	11-24-11-01	001	A		001-068
B	11-24-11-01	002	B		069-178
BA	11-24-11-01	003	BA	001 A	1C-555-145 001-068
BA	11-24-11-01	004	BA	002 B	1C-555-145 069-178
T GENERATOR DRIVE - CSD OIL COOLING	11-24-12-01	001	T		001-178
D GENERATOR DRIVE - CSD OIL TEMP INDICATION	11-24-13-01	001	D		001-178
A GENERATOR DRIVE - CSD OIL PRESSURE IND	11-24-14-01	001	A		001-178
D GENERATOR DRIVE - CSD LOAD CONTROL	11-24-15-01	001	D		001-178
AU AC GENERATION AND CONTROL	11-24-21-01	002	AU		001-178
BA	11-24-21-02	001	BA		1C-555-145 001-068
BA	11-24-21-02	002	BA		1C-555-145 069-178
AU AC INDICATION	11-24-22-01	002	AU		001-178
BA	11-24-22-02	001	BA		1C-555-145 001-068
BA	11-24-22-02	002	BA		1C-555-145 069-178
AU AC PROTECTION	11-24-23-01	002	AU		001-178
BA	11-24-23-01	003	BA	002	1C-555-145 001-178
AU	11-24-23-02	001	AU		001-068
AU	11-24-23-02	002	AU		069-178
BA	11-24-23-02	003	BA	001 AU	1C-555-145 001-068
BA	11-24-23-02	004	BA	002 AU	1C-555-145 069-178
A INVERTER EMERGENCY AC POWER	11-24-24-01	001	A		001-178
A AIR DRIVEN EMERGENCY AC POWER	11-24-25-01	001	A		001-178
A DC POWER	11-24-31-01	001	A		001-178
A DC CONTROL	11-24-32-01	001	A		001-178
A DC INDICATION	11-24-33-01	001	A		001-178
A EMERGENCY DC POWER	11-24-34-01	001	A		001-178
A MAIN EXTERNAL POWER AND CONTROL	11-24-41-01	001	A		001-178
A GALLEY EXTERNAL POWER AND CONTROL	11-24-42-01	001	A		001-178
AU AC POWER DISTRIBUTION AND CONTROL	11-24-51-01	002	AU		001-068, 070-070
AU	11-24-51-01	003	AU		069-069, 071-178
BA	11-24-51-01	004	BA	002 AU	1C-555-145 001-068, 070-070
BA	11-24-51-01	004	BA	003 AU	1C-555-145 069-069, 071-178
BC	11-24-51-01	005	BC	004 BA	1C-555-200 001-178
AY	11-24-51-02	001	AY		1C-555-145 001-178
BB	11-24-51-02	002	BB	001 AY	1C-555-132 001-178
BE	11-24-51-02	003	BE	002 BB	1C-555-200 001-178
D DC POWER DISTRIBUTION AND CONTROL	11-24-52-01	001	D		001-178
A GROUND SERVICE DISTRIBUTION AND CONTROL	11-24-53-01	001	A		001-178
A COMMUNICATIONS CENTER POWER CONTROL	11-24-54-01	001	A		001-178

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 ELECTRICAL POWER SYSTEMS .555-00010 .BE .10 OCT 1981 .XC-555A .00000 .5-11-24-01

FIGURE 8. Index of Effective Diagrams

MIL-HDBK-863A

*****MODIFICATION TITLE*****									
R	MOD	USED ON	DRAWING	MODIFICATION	CHANGE	CLASS	IV/V		
E	NUMBER	DRAWING	FSCM NO	DIRECTIVE	NUMBER				
V									

T	001	ENGINE INSTRUMENTATION	555-33311	00000	1C-555-40	ECP 18			
W	002	ALCC SYSTEM INSTALLATION	555-39842	00000	1C-555-32	ECP 25	0000		
AA	003	ALCC STAFF CONSOLE POSITION 1 AND 2	555-39842	00000	1C-555-32A	ECP 44	0000		
AB	004	TELETYPE SYSTEM - HIGH SPEED	555-34281	00000	1C-555-18	ECP 38			
AC	005	SECURE DIGITAL COMMUNICATIONS INSTALLATION	555-44602	00000	1C-555-12	ECP 92	0000		
AD	006	PROJECT PHASER	555-41263	00000	1C-555-92	ECP 50	0000		
AE	007	PROJECT ZERO GEE NO. 1	555-51370	00000	1C-555-77	ECP 84			
AF	008	OVEN INSTALLATION, TYPE I, R-4	555-54112	00000	1C-555-100	ECP 59			
AG	009	UPPER DECK AIR CONDITIONING REMORK	555-54982	00000	1C-555-96	ECP 112			
AH	010	RADIO RELAY, CONUS	555-55256	00000	1C-555-123	ECP 145	0000		
AJ	011	EMERGENCY LIGHTING INSTALLATION	555-65902	00000	1C-555-140	ECP 170			
AK	012	ADVANCED INERTIAL NAVIGATION.							
		AN/XXX-000 INSTALLATION	555-67311	00000	1C-555-168	ECP 171			
AL	013	IMPROVED CONTROL SURFACES INTERFACE	555-66433	00000	1C-555-180	ECP 192			
AM	014	THEIA BASE OIL QUANTITY INDICATION							
		INSTALLATION	555-45912	00000	1C-555-192	ECP 187			
AN	015	FOURTH ALTERNATOR INSTALLATION	555-55821	00000	1C-555-145	ECP 212			
AP	016	RATIONAL CAD/C INSTALLATION	555-57403	00000	1C-555-132	ECP 218			
AR	017	HAL COMPUTER INSTALLATION	555-52001	00000	1C-555-200	ECP 200			
AT	018	HOT CARGO HEATING INSTALLATION	555-67890	00000	1C-555-249	ECP 269			
AU	019	HAL CHECKOUT CONSOLE INSTALLATION,							
		HALFUNCTION ANALYSIS	555-72001	00000	1C-555-250	ECP 265			

TITLE: INDEX OF MODIFICATIONS									

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Z .CONF. .REV .DIRECTIVE
V .*****
*****
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9-2060-01 BA AM 001-178
9-3020-01 BA AM 001-178
9-3116-01 BA F 001-178
9-7012-04 BA 001-178
9-7090-02 BA 001-178
9-7090-03 BA 001-178

CONNECTION LIST
8-24-21-01 BA AN 001-178
8-24-22-03 BA AN 001-178
8-24-23-05 BA G 001-178
8-24-23-06 BA G 001-178
8-24-24-04 BA G 001-178
8-24-24-05 BA R 001-178
8-24-51-06 BA AM 001-178
8-24-51-08 BA AN 001-178

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10-24-00-01 BB AU 001-178
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11-24-21-01 004 BA AM 050-178
11-24-22-01 004 BA A 001-049
11-24-22-01 005 BA AM 050-059
11-24-22-01 005 BA AR 060-178
11-24-23-01 002 BA AU 001-178
11-24-23-02 002 BA AU 001-059
11-24-24-01 002 BA AU 001-178
11-24-24-04 001 BA A 001-178
11-24-25-01 002 BA A 001-178

*****
TCTO NUMBER .NEXT ASSEMBLY .RESERVED FOR AF USE .CONTRACT NUMBER
1C-555-145 .555-55821 AF81601-1111
*****
TITLE MODIFICATION DATA INDEX .DRAWING NUMBER .REV .DATE .MODEL .FSCM NO .PAGE
FOURTH ALTERNATOR INSTALLATION .555-00010 BA 27 JUNE 81 XC-555A .00000 7-0015-00
*****

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FIGURE 10. Modification Data Index

MIL-HDBK-863A

R E V	TERMINATION	TERM	WIRE NUMBER	SUB-SUB- SYSTEM	MODIFICATION DIRECTIVE	EFFECTIVITY
A	3443P22	1	W105 -600-22BK	34-43-01		001-SUB
A	3443P22	2	W105 -600-22BL	34-43-01		001-SUB
A	3443P22	3	W105 -600-22BR	34-43-01		001-SUB
A	3443P22	4	W105 -600-22GN	34-43-01		001-SUB
F	3443P22	5	W105 -600-22RD	34-43-01		001-049
F	3443P22	5	W105 -600-22WH	34-43-01		050-SUB
F	3443P22	6	W105 -600-22WH	34-43-01		001-049
F	3443P22	6	W105 -600-22RD	34-43-01		050-SUB
A	3443P22	7	W105 -600-22YE	34-43-01		001-SUB
A	3443P22	8	W105 -703-22JP	34-43-01		001-SUB
A	3443P22	9	W105 -018-22	34-43-01		001-SUB
A	3443P22	10	SPARE			001-SUB
A	3443P22	11	SPARE			001-SUB
A	3443P22	12	SPARE			001-SUB
A	3443P23	1	W105 -001-22	34-43-01		001-SUB
A	3443P23	2	W105 -002-22	34-43-01		001-SUB
A	3443P23	3	W105 -003-22	34-43-01		001-SUB
A	3443P23	4	W105 -004-22	34-43-01		001-SUB
A	3443P23	5	W105 -005-22	34-43-01		001-SUB
A	3443P23	6	W105 -006-22	34-43-01		001-SUB
A	3443P23	7	W105 -007-22	34-43-01		001-SUB
A	3443P23	8	W105 -008-22	34-43-01		001-SUB
A	3443P23	9	W105 -009-22	34-43-01		001-SUB
A	3443P23	10	W105 -010-22	34-43-01		001-SUB
A	3443P23	11	W105 -302-22BL	34-43-01		001-SUB
A	3443P23	12	W105 -302-22RD	34-43-01		001-SUB
A	3443P23	13	W105 -302-22YE	34-43-01		001-SUB
A	3443P23	14	W105 -700-22JP	34-43-01		001-SUB
A	3443P23	15	W105 -303-22BL	34-43-01		001-SUB
A	3443P23	16	W105 -303-22RD	34-43-01		001-SUB
A	3443P23	17	W105 -303-22YE	34-43-01		001-SUB
A	3443P23	18	W105 -011-22	34-43-01		001-SUB
A	3443P23	19	W105 -012-22	34-43-01		001-SUB
A	3443P23	20	W105 -013-22	34-43-01		001-SUB
A	3443P23	21	W105 -601-22BK	34-43-01		001-SUB
A	3443P23	22	W105 -601-22BL	34-43-01		001-SUB
A	3443P23	23	W105 -601-22BR	34-43-01		001-SUB
A	3443P23	24	W105 -601-22GN	34-43-01		001-SUB
F	3443P23	25	W105 -601-22RD	34-43-01		001-049
F	3443P23	25	W105 -601-22WH	34-43-01		050-SUB
F	3443P23	26	W105 -601-22WH	34-43-01		001-049
F	3443P23	26	W105 -601-22RD	34-43-01		050-SUB
A	3443P23	27	W105 -601-22RD	34-43-01		001-SUB
A	3443P23	28	W105 -701-22JP	34-43-01		001-SUB
A	3443P23	29	W105 -014-22	34-43-01		001-SUB
A	3443P23	30	W105 -015-20	34-43-01		001-SUB
A	3443P23	31	W105 -016-22	34-43-01		001-SUB
A	3443P23	32	W105 -017-22	34-43-01		001-SUB
A	3443P24	1	W105 -001-22	34-43-01		001-SUB
A	3443P24	2	W105 -002-22	34-43-01		001-SUB
A	3443P24	3	W105 -003-22	34-43-01		001-SUB
A	3443P24	4	W105 -004-22	34-43-01		001-SUB
A	3443P24	5	W105 -005-22	34-43-01		001-SUB
A	3443P24	6	W105 -006-22	34-43-01		001-SUB
A	3443P24	7	W105 -007-22	34-43-01		001-SUB
A	3443P24	8	W105 -008-22	34-43-01		001-SUB
A	3443P24	9	W105 -009-22	34-43-01		001-SUB
A	3443P24	10	W105 -010-22	34-43-01		001-SUB
A	3443P24	11	W105 -300-22BL	34-43-01		001-SUB
A	3443P24	12	W105 -300-22RD	34-43-01		001-SUB
A	3443P23	13	W105 -300-22YE	34-43-01		001-SUB
A	3443P23	14	W105 -301-22BL	34-43-01		001-SUB
A	3443P23	15	W105 -301-22RD	34-43-01		001-SUB
A	3443P23	16	W105 -301-22YE	34-43-01		001-SUB
A	3443P23	17	W105 -033-22	SPARE		001-SUB
A	3443P23	18	W105 -033-22	SPARE		001-SUB

(2) (10) (4) (5) (12) (8) (13) (11)
(18)

NOTE: NUMBERS ENCLOSED () INDICATE ELEMENT SIZE
NOT INCLUDING SPACING

TITLE CORRECTION LIST DRAWING NUMBER REV DATE MODEL /SCM NO. PAGE
INERTIAL NAVIGATION SET NO. 3 555-00010 7 30 SEPT 75 XC-555A 00000 8 - 34 - 43 - 01

FIGURE 11. Connection List

MIL-HDBK-863A

R	WIRE NUMBER	WIRE TYPE	WIRE CODE	WIRE LENGTH (mm)	SUB-SYSTEM	TERMINATION	TERMINATION POINT	TERMINATION POINT	TERMINATION POINT	MODIFICATION	EFFECTIVITY	SIGNAL
E												
V												
AY	W125	-001-22	AA	120.0	23-14-01	2314P124	106 1	2314P125A	106 1	001-SUB	2	2314AAA
AY	W125	-002-22	AA	120.0	23-14-01	2314P124	106 2	2314P125A	106 2	001-SUB	2	2314AAB
AY	W125	-003-22	AA	120.0	23-14-01	2314P124	106 3	2314P125A	106 3	001-SUB	2	2314AAC
AY	W125	-004-22	AA	120.0	23-14-01	2314P124	106 4	2314P125A	106 4	001-SUB	2	2314AAD
AY	W125	-005-22	AA	120.0	23-14-01	2314P124	106 5	2314P125A	106 5	001-SUB	2	2314AAE
AY	W125	-006-22	AA	120.0	23-14-01	2314P124	106 6	2314P125A	106 6	001-SUB	2	2314AAF
AY	W125	-007-22	AA	120.0	23-14-01	2314P124	106 7	2314P125A	106 7	001-SUB	2	2314AAG
AY	W125	-008-22	AA	120.0	23-14-01	2314P124	106 8	2314P125A	106 8	001-SUB	2	2314AAH
AY	W125	-009-22	AA	120.0	23-14-01	2314P124	106 9	2314P125A	106 9	001-SUB	2	2314AAI
AY	W125	-010-22	AA	120.0	23-14-01	2314P124	106 10	2314P125A	106 10	001-SUB	2	2314AAJ
AY	W125	-011-22	AA	084.0	23-14-01	2314P124	106 18	3922SA1	2050 SP1	001-SUB	2	2314AAK
AY	W125	-012-22	AA	084.0	23-14-01	2314P124	106 19	3922SA1	2050 SP2	001-SUB	2	2314AAL
AY	W125	-013-22	AA	084.0	23-14-01	2314P124	106 20	3922SA1	2050 SP3	001-SUB	2	2314AAM
AY	W125	-014-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP4	001-SUB	2	2314AAN
AY	W125	-015-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP5	001-SUB	2	2314AAO
AY	W125	-016-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP6	001-SUB	2	2314AAP
AY	W125	-017-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP7	001-SUB	2	2314AAQ
AY	W125	-018-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP8	001-SUB	2	2314AAR
AY	W125	-019-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP9	001-SUB	2	2314AAS
AY	W125	-020-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP10	001-SUB	2	2314AAT
AY	W125	-021-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP11	001-SUB	2	2314AAU
AY	W125	-022-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP12	001-SUB	2	2314AAV
AY	W125	-023-22	YY	.	23-14-01	2314S1	.	3922SA1	2050 SP13	001-SUB	2	2314AAW
AY	W125	-024-22	AA	043.0	23-14-01	3922TB1	2013 1	3922SA1	2050 SP14	001-SUB	2	2314AAX
AY	W125	-025-22	AA	043.0	23-14-01	3922TB1	2013 2	3922SA1	2050 SP15	001-SUB	2	2314AAY
AY	W125	-026-22	AA	043.0	23-14-01	3922TB1	2013 3	3922SA1	2050 SP16	001-SUB	2	2314AAZ
AY	W125	-027-22	AA	140.0	23-14-01	3922SA1	2050 SP17	2314K9	2013 X1	001-SUB	2	2314AAB
AY	W125	-300-22RD	CAA	120.0	23-14-01	2314P124	106 11	2314P125A	106 11	001-SUB	2	2314AAC
AY	W125	-300-22BL	CAA	120.0	23-14-01	2314P124	106 12	2314P125A	106 12	001-SUB	2	2314AAD
AY	W125	-300-22YE	CAA	120.0	23-14-01	2314P124	106 13	2314P125A	106 13	001-SUB	2	2314AAE
AY	W125	-300-99SH	CAA	120.0	23-14-01	2314P124	1122 PR1	2314P125A	106 14	001-SUB	2	2314AAF
AY	W125	-301-22RD	CAJ	120.0	23-14-01	2314P124	106 14	2314P125A	106 15	001-SUB	2	2314AAG
AY	W125	-301-22BL	CAJ	120.0	23-14-01	2314P124	106 15	2314P125A	106 16	001-SUB	2	2314AAH
AY	W125	-301-22YE	CAJ	120.0	23-14-01	2314P124	106 16	2314P125A	106 17	001-SUB	2	2314AAI
AY	W125	-600-22RD	HAA	190.0	23-14-01	2314P124	106 21	2314P123	106 1	001-SUB	2	2314AAJ
AY	W125	-600-22BL	HAA	190.0	23-14-01	2314P124	106 22	2314P123	106 2	001-SUB	2	2314AAK
AY	W125	-600-22YE	HAA	190.0	23-14-01	2314P124	106 23	2314P123	106 3	001-SUB	2	2314AAL
AY	W125	-600-22GN	HAA	190.0	23-14-01	2314P124	106 24	2314P123	106 4	001-SUB	2	2314AAM
AY	W125	-600-22WH	HAA	190.0	23-14-01	2314P124	106 25	2314P123	106 5	001-SUB	2	2314AAN
AY	W125	-600-22WH	HAA	190.0	23-14-01	2314P124	106 25	2314P123	106 6	001-SUB	2	2314AAO
AY	W125	-600-22BK	HAA	190.0	23-14-01	2314P124	106 26	2314P123	106 7	001-SUB	2	2314AAP
AY	W125	-600-22BK	HAA	190.0	23-14-01	2314P124	106 26	2314P123	106 8	001-SUB	2	2314AAQ
AY	W125	-600-99SH	HAA	190.0	23-14-01	2314P124	1124 PR2	2314P123	106 9	001-SUB	2	2314AAR
AY	W125	-700-22JP	AA	006.0	23-14-01	2314P124	106 36	2314P123	1124 PR2	001-SUB	2	2314AAS
AY	W125	-701-22JP	AA	006.0	23-14-01	2314P124	106 37	2314P123	1124 PR1	001-SUB	2	2314AAT
AY	W125	-900-22	AA	045.0	23-14-01	2314P124	106 38	2314K9	2013 X1	001-SUB	2	2314AAU

NOTE: NUMBERS ENCLOSED () INDICATE ELEMENT SIZE.


 HPG CODE 00000, ASSY DWG NO. 555-99990, EFFECTIVITY 001-049
 ASSY DWG NO. 555-99999, EFFECTIVITY 050-SUB

TITLE WIRE HARNESS
 HY RADIO NO. 4 CONTROL
 DRAWING NUMBER 555-00010
 REV AY
 DATE 22 MAR 81
 MODEL XC-555A
 PSCH NO. 00000
 PAGE 9-0125-01

FIGURE 12. Wire Harness List

MIL-HDBK-863A

R	EQUIPMENT	SAU	PART NUMBER/	PART DESCRIPTION	USED	CHANGE	STA/WL/SL	EFFECTIVELY	NOTES
E	NUMBER		SPEC CONT NO.		ON	AUTHORIZATION	ENCLOSURE		
V	DESIGNATOR		FSCM NO.		DRAWING				

A	2311C1	.01	CSR13333	CAPACITOR, .033UFD	555-32311		3922A1	001-SUB	
A	2311E1	.01	AT-0000	ANTENNA, HF NO. 1	555-34980		1450 600 R1	001-SUB	
A	2311J1	.01	H39012/19-0015	JACK, PRESS BND	555-35776		345 208 L53	001-SUB	
A	2311J2	.01	H39012/17-0015	JACK	555-35777		345 208 L53	001-SUB	
A	2311J3	.01	H39012/17-0015	JACK	555-35778		1340 309 R6	001-SUB	
A	2311K1	.01	RY4LA3B3LQ1	RELAY, PTT	555-40134		243 220 R53	001-SUB	
F	2311K2	.01	RY4LA3B3LQ1	RELAY, Muting	555-40134	ECP 76	246 220 R53	001-SUB	
F	2311K3	.02	RY4LA3C3LQ1	RELAY, INTERLOCKING	555-69738	ECP 76	249 220 R53	001-SUB	
F	2311K3	.01	RY4LA3B3LQ1	RELAY, INTERLOCKING	555-40134	ECP 76	249 220 R53	001-049	
F	2311K3	.02	RY4LA3C3LQ1	RELAY, INTERLOCKING	555-40134	ECP 76	249 220 R53	050-SUB	
A	2311P1	.01	MS27473F20B355	PLUG, RECEIVER NO. 1	555-35401		315 208 R40	001-SUB	
A	2311P2	.01	MS27473F20B355D	PLUG, RECEIVER NO. 1	555-35401		3922A1	001-SUB	
A	2311P3	.01	MS27473F20B355D	PLUG, RECEIVER NO. 1	555-35402		3922A1	001-SUB	
A	2311P4	.01	MS27473F20B355	PLUG, HF CONT NO. 1	555-35402		3922A1	001-SUB	
A	2311P5	.01	MS3106E168-1S	PLUG, HF XMITR NO. 1	555-35405		3922A1	001-SUB	
F	2311P5A	P01	MS3459L168-1S	PLUG, HF XMITR NO. 1	555-35405	ECP 76	3922A1	001-SUB	
F	2311P5A	P01	MS3417-16F	BACKSHELL, PLUG	555-35405	ECP 76	3922A1	001-SUB	
A	2311P9	.01	UG-261B	PLUG	555-35508		820 300 R18	001-SUB	
F	2311P9	P01	H39012/17-0015	PLUG	555-35508	ECP 76	820 300 R18	001-SUB	
A	2311C01	.01	C9876/ARC-0000	COUPLER, ANTENNA	555-28980		1340 309 R6	001-SUB	
A	2311CP1	.01	UG-414A	ADAPTER, PLUG	555-28980		1340 309 R18	001-SUB	
A	2311CT1	.01	C9999/ARC-0000	CONTROL, HF NO. 1	555-30129		3912PL5	001-SUB	
A	2311CT2	.01	1914F-4 (00000)	CONTROL, FILTER	555-32319		340 208 R20	001-SUB	
A	2311RE1	.01	R9999/ARC-0000	RECEIVER, HF NO. 1	555-32319		3922A1	001-SUB	
A	2311TR1	.01	T1605/ARC-0000	TRANSMITTER, HF NO. 1	555-32319		3922A1	001-SUB	
A	2311TB1	.01	MS27212-1-20	TERMINAL BOARD	555-32321		339 221 R53	001-SUB	
A	2311TB2	.01	MB1714/5-1	TERMINAL BLOCK	555-23214		3922A1	001-SUB	
A	2311TB2A	.01	MB1714/1-AB3	MODULE BLOCK	555-23214		3922A1	001-SUB	
A	2311TB2B	.01	MB1714/1-AB3	MODULE BLOCK	555-23214		3922A1	001-SUB	
A	2311TB2C	.01	MB1714/1-AB3	MODULE BLOCK	555-23214		3922A1	001-SUB	
(2)	(00)	(1) (2)	(20) (20)	(20) (20)	(15)	(13)	(11)	(11)	(5)
			2 LINES REQD.	2 LINES REQD.					

NOTE: NUMBERS ENCLOSED () INDICATE ELEMENT SIZE.

COLUMN IDENTIFIED AS S A U INDICATES STATUS AND USE OF AN LRU.

STATUS PREFIX EXPLANATION: P-PREFERRED REPLACEMENT

D-DELETED

A-ADD

USE PREFIX EXPLANATION: OI-INITIAL ITEM USE AND APPLICATION

O2-NEW ITEM USE OR CHANGE IN INITIAL ITEM APPLICATION

O3-ADDITIONAL ITEM CHANGES OR APPLICATIONS SEQUENTIALLY
NUMBERED

TITLE EQUIPMENT LIST COMMUNICATIONS SYSTEM
DRAWING NUMBER 555-00010
REV Y
DATE 30 SEPT 75
MODEL XC-535A
PSON 00000
PAGE 10-23-00-02

FIGURE 13. Equipment List Communications System



MIL-HDBK-863A

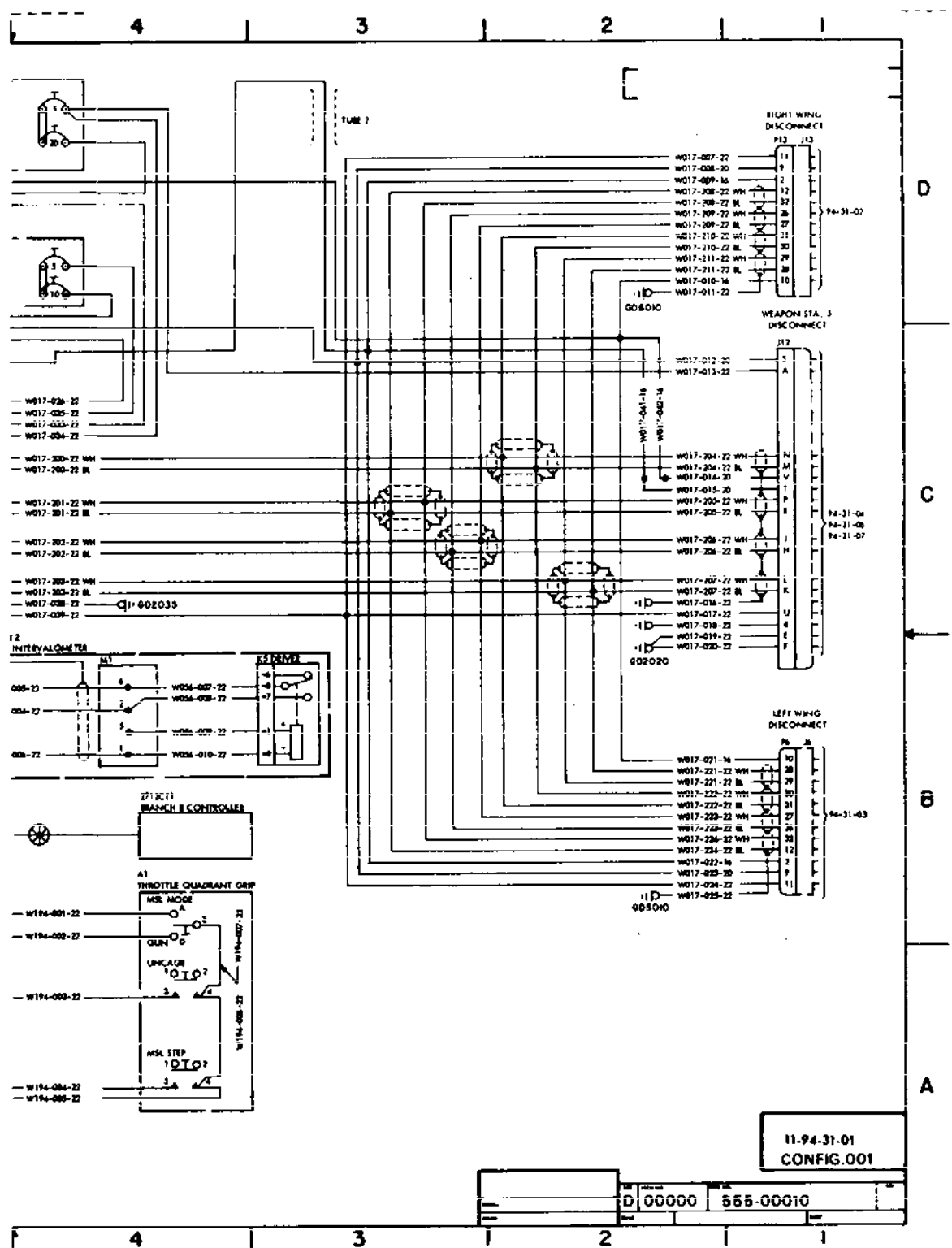


FIGURE 15. Point to Point Interconnection Diagram - Continued.



MIL-HDBK-863A

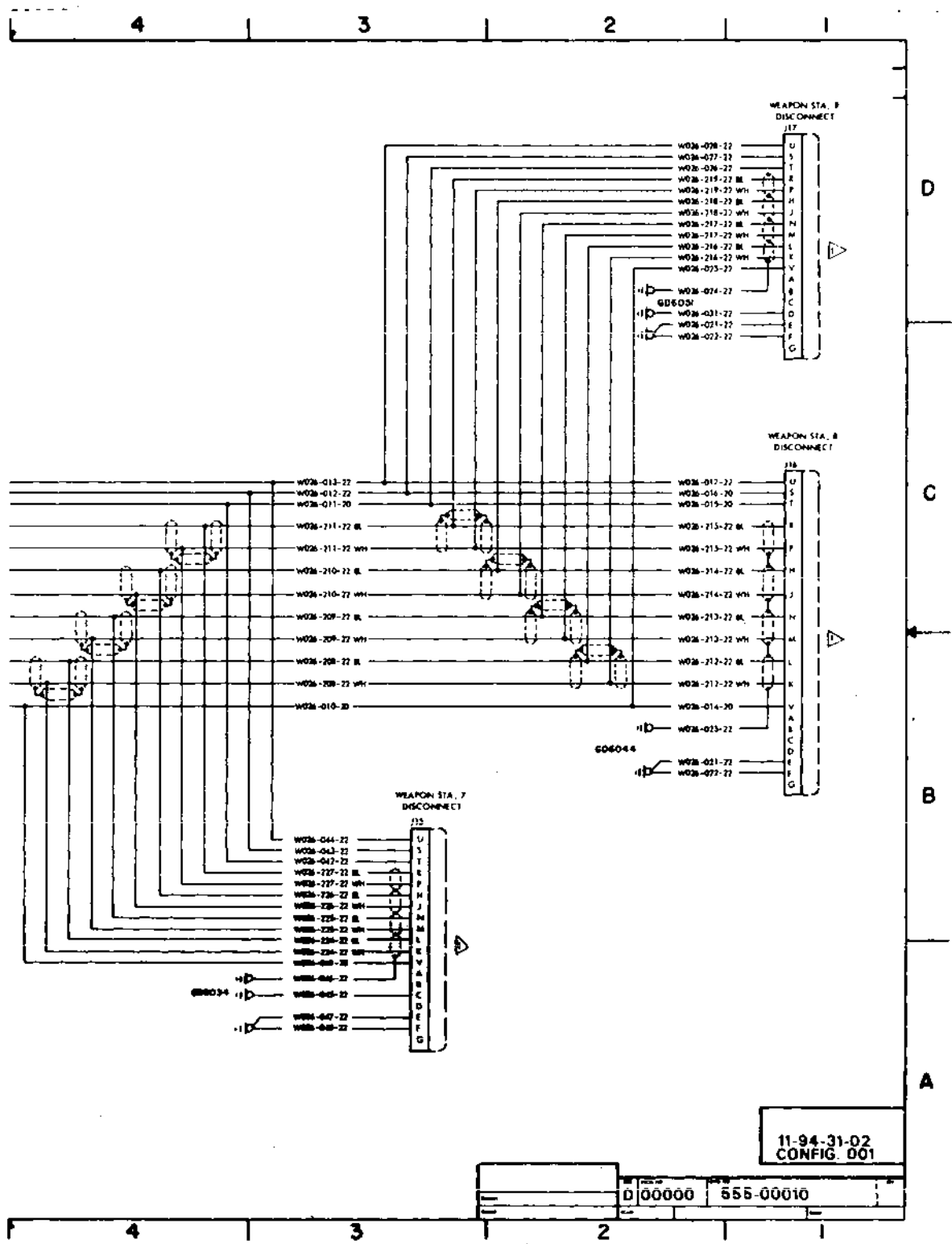


FIGURE 15. Point to Point Interconnection Diagram - Continued.



MIL-HDBK-863A

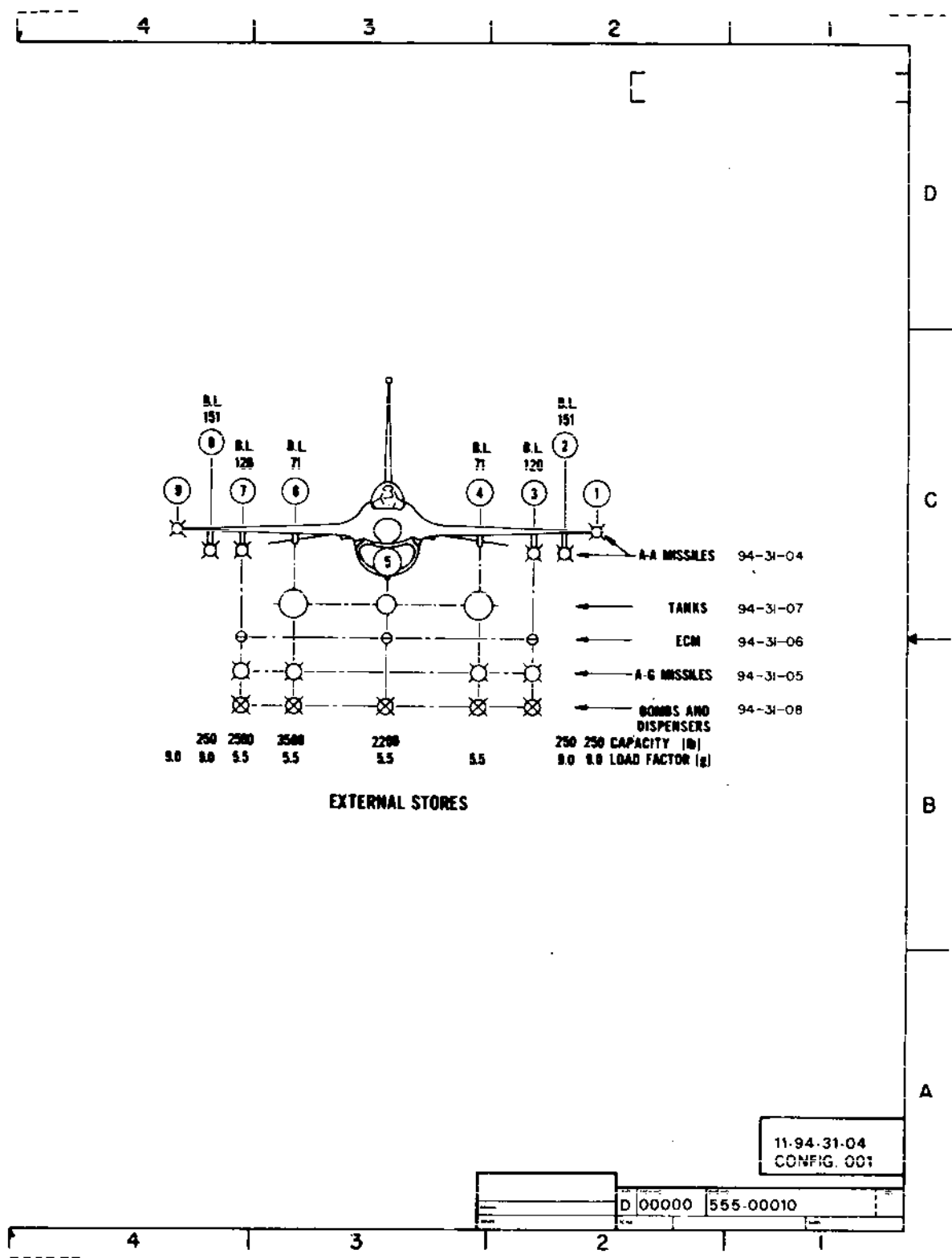


FIGURE 15. Point to Point Interconnection Diagram - Continued.

MIL-HDBK-863A

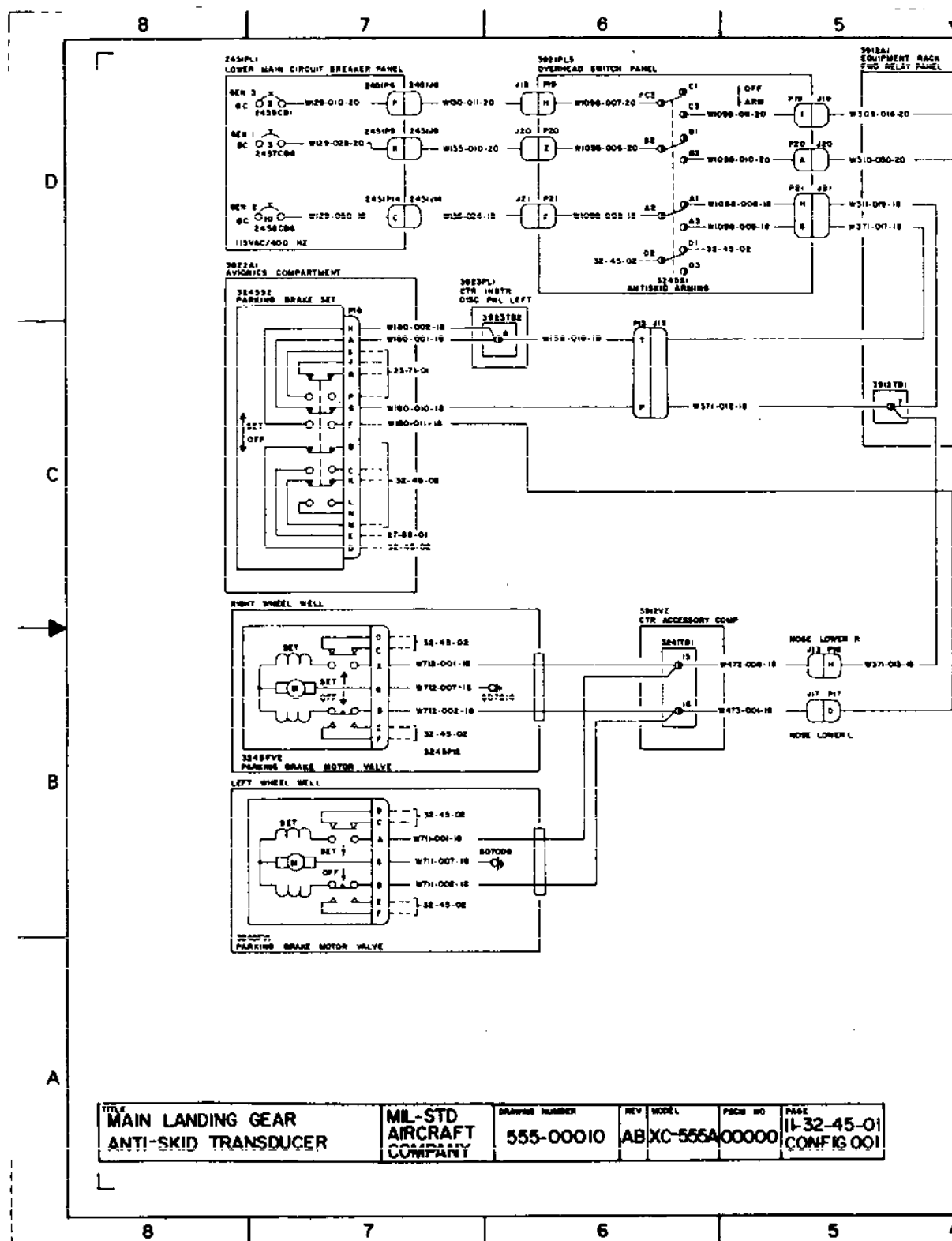


FIGURE 15. Point to Point Interconnection Diagram - Continued.

MIL-HDBK-863A

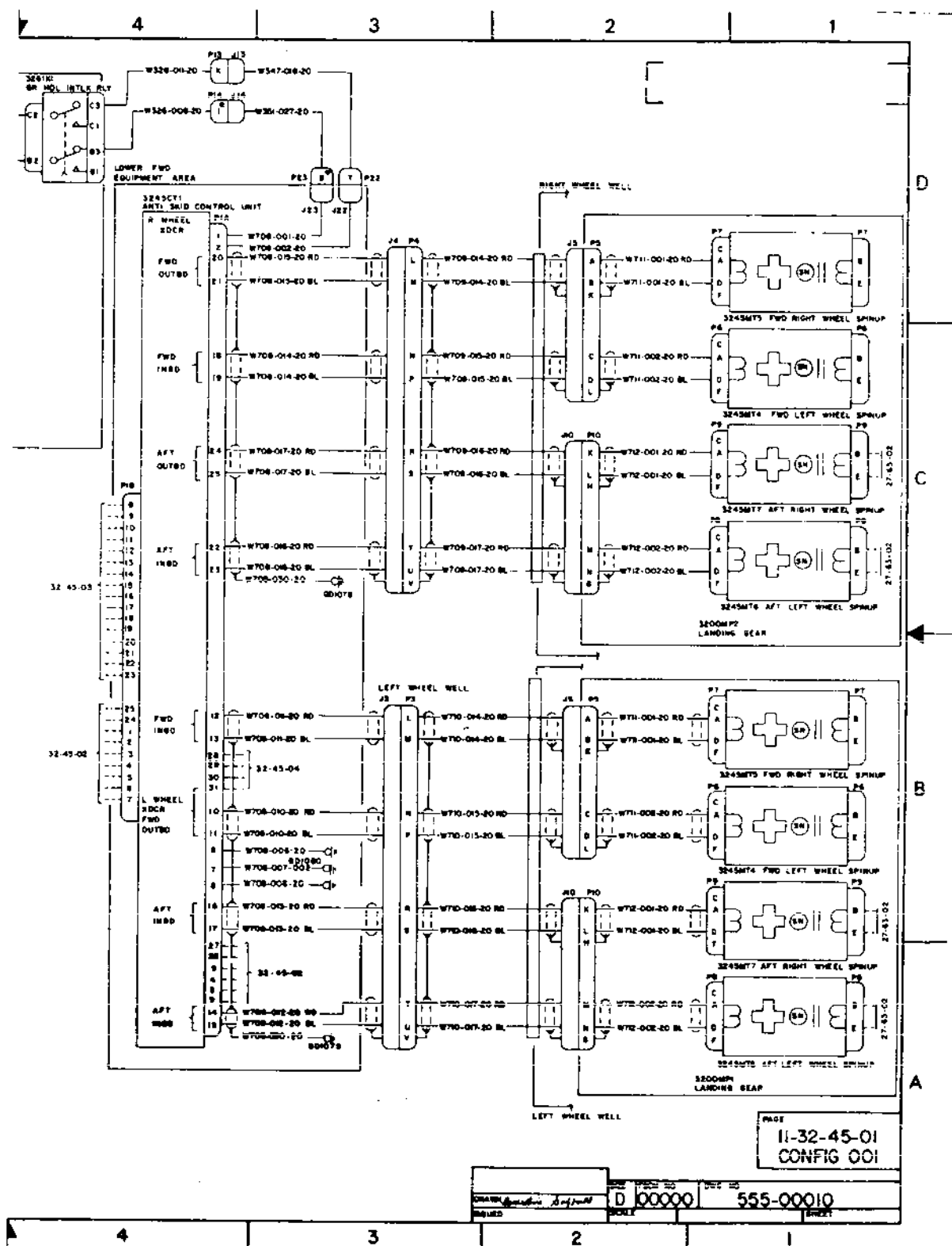
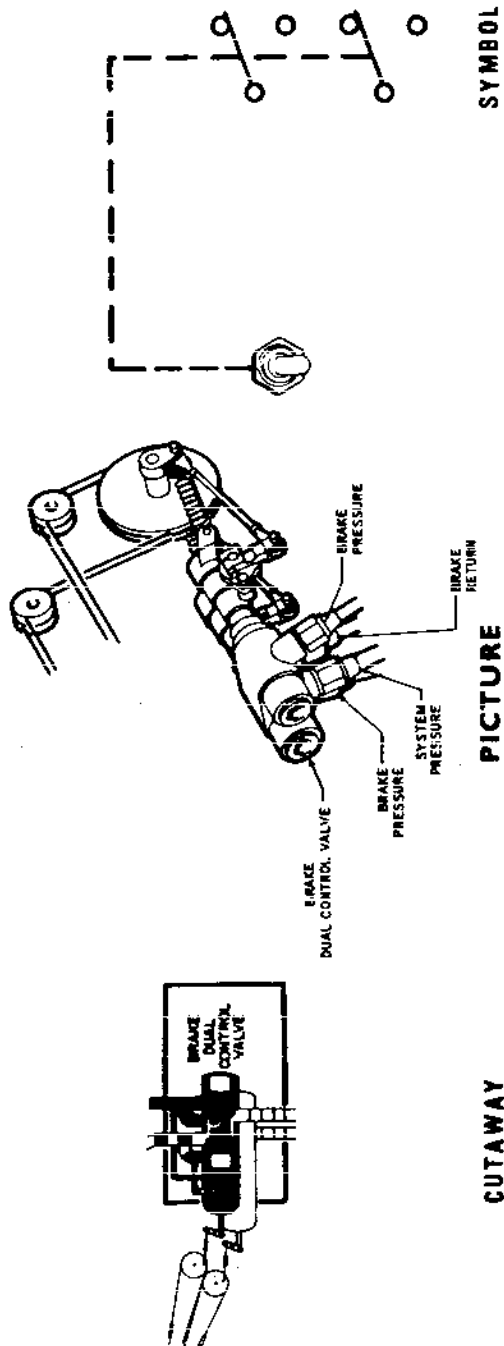


FIGURE 15. Point to Point Interconnection Diagram - Continued.

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SYSTEM SCHEMATIC DIAGRAM GRAPHICS



ENERGY MEDIA

COPPER PATH

ELECTRICAL WIRE, COAXIAL CABLE AND WAVEGUIDE

FLUID PATH

PNEUMATIC, FUEL, HYDRAULIC, OXYGEN, COOLANT LINES

MECHANICAL PATH

CABLES, PULLEYS, SWITCHES, GEARS

ELECTROMAGNETIC PATH

RADIO WAVES, LIGHT WAVES, SOUND WAVES, FLUX LINES

FIGURE 16. System Schematic Diagram Graphics

MIL-HDBK-863A

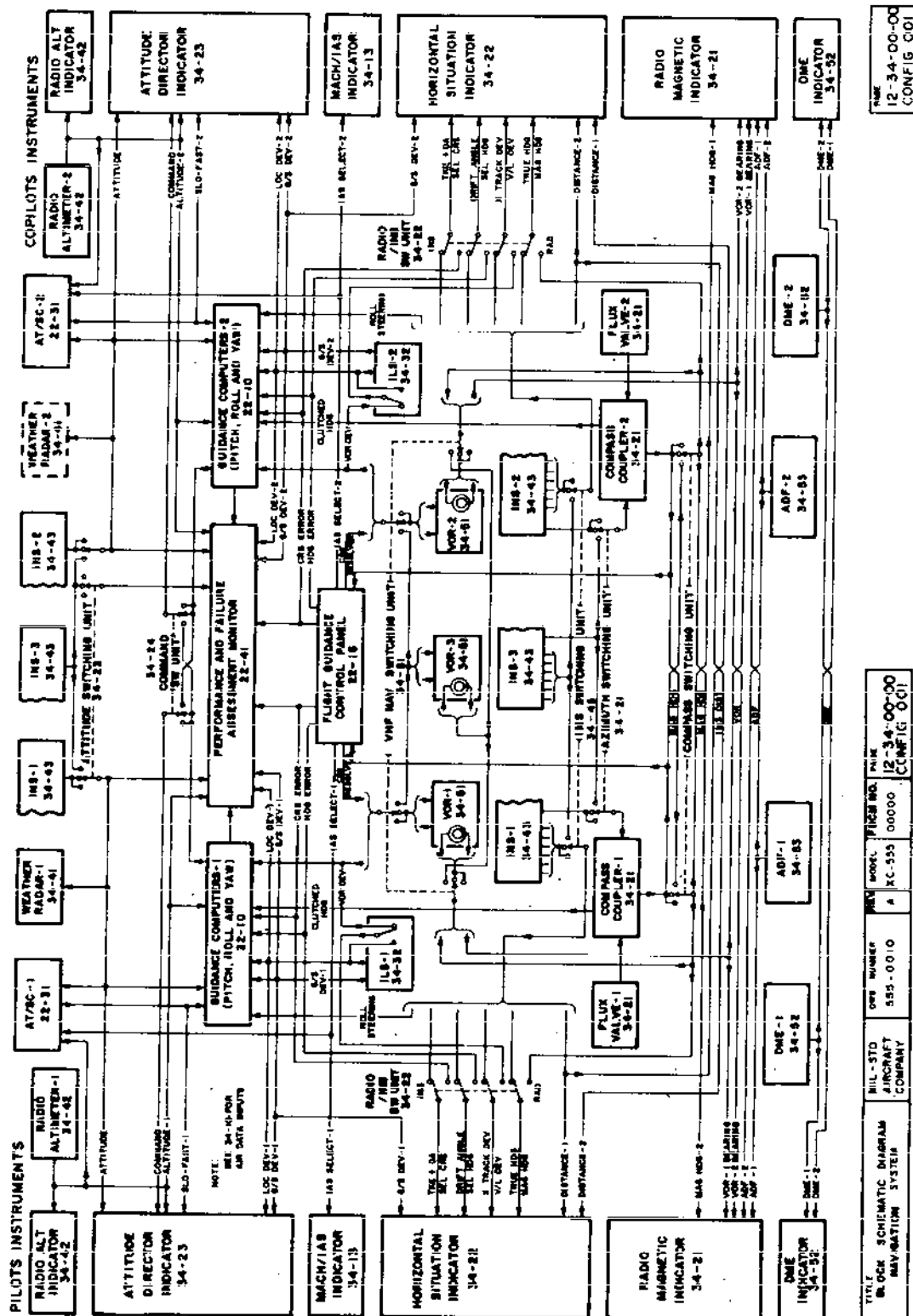
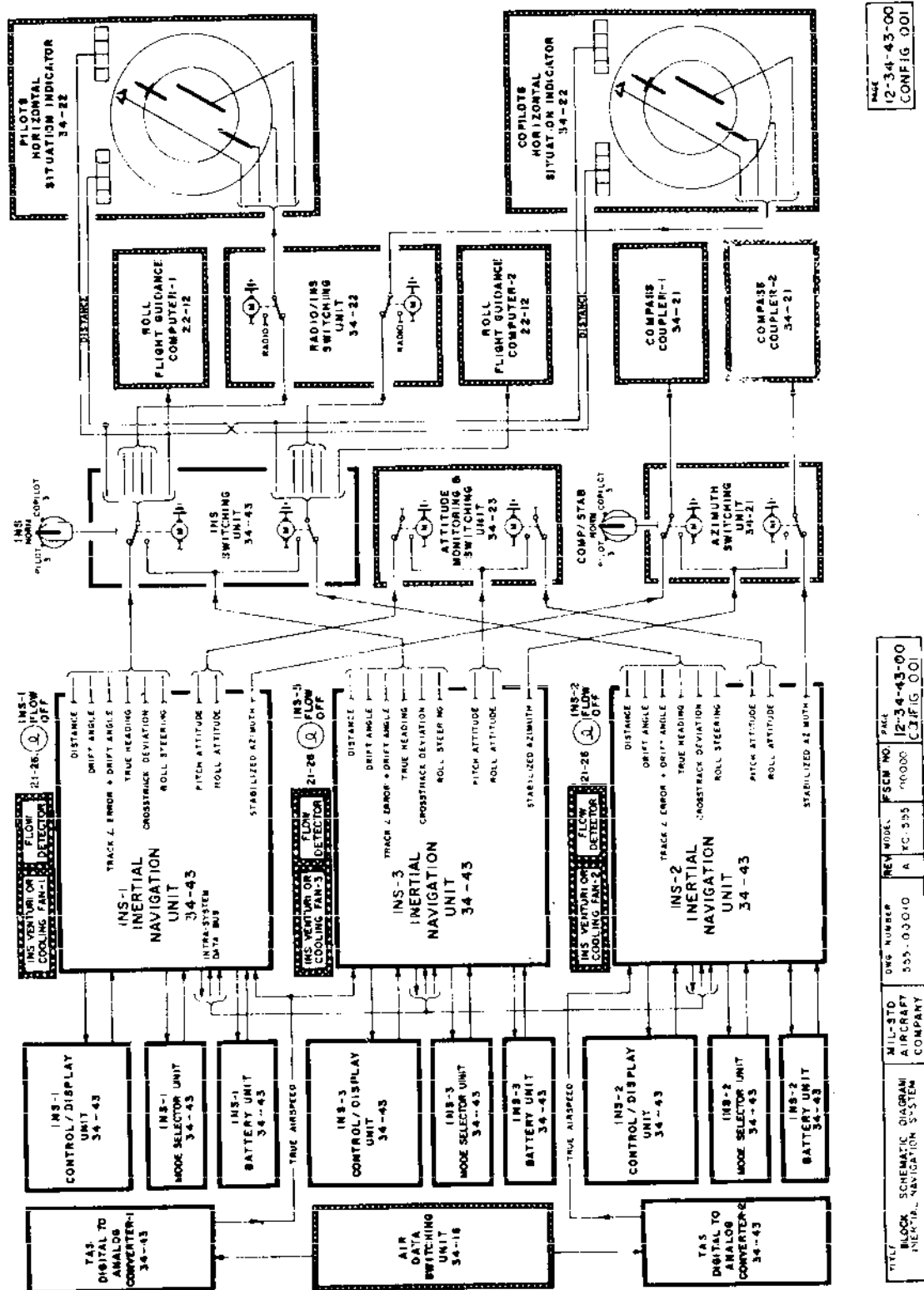


FIGURE 17. Block Schematic Diagram



MIL-HDBK-863A

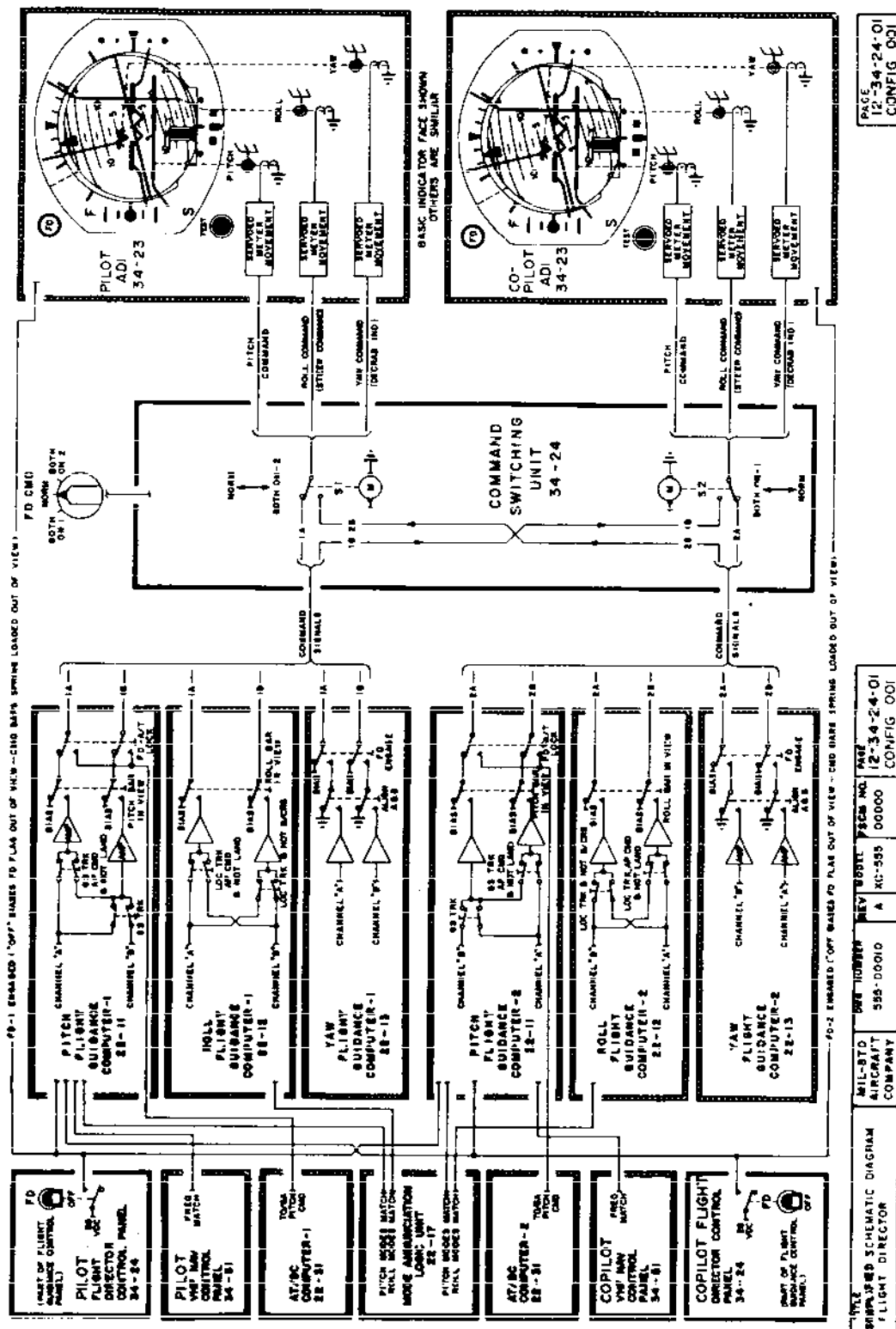


FIGURE 18. Simplified Schematic Diagram



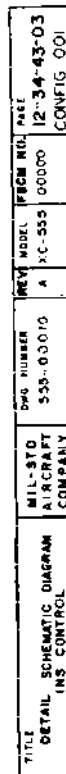


FIGURE 19. Detail Schematic Diagram

MIL-HDBK-863A

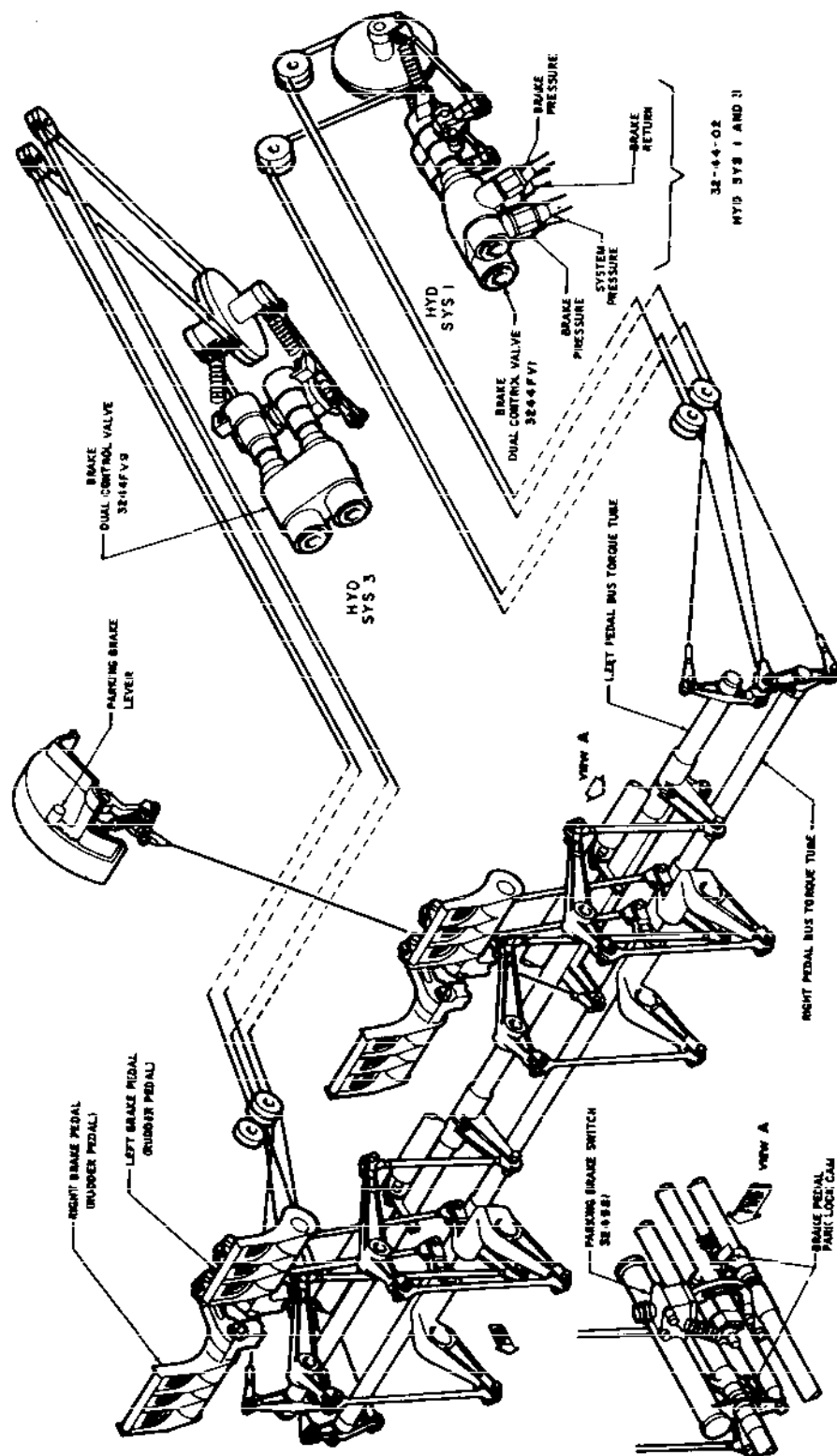


FIGURE 19. Detail Schematic Diagram - Continued.

FIG 19
12-32-44-02
CONFIG 001

TITLE	DETAIL SCHEMATIC DIAGRAM	REV	MODEL	FORM NO.	DATE
WARP BRASS CONTROL	32-44-02	A	32-44-02	00000	12-32-44-02
COMPANY	32-44-02				CONFIG 001



MIL-HDBK-863A

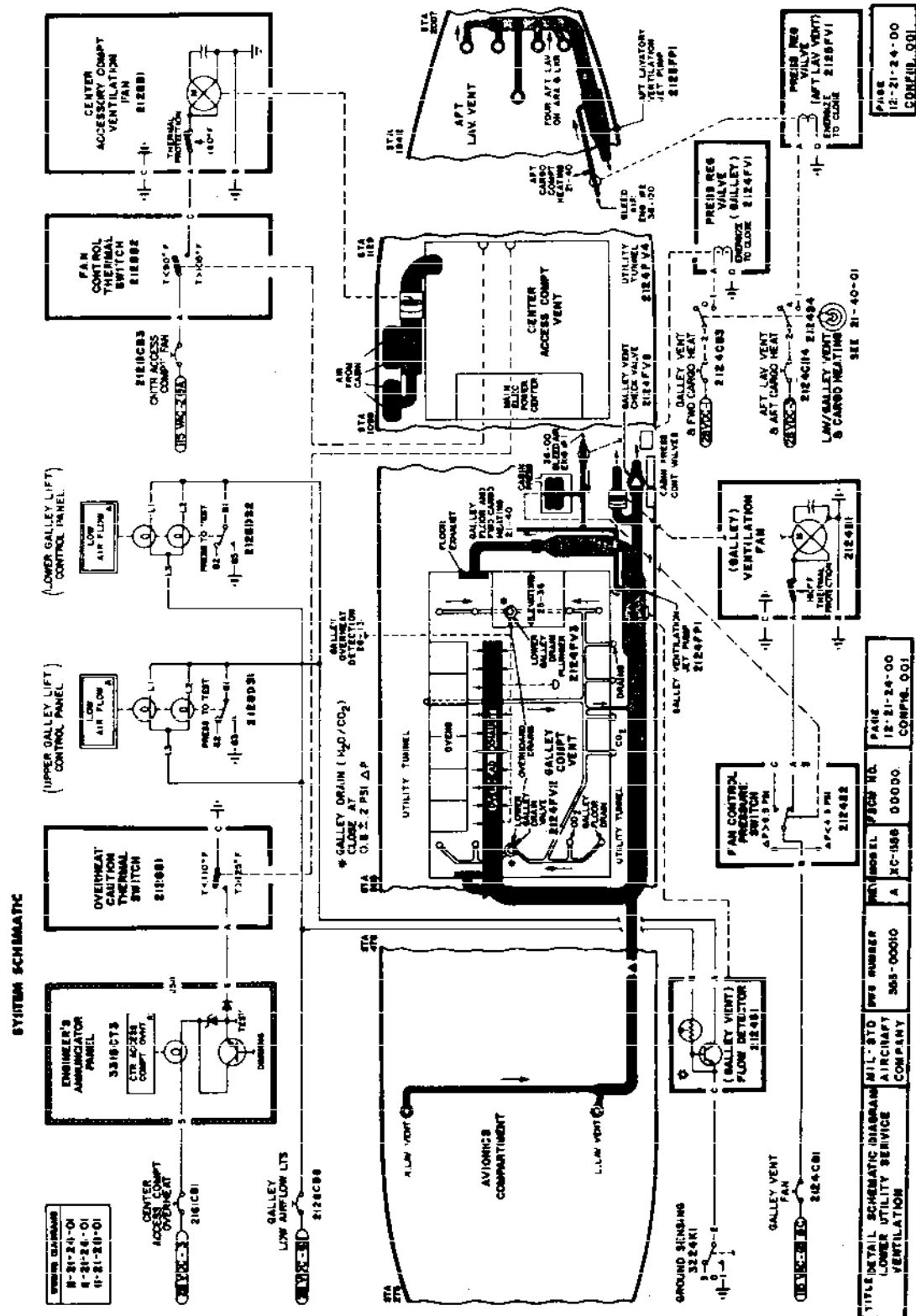


FIGURE 19. Detail Schematic Diagram - Continued.

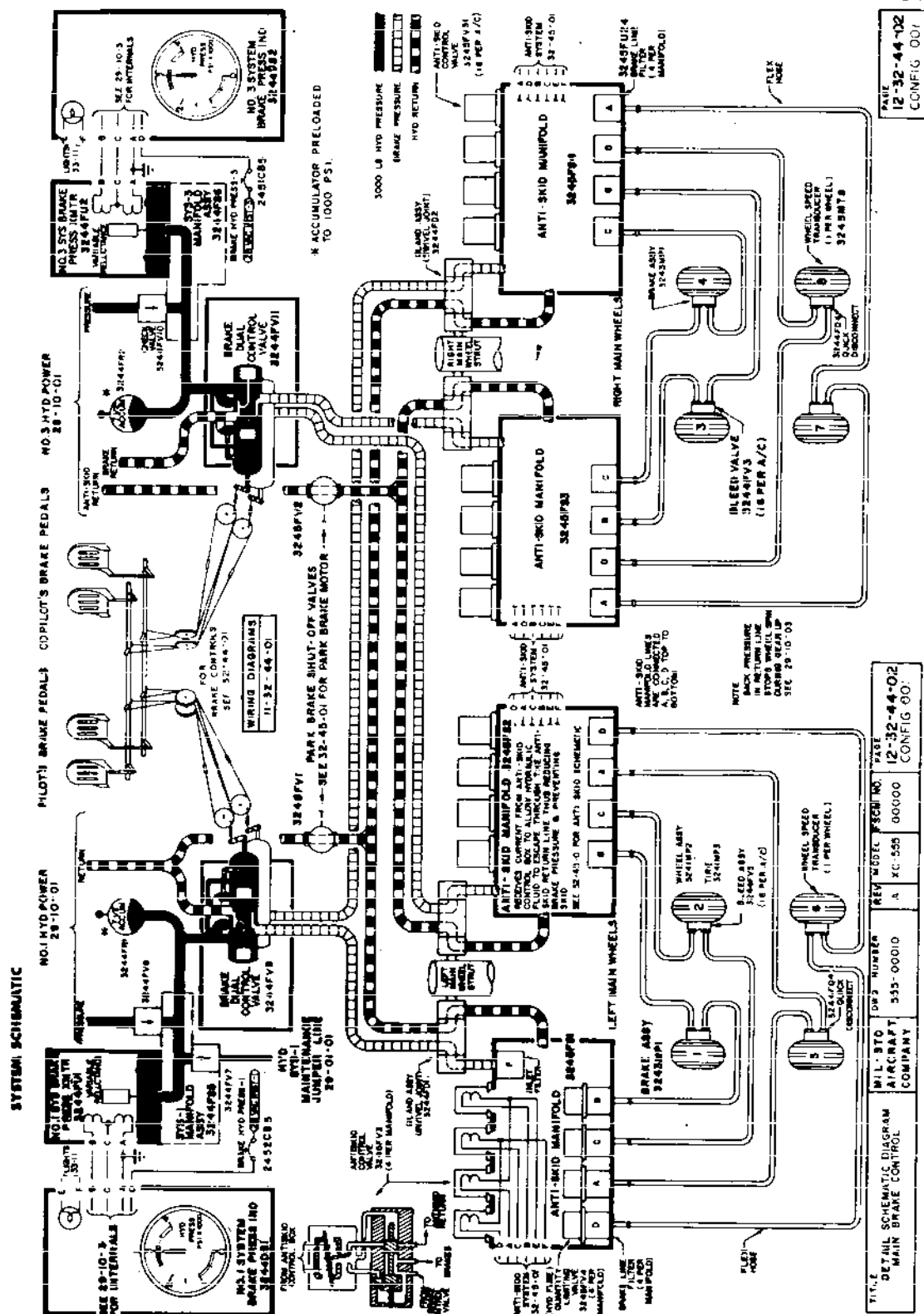
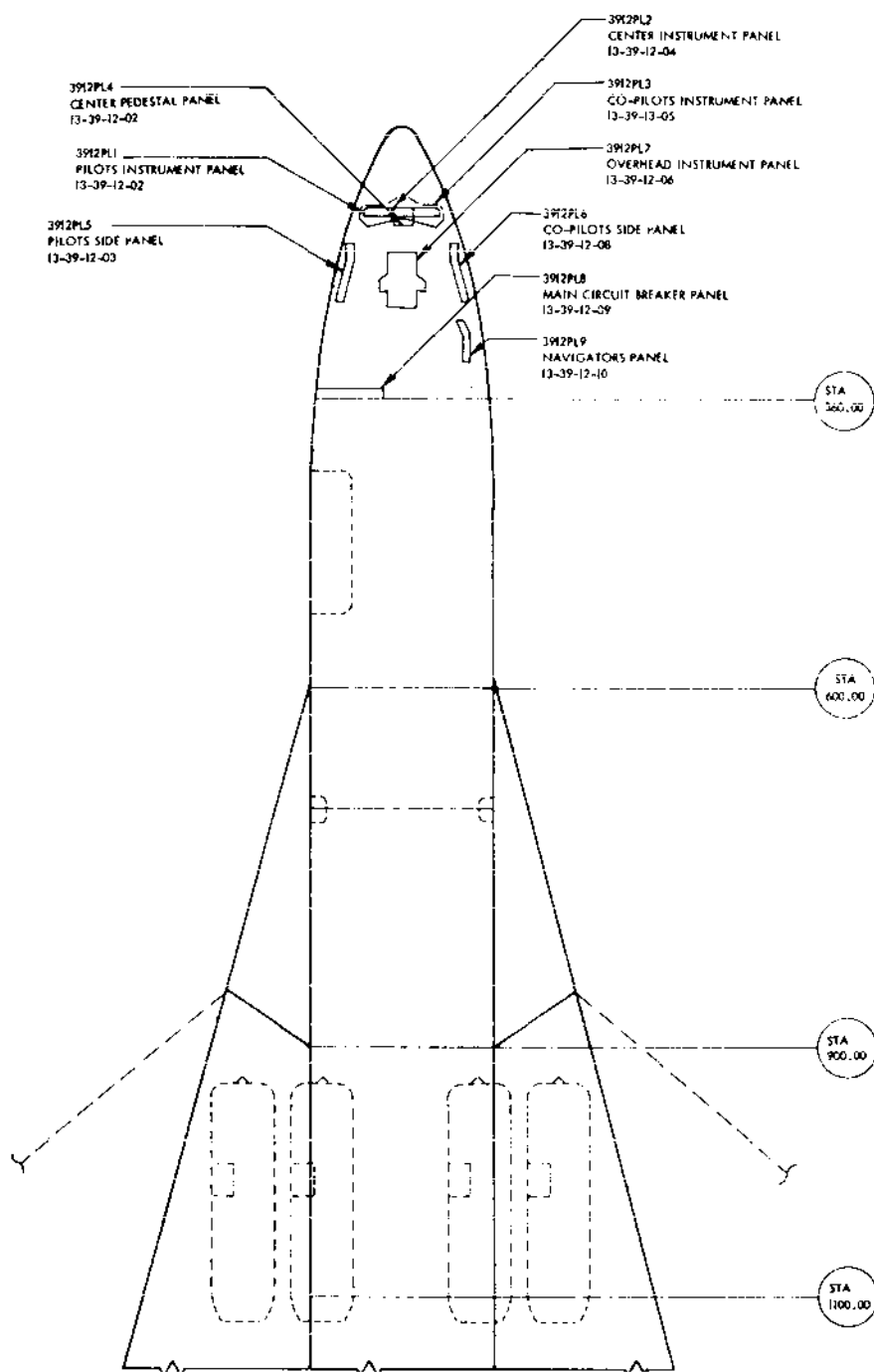


FIGURE 20. Detailed System Schematic Diagram

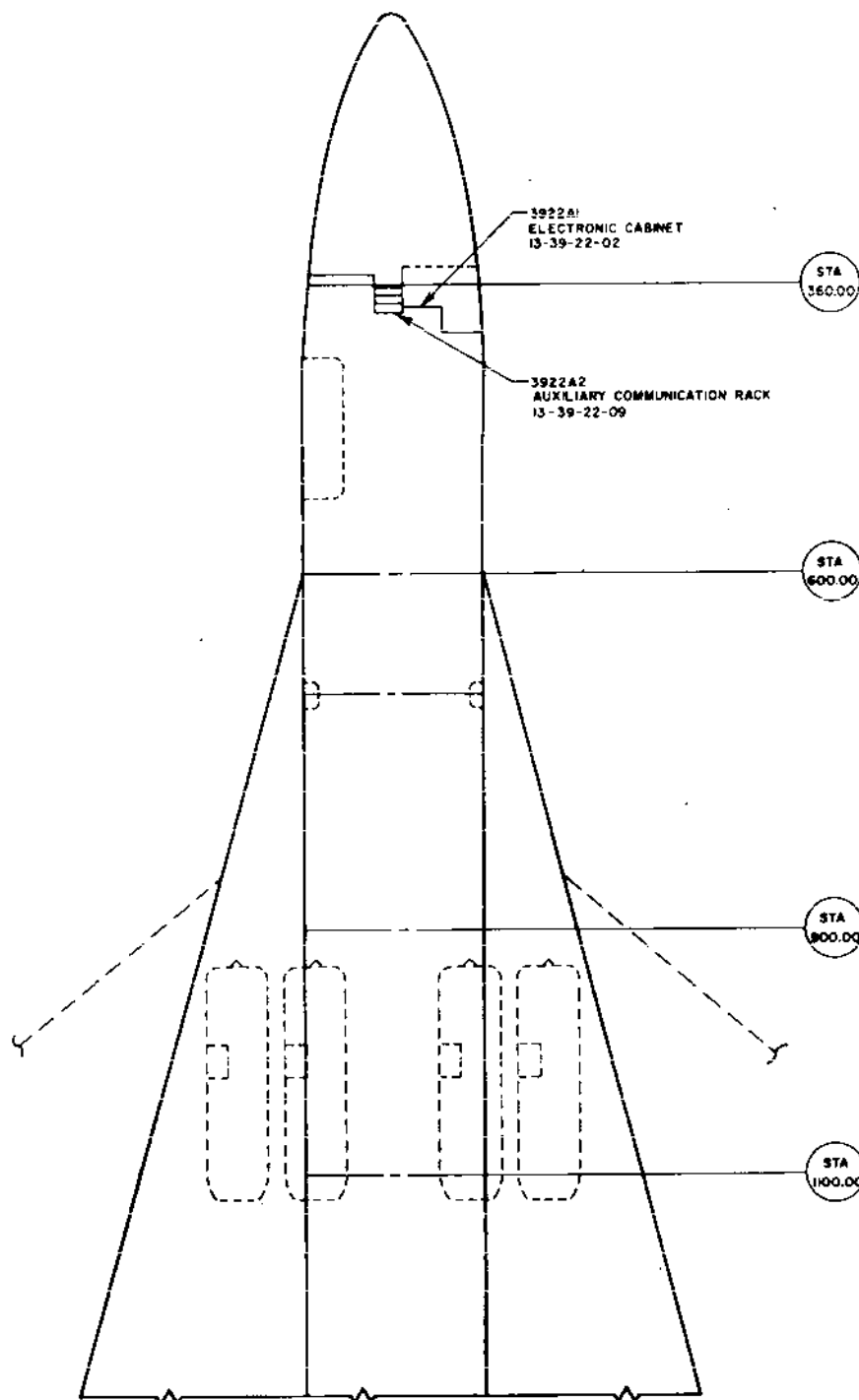
MIL-HDBK-863A



TITLE	MIL-STD	DRAWING NUMBER	REV	MODEL	FSCM NO.	PAGE
LOCATION DIAGRAM- PANELS-UPPER FUSELAGE	AIRCRAFT COMPANY	555-00010	B	XC-555	00000	13-39-12-01 CONFIG 001

FIGURE 21. Equipment Location Diagram

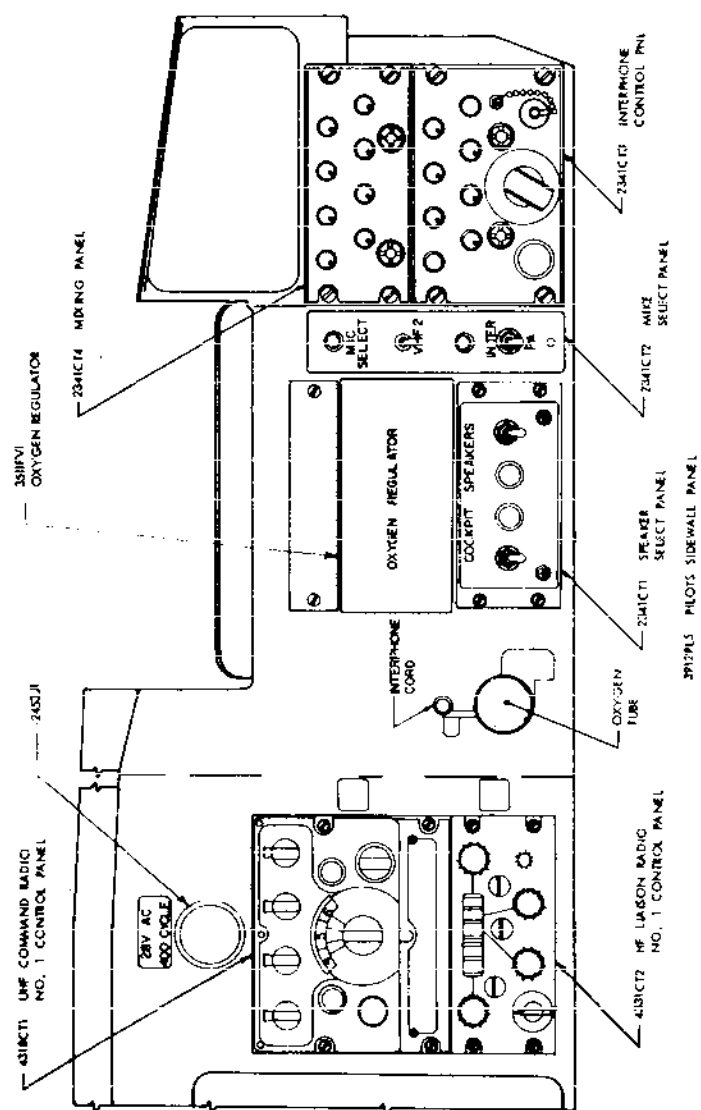
MIL-HDBK-863A



TITLE	MIL-STD	DRAWING NUMBER	REV	MODEL	FSCM	PAGE
LOCATION DIAGRAM- EQUIP RACKS-UPPER FUSELAGE	AIRCRAFT COMPANY	555-00010	B	XC-555	NO. 00000	13-39-22-01 CONFIG 001

FIGURE 21. Equipment Location Diagram - Continued.

MIL-HDBK-863A



TITLE	MIL-STD	DRAWING NUMBER	REV	MODEL	CODE IDENT	PAGE
LOCATION CHART- PILOTS SIDEWALL PANEL(3912PL5)	AIRCRAFT COMPANY	555-00010	B	XC-555	00000	13-39-12-03 CONFIG-001

FIGURE 21. Equipment Location Diagram - Continued.

MIL-HDBK-863A

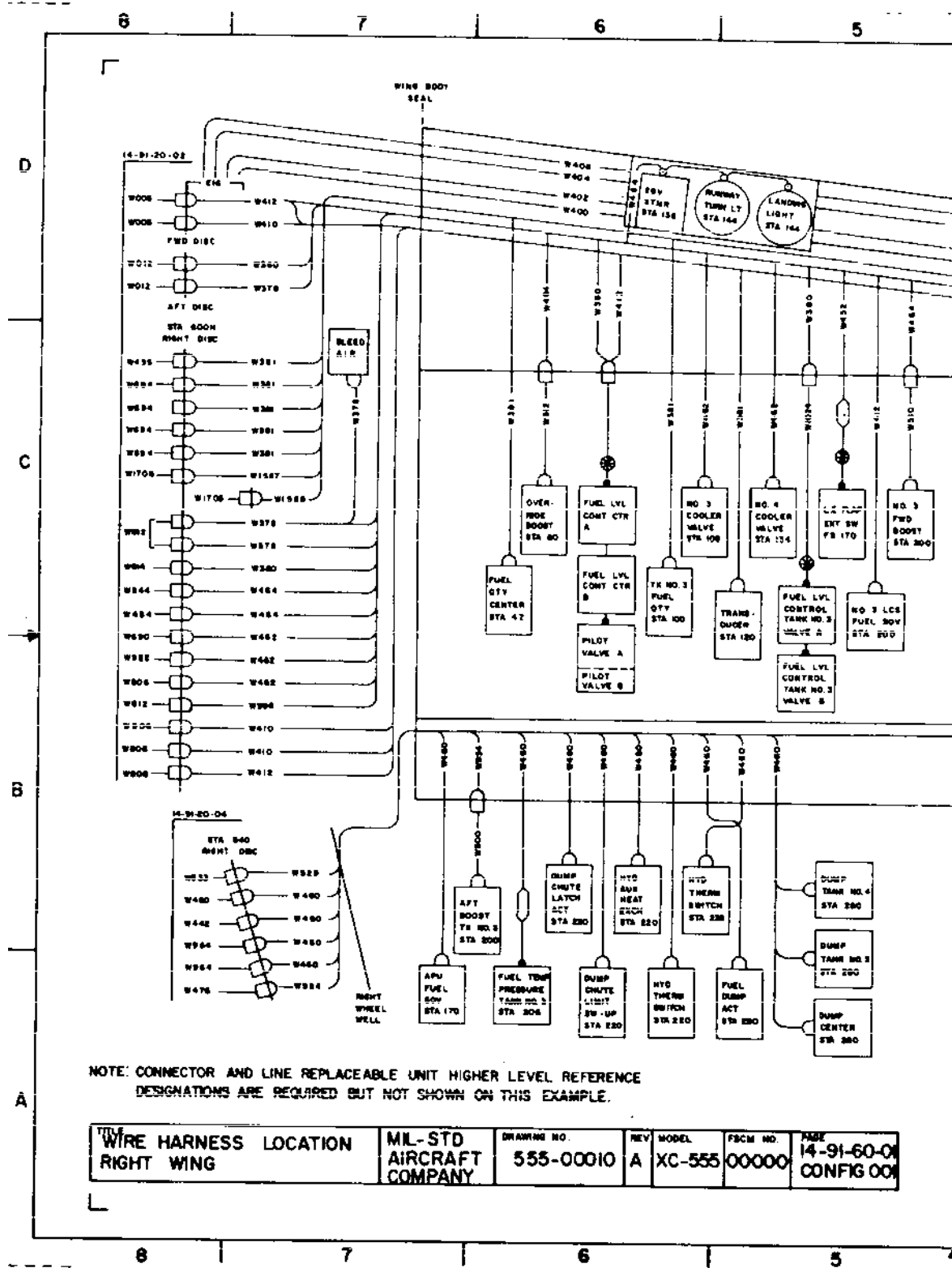


FIGURE 22. Wire Harness Location Diagram



MIL-HDBK-863A

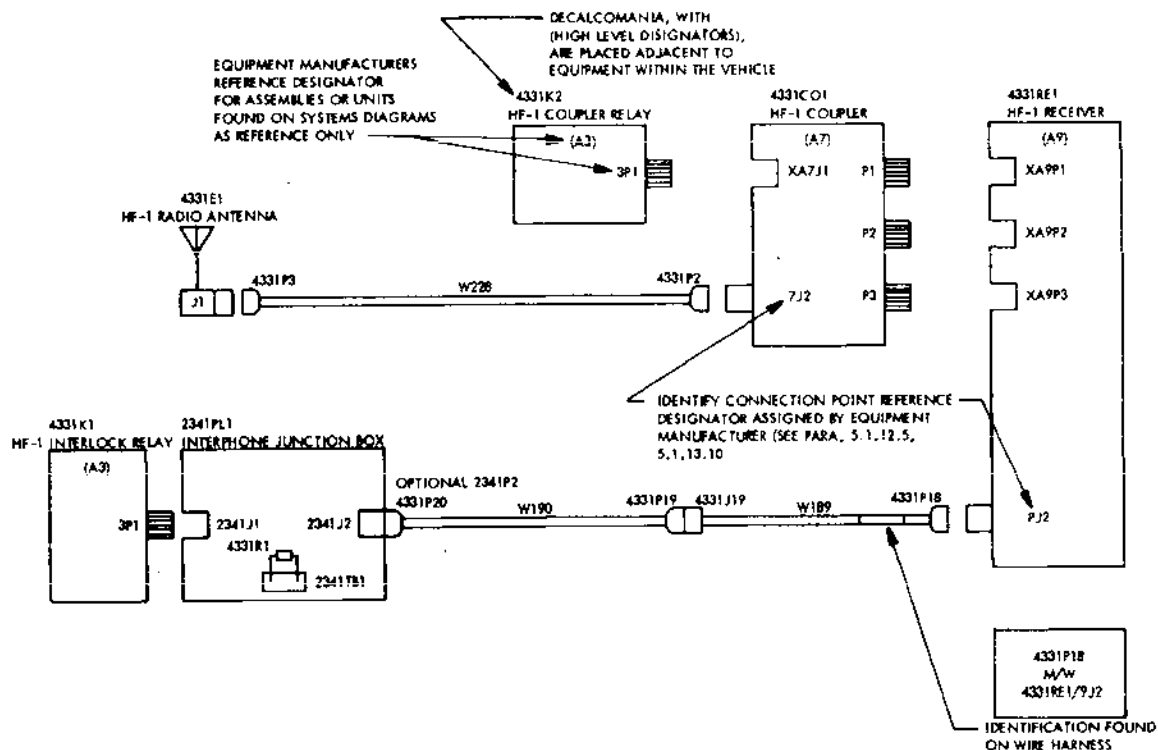


FIGURE 23. Higher Level Designations (System Coded)

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CONNECTIONS

● Solder	⊖ No. 8 Terminal stud or screw
⊕ No. 2 Terminal stud or screw	○ No. 10 Terminal stud or screw
⊕ No. 4 Terminal stud or screw	⊗ 1/4 Terminal stud or screw
⊕ No. 5 Terminal stud or screw	⊗ 5/16 Terminal stud or screw
⊕ No. 6 Terminal stud or screw	⊗ 3/8 Terminal stud or screw

FIGURE 24. Terminal Size Symbols

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Navy - AS

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Preparing activity:

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(Project DRPR-2015-001)

Review activities:

Air Force - 10, 11, 13, 85

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