TO 00-5-18

TECHNICAL MANUAL

METHODS & PROCEDURES

AF TECHNICAL ORDER NUMBERING SYSTEM

(ATOS)

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Published under authority of the Secretary of the Air Force

31 DECEMBER 2006

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TOTAL NUMBER OF PAGES IN THIS MANUAL IS 342, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Title	0	29-1 - 29-3	0		
A	0	29-4 Blank	0		
i - vi	0	30-1 - 30-2	0		
1-1 - 1-19	0	31-1 - 31-4	0		
1-20 Blank	0	32-1 - 32-3	0		
2-1	0	32-4 Blank	0		
2-2 Blank	0	33-1 - 33-3	0		
3-1 - 3-2	0	33-4 Blank	0		
4-1 - 4-10	0	34-1 - 34-12	0		
5-1 - 5-6	0	35-1 - 35-2	0		
6-1 - 6-4	0	36-1 - 36-3	0		
7-1 - 7-4	0	36-4 Blank	0		
8-1 - 8-14	0	37-1 - 37-3	0		
9-1 - 9-6	0	37-4 Blank	0		
10-1 - 10-3	0	38-1 - 38-2	0		
10-4 Blank	0	39-1 - 39-2	0		
11-1 - 11-16	0	40-1 - 40-2	0		
12-1 - 12-6	0	41-1 - 41-5	0		
13-1 - 13-7	0	41-6 Blank	0		
13-8 Blank	0	42-1 - 42-46	0		
14-1 - 14-25	0	A-1 - A-3	0		
14-26 Blank	0	A-4 Blank	0		
15-1 - 15-5	0				
15-6 Blank	0				
16-1 - 16-6	0				
17-1 - 17-3	0				
17-4 Blank	0				
18-1 - 18-6	0				
19-1 - 19-6	0				
20-1 - 20-4	0				
21-1 - 21-2	0				
22-1 - 22-8	0				
23-1 - 23-5	0				
23-6 Blank	0				
24-1 - 24-20	0				
25-1 - 25-6	0				
26-1 - 26-15	0				
26-16 Blank	0				
27-1 - 27-9	0				
27-10 Blank	0				
28-1 - 28-4	0				

*Zero in this column indicates an original page

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1
INTRODUCTION

1.1 PURPOSE AND SCOPE.

1.1.1 This technical order (TO) describes the procedures and techniques employed to assign TO numbers to technical data used to operate, install, maintain, inspect, perform procedural functions on, and modify Air Force weapons systems and equipment. Numbering techniques are not included in this TO for TO numbering assignments made according to waivers or deviations from established procedures.

1.1.2 Chapter 43 of this TO provides an alphabetical listing of equipment names cross-referenced to appropriate TO number groups as they appear in the Air Force TO Catalog. Basic names of equipment systems and components are in bold print. Variations or breakdowns of the equipment follow in small print. This listing does not indicate the status of individual publications. The only authorized sources for determining the status and availability of individual publications are the Joint Computer-aided Acquisition and Logistics Support (JCALS) System Publication Index and the TO Catalog.

1.1.3 Recommendations or suggestions concerning this document should be submitted by Air Force Technical Order (AFTO) Form 22, Technical Manual (TM) Change Recommendation and Reply, or the JCALS Recommend a TM Change process to 558 CBSS/GBHCA, 7851 Arnold St Ste 201, Tinker AFB OK 73145-9147, e-mail: *reqacct@tinker.af.mil.*

1.2 REFERENCES.

Referenced publications, forms, acronyms and definitions are located in Appendix A. The directives identified in Appendix A provide policy, guidance and references used to make TO number assignments to approved TO data.

1.3 RESPONSIBILITIES.

1.3.1 TOs are published under the authority of the Secretary of the Air Force according to AFPD 21-3.

1.3.2 The Air Force Materiel Command (AFMC) is responsible to Headquarters, U.S. Air Force (HQ USAF)/A4MM, for staff surveillance over TO System operations and development of system policies and procedures.

1.3.2.1 The HQ AFMC Directorate of Logistics (A4) is responsible for developing and coordinating Air Force TO System policy, and for implementing AFMC TO policies.

1.3.2.2 The Sustainment Engineering & Technical Data Operations/Policy Branch, Technical Order Policy & Procedures Section, HQ AFMC/A4YE, is responsible for developing and coordinating AF and AFMC TO System practices and procedures.

1.3.2.3 Policies and procedures for requesting TO numbers are contained in AFI 21-303, Technical Orders, and in TO 00-5-3, AF Technical Order Life Cycle Management.

1.3.3 The Oklahoma City Air Logistics Center (OC-ALC) USAF Technical Order Systems Section, 558 Combat Sustainment Squadron (CBSS)/GBHCA, is responsible for developing TO numbering procedures, assigning TO numbers (TO 00-5-3, AFMCI 21-301 and the JCALS Desktop Instructions [DI]). A description of special catalogues for specified TO categories is provided in paragraphs 1.4.7 and 1.4.8.

1.3.4 Requests for deviations from established TO numbering procedures, including proposals for new TO numbering patterns, must be coordinated through 558 CBSS/GBHCA. When opinions differ between TO managers and the TO numbering specialists regarding the application of numbering principles, the numbering specialists will determine the TO number assignment. If a TO number assignment by GBHCA is not acceptable to the TO Manager and agreement cannot be reached through further exchange of technical information, the TO Manager will refer the problem to HQ AFMC/A4YE for review and resolution.

1.4 GENERAL.

1.4.1 TOs are procured from contractors or prepared in-house by Air Force activities. The Program Manager (PM) responsible for a weapon system or commodity is also responsible for TOs to support that system or item. PMs will assign TO Managers to carry out this responsibility. Only the responsible TO Manager is authorized to request TO number

assignment. Only 558 CBSS/GBHCA is authorized to approve and assign TO numbers for most TOs. Exceptions include nuclear weapons (NW) TOs (assigned by 708th Nuclear Systems Squadron)708 NSS)), Explosive Ordnance Disposal (EOD) TOs (assigned by Detachment (Det) 63, 688th Armament Systems Squadron (688 ARSS)); and category 33K Calibration TOs (assigned by Air Force Metrology and Calibration (AFMETCAL], 562 Combat Sustainment Group (CBSG/GBHA)). Publications not authorized by TO 00-5-1, *AF Technical Order System*, will not be numbered in the TO system without prior approval by HQ AFMC/A4YE.

1.4.2 TO Managers complete the TO Numbering Request Screens in JCALS for each formal or preliminary TO (PTO), and submit them to 558 CBSS/GBHCA for TO number approval. Contractors and TO Managers not on-line with JCALS may continue to use the AFTO Forms 203, *TO Numbering, Indexing and Control Record*. Instructions on completing the JCALS screens are in the JCALS DI. Procedures for completing and submitting the forms are in TO 00-5-3. The screens and form are the primary sources for establishing a record in JCALS.

NOTE

When a new TO number is requested, the TO Manager or Equipment Specialist (ES)/Technical Content Manager (TCM) must enter the Federal Stock Class (FSC), part number(s) and Commercial and Government Entity (CAGE) code of the equipment listed in the TO title into the JCALS database. For TOs against components or support equipment peculiar to a weapon system, also enter the weapon system Mission/Design/Series (MDS).

1.4.3 Most TOs are prepared according to military standards and performance or detail specifications which prescribe the contents of each TO type. This standardized approach facilitates the uniform assignment of descriptive TO numbers. However, there is increased emphasis on purchasing Commercial Off-The-Shelf (COTS) manuals. The lack of a standard format between COTS manuals complicates the grouping of like data into established TO numbering patterns. To maintain stability in the numbering system, 558 CBSS/GBHCA and HQ AFMC/A4YE provide guidance for TO Managers and develop, coordinate and implement new numbering patterns as required.

1.4.4 Numbers are assigned to group TOs according to the systems and equipment they cover (paragraph 1.6.2), to provide sequences for filing and indexing, and furnish a means for users to identify and establish requirements for distribution of TOs. The structure of the TO number identifies a category of Air Force systems or commodities, a design or series of equipment within a system or commodity category, an equipment sub-series within an equipment series, the type of data included in the TO, and the medium on which the TO is distributed.

1.4.5 Numbers are assigned on a system or end item MDS basis whenever possible. TOs containing instructions or procedures applicable to more than one major group are numbered in a general series for the particular category. If multiple TOs are included on a single distribution medium (e.g., Compact Disc-Read Only Memory [CD-ROM] or Digital Versatile Disk), a single unique number will be assigned to the medium (paragraph 1.27).

1.4.6 TO categories are not numbered in a consecutive sequence. Currently, 42 categories are identified between Category 0 and Category 60 (paragraph 1.6.2). Category 0 is assigned to the TO catalog and cross-reference table TOs. Category 00 is assigned to Methods and Procedures TOs (MPTOs). Categories 1 through 22 are assigned to airborne systems for aircraft, missiles, aerospace vehicles, and related airborne equipment and component assemblies. Exceptions are the photographic equipment in category 10 and the armament equipment in category 11. Categories 31 through 51 are assigned to Air Force ground systems and related equipment. Category 60 is assigned to EOD TOs.

1.4.7 The number 71 is reserved for indexes applicable to the Security Assistance TO Program (SATOP); e.g., TO 0-1-71 is the index listing “M”-symbol (“Rescinded for AF, Retained for SAP”) and “XX” (authorized to multiple countries) Country Standard TOs (CSTOs). Other Country-specific SATOP indexes are numbered using the two-letter country symbol as a prefix.

1.4.8 The Air Force TO Catalog Application lists current TOs, changes since the last publication of the Catalog and a cross-reference to equipment numbers. It is updated weekly on the Internet (limited to “*.mil” access) and quarterly on CD-ROM (TO 0-1-CD-1). It includes all active TOs in Categories 0 through 51, except for 11N (nuclear weapons). A special, releasable “XX” version of the Air Force TO Catalog is provided for FMS/SAP customers. Other special indexes and responsibilities are as follows:

1.4.8.1 The Nuclear Weapons Product Support Center Technical Support Flight, 708 NSS, Kirtland AFB NM, is responsible for numbering, indexing and distributing Nuclear Weapons TOs. These TOs are in indexes TO 0-1-11N and TO 0-1-11N-C.

1.4.8.2 708 NSS also numbers and indexes Nuclear Weapons EOD (NW-EOD) TOs. These TOs are indexed in TO 0-1-11N.

1.4.8.3 The AF EOD Liaison Office, Det 63, 688 ARSS, Naval EOD Technology Division, Indian Head Maryland, numbers and indexes Non-Nuclear EOD (EOD) (Category 60) TOs on CD-ROM as part of the Automated EOD Publications System (AEODPS), published quarterly.

1.4.8.4 The FMS TO System Section, 558 Combat Sustainment Squadron (CBSS)/GBHCC, Tinker AFB, OK, manages the Security Assistance TO Data System (SATODS), which provides several special Category 71 indexes that list CSTOs used only by specific FMS/SAP countries.

1.4.9 A close working relationship is needed between TO numbering specialists in 558 CBSS/GBHCA and TO managers to avoid inaccurate TO number assignments. Numbering specialists must verify and approve TO numbers requested by TO managers, using information provided in JCALS entry screens or on AFTO Forms 203. If the information is misleading, insufficient, or in error, the numbering specialists could approve an incorrect TO number. This error could have adverse effects on anyone attempting to identify and obtain TOs to support operations and maintenance. One major impact of an incorrect TO number assignment is the sizeable funds expenditure required to correct the number, especially when not only must the TO involved be renumbered, but other technical data that contains cross references to the incorrect TO number must be changed as well.

1.4.10 In addition to correctly completing JCALS screens and AFTO Forms 203, TO managers provide assistance to numbering specialists by suggesting TO numbers, identifying categories and equipment, and furnishing telephone and written communications that aid in categorizing specific TO data. TO numbering specialists rely heavily on the technical competence of TO managers and associated activities located at each ALC and Product Center.

1.5 JOINT COMPUTER-AIDED ACQUISITION AND LOGISTICS SUPPORT (JCALS) AND ENHANCED TECHNICAL INFORMATION MANAGEMENT SYSTEM (ETIMS).

1.5.1 The JCALS is the Air Force TO management system of record. It is currently deployed at HQ AFMC, the ALCs and Product Centers. It will eventually be replaced by ETIMS to provide direct on-line connectivity from every base into the management system to allow TO ordering, submission of improvements, TO account status, and even on-line distribution of digital TOs to the base. JCALS (and eventually ETIMS) will enable TO Managers to establish records on each TO, assign TO numbers (with GBMUUB approval), manage TO acquisition/sustainment/stock/store/issue/distribution and input TO data into the JCALS/ETIMS Publication Index.

1.5.2 In addition to the standard TO number system described below, JCALS/ETIMS will also assign "Publication Stock Numbers (PSNs)" to each TO and TO increment as they are indexed. See paragraph 1.28 for a guide to interpreting TO PSNs.

1.6 TECHNICAL ORDER NUMBERING THEORY.

1.6.1 The basic task of TO numbering specialists is to group similar TO data into categories, systems, equipment series and equipment sub-series by means of an identifying numeric or alpha-numeric TO number.

1.6.2 TO Categories. TOs are grouped numerically by type of equipment covered by the TO Category.

0	TO Catalog, Indexes and Cross-Reference Table
00	Methods & Procedures Technical Orders
1	Aircraft
2	Airborne Engines and Associated Equipment
3	Aircraft Propellers and Rotors
4	Aircraft Landing Gear
5	Airborne Instruments
6	Aircraft and Missile Fuel Systems
7	Airborne Engine Lubricating Systems
8	Airborne Electrical Systems
9	Aircraft and Missile Hydraulic, Pneumatic and Vacuum Systems
10	Photographic Equipment

11	Armament Equipment
12	Airborne Electronic Equipment
13	Aircraft Furnishings and In-Flight Feeding Equipment, Cargo Loading, Aerial Delivery and Recovery Equipment, Aircraft Fire Detection and Extinguishing Equipment
14	Deceleration Devices, Personal and Survival Equipment
15	Aircraft and Missile Temperature Control, Pressurizing, Air Conditioning, Heating, Ice Eliminating and Oxygen Equipment
16	Airborne Mechanical Equipment
21	Guided Missiles
22	Aerospace Vehicles
31	Ground Electronic Equipment
32	Standard and Special Tools
33	Test Equipment
34	Shop Machinery and Shop Support Equipment
35	Ground Handling, Support, Air and Missile Base Operating Equipment
36	Vehicles, Construction and Material-Handling Equipment
37	Fuel-, Oil- and Propellant-Handling Equipment
38	Non-aeronautical Engines
39	Watercraft Equipment
40	Commercial Air-Conditioning, Heating, Plumbing, Refrigerating, Ventilating and Water Treating Equipment
41	Subsistence and Food Service Equipment
42	Coating, Cleaning and Sealing Compounds and Fuels, Gases, Lubricants, Chemicals and Materials
43	Simulator and Training Devices
44	Common Hardware Equipment
45	Railroad Equipment
46	Office, Duplicating, Printing and Binding Equipment
47	Agriculture Equipment
49	Optical Instruments, Timekeeping and Navigational Equipment
50	Special Services Equipment
51	Automatic Test Systems
60	Explosive Ordnance Disposal Procedures

1.6.3 Each category of TO data has its own TO numbering pattern. Sufficient flexibility exists within the total numbering system to allow for expansion or contraction within numbering parameters, yet maintain standard application of numbering patterns within each category.

1.6.4 TO numbers are composed of groups separated by dashes, and each group is further divided into parts. The number of parts within any group varies according to the TO data being numbered in a specific category. Each part of a group consists of one or more numeric characters or one or more alpha characters. The numbering patterns used to identify TO data in each category are outlined in Chapters 2 through 41.

1.6.5 A total of seven groups may be used in the TO numbering pattern (see Table 1-1). TO data is identified, in most categories, by using only the first three or four basic groups. The remaining groups are primarily used to extend the TO number to identify specific sections of sectionalized TOs; supplemental manuals; and supplement, checklist and work-card sequence numbers.

Table 1-1. Guidelines for TO Numbering

Group	Maximum Parts in this Group	Maximum Positions	Maximum Alphanumeric Characters and Program Sequence
1	3	9	NNNNAANNN or AAAANNAAA
2	6	21	NNNNNAAAAAANNNNAAAANA or AAAAANNNNN-NAAAANNNNAN
3	3	10	NNNNNAAANN or AAAAANNNAA
4	3	11	NNNNNAAAANN or AAAAANNNNAA
5	3	7	NNNAAAN or AAANNNA
6	2	5	NNNAA or AAANN
7	1	2	AA or NN

1.6.6 The five major elements of information considered most essential in assigning TO numbers are discussed below:

1.6.6.1 Federal Supply Class (FSC). An FSC is assigned to Air Force stocklisted equipment by cataloging specialists. A system or equipment item that has not been assigned an FSC is non-stocklisted, and a TO number will not be assigned to the related technical data. The FSC identifies a system, sub-system, and equipment series that can be related to a TO category and equipment series. EXAMPLES:

1.6.6.1.1 FSC 5825 identifies ground radio navigation equipment and relates to TO numbering as follows:

31R4	
31	Ground Electronic Equipment (Category 31)
R	Radio System
4	Navigation Equipment Series

1.6.6.1.2 FSC 5826 identifies airborne radio navigation equipment and is related to TO numbering as follows:

12R5	
12	Airborne Electronic Equipment (Category 12)
R	Radio System
5	Navigation Equipment Series

1.6.6.2 Descriptive Nomenclature. The nomenclature provided on the JCALS Screens or AFTO Forms 203 supplements the FSC by further defining the system or equipment series. A combination of only the FSC and the descriptive nomenclature can, in many instances, provide the numbering specialist with a complete TO number. For example, if FSC 5826, airborne radio navigation equipment, is provided in conjunction with an equipment nomenclature reading “Maintenance Manual -- Radio Set, Type AN/ARN-24,” the following TO number may be assigned:

12R5-2ARN24-2	
12	Airborne Electronic Equipment (Category 12)
R	Radio system
5	Navigation Equipment Series
2	Numeric 2 indicates the Equipment has a JETDS nomenclature (paragraph 1.23)
ARN	JETDS Nomenclature that indicates: A - Airborne; R - Radio; N - Navigation
24	Radio Model 24
2	Maintenance Manual

1.6.6.3 Functional System. The functional system furnished on the JCALS screens or AFTO Form 203 is the next higher echelon of equipment or system for the equipment covered by the subject TO. The functional system identifies an equipment series if the TO being numbered covers an equipment sub-equipment series. The functional system identifies a system if the TO being numbered covers an equipment series.

1.6.6.4 Part Number. A TO number will not normally be assigned to equipment without a part number, model number or other identifier. Most equipment will have a part number which is included in the TO title. If the equipment is not already listed in the JCALS database, it must be entered by the Equipment Specialist (ES) or Item Manager (IM) using JCALS "Perform Acquisition" type screens. If the ES or IM does not have access to JCALS, the date may be submitted to the TO Manager on an AFTO Form 204, *TO Numbering, Indexing and Control Record (Continuation)*, for entry into the system. Data to be entered includes the weapon system application, the equipment part number, and the manufacturer/vendor CAGE code. This data is then extracted from JCALS for the TO-Equipment number Cross-Reference section of the TO catalog.

1.6.6.5 Joint Electronics Type Designation System (JETDS - paragraph 1.23) Nomenclature. If the JETDS (formerly "AN") nomenclature appears in the title lines of a TO, it must be reflected in the TO number. Air Force personnel request JETDS nomenclatures using a DD Form 61, *Request for Nomenclature*, submitted to the HQ AFMC Supply Operations Division, Asset Identification Branch (HQ AFMC/A4SI), Wright-Patterson AFB OH for approval. For further information concerning this system contact A4SI at DSN 787-0610.

1.7 TECHNICAL ORDER NUMBERING PROCEDURES.

TO Managers requesting TO number assignment submit JCALS "Manage TM Numbering/Assign a TM Number" screens or AFTO Forms 203 according to procedures provided in the JCALS DI or TO 00-5-3. The TO numbering specialist will comply with the procedures and guidance provided in the following paragraphs when assigning TO numbers to approved technical data.

1.7.1 Compare the Federal Stock Class (FSC), Material Management Aggregate Code (MMAC), and D086, *Mission Workload Assignments System*, to determine if the requesting ALC or PC is responsible for the indicated FSC or MMAC. Go to https://www.msg.wpafb.af.mil/do86/ to view D086 information. Review the title of the FSC to help determine the appropriate TO Category.

1.7.2 Using the FSC and equipment nomenclature, determine the appropriate TO category, equipment series and sub-series. For numbering General TOs, see paragraph 1.22.

1.7.3 Once the category, series and sub-series have been determined, use the appropriate chapter of this TO for proper numbering patterns within that category.

1.8 IDENTIFYING TYPES OF TECHNICAL ORDERS.

1.8.1 Each of the various types of TOs: operations manuals, inspection and maintenance instructions, Illustrated Parts Breakdowns (IPBs), etc. is represented in a TO number by a designated type number. These designated numbers are standard within a category, but are not necessarily standard among categories. An example is a field maintenance manual, which is represented by "-6" in category 2, but is represented by "-2" in other categories. Numbering specialists should consult the listings of designated numbers for the appropriate category before assigning a number to represent a specific type of TO.

1.8.2 The type of TO is identified in the last basic group of the TO number. Normally this is the third or fourth group; however, in some categories it is necessary to identify an equipment sub-series in the TO number. In these categories, the type of TO will be identified in the fifth group.

1.9 NUMBERING RELATED TECHNICAL ORDERS.

1.9.1 Chapters 2 through 41 include complete lists of numbers authorized to identify specific types of TOs in each TO category. The following list provides brief definitions of dedicated numbers used in all TO categories, except categories 1, 21 and 22. (Additional numbers are required in categories 1, 21, and 22 to identify distinct types of TO data.)

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-1	Operating Instructions
-2	Organizational, Intermediate, Field Maintenance, or Service Manuals
-3	Depot Maintenance, Overhaul, Schematic, or Wiring Diagram Manuals

-4	Parts List, Parts Breakdown or Illustrated Parts Breakdown Manuals
-6	Inspection Requirement Manuals
-7	Installation and Installation Test Procedure Manuals
-8	Test Procedures, User Manuals, Reference Manuals, Programmed Test Manuals, or Software-Related Instruction Manuals
-9	Alignment Instruction Manuals

NOTE

The number -5 is used to identify a wide variety of types of TOs, depending on the applicable TO category. Refer to paragraph 1.16 for numbering abbreviated TOs and to paragraph 1.18 for numbering TCTOs.

1.9.2 TO data pertaining to the same specific equipment, but contained in more than one type of TO listed in subparagraph 1.9.1 above, is considered to be compatible and, therefore, is numbered together by using the same basic TO number configuration. An operations manual, a maintenance manual and a parts breakdown manual that are compatible will be numbered in the same TO number series, like those shown in the following examples:

36A12-13-18-1	Operations Manual
36A12-13-18-2	Maintenance Manual
36A12-13-18-4	Parts Breakdown

1.9.3 Equipment modifications cause changes in TO data; and new TOs are issued to reflect the changes. The new or modified TO data does not always replace existing TOs; therefore, it must be identified in the TO number series that is already established. This identification is accomplished by determining the specific type of TO to be numbered and adding 10 to the designator number (e.g., an operations manual, normally a "-1," would become a "-11"). This addition provides another sequence for numbering slightly different TO data, pertaining to the same equipment, in the same TO number series. Any subsequent operations manuals will be numbered -21, -31, -41, -51, etc. This 10-number sequence within a TO number series preserves the integrity of the -1 designated number that identifies operations manuals; and it also provides a method of grouping compatible TOs in the same sequence. This same sequence-numbering procedure will be applied to various other types of TOs as required.

1.9.4 Different types of TOs that relate to the same specific equipment, but contain data that is not compatible, will be numbered with the same basic TO number, but will not be numbered in the same 10-number sequence. For example, an operating instructions manual pertaining to specific equipment and a maintenance manual pertaining to a modification of the same equipment are not compatible. The operating instructions manual will receive a basic TO number ending in -1; and the maintenance manual will receive a TO number ending in -12 (in the subsequent 10-number sequence). The same basic TO number will be used (e.g., 10E5-2-14-1 and 10E5-2-14-12).

1.9.5 Two TOs of the same type will not be numbered in the same 10-number sequence of a TO number series. An intermediate maintenance manual and a service manual (each normally numbered -2) cannot be numbered in the same 10-number sequence. One of the manuals will receive a basic TO number ending in -2 and the other will receive the same basic TO number, but will end in -12 (from the following 10-number sequence). If a TO must be changed to make it applicable to a specific configuration of the end item to which it applies and there are two or more end item configurations to be covered, the original TO will retain its number unchanged and modified TOs will be identified by a dash number in another 10-number sequence.

1.9.6 If a TO is too large for efficient use, it may be sectionalized by dividing it into logical equipment segments of two or more sections. Each of the sections will receive the same 10-number sequence designator for the type of TO. A dash will be added and will be followed by a consecutive serial number to identify each section (e.g., 12P6-4-14-3-1, 12P6-4-14-3-2, 12P6-4-14-3-3, 12P6-4-14-3-4). Sectionalizing is further described in paragraph 1.14.

1.10 NUMBERING FUNCTIONALLY ORIENTED MAINTENANCE MANUALS.

Functionally oriented maintenance manuals (FOMMs) will be numbered with a -2, to designate the type of TO, as described in paragraph 1.9 and the appropriate section for the category involved. Section numbers may be assigned according to paragraph 1.14, if appropriate.

1.11 NUMBERING MAINTENANCE DEPENDENCY CHARTS.

Maintenance dependency charts will be numbered with a -2, like maintenance TOs.

1.12 NUMBERING CALIBRATION AND MEASUREMENT SUMMARIES TECHNICAL ORDERS.

Calibration and Measurement Summaries TOs will be numbered in the appropriate categories and TO series for the aerospace systems (aircraft, missile, communications-electronics) to which they apply. Calibration and Measurement Summaries TOs relating to general equipment, if no aerospace systems are identified, will be numbered in category 33K.

1.13 NUMBERING COMBINED TYPES OF TECHNICAL ORDERS.

For a TO that combines TO data relating to more than one type of TO, the designated number of the first type of TO identified in the title will be assigned. Thus, a TO bearing the title "Operations, Maintenance, and IPB" will be numbered "-1" because operations is the first type of TO identified in the title; a TO bearing the title "Overhaul and IPB" will be numbered "-3" because overhaul is the first type of TO identified in the title. This numbering procedure will be used with any combination of types of TOs and with CDs containing multiple TO types. When all system technical data is provided as an Interactive Electronic Technical Manual (IETM) in a relational database, the number will identify the system (e.g., "1F-16C") and end in "-1" to signify that all operations and maintenance data is contained in the database. If the database is limited to maintenance data only, the number would end in "-2." Paragraph 1.26 specifies number suffixes to use if there are multiple TO versions published (e.g., the database and discrete TOs).

1.14 NUMBERING SECTIONALIZED TECHNICAL ORDERS.

When TO data is sufficiently large and has natural divisions in tasks or equipment breakout which make several smaller manuals more usable and more manageable, a separate TO number is assigned for each section. One example that meets this criterion is aircraft maintenance data, which contains many detailed tasks. The same procedures may be used for multiple CD sets. Flight manual performance data may be issued as a separate TO numbered and assigned a suffix dash (-) number as for sectionalized TOs. Sectionalized documents normally relate to the same system or equipment and are the same type of TO. Different types of TOs will not be sectionalized together in the same serial number sequence. After numbering specialists have assigned the basic TO number and determined that a sectionalized manual is necessary, an additional group will be added to the basic TO number. This new group will identify the section number of a sectionalized TO as in the following examples:

12P3-2ALQ101-32-1	
32	Maintenance Manual (Last Basic Group of TO Number)
1	First Section of a Sectionalized Maintenance Manual
12P6-4-14-3-4	
3	Overhaul Instructions Manual (Last Basic Group of TO Number)
4	Fourth Section of a Sectionalized Overhaul Instructions Manual
12P3-2ASR5-4-2	
4	Illustrated Parts Breakdown (Last Basic Group of TO Number)
2	Second Section of a Sectionalized Illustrated Parts Breakdown Manual

1.15 NUMBERING TECHNICAL ORDER SUPPLEMENTS, CHANGES, AND PAGE SUPPLEMENTS.

NOTE

See TO 00-5-1 for restrictions on the use of various types of supplements.

1.15.1 Supplements. TO supplements are issued to augment or change data in the basic TO. Data in the supplement will normally be incorporated into the basic TO when the next change is issued. TO supplement numbers are assigned by the TO Managers according to established TO policy.

1.15.1.1 A routine supplement is identified by adding one or two alpha characters to the last group of the TO number; e.g., 12P3-2ALA7-3C. Unclassified routine supplements will be numbered using the alpha characters C through Z when only one alpha character is required and assigned, or the characters CC through CZ progressing to DC through DZ and so forth to ZZ when two alpha characters are required.

1.15.1.1.1 The alpha characters I and O are also not used, to prevent confusion with the numeric characters 1 and 0.

1.15.1.1.2 The alpha characters A and B, AA through AZ, and BA through BZ designate classified supplements.

NOTE

A classified, routine TO supplement will not be issued if its classification would be higher than that of the basic TO. Rather, the classified supplementing material will be issued and numbered as a supplemental manual (paragraph 1.17). This procedure is necessary to overcome special problems encountered in establishing user requirements and distributing classified TOs.

1.15.1.2 An operational supplement (ops) is identified by adding an alpha S to the last group of the TO or Flight Manual Program (FMP) Publication number. A safety supplement is identified by adding an alpha SS to the last group of the TO/Flight Manual number. A single block of sequential numbers is used to assign both operational and safety supplement numbers.

Examples:	1B-52G-1-1SS-1	lB-52G-2-34JG-lS-1
	1B-52G-1-1S-2	1B-52G-2-34JG-lSS-2
	1B-52G-1-1SS-3	etc.

1.15.1.2.1 For flight manuals (AFI 11-215), the sequence number of a safety or operational supplement is used only one time for the life of the manual. JCALS will issue supplement sequence numbers starting over with “1” after an FMP manual revision - The JCALS Incident Reporting & Tracking System (IRTS) process must be used to change the sequence number to continue from the previous series. Do NOT use the JCALS “Manage TM Numbering; Renumber a TM” process, as this would change the sequence number of the first supplement legitimately numbered “1” as well as the new supplement.

1.15.1.2.2 For other TOs, supplement sequence numbers will restart with “1” after the basic manual is revised.

1.15.1.2.3 When a supplement is replaced or superseded by another supplement, use a new supplement number.

1.15.2 Technical Order Page Supplements (TOPS). A TOPS is identified by adding the suffix “TP” to the last group of the TO number and adding a sequence number (-1, -2, -3, etc.); e.g., 00-5-189TP-1 for the first TOPS to this manual. The sequence numbers for TOPS are handled the same as sequence numbers for ops and safety supplements.

1.15.3 Identifying Technical Publications Sheets (ITPS). An ITPS is issued to identify and/or supplement a commercial or contractor publication and will be numbered as a routine supplement (paragraph 1.15.1.2). An ITPS will not be issued solely to add the TO number and date, if these were assigned prior to distribution and can be stamped or written on the manual title page.

1.15.4 MAJCOM and Base Supplements. MAJCOM and Base TO supplements are standard publications, not TOs. They will be numbered using the MAJCOM or base identifier and supplement number, followed by the TO number without the “TO” prefix.

Examples: ACC Supplement 1, 00-5-1
Tinker AFB Supplement 2, 00-5-18

1.15.5 Changes. Changes are assigned the same number as the basic TO, with a sequence number denoting the specific change. Change sequence numbers will restart with change 1 after each TO revision. TO changes are numbered 1 through 99, A01 through A99, B01 through B99, etc. The change designator appears at the bottom of the TO title page and on each changed page in the TO, but does not become part of the TO number.

1.16 NUMBERING ABBREVIATED TECHNICAL ORDERS.

Abbreviated TOs, including checklists (CL), workcards (WC), etc., are identified by adding the alpha designator to the last group of the TO number and adding a sequential number (-1, -2, -3, etc.) to identify the TO as the first, second, third, etc. in a series.

Examples: 1F-15A-2-10CL1
31S5-2FYQ45-6WC-2

1.17 NUMBERING SUPPLEMENTAL MANUALS.

A supplemental manual does not stand alone, but must be used in conjunction with another TO. Supplemental manuals may be used to publish classified data while allowing the parent manual to remain unclassified, to publish data provided by a source other than the PM, and/or to publish data in a form other than the parent manual. Supplemental manuals differ from supplements in that they are assigned a separate TO dash number with no alpha designations. The TO identification number for supplemental manual is established by adding a serial number to the parent TO number. The first supplemental manual is -1, the second is -2, etc.

Examples: 31S5-2FYQ45-3-1 is a supplemental manual used with 31S5-2FYQ45-3.
1F-4D-34-1-1-1 is a supplemental manual used with 1F-4D-34-1-1.

1.18 NUMBERING TIME COMPLIANCE TECHNICAL ORDERS.

1.18.1 A time compliance technical order (TCTO) contains technical instructions for the modification or inspection of a specific item of Air Force equipment, or distribution of revised CPIN items. A TCTO may also cause publication of a change or supplement to technical data already established in the TO system. A TCTO is identified by a serial number beginning with the number 501 for the first TCTO issued for the item of equipment, and its basic number indicates data that has already been numbered in the TO system. Since a TCTO may affect more than one type of manual, a type-of-manual designator is not included in the TCTO number. The TCTO serial number replaces the type-of-manual designator in the basic TO number.

Examples: 1F-111A-1254
16G1-148-501
21M-LGM30-1030
31P5-2MPN14-534
35A2-2-76-501

NOTE

- When a requirement exists to reactivate a TCTO that has been rescinded, the TCTO will be reinstated with the same TCTO number, but with a current date. The number of an inactive TCTO is never reused for a different modification or inspection.
- If a program was formerly operating outside of the standard Air Force TO numbering policies/procedures, they may request a waiver to continue use of the non-standard formats and avoid the cost of converting existing TOs and TCTOs.

1.18.2 A TCTO supplement is identified by adding an alpha suffix to the TCTO serial number; e.g., 16G1-149-501C.

1.18.3 A TCTO series header includes only those TO number groups necessary to identify the model, type, or part number of a specific item of equipment. Separate series headers are required for each different classification of TCTO to be issued. They usually contain two or three groups.

Examples: 1F-111A [S] (Secret TCTOs)
16G1-148
21M-LGM30 [C] (Confidential TCTOs)

31P5-2MPN14
35A2-2-76

1.18.4 To establish a TCTO series header, the TO Manager submits a JCALS screen or AFTO Form 203 according to the DI or TO 00-5-3. When it is expected that a TCTO covering more than one item of equipment will be forthcoming, a general TCTO series listing will be established at the appropriate level of generality.

Examples:	1F-1	Applicable to More Than One Fighter Aircraft
	1F-111	Applicable to More Than One Series of F-111 Aircraft
	1F-111A	Applicable Only to the A Series of F-111 Aircraft

1.18.4.1 The mission-design-series (MDS) designators assigned to the B-1, H-1, and T-1 aircraft caused necessary exceptions to be made when numbering general TCTO series and general TOs for these three categories of aircraft. Since the aircraft MDS are the same as normally used for system general TCTO series listings, the number zero (0) is used in the second group of the number to designate a TCTO applying to more than one aircraft series.

1.18.4.2

Examples:	1B-0	Applicable to all bomber aircraft.
	1B-1	Applicable to all models of the B-1 aircraft.
	1B-1B	Applicable to the B-1B aircraft.
	1H-0	Applicable to all helicopter aircraft.
	1H-1	Applicable to all models of the H-1 helicopter.
	1H-1H	Applicable to the H-1 helicopter, model H.
	1T-0	Applicable to all trainer aircraft.
	1T-1A	Applicable to the T-1 trainer, model A.

1.18.5 TO Managers request individual TCTO numbers through JCALS, which automatically assigns the next consecutive serial number within the header series. For assignment of TCTO Data Codes, see TO 00-5-15, *AF Time Compliance Technical Order Process.*

NOTE

Do NOT use the data codes provided automatically by JCALS when a TCTO number is requested. Data codes must be unique across the Air Force. JCALS will assign duplicate numbers at different sites.

1.19 EMERGENCY TECHNICAL ORDER NUMBERING REQUESTS.

Timely submittal of TO numbering requests will minimize the use of emergency procedures. In the event of a work stoppage or other justified emergency, the TO Managers will use procedures in TO 00-5-3.

1.20 RENUMBERING TECHNICAL ORDERS.

TO renumbering shall be held to the minimum necessary to correct serious TO numbering errors. Renumbering will not be accomplished to align TO numbers with local sequence numbers or other cross reference identifiers. TO numbers will not be cancelled and new TO numbers assigned just for the purpose of renumbering. The responsible TO Manager will renumber a TO using the JCALS “Manage TM Numbering; Renumber a TM” process after coordinating the new number with GBMUUB. (Coordination is not required to assign a TO supplement number, or change an FMP supplement number.) When renumbering a published TO, both the new and former TO numbers will appear in the upper right corner of the title page with the former number preceded by the word “Formerly”. Both numbers will remain on the title page until the next revision, at which time only the new number will appear. Only the new TO number will appear on the individual updated pages. Unchanged pages will continue to indicate the old TO number until they are changed for a reason other than simply renumbering, or until the next TO revision.

1.21 ASSIGNING TECHNICAL ORDER NUMBERS TO OTHER DOD COMPONENT TECHNICAL MANUALS.

TO numbers will be assigned to other DoD component Technical Manuals (TMs) that are adopted for Air Force use according to AFJI 21-301. The Army numbering patterns for TMs are described in Department of the Army Pamphlet (DA PAM) 25-30, *Consolidated Index of Army Publications and Blank Forms.* To assign appropriate Air Force TO numbers to Army TMs, research DA PAM 25-30, this TO, and other appropriate source data. Navy, Marine Corps and Defense Logistics Agency TMs are given AF TO numbers in a similar fashion.

1.21.1 Table 1-2 provides a list of the most common types of technical manual designators used for Army TMs and corresponding Air Force type of TO designators. This table is provided as an aid but should not be used to make final determination of an Air Force TO number.

1.21.2 The Army technical manual number should be shown in the numbering request, IAW TO 00-5-3.

Table 1-2. Army TM and Air Force Type of TO Designators

For Army TM Numbers Ending in:	Use Air Force Type-of-TO Designators:
-10 -12 -13 -14 -HR (Hand Receipt)	-1, -11, -21, etc.
-20 -23 -24 -25 -30 -34 -35 -40 -45	-2, -12, -22, etc.
-50	-3, -13, -23, etc.
-L (LOAP)	-01
Any of the above numbers with a P suffix. (P is not the same as P, which does not affect the AF designator.)	-4, -14, -24, etc.

1.22 GENERAL TECHNICAL ORDERS.

In the numbering patterns for each category described in Chapters 2 through 41, numeric characters are used in the second or third group of a TO number to identify the specific equipment covered by the TO. The distinct pattern for a category, or a system within a category, indicates whether the second or third group is used for the specific equipment identifier. The number used as a specific equipment identifier will be greater than 1.

1.22.1 If the number 1 is used in lieu of a specific equipment identifier, the TO is a general technical order (category general, system general, or equipment-series general TO).**EXCEPTION:** The pattern established for numbering TCTO series for B-1, H-1, and T-1 aircraft (paragraph 1.18.4.1) is also used for general TOs in these systems.

1.22.1.1 Category general TOs apply to more than one type of aircraft, missile, or engine or to more than one equipment system in the category.

1.22.1.2 System general TOs apply to more than one type of aircraft, missile, or engine or to more than one equipment series within the equipment system.

1.22.1.3 Equipment-series general TOs apply to more than one sub-series of equipment within the equipment-series.

Examples:	TO Number	Equipment-Series
	9H1-1-102	Accumulators
	9H2-1-102	Cylinders and Actuators
	34C1-1-101	Leather Cutting Machines
	34F2-1-111	Metal Finishing Machines
	36A1-1-141	Ambulances
	36A2-1-1	Commercial Fleet Vehicles

1.22.1.4 Equipment-sub-series general TOs apply to more than one equipment within the equipment sub-series.

Examples:	TO Number	Equipment-Sub-Series
	34F2-2-1-111	Grinders
	34F2-3-1-121	Hones
	36A2-3-1-1-3	Ford Vehicles
	36A2-4-1-102	GMC Vehicles
	36A2-5-1-104	Chrysler Motors Vehicles

1.23 NUMBERING JOINT ELECTRONICS TYPE DESIGNATION SYSTEM (JETDS) TECHNICAL ORDERS.

1.23.1 A large portion of the TOs in categories 12 and 31 cover equipment identified by JETDS equipment numbers. The JETDS (formerly AN nomenclature system) is described in MIL-STD-196, *Joint Electronics Type Designation System.*

1.23.1.1 A typical JETDS equipment number is AN/APN-167. The alphas AN indicate JETDS equipment. The A (first alpha character following the diagonal) designates the installation as piloted aircraft. The P (second alpha character following the diagonal) designates the type of equipment as radar. The N (third alpha character following the diagonal) designates the purpose of the equipment as navigational aids. The number following the dash designates a specific set of equipment. Table 1-3 provides a complete list of equipment indicators.

1.23.1.2 A typical JETDS component number is RT-771/APN-167. The RT, in accordance with MIL-STD-196D indicates a receiver and transmitter. The 771 identifies a specific equipment component. The APN-167 (following the diagonal) indicates the component is applicable to the AN/APN-167 equipment set described above.

1.23.1.3 Identifying numbers for TOs covering JETDS equipment and components use a portion of the JETDS number in the second group of the TO number. (See examples of TO numbers in Chapter 15 and Chapter 22.)

1.23.1.4 If a single TO is applicable to more than one JETDS equipment set or component at any level of breakdown, a JETDS general TO may be established at that level.

1.23.2 JETDS system-general TOs apply to equipment sets in more than one kind of JETDS installation. These TOs are identified by the numeric 2 in the second group of the TO number. Examples:

- 31P5-2-137 is applicable to both fixed ground installation (indicated by the F following the diagonal in AN/FSA-4A) and general ground-use (indicated by the G following the diagonal in AN/GRC-30).
- 31W4-2-121 is applicable to both general utility installation (indicated by the U following the diagonal in SB-1203/UG) and water installation (indicated by the S following the diagonal in TT-23/SG).

1.23.3 JETDS installation-general TOs apply to equipment sets in more than one JETDS type of equipment within one installation kind. The second group of the TO number will contain a 2 followed by an alpha character that designates the installation kind. Examples:

- 31W4-2G-101 is applicable to a general, general-ground-use component C-7185/G.
- 31W4-2T-102 is applicable to a general-use, ground transportable component CU-1819/T.

1.23.4 JETDS equipment-type general TOs apply to more than one equipment purpose within one type of equipment. The second group of the TO number will contain a 2 followed by an alpha character that designates the equipment installation kind and a second alpha character that designates the type of equipment. Examples:

- 31W4-2GG-162 is applicable to a general-use component CV-2696/GG. The first G after the diagonal indicates general ground-use installation. The second alpha indicates telegraph or teletype type of equipment.
- 31W4-2TG-144 is applicable to a general-use component TH-5/TG. The T following the diagonal indicates a ground transportable installation. The G indicates the type of equipment is telegraph or teletype.

1.23.5 JETDS purpose general TOs apply to more than one specific equipment set within one equipment purpose. The second group of the TO number will contain a 2 followed by three alpha characters that designate the installation, type of equipment, and purpose, respectively. Examples:

- 31W4-2GGC-142 is applicable to components OU-60/GGC-30 and OU-61/GGC-31.
- 31W4-2TGC-122 is applicable to equipment sets AN/TGC-27 and AN/TGC-28.

Table 1-3. Table of JETDS Equipment Indicators [1]

Installation (1st letter)	Type of Equipment (2nd letter)	Purpose (3rd letter)
A - Piloted aircraft	A - Invisible light, heat radiation	A - Auxiliary assembly [2]
B - Underwater mobile submarine	C - Carrier	B - Bombing
D - Pilotless carrier	D - Radiac	C - Communications (receiving and transmitting)
F - Fixed Ground	E - Laser	D - Direction finder reconnaissance and/or surveillance
G - General Ground Use	G - Telegraph or Teletype	E - Ejection and/or release
K - Amphibious	I - Interphone and public address	G - Fire control, or searchlight directing
M - Ground, mobile	J - Electromechanical or inertial wire covered	H - Recording and/or reproducing (graphic meteorological and sound)
P - Portable	K - Telemetering	K - Computing
S - Water	L - Countermeasures	M - Maintenance and/or test assemblies (including tool)
T - Ground, transportable	M - Meteorological	N - Navigational aids (including altimeters, beacons, compasses, racons, depth sounding, approach and landing)
U - General Utility	N - Sound in air	Q - Special, or combination of purposes
V - Ground, vehicular	P - Radar	R - Receiving, passive detecting
W - Water surface and underwater combination	Q - Sonar and underwater sound	S - Detecting and/or range and bearing, search
Z - Piloted and pilotless airborne vehicle combination	R - Radio	T - Transmitting
	S - Special types, magnetic, etc or combination of types	W - Automatic flight or remote control
	T - Telephone	X - Identification and recognition
	V - Visual and visible light	Y - Surveillance (search, detect, and multiple target tracking) and control (both fire and air control)
	W - Armament (peculiar to armament, not otherwise covered)	
	X - Facsimile or Television	
	Y - Data Processing	

NOTES:

1 - The following indicator letters, removed from Table 1-3, are not to be used for new type designation assignments:
Installation: C - Air Transportable.
Type of Equipment: B - Pigeon; E - Nupac; F - Photographic purpose; L - Searchlight control; P - Reproducing.

2 - For Department Control Point Use. Not for use by contractors unless directed by procuring activity.

1.24 COUNTRY STANDARD TECHNICAL ORDER NUMBERS.

1.24.1 Country Standard TO (CSTO) numbers are assigned to readily identify TOs that support equipment acquired by foreign countries through the Foreign Military Sales Program. These TOs are not used by the United States Air Force (USAF), but are centrally managed by 558 CBSS/GBHCC, Tinker AFB OK, in the Security Assistance Technical Order

Distribution System (SATODS) for support of the foreign customers. A CSTO may be a complete standalone publication or it may be a supplemental manual containing difference data used in conjunction with a baseline TO.

1.24.2 CSTO numbers are distinguished from USAF TO numbers by using "CSTO" in place of "TO" and with a two-position alpha prefix (country designator) that identifies the country involved. The balance of the CSTO number is established in the same manner described in this document for USAF TOs. Country designators will be compatible with country codes listed in AFMAN 23-110, Vol 9, *Security Assistance Program Procedures* and DOD Manual 5105.38-M, *Security Assistance Management Manual (SAMM)*, Appendix 4.

1.24.3 If the CSTO is a standalone publication used in lieu of a USAF TO, the CSTO will be identified by a country designator plus the same number as the related USAF TO. Only the acronym "CSTO" and country designator prefix in the CSTO number will distinguish between them.

NOTE

Supplemental manuals will have a title page statement reading "This TO (or CSTO) is incomplete without TO (or CSTO) (number)."

1.24.4 When the CSTO is supplemental to a USAF TO or to a standalone CSTO, it will be identified by a country designator prefix plus a -1 or other appropriate designation added to the TO number according to the concept described in paragraph 1.17.

1.24.5 In some instances a standalone CSTO will be for component equipment of a major design departure from any USAF equipment; therefore, it will not be related to any USAF TO.

1.24.6 Examples of CSTOs are as follows:

- Standalone CSTO - Job guide manual used by Saudi Arabia for F-15 aircraft:

SR1F-15C-2-32JG-30-3

SR	Designates Saudi Arabia
1	Category 1
F	Basic Mission Fighter Aircraft
15	Aircraft Production Model
C	Aircraft Production Series
2	Number Reserved for Maintenance Instructions
32	Landing Gear System (MIL-STD-1808, *System Subsystem Sub-Subsystem Numbering*, Chapter 32)
JG	Job Guide Manual
30	Subsystem and Sub-Subsystem
3	Third in a Series of Manuals

CSTO - Supplemental Manual to a USAF TO or to a Standalone CSTO:

VE33D7-3-181-2-1

VE	Designates Venzuela
33	Category 33
D	Special Purpose Test Equipment
7	Electrical and Electronic
3	Computers Sub-series
181	Represents Part Number 2120300 Series
2	Maintenance Instructions
1	Supplemental Manual

CSTO - Supplemental to Another CSTO, (to be used with SR43D3-4-12-1-1):

SR43D3-4-12-1-1-1	
SR	Saudi Arabia
43	Category 43
D	Training Devices
3	Flight Simulators Sub-series
4	Fighter Aircraft Simulators Sub-series
12	Represents Model F-15 Series Aircraft
1	Operating Instructions
11	First Section of a Sectionalized Manual
1	Supplemental to CSTO

1.25 OPERATION AND MAINTENANCE INSTRUCTIONS IN WORK PACKAGE FORMAT.

1.25.1 Operation and maintenance instructions in work package format and subordinate work package format are prepared according to MIL-PRF-87929. The complete TO, which consists of a set of work packages, is numbered according to numbering procedures for the specific equipment category.

1.25.2 Individual work packages will be numbered by the TO Manager using the following criteria:

1.25.2.1 The number will consist of five numeric characters and an alpha prefix of WP or SWP to identify a Work Package or a Subordinate Work Package as defined in MIL-PRF-87929.

1.25.2.2 A work package will be identified in the first three numeric positions; the last two numeric positions will be zeros (e.g., WP 116 00).

1.25.2.3 A subordinate work package will be identified by using the first three positions to specify the work package and the last two positions to specify the subordinate work package (e.g., SWP 126 19).

1.25.2.4 The alphabetical index work package (as defined in MIL-M-87929) will always be the first work package in the TO (i.e., WP 001 00).

1.25.2.5 The introduction work package (as defined in MIL-PRF-87929) will always be the second work package in the TO (i.e., WP 002 00).

1.25.2.6 Other work packages will be numbered WP 003 00, WP 004 00, and so on as required.

1.26 TECHNICAL ORDER MEDIA SUFFIX CODES.

1.26.1 To meet customer requirements TO Managers may offer the same technical data on two or more types of distribution media, such as paper, CD-ROM, or DVD; as well as through direct electronic access.

1.26.2 Media-type suffix codes (see below) are used in index listings to identify any TO versions available in any media other than paper, and will allow users to order TO copies distributed on that medium. Index listings for non-paper versions of the TO will include the applicable media-type suffixes followed by an index number. Media-type suffixes will not be used for paper copies. TO media-type suffix codes are:

Code	Medium
CD	CD-ROM
WA	Electronic Access (WWW or WAN)
DV	Digital Versatile Disk (DVD)
FD	Floppy Disk
MF	Microfiche
MT	Magnetic Tape
VT	Video Tape/Disk

NOTE

Media-type suffixes appear only in the TO Index for ordering purposes. They are not placed on the TOs themselves unless they are part of the digital medium's number.

1.26.3 The media-type suffix code will allow sight recognition of TOs available on other-than-paper media. All media-type suffixes will carry the index number "-1," except as described below. The index number following the suffix will be used for several purposes:

1.26.3.1 If a TO or set of TOs (paragraph 1.27) requires more than one disk or tape, the index number will indicate individual disks/tapes in the set (i.e., disk one of three is -1, disk two of three is -2, and disk three of three is -3).

1.26.3.2 If a set of TOs contains manuals with different classifications or distribution limitations, these TOs may be segregated by disk with different index numbers assigned to the different levels of protection required.

1.26.4 Examples:

- TO 1B-52G-4-1 is a paper IPB for the B52G and B52H aircraft. A DVD containing this TO would be indexed as 1B-52G-4-1-DV-1.
- TO 12P2-2APQ120-2 is an intermediate maintenance manual for a radar indicator. A CD-ROM containing the same TO would be indexed 12P2-2APQ120-2-MT-1.
- TO 33K-1-100-CD-1 (calibration procedures) is only available on CD-ROM.
- The database for the F-22 fighter Interactive Electronic Technical Manual (IETM) will be available on-line through a WAN, and would be indexed as 1F-22A-1-WA-1, with a Catalog note on how to access it. Note that the basic TO number ends in "-1" because ALL procedures, operations and maintenance, are contained in the one database (see paragraph 1.13).

1.27 DISTRIBUTION MEDIA CONTAINING MULTIPLE TECHNICAL ORDERS.

Digital media containing multiple TOs will be numbered and indexed in the TO System to facilitate management and distribution. The number will be indicative of the contents of the disk, be formatted like a TCTO-series number (paragraph 1.18), and include a media-type suffix (paragraph 1.26). EXAMPLES:

- TO 1B-52H-2-CD-1 through 1B-52H-2-CD-5 would contain the Organizational Maintenance Manual Set for the B-52H, provided on a set of 5 CD-ROMs;
- TO 33D2-17-2-CD-1 would contain unclassified TOs on an Aircraft Field Test Stand provided on CD-ROM, while 33D2-17-2-CD-2 (C) would contain confidential TOs for the same equipment; and
- TO 35D-1-DV-1 would be unclassified, Distribution Statement A TOs for Miscellaneous Aircraft Loading and Servicing Equipment provided on DVD.

1.28 PUBLICATION STOCK NUMBER (PSN).

A PSN is a 15-character number created by the JCALS system to manage each TO and TO increment. The number is based on information entered by the TO manager when the TO or increment is indexed. The PSN consists of six parts, broken out as follows:

1.28.1 The first two digits indicate the TO Category (00, 01, 21, etc.).

1.28.2 The third character will always be a "T" for Air Force TOs.

1.28.3 The fourth through ninth digits are a number assigned by JCALS to the basic TO and each revision. Each revision will have a unique number which will be assigned to every increment applicable to that revision ("family").

1.28.4 The tenth character indicates whether the increment is a basic, revision, change or TCTO (0), or a supplement (S = Safety Supplement, P = Operational Supplement, T = TOPS, and C = Routine Supplement).

1.28.5 The eleventh through thirteenth digits indicate the change or supplement number of the increment. All zeroes indicate there are no changes or supplements.

1.28.6 The fourteenth and fifteenth characters are the media code for the increment (the 15th digit is not used when the 14th digit is a letter). Examples of these codes include but are not limited to:

06 -- Paper
10 -- 3.5” Floppy Disk (1.44 Mb)
11 -- Digital On-Line
D -- Digital Versatile Disk
M -- Microfiche
P -- Printed Copy (interim TOs distributed via message)
R -- CD-ROM
V -- Video Cassette

1.29 TECHNICAL ORDER NUMBERING FOR ASD/AIA S1000D©, INTERNATIONAL SPECIFICATION FOR TECHNICAL PUBLICATIONS UTILIZING A COMMON SOURCE DATABASE.

1.29.1 ASD/AIA S1000D© (http://www.s1000d.org) contains three primary constructs that relate directly to the TO Numbering process. These constructs are the Data Module (DM), the Common Source Data Base (CSDB), and the Publication Module (PM).

1.29.1.1 The DM is a self-contained unit of data for the description, operation, identification of parts or maintenance of the product and its support equipment. The DM consists of an identification and status section and contents section, and is produced in such a form that it can be input into, and be retrieved from, a database using a defined identifier.

1.29.1.2 The CSDB is a “store” of DMs required to produce technical publications.

1.29.1.3 The PM defines the content and the structure of a publication.

1.29.2 TO numbers shall be assigned to the CSDB and each PM when acquiring ASD/AIA S1000D-compliant TOs. TO numbers for CSDBs shall comply with the TO numbering for databases as described in this TO (paragraph 1.13). TO numbers for PMs shall also comply with this TO, but will use the Publication Module Code as specified in ASD/AIA S1000D as part of the TO number. DMs shall not receive a TO number, but will be numbered and controlled by ASD/AIA S1000D Data Module Code.

CHAPTER 2
CATEGORY 0 - TO CATALOG AND INDEXES

2.1 GENERAL.

2.1.1 There is only one Air Force TO Catalog. The catalog incorporates the Equipment and TO Number Cross-Reference formerly provided in TO 0-4-6-2. A sanitized ("XX") version of the Catalog is made available to FMS/SAP customers. The nuclear weapon and CSTO indexes are also numbered in Category 0.

NOTE

Nonnuclear EOD TOs, Category 60, are indexed on the Automated EOD Publication System (AEODPS) CD-ROM.

2.1.2 The Air Force TO Catalog Application is available on two media. The CD-ROM version, TO 0-1-CD-1, is available to all US government and contractor TO Distribution Offices. The Internet version, located at URL:*https://www.toindex-s.wpafb.af.mil/*, is restricted to DoD users with "*.mil"domain and Common Access Card (CAC).

2.1.3 Both versions of the Catalog provide five main functions: "Search TO Catalog" (information on all active TOs); "New, Updated and Rescinded TOs" (changes since the last edition); "Search TCTOs"(all active and rescinded TCTO's); "Equipment to TO Cross-Reference" (search for applicable TOs by equipment part number); and "Digital TOs" (links to TOs available on-line). Other functions provide information and tips to help users of the catalog.

2.2 NUMBERING PATTERNS.

The catalogues are numbered in TO Category "0," with the numerical catalog and indexes in subgroup "-1."

2.3 CATEGORY 0 NUMBERS.

The only active TO numbers in the Catalog Category are:

0-1-CD-1	USAF Technical Order Catalog Data;
0-1-11N	Numerical Indexes to Joint Nuclear Weapons Publications
0-1-11N-C	Numerical Indexes to Joint Nuclear Weapons Publications - AF Supplement
0-1-71	Consolidated Security Assistance Technical Order Index

CHAPTER 3
CATEGORY 00 - METHODS AND PROCEDURES TECHNICAL ORDERS

3.1 GENERAL.

3.1.1 HQ AFMC/A4YE establishes responsibilities for preparing Category 00 Methods and Procedures TOs (MPTOs). When a TO Manager requests a new Category 00 TO number, 558 CBSS/GBHCA determines if A4YE coordination and approval have been obtained before assigning a TO number.

3.1.2 Category 00 TOs contain management data or data which is related to multiple equipment categories; or data which cannot be identified with any other established category.

3.1.3 The TO numbering pattern in Category 00 uses three basic groups. A fourth group is sometimes added to further separate MPTOs or to sectionalize by equipment subdivisions as described in the introduction. The numbering pattern is explained in paragraph 3.2.

3.2 NUMBERING PATTERNS.

3.2.1 GROUP ONE. This group contains one part. The designator 00 identifies the TO as being an MPTO.

3.2.2 GROUP TWO. This group contains two parts.

3.2.2.1 Part one is made up of one or more numeric characters that identify the subject matter series. The numbering series are listed in paragraph 3.4.

3.2.2.2 Part two, when used, consists of one or more alpha characters that further breakdown the subject matter into sub-series.

3.2.3 GROUP THREE.

3.2.3.1 This group has one or more numeric characters that identify the specific type of TO.

NOTE

MPTOs, except for support equipment general “-06” Work Unit Code manuals, do not have “types.”

3.2.3.2 In some instances the numeric characters in group three are followed by one or more alpha characters that indicate a series of checklists or supplements. The following alpha characters are authorized for use in Category 00.

CL	-	Checklists
S	-	Operational Supplements
SS	-	Safety Supplements

3.2.3.3 In addition to the three basic groups, another group may result by sectionalizing, according to paragraph 1.14, or by using an aircraft or engine type-model-series designator to identify the section.

3.3 EXAMPLES OF TECHNICAL ORDER NUMBERING PATTERNS IN CATEGORY 00.

3.3.1 A MPTO covering the use of tape for packaging:

00-85-35	
00	MPTO Category
85	Protective Packaging and Preservation Packaging
35	Selection and Use of Tape for Packaging

3.3.2 A MPTO covering disposal of critical alloys for C135 aircraft:

00-25-113-C135	
00	MPTO Category
25	Miscellaneous TOs
113	TO on Conservation, Segregation, and Disposal of Critical Alloys and Precious Metals
C135	Section for C135 Aircraft

3.3.3 A MPTO on installation and operation of part number (PN) 6650 series electrical systems:

00-105A-12	
00	MPTO Category
105	Air Installation TOs
A	Electrical Facilities Installation
12	Designator for Specific Manual for PN 6650 Series Equipment

3.4 LISTING OF CATEGORY 00 NUMBERING SERIES.

00-5	Technical Publications Systems
00-20	Maintenance Management System
00-20D	Railroad Equipment
00-20F	Office Equipment
00-25	Miscellaneous TOs
00-33	Communications and Information TOs
00-35	Administrative Publications
00-35A	Supply
00-35D	Blank Forms, Deficiency Reporting
00-75	Air Evacuation
00-80	Special TOs
00-80A	Aircraft Overseas Shipping
00-80C	Aircraft Battlefield Recovery Procedures
00-80F	Mortuary Equipment
00-80G	Public Display Procedures
00-85	Protective Packing and Preservation Packaging, General
00-85A	Specific Equipment TOs
00-85B	Transportation Packaging Orders
00-105	Air Installation TOs, General
00-105A	Electrical Facilities
00-105E	Fire Protection and Rescue
00-110	Special Weapons, Defense, and Nuclear Disposal and Decontamination
00-110A	Atomic and Radiological Warfare

CHAPTER 4
CATEGORY 1 - AIRCRAFT

4.1 GENERAL.

4.1.1 TO data numbered in the aircraft category includes flight and operations manuals; organizational (flight line) maintenance and overhaul instructions; inspection requirements and specified procedures performed on the various types of aircraft. TO numbers incorporate the aircraft basic Mission/Design/Series (MDS) designators specified in DOD 4120.15-L, *Model Designation of Military Aerospace Vehicles*, to group types of aircraft data together according to mission.

4.1.2 TO data pertaining to more than one type of aircraft or more than one model within a specific type of aircraft is numbered as a General TO as described in paragraph 1.22.

4.1.3 TO data pertaining to more than one production series of a specific aircraft model is numbered as the earliest production series. A sectionalized structural repair manual applicable to the F-111 aircraft production series D, E and F is numbered in the D series.

4.2 NUMBERING PATTERNS.

This paragraph describes complete numbering patterns for all Category 1 TOs, except those maintenance manuals prepared following Specification MIL-PRF-83495, *Technical Manuals - On-Equipment Maintenance Manual Set*. Numbering patterns for MIL-PRF-83495 organizational maintenance manuals are covered in paragraphs 4.4 and 4.5.

4.2.1 GROUP ONE. In Category 1, this group has only two parts identifying the category and aircraft mission.

4.2.1.1 Part one is always the numeric 1 to identify Category 1.

4.2.1.2 Part two is an alpha character identifying the aircraft basic mission or non-standard aircraft type as outlined in AFI 16-401(I), *Designating and Naming Defense Military Aerospace Vehicles*. The following is a list of the basic mission alpha identifiers:

Table 4-1. Basic Aircraft Mission and Non-Standard Vehicle Designators

A	-	Attack
B	-	Bomber
C	-	Cargo/Transport
E	-	Special Electronic Installation
F	-	Fighter
G	-	Glider
H	-	Helicopter
L	-	Observation
P	-	Patrol
Q	-	Unmanned Air Vehicles (UAV)
R	-	Reconnaissance
T	-	Trainer
U	-	Utility
V	-	VTOL/STOL
X	-	Research

NOTE

TOs for Observation aircraft are identified by the basic mission symbol L instead of the alpha O as identified in AFI 16-401(I). To avoid confusion with numerals, the TO system does not use alpha characters I and O. These codes for Laser, Anti-submarine, Spaceplane and Lighter-Than-Air are not used in the Air Force TO system.

4.2.2 GROUP TWO. Group two contains two or three parts that incorporate the aircraft model number; the modified aircraft mission (in parentheses) if applicable; and aircraft production series if required.

4.2.2.1 Part one contains one or more numeric characters identifying the aircraft model.

4.2.2.2 If part two is an alpha character in parentheses, it identifies a modified aircraft mission. If the modified mission is not applicable, the aircraft production series identifier described in part three follows the aircraft model number. The following is a listing of modified aircraft mission identifiers outlined in AFJI 16-401:

Table 4-2. Modified Mission and Status Designators

A - Attack	H - Search/Rescue/ MedEvac	Q - Drone	V - Staff
C - Cargo/Transport	K - Tanker	R - Reconnaissance	W - Weather
D - Director	L - Observation*	T - Trainer	X - Experimental
E - Special Electronic Installation	M - Multi-Mission	U - Utility	Y - Prototype
F - Fighter	P - Patrol		
* L used in TO System to prevent confusion of O and 0.			

4.2.2.3 Part three is an alpha character indicating the aircraft production series. The first series manufactured is identified with the alpha A, the second series with the alpha B, continuing through the alphabet.

4.2.2.4 If the number is for a general aircraft TO (paragraph 1.22), groups one and two are established using the following designators:

1-1	-	General Aircraft
1-1A	-	General Engineering Manuals
1-1B	-	Weight and Balance
1-1C	-	Air Refueling
1-1H	-	Aircraft Battle Damage Repair
1-1M	-	Non-Nuclear Munitions Delivery

4.2.3 GROUP THREE. In Category 1, group three primarily identifies the type of TO, instruction or procedure. This can be accomplished by using either one or two parts.

4.2.3.1 Part one consists of one or more numeric characters reserved to indicate a specific type of TO. The following is a list of numbers reserved to identify the TOs in Category 1.

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-07 thru -09	Reserved
-1	Flight Manuals
-2	Maintenance Instructions
-3	Structural Repair, Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown

-5	Basic Weight Checklist and Loading Data
-5-1	Sample Checklist Basic Weight
-5-2	Loading Data
-6	Inspection Requirements
-7	Winterization Instructions
-8	Test Procedures, or Checkout Manuals
-9	Cargo Loading
-10	Power Package Buildup Instructions
-11	Auxiliary Power Package Buildup Instructions
-12	Maintenance Materiel Management Manuals
-13	Weapons Loading Manuals
-14	Atomic Loading and In-Flight
-15	Assembly, Test, and Storage Procedures

NOTE

The NWC, 708th Nuclear Systems Squadron has responsibility for assigning Category 1 TO numbers when the group three, part one is -16 or -25 through -31 (paragraph 1.4.6.1).

-16	Atomic Loading and In-Flight (Reserved for Nuclear Weapons)
-17	Storage of Aircraft
-18	Maintenance of Airborne Equipment
-19	Conversion Instructions
-20	Standard Practices
-21	Aircraft Inventory Record Master Guides
-22	Reserved
-23	Corrosion Control
-24	Reserved
-25 thru 31	Air Crew Weapon Delivery Manuals (Reserved for Nuclear Weapons)
-32	In-Flight Maintenance Manuals
-33	Non-Nuclear Munitions Loading
-33-1	Non-Nuclear Munitions Loading - Tactical Missions
-33-2	Non-Nuclear Munitions Loading - Strategic Missions
-33-3	Non-Nuclear Munitions Loading - Defense Missions
-33-4	Non-Nuclear Munitions Loading - Transport Missions
-34	Non-Nuclear Munitions Delivery Manuals
-34-1	Non-Nuclear Munitions Delivery - Tactical Missions
-34-2	Non-Nuclear Munitions Delivery - Strategic Missions
-34-3	Non-Nuclear Munitions Delivery - Defense Missions
-34-4	Non-Nuclear Munitions Delivery - Transport Missions
-35	Non-Munitions Accessories
-36	Non-Destructive Inspection Manuals
-37	Calibration and Measurement
-38	Aircraft Structural Integrity Program
-39	Aircraft Battle Damage Repair TOs
-43	Aircraft Mission Maintenance Data
-44	Combat Weapon Delivery System (Shall not include imbedded data)
-501	and higher Time Compliance TOs

4.2.3.2 Part two. In some instances some of the reserved numbers listed in part one above are followed by one or more alpha characters indicating a series of checklists, workcards, supplements, and other functions. Alpha characters authorized for use in Category 1 are listed as follows (also see paragraph 4.4.1.2):

CF	-	Acceptance or Functional Check Flight Procedures
CL	-	Checklists
FP	-	Film Packs
S	-	Operational Supplements
SS	-	Safety Supplements
WC	-	Workcards
WS	-	Worksheets

4.2.4 GROUP FOUR. This group consists of either one or two parts that identify a supplemental manual, identify sections of a sectionalized TO or indicate the sequence number of specific TO data in a series of inspections, supplements, or functions.

4.2.4.1 Part one contains one or more numeric characters identifying a supplemental manual, indicating the sequence number of data in a series or identifying the section number of a sectionalized TO.

NOTE

When used immediately following the number "-6WC" in Category 1, the number "-101" designates Contingency (Quick Look) Workcards.

4.2.4.2 Part two may be used, as in paragraph 4.2.3.2, to add one or more of the alpha characters indicating a series of checklists, workcards, supplements, and other functions.

4.2.5 GROUP FIVE. If TO numbers have been extended by sectionalizing or establishing supplemental numbers, the use of group five may be necessary to complete the TO number. Group five may consist of one to two parts (used in the same manner as described in paragraph 4.2.4) and identifies a supplemental manual or sections of a sectionalized TO or indicates the sequence number of specific TO data in a series of inspections, supplements, or functions.

4.2.6 GROUP SIX. In some instances sectionalizing Category 1 TOs will extend the number to require using group six to complete the TO number. Group six will consist of one part made up of one or more numeric characters. Group six identifies a supplemental manual; identifies sections of a sectionalized TO; or indicates the sequence number of specific TO data in a series of inspections, supplements or functions in the same manner described in paragraph 4.2.4.1.

4.3 EXAMPLES OF NUMBERING PATTERNS.

The following are examples of common numbering patterns for Category 1 TOs (numbering patterns for Specification MIL-PRF-83495 maintenance manuals are described in paragraphs 4.4 and 4.5).

4.3.1 Flight manual:

1B-52D-1	
1	Category 1
B	Basic Mission Bomber
52	Aircraft Model Number
D	Aircraft Production Series
1	Number Reserved for Flight Manuals

4.3.2 IPB:

1C-135(K)A-4	
1	Category 1
C	Basic Mission Cargo/Transport

135	Aircraft Model Number
(K)	Modified Aircraft Mission Tanker
A	Aircraft Production Series
4	Number Reserved for IPBs

4.3.3 Inspection workcard:

1C-131A-6WC-7

1	Category 1
C	Basic Mission Cargo/Transport
131	Aircraft Model Number
A	Aircraft Production Series
6	Number Reserved for Inspection Requirements
WC	Indicates Workcard Media
7	Sequence Number of the Workcard

4.3.4 Sectionalized TO:

1C-130A-2-3

1	Category 1
C	Basic Mission Cargo/Transport
130	Aircraft Model Number
A	Aircraft Production Series
2	Number Reserved for Maintenance Instructions
3	Identifies a Section Covering Hydraulic Systems.

4.3.5 Supplemental manual:

1F-5E-1-1

1	Category 1
F	Basic Mission Fighter
5	Aircraft Model Number
E	Aircraft Production Series
1	Number Reserved for Flight Manuals
1	Identifies the First Supplemental Manual

4.3.6 Supplemental manual to a sectionalized maintenance instruction:

1F-4C-2-14-1

1	Category 1
F	Basic Mission Fighter
4	Aircraft Model Number
C	Aircraft Production Series
2	Number Reserved for Maintenance Instructions
14	Identifies a Section for Integrated Electronic Central Radar Altimeter, Radar Beacon System, Speech Security System, ILS/VOL System
1	Identifies the First Supplemental Manual

4.3.7 Safety supplement to a sectionalized TO:

1B-52D-33-2-2SS-1	
1	Category 1
B	Basic Mission Bomber
52	Aircraft Model Number
D	Aircraft Production Series
33	Number Reserved for Non-Nuclear Munitions Loading Procedures
2	Number Reserved for Strategic Missions
2	Identifies a Section Covering External Stores Munitions
SS	Indicates a Safety Supplement
1	Sequence Number of the Safety Supplement

4.4 MILITARY SPECIFICATION MIL-PRF-83495 MAINTENANCE MANUALS.

Organizational maintenance manuals that conform to Specification MIL-PRF-83495 use a special numbering pattern. TO numbers assigned for these manuals shall agree with the System/Subsystem/Sub-subsystem categories listed in MIL-STD-1808. Groups one, two and three of the TO number are formed in the same manner described in paragraph 4.2. However, groups four, five, six and seven are formed in a different manner as described below.

4.4.1 GROUP FOUR. For MIL-PRF-83495 maintenance manuals, this group consists of two parts.

4.4.1.1 Part one contains two numeric characters that identify the chapter number in MIL-STD-1808 and the equipment system or subject matter that the TO covers. Systems designators used in group four, part one are as follows:

GENERAL

00	-	Aircraft - General
01 through 04	-	Reserved
05	-	Time Limits/Maintenance Checks
06	-	Dimensions and Areas
07	-	Lifting, Shoring, Recovery and Transporting
08	-	Leveling and Weighing
09	-	Towing and Taxiing
10	-	Parking and Mooring
11	-	Placards and Markings
12	-	Servicing
13	-	Equipment Storage
14	-	Aircraft Loading and Off-Loading
15	-	Support Equipment
16	-	Siting Installation
17	-	Preparation for Use and Shipment
18	-	Weapons Instrumentation
19	-	Training Equipment

AIRFRAME SYSTEMS

20	-	Standard Practices - Airframe Systems
21	-	Air Conditioning
22	-	Auto Flight
23	-	Communications
24	-	Electrical Power
25	-	Equipment/Furnishings

26	-	Fire Protection
27	-	Flight Controls
28	-	Fuel
29	-	Hydraulic Power
30	-	Ice and Rain Protection
31	-	Indicating/Recording Systems
32	-	Landing Gear
33	-	Lights
34	-	Navigation
35	-	Oxygen
36	-	Pneumatic
37	-	Vacuum
38	-	Water/Waste
39	-	Electrical/Electronic Components and Multifunction Units
40	-	Standard Practices - Integrated Avionics
41	-	Water Ballast
42	-	Integrated Avionics Architecture
43	-	Communications - Staff
44	-	In-Flight Refueling - Tanker
45	-	Central Maintenance System (CMS)
46	-	System Integration and Display
47	-	Liquid/Gaseous Nitrogen
48	-	Communications/Navigation/Identification
49	-	Airborne Auxiliary Power

STRUCTURE

50	-	Reserved
51	-	Standard Practices - Structures
52	-	Doors
53	-	Fuselage
54	-	Nacelles/Pylons
55	-	Stabilizers num
56	-	Windows and Canopies
57	-	Wings
58	-	Reserved
59	-	Reserved

PROPELLER/ROTOR

60	-	Standard Practices - Propeller
61	-	Propellers/Propulsors
62	-	Rotors
63	-	Rotor Drives
64	-	Tail Rotor
65	-	Tail Rotor Drives
66	-	Folding Blades/Pylon
67	-	Rotors Flight Controls
68	-	Reserved
69	-	Reserved

POWER PLANT

70	-	Standard Practices - Engine
71	-	Power Plant
72	-	Engine
72(1)	-	Engine - Turbine/Turboprop
72(2)	-	Engine - Reciprocating
73	-	Engine Fuel and Control
74	-	Engine Ignition
75	-	Engine Air
76	-	Engine Controls
77	-	Engine Indicating
78	-	Engine Exhaust
79	-	Engine Oil
80	-	Engine Starting
81	-	Turbines
82	-	Water Injection
83	-	Accessory Gearboxes
84	-	Propulsion Augmentation
85 through 90	-	Reserved

MILITARY SYSTEMS

91	-	Charts/Diagrams
92	-	Electrical Power Multiplexing
93	-	Surveillance
94	-	Weapon System
95	-	Crew Escape and Safety
96	-	Missiles, Drones and Telemetry
97	-	Image Recording
98	-	Meteorological and Atmospheric Research
99	-	Electronic Warfare

4.4.1.2 Part two consists of two alpha characters that identify the function of maintenance manuals and are used in conjunction with the chapter numbers listed in MIL-STD-1808. The following is a list of authorized alpha designators to be used with these functions:

FI	-	Fault Isolation Manual
FR	-	Fault Reporting Manual
GE	-	General Equipment Manual
GS	-	General System Manual
JG	-	Job Guide Manual
SD	-	Schematic Diagram Manual
WD	-	Wiring Data Manual

4.4.1.3 Other previously authorized alpha designators remaining in use on some current TOs include the following:

GA	-	General Aircraft Manual
MS	-	Maintenance Support Manual
TS	-	Troubleshooting Manual

4.4.2 GROUP FIVE. This group has one part consisting of two numeric characters. The first digit denotes the subsystem, as defined under the appropriate system in MIL-STD-1808. The second digit is assigned by the manufacturer and denotes the

sub-subsystem if further breakout is required for a complex subsystem. A zero in either, or both, positions indicates there is no equipment breakout at that level.

4.4.3 GROUP SIX. This group has only one part, consisting of one or more numeric characters, that identify the TO series number of the subsystem indicated in group five.

4.4.4 GROUP SEVEN. In the rare instances when it is used, this group has one part and consists of one or more numeric characters identifying a section of a sectionalized TO or identifying a supplemental manual (paragraph 4.5.).

4.4.5 Illustrated Parts Breakdown. ILLUSTRATED PARTS BREAKDOWN. When maintenance manuals are written to conform to MIL-PRF-83495, the related Illustrated Parts breakdown will be numbered to indicate the system involved. Groups one, two, and three of the TO number are formed in the same manner described in paragraph 4.2. Groups four and five are described below.

4.4.5.1 GROUP FOUR. This group consists of one part, which is the chapter number from MIL-STD-1808, indicating the system for the equipment covered.

4.4.5.2 GROUP FIVE. This group consists of one part. One or more numeric characters identify the manual series number of the system indicated in group four.

4.5 EXAMPLES OF NUMBERING PATTERNS FOR MIL-PRF-83495 MANUALS.

4.5.1 Supplemental manual applicable to F16A aircraft:

1F-16A-2-93JG-00-1-
1

1	Category 1
F	Basic Mission Fighter
16	Aircraft Production Model
A	Aircraft Production Series
2	Number Reserved for Maintenance Instructions
93	Surveillance System (MIL-STD-1808, Chapter 93)
JG	Job Guide Manual
00	General (No Specific Subsystem Identified)
1	First in a Series of Manuals
1	Identifies the First Supplemental Manual

4.5.2 General fault reporting manual for F16B aircraft:

1F-16B-2-00FR-00-1

1	Category 1
F	Basic Mission Fighter
16	Aircraft Production Model
B	Aircraft Production Series
2	Number Reserved for Maintenance Instructions
00	General (No Specific System Identified)
FR	Fault Reporting Manual
00	General (No Subsystem Identified)
1	First in a Series of Manuals

4.5.3 Job guide manual for air-conditioning system applicable to F15A aircraft:

1F-15A-2-21JG-61-2

1	Category 1
F	Basic Mission Fighter

15	Aircraft Production Model
A	Aircraft Production Series
2	Number Reserved for Maintenance Instructions
21	Air-Conditioning (MIL-STD-1808, Chapter 21)
JG	Job Guide Manual
61	6 Indicates Temperature Control Subsystem (MIL-M-83495); 1 Indicates the First Subsystem Identified by the Manufacturer
2	Second in Series of Manuals

4.5.4 Job guide manual for landing gear system applicable to F16B aircraft:

1F-16B-2-32JG-30-3

1	Category 1
F	Basic Mission Fighter
16	Aircraft Production Model
B	Aircraft Production Series
2	Number Reserved for Maintenance Instructions
32	Landing Gear System (MIL-STD-1808, Chapter 32)
JG	Job Guide Manual
30	Extension and Retraction Subsystem
3	Third in a Series of Manuals

4.5.5 Illustrated parts breakdown for air-conditioning system of F16A aircraft:

1F-16A-4-21-1

1	Category 1
F	Basic Mission Fighter
16	Aircraft Production Model
A	Aircraft Production Series
4	Number Reserved for IPBs
21	Air-Conditioning System (MIL-STD-1808, Chapter 21)
1	First in a Series of Manuals

CHAPTER 5
CATEGORY 2 - AIRBORNE ENGINES AND ASSOCIATED EQUIPMENT

5.1 GENERAL.

5.1.1 Category 2 contains TOs pertaining to four basic types of airborne engines. Numbering patterns are established primarily to identify these engine types that are: auxiliary gas turbine engines, jet engines, rocket engines and reciprocating engines. TO numbers for airborne engine associated equipment use both three and four basic groups. Other TO numbers for airborne engines use only three basic groups.

5.1.2 TO data pertaining to more than one type of engine is numbered in the category general series.

5.1.3 Data pertaining to more than one engine model within an engine type is numbered in the engine type general series.

5.2 NUMBERING PATTERNS.

5.2.1 GROUP ONE. This group basically has three parts that identify the category, type of engine and any associated equipment identifiers.

5.2.1.1 Part one is always the numeric 2 identifying Category 2.

5.2.1.2 Part two is an alpha character that identifies one of four types of engines, i.e., G - auxiliary gas turbine engine; J - jet engine; K - booster and rocket engine; and R - reciprocating engine. When the TO number is for associated equipment, the alpha A is added immediately following the engine type designator, i.e., GA, JA, KA, and RA.

5.2.1.3 Part three contains one or more numeric characters that identify the associated equipment series. The associated equipment series numbers are outlined in paragraph 5.4.

5.2.2 GROUP TWO. In group two, each engine type is further defined according to the method of propulsion. Numbering patterns used with each method of propulsion are outlined in the following examples:

5.2.2.1 Jet Engines.

5.2.2.1.1 Part one consists of one or two alpha characters that identify the type of propulsion for jet engines as follows: J - turbojet, RJ - ramjet, T - turboshaft and turboprop; and for turbofan two designators have been used: TF and F. The TF designator was used for turbofan prior to November 1972 and F has been used since MIL-STD-879A was published on 14 November 1972.

5.2.2.1.2 The second part of group two has one or more numeric characters identifying the engine model number, i.e.:

2J-F100	
2	Category 2
J	Jet Engines
F	Turbofan Subtype
100	Engine Model Number

5.2.2.2 Booster and Rocket Engines.

5.2.2.2.1 Part one of group two pertaining to this type engine identifies the fuel as either LR - liquid fuel or SR - solid fuel.

5.2.2.2.2 The second part of group two identifies the rocket engine model number, i.e.:

2K-SR97	
2	Category 2
K	Booster or Rocket Engine
SR	Solid Fuel Subtype
97	Engine Model Number

5.2.2.3 Reciprocating Engines.

5.2.2.3.1 Part one of group two pertaining to this type engine identifies the engine sub-type as L - in line; O - opposed; and R - radial.

5.2.2.3.2 The second part of group two identifies the reciprocating engine model number, i.e.:

2R-R1830	
2	Category 2
R	Reciprocating Engine
R	Radial Subtype
1830	Engine Model Number

5.2.2.4 Auxiliary Gas Turbine Engines. These engines are auxiliary types including gas turbine engines; gas turbine generators; gas turbine power units; etc. Group two is composed of alpha and numeric characters identifying the equipment model number, i.e.:

2G-GTCP165	
2	Category 2
G	Auxiliary Gas Turbine Engines
GTCP	Alpha Prefix for Model Number
165	Model Number

5.2.2.5 Associated Equipment.

5.2.2.5.1 When the TO number has only three groups, group two contains one or more numeric characters representing the model, type, or PN assigned to specific equipment.

5.2.2.5.2 When the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two and the model, type or PN is identified in group three.

5.2.3 GROUP THREE.

5.2.3.1 When a TO number has only three basic groups, the third group of the TO number identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 2:

-01	List of Applicable Publications (LOAP)
-1	Operating Instructions
-2	Service or Maintenance Instructions
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-5	Overhaul Changes or Calibration and Measurement Summary
-6	Field Maintenance
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals or Programmed Tests
-9	Non-Destructive Inspection Manuals

5.2.3.2 In some instances the reserved numbers in the third group are followed by an alpha character or characters indicating a series of checklists, workcards and supplements. The following alpha characters are authorized for use in Category 2:

CL - Checklists
S - Operational Supplements
SS - Safety Supplements
WC - Workcards

5.2.3.3 When the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

5.2.4 GROUP FOUR. When the TO number has four basic groups, the fourth group identifies specific types of TOs as described in paragraph 5.2.3.1, above.

5.3 CATEGORY 2 NUMBERING PATTERNS.

5.3.1 Operation manual for a gas turbine generator, model GTG 331:

2G-GTG331-1	
2	Category 2
G	Gas Turbine Engines
GTG331	Engine Model Number
1	Number Reserved for Operating Instructions

5.3.2 Maintenance workcard for J-75 turbo-jet engine:

2J-J75-6WC-1	
2	Category 2
J	Jet Engines
J	Turbojet
75	Engine Model Number
6	Number Reserved for Field Maintenance
WC	Identifies Workcards
1	First in a Series of Workcards

5.3.3 Overhaul instructions for liquid fuel rocket engine, model LR-89:

2K-LR89-3	
2	Category 2
K	Rocket Engines
LR	Liquid Fuel
89	Rocket Engine Model Number
3	Number Reserved for Overhaul Instructions

5.3.4 Overhaul instructions with illustrated parts breakdown for lube oil pump assembly, PN 7453 on C124 aircraft:

2JA6-2-2-3	
2	Category 2
J	Jet Engines
A	Associated Equipment
6	Power Plant Equipment Series
2	Pump Equipment Subseries

2	Identifies PN 7453
3	Number Reserved for Overhaul Instructions

5.3.5 Overhaul instructions with illustrated parts breakdown for push-pull assembly PN 12375, F106 aircraft:

2JA8-12-3	
2	Category 2
J	Jet Engines
A	Associated Equipment
8	Throttle Control Series
12	Identifies PN 12375
3	Number Reserved for Overhaul Instructions

5.4 CATEGORY 2 NUMBERING INDICATORS.

2	AIRBORNE ENGINES AND ASSOCIATED EQUIPMENT
2G	AUXILIARY GAS TURBINE ENGINES
2GA	ASSOCIATED EQUIPMENT
2GA1	CONTROL ASSEMBLIES
2J	JET ENGINES
2J-F	Turbofan
2J-J	Turbojet
2J-RJ	Ramjet
2J-T	Turboprop
2J-TF	Turbofan (Use 2J-F)
2JA	ASSOCIATED EQUIPMENT
2JA1	AFTERBURNER CONTROL SYSTEMS
2JA2	AIR INLETS
2JA3	TURBINE STARTERS AND PROPULSION STARTING DEVICES
2JA4	JET ENGINE BRAKING DEVICES
2JA5	GAS TURBINE AUXILIARY POWER PLANTS
2JA6	POWER PLANT ASSOCIATED EQUIPMENT
2JA6-2	Pumps
2JA6-3	Control and Governor Assemblies
2JA6-4	Gas Turbine Compressors
2JA6-5	Generators
2JA7	CAP ASSEMBLIES
2JA8	THROTTLE CONTROLS
2JA9	GRIP ASSEMBLIES
2JA10	VALVES
2JA10-2	Control
2JA11	HARNESS ASSEMBLIES
2JA12	ENGINE CONTROLS
2JA13	CONTAINERS (use 35E20)
2JA14	ENGINE DRAIN SYSTEMS
2JA15	STARTER GENERATORS
2JA16	GEARS
2JA17	Do not use

2JA18	POWER PACKAGE QEC
2K	BOOSTER AND ROCKET ENGINES
2K-LR	Liquid-Type Rocket Motors
2K-SR	Solid-Type Rocket Motors
2K-SRM	Solid-Type Propellant Missiles
2KA	ASSOCIATED EQUIPMENT
2KA1	POWER PLANT ASSOCIATED EQUIPMENT
2KA1-2	Control and Governor Assemblies
2KA1-3	Propulsion Valves
2KA1-4	Vent Adapters (Propulsion)
2KA1-5	Ejectors (Propulsion)
2KA1-6	Turbine Pumps
2KA1-7	Pack Assemblies
2KA1-8	Consoles
2KA1-9	Panel Assemblies (Propulsion)
2KA1-10	Nozzles
2R	RECIPROCATING ENGINES
2R-L	In-Line
2R-O	Opposed
2R-R	Radial
2RA	ASSOCIATED EQUIPMENT
2RA1	ENGINE CONTROL SYSTEMS
2RA1-2	Automatic
2RA1-3	Manual
2RA2	ENGINE COOLING EQUIPMENT
2RA2-2	Engine Cooling and Anti-Icing Fans
2RA3	ENGINE MOUNTING SYSTEMS
2RA3-2	Engine Mounts
2RA3-3	Vibration Isolators
2RA4	TURBO AND ENGINE DRIVEN SUPERCHARGERS
2RA5	SUPERCHARGER CONTROL SYSTEMS
2RA5-2	Control Systems
2RA5-3	Actuators
2RA5-4	Regulators
2RA5-5	Governors
2RA5-6	Junction Boxes
2RA5-7	Amplifiers
2RA5-8	Motors, Waste-Gate
2RA5-9	Pressuretrols
2RA5-10	Boost Selectors
2RA5-11	Control Valves
2RA5-12	Valves, Barometric Anti-Leak
2RA5-13	Adapter Units, Turbo-Regulators
2RA5-14	Switches, Air-Pressure
2RA6	SUPERCHARGER RELATED EQUIPMENT
2RA6-2	Intercoolers
2RA6-3	Motor Assemblies

2RA6-4	Solenoids
2RA6-5	Link Assemblies
2RA7	AUXILIARY POWER PLANTS
2RA8	ENGINE PREHEATERS (Airborne only)
2RA9	EXHAUST ASSEMBLIES
2RA10	STARTERS (Use 2JA3)

CHAPTER 6
CATEGORY 3 - AIRCRAFT PROPELLERS AND ROTORS

6.1 GENERAL.

6.1.1 Category 3 has four major divisions: one for each of the three types of propellers and one for rotor assemblies. TO numbers for propellers use three basic groups. TO numbers for propellers associated equipment use both three and four basic groups.

6.1.2 TO data pertaining to more than one type of propeller assembly control is numbered in the category general series.

6.1.3 Information pertaining to more than one propeller assembly, within one type of propeller control motivation, is numbered in the propeller control general series.

6.2 NUMBERING PATTERNS.

6.2.1 GROUP ONE. This group has three parts identifying the category, type of propeller control and equipment series.

6.2.1.1 Part one is always the numeric 3 that identifies Category 3.

6.2.1.2 Part two identifies the type of aircraft propeller control by using alpha designators, i.e., E - electrical control; H - hydraulic control; and M - mechanical control. Rotor assemblies and equipment are designated by an R identifier in part two. Aircraft propeller associated equipment is identified by adding the alpha character A after the propeller control identifier, i.e., EA, HA, and MA. Rotor assemblies do not have associated equipment identified in the TO system.

6.2.1.3 Part three of this group identifies an equipment series representing further breakout of each type of propeller, its associated equipment and rotor assemblies. A listing of the series numbers is included in paragraph 6. 4.

6.2.2 GROUP TWO. TO numbering patterns in Category 3 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering pattern for both groups:

6.2.2.1 If only three basic groups are used in the numbering pattern, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

6.2.2.2 If the TO number contains four basic groups, the equipment series has been further divided into equipment subseries. In this case the subseries is identified with one or more numeric characters in group two and the model, type or PN is identified in group three.

6.2.3 GROUP THREE.

6.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 3:

-1	Operating Instructions
-2	Service or Maintenance Instructions
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

6.2.3.2 In some instances the reserved numbers in the third group are followed by one or more alpha characters indicating a series of checklists, workcards, and supplements. The following alpha characters are authorized for use in Category 3:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

6.2.3.3 If the TO number contains four basic groups, the third group will have one or more numeric characters representing the model, type, or PN assigned to specific equipment.

6.2.4 GROUP FOUR. In those cases where the TO number has four basic groups, the fourth group identifies specific types of TOs as described in paragraph 6.2.3.1 above.

6.3 EXAMPLES OF CATEGORY 3 NUMBERING PATTERNS.

6.3.1 A general manual entitled List of Props and Governors for Service Aircraft:

3-1-1	
3	Category 3
1	Identifies General Instructions
1	First In a Series of General Instructions

6.3.2 Operating instructions for a turboprop, model A6441FN-606, for the VC-131 aircraft:

3E3-5-1	
3	Category 3
E	Electrically Controlled Prop
3	Turbo-Electric Series
5	Number Assigned to Model A6441FN-606
1	Number Reserved for Operating Instructions

6.3.3 An overhaul instruction for a tail rotor blade, PN 212-010-750-11, for UH-1N helicopter:

3R1-3-6-3	
3	Category 3
R	Rotors
1	Rotor Assembly Group Series
3	Tail Blade Subseries
6	Number Assigned to PN 212-010-750-11
3	Number Reserved for Overhaul Instructions

6.4 CATEGORY 3 TECHNICAL ORDER NUMBERING SERIES.

3	AIRCRAFT PROPELLERS AND ROTORS
3E	PROPELLERS, ELECTRICALLY-CONTROLLED
3E3	TURBO-ELECTRIC
3EA	ASSOCIATED EQUIPMENT
3EA1	ALTERNATORS
3EA2	BLADES, CUFFS, PLASTIC FAIRINGS
3EA3	CONTROL SYSTEMS
3EA3-2	Electric Propellers
3EA3-3	Turbo-Electric Propellers
3EA4	DEICING SYSTEMS
3EA5	GOVERNORS
3EA6	HUBS, SPINNERS, POWER UNIT ASSEMBLIES
3EA7	PROPELLER ATTACHMENT ASSEMBLIES
3EA8	SPEED REDUCERS
3EA9	RELAYS
3EA10	SYNCHRONIZERS

3EA11	TIMERS
3EA12	SPEED SETTING ASSEMBLIES
3EA13	COORDINATORS
3EA14	PANEL ASSEMBLIES
3EA15	CHANNEL ASSEMBLIES
3H	PROPELLERS, HYDRAULICALLY-CONTROLLED
3H1	HYDROMATIC
3H3	CONSTANT SPEED (Use 3H1)
3HA	ASSOCIATED EQUIPMENT
3HA1	BLADES AND CUFFS
3HA2	CONTROLS
3HA3	DEICING ASSEMBLIES
3HA3-2	Drum
3HA4	GOVERNORS
3HA4-2	Counterweight Oil
3HA4-3	Hydromatic
3HA4-4	Electronic
3HA4-5	Manual
3HA5	PUMPS
3HA5-2	Anti-Icing
3HA5-3	Feathering
3HA5-4	Integral Oil Control
3HA6	SPINNERS
3HA7	SYNCHRONIZERS
3HA8	TIMERS
3HA9	SWITCH ASSEMBLIES
3HA10	FILTER BOX ASSEMBLIES
3HA11	ALTERNATORS
3HA12	PANEL ASSEMBLIES
3M	PROPELLERS, MECHANICALLY-CONTROLLED
3M1	CONTROLLABLE PITCH
3M2	AUTOMATIC, VARIABLE-PITCH
3M3	FIXED PITCH
3MA	ASSOCIATED EQUIPMENT
3MA1	CONTROL ASSEMBLIES
3R	ROTOR ASSEMBLIES AND EQUIPMENT
3R1	ROTOR ASSEMBLY GROUP
3R1-2	Main Blade
3R1-3	Tail Blade
3R1-4	Rotor Head
3R1-5	Tail Rotor
3R1-6	Main Hub Rotor
3R1-7	Forward Hub Rotor
3R1-8	Aft (Tail) Hub Rotor
3R2	CONTROLS
3R2-2	Damper
3R2-3	Limiter

3R2-4	Power Plant
3R2-5	Swashplate
3R3	SERVO ASSEMBLIES
3R4	GEAR BOX ASSEMBLIES
3R4-2	Main (Central)
3R4-3	Intermediate
3R4-4	Tail
3R4-5	Degreasers, Pumps
3R4-6	Nose Gear Box
3R4-7	Accessory Gear Box
3R5	AZIMUTH ASSEMBLIES
3R6	SLIP RING ASSEMBLIES
3R7	TRANSMISSIONS
3R7-2	Main Rotor
3R7-3	Forward Rotor
3R7-4	Aft Transmission
3R8	CLUTCH AND FAN ASSEMBLIES
3R9	GENERATORS AND DRIVE ASSEMBLIES
3R10	BRAKE AND DRUM ASSEMBLIES
3R11	STATOR ASSEMBLIES
3R12	SHAFT AND HOUSING ASSEMBLIES
3R13	CYLINDERS
3R14	STRUT ASSEMBLIES
3R15	FREEWHEEL UNITS
3R16	COUPLING ASSEMBLIES
3R17	BLOWERS AND DUCTS
3R18	RADIATORS
3R19	MAST ASSEMBLIES
3R20	SCISSORS
3R21	HANGARS

CHAPTER 7
CATEGORY 4 - AIRCRAFT LANDING GEAR

7.1 GENERAL.

7.1.1 Category 4 has five primary landing gear systems. These systems are divided into equipment series and some of the systems are further divided into equipment subseries within each series. The TO numbering pattern for Category 4 uses three basic groups for data identification.

7.1.2 Technical data pertaining to more than one system is numbered in the category general series.

7.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

7.2 NUMBERING PATTERNS.

7.2.1 GROUP ONE. This group has three parts identifying the category, system, and equipment series within the system.

7.2.1.1 Part one is always the numeric 4 identifying Category 4.

7.2.1.2 Part two is an alpha character identifying the landing gear system, i.e., A - landing gear; B - brakes; S - struts; T - tires and tubes; and W - wheels. Associated Equipment for these systems is identified by adding the alpha A immediately following the system identifier, i.e., AA, BA, and SA. Associated Equipment is not appropriate for tires, tubes and wheels systems.

7.2.1.3 Part three contains one or more numeric characters identifying an equipment series within the system. The TO numbering series is outlined in paragraph 7.4.

7.2.2 GROUP TWO. Although all TO numbers in Category 4 use three basic groups, the identifiers in group two are not constant. The two distinct numbering patterns in use are described below:

7.2.2.1 For certain systems one or more numeric characters in group two represent the model, type or PN assigned to specific components. Systems for which this pattern is used are:

4A	Landing Gear
4AA	Landing Gear Associated Equipment
4BA	Brake System Associated Equipment
4S	Struts, Shock-Absorbing
4SA	Struts Associated Equipment

7.2.2.2 For other systems, group two indicates the equipment series, identified in part three of group one, has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters, and the model, type or PN is identified in group three. Systems for which this pattern is used are:

4B	Brake System
4T	Tires and Tubes, Aircraft
4W	Wheels, Aircraft-Landing-Gear

7.2.3 GROUP THREE.

7.2.3.1 The third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 4:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown

-6	Inspection Requirements
-7	Installation Instructions
-8	Test procedures, Checkout Manuals, or Programmed Tests

7.2.3.2 In some instances the reserved numbers in the third basic group are followed by one or more alpha characters indicating a series of checklists, workcards, or supplements. The following alpha characters are authorized for use in Category 4:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

7.2.3.3 When group two identifies the equipment subseries, as described in paragraph 7.2.2.2, group three will indicate the type of TO (reference paragraph 7.2.3.1), and must also represent the model, type or PN assigned to specific components.

7.3 EXAMPLES OF CATEGORY 4 TECHNICAL ORDER NUMBERING PATTERNS.

7.3.1 A Maintenance manual pertaining to main wheels, brakes, and tires for C-12A aircraft (general series):

4-1-102	
4	Category 4
1	General Series
102	Maintenance Manual General Series Number

7.3.2 Overhaul instructions with illustrated parts breakdown for a multiple disc brake, PN 2-1179-2, on a C-5A aircraft:

4B1-2-1063	
4	Category 4
B	Brakes
1	Brake Series
2	Disc-Type Subseries
1063	Overhaul Instruction Series and Number Assigned to PN 2-1179-2

7.3.3 Overhaul instructions with illustrated parts breakdown for master brake cylinder PN 12550 on H-43B aircraft:

4BA1-9-13	
4	Category 4
B	Brakes
A	Associated Equipment
1	Cylinder Series
9	Number Assigned to PN 12550
13	Number Reserved for Overhaul Instructions

7.3.4 Overhaul instructions for a nose gear drag brace assembly, PN 65-1390-1 on a KC-135A aircraft:

4SA6-5-3	
4	Category 4
S	Struts
A	Associated Equipment
6	Brace Assembly Series
5	Number Assigned to PN 65-1390-1

3	Number Reserved for Overhaul Instructions

7.3.5 Overhaul instructions with illustrated parts breakdown for main wheel assembly, PN 151522-1, used on F-101B aircraft:

4W1-7-473	
4	Category 4
W	Wheels, Landing-Gear
1	Main Wheel Series
7	Type VII (Extra High Pressure) Subseries
473	Overhaul Instruction Series and Number Assigned to PN 151522-1

7.4 CATEGORY 4 TO NUMBERING SERIES.

4	AIRCRAFT LANDING GEAR
4A	LANDING GEARS
4A1	FLOAT
4A2	SKI
4A3	TRACK
4A4	WHEEL
4A5	FLOTATION
4A6	POSITIONER
4AA	ASSOCIATED EQUIPMENT
4AA1	SKI
4B	BRAKE SYSTEMS
4B1	BRAKES
4B1-2	Disc
4B1-3	Expander Tube
4B1-4	Segmented Rotor
4B1-5	Shoe
4B1-6	Solid Rotor
4BA	ASSOCIATED EQUIPMENT
4BA1	CYLINDERS
4BA2	SKID DETECTORS
4BA3	RESERVOIRS, HYDRAULIC-BRAKE
4BA4	VALVES, HYDRAULIC-BRAKE-CONTROL
4BA5	VALVES, AIR-BRAKE
4BA6	VALVES, BRAKE-DEBOOST
4BA7	LINE ASSEMBLIES
4BA8	CONTROLS
4BA9	CONTROL SHIELDS
4BA10	EXPANSION CHAMBERS
4BA11	TRANSDUCER ASSEMBLIES
4S	STRUTS, SHOCK-ABSORBING
4S1	MAIN LANDING GEAR
4S2	NOSE LANDING GEAR
4S3	TAIL LANDING GEAR
4S4	OUTRIGGER LANDING GEAR
4S5	TAIL SKID LANDING GEAR

4S6	TIP PROTECTION GEAR
4SA	ASSOCIATED EQUIPMENT
4SA1	DAMPERS, SHIMMY
4SA2	STEERING UNITS AND STEERING DAMPERS
4SA3	VALVES, HYDRAULIC, NOSE-WHEEL-STEERING
4SA4	BRAKE LINE INSTALLATIONS
4SA5	CONDUIT INSTALLATIONS
4SA6	BRACE ASSEMBLIES
4SA7	VALVES, PNEUMATIC
4SA8	SPRINGS
4SA9	GENERATORS
4SA10	CARTRIDGES
4T	TIRES AND TUBES, AIRCRAFT
4T1	TIRES
4T2	TUBES
4W	WHEELS
4W1	MAIN
4W1-2	Type I (Smooth Contour)
4W1-3	Type II (High Pressure)
4W1-4	Type III (Low Pressure)
4W1-5	Type IV (Extra Low Pressure)
4W1-6	Type VI (Low Profile)
4W1-7	Type VII (Extra High Pressure)
4W1-8	Type VIII (Extra High Pressure)
4W2	TAIL
4W2-2	Type I (Smooth Contour)
4W2-3	Type II (High Pressure)
4W2-4	Type III (Low Pressure)
4W2-5	Type IV (Low Pressure)
4W2-6	Type VI (Low Profile)
4W2-7	Type VII (Extra High Pressure)
4W3	NOSE
4W3-2	Type I (Smooth Contour)
4W3-3	Type II (High Pressure)
4W3-4	Type III (Low Pressure)
4W3-5	Type IV (Extra Low Pressure)
4W3-6	Type VI (Low Profile)
4W3-7	Type VII (Extra High Pressure)
4W3-8	Type VIII (Extra High Pressure)
4W4	OUTRIGGER
4W4-2	Type VII (Extra High Pressure)
4W5	HELICOPTER

CHAPTER 8
CATEGORY 5 - AIRBORNE INSTRUMENTS

8.1 GENERAL.

8.1.1 Category 5 contains seven aircraft and missile instrument systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 5 use both three and four basic groups for data identification. Numbering patterns for both groups are identified in paragraph 8.2.

8.1.2 TO data pertaining to more than one system is numbered in the category general series.

8.1.3 Information pertaining to more than one series within a system is numbered in the system general series.

8.2 NUMBERING PATTERNS.

8.2.1 GROUP ONE. This group has three parts identifying the category, system, and equipment series within the system.

8.2.1.1 Part one is always the numeric 5 identifying Category 5.

8.2.1.2 Part two is an alpha character identifying the instrument system, i.e., A - automatic flight control; E - engine instruments; F - flight instruments; L - liquid measuring instruments; M - electric circuit instruments; N - navigation instruments; and P - position and pressure instruments. Flight instruments is the only system that has associated equipment; it is identified by the system identifier FA.

8.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series is outlined in paragraph 8.4.

8.2.2 GROUP TWO. TO numbering patterns in Category 5 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

8.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific equipment.

8.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case group two identifies the equipment subseries with one or more numeric characters and the model, type or PN identified in group three.

8.2.3 GROUP THREE.

8.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 5.

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests

8.2.3.2 In some instances the reserved numbers in the third group are followed by one or more alpha characters indicating a series of checklists, workcards, or supplements. The following alpha characters are authorized for use in Category 5.

CL -	Checklists
S -	Operational Supplements

SS - Safety Supplements
WC - Workcards

8.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PNs assigned to specific component assemblies.

8.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 8.2.3.1 above.

8.3 EXAMPLES OF CATEGORY 5 NUMBERING PATTERNS.

8.3.1 An overhaul manual for a flight computer, model 562A-5M for VC-137 aircraft:

5A7-3-34-3	
5	Category 5
A	Automatic Flight Control System
7	Computer Series
3	Flight Control Computer Subseries
34	Identifies Model 562A-5M
3	Number Reserved for Overhaul Instructions

8.3.2 A maintenance manual, overhaul instructions and illustrated parts breakdown for an acceleration sensor assembly, type TR-272/ASW for F-15 aircraft:

5F25-4-2	
5	Category 5
F	Flight Instruments
25	Sensor Unit Series
4	Identifies Type TR-272/ASW
2	Number Reserved for Maintenance Instructions

8.3.3 Overhaul manual with parts breakdown for a liquid quantity transmitter assembly, PN EA 772-GDB, for F-105 aircraft:

5L13-3-18-3	
5	Category 5
L	Liquid Measuring Instruments
13	Transmitters
3	Fuel Quantity Transmitter
18	Identifies PN EA 772-GDB
3	Number Reserved for Overhaul Instructions

8.4 CATEGORY 5 NUMBERING SERIES.

5	AIRBORNE INSTRUMENTS
5A	AUTOMATIC FLIGHT CONTROL SYSTEMS
5A1	SYSTEM PUBLICATIONS
5A1-2	Autopilot
5A1-3	Remote Flight
5A1-4	Stabilization
5A1-5	Yaw Damper
5A1-6	Inlet Control

5A1-7	Pitch Control
5A1-8	All Weather Landing
5A1-9	Attitude Reference
5A2	ADAPTERS
5A2-2	Amplifier
5A2-3	Rate Gyroscope
5A2-4	Attitude Trim
5A2-5	Phase Adapter
5A2-6	Autopilot
5A2-7	Compass
5A2-8	Flight Director
5A3	AMPLIFIERS
5A4	BOXES
5A4-2	Relay
5A4-3	Junction
5A4-4	Control
5A5	CALIBRATORS
5A6	COMPENSATORS
5A6-2	Airspeed
5A6-3	Altitude
5A6-4	Air Data Scheduler
5A6-5	Mach Trim
5A7	COMPUTERS
5A7-2	Calibration
5A7-3	Flight Control
5A7-4	Amplifier
5A7-5	Flight Director
5A7-6	Angle
5A7-7	Mach
5A8	CONTROLS
5A8-2	Amplifier
5A8-3	Angular Path
5A8-4	Differential Pressure
5A8-5	Directional Gyroscope
5A8-6	Follow up
5A8-7	Formation Stick
5A8-8	Rate Gyroscope
5A8-9	Roll and Pitch
5A8-10	Servo
5A8-11	Three-Axis Gyroscope
5A8-12	Turbo (Remote Flight)
5A8-13	Vertical Gyroscope
5A8-14	Yaw Damper
5A8-15	Altitude
5A8-16	Computer
5A8-17	Mach Hold
5A8-18	Air Data

5A8-19	Signal
5A8-20	Stability Augmenter
5A8-21	Adapter
5A8-22	Inlet Spike Positioner
5A8-23	Variable Inlet
5A8-24	Monitor
5A8-25	Attitude Reference
5A9	CONTROLLERS
5A9-2	Flight
5A9-3	Remote Pitch
5A9-4	Turn
5A9-5	Turn and Pitch
5A9-6	Altitude
5A9-7	Power
5A9-8	Selector
5A9-9	Engaging
5A10	FILTERS
5A10-2	Oil
5A10-3	Gyroscope
5A11	GYROSCOPES
5A11-2	Rate
5A11-3	Vertical
5A11-4	Directional
5A11-5	Attitude
5A11-6	Integrating
5A11-7	Displacement
5A12	INDICATORS
5A12-2	Direction
5A12-3	Trim
5A12-4	Attitude
5A12-5	Flight
5A12-6	Distance
5A12-7	Attitude (Use 5A12-4)
5A13	PANELS AND FRAMES
5A13-2	Directional
5A13-3	Function Selector
5A13-4	Servo Cutout Switch
5A13-5	Control
5A13-6	Relay
5A13-7	Adjustment
5A13-8	Damper
5A13-9	Engage
5A14	SERVOS
5A14-2	Electromechanical
5A14-3	Hydraulic
5A14-4	Transmitter
5A14-5	Central Gyroscope Reference System

5A15	SERVO MECHANISMS
5A15-2	Drum and Bracket Assembly
5A15-3	Motor and Drive Assembly
5A15-4	Disconnect Clutch Assembly
5A15-5	Throttle
5A15-6	Disconnect
5A15-7	Friction Release Hub Assembly
5A15-8	Altitude
5A15-9	Flight Control
5A15-10	Course Repeater
5A15-11	Positioner
5A16	STABILIZERS
5A16-2	Directional
5A17	SWITCHES
5A17-2	Differential Pressure
5A17-3	Engaging (Automatic Approach)
5A17-4	Limit
5A17-5	Selector
5A17-6	Transfer
5A17-7	Clutch
5A17-8	Interrupter
5A17-9	Solenoid
5A17-10	Scheduling
5A17-11	Force
5A18	TRANSMITTERS
5A19	VIBRATORS
5A20	MOUNTS AND RACKS
5A21	POWER SUPPLIES
5A22	SENSORS
5A22-2	Vertical
5A22-3	Angle of Attack
5A22-4	Wing Sweep
5A22-5	Airspeed
5A23	TRANSDUCERS
5A23-2	Pressure
5A23-3	Altitude
5A23-4	Pitch
5A24	ACCELEROMETERS
5A24-2	Linear and Lateral
5A24-3	Limiting
5A25	CIRCUTROLS
5A25-2	Differential
5A26	VALVES
5A26-2	Shutoff
5A26-3	Purge
5A26-4	Transfer
5A26-5	Check

5A26-6	Control
5A26-7	Selector (Do not use)
5A27	DEMODULATORS AND MODULATORS
5A28	COUPLERS
5A29	COMPARATORS (See 5A3)
5A30	POTENTIOMETERS
5A31	STOP ASSEMBLIES
5A32	UNITS
5A32-2	Gyroscope and Accelerometer
5A32-3	Reference
5A32-4	Parameter
5A32-5	Self-Test and Monitor
5A32-6	Interface
5A33	LINKAGE ASSEMBLIES
5A33-2	Power Control
5A34	DRIVE UNITS
5A35	GENERATORS (Use Category 8)
5A36	MEMORY ASSEMBLIES (Do not use)
5A37	RELAYS (Use 8R)
5A38	SYNCHRONIZERS
5A39	CYLINDERS
5A40	DETECTORS
5A41	CONVERTERS
5A42	PLATFORMS
5A43	CLUTCH PACKS
5A44	ACTUATORS
5A45	TRANSFORMERS
5A46	PROCESSORS
5A46-2	Signal Data
5A46-3	Air Data
5A47	DISTANCE MEASURING EQUIPMENT
5A48	DESENSITIZERS
5E	ENGINE AND TEMPERATURE INSTRUMENTS
5E1	SYSTEMS PUBLICATIONS
5E1-2	Engine Analyzer
5E2	ADAPTERS
5E3	AMPLIFIERS
5E4	GAUGES
5E5	GENERATORS
5E5-2	Propeller Synchronizer
5E5-3	Tachometer
5E6	INDICATORS
5E6-2	Tachometer
5E6-3	Temperature
5E6-4	Pressure (See 5P3-4)
5E6-5	Thrust
5E6-6	Torque

5E6-7	Jet Nozzle
5E6-8	Discharge (Carbon Dioxide)
5E6-9	Gas Generator
5E6-10	Cruise Guide
5E6-11	Dual
5E7	SHAFTS
5E8	SYNCHROSCOPES
5E9	COUNTERS
5E10	THERMOCOUPLES
5E11	RECORDERS
5E12	TRANSMITTERS
5E13	THERMOSTATS
5E14	THROTTLES
5E15	REGULATORS
5E15-2	Pressure
5E16	POWER UNITS
5E17	CONVERTERS
5E18	PROCESSORS
5E19	DISPLAY UNITS
5E19-2	Umbilical
5E19-3	Multi-Integrated
5F	FLIGHT INSTRUMENTS
5F1	SYSTEMS
5F1-2	Flight Computer
5F1-3	Gyroscope
5F1-4	Flight Control
5F1-5	Flight Directional
5F1-6	Navigation (Use 5N)
5F1-7	Data Recording
5F2	ACCELEROMETERS
5F3	ALTIMETERS
5F3-2	Density
5F3-3	Pressure
5F3-4	Sensitive
5F4	AMPLIFIERS
5F5	COMPUTERS
5F5-2	Angle of Attack
5F5-3	True Airspeed
5F5-4	Air Data
5F5-5	Steering
5F5-6	Gyroscope Rate
5F5-7	Quadratic Arc
5F5-8	Flight Director
5F5-9	Lift
5F5-10	Stall Prevention
5F5-11	Maximum Hover Weight
5F5-12	Landing Gear

5F5-13	Flight Control
5F6	CONTROLS
5F6-2	Flight Computer
5F6-3	Vertical Gyroscope
5F6-4	Rate Gyroscope
5F6-5	Stability
5F6-6	Box Assembly
5F6-7	Inertial Navigator
5F6-8	Position
5F7	FILTERS
5F7-2	Air
5F8	INDICATORS
5F8-2	Airspeed
5F8-3	Attitude Gyroscope
5F8-4	Bank and Turn (Turn and Slip)
5F8-5	Directional Gyroscope
5F8-6	Flight Computer
5F8-7	Gyroscope Horizon
5F8-8	Machmeter
5F8-9	Rate of Climb
5F8-10	Vertical Gyroscope
5F8-11	Pilot Directional
5F8-12	Dive and Roll
5F8-13	Horizon Approach
5F8-14	Course
5F8-15	Ground Speed
5F8-16	Horizontal Situation
5F8-17	Position
5F8-18	Tachometer
5F8-19	Angle of Attack
5F8-20	Cabin Altitude
5F8-21	Warning
5F8-22	Vertical Situation
5F9	SWITCHES
5F9-2	Selector
5F10	TRANSMITTERS
5F10-2	True Airspeed
5F10-3	Altitude
5F10-4	Angle of Attack and Rate Gyroscope
5F10-5	Accelerometer
5F10-6	Synchronizer
5F10-7	Asymmetry
5F10-8	Position
5F11	TUBES
5F11-2	Pitot Static
5F11-3	Power Venturi
5F12	TRANSDUCERS

5F12-2	Wind Direction
5F12-3	Mach Number
5F12-4	Angle of Attack
5F12-5	Lift
5F12-6	Altitude
5F12-7	Augmentor
5F12-8	Flap Position
5F13	PROBES
5F13-2	Temperature
5F13-3	Local Mach
5F14	CONVERTERS
5F14-2	Air Data
5F15	SETS
5F15-2	Accessory
5F16	TRACK KEEPERS
5F17	INSTRUMENT GUIDANCE (Do not use)
5F18	COMPENSATORS
5F18-2	Central Air Data
5F19	SHAKER ASSEMBLIES
5F20	DETECTORS
5F21	MONITORS
5F22	UNITS AND ASSEMBLIES
5F23	RECORDERS AND TAPE UNITS
5F23-2	Tape Unit
5F23-3	Recorder
5F24	INDEXERS
5F25	SENSORS
5F26	COUNTERS
5F27	MULTIPLEXERS
5F28	CONTROLLERS
5F29	MODULES
5F30	PRINTERS
5F31	DISPLAY UNITS
5FA	ASSOCIATED EQUIPMENT
5FA1	COUPLERS
5FA2	CHASSIS ASSEMBLIES
5FA3	POWER SUPPLIES
5FA4	LOGIC CARDS
5L	LIQUID-LEVEL, QUANTITY, AND FLOW MEASURING INSTRUMENTS
5L1	SYSTEMS
5L1-2	Fuel Level
5L1-3	Fuel Quantity
5L2	AMPLIFIERS
5L2-2	Fuel Flowmeter
5L2-3	Fuel Quantity
5L3	BOXES
5L3-2	Control

5L3-3	Fuel Quantity
5L4	CALIBRATORS
5L4-2	Bridge
5L5	COMPENSATORS
5L5-2	Voltage
5L6	INDICATORS
5L6-2	Fuel Flow
5L6-3	Fuel Quantity
5L6-4	Liquid Level
5L7	PANELS
5L7-2	Stroke Adjustment
5L7-3	Control
5L8	MOUNTS AND RACKS
5L8-2	Bridge Calibrator
5L8-3	Power Unit
5L9	RELAYS
5L9-2	Transfer Tank Unit
5L10	SIMULATORS
5L11	SUMMATORS
5L12	SWITCHES
5L12-2	Densitometer
5L12-3	Float Operated
5L12-4	Relay and Transfer
5L12-5	Potentiometer
5L13	TRANSMITTERS
5L13-2	Fuel Flow
5L13-3	Fuel Quantity
5L13-4	Liquid Level
5L14	UNITS
5L14-2	Power
5L14-3	Tank
5L14-4	Totalizer Bridge
5L14-5	Totalizer Assembly
5L14-6	Control
5L14-7	Sensing
5L14-8	Ratio
5L15	NETWORKS
5L15-2	Time Delay
5L16	CONTROLS
5L17	GAUGES
5L18	COMPUTERS
5L19	REGULATORS
5L20	METERS
5L21	COUNTERS
5L22	DETECTORS
5L23	CONDENSORS (CAPACITORS)
5M	ELECTRICAL CIRCUIT INSTRUMENTS

5M1	METERS
5M1-2	Ammeter
5M1-3	Frequency
5M1-4	Voltmeter
5M1-5	Wattmeter
5M1-6	Steering
5M1-7	Time
5M1-8	Multimeter
5M1-9	Arbitrary Scale
5M1-10	Audio Level
5M1-11	Antenna
5M1-12	Phase (Time)
5M1-13	Velocity
5M1-14	Factor
5M1-15	Fuel Pressure
5M1-16	Galvanometer
5M2	INDICATORS
5M2-2	Control Panel
5M3	GENERATORS
5M3-2	Impulse
5N	NAVIGATION INSTRUMENTS
5N1	SYSTEMS
5N1-2	Compass
5N1-3	Computer
5N1-4	Navigator Unit
5N1-5	Display
5N2	AMPLIFIERS
5N2-2	Compass
5N2-3	Electronic Control
5N2-4	Power Supply
5N2-5	Navigational Computer
5N3	COMPASSES
5N3-2	Astro
5N3-3	Magnetic (Direct Reading)
5N4	COMPENSATORS
5N4-2	Quadrantal Error
5N4-3	Synchronizer
5N4-4	Magnetic
5N4-5	Thin
5N4-6	Detector
5N5	COMPUTERS
5N5-2	Altitude Correction
5N5-3	Course and Distance
5N5-4	Dead Reckoning
5N5-5	Time and Distance
5N5-6	True Airspeed
5N5-7	Programmer

5N5-8	Latitude and Longitude
5N5-9	Wind Drift
5N5-10	Radiation
5N5-11	Tracking
5N5-12	Meteorological
5N5-13	Navigation
5N5-14	Performance
5N5-15	Ballistic
5N5-16	Flare
5N5-17	Rotation
5N5-18	Position
5N5-19	Digital
5N6	CONTROLS
5N6-2	Directional Gyroscope
5N6-3	Slaving
5N6-4	Computer
5N6-5	Stability
5N6-6	Indicator
5N6-7	Alignment
5N6-8	Compass, Control Unit
5N6-9	Navigational
5N6-10	Designator
5N7	DRIFTMETERS
5N7-2	Gyroscope Stabilized
5N7-3	Nonstabilized
5N8	INDICATORS
5N8-2	Director
5N8-3	Compass (Master Direction)
5N8-4	Compass (Repeater)
5N8-5	Course (See 12R5)
5N8-6	Radio Converter (See 12R5)
5N8-7	Radio (See 12R5)
5N8-8	Latitude and Longitude
5N8-9	Wind Direction
5N8-10	Horizontal Display
5N8-11	Vertical, Velocity
5N8-12	Analog Display
5N8-13	Digital Data
5N8-14	Drift
5N8-15	Temperature
5N8-16	Navigation Control
5N9	ACCELEROMETERS
5N10	SEXTANTS AND MOUNTS
5N10-2	Hand Held
5N10-3	Periscopic
5N10-4	Horizon
5N10-5	Mount, Periscopic

5N10-6	Mount, Horizon
5N10-7	Celestial
5N11	TIME PIECES
5N11-2	Clock
5N11-3	Watch
5N11-4	Chronometer
5N12	TRANSMITTERS
5N12-2	Compass
5N12-3	Wind Direction
5N12-4	Temperature
5N13	STABILIZERS
5N13-2	Binocular
5N14	PANELS
5N14-2	Display
5N14-3	Control
5N14-4	Manual Set
5N15	TRACKERS
5N15-2	Astro
5N16	UNITS
5N16-2	Power Supply
5N16-3	Inertial Measuring
5N16-4	Distribution
5N17	BOXES
5N17-2	Junction
5N17-3	Distribution
5N18	GYROSCOPES
5N19	ADAPTERS
5N20	COUPLERS
5N21	ISOLATORS
5N22	COUNTERS
5N23	DETECTORS
5N24	PLATFORMS
5N25	SELECTORS
5N26	INVERTERS
5N27	ENCODERS
5N28	MODULES
5N29	DISPLAY SETS
5N30	CONVERTERS
5N31	PROCESSORS
5N32	SIGHTS
5N33	DEHYDRATORS
5N34	MONITORS
5N35	GIMBAL ASSEMBLIES
5P	POSITION AND PRESSURE INSTRUMENTS
5P1	AMPLIFIERS
5P1-2	Audio
5P1-3	Servo

5P1-4	Engine
5P1-5	Computer
5P2	GAUGES
5P2-2	Pressure
5P2-3	Suction
5P3	INDICATORS
5P3-2	Air Flow, Cabin Pressure
5P3-3	Position
5P3-4	Pressure
5P4	TRANSDUCERS
5P4-2	Pressure
5P5	TRANSMITTERS
5P5-2	Position
5P5-3	Pressure
5P6	PRESSURE RATIO SYSTEMS
5P7	CONTROLS
5P7-2	Pressure
5P7-3	Position
5P8	COMPENSATORS
5P8-2	Static Pressure and Angle of Attack
5P9	SELECTORS
5P9-2	Pressure
5P10	SENSORS
5P10-2	Flow
5P10-3	Pressure

CHAPTER 9
CATEGORY 6 - AIRCRAFT AND MISSILE FUEL SYSTEMS

9.1 GENERAL.

9.1.1 Category 6 has six primary aircraft and missile fuel systems. These systems are divided into equipment series and further divided into equipment subseries within each equipment series. TO numbers in Category 6 will use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 9.2.

9.1.2 TO data pertaining to more than one system is numbered in the category general series.

9.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

9.2 NUMBERING PATTERNS.

9.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within the system.

9.2.1.1 Part one is always the numeric 6 identifying Category 6.

9.2.1.2 Part two is an alpha character which identifies the fuel system, i.e., A - air refueling; J - aircraft and missile jet engine fuel systems; K - Depot Maintenance or Overhaul Instructions; P - purging system; R - reciprocating engine fuel systems; and S - offensive systems. There is no associated equipment identified in this category.

9.2.1.3 Part three contains one or more numeric characters that identify an equipment series within a system. The TO numbering series is outlined in paragraph 9.4.

9.2.2 GROUP TWO. TO numbering patterns in Category 6 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

9.2.2.1 If the TO number uses only three groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

9.2.2.2 If the TO number contains four groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

9.2.3 GROUP THREE.

9.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 6:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests

9.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, or supplements. The following alpha characters are authorized for use in Category 6:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

9.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific component assemblies.

9.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 9.2.3.1 above.

9.3 EXAMPLES OF CATEGORY 6 NUMBERING PATTERNS.

9.3.1 Overhaul instructions with parts breakdown for a fuel filter assembly, PN 52-2145-002, for H-43B helicopter:

6R2-19-3	
6	Category 6
R	Reciprocating Engine Fuel System
2	Filter and Strainer Series
19	Identifies PN 52-2145-002
3	Number Reserved for Overhaul Instructions

9.3.2 Overhaul instructions for a motor operated gate valve, PN AV16V1830D for KC-135A aircraft:

6A9-2-12-3	
6	Category 6
A	Air Refueling System
9	Valve Series
2	Control Valve Subseries
12	Identifies PN AV16V1830D
3	Number Reserved for Overhaul Instructions

9.3.3 Section one of two sections of overhaul instructions for main fuel control, Bendix PN 440955, on F-100 engine:

6J3-4-97-3-1	
6	Category 6
J	Jet and Turbojet Engine and Aircraft
3	Fuel Control Series
4	Main Fuel Control Subseries
97	Identifies Bendix PN 440955
3	Number Reserved for Overhaul Instructions
1	Identifies Section One

9.4 CATEGORY 6 NUMBERING SERIES.

6	AIRCRAFT AND MISSILE FUEL SYSTEMS
6A	AIR REFUELING SYSTEMS
6A1	ACTUATORS
6A1-2	Hydraulic
6A2	AMPLIFIERS (Use 8D or 8A)
6A3	BOOM ASSEMBLIES
6A4	INDICATORS
6A5	NOZZLE ASSEMBLIES
6A6	RECEPTACLE ASSEMBLIES
6A7	STATIC DISCONNECTOR ASSEMBLIES
6A8	HOSE REEL ASSEMBLIES
6A9	VALVES

6A9-2	Control
6A9-3	Relief
6A9-4	Float
6A9-5	Selector
6A9-6	Check
6A9-7	Regulator
6A9-8	Shutoff
6A9-9	Adapter
6A9-10	Response
6A10	PUMPS
6A10-2	Fuel Transfer
6A11	TRANSMITTERS
6A12	RECOIL ASSEMBLIES
6A13	DRIVE UNITS
6A14	SUPPRESSOR ASSEMBLIES
6A15	COUPLINGS
6A16	BUNGEE ASSEMBLIES
6A17	ADAPTERS
6A18	PROBES
6A19	SELECTORS
6A20	CYLINDERS
6A21	DROGUES
6A22	THERMISTORS
6J	AIRCRAFT AND MISSILE ENGINE FUEL SYSTEMS - TURBOJET AND TURBOPROP
6J1	AMPLIFIERS
6J1-2	Main System
6J1-3	Afterburner System
6J2	BAROMETRIC ASSEMBLIES
6J3	FUEL CONTROLS
6J3-2	Afterburner
6J3-3	Emergency
6J3-4	Main
6J3-5	Starting
6J3-6	Speed Limiter
6J3-7	Valve
6J3-8	Nozzle and Actuator
6J4	QUICK DISCONNECT COUPLINGS
6J5	FILTERS AND STRAINERS
6J6	(Not Used)
6J7	GOVERNORS
6J8	NOZZLES
6J9	PRIMER AND IGNITER ASSEMBLIES
6J10	PUMPS, FUEL AND WATER
6J10-2	Air Driven Turbine
6J10-3	Electric Motor Driven
6J10-4	Engine Driven
6J10-5	Hydraulic Motor Operated

6J11	REGULATORS, FUEL AND WATER
6J12	SERVICING UNITS AND ADAPTERS
6J13	SWITCHES (Do Not Use)
6J14	TANKS
6J14-2	Jettisonable Type
6J14-3	Pylon
6J14-4	Fixed
6J14-5	Auxiliary
6J14-6	Ethylene Oxide (Missile)
6J14-7	Internal
6J15	VALVES, FUEL AND WATER
6J15-2	Check (See 6R9-2 also)
6J15-3	Control (See 6R9-3 also)
6J15-4	Drain (See 6R9-4 also)
6J15-5	Float (See 6R9-5 also)
6J15-6	Metering
6J15-7	Pressure Regulator (See 6R9-7)
6J15-8	Relief and Vent (See 6R9-8 also)
6J15-9	Selector (See 6R9-9 also)
6J15-10	Shutoff (See 6R9-10 also)
6J15-11	Stopcock
6J15-12	Flow Divider
6J15-13	Fuel Flow Equalizer
6J15-14	Pressurizing
6J15-15	By-Pass
6J15-16	Breakaway
6J15-17	Slide
6J15-18	Fuel Flow Interconnect
6J15-19	Screen
6J15-20	Bleed
6J15-21	Transfer
6J16	TRANSMITTERS, FUEL AND WATER
6J16-2	Pressure
6J17	COOLERS
6J17-2	Clycol, Radiator, (See 7J1-17)
6J18	CAPS, FUEL AND WATER
6J18-2	Fuel Tank
6J19	EJECTORS
6J19-2	Gun
6J19-3	Fuel
6J20	FUEL CELLS
6J20-2	Internal
6J21	LIMITERS
6J21-2	Acceleration
6J22	COOLERS (Heat Exchangers)
6J23	MISSILE PLUMBING, FUEL
6J23-2	Restrictor

6J24	HEATERS
6J25	ACCUMULATORS
6J26	DETECTORS
6J27	CYLINDERS
6J28	MANIFOLDS
6J29	ACTUATOR ASSEMBLIES
6K	ROCKET ENGINE FUEL SYSTEMS
6K1	VALVES
6K1-2	Control
6K1-3	Drain
6K1-4	Shutoff
6K1-5	Relief, Vent
6K1-6	Disconnect
6K2	GENERATOR ASSEMBLIES
6K2-2	Gas
6K3	GIMBAL AND MOUNT ASSEMBLIES
6K3-2	Thrust Chamber
6K4	SWIVEL ASSEMBLIES
6K4-2	Mechanical
6K5	THRUST CHAMBER ASSEMBLIES
6K5-2	Boost Rocket
6K6	REGULATORS
6K6-2	Pressure
6K7	COUPLINGS AND DISCONNECTS
6K7-2	Couplings
6K8	PUMP ASSEMBLIES
6K8-2	Turbo
6K9	INITIATORS
6K10	NOZZLE ASSEMBLIES
6K11	ADAPTERS
6K12	ACTUATOR ASSEMBLIES
6K13	PROBE ASSEMBLIES
6P	PURGING SYSTEMS
6P1	NITROGEN VALVES
6P1-2	Check Nitrogen
6P1-3	Pressure Regulating
6P1-4	Relief Nitrogen
6P1-5	Control
6P1-6	Shutoff
6P2	GENERATOR PACKAGES
6P2-2	Purge Gas
6P3	CONTROLLERS
6P3-2	Fuel Air Ratio
6P4	PUMPS
6R	AIRCRAFT RECIPROCATING ENGINE FUEL SYSTEMS
6R1	CARBURETORS
6R1-2	Float

6R1-3	Injection
6R1-4	Variable Venturi
6R2	FILTERS AND STRAINERS
6R3	INJECTION SYSTEMS
6R4	FUEL INJECTION
6R5	PUMPS, FUEL- AND WATER-
6R5-2	Electric Motor Driven
6R5-3	Engine Driven
6R5-4	Injection
6R5-5	Hand Operated
6R5-6	Hydraulic Motor Operated
6R6	REGULATORS
6R6-2	Fuel
6R6-3	Water
6R7	SWITCHES (See Category 8)
6R8	TANKS
6R8-2	Jettisonable
6R9	VALVES
6R9-2	Check
6R9-3	Control
6R9-4	Drain
6R9-5	Float
6R9-6	Metering
6R9-7	Pressure Regulating
6R9-8	Vent, Relief
6R9-9	Selector
6R9-10	Shutoff
6R9-11	Coupling, Quick-Disconnect
6R9-12	Slide
6R9-13	Swivel
6R9-14	Dump
6R9-15	Flow Divider
6R9-16	Gate
6R10	PRIMER AND IGNITER ASSEMBLIES
6R11	AMPLIFIERS
6S	OFFENSIVE SYSTEMS
6S1	SYSTEMS
6S2	VALVES
6S3	CYLINDERS
6S4	CHAMBERS

CHAPTER 10
CATEGORY 7 - AIRBORNE ENGINE LUBRICATING SYSTEMS

10.1 GENERAL.

10.1.1 Category 7 has only two systems relating to airborne engine lubrication. These two systems are divided into equipment series and then further divided into equipment subseries within each equipment series. TO numbers in Category 7 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 10.2.

10.1.2 TO data pertaining to more than one system is numbered in the category general series.

10.1.3 Information involving more than one equipment series within a system is numbered in the system general series.

10.2 NUMBERING PATTERN.

10.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within the system.

10.2.1.1 Part one is always the numeric 7 identifying Category 7.

10.2.1.2 Part two is an alpha character that identifies the lubrication system. These alpha characters are: J - jet engine lubricating systems, or R - reciprocating engine lubricating systems. There is no associated equipment identified in this category.

10.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series is outlined in paragraph 10.4.

10.2.2 GROUP TWO. TO numbering patterns in Category 7 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

10.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

10.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

10.2.3 GROUP THREE.

10.2.3.1 If the TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 7.

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

10.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, or supplements. The following alpha characters are authorized for use in Category 7:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

10.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific component assemblies.

10.2.4 Group Four. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 10.2.3.1, above.

10.3 EXAMPLES OF CATEGORY 7 NUMBERING PATTERNS.

10.3.1 Depot maintenance instructions with illustrated parts breakdown for a transmission fluid cooler, PN 215-55302-1 for A7D aircraft jet engine:

7J1-65-3	
7	Category 7
J	Jet Engine Lubrication System
1	Cooler Series
65	Identifies PN 215-55302-1
3	Number Reserved for Depot Maintenance Instructions

10.3.2 Checkout and service instructions for a temperature control valve, PN 154605-1-1, for C-141 aircraft jet engine:

7J6-10-10-2	
7	Category 7
J	Jet Engine Lubrication Systems
6	Valve Series
10	Relief Valve Subseries
10	Identifies PN 154605-1-1
2	Number Reserved for Service Instructions

10.3.3 Overhaul instructions with illustrated parts breakdown for oil separator assembly, PN 1545-4-E for C-121C aircraft reciprocating engine:

7R6-2-13	
7	Category 7
R	Reciprocating Engine Lubrication System
6	Separator Series
2	Identifies PN 1545-4-E
13	Number Reserved for Overhaul Instructions

10.4 CATEGORY 7 NUMBERING SERIES.

7	AIRBORNE ENGINE LUBRICATING SYSTEMS
7J	JET ENGINE LUBRICATING SYSTEMS
7J1	COOLERS
7J2	FILTERS
7J3	HEATERS
7J4	PUMPS
7J4-2	Lube, Scavenge
7J4-3	Transfer
7J4-4	Lubricator
7J5	REGULATORS
7J5-2	Oil Temperature
7J5-3	Pressure

7J6	VALVES
7J6-2	Check (See 7J6-8)
7J6-3	Diverter
7J6-4	Flow Divider
7J6-5	Shutoff
7J6-6	Control
7J6-7	Pressurizing
7J6-8	Check
7J6-9	Drain
7J6-10	Relief
7J6-11	Selector
7J7	THERMOSTATS
7J8	SOCKET ASSEMBLIES
7J9	AMPLIFIERS
7J10	TANKS
7J11	INDICATORS
7J12	NIPPLE ASSEMBLIES
7J12-2	Oil
7J13	TRANSDUCERS
7J14	SENSORS
7J15	FAN ASSEMBLIES
7R	RECIPROCATING ENGINE LUBRICATING SYSTEMS
7R1	COOLERS
7R1-3	Oil Coolers
7R2	FILTERS
7R3	HEATERS
7R4	PUMPS, RECIPROCATING-ENGINES
7R4-2	Hydraulic Gear
7R4-3	Transfer
7R5	REGULATORS
7R6	SEPARATORS
7R7	THERMOSTATS
7R8	VALVES
7R8-3	Control
7R8-5	Drain
7R8-7	Selector
7R8-8	Sequence
7R8-9	Shutoff
7R6-10	Diverter Segregator
7R8-12	By-Pass
7R9	SOCKET ASSEMBLIES
7R10	FANS

CHAPTER 11
CATEGORY 8 - AIRBORNE ELECTRICAL SYSTEMS

11.1 GENERAL.

11.1.1 Category 8 contains six airborne electrical systems. These systems are divided into equipment subseries within each equipment series. Therefore TO numbers in Category 8 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 11.2.

11.1.2 TO data pertaining to more than one system is numbered in the category general series.

11.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

11.2 NUMBERING PATTERNS.

11.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within a system.

11.2.1.1 Part one is always the numeric 8 identifying Category 8.

11.2.1.2 Part two is an alpha character identifying the electrical system, i.e., A - alternating current electrical equipment; C - combination of both alternating and direct current electrical equipment; D - direct current electrical equipment; E - ignition systems; R - relays; and S - switches.

11.2.1.3 Part three contains one or more numeric characters identifying an equipment series within the system. The TO numbering series is outlined in paragraph 11.4.

11.2.2 GROUP TWO. Since TO numbering patterns in Category 8 use both three and four basic groups, the identifiers in group two are not constant. The following explains the numbering patterns for both groups:

11.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

11.2.2.2 If the TO number contains four basic groups, the equipment series identified in group one, part three, has been divided into equipment subseries. In this case group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

11.2.3 GROUP THREE.

11.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 8:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests

11.2.3.2 In some instances, the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, or supplements. The following alpha characters are authorized for use in Category 8:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

11.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific equipment and the specific types of TOs are then identified in group four.

11.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 11.2.3.1.

11.3 EXAMPLES OF CATEGORY 8 NUMBERING PATTERNS.

11.3.1 Operating and maintenance instructions with illustrated parts breakdown for an alternating current electric motor, PN 6818-1, applicable to a pump installation on C-119 aircraft:

8A1-15-35-1	
8	Category 8
A	Alternating Current
1	Actuator and Motor Series
15	Pump Subseries
35	Identifies PN 6818-1
1	Number Reserved for Operating Instructions

11.3.2 A field maintenance instruction for a combination alternating/direct current inverter, PN F15-2M, for H-19A helicopter:

8C7-2-5-2	
8	Category 8
C	Alternating/Direct Current
7	Motor Generator (Inverter) Series
2	1-250 Volt Ampere Subseries
5	Identifies PN F15-2M
2	Number Reserved for Field Maintenance

11.3.3 Overhaul instruction with parts breakdown for a fuel float switch assembly, PN F-7860 for a B-52 aircraft:

8S1-2-24-3	
8	Category 8
S	Switches
1	Float Switch Series
2	Fuel Float Switch Subseries
24	Identifies PN F-7860
3	Number Reserved for Overhaul Manuals

11.4 CATEGORY 8 NUMBERING SERIES.

8	AIRBORNE ELECTRICAL SYSTEMS
8A	ALTERNATING-CURRENT
8A1	ACTUATORS AND MOTORS
8A1-2	Bomb Bay Door
8A1-3	Camera Door
8A1-4	Magnetron
8A1-5	Cowl Flap and Air Plug
8A1-6	Tachometer (See 8A1-28)
8A1-7	Wing Flap, Dive Flap
8A1-8	Trim Tab, Boost

8A1-9	Oil Cooler, Inter-Cooler
8A1-10	Carburetor Air
8A1-11	Cockpit Heat and Vent
8A1-12	Anti-Ice, De-Ice
8A1-13	Engine, Prop Control
8A1-14	Valve
8A1-15	Pump
8A1-16	Radome Retract
8A1-17	Fan, Blower
8A1-18	Windshield Wiper
8A1-19	Compressor
8A1-20	Tip Tank, Jato Release
8A1-21	Fractional Horsepower
8A1-22	Integral Horsepower
8A1-23	Air Inlet Door, Screen
8A1-24	Nose Turret Empty Disposal
8A1-25	Regulating
8A1-26	Seat Control
8A1-27	Navigational
8A1-28	Generator, Tachometer
8A1-29	Heater
8A1-30	Hoist
8A1-31	Selector Door
8A1-32	Transmitter
8A1-33	Radar
8A1-34	Throttle
8A1-35	Antenna
8A1-36	Ram Air
8A1-37	Wingfold
8A1-35	Photographic Equipment
8A1-39	Switch
8A1-40	Autopilot
8A1-41	Spike Positioning
8A1-42	Pitot Tube
8A1-43	Turret Drive
8A1-44	Potentiometer
8A1-45	Training Equipment
8A1-46	Radio
8A1-47	Computer
8A1-48	Gearhead
8A1-49	Inflight Printer, Control
8A1-50	Test Set
8A1-51	Rudder
8A1-52	Transmission
8A1-53	Stabilizer
8A1-54	Launch Gear
8A1-55	Guidance

8A1-56	Lights
8A1-57	Ammunition Booster, Gunnery
8A1-58	Cryptographic Equipment
8A1-59	TV Viewfinder
8A1-60	Launcher, Guided-Missile (See 35M)
8A1-61	Engine Temperature Control
8A1-62	Driftmeter Fairing
8A1-63	Pressurization Unit
8A1-64	Indicator
8A1-65	Amplifier
8A1-66	Fire Control
8A1-67	Controlled Line Platform
8A1-68	Escape Capsule
8A1-69	Electronic Countermeasure
8A1-70	Lights (See 8A1-56)
8A1-71	Flare Ejection
8A1-72	Servo
8A1-73	Control
8A1-74	Timer
8A1-75	Recorder
8A1-76	Ramp
8A1-77	Plumbing
8A1-78	Drive (See 8A1-43)
8A1-79	Static Line Cable
8A1-80	Air Exit Door
8A1-81	Landing Gear
8A1-82	Shaker Assembly
8A1-83	Filter
8A1-84	Linear
8A2	POWER SUPPLIES
8A3	CONTROLLERS
8A3-2	Trim Tab
8A3-3	Afterburner
8A3-4	Starter
8A3-5	Generator
8A3-6	Wing Flap
8A3-7	Flasher
8A3-8	Timer
8A3-9	Temperature
8A3-10	Oil Cooler
8A3-11	Calibration
8A3-12	Rudder
8A3-13	Frequency and Load
8A3-14	Steering
8A3-15	Air Inlet
8A3-16	Paralleling
8A3-17	Warning Device

8A3-18	Panel
8A3-19	Winch and Hoist
8A4	CONNECTORS, PLUGS, ETC.
8A4-2	Mounting Rack and Tray
8A4-3	Contactor
8A5	DYNAMOTORS
8A5-2	0-100 MA
8A5-3	101-200 MA
8A5-4	201-300 MA
8A5-5	301-400 MA
8A6	GENERATORS (ENGINE DRIVEN)
8A6-2	0-1 KVA
8A6-3	2-7 KVA
8A6-4	8-9 KVA
8A6-5	10-15 KVA
8A6-6	16-20 KVA
8A6-7	21-30 KVA
8A6-8	31-40 KVA
8A6-9	41-60 KVA
8A6-10	61-120 KVA
8A7	MOTOR GENERATORS (ROTARY INVERTER)
8A7-2	0-1 AMP
8A7-3	1-250 VA
8A7-4	251-500 VA
8A7-5	501-1000 VA
8A7-6	1001-3000 VA
8A8	HEATERS AND DEFROSTERS
8A8-2	0-500 Watts
8A8-3	501-1000 Watts
8A8-4	1001-2000 Watts
8A9	VIBRATORS
8A9-2	Instrument Panel
8A10	LIGHTING EQUIPMENT
8A10-2	Landing
8A10-3	Taxi
8A10-4	Inter-Aircraft
8A10-5	Fluorescent Lights, Related Equipment
8A10-6	Flasher
8A10-7	Vibrator Pack
8A10-8	Anti-Collision
8A10-9	Display
8A10-10	Warning, Dimming Control
8A11	POWER SUPPLIES (See 8A2)
8A12	STARTERS
8A12-2	Combination Inertia - Direct Crank
8A12-3	Direct Crank
8A13	STARTER GENERATORS

8A13-2	1-100 amps
8A13-3	101-200 amps
8A13-4	201-300 amps
8A13-5	301-400 amps
8A14	TRANSFORMER RECTIFIERS
8A15	WARNING DEVICES
8A15-2	Audible Signal
8A15-3	(Do not use)
8A15-4	Fuel, Water Pressure
8A15-5	Stall Warning
8A16	VOLTAGE REGULATORS
8A17	SUPPRESSOR ASSEMBLIES
8A18	EJECTORS
8A19	TRANSFORMERS
8A20	AMPLIFIERS
8A21	FANS AND BLOWERS
8A22	TRANSMITTERS
8A23	CABLES
8A24	BOXES
8A24-2	Distribution
8A24-3	Junction
8A24-4	Control
8A25	PANELS - POWER DISTRIBUTION
8A26	INDICATORS
8A27	POWER MONITORS
8A28	ELECTROMAGNETIC UNITS
8C	COMBINATION ALTERNATING-AND DIRECT-CURRENT
8C1	ACTUATORS AND MOTORS
8C1-2	Bomb Door
8C1-3	Camera Door
8C1-4	Cockpit Canopy
8C1-5	Cowl Flap
8C1-6	Landing Gear
8C1-7	Wing Flap, Dive Flap
8C1-8	Trim Tab, Boost
8C1-9	Radio Set
8C1-10	Carburetor Air
8C1-11	Cockpit Heating and Ventilating
8C1-12	Anti-Ice and De-Ice
8C1-13	Engine Control
8C1-14	Valve
8C1-15	Pump
8C1-16	Radome Retract
8C1-17	Fan, Blower
8C1-18	Windshield Wiper
8C1-19	Compressor
8C1-20	Tip Tank, Jato Release

8C1-21	Fractional Horsepower Motor
8C1-22	Integral Horsepower Motor
8C1-23	Propeller Pitch and Mixture
8C1-24	Fire Detection
8C1-25	Positioning Control System
8C1-26	Temperature Control
8C1-27	Ground Cooling Door
8C1-28	Tachometer
8C1-29	Re-Entry Decoy
8C1-30	Cabin Pressure
8C1-31	Thrust Recovery
8C1-32	Winch
8C2	DO NOT NUMBER IN THIS SERIES
8C3	CONTROLLERS
8C3-2	Trim Tab
8C3-3	Afterburner Control
8C3-4	Starter
8C3-5	Generator
8C3-6	Wing Flap
8C3-7	Flasher
8C3-8	Timers
8C3-9	Temperature
8C3-10	Air Inlet
8C3-11	Inverter
8C3-12	Pylon
8C3-13	Voltage
8C3-14	Panel
8C3-15	Warning Device
8C3-16	Electrical
8C3-17	Landing Gear
8C3-18	Electronic
8C3-19	Digital Electronic
8C4	CONNECTORS, PLUGS, TERMINALS
8C5	DYNAMOTORS
8C5-2	0-100 MA
8C5-3	101-200 MA
8C5-4	201-300 MA
8C5-5	301-400 MA
8C5-6	401-1000 MA
8C5-7	1001-2000 MA
8C5-8	2001-3000 MA
8C5-9	3001-4000 MA
8C6	GENERATORS
8C6-2	200 amp DC - 1200 VA AC
8C6-3	60 amp - 28 VA DC
8C7	MOTOR GENERATORS
8C7-2	1-250 VA

8C7-3	251-500 VA
8C7-4	501-750 VA
8C7-5	751-1000 VA
8C7-6	1001-1500 VA
8C7-7	1501-2500 VA
8C7-8	2501-5000 VA
8C8	BOX ASSEMBLIES
8C9	INSTRUMENT PANEL VIBRATORS
8C9-2	0-5 lbs
8C9-3	6-10 lbs
8C9-4	11-15 lbs
8C9-5	16-20 lbs
8C9-6	21-25 lbs
8C10	LIGHTING EQUIPMENT
8C10-2	Landing
8C10-3	Cockpit
8C10-4	Inter-Aircraft
8C10-5	Fluorescent
8C10-6	Flasher
8C10-7	Flood
8C10-8	Panels
8C11	POWER SUPPLIES
8C11-2	110V AC Input - 300V DC Output
8C11-3	28V DC Input - 28V AC Output
8C11-4	115V AC Input - 275V DC Output
8C11-5	195/210V AC Input - 24/31V DC Output
8C11-6	28V DC Input - 115V AC Output
8C11-7	195/210V AC Input - 28V DC 100 Amps Output
8C11-8	Converter
8C12	STARTERS
8C12-2	Inertia and Direct Crank
8C12-3	Direct Crank
8C12-4	Energizer
8C13	STARTER GENERATORS
8C13-2	1-100 amps
8C13-3	101-200 amps
8C13-4	201-300 amps
8C13-5	301-400 amps
8C13-6	Direct Current
8C14	TRANSFORMER RECTIFIERS
8C14-2	0-25 amps
8C14-3	26-50 amps
8C14-4	51-100 amps
8C14-5	0-120 amps
8C14-6	101-200 amps
8C15	WARNING DEVICES
8C15-2	Horn

8C15-3	Bell
8C15-4	Lamp
8C15-5	Warning Unit, Vacuum
8C15-6	Fuel Pressure
8C15-7	Oil Pressure
8C15-8	Warning, Caution Panel
8C15-9	Fire Detector
8C15-10	Stall Warning
8C15-11	Audible Signal
8C16	RESISTORS
8C16-2	Powerstats, Autotransformers
8C17	AMPLIFIERS
8C17-2	Autopilot
8C18	VOLTAGE REGULATORS
8C19	BOXES
8C19-2	Distribution
8C19-3	Junction
8C20	HEATING SYSTEM
8C20-2	Electrical
8C21	PANELS
8C22	FILTER ASSEMBLIES
8D	DIRECT CURRENT
8D1	ACTUATORS AND MOTORS
8D1-2	Cargo, Ramp Door
8D1-3	Camera Door
8D1-4	Cockpit Canopy
8D1-5	Cowl Flap, Air Plug
8D1-6	Landing Gear
8D1-7	Wing Flap, Dive Flap
8D1-8	Trim Tab, Boost
8D1-9	Oil Cooler, Intercooler
8D1-10	Carburetor Air
8D1-11	Cockpit Heat, Vent
8D1-12	Anti-Ice and De-Ice
8D1-13	Engine Control
8D1-14	Valve
8D1-15	Pump
8D1-16	Radome Retract
8D1-17	Fan, Blower
8D1-18	Windshield Wiper
8D1-19	Compressor
8D1-20	Tip Tank, Jato Release
8D1-21	Fractional Horsepower
8D1-22	Integral Horsepower
8D1-23	Propeller Pitch and Mixture
8D1-24	Hose Reel
8D1-25	Air Inlet Door, Scoop, Screen

8D1-26	Seat Control
8D1-27	Paratrooper, Spoiler Door
8D1-28	Rescue Door
8D1-29	Launcher Reel
8D1-30	Landing Light
8D1-31	Cargo Hook Unlatch
8D1-32	Bleed Air Supply System
8D1-33	Purge Gas Control
8D1-34	Approach Chute Door
8D1-35	Flight Refueling System
8D1-36	Hoist, Winch
8D1-37	Rescue Hatch
8D1-38	Nacelle Vent
8D1-39	Selector Door
8D1-40	Oil Cooler Door
8D1-41	Camera Hoist
8D1-42	Clutch
8D1-43	Wrench
8D1-44	Wing Heating, Venting
8D1-45	Guidance System
8D1-46	Step
8D1-47	Pitch Control
8D1-48	Hose Reel Door
8D1-49	Wing Tip Door
8D1-50	Ejection Door
8D1-51	Gun Post Door
8D1-52	Flight Refueling Pod Door
8D1-53	Locks (See 8D1-92)
8D1-54	Tail Skid
8D1-55	Alternator Cooling Door
8D1-56	Landing Gear Door
8D1-57	Bomb Sight
8D1-58	Amplifier
8D1-59	Power Unit
8D1-60	Beacon, Anti-Collision
8D1-61	Fuel Control
8D1-62	Switch
8D1-63	Transmission
8D1-64	Flight Control
8D1-65	Intervalometer
8D1-66	Rudder Control
8D1-67	Arming System
8D1-68	Trajectory Control
8D1-69	Fire Control
8D1-70	Paratainer Door
8D1-71	Missile Surface Control
8D1-72	Antenna

8D1-73	Turret Drive
8D1-74	Governor
8D1-75	Static Line Retriever
8D1-76	Gear Case
8D1-77	Calibrator
8D1-78	Particle Sampler
8D1-79	Training Equipment
8D1-80	Trailer
8D1-81	Camera
8D1-82	Radio, Radar Equipment
8D1-83	Transducer
8D1-84	Heat Exchanger
8D1-85	Brake
8D1-86	Rotor Blade Tracking
8D1-87	Generator
8D1-88	Thermostat
8D1-89	Launch Gear
8D1-90	Shifter
8D1-91	Pylon
8D1-92	Missile Release and Lock
8D1-93	Cooling
8D1-94	Launcher, Airborne Guided-Missile
8D1-95	Chaff Dispenser
8D1-96	Starter
8D1-97	Indicator
8D1-98	Bomb Rack
8D1-99	Transmitter
8D1-100	Stick Shaker
8D1-101	Thrust Reverse
8D1-102	Lateral Control
8D1-103	Arresting Hook
8D2	BATTERIES AND CHARGERS
8D3	CONTROLLERS
8D3-2	Trim Tab
8D3-3	Electronic
8D3-4	Afterburner
8D3-5	Starter
8D3-6	Generator
8D3-7	Interior Lighting
8D3-8	Flasher
8D3-9	Timer
8D3-10	Temperature
8D3-11	Landing Gear
8D3-12	Warning System
8D3-13	Brake System
8D3-14	Steering
8D3-15	Pressure Sensor

8D3-16	Rudder
8D3-17	Shaker
8D3-18	Panel Assembly
8D3-19	Control Box
8D3-20	Motor Control
8D3-21	Switch
8D3-22	Inverter, Synchronizer
8D3-23	Deceleration Parachute
8D3-24	Hoist
8D3-25	Counter
8D3-26	Dimming Control
8D3-27	Sight
8D3-28	Empennage (Stabilizing Tail Assembly)
8D3-29	Camera Control
8D3-30	Overhead Delivery
8D3-31	Detecting System
8D3-32	Wing Flap
8D3-33	Pitch, Roll
8D3-34	Systems
8D4	CONNECTORS, PLUGS, TERMINALS, ETC.
8D4-2	Conduit Assemblies
8D4-3	Rheostats
8D4-4	Plugs
8D4-5	Receptacles
8D5	DYNAMOTORS
8D5-2	0-100 MA
8D5-3	101-200 MA
8D5-4	201-300 MA
8D6	GENERATORS, ENGINE-DRIVEN
8D6-2	1-50 amps
8D6-3	51-100 amps
8D6-4	101-200 amps
8D6-5	201-300 amps
8D6-6	301-400 amps
8D6-7	20 KW
8D6-8	Tachometer Generators
8D7	MOTOR GENERATORS
8D7-2	Voltage Boosters
8D8	HEATERS AND DEFROSTERS
8D8-2	Ignition Heater
8D8-3	501-1000 watts
8D8-4	1001-2000 watts
8D8-5	2001-3000 watts
8D8-6	Purging Heater
8D9	INSTRUMENT PANEL VIBRATORS
8D9-2	0-5 pounds
8D9-3	6-10 pounds

8D9-4	11-15 pounds
8D9-5	16-20 pounds
8D9-6	21-25 pounds
8D10	LIGHTING EQUIPMENT
8D10-2	Landing
8D10-3	Cockpit
8D10-4	Inter-Aircraft
8D10-5	Fluorescent
8D10-6	Navigation
8D10-7	Panel
8D10-8	Indicator
8D10-9	Vibrator Pack
8D10-10	Clearance
8D10-11	Anti-Collision
8D10-12	Fire Control
8D10-13	Map Reading
8D10-14	Airborne Search
8D11	POWER SUPPLIES
8D11-2	Static Converter
8D11-3	Power Unit
8D12	STARTERS
8D12-2	Combination Inertia-Direct Crank
8D12-3	Direct Crank
8D13	STARTER GENERATORS
8D13-2	1-100 amps
8D13-3	101-200 amps
8D13-4	201-300 amps
8D13-5	301-400 amps
8D13-6	401-500 amps
8D13-7	1000 amps
8D14	TRANSFORMER RECTIFIERS
8D14-2	0-25 amps
8D14-3	26-50 amps
8D14-4	51-100 amps
8D14-5	101-150 amps
8D15	WARNING DEVICES
8D15-2	Horn
8D15-3	Bell
8D15-4	Carbon Monoxide Signal
8D15-5	Automatic
8D15-6	Signal Amplifier
8D15-7	Stall Warning - Safe Flight
8D15-8	Flasher
8D15-9	Panel
8D15-10	Audible Signal
8D15-11	Trip Signal
8D15-12	Detector

8D15-13	Visual Signal
8D16	VOLTAGE REGULATORS
8D17	SOLENOIDS
8D18	FANS AND BLOWERS
8D18-2	Flying Suits
8D19	AMPLIFIERS
8D19-2	Fuel Signal
8D20	DISCONNECTS (ELECTRICAL)
8D21	SENSORS
8D22	HARNESS ASSEMBLIES
8D23	CABLE ASSEMBLIES
8D24	PANELS
8D25	JUNCTION BOX ASSEMBLIES
8D26	UNITS AND ASSEMBLIES
8D27	ELECTRICAL MODULES
8E	IGNITION SYSTEMS AND COMPONENTS
8E1	TURBOJET AND TURBOPROP
8E1-2	Ignition System
8E1-3	Spark Plug Igniter
8E1-4	Ignition Timer
8E1-5	Coil
8E1-6	Cable
8E1-7	Lead, Cable Assembly
8E1-8	Exciter
8E1-9	Harness
8E1-10	Stator
8E1-11	Generator Assembly
8E1-12	Thermocouple
8E2	RECIPROCATING ENGINES
8E2-2	System
8E2-3	Coil
8E2-4	Ignition Harness
8E2-5	Magneto
8E2-5-2	4-, 5-, and 6- Cylinder
8E2-5-3	7- and 9- Cylinder
8E2-5-4	12- Cylinder
8E2-5-5	14- Cylinder
8E2-5-6	18- Cylinder
8E2-5-7	2- Cylinder
8E2-6	Spark Plug
8E2-7	Switch
8E2-8	Vibrator
8E2-9	Tachometer
8E3	AUXILIARY POWER UNITS
8E3-2	Exciter
8E3-3	Panel Assemblies
8R	RELAYS - INCLUDING SOLENOIDS AND CONTACTORS

8R1	GENERATOR RELAYS
8R1-2	Alternating-Current
8R1-3	Direct-Current
8R2	MOTOR GENERATORS (INVERTER)
8R3	MULTIPLE APPLICATION
8R4	STARTER RELAYS
8R5	CABIN PRESSURE CONTROL SYSTEMS
8R6	FIRE CONTROL SYSTEMS
8R7	RADAR RELAYS
8R7-2	Switch
8R8	ROTARY AND SELECTOR RELAYS
8R8-2	Ignition System Rotary
8R8-3	Switch Selector
8R8-4	Function Selector
8R9	TRANSFER RELAYS
8R9-2	Fuel Quantity
8R10	METER RELAYS
8R11	CAPACITORS
8RA	ASSOCIATED EQUIPMENT
8RA1	PANEL
8S	SWITCHES
8S1	FLOAT
8S1-2	Fuel Float
8S1-3	Oil Level
8S2	PRESSURE
8S2-2	Fuel
8S2-3	Hydraulic, Pneumatic, Vacuum
8S2-4	Miniature
8S2-5	Oil
8S2-6	Signal
8S2-7	Wave Guide
8S2-8	Manifold
8S2-9	Airspeed
8S2-10	Thrust
8S2-11	Barometric
8S2-12	Brake
8S2-13	Depressurized
8S3	ROTARY AND SELECTOR
8S3-2	Auxiliary
8S3-3	Wing Flap System
8S4	CIRCUIT BREAKER
8S4-2	Three Phase, Four Wire Circuit
8S5	PUSH BUTTON
8S5-2	Micro
8S5-3	Manual
8S6	THERMOSTAT
8S6-2	Anticipator

8S6-3	Detector
8S6-4	Temperature Control
8S6-5	Landing Gear Control
8S6-6	Altitude Control
8S6-7	Flight Control
8S7	LIMIT
8S8	LEVER
8S9	RADAR
8S9-2	Electromagnetic
8S9-3	Pressure
8S9-4	Coaxial
8S10	TIMER
8S11	INERTIA (ACCELERATION)
8S12	DECELERATION
8S13	PUSH/PULL

CHAPTER 12
CATEGORY 9 - AIRCRAFT AND MISSILE HYDRAULIC, PNEUMATIC AND VACUUM SYSTEMS

12.1 GENERAL.

12.1.1 Category 9 contains airborne hydraulic, pneumatic, and vacuum systems. These systems are divided into equipment series and further divided into equipment subseries within each equipment series. TO numbers in Category 9 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 12.2.

12.1.2 TO data pertaining to more than one system is numbered in the category general series.

12.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

12.2 NUMBERING PATTERNS.

12.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within a system.

12.2.1.1 Part one is always the numeric 9 that identifies Category 9.

12.2.1.2 Part two is an alpha character indicating the system, i.e., H - hydraulic systems; P - pneudraulic systems; and V - vacuum systems.

12.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. These TO numbering series are outlined in paragraph 12.4.

12.2.2 GROUP TWO. Since TO numbering patterns in Category 9 use both three and four basic groups, the identifiers in group two are not constant. The following explains both numbering patterns:

12.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

12.2.2.2 If the TO number contains four basic groups, the equipment series identified in group one, part three, has been divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

12.2.3 GROUP THREE.

12.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 9:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-8	Test Procedures, Checkout Manuals, or Programmed Tests

12.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 9:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

12.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific equipment or components. When this occurs the specific types of TOs are then identified in group four.

12.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 12.2.3.1, above.

12.3 EXAMPLES OF CATEGORY 9 NUMBERING PATTERNS.

12.3.1 Overhaul instructions for a hydraulic filter for the C-135A aircraft, type G187M-68:

9H3-3-55-3	
9	Category 9
H	Hydraulic System
3	Filter and Restrictor Series
3	Line Type Filter Subseries
55	Represents Type G187M-68
3	Number Reserved for Overhaul Instructions

12.3.2 An illustrated parts breakdown for a pressure pump, type MA-2, for C-141A aircraft:

9P4-2-16-24	
9	Category 9
P	Pneumatic Systems
4	Pump and Compressor Series
2	Pump Subseries
16	Represents Type MA-2
24	Number Reserved for Illustrated Parts Breakdown

12.3.3 Illustrated parts breakdown for a vacuum shut-off valve, PN 2V-750 to be used on multiple aircraft:

9V1-3-7-4	
9	Category 9
V	Vacuum Systems
1	Valve Series
3	Shutoff Valve Subseries
7	Represents PN 2V-750
4	Number Reserved for Illustrated Parts Breakdown

12.4 CATEGORY 9 NUMBERING SERIES.

9	AIRCRAFT AND MISSILE HYDRAULIC, PNEUMATIC, AND VACUUM SYSTEMS
9H	HYDRAULIC SYSTEMS AND EQUIPMENT
9H1	ACCUMULATORS
9H1-2	Cylindrical
9H1-3	Spherical
9H1-4	Sustainer
9H1-5	Booster
9H2	CYLINDERS AND ACTUATORS
9H2-2	Main Landing Gear
9H2-3	Nose Landing Gear
9H2-4	Flight Surface Control

9H2-5	Auxiliary Control
9H2-6	Air Refueling
9H2-7	Engine Control
9H2-8	Missile Guidance
9H3	FILTERS AND RESTRICTORS
9H3-2	Reservoir
9H3-3	Line
9H3-4	Vent
9H3-5	Magnetic
9H4	PUMPS
9H4-2	Engine Driven
9H4-3	Electric Motor Driven
9H4-4	Hand Driven
9H4-5	Air Driven
9H4-6	Engine Oil Driven
9H5	RESERVOIRS
9H5-2	Non-Pressurized
9H5-3	Pressurized
9H6	TRANSMISSIONS
9H6-2	Reciprocating Engine Driven
9H6-3	Jet Engine Driven
9H6-4	Turbine Driven
9H6-5	Transmission Drive
9H7	POWER PACKS
9H7-2	Electric Driven
9H7-3	Turbine Driven
9H8	VALVES
9H8-2	Relief
9H8-3	Regulator
9H8-4	Shutoff
9H8-5	Shuttle
9H8-6	Check
9H8-7	Flow Equalizer
9H8-8	Restrictor
9H8-9	Sequence
9H8-10	Self-Sealing Coupling
9H8-11	By-Pass
9H8-12	Pressure Switch
9H8-13	Drain
9H8-14	Selector
9H8-15	Pressure Reducing
9H8-16	Flow Regulator
9H8-17	Isodraulic
9H8-18	Swivel
9H8-19	Pressure Damper
9H8-20	Up-Latch
9H8-21	Auto-Lock Wing Flap

9H8-22	Snubber
9H8-23	Limit
9H8-24	Constant Flow
9H8-25	Gland
9H8-26	Priority
9H8-27	Manifold Distribution
9H8-28	Metering
9H8-29	Slide
9H8-30	Control
9H8-31	Purge
9H8-32	Override
9H8-33	Transfer
9H8-34	Dump
9H8-35	Pilot
9H8-36	Fill
9H8-37	Diverter
9H9	WINDSHIELD WIPERS
9H9-2	Single
9H9-3	Dual
9H10	MOTORS
9H10-2	1000 PSI
9H10-3	3000 PSI
9H10-4	2000 PSI
9H10-5	1600 PSI
9H10-6	4000 PSI
9H11	COUPLINGS
9H12	MODULATOR ASSEMBLIES
9H13	DAMPERS
9H14	COOLERS AND RADIATORS
9H15	STOP ASSEMBLIES
9H16	RESTRICTORS (Use 9H3)
9H17	REGULATORS
9H17-2	Pressure
9H17-3	Control
9H17-4	Power Steering
9H18	MANIFOLD ASSEMBLIES
9H19	COMPENSATOR ASSEMBLIES
9H20	SEPARATORS
9H21	STARTERS
9H22	REELING MACHINES
9H23	GENERATORS
9H24	TRANSFORMERS
9H25	EXTENSIONS
9H26	INTERCONNECTING ASSEMBLIES
9H27	CHANNEL ASSEMBLIES
9H28	DRIVES AND MECHANISMS, DIFFERENTIAL ASSEMBLIES
9H29	DISCONNECTS

9P	PNEUMATIC SYSTEMS
9P1	ACCUMULATORS AND BOTTLES
9P1-2	Bottle
9P1-3	Accumulator
9P2	CYLINDERS AND ACTUATORS
9P2-2	Landing Gear
9P2-3	Auxiliary
9P2-4	Escape Hatch
9P3	DEHYDRATORS AND CHEMICAL DRYERS
9P3-2	Dehydrator
9P3-3	Chemical Dryer
9P3-4	Mechanical Moisture Separator
9P4	PUMPS AND COMPRESSORS
9P4-2	Pump
9P4-3	Compressor
9P5	VALVES
9P5-2	Relief
9P5-3	Regulator
9P5-4	Quick Disconnect
9P5-5	Shutoff
9P5-6	Filler
9P5-7	Priority
9P5-8	Pressure Reducing and Fuse
9P5-9	Selector
9P5-10	Shuttle
9P5-11	Warning Switch
9P5-12	Check
9P5-13	Restrictor
9P5-14	Control
9P5-15	By-Pass
9P5-16	Metering
9P5-17	Bleed
9P5-18	Starter
9P5-19	Gun Gas Purging
9P5-20	Pressure Operated
9P5-21	Dump
9P5-22	Sequence
9P5-23	Butterfly
9P5-24	Flow Divider
9P6	FILTERS
9P6-2	Liquid
9P6-3	Nitrogen Gas
9P7	DRIVES
9P8	COUPLINGS
9P9	HEAT EXCHANGERS
9P10	REGULATORS
9P10-2	Elevator Control Feel

9P10-3	Pneudraulic
9P10-4	Pressure
9P11	CONTROLS
9P12	MOTORS
9P13	RELAYS
9P14	RESERVOIRS
9P15	VENTILATION UNITS
9V	VACUUM SYSTEMS
9V1	VALVES
9V1-2	Relief
9V1-3	Shutoff
9V1-4	Selector
9V1-5	Regulator
9V2	PUMPS
9V2-2	Engine Driven
9V2-3	Electric Motor Driven
9V3	DECOYS
9V4	FILTERS
9V4-2	Vent

CHAPTER 13
CATEGORY 10 - PHOTOGRAPHIC EQUIPMENT

13.1 GENERAL.

13.1.1 Category 10 contains twelve primary photographic systems. These systems are divided into equipment series and in some instances further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 10 use both three and four groups for data identification. Numbering patterns for both groups are discussed in paragraph 13.2.

13.1.2 TO data pertaining to more than one system is numbered in the category general series.

13.1.3 Information pertaining to more than one equipment series within a system is numbered in the system general series.

13.2 NUMBERING PATTERNS.

13.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within each system.

13.2.1.1 Part one is always the numeric 10 identifying Category 10.

13.2.1.2 Part two is an alpha character that indicates the photographic equipment system, i.e., A - airborne cameras; B - ground cameras; C -motion picture cameras; D - projection equipment; E - processing equipment; F - microfilm equipment; G - photographic kits; H - interpretation and photogrammetric equipment; J - sensitized materials; K - radar assessing equipment; L - photographic instrumentation equipment; and M - mobile photographic laboratories.

13.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. These TO numbering series are outlined in paragraph 13.4.

13.2.2 GROUP TWO. Since TO numbering patterns in Category 10 use both three and four basic groups, the identifiers in group two are not constant. The following explains both numbering patterns:

13.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

13.2.2.2 If the TO number contains four basic groups, the equipment series identified in group one, part three, has been divided into equipment subseries. In this case group two identifies the equipment subseries with one or more numeric characters and the model, type or PN identified in group three.

13.2.3 GROUP THREE.

13.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 10:

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests
-9	Corrosion Control

13.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, or supplements. The following alpha characters are authorized for use in Category 10:

CL - Checklists
S - Operational Supplements
SS - Safety Supplements
WC - Workcards

13.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific equipment or components. When this occurs the specific types of TOs are then identified in group four.

13.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 13.2.3.1.

13.3 EXAMPLES OF CATEGORY 10 NUMBERING PATTERNS.

13.3.1 A service manual for a still picture camera, type KB-18A, for use on RF-4C aircraft:

10A1-6-6-2	
10	Category 10
A	Airborne Cameras
1	Aircraft Camera Series
6	Strike Camera Subseries
6	Represents Type KB-18A
2	Number Reserved for Service Manuals

13.3.2 Operating and service instructions for a Mark II contact printer:

10E8-2-19-1	
10	Category 10
E	Processing Equipment
8	Printer Series
2	Contact Printer Subseries
19	Represents Type Mark II
1	Number Reserved for Operating Instructions

13.3.3 Operating and maintenance instructions with illustrated parts breakdown for a mobile photo laboratory, type ES-64A:

10M1-7-3-1	
10	Category 10
M	Photographic Laboratories
1	Mobile Laboratory Series
7	Photo Interpretation Subseries
3	Represents Type ES-64A
1	Number Reserved for Operating Instructions

13.4 CATEGORY 10 NUMBERING SERIES.

10	PHOTOGRAPHIC EQUIPMENT
10A	AIRBORNE CAMERAS AND EQUIPMENT
10A1	AIRCRAFT CAMERAS
10A1-2	Gun
10A1-3	Mapping

10A1-4	Radar Recording
10A1-5	Reconnaissance
10A1-6	Strike
10A1-7	Continuous Strip
10A1-8	Pair
10A1-9	Motion Picture
10A1-10	Optical
10A2	BODIES, LENS, CONES, REELS, ETC.
10A2-2	Bodies
10A2-3	Lens, Cone
10A2-4	Film Magazine
10A2-5	Reel
10A2-6	Magnetic Clutch and Brake Assembly
10A3	MOUNTS AND GYROSCOPES
10A4	VIEWFINDERS
10A5	CONTROLS
10A5-2	Film Magazine
10A5-3	Gun Camera
10A5-4	Mapping Camera
10A5-5	Radar Recording Camera
10A5-6	Reconnaissance Camera
10A5-7	Strike Camera
10A5-8	Strip Camera
10A6	CAMERA CONTROL SYSTEMS, UNIVERSAL
10A6-2	Amplifier Unit
10A6-3	Amplifier
10A6-4	Base Mounting
10A6-5	Chassis
10A6-6	Computer Unit
10A6-7	Computer
10A6-8	Control
10A6-9	Detector
10A6-10	Discriminator
10A6-11	Generator
10A6-12	Indicator
10A6-13	Intervalometer
10A6-14	Junction Box
10A6-15	Memory Delay Unit
10A6-16	Power Supply
10A6-17	Synchronizer Marker Unit
10A6-18	Pulse Shaper
10A6-19	Converter
10A6-20	Adapter
10A7	NIGHT PHOTO EQUIPMENT
10A7-2	Lamp Assembly
10A7-3	Photoflash Cartridge Ejector

10A7-4	Detector
10A8	PHOTO NAVIGATION EQUIPMENT
10A8-2	Pilot Director
10A8-3	Control System
10A8-3-2	Servo Amplifier
10A8-3-3	Heading Error Compensator
10A8-3-4	Indicator
10A8-3-5	Drift Angle Control Box
10A8-3-6	Tripping Pulse Duration
10A8-4	Converter
10A9	RECONNAISSANCE DEVICES
10A10	DATA DISPLAY SETS
10A11	TEST EQUIPMENT (Use 33D10)
10A12	LIGHT BOXES
10A13	PHOTOMETERS
10A14	ENCODERS
10A15	COOLING UNITS
10A16	CALIBRATORS
10A17	CAMERA PODS
10B	GROUND CAMERAS AND EQUIPMENT
10B1	GROUND CAMERAS
10B1-2	16MM (Still)
10B1-3	35MM (Still)
10B1-4	50MM (Still)
10B1-5	3 1/4 X 4 1/4
10B1-6	4 X 5
10B1-7	8 X 10
10B1-8	Copying
10B1-9	Identification
10B1-10	Data Recording
10B1-11	Oscilloscope
10B1-12	Hand
10B1-13	Tracking
10B2	EXPOSURE METERS
10B3	FLASH UNITS
10B4	LIGHT ASSEMBLIES
10B5	TRIPODS
10B6	STANDS
10B7	VIEWERS
10B8	ELECTRONIC OPTICAL TRACKING SYSTEM
10C	MOTION PICTURE CAMERAS AND EQUIPMENT
10C1	CAMERAS
10C1-2	8 MM
10C1-3	16 MM
10C1-4	35 MM
10C1-5	Missile
10C1-6	70 MM

10C2	CLEANERS
10C3	EDITORS AND VIEWERS
10C4	MACHINE MEASURING EQUIPMENT
10C5	REWIND EQUIPMENT
10C6	SOUND RECORDING EQUIPMENT
10C7	SPLICERS
10C8	TRIPODS AND HEADS
10C9	FILM TITLERS
10C10	SCORING ASSEMBLIES
10C11	BODIES AND MAGAZINES
10C12	COATERS
10C13	HAND HELD CAMERAS
10C14	VIDEO SYSTEMS
10D	PROJECTION EQUIPMENT
10D1	PROJECTORS
10D1-2	Motion Picture
10D1-3	Still Picture
10D1-4	Continuous Stereoscopic
10D2	POINTERS (Optical)
10D3	SCREENS
10D4	VIEWERS
10D4-2	Still Picture
10D4-3	Motion Picture
10D4-4	Stereoscopic
10D5	COMPARATORS
10D5-2	Photographic
10E	PROCESSING EQUIPMENT
10E1	DEHUMIDIFIERS
10E2	DEVELOPERS AND PROCESSORS
10E3	DRYERS
10E3-2	Film
10E3-3	Print
10E4	HEATERS AND CHILLERS (WATER)
10E5	PROCESSING, EXPOSURE, TEST, AND STAMPING MACHINES
10E5-2	Continuous Processing
10E5-3	Exposure Test
10E5-4	Stamping
10E6	DRY MOUNTING PRESSES
10E7	PHOTOCOPY EQUIPMENT
10E8	PRINTERS
10E8-2	Contact (Manual)
10E8-3	Continuous
10E8-4	Projection
10E9	SINKS
10E10	STRAIGHTENERS
10E11	MIXERS
10E12	TIMERS

10E12-2	Electrical
10E13	WASHERS
10E14	WRINGERS
10E15	MIXER-DISTRIBUTORS
10E16	CHOPPERS
10E17	EASELS
10E18	LIGHT ASSEMBLIES
10E19	CONTROLS
10E20	MECHANISMS
10E21	CODERS
10E22	SIMULATORS
10E23	REPRODUCERS
10E24	ANALYZERS
10E25	TRANSLATORS
10E26	EJECTOR SETS
10E27	METERS
10E27-2	Sensitometer
10E27-3	Densitometer
10E28	RECTIFIERS
10E29	FOCATRONS
10E30	LIGHT TABLES
10E31	SILVER RECOVERY UNITS
10E32	FILM FINISHING
10E33	PRESSURE REDUCING VALVES
10E34	DUPLICATORS
10E35	VALVES
10F	MICROFILM EQUIPMENT
10F1	CAMERAS
10F2	ENLARGERS MARKING
10F3	READERS
10F4	CUTTERS
10G	KITS, PHOTOGRAPHIC-EQUIPMENT
10G1	DARKROOM
10G2	DEHUMIDIFYING
10G3	DEVELOPING
10G4	DRYING
10G5	LABORATORY
10G6	LIGHTING
10G7	MIXER
10G8	NEGATIVE MARKING
10G9	COPYING AND ENLARGING
10G10	PRINTING
10G11	SINK
10G12	TEMPERATURE CONTROL
10G13	WATER SUPPLY
10G14	VECTOGRAPH
10G15	OPTIC

10G16	CARRYING AND STORAGE CASES
10G17	ADAPTER KITS
10H	INTERPRETATION AND PHOTOGRAMMETRY EQUIPMENT
10H1	HEIGHT FINDERS
10H2	PHOTO INTERPRETERS
10H3	PLOTTERS
10H4	FILM PLOTTING TABLES
10H5	SKETCHMASTERS
10H6	TEMPLET SETS, SLOTTED
10H7	RECTIFIERS
10H8	PROJECTORS
10H9	INTERPRETATION EQUIPMENT
10H10	REEL BRACKETS
10H11	ANALYTICAL SYSTEMS
10J	SENSITIZED MATERIALS AND SUPPLIES
10K	RADAR ASSESSING EQUIPMENT
10K1	GENERAL
10K2	PLOTTING BOARDS
10L	PHOTO INSTRUMENTATION EQUIPMENT
10L1	CAMERAS
10L2	MAGAZINES
10M	PHOTO LABORATORIES
10M1	MOBILE
10M1-2	Processing (Shelter)
10M1-3	Printing
10M1-4	Reproduction
10M1-5	Maintenance Shop
10M1-6	Edit, Inspection
10M1-7	Interpretation
10M1-8	Storage Facility
10M1-9	Chemical Mixing, Distribution
10M1-10	Film Titling, Cleaning
10M1-11	Film Handling Facility
10M1-12	Administration
10M1-13	Accessing-Briefing
10M1-14	Water Conditioner
10M1-15	Electronic Optical Tracking

CHAPTER 14
CATEGORY 11 - ARMAMENT EQUIPMENT

14.1 GENERAL.

14.1.1 Category 11 contains thirteen armament systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore, TO numbers in Category 11 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 14.2.

NOTE

Nuclear Weapons TO Numbers (subcategory 11N) are not described here. SA-ALC/NWDT is the only organization authorized to assign 11N series TO numbers (paragraph 1.4.6.1).

14.1.2 TO data pertaining to more than one system is numbered in the category general series.

14.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

14.2 NUMBERING PATTERNS.

14.2.1 GROUP ONE. This group has three parts that identify the category, system and equipment series within the system.

14.2.1.1 Part one is always the numeric 11 identifying Category 11.

14.2.1.2 Part two is an alpha character identifying the armament system, i.e., A - ammunition; B - bombing systems and equipment; C - chemical warfare agents, explosives, gases and weapons; D - decontamination, impregnating and protective equipment; E - biological warfare agents; F - fire control systems and equipment; G - guidance and control systems and equipment; H - hazard detecting equipment; K - guided glide weapons; L - launchers and equipment; P - egress systems, explosive devices and equipment; R - missile re entry vehicles and equipment; and W - weapons and equipment. Only two of the 13 systems in Category 11 have associated equipment identified. These two systems are: launchers and equipment, and weapons and equipment. The associated equipment is identified by adding the alpha A immediately following the armament system identifier, i.e., LA and WA.

14.2.1.3 Part three contains one or more numeric characters identifying an equipment series within the system. The TO numbering series are outlined in paragraph 14.4.

14.2.2 GROUP TWO. TO numbering patterns in Category 11 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

14.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific equipment.

14.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

14.2.2.3 Bombing systems and fire control systems with JETDS (Joint Electronics Type Designator System) numbers or Air Force type numbers are numbered in the 11B1 and 11F1 series respectively. The type designator, in this instance, is used to form group two of the TO number. (See examples in paragraphs 4.3.4 and 4.3.5.)

14.2.3 GROUP THREE.

14.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 11:

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals

-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Storage, Installation and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests

14.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 11:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

14.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific component assemblies.

14.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 14.2.3.1.

14.3 EXAMPLES OF CATEGORY 11 NUMBERING PATTERNS.

14.3.1 Storage procedures for cluster munitions, type CBU-30/A:

11A9-14-7	
11	Category 11
A	Ammunition
9	Cluster Munition Series
14	Identifies Type CBU-30/A
7	Number Reserved for Storage Instructions

14.3.2 Operating and maintenance instructions for a smoke tank, PN 2105220:

11C15-2-7-1	
11	Category 11
C	Chemical Warfare Agents, Explosives, Gases and Weapons
15	Tank Series
2	Smoke Tank Subseries
7	Identifies PN 2105220
1	Number Reserved for Operating Instructions

14.3.3 Overhaul instructions for a target position computer, PN 737511:

11F12-13-2-3	
11	Category 11
F	Fire Control Systems
12	Computer Series
13	Target Position Type Subseries

2	Identifies PN 737511
3	Number Reserved for Overhaul Instructions

14.3.4 Field maintenance instructions for bombing navigation system, optical and radar, type AN/ASB-15A,B:

11B1-ASB15-2-3

11	Category 11
B	Bombing Systems and Equipment
1	Bombing System Series
ASB15	Identifies Type AN/ASB-15
2	Number Reserved for Maintenance Instructions
3	Identifies the Third Section

14.3.5 Field maintenance instructions for fire control system, type MA-8, PN 521E747G8, G9 used on F-105 aircraft.

11F1-MA8-12

11	Category 11
F	Fire Control Systems and Equipment
1	Fire Control System Series
MA8	Identifies Type MA-8
12	Number Reserved for Maintenance Instructions

14.4 CATEGORY 11 NUMBERING SERIES.

11	ARMAMENT EQUIPMENT
11A	MUNITIONS
11A1	BOMBS, EXPLOSIVE
11A2	BOMBS, INCENDIARY
11A3	BOMBS, PRACTICE AND LEAFLET
11A4	BOOSTERS AND BURSTERS
11A5	AERIAL MINES, NON-CLUSTERED
11A6	FINS, BOMB
11A7	FUSES, BOMB
11A8	MISCELLANEOUS GROUND MUNITIONS
11A9	CLUSTER MUNITIONS
11A10	FLARES, MARKERS, SIGNALS, AND SIMULATORS
11A11	ROCKETS AND ROCKET COMPONENTS
11A12	ADAPTERS, CLUSTER-BOMB
11A13	GUN AMMUNITION
11A14	RIOT CONTROL AND SMOKE MUNITIONS
11A15	MISSILE EXPLOSIVE COMPONENTS
11A16	COUNTERMEASURES
11A17	CARGO, PARACHUTE, AND WEAPONS RETARDATION SYSTEMS
11A18	AIRCRAFT STORES JETTISONING, AIRCRAFT STARTING, AND RELATED EXPLOSIVE DEVICES
11A19	RIOT CONTROL AIDS
11A20	DEMOLITION MATERIAL AND DESTRUCTIVE DEVICES
11A21	DISPENSERS, FLARE
11A22	EXPLOSIVE DEVICES, TARGET DRONE, AND SPECIAL PURPOSE AIRCRAFT

11A23	IGNITERS
11A24	CARTRIDGES
11B	BOMBING SYSTEMS AND EQUIPMENT
11B1	BOMBING SYSTEMS
11B1-A	Type A
11B1-K	Type K
11B1-M	Type M
11B2	AMPLIFIERS
11B2-2	AN Type
11B2-3	V Type
11B2-4	Computer
11B2-5	Sealed
11B2-6	Servo
11B2-7	Stabilization
11B2-8	Audio Frequency
11B2-9	Electronic Control
11B2-10	Video
11B2-11	Radar Indicator Sweep
11B2-12	Intermediate Frequency
11B2-13	Current Deflection
11B2-14	Power Supply
11B2-15	Displacement
11B3	ANTENNAS
11B3-2	Radar
11B3-3	Radio
11B4	BANKS
11B4-2	Relay
11B5	BOXES
11B5-2	Control
11B5-3	Junction
11B5-4	Potentiometer
11B5-5	Relay
11B5-6	Fuse
11B6	BRACES
11B6-2	Sway
11B7	COMPARATORS
11B7-2	Type CM
11B7-3	Type GS
11B7-4	Type MA-2
11B7-5	Type AN
11B7-6	Groundspeed and Track
11B8	COMPENSATORS
11B8-2	Transmission Error
11B8-3	Compass
11B9	COMPRESSORS
11B9-2	Air
11B10	COMPUTERS

11B10-2	Type A Bombing, Navigation
11B10-3	Azimuth
11B10-4	Ballistic
11B10-5	Bomb Release
11B10-6	BT Type (Toss Bomb)
	(Use 11B10-9)
11B10-7	Electronic
11B10-8	Type K Position
11B10-9	Toss Bomb
11B10-10	Altitude
11B10-11	Missile Release Navigational
11B10-12	Range
11B10-13	Tracking
11B10-14	Air Navigation
11B10-15	Type MA-2
11B10-16	Velocity
11B10-17	Dive Angle
11B10-18	Simulator
11B10-19	Roll Error
11B10-20	Panels and Racks
11B10-21	Terrain Clearance
11B10-22	Time
11B10-23	Flight Directional
11B10-24	Programmers
11B10-25	Data Subsystems
11B11	CONTAINERS
11B11-2	Aero
11B12	CONTROLS
11B12-2	Arming
11B12-3	Ballistics
11B12-4	Bomb Release Interval
11B12-5	Line of Sight
11B12-6	Navigation
11B12-7	Primary
11B12-8	Tracking
11B12-9	Guidance
11B12-10	Computer
11B12-11	Tuning
11B12-12	Range
11B12-13	Indicator
11B12-14	Optics
11B12-15	Radar Set Gain
11B12-16	Test
11B12-17	Remote Module
11B12-18	Intervalometer
11B12-19	Emergency Bombing
11B12-20	Type MA-2 and ASB-4

11B12-21	Doppler Radar
11B12-22	Time
11B12-23	Heading Reference
11B12-24	Bomb Mark
11B12-25	Terrain Radar
11B12-26	Selector
11B12-27	Calibration
11B12-28	Frequency
11B12-29	Radar Set
11B12-30	Power Supply
11B13	CONVERTERS
11B13-2	Coordinate
11B13-3	Polar
11B13-4	Signal Data
11B13-5	Speed
11B13-6	Temperature
11B13-7	Telemetering
11B13-8	Type MA-2 and ASB-4
11B14	CORRECTORS
11B14-2	Bombsight
11B15	COUPLERS
11B15-2	Non-directional
11B15-3	Directional
11B16	COVERS
11B16-2	Bombsight
11B17	DESICCATORS
11B17-2	Type B
11B17-3	Type MA
11B18	DOPPLER DRIFT GROUP
11B18-2	AN Type
11B19	GENERATORS
11B19-2	Azimuth Mark
11B19-3	Azimuth Sweep
11B19-4	Pedestal
11B19-5	Pulse
11B19-6	Range Mark
11B19-7	Sweep
11B19-8	Sine Wave
11B19-9	Stabilization Data
11B19-10	Antenna
11B19-11	Motor (Do not use)
11B19-12	Type MA-2 and ASB-4
11B19-13	Frequency
11B19-14	Noise
11B20	GYROSCOPES
11B20-2	Cageable
11B20-3	Non-cageable

11B21	INDICATORS
11B21-2	Cathode Ray
11B21-3	Group
11B21-4	Meter
11B21-5	Multiple
11B21-6	Position
11B21-7	Dive and Roll
11B21-8	Sight Angle
11B21-9	Checkout
11B21-10	Topographical Comparator
11B21-11	Pilot Ground Track
11B21-12	Clearance
11B21-13	Radar Flight
11B22	INTERCONNECTING GROUP
11B23	SETS
11B23-2	Maintenance Rack
11B23-3	Radar Pressurization
11B24	MODULATORS
11B25	MOUNTINGS
11B25-2	JETDS Nomenclatured
11B26	MOUNTS
11B26-2	Sight
11B28	POWER SUPPLIES
11B28-2	Low Voltage
11B28-3	High Voltage
11B28-4	Analyzer
11B28-5	Auxiliary
11B29	RACKS
11B29-2	Amplifier
11B29-3	Bomb
11B30	RADAR ASSEMBLIES
11B30-2	JETDS Nomenclatured
11B31	RADAR SETS
11B31-2	Type AN/APS
11B31-3	Data Presentation
11B31-4	Type AN/ASB
11B31-5	Type AN/ASQ
11B32	RADIO SETS
11B32-2	JETDS Nomenclature
11B33	RECEIVERS
11B33-2	Radar
11B33-3	Radio
11B34	RECEIVER-TRANSMITTERS
11B34-2	Radar
11B34-3	Radio
11B34-4	Television
11B35	RECEPTACLES

11B35-2	Bomb Release
11B36	RECORDERS
11B36-2	Video
11B36-3	Light and Time
11B36-4	Photo
11B37	REGULATORS
11B37-2	Current
11B37-3	Voltage
11B38	RELEASES
11B38-2	Bomb Rack
11B38-3	Bomb Shackle
11B39	SELECTORS
11B39-2	Bomb Group
11B39-3	Bomb Rack
11B40	SHACKLES
11B40-2	100- to 1600- pound Capacity
11B40-3	2000- to 5000- pound Capacity
11B40-4	4000- to 9000- pound Capacity
11B41	SIGHTS
11B41-2	M Type
11B41-3	S Type
11B41-4	T Type
11B41-5	Y Type
11B41-6	MA-2 and ASB-4
11B41-7	Illuminated
11B42	STABILIZERS
11B42-2	Periscopic Bombsight
11B42-3	Optics
11B42-4	Navigation
11B43	SYNCHRONIZERS
11B43-2	Type SN-()/APS
11B43-3	Antenna
11B43-4	Electrical
11B44	TIMERS
11B44-2	Type A
11B44-3	Time Meters
11B44-4	Bombing
11B44-5	Firing Mechanism
11B45	TRANSFORMERS
11B46	TRANSMITTERS
11B46-2	Altitude Variation, Airspeed
11B46-3	True Heading
11B46-4	Remote Compass
11B46-5	Radio
11B46-6	Antenna
11B46-7	Radar
11B47	UNITS

11B47-2	Antenna Drive
11B47-3	Filter
11B47-4	Offset
11B47-5	Phase Shift
11B47-6	Magnetron Drive
11B47-7	Stores
11B47-8	Delay
11B47-9	Stabilized
11B47-10	Navigation
11B47-11	Monitor
11B47-12	Control
11B47-13	Distribution
11B47-14	Weapons Release
11B48	VISORS
11B49	ATTACHMENTS
11B49-2	Camera
11B50	PROTECTORS
11B50-2	Electrical
11B51	NETWORKS
11B51-2	Network Assemblies
11B52	BLOWERS AND FANS
11B52-2	Radar
11B52-3	Electrical
11B53	CALIBRATORS
11B54	RELAY ASSEMBLIES
11B55	BLANKERS
11B56	MULTIMETERS
11B57	TELESCOPES
11B58	MIRROR ASSEMBLIES
11B59	EJECTORS
11B60	ELECTRONIC GATES
11B61	PANELS
11B61-2	Control
11B62	PERISCOPES
11B63	ACCELEROMETERS
11B64	TRANSDUCER ASSEMBLIES
11B65	TRANSFORMER-RECTIFIER ASSEMBLIES
11B66	PLATFORMS
11B67	FANS (Use 11B52)
11B68	ANALYZERS
11B68-2	Polar Converter
11B68-3	Phase Shifter
11B68-4	Synchronizer
11B69	OPTICS GROUPS
11B70	DYNAMOTOR ASSEMBLIES
11B71	CAMERA SYSTEMS
11B72	REPEATERS

11B72-2	Radio
11B72-3	Pitch Angle
11B73	SWITCHES
11B73-2	Waveguide
11B74	DEMODULATORS
11B74-2	Altitude Control
11B75	MOTORS
11B75-2	Comparator
11B75-3	Blower
11B75-4	Drive
11B75-5	Indicator
11B75-6	Servo
11B76	CASES
11B76-2	Motor Gear
11B77	SLINGS
11B78	FRAMES
11B79	DISPLAYS
11B80	INTEGRATORS
11B81	RELEASE MECHANISMS
11B82	CHASSIS ASSEMBLIES
11B83	EVALUATORS
11B84	WAVEGUIDES
11B85	PACKAGES
11B85-2	Data
11B85-3	Camera
11B85-4	Doppler Radar
11B86	CAMERA PACKAGES (Use 11B85-3)
11B87	CHAIN AND HOOK ASSEMBLIES
11B88	ASTROTRACKERS (Use 5N2)
11B89	ALTIMETERS
11B89-2	Radio
11B90	NETWORKS (See 11B51 also)
11B90-2	Camera
11B91	DIGITALIZERS
11B91-2	Data
11B92	FILTERS
11B92-2	Radar
11B92-3	Radio
11B93	SCANNERS
11B94	INFRARED ASSEMBLIES
11B95	ADAPTERS AND PLUG-IN UNITS
11B96	MATRIX ASSEMBLIES
11C	CHEMICAL WARFARE AGENTS, EXPLOSIVES, GASES AND WEAPONS
11C1	CHEMICAL WARFARE AGENTS
11C2	CHEMICAL WARFARE BOMBS
11C2-2	Gas
11C2-3	Incendiary

11C2-4	Smoke
11C3	CHEMICAL WARFARE EXPLOSIVES
11C4	FLAME THROWERS
11C4-2	Portable
11C4-3	Mechanized
11C5	GASES
11C5-2	Blister
11C5-3	G Series
11C5-4	Mustard and Derivatives
11C5-5	Tear
11C6	GENERATORS
11C6-2	Smoke
11C7	GRENADES
11C7-2	Frangible
11C7-3	Incendiary
11C7-4	Smoke
11C8	HANDLING EQUIPMENT
11C8-2	Containers
11C8-3	Hoists
11C8-4	Kits
11C8-5	Maintenance Sets
11C8-6	Mixing, Transfer Units
11C8-7	Dispensers, Dispersers
11C9	INCENDIARIES
11C9-2	Mixing and Transfer Kits, Fuel
11C9-3	Document Destroyers
11C10	(RESERVED)
11C11	MORTARS
11C12	GENERATORS
11C12-2	Smoke
11C13	SMOKE POTS
11C14	SMOKES
11C14-2	Screening
11C15	TANKS
11C15-2	Smoke
11C15-3	Liquid Agent Spray
11C15-4	Power Spray (Dry)
11C16	DISCHARGERS
11C17	VALVES
11C18	ACTUATOR
11D	DECONTAMINATING, IMPREGNATING, AND PROTECTIVE EQUIPMENT
11D1	DECONTAMINATING EQUIPMENT
11D1-2	Delousing
11D1-3	Portable
11D1-4	Truck Mounted
11D1-5	Skid Mounted
11D1-6	Trailer Mounted

11D2	IMPREGNATING EQUIPMENT
11D2-2	Impregnites
11D2-3	Impregnating Plants
11D3	PROTECTIVE EQUIPMENT
11D3-2	Protectors
11D3-3	Shelters
11E	BIOLOGICAL WARFARE AGENTS
11E1	NOT USED
11E2	BOMBS
11E3	AGENTS
11F	FIRE CONTROL SYSTEMS AND EQUIPMENT
11F1	FIRE CONTROL SYSTEMS
11F1-A	Type A
11F1-B	Type B
11F1-C	Type C
11F1-E	Type E
11F1-F	Type F
11F1-M	Type M
11F1-P	Type P
11F1-T	Type T
11F2	ACCELEROMETERS
11F2-2	Lift
11F2-3	Voltage
11F2-4	Gravity Drop
11F2-5	Cageable
11F3	ADAPTERS (See 11F64 also)
11F3-2	Range Servo
11F3-3	Sight
11F3-4	Test
11F3-5	Radar
11F3-6	Detector
11F4	AMPLIFIERS
11F4-2	Audio Frequency
11F4-3	Electronic Control
11F4-4	Intermediate Frequency
11F4-5	Preamplifier
11F4-6	Servo
11F4-7	Sight
11F4-8	Computer
11F4-9	Antenna Control
11F4-10	Synchro Signal
11F4-11	Resolver
11F4-12	Automatic Frequency
11F4-13	Deflection
11F4-14	Power Supply
11F4-15	Gyroscope
11F4-16	Steering Signal

11F4-17	Attack Display
11F4-18	Memory
11F4-19	Video
11F4-20	Oscillator Control
11F4-21	Transponder
11F4-22	Interrogator
11F4-23	Counter
11F5	ANTENNAS
11F6	ASSEMBLIES
11F6-2	Tail Section
11F7	BLOWERS
11F8	BOXES
11F8-2	Control
11F8-3	Firing
11F8-4	Junction, Interconnecting
11F8-5	Terminal
11F9	PROGRAMMERS (Use 11F97)
11F10	CENTRAL SYSTEMS
11F10-2	Computer
11F10-3	Fire Control
11F10-4	Indicator
11F10-5	Power
11F10-6	Radar
11F10-7	Servo
11F10-8	Auxiliary
11F11	COMPRESSED AIR SYSTEMS
11F12	COMPUTERS
11F12-2	Angle of Attack
11F12-3	Flight Data
11F12-4	Free Gyroscope
11F12-5	Range
11F12-6	Sight
11F12-7	Turret
11F12-8	Interceptor Fighting, Fixed
11F12-9	Air Navigation
11F12-10	Altitude
11F12-11	Gun Data
11F12-12	Terminal Box
11F12-13	Target Position
11F12-14	Analog
11F12-15	Air Data
11F12-16	Launch
11F12-17	Toss Bomb (Use 11B10)
11F12-18	Roll Error
11F12-19	Jump Angle
11F12-20	Annunciator
11F12-21	Servo

11F12-22	Digital
11F12-23	Signal
11F12-24	Armament Control
11F12-25	Programmer
11F13	CONTROLS
11F13-2	Amplifier
11F13-3	Antenna
11F13-4	Console Switching
11F13-5	Hydraulic Range
11F13-6	Indicator
11F13-7	Range
11F13-8	Power Supply
11F13-9	Radar Set
11F13-10	Roll and Pitch
11F13-11	Intervalometer
11F13-12	Remote
11F13-13	Flight Monitor
11F13-14	Computer
11F13-15	Remote Controls (Use 11B13-12)
11F13-16	Automatic Frequency
11F13-17	Missile
11F13-18	Altitude
11F13-19	Selector
11F13-20	Receiver
11F13-21	Roll Rate
11F13-22	Rate of Turn
11F13-23	Positioning
11F13-24	Signal
11F13-25	Intercommunication
11F13-26	Radio Set
11F13-27	Alarm
11F13-28	Coder-Decoder
11F13-29	System
11F13-30	Action Range
11F13-31	Equipment Package
11F13-32	Laser
11F14	CONTROLLERS
11F14-2	Antenna
11F14-3	Gun Sight
11F14-4	Thyration
11F14-5	Altitude Differential
11F14-6	Missile
11F15	CONVERTERS AND GENERATORS
11F15-2	Frequency
11F15-3	Signal Data
11F15-4	Angle Data
11F15-5	Auto Gain Control, Waveform

11F15-6	Static
11F16	CORDS
11F17	DESICCATORS
11F17-2	Sight
11F18	FILTERS AND REACTORS
11F19	GRIPS
11F19-2	Ranging Throttle
11F20	GYROSCOPES
11F21	HEADS
11F21-2	Radio Frequency
11F21-3	Sight
11F21-4	Optical
11F22	HORNS
11F22-2	Antenna
11F23	INDICATORS
11F23-2	Cathode Ray
11F23-3	Meter
11F23-4	Target
11F24	INDICATOR CIRCUITS
11F25	KITS
11F25-2	Mounting
11F25-3	Pressurizing
11F25-4	Suppressor
11F25-5	Harmonization
11F26	LINES
11F26-2	Delay
11F26-3	Transmission
11F27	MIXERS
11F27-2	Duplexer
11F27-3	Frequency
11F28	MODULATORS
11F29	MOTORS
11F29-2	AC Induction
11F29-3	Fractional Horsepower
11F29-4	Direct-Current
11F29-5	Hydraulic
11F29-6	Rotating
11F30	MOTOR GENERATORS
11F30-2	Amplidyne
11F30-3	Type PU
11F30-4	Transformer
11F30-5	Pulse Sweep
11F30-6	Amplifier Sweep
11F30-7	Indicator Sweep
11F30-8	Pulse Clock
11F30-9	Radar
11F30-10	Tachometer

11F30-11	Induction
11F30-12	Range Function
11F31	MOUNTINGS AND MOUNTS
11F32	PANELS
11F32-2	Control
11F32-3	Test
11F33	POWER SUPPLIES
11F33-2	Amplifier
11F33-3	Computer
11F33-4	Indicator
11F33-5	Low Voltage
11F33-6	Type E-9
11F33-7	Track
11F33-8	Search
11F33-9	Precision
11F33-10	High Voltage
11F33-11	Television
11F33-12	Transistor
11F33-13	Control
11F33-14	Auxiliary
11F33-15	Multiple Voltage
11F33-16	Static Voltage Regulator
11F33-17	Hydraulic
11F34	PUMPS
11F35	RADAR SETS
11F35-2	Gun Laying
11F35-3	Search, Navigation
11F35-4	Track
11F36	RECEIVER-TRANSMITTERS
11F37	REGULATORS
11F37-2	AC Voltage
11F37-3	DC Voltage
11F37-4	Flight Control
11F38	SERVOS
11F38-2	Range
11F38-3	Roll
11F39	SIGHTS
11F39-2	Automatic Computing
11F39-3	Compensating
11F39-4	Non-computing
11F39-5	Interpupillometer
11F39-6	Infrared
11F39-7	Periscope
11F40	SIGHTING STATIONS
11F40-2	Hemisphere
11F40-3	Pedestal
11F40-4	Periscopic

11F40-5	Yoke
11F41	SIMULATORS
11F41-2	Gun Sight
11F42	SYNCHRONIZERS
11F43	TEST SETS (Use 33D5)
11F44	TRANSFORMERS
11F44-2	Power
11F44-3	Pulse
11F44-4	Synchronizer
11F45	TRANSMITTERS
11F45-2	Radar
11F45-3	Pressure
11F45-4	Radio
11F45-5	Range
11F45-6	Bearing
11F46	TURRETS
11F47	UNITS
11F47-2	Range
11F47-3	Resolver
11F47-4	Rocket Setting
11F47-5	Sight Drive
11F47-6	Sight Selector
11F47-7	Timer
11F47-8	Switching
11F47-9	Radar Indicator
11F47-10	Electronic Warning
11F47-11	Television Monitor
11F47-12	Logic Control
11F47-13	Display
11F47-14	Alignment
11F47-15	Weapons Delivery Control
11F48	VISORS
11F49	WAVEGUIDES
11F50	DETECTORS
11F50-2	Angle of Attack
11F50-3	Infrared
11F50-4	Laser
11F51	RELAY ASSEMBLIES
11F52	OSCILLATORS
11F53	SUPPRESSORS
11F54	ATTENUATORS
11F55	RACKS
11F55-2	Electrical
11F55-3	Amplifier
11F55-4	Dehydrator, Filter
11F56	POTENTIOMETERS
11F56-2	Radar Equipment

11F57	TRANSDUCERS
11F57-2	Pressure
11F58	CABINETS
11F58-2	Utility
11F59	HEATERS
11F59-2	Cabinet
11F60	POINTERS
11F60-2	Line of Sight
11F61	COLUMNS
11F61-2	Control
11F62	COMPENSATORS
11F62-2	Angle of Attack
11F63	COUPLERS
11F64	ADAPTERS (Use 11F3)
11F65	WIND DIRECTION SETS
11F66	FIGHTER MISSILE SYSTEMS
11F67	BOOSTERS
11F68	VALVES
11F69	RECEIVERS
11F70	TUNERS
11F71	RESOLVERS
11F72	MECHANISMS
11F73	TELEVISION CAMERAS
11F74	HANDLES
11F75	TELEVISION SYSTEMS
11F76	MEMORY DEVICES
11F76-2	Register
11F76-3	Drum
11F77	ELECTRONIC CLUTTER SETS
11F78	BARORESISTOR
11F79	COMPARATORS
11F80	DUCT ASSEMBLIES
11F81	SWITCHES
11F81-2	Electronic
11F81-3	Relay
11F81-4	Radio
11F81-5	Pressure
11F81-6	Waveguide
11F82	METERS
11F83	CLUTCHES
11F84	DEMODULATORS
11F85	EVALUATORS
11F86	PHOTOGRAPHIC RECORDERS
11F87	SELECTORS
11F87-2	Target
11F88	MANIFOLDS
11F89	CODER-DECODERS

11F90	DRIVE ASSEMBLIES
11F91	ISOLATORS
11F92	BOTTLE ASSEMBLIES
11F93	TANKS
11F94	HOSES
11F95	SEALS
11F96	CARTRIDGES
11F96-2	Toss Bomb Computer
11F97	PROGRAMMERS (See 11F9 also)
11F98	DISPLAY SETS
11F99	TRACKING SETS
11F100	PLOTTING BOARDS
11F101	PROCESSORS
11G	GUIDANCE AND CONTROL SYSTEMS AND EQUIPMENT
11G1	CONTROL SYSTEMS
11G1-2	System
11G1-3	Flight Control
11G2	GUIDANCE SYSTEMS
11G2-2	System
11G2-3	Control, Technical
11G2-4	Forward Emanating
11G2-5	Midcourse
11G2-6	Nonemanating
11G2-7	Full Course
11G2-8	Mark I
11G2-9	Airborne
11G2-10	Inertial
11G3	WARHEAD TRANSPORT VEHICLE (Do not use - See 36A11)
11G4	OPTICAL-MECHANICAL ELECTRONIC
11G5	BOX ASSEMBLIES
11G5-2	Junction
11G5-3	Control
11G6	COMPUTERS
11G6-2	Digital
11G6-3	Electronic
11G6-4	Gyro
11G6-5	Velocity
11G6-6	Signal
11G6-7	Transverse
11G6-8	Elevation
11G7	CONTROLS
11G7-2	Surface
11G7-3	Arming
11G7-4	Tracker
11G7-5	Bank Angle
11G7-6	Nozzle
11G7-7	Guided Bomb

11G8	AMPLIFIERS
11G8-2	Signal
11G8-3	Control
11G8-4	Astrotracker
11G8-5	Platform
11G8-6	Digital
11G8-7	Electronic Control
11G8-8	Magnetic
11G8-9	Power
11G8-10	Servo
11G8-11	Preamplifiers
11G9	POWER SUPPLIES
11G9-2	Electrical
11G9-3	Pneumatic
11G9-4	Hydraulic
11G10	PLATFORMS
11G10-2	Scanner
11G10-3	Stable
11G10-4	Sensing
11G11	GYROSCOPES
11G11-2	Inertial
11G11-3	Vertical
11G11-4	Rate
11G12	ACTUATOR (PACKAGE) ASSEMBLIES
11G12-2	Not Used
11G12-3	Elevon
11G12-4	Stabilizer
11G12-5	Spoiler
11G13	OPERATING MECHANISMS
11G13-2	Spoiler
11G14	INSTRUMENTS
11G14-2	Range Safety
11G14-3	Inertial
11G14-4	Accelerometer
11G15	GIMBAL ASSEMBLIES
11G16	SWITCH ASSEMBLIES
11G17	RACKS
11G17-2	Electrical
11G17-3	Electronic
11G18	PANELS
11G18-2	Electrical
11G19	CELESTIAL NAVIGATION
11G19-2	Astrotrackers
11G20	CONVERTERS
11G21	PROGRAMMERS
11G22	UNITS
11G22-2	Transfer

11G22-3	Flight Control (Use 11G1)
11G22-4	Measurement
11G22-5	Processor, Distributor
11G22-6	Regulator
11G22-7	Station Program
11G23	FANS AND BLOWERS
11G23-2	Blower
11G24	GENERATORS
11G24-2	Tracking
11G24-3	Motor
11G24-4	Pulse
11G24-5	Signal
11G25	REGULATING DEVICES
11G25-2	Voltage
11G25-3	Chronometers
11G26	RECEIVERS AND TRANSMITTERS
11G26-2	Data
11G27	SERVOS
11G28	TIMER ASSEMBLIES
11G29	REFERENCES
11G29-2	3-Axis
11G30	RELAYS
11G31	REGISTER ASSEMBLIES
11G31-2	Servo Trim
11G32	DETECTORS
11G33	MODULE ASSEMBLIES
11G34	DISCRIMINATORS
11G35	SIGNAL CONDITIONERS
11G36	OSCILLATORS
11G37	DISTRIBUTION ASSEMBLIES
11G38	TRANSDUCERS
11G39	CABLE ASSEMBLIES
11G40	CHASSIS ASSEMBLIES
11G41	INTERCONNECT ASSEMBLIES
11G42	CIRCUIT CARD ASSEMBLIES
11G43	TARGET DETECTING DEVICES
11H	HAZARD DETECTING EQUIPMENT
11H1	BIOLOGICAL DETECTING EQUIPMENT
11H2	CHEMICAL DETECTING EQUIPMENT
11H3	MINE DETECTING EQUIPMENT
11H4	RADIOLOGICAL DETECTING EQUIPMENT
11H4-2	Radiac
11H4-3	Computer Indicator
11H4-4	Counter
11H4-5	Densitometer
11H4-6	Dosimeter
11H4-7	Meter

11H4-8	Radioactive Test Sample
11H4-9	Container
11H4-10	Vapotester
11H4-11	Monitor
11H5	INDUSTRIAL HAZARDS DETECTING EQUIPMENT
11K	GUIDED GLIDE WEAPONS
11K1	AIR LAUNCHED
11K2	GUIDED BOMBS, TYPE GBU-2
11K10	GUIDED BOMBS, TYPE GBU-10
11K15	GUIDED BOMBS, TYPE GBU-15
11K20	GUIDED BOMBS, TYPE GBU-20, -22, AND -24
11K25	GUIDED BOMBS, TYPE GBU-27/B
11K28	GUIDED BOMBS, TYPE GBU-28A/B
11K31	GUIDED BOMBS, TYPE GBU-31
11K36	GUIDED BOMBS, TYPE GBU-36
11L	LAUNCHERS AND EQUIPMENT
11L1	AIRBORNE LAUNCHERS
11L1-2	Missile
11L1-3	Rocket
11L1-4	Dispensing
11L1-5	Flare
11L2	GROUND LAUNCHERS
11L2-2	Grenade
11L2-3	Missile
11L2-4	Rocket
11L2-5	Rotary
11L3	CONTROLS
11L3-2	Projector Release
11L3-3	Missile Launcher
11L4	MOUNTS
11LA	ASSOCIATED EQUIPMENT
11LA1	TABLES
11LA1-2	Firing
11LA2	CYLINDERS
11LA3	HOISTS
11LA4	GENERATORS
11LA5	EJECTORS
11LA6	ROCKET RACKS
11LA7	POWER SUPPLIES
11LA8	ADAPTERS
11LA9	STATIONS
11LA10	CABLES
11LA11	CHASSIS ASSEMBLIES
11LA12	RELAY ASSEMBLIES
11LA13	SWITCHING UNITS
11LA14	LAUNCHER ROTATION TOOLS
11P	EGRESS SYSTEMS, EXPLOSIVE DEVICES, AND EQUIPMENT

11P1	CATAPULTS
11P2	EJECTORS
11P3	INITIATORS AND TIMERS
11P3-2	Delay
11P3-3	Instant
11P4	REMOVERS (CANOPY)
11P5	SQUIBS AND BLASTING CAPS
11P6	THRUSTERS
11P7	CARTRIDGES
11P8	FIRING MECHANISMS
11P9	GENERATORS, MOTORS, ACTUATORS
11P10	RETRACTORS
11P11	BOOMS
11P12	CUTTERS AND BOLTS
11P13	TRANSMITTERS
11P14	INERTIAL REELS
11P15	DEPLOYMENT GUNS (DROGUE GUN)
11P16	FUSES
11P17	LEAD ASSEMBLIES
11P18	MANIFOLDS
11P19	EXPLOSIVE KITS
11P20	SINGLE POINT HARNESS RELEASES
11P21	SEVERANCE SYSTEMS
11P22	SEQUENCE SELECTORS
11R	MISSILE RE-ENTRY VEHICLES AND EQUIPMENT (Do not use)
11W	WEAPONS AND EQUIPMENT
11W1	AIRBORNE WEAPONS AND EQUIPMENT
11W1-2	Adapter
11W1-3	Booster
11W1-4	Charger
11W1-5	Chute
11W1-6	Container
11W1-7	Feeder
11W1-8	Gauge
11W1-9	Generator
11W1-10	Grip
11W1-11	Heater
11W1-12	Heavy Caliber Gun
11W1-13	Light Caliber Gun
11W1-14	Machine
11W1-15	Mount
11W1-16	Pyrotechnic
11W1-17	Solenoid
11W1-18	Switch
11W1-19	Synchronizer
11W1-20	Tool (Breech Block Unlocking)
11W1-21	Valve

11W1-22	Winder-Feeder
11W1-23	Recoil
11W1-24	Charger
11W1-25	Rack
11W1-26	Tool (Ammo Reel Loading)
11W1-27	Control
11W1-28	Gun Drive
11W1-29	Assembly
11W1-30	Counter
11W1-31	Armament Pod
11W1-32	Armament Module
11W1-33	Armament System
11W1-34	Armament Kit
11W1-35	Drum Drive
11W1-36	Lubricator
11W1-37	Expended Case Bin
11W2	GROUND WEAPONS AND EQUIPMENT
11W2-2	Activator
11W2-3	Bayonet and Knife
11W2-4	Clinometer
11W2-5	Heavy Caliber Gun
11W2-6	Light Caliber Gun
11W2-7	Machines, Repositioning- and Linking-
11W2-8	Mount
11W2-9	Pyrotechnic
11W2-10	Quadrant
11W2-11	Self-Propelled
11W2-12	Rack
11W2-13	Sight
11W2-14	Slide Rule
11W2-15	Sniperscope
11W2-16	Solenoid
11W2-17	Adapter
11W2-18	Director
11W3	SMALL ARMS
11W3-2	Carbine
11W3-3	Pistol
11W3-3-2	.22 Caliber
11W3-3-3	.45 Caliber
11W3-3-4	9MM
11W3-4	Revolver
11W3-4-2	.38 Caliber
11W3-4-3	.45 Caliber
11W3-5	Rifle
11W3-5-2	.22 Caliber
11W3-5-3	.30 Caliber
11W3-5-4	7.62MM

11W3-5-5	5.56MM
11W3-6	Shotgun
11W3-6-2	12-Gauge
11W3-6-3	16-Gauge
11W3-7	Submachine Gun
11W3-8	Line Throwing Gun
11W3-9	Grenade Launcher
11WA	WEAPONS ASSOCIATED EQUIPMENT
11WA1	FIRING TABLES
11WA1-2	Heavy Caliber
11WA1-3	Light Caliber
11WA1-4	Mortar
11WA1-5	Rifle
11WA2	CAMOUFLAGE EQUIPMENT
11WA3	POWER UNIT

CHAPTER 15
CATEGORY 12 - AIRBORNE ELECTRONIC EQUIPMENT

15.1 GENERAL.

15.1.1 Much of the equipment covered by TOs in this category is identified under the Joint Electronics Type Designation System (JETDS). The JETDS, formerly known as the AN nomenclature system, is described in MIL-STD-196D.

15.1.2 Category 12 contains seven primary airborne electronic equipment systems. These systems are divided into equipment series and further divided into equipment subseries within each equipment series. TO numbers in Category 12 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 15.2.

15.1.3 TO data pertaining to more than one system is numbered in the category general series.

15.1.4 Information relating to more than one equipment series is numbered in the system general series.

15.1.5 General TOs for JETDS equipment are described in paragraph 1.23.

15.2 NUMBERING PATTERNS.

15.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within the system.

15.2.1.1 Part one is always the numeric 12 identifying Category 12.

15.2.1.2 Part two is an alpha character identifying the electronic system, i.e., A - synchros and resolvers; C - crystal units; M - meteorological equipment; P - radar equipment; R - radio equipment; and S - special electronic equipment.

15.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series is outlined in paragraph 15.4.

15.2.2 GROUP TWO. TO numbering patterns in Category 12 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following explains both numbering patterns:

15.2.2.1 If the equipment types are JETDS nomenclatured, only three basic groups are used in the TO number. The numeric 2 followed immediately by an alphameric JETDS nomenclature comprises group two.

15.2.2.2 If the equipment types are Signal Corps nomenclatured, three basic groups are used in the TO number. The numeric 3 followed immediately by an alphameric Signal Corps nomenclature comprises group two.

15.2.2.3 If the equipment types are Air Force nomenclatured, three basic groups are used in the TO number. The numeric 5 followed immediately by an alphameric AF nomenclature comprises group two.

15.2.2.4 Where the equipment types are commercially nomenclatured, four basic groups are used in the TO number and the numeric 4 is the only character in group two.

15.2.3 GROUP THREE.

15.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 12:

-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures

-8	Test Procedures, Checkout Manuals, or Programmed Tests
-9	Alignment Manuals

15.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 12:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

15.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific equipment or components. When this occurs the specific types of TOs are then identified in group four.

15.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 15.2.3.1, above.

15.3 EXAMPLES OF CATEGORY 12 NUMBERING PATTERNS.

15.3.1 A service instruction manual with illustrated parts breakdown for a radiosonde receiver, model RC-1074:

12M1-4-9-2	
12	Category 12
M	Meteorological Equipment
1	Auxiliary Equipment Series
4	Identifies Commercial Data
9	Represents Model RC-1074
2	Number Reserved for Service Instruction

15.3.2 Illustrated parts breakdown for a terrain following radar set, type AN/APQ-128:

12P2-2APQ128-34	
12	Category 12
P	Radar Equipment
2	Control Equipment Series
2	JETDS Nomenclature Equipment
APQ128	Identifies Specific Terrain Following Radar Set
34	Number Reserved for Illustrated Parts Breakdown

15.3.3 Operating and maintenance instructions with illustrated parts breakdown for electronic countermeasure set, type QRC-128A(T):

12P3-5QRC128-1	
12	Category 12
P	Radar Electronic Equipment
3	Electronic Countermeasure Series
5	JETDS Nomenclature Equipment
QRC128	Identifies Specific Electronic Countermeasure Set
1	Number Reserved for Operating Instructions

15.3.4 Operating and maintenance instructions and illustrated parts breakdown for an airborne radio set, type AN/ARC-59:

12R2-2ARC59-1

12	Category 12
R	Radio Equipment
2	Communication Series
2	JETDS Nomenclature Equipment
ARC59	Identifies a Specific Radio Set
1	Number Reserved for Operating Instructions

15.4 CATEGORY 12 NUMBERING SERIES.

12	AIRBORNE-ELECTRONIC EQUIPMENT
12A	SYNCHRONIZERS AND RESOLVERS
12A1	SYNCHRONIZERS
12A2	RESOLVERS
12C	CRYSTAL UNITS
12M	METEOROLOGICAL-ELECTRONIC EQUIPMENT, AIRBORNE
12M1	AUXILIARY EQUIPMENT
12M1-2	JETDS Nomenclature
12M1-3	Signal Corps Nomenclature
12M1-4	Commercial Nomenclature
12M1-5	AF Nomenclature
12M2	BAROMETRIC
12M2-2	JETDS Nomenclature
12M2-3	Signal Corps Nomenclature
12M2-4	Commercial Nomenclature
12M2-5	AF Nomenclature
12M3	TEMPERATURE AND HUMIDITY
12M3-2	JETDS Nomenclature
12M3-3	Signal Corps Nomenclature
12M3-4	Commercial Nomenclature
12M3-5	AF Nomenclature
12M4	WIND DIRECTION AND VELOCITY
12M4-2	JETDS Nomenclature
12M4-3	Signal Corps Nomenclature
12M4-4	Commercial Nomenclature
12M4-5	AF Nomenclature
12M5	ATMOSPHERIC RESEARCH
12M5-2	JETDS Nomenclature
12M5-3	Signal Corps Nomenclature
12M5-4	Commercial Nomenclature
12M5-5	AF Nomenclature
12P	RADAR-ELECTRONIC EQUIPMENT
12P1	AUXILIARY EQUIPMENT
12P1-2	JETDS Nomenclature
12P1-3	Signal Corps Nomenclature
12P1-4	Commercial Nomenclature
12P1-5	AF Nomenclature
12P2	CONTROLS

12P2-2	JETDS Nomenclature
12P2-3	Signal Corps Nomenclature
12P2-4	Commercial Nomenclature
12P2-5	AF Nomenclature
12P3	ELECTRONIC COUNTERMEASURES
12P3-2	JETDS Nomenclature
12P3-3	Signal Corps Nomenclature
12P3-4	Commercial Nomenclature
12P3-5	AF Nomenclature
12P4	IFF
12P4-2	JETDS Nomenclature
12P4-3	Signal Corps Nomenclature
12P4-4	Commercial Nomenclature
12P4-5	AF Nomenclature
12P5	NAVIGATION
12P5-2	JETDS Nomenclature
12P5-3	Signal Corps Nomenclature
12P5-4	Commercial Nomenclature
12P5-5	AF Nomenclature
12P6	SEARCH AND HEIGHT FINDING
12P6-2	JETDS Nomenclature
12P6-3	Signal Corps Nomenclature
12P6-4	Commercial Nomenclature
12P6-5	AF Nomenclature
12R	RADIO-ELECTRONIC EQUIPMENT, AIRBORNE
12R1	AUXILIARY EQUIPMENT
12R1-2	JETDS Nomenclature
12R1-3	Signal Corps Nomenclature
12R1-4	Commercial Nomenclature
12R1-5	AF Nomenclature
12R2	COMMUNICATIONS
12R2-2	JETDS Nomenclature
12R2-3	Signal Corps Nomenclature
12R2-4	Commercial Nomenclature
12R2-5	AF Nomenclature
12R3	CONTROLS
12R3-2	JETDS Nomenclature
12R3-3	Signal Corps Nomenclature
12R3-4	Commercial Nomenclature
12R3-5	AF Nomenclature
12R4	ELECTRONIC COUNTERMEASURES
12R4-2	JETDS Nomenclature
12R4-3	Signal Corps Nomenclature
12R4-4	Commercial Nomenclature
12R4-5	AF Nomenclature
12R5	NAVIGATION
12R5-2	JETDS Nomenclature

12R5-3	Signal Corps Nomenclature
12R5-4	Commercial Nomenclature
12R5-5	AF Nomenclature
12R6	RELAY
12R7	DRONE MISSILE
12S	SPECIAL-ELECTRONIC EQUIPMENT
12S1	AUXILIARY
12S1-2	JETDS Nomenclature
12S1-3	Signal Corps Nomenclature
12S1-4	Commercial Nomenclature
12S1-5	AF Nomenclature
12S2	DATA PROCESSING
12S2-2	JETDS Nomenclature
12S2-3	Signal Corps Nomenclature
12S2-4	Commercial Nomenclature
12S2-5	AF Nomenclature
12S3	LIGHT OR HEAT
12S4	MAGNETIC
12S5	RECORDING
12S5-2	JETDS Nomenclature
12S5-3	Signal Corps Nomenclature
12S5-4	Commercial Nomenclature
12S5-5	AF Nomenclature
12S6	TELEVISION
12S6-2	JETDS Nomenclature
12S6-3	Signal Corps Nomenclature
12S6-4	Commercial Nomenclature
12S6-5	AF Nomenclature
12S7	TELEMETERING
12S7-2	JETD5 Nomenclature
12S7-3	Signal Corps Nomenclature
12S7-4	Commercial Nomenclature
12S7-5	AF Nomenclature
12S8	TAPEWRITERS
12S9	MISSILE OFFENSIVE SYSTEMS
12S10	NIGHT VISION
12S10-2	JETDS Nomenclature
12S10-3	Signal Corps Nomenclature
12S10-4	Commercial Nomenclature
12S10-5	AF Nomenclature
12S12	SECURE COMMUNICATION EQUIPMENT
12S12-2	JETDS Nomenclature
12S12-3	Signal Corp Nomenclature
12S12-4	Commercial Nomenclature

CHAPTER 16
CATEGORY 13 - AIRCRAFT FURNISHINGS AND IN-FLIGHT FEEDING EQUIPMENT, CARGO LOADING, AERIAL DELIVERY AND RECOVERY EQUIPMENT, AIRCRAFT FIRE DETECTION AND EXTINGUISHING EQUIPMENT

16.1 GENERAL.

16.1.1 Category 13 contains five primary systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 13 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 16.2.

16.1.2 TO data pertaining to more than one system is numbered in the category general series.

16.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

16.2 NUMBERING PATTERNS.

16.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within the system.

16.2.1.1 Part one is always the numeric 13 identifying Category 13.

16.2.1.2 Part two is an alpha character identifying the system, i.e., A - aircraft furnishings; B - in-flight feeding equipment; C - cargo loading, tiedown and aerial delivery equipment; D - recovery equipment; and F - aircraft fire detection and extinguishing equipment.

16.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series is outlined in paragraph 16.4.

16.2.2 GROUP TWO. TO numbering patterns in Category 13 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

16.2.2.1 If the TO number uses only three basic groups, group two has one or more numeric characters representing the model, type or PN assigned to specific components.

16.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

16.2.3 GROUP THREE.

16.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 13:

-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions

16.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 13:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

16.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific components.

16.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 16.2.3.1, above.

16.3 EXAMPLES OF CATEGORY 13 NUMBERING PATTERNS.

16.3.1 An operation and service instruction manual for a food warming oven, model 200:

13B1-8-1	
13	Category 13
B	In-Flight Feeding Equipment
1	Food Warming Ovens
8	Represents Model 200
1	Number Reserved for Operating Instructions

16.3.2 An operating and maintenance manual for a cargo restraint barrier, type HBU-8/A:

13C2-5-1	
13	Category 13
C	Cargo Loading Equipment
2	Cargo Tiedown Devices
5	Represents Type HBU-8/A
1	Number Reserved for Operating Instructions

16.3.3 Overhaul instructions with illustrated parts breakdown for an aircraft fire extinguisher, PN 7720082-101:

13F3-4-13	
13	Category 13
F	Aircraft Fire Detecting and Extinguishing Equipment
3	Fixed Extinguishing System Series
4	Represents PN 7720082-101
13	Number Reserved for Overhaul Instructions

16.4 CATEGORY 13 NUMBERING SERIES.

13	AIRCRAFT FURNISHINGS AND IN-FLIGHT FEEDING EQUIPMENT, CARGO LOADING, AERIAL DELIVERY AND RECOVERY EQUIPMENT, AIRCRAFT FIRE DETECTION AND EXTINGUISHING EQUIPMENT
13A	AIRCRAFT FURNISHINGS
13A1	BELTS, SAFETY AND SHOULDER HARNESSES
13A2	PERSONNEL RELIEF FACILITIES
13A3	KITS, FIRST-AID
13A4	REELS, LOCKING, AIRCRAFT SEAT

13A5	EJECTION SEATS
13A6	ADJUSTABLE SEATS
13A7	TAIL GUNNER SEATS
13A8	EJECTION SEAT GUIDE RAILS AND TRACK ASSEMBLIES
13A9	COVERS
13A9-2	Canopy
13A9-3	Nose cap
13A9-4	Blade
13A9-5	Pod
13A9-6	Engine Shield
13A10	GUARDS AND SEALS
13A10-2	Engine
13A10-3	Escape Capsule System
13A11	ASTRODOMES
13A12	DISCONNECT ASSEMBLIES
13A13	VALVES
13A14	DEVICES
13A15	CONTAINERS
13A16	HEADREST ASSEMBLIES
13A17	STABILIZERS
13A18	STRAP ASSEMBLIES
13A19	SLIDE ASSEMBLIES
13A20	PLUMBING FIXTURES
13A21	SENSORS
13A22	COMPACTORS
13A23	TABLES
13B	IN-FLIGHT FEEDING EQUIPMENT
13B1	FOOD WARMING OVENS
13B2	FOOD STORAGE UNITS
13B3	TEMPERATURE CONTROL REGULATORS
13B4	BUFFETS
13B5	REFRIGERATORS
13B6	BEVERAGE UNITS
13B7	WATER COOLERS
13B8	MOTORS AND PUMPS
13C	CARGO LOADING, TIEDOWN, AND AERIAL DELIVERY EQUIPMENT
13C1	HOISTS AND CRANES
13C2	CARGO TIEDOWN DEVICES
13C3	AERIAL DELIVERY SYSTEMS
13C3-2	Monorail
13C3-3	Center Guide Rail
13C3-4	Dual Rail
13C4	CONTAINERS, AERIAL-DELIVERY
13C5	PARACHUTES, AERIAL-DELIVERY
13C6	PARACHUTES AND CARGO DISCHARGERS
13C7	AERIAL DELIVERY KITS
13C7-1	Rigging

13C7-2	Truck
13C7-3	Trailer
13C7-4	Motor
13C7-5	Welding Set
13C7-6	Tractor
13C7-7	Water Purification Equipment
13C7-8	Electric Tool Set
13C7-9	Shelter
13C7-10	Infantry Weapon
13C7-11	Bridge
13C7-12	Rocket System
13C7-13	Reeling Machine
13C7-14	Radio Set
13C7-15	Air Compressor
13C7-16	Weapon Carrier
13C7-17	Water Tank
13C7-18	Ammunition
13C7-19	Rations, Petroleum, Oil and Lubricant
13C7-20	Spat Gun
13C7-21	Rotary Tiller
13C7-22	Missile, Rocket
13C7-23	Beacon Light
13C7-24	Crane
13C7-25	Ambulance
13C7-26	Road Roller
13C7-27	Scraper, Grader
13C7-28	Boat
13C7-29	Wrecker
13C7-30	Army Aircraft (Use 13C7-51)
13C7-31	Bucket Loader
13C7-32	Rocket Launcher, Platform
13C7-33	Mixer
13C7-34	Medical Supply
13C7-35	Warhead
13C7-36	Instrument
13C7-37	Container
13C7-38	Transporter
13C7-39	Bulk Materiel
13C7-40	Generator Set
13C7-41	Bath Unit
13C7-42	Anti-Tank Weapon
13C7-43	Test Set
13C7-44	Amp Kit
13C7-45	M-55 Rocket (Use 13C7-22)
13C7-46	M-66 Rocket (Use 13C7-22)
13C7-47	Atomic Weapon
13C7-48	Radar Set

13C7-49	Miscellaneous Air Drop
13C7-50	Airfield Repair Kit
13C7-51	Army Aircraft
13C7-52	Platform
13C7-53	Teletypewriter
13C7-54	Forklift
13C7-55	Motorcycle
13C8	AERIAL PICK UP SYSTEMS
13C9	CARGO HOOKS
13C10	UNLOADING KITS
13C11	REELS
13C12	WEIGHT AND BALANCE EQUIPMENT
13C13	ACTUATORS
13D	RECOVERY EQUIPMENT
13D1	SPACE VEHICLES
13D2	AIR-TO-AIR RECOVERY EQUIPMENT
13D3	GROUND-TO-AIR RECOVERY EQUIPMENT
13F	AIRCRAFT FIRE DETECTION AND EXTINGUISHING EQUIPMENT
13F1	FIRE DETECTOR SYSTEMS
13F1-2	Fusible Alloy Detector
13F1-3	Photoelectric
13F1-4	Thermocouple
13F1-5	Probe Detector
13F1-6	Dual Loop Thermistor
13F2	SMOKE DETECTORS
13F3	FIXED EXTINGUISHERS
13F3-2	Carbon Dioxide
13F3-3	Methyl Bromide
13F3-4	Bromochloromethane
13F3-5	Carbon Tetrachloride
13F3-6	Water
13F3-7	Bromotrifluoromethane (Halon 1301)
13F4	PORTABLE EXTINGUISHERS
13F4-2	Carbon Dioxide
13F4-3	Methyl Bromide
13F4-4	Bromochloromethane
13F4-5	Carbon Tetrachloride
13F4-6	Water
13F5	CONTROL UNITS
13F6	CONTAINERS, FIRE EXTINGUISHER BOTTLES
13F7	VALVES
13F8	RECEPTACLES
13F9	PANELS
13F10	DISCS
13F11	SOLENOIDS
13F12	REGULATORS
13F13	PROBE ASSEMBLIES

13F14 SERVICING UNITS

CHAPTER 17
CATEGORY 14 - DECELERATION DEVICES, PERSONAL AND SURVIVAL EQUIPMENT

17.1 GENERAL.

17.1.1 Category 14 contains three systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 14 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 17.2.

17.1.2 TO data pertaining to more than one system is numbered in the category general series.

17.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

17.2 NUMBERING PATTERNS.

17.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within the system.

17.2.1.1 Part one is always the numeric 14 identifying Category 14.

17.2.1.2 Part two is an alpha character identifying one of the three systems, i.e., D - deceleration devices; P - personal equipment; and S - survival equipment.

17.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series are outlined in paragraph 17.4.

17.2.2 GROUP TWO. TO numbering patterns in Category 14 use both three and four groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

17.2.2.1 If the TO number uses only three basic groups, group two has one or more numeric characters representing the model, type or PN assigned to specific components.

17.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case group two identifies the specific equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

17.2.3 GROUP THREE.

17.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 14:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions

17.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 14:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

17.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific components.

17.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 17.2.3.1, above.

17.3 EXAMPLES OF CATEGORY 14 NUMBERING PATTERNS.

17.3.1 Inspection, maintenance and packing instructions for USAF personnel parachute, PN 811058-401:

14D1-2-1-106	
14	Category 14
D	Deceleration Devices
1	Parachute Series
2	Personnel Subseries
1	Represents PN 811058-401
106	Number Reserved for Inspection Requirements

17.3.2 Operations, service and repair instructions for a high altitude helmet, type MA-2:

14P3-4-21	
14	Category 14
P	Personal Equipment
3	Clothing Series
4	Represents Helmet Type MA-2
21	Number Reserved for Operating Instructions

17.3.3 Maintenance manual for seven man life raft, PN D23810-103:

14S3-6-2-2	
14	Category 14
S	Survival Equipment
3	Life Raft Series
6	Seven Man Series
2	Represents PN D23810-103
2	Number Reserved for Maintenance Instructions

17.4 CATEGORY 14 NUMBERING SERIES.

14	DECELERATION DEVICES, PERSONAL AND SURVIVAL EQUIPMENT
14D	DECELERATION DEVICES
14D1	PARACHUTES
14D1-2	Personnel
14D1-3	Drag
14D1-4	Missile Component
14D2	AUTOMATIC RELEASE PARACHUTES
14D3	RECOVERY PARACHUTES
14D4	CARGO
14P	PERSONAL EQUIPMENT
14P1	BAGS
14P2	BLANKETS
14P3	CLOTHING

14P3-2	Boots
14P3-3	Gloves
14P3-4	Helmet
14P3-5	Suit, Anti-Exposure
14P3-6	Suit, Pneumatic
14P3-7	Suit and Accessories, Heated
14P3-8	Suit, Flying Nonheated
14P3-9	Sun Glasses
14P3-10	Flying Jackets
14P3-11	Protective
14P3-12	Support Pads
14P4	MASKS, GAS
14P5	RESPIRATORS
14P6	ARMOR
14S	SURVIVAL EQUIPMENT
14S1	KITS, EMERGENCY
14S2	PRESERVERS, (LIFE JACKETS)
14S2-2	Vest, Inflated
14S2-3	Underarm
14S2-4	Infant Floating Cot
14S3	RAFTS, LIFE
14S3-2	One Man
14S3-3	Four and Six Man
14S3-4	20 Man
14S3-5	25 Man
14S3-6	Seven Man
14S3-7	46 Man
14S3-8	12 Man
14S4	REPELLANTS-OINTMENTS
14S5	BREATHING UNITS
14S6	RESCUE SEATS
14S7	CONTAINERS (FOOD)
14S8	FLOTATION ASSEMBLIES (BAG)
14S9	SKYANCHORS (HOOKS)
14S10	LIGHTS
14S11	PUMPS

CHAPTER 18
CATEGORY 15 - AIRCRAFT AND MISSILE TEMPERATURE CONTROL, PRESSURIZING, AIR-CONDITIONING, HEATING, ICE ELIMINATING AND OXYGEN EQUIPMENT

18.1 GENERAL.

18.1.1 Category 15 contains five systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore, TO numbers in Category 15 use both three and four basic groups for data identification. Numbering patterns for both groups are discussed in paragraph 18.2.

18.1.2 TO data pertaining to more than one system is numbered in the category general series.

18.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

18.2 NUMBERING PATTERNS.

18.2.1 GROUP ONE. This group has three parts which identify the category, system, and equipment series within a system.

18.2.1.1 Part one is always the numeric 15 identifying Category 15.

18.2.1.2 Part two is an alpha character identifying one of five systems, i.e., A - air conditioning and pressurizing equipment; E - ice eliminating equipment; H - cabin heating equipment; M - missile temperature control equipment; and X - aircraft oxygen systems and equipment.

18.2.1.3 Part three contains one or more numeric characters identifying an equipment series within the system. The TO numbering series are outlined in paragraph 18.4.

18.2.2 GROUP TWO. TO numbering patterns in Category 15 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

18.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to a specific component.

18.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

18.2.3 GROUP THREE.

18.2.3.1 If the TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 15:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests

18.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, or supplements. The following alpha characters are authorized for use in Category 15:

CL - Checklists
S - Operational Supplements
SS - Safety Supplements
WC - Workcards

18.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to a specific component.

18.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 18.2.3.1, above.

18.3 EXAMPLES OF CATEGORY 15 NUMBERING PATTERNS.

18.3.1 Overhaul instructions for an aircraft cabin air pressure regulator, PN 102166-1:

15A1-4-13-3	
15	Category 15
A	Air-Conditioning and Pressurizing Equipment
1	Regulator Series
4	Air Pressure Regulator Subseries
13	Represents PN 102166-1
3	Number Reserved for Overhaul Instructions

18.3.2 An illustrated parts breakdown for a temperature control panel, PN A14A9718:

15E3-2-17-4	
15	Category 15
E	Ice Eliminating Equipment
3	Control Series
2	Electric Control Subseries
17	Represents PN A14A9718
4	Number Reserved for Illustrated Parts Breakdown

18.3.3 Overhaul instructions with parts breakdown for an oxygen breathing mask assembly, PN 249-350:

15X5-4-5-3	
15	Category 15
X	Aircraft Oxygen Systems and Equipment
5	Oxygen Mask Series
4	Pressure Demand Subseries
5	Represents PN 249-350
3	Number Reserved for Overhaul Instructions

18.4 CATEGORY 15 NUMBERING SERIES.

15	AIRCRAFT AND MISSILE TEMPERATURE CONTROL, PRESSURIZING, AIR-CONDITIONING, HEATING, ICE ELIMINATING, AND OXYGEN EQUIPMENT
15A	AIR CONDITIONING AND PRESSURIZING EQUIPMENT
15A-2	Systems
15A1	REGULATORS
15A1-2	Cabin Pressure
15A1-3	Cabin Temperature

15A1-4	Air Pressure
15A2	VALVES
15A2-2	Shutoff
15A2-3	Control
15A2-4	Safety
15A2-5	Selector
15A2-6	Mixing
15A2-7	Pressure Regulator
15A2-8	Check
15A2-9	Relief
15A2-10	Spill
15A2-11	Dump
15A2-12	Filter
15A2-13	By-Pass
15A2-14	Shuttle
15A2-15	Slide
15A2-16	Modulating
15A2-17	Flood
15A2-18	Drain
15A3	REFRIGERATION AND PRESSURIZATION UNITS
15A3-2	Turbine
15A3-3	Refrigeration Package
15A3-4	Fan, Blower
15A4	INTERCOOLERS (HEAT EXCHANGERS)
15A5	TEMPERATURE SENSING DEVICES
15A5-2	Control
15A5-3	Anticipator
15A5-4	Thermostat
15A5-5	Pick-Up Assembly
15A5-6	Sensor
15A5-7	Transmitter
15A6	FILTERS
15A6-2	High Temperature
15A7	SEPARATORS
15A7-2	Air Moisture
15A8	CONTROLS
15A8-2	Limit
15A8-3	Air
15A8-4	Pressure
15A8-5	Temperature
15A8-6	Changer
15A8-7	Timer
15A8-8	Selector
15A8-9	Dive Rate
15A8-10	Turbine
15A8-11	Panels
15A9	PUMPS

15A9-2	Air Turbine
15A9-3	Centrifugal
15A10	LINKAGE ASSEMBLIES
15A10-2	Air-Conditioning Package Unit
15A11	SUPERCHARGERS
15A11-2	Cabin
15A12	DETECTORS
15A12-2	Air Flow
15A12-3	Ice
15A13	EJECTORS
15A14	DEHYDRATORS
15A15	VENTURI TUBES
15A16	COMPRESSORS
15A17	ABSORBERS
15A18	DEHUMIDIFIERS
15A19	TIRE INFLATION UNITS
15A20	INDICATORS
15A21	AIR OUTLETS
15A22	TRANSDUCERS
15E	ICE ELIMINATING EQUIPMENT
15E1	PUMPS
15E1-2	Circulating
15E1-3	Metering
15E2	VALVES
15E2-2	Shutoff
15E2-3	Selector
15E2-4	Regulating
15E2-5	Control
15E2-6	Relief
15E2-7	Drain
15E2-8	By-Pass
15E3	CONTROLS
15E3-2	Electric
15E3-3	Manual
15E3-4	Air
15E4	SEPARATORS
15E4-2	Oil
15E4-3	Water
15E5	FILTERS
15E5-2	Fluid
15E5-3	Hot Air
15E6	RESERVOIRS (TANKS)
15E6-2	Fluid
15E7	FANS AND BLOWERS
15E7-2	Nose Radome
15E7-3	Cockpit Defogging
15E8	JOINT ASSEMBLIES

15E9	EJECTORS
15H	CABIN HEATING EQUIPMENT
15H1	HEATERS
15H1-2	Combustion
15H1-3	Electric
15H2	PUMPS
15H2-2	Vane
15H2-3	Cam
15H2-4	Air Driven
15H3	BLOWERS
15H3-2	Fan
15H4	IGNITION UNITS
15H4-2	Vibrator
15H5	VALVES
15H5-2	Control
15H5-3	Butterfly
15H5-4	Check
15H6	THERMOSTATS
15H6-2	Control
15H6-3	Anticipator
15H6-4	Fuel
15H6-5	Air
15H7	IMPELLERS
15M	MISSILE TEMPERATURE CONTROL EQUIPMENT
15M1	COOLING SYSTEMS
15M2	VALVES
15M2-2	Check
15M2-3	Control
15M3	HEAT EXCHANGERS
15M4	FANS AND BLOWERS
15M5	CONTROLS
15X	AIRCRAFT OXYGEN SYSTEMS AND EQUIPMENT
15X1	SUPPLY CYLINDERS
15X1-2	Low Pressure
15X1-3	High Pressure
15X1-4	Emergency Bailout
15X1-5	Cylinder, Valve Assembly
15X2	CONVERTERS, LIQUID-OXYGEN
15X2-2	5-Liter Capacity
15X2-3	25-Liter Capacity
15X2-4	8-Liter Capacity
15X2-5	20-Liter Capacity
15X2-6	10-Liter Capacity
15X2-7	75-Liter Capacity
15X2-8	15-Liter Capacity
15X3	GAUGES, OXYGEN
15X3-2	Gaseous

15X3-2-2	Low Pressure
15X3-2-3	High Pressure
15X3-3	Liquid
15X4	INDICATORS
15X4-2	Gaseous Oxygen
15X4-3	Liquid Oxygen
15X4-4	Oxygen Deficiency
15X4-5	Pressure
15X5	MASKS, OXYGEN
15X5-2	Continuous Flow
15X5-3	Demand
15X5-4	Pressure Demand
15X5-5	Smoke
15X6	REGULATORS, OXYGEN FLOW
15X6-2	Continuous Flow
15X6-3	Demand
15X6-4	Manual Pressure Demand
15X6-5	Automatic Pressure Demand
15X7	AIRBORNE TEST EQUIPMENT (Do not use)
15X8	VALVES
15X8-2	Low Pressure
15X8-3	High Pressure
15X8-4	Pressure Reducing Release
15X8-5	Filler
15X8-6	Liquid, Buildup, Vent
15X8-7	Regulating
15X8-8	Filter
15X8-9	Check
15X8-10	Drain
15X8-11	Shutoff
15X8-12	Coupling
15X9	TRANSDUCERS
15X10	CONTROL PANELS
15X11	SURVIVAL KITS
15X12	SEAT PACKS
15X13	DISCONNECT ASSEMBLIES
15X14	TRANSMITTERS
15X15	MANIFOLDS
15X16	SWITCHES
15X17	HEAT EXCHANGERS
15X18	HOSE ASSEMBLIES
15X19	GENERATORS
15X20	METERS
15X21	VENTILATORS
15X22	SEPARATORS
15X23	CONTROLLERS

CHAPTER 19
CATEGORY 16 - AIRBORNE MECHANICAL EQUIPMENT

19.1 GENERAL.

19.1.1 Category 16 contains seven mechanical systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 16 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 19.2.

19.1.2 TO data pertaining to more than one system is numbered in the category general series.

19.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

19.2 NUMBERING PATTERNS.

19.2.1 GROUP ONE. This group has three parts identifying the category, system, and the equipment series within the system.

19.2.1.1 Part one is always the numeric 16 identifying Category 16.

19.2.1.2 Part two is an alpha character identifying the mechanical systems, i.e., A - actuators; C - control units; G - gear box, drive and screwjack assemblies; K - release mechanisms; L - lock and latching mechanisms; R - regulating mechanisms; and W - structural components. Associated equipment for these systems are identified by adding the alpha A immediately following the mechanical system identifier, e.g., GA.

19.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series are outlined in paragraph 19.4.

19.2.2 GROUP TWO. TO numbering patterns in Category 16 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

19.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific equipment.

19.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

19.2.3 GROUP THREE.

19.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 16:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-7	Installation Instructions

19.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 16:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

19.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific components.

19.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 19.2.3.1, above.

19.3 EXAMPLES OF CATEGORY 16 NUMBERING PATTERNS.

19.3.1 A maintenance manual for a control stick grip, PN 28000-7:

16C1-27-12-12	
16	Category 16
1	Control Unit Series
27	Control Stick Subseries
12	Represents PN 28000-7
12	Number Reserved for Maintenance Instructions

19.3.2 Overhaul instructions with illustrated parts breakdown for ball nut and screw assembly, PN B-1142:

16G3-2-32-3	
16	Category 16
G	Mechanical Gear Box, Drive and Screwjack Assemblies
3	Screwjack Mechanism Series
2	Screwjack Assembly Subseries
32	Represents PN B-1142
3	Number Reserved for Overhaul Instructions

19.3.3 Overhaul instructions for missile pylon package, PN 223-68327:

16W6-18-3	
16	Category 16
W	Structural Components
6	Pylon Assembly Series
18	Represents PN 223-68327
3	Number Reserved for Overhaul Instructions

19.4 CATEGORY 16 NUMBERING SERIES.

16	AIRBORNE MECHANICAL EQUIPMENT
16A	ACTUATING MECHANISMS
16A1	ACTUATORS
16A1-2	Bomb Bay Door
16A1-3	Dive Brake
16A1-4	Hoist Traversing
16A1-5	Linear
16A1-6	Main Landing Gear
16A1-7	Nacelle Cooling Door
16A1-8	Nose Gear
16A1-9	Rocket Door
16A1-10	Rudder Control
16A1-11	Tab Control

16A1-12	Tail Skid
16A1-13	Wing Flap
16A1-14	Auxiliary
16A1-15	Canopy Jettison
16A1-16	Dive Flap
16A1-17	Main Landing Gear Door
16A1-18	Camera Door
16A1-19	Rear Landing Gear Door
16A1-20	Windshield
16A1-21	Air Exit Door
16A1-22	Throttle Control
16A1-23	Drag Chute Door
16A1-24	Nose Landing Gear Door
16C	CONTROL MECHANISMS
16C1	CONTROL UNITS
16C1-2	Tab, Aileron
16C1-3	Flap
16C1-4	Brake
16C1-5	Rudder
16C1-6	Door
16C1-7	Elevator
16C1-8	Spoiler
16C1-9	Wheel
16C1-10	Stabilizer
16C1-11	Steering
16C1-12	Landing Gear
16C1-13	Antenna
16C1-14	Valve
16C1-15	Parachute Release
16C1-16	Special Stores
16C1-17	Bombing System
16C1-18	Fuel Boom
16C1-19	Flight Simulator
16C1-20	Canopy Latch
16C1-21	Head
16C1-22	Instrument Box
16C1-23	Emergency Hydraulic Power
16C1-24	Gimbal Assembly
16C1-25	Sector Box
16C1-26	Mixer
16C1-27	Control Stick
16C1-28	Positioning Lever
16C1-29	Pod Release
16C1-30	Surface, Wing-Fold, Wing-Tip, Fold-up, Trailing Edge
16C1-31	Propeller
16C1-32	Air Inlet
16C1-33	Stairs, Ladder

16G	GEAR BOX, DRIVE, AND SCREWJACK ASSEMBLIES
16G1	GEAR BOXES
16G2	DRIVE MECHANISMS
16G2-2	Angle
16G2-3	Torque
16G2-4	Bevel
16G2-5	Hexagon
16G2-6	Worm
16G2-7	Power Plant
16G3	SCREWJACK MECHANISMS
16G3-2	Screwjack Assembly
16G4	UNIVERSAL JOINTS
16G5	SHAFTS
16G5-2	Alternator
16G5-3	Disconnect Assembly
16G5-4	Torque
16G5-5	Power Transmission
16G5-6	Nozzle
16GA	ASSOCIATED EQUIPMENT
16GA3	SCREWJACK MECHANISMS
16GA3-2	Limiter
16GA3-3	Plug (Do not use)
16GA4	GEAR BOXES (Do not use)
16K	RELEASE MECHANISMS
16K1	RELEASE ASSEMBLIES
16K1-2	Jettison
16K1-3	Landing Gear
16K1-4	Parachute
16K1-5	Escape Hatch
16K1-6	Capsule Disconnect
16K1-7	Pod
16K1-8	Bomb Bay Rack
16K1-9	Disconnect
16K1-10	Carriage Shackle
16L	LOCKING AND LATCHING MECHANISMS
16L1	LOCKING AND LATCHING
16L1-2	Drag Parachute Compartment
16L1-3	Gear
16L1-4	Door
16L1-5	Pilot’s Canopy
16L1-6	Strut
16L1-7	Rudder, Stabilizer, Elevator
16L1-8	Pod
16L1-9	Arresting Hook
16L1-10	Aerial Delivery
16L1-11	Wing Flap
16R	REGULATING MECHANISMS

16R1	REGULATORS
16R1-2	Cable Tension
16R1-3	Quadrant
16R1-4	Canopy Seal
16R1-5	Control Box
16R1-6	Linkage Assembly
16W	STRUCTURAL COMPONENTS (AIRFRAME)
16W1	WINDOW ASSEMBLIES
16W1-2	Window
16W2	CANOPY ASSEMBLIES
16W3	DOOR ASSEMBLIES
16W4	CAPSULE ASSEMBLIES
16W5	RADOME ASSEMBLIES
16W6	PYLON ASSEMBLIES
16W7	PANEL ASSEMBLIES
16W8	CARRIAGE AND SHACKLE ASSEMBLIES
16W9	BODY ASSEMBLIES
16W10	COUNTERBALANCE ASSEMBLIES
16W11	PLATE ASSEMBLIES
16W12	SUPPORT ASSEMBLIES
16W13	SNUBBERS
16W14	DUCT ASSEMBLIES
16W15	RAIL ASSEMBLIES
16W16	CASE AND CARTRIDGE ASSEMBLIES
16W17	DASHPOT ASSEMBLIES
16W18	COUNTERPOISE ASSEMBLIES
16W19	ENGINE MOUNT ASSEMBLIES
16W20	FLARE BOXES
16W21	MISSILE SPACERS
16W22	PIN ASSEMBLIES
16W23	SEAL ASSEMBLIES
16W24	REVERSER ASSEMBLIES
16W25	BEARINGS
16W26	RACK AND MOUNT ASSEMBLIES
16W27	CONSOLES
16W28	EXHAUST VALVES
16W29	TUBES
16W30	BATTERY BOX ASSEMBLIES
16W31	NACELLE VENTILATION EJECTORS
16W32	LEADING EDGE ASSEMBLIES (WING)
16W33	ARRESTING GEAR ASSEMBLIES
16W34	TANK ASSEMBLIES
16W35	ADAPTER ASSEMBLIES
16W36	LINERS
16W37	COVERS
16W38	CONTROL COLUMN ASSEMBLIES
16W39	CONNECTING LINKS

16W40	NOSE ASSEMBLIES
16W41	PODS
16W42	GLARESHIELD ASSEMBLIES

CHAPTER 20
CATEGORY 21 - GUIDED MISSILES

20.1 GENERAL.

20.1.1 Technical data numbered in the missile category includes operations manuals, organization (on site) maintenance instructions, inspection requirements, overhaul instructions and specified procedures relating to missiles. TO numbers incorporate the missile type or mission, model and production series, which groups types of missile data accordingly.

20.1.2 Technical information pertaining to more than one type of missile is numbered in the category general series. Since the data pertains to more than one type of missile, TO numbers assigned in the category general series do not reflect the missile type, model or production series. A manual entitled, "Plating Procedures for the AIM-4 and the LGM-30" would be numbered as follows:

21M-1-107	
21	Category 21
M	Missile
1	Category General Series
107	Serialized Manual Number

20.1.3 TOs pertaining to more than one model of a specific type of missile are numbered in the general series of that missile type. An operational manual relating to the AIM-4 and the AIM-26 would be numbered as follows:

21M-AIM-101	
21	Category 21
M	Missile
AIM	Air Launched, Intercept Aerial, Missile
101	Serialized Manual Number

20.1.4 Technical information pertaining to more than one production series of a missile model is numbered in the first production series. A field checkout instruction for the AIM-4A, AIM-4D and AIM-4G would be numbered in the "A" production series.

20.1.5 TOs for earlier guided missiles are numbered as described in paragraphs 20.2 and 20.3. TOs for the M-X and later guided missile systems are numbered as described in paragraphs 20.4 and 20.5.

20.2 NUMBERING PATTERNS.

20.2.1 GROUP ONE. In Category 21, the first group has only two parts, identifying the category, and a designator indicating missiles.

20.2.1.1 Part one is always the numeric 21 identifying Category 21.

20.2.1.2 Part two is always the alpha M identifying missiles.

20.2.2 GROUP TWO. This group can have either two or three parts. If two parts are used, the missile type and model only are identified. This normally means the TO contains general information pertaining to all production series of a specific missile type and model. In most cases, three parts are used in group three, indicating the missile type, model and production series.

20.2.2.1 Part one is composed of three alpha characters. The first alpha character identifies the missile launch environment; the second indicates the basic mission of the missile; and the third describes the missile vehicle type. The following listing outlines these alpha designators as established by AFR 82-1:

LAUNCH ENVIRONMENT

A	-	Air
B	-	Multiple
C	-	Coffin
F	-	Individual
G	-	Runway
H	-	Silo Stored
L	-	Silo Launched
M	-	Mobile
P	-	Soft Pad
R	-	Ship
U	-	Underwater

BASIC MISSION

D	–	Decoy
E	—	Special Electronic Installation
G	—	Surface Attack
I	—	Intercept Aerial
Q	—	Drone
T	—	Training
U	—	Underwater Attack
W	—	Weather

VEHICLE TYPE

M	—	Guided Missile/Drone

20.2.2.2 Part two contains one or more numeric characters identifying the missile model number.

20.2.2.3 Part three is an alpha character indicating the missile production series. The first production series of a particular missile is designated with the alpha A, the second with the alpha B and continuing through the alphabet as required.

20.2.2.4 It is possible that a fourth part may be required for group two in order to identify a missile production configuration. If this becomes a requirement, the production configuration identifier (PCI) will be an alpha character immediately following the production series identifier. The alpha A is reserved to indicate USAF missile configurations and the remainder of the alphabet will be used for those configurations produced for foreign countries. Although the alpha A is reserved to identify USAF missile configurations, no specific alpha character will be associated with or reserved for missile configurations for a particular foreign country.

20.2.3 GROUP THREE. In Category 21, the third group primarily identifies the type of inspection, instruction, or procedure. This can be accomplished by either one or two parts.

20.2.3.1 Part one consists of one or more numeric characters reserved to indicate a specific type of TO. The following is a list of reserved numbers authorized for use in Category 21:

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Organizational Maintenance Manuals
-3	Structural Repair and Overhaul Manuals
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests
-10	Engine Buildup Manuals
-12	Special Maintenance Manuals
-16	Warhead Loading
-17	Storage of Missiles
-18	Field Maintenance and Materials Manuals
-21	Missile Inventory Record Master Guides
-22	Control Manuals
-23	Corrosion Control Manuals
-26	Non-Destructive Inspection Manuals
-27	Calibration and Measurement Manuals
-33	Contractor Maintenance Data

20.2.3.2 Part two. In some instances some of the reserved numbers listed in part one, above, are followed by one or more alpha characters indicating a series of checklists, workcards, supplements, and other media. The following lists the alpha characters authorized for use in Category 21:

CL -	Checklist
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards
WS -	Worksheets

20.2.4 GROUP FOUR. This group consists of one or more numeric characters identifying sections of a sectionalized manual or indicating the series number of specific TO data in a series of inspections, supplements, or functions.

20.2.5 Group Five. When required, this group contains one or more numeric characters indicating a further sectionalization or serialization of a TO.

20.3 EXAMPLES OF CATEGORY 21 NUMBERING PATTERNS.

20.3.1 A work unit code manual for the AIM-9E missile:

21M-AIM9E-06	
21	Category 21
M	Missiles
AIM	Air Intercept Missile
9	Missile Model Number
E	Production Series
06	Number Reserved for Work Unit Code Manual

20.3.2 Inspection requirements for the AGM-12C missile:

21M-AGM12C-6	
21	Category 21
M	Missiles
AGM	Air-to-Ground Missile
12	Missile Model Number
C	Production Series
6	Number Reserved for Inspection Requirements

20.3.3 Structural repair manual for the LGM-30A missile:

21M-LGM30A-3	
21	Category 21
M	Missiles
LGM	Launched Ground Missiles
30	Missile Model Number
A	Product Series
3	Number Reserved for Structural Repair Manuals

20.4 SHORTENED NUMBERING FOR MISSILE TECHNICAL ORDER MANUALS.

20.4.1 To eliminate redundancy, TO numbers for future missiles will be shortened by eliminating the M in category designator 21M and by eliminating the M in model designators such as LGM. These codes are redundant, since only missile TOs appear in Category 21.

20.4.2 Using shortened TO numbers will be effective with the LGM-118A and future missile designs. Use of the former numbering practice will continue for earlier designated missiles. Existing TOs in Category 21 will not be renumbered for the sole purpose of shortening the TO numbers.

20.4.3 The following is an example of this method applied to an organizational maintenance instruction for launch facility and launch control facility environmental control system for the LGM-118A missile:

21-LG118A-2-7-4	
21	Identifies Missile Category
L	Silo Launch Environment
G	Surface Attack Mission
118	Design Number
A	Design Series
2	Maintenance Manual
7	Launch Facility and Launch Control Facility Environmental Control System
4	Designates Specific Installation

CHAPTER 21
CATEGORY 22 - AEROSPACE VEHICLES

21.1 GENERAL.

21.1.1 TO data numbered in this category identifies operational, organizational maintenance, inspection and procedures related to aerospace vehicles and systems. Aerospace vehicles are either manned or unmanned flight vehicles operating in the atmosphere or space environment. TO numbers incorporate the aerospace vehicle type and model or the aerospace system which identifies family groups according to mission or function.

21.1.2 Information pertaining to more than one aerospace vehicle is numbered in the category general series. Numbers assigned in this section do not contain the aerospace vehicle type and model in the TO number.

21.1.3 TOs pertaining to only one type of aerospace vehicle but containing information relative to more than one vehicle model within that type, will be numbered in the general series of the aerospace vehicle type.

21.1.4 TO data pertaining to more than one production series of an aerospace vehicle model will be numbered in the first series, i.e., operational data applicable to the MER-6A, MER-6B and MER-6C would be numbered as 22R-MER6A-1.

21.2 NUMBERING PATTERNS.

21.2.1 GROUP ONE. With the exception of the Category 22 general series TO numbers, the first group of the TO numbering pattern for aerospace TOs consists of a numeric 22, denoting Category 22, and an alpha character identifying one of five aerospace systems, i.e., R - rockets; G - boosters; J - spacecraft; P - probes; and S - satellites.

21.2.2 GROUP TWO. The second group of the TO number contains the aerospace vehicle type, model and production series; or an L system which is used in the aerospace program.

21.2.3 GROUP THREE.

21.2.3.1 In this category the third group of the numbering pattern identifies the type of TOs by using a number reserved for each type. The following is a list of reserved numbers authorized for Category 22:

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Maintenance Manuals
-3	Structural Repair Instructions
-4	Illustrated Parts Breakdown
-5	Weight and Balance Manuals
-6	Inspection Requirements
-8	Test Procedures, Checkout Manuals, or Programmed Tests
-17	Storage of Aerospace Vehicles
-18	Field Maintenance of Material

21.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 22:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards
WS -	Worksheets

21.3 EXAMPLES OF CATEGORY 22 NUMBERING PATTERNS.

21.3.1 An operational manual for the MER-6A aerospace rocket:

22R-MER6A-1	
22	Category 22
R	Rockets
MER	Rocket Type
6	Rocket Model Number
A	Production Series A
1	Number Reserved for Operating Instructions

21.3.2 An illustrated parts breakdown for the 494L system used in the aerospace program:

22R-494L-4	
22	Category 22
R	Rockets
494L	L System identification
4	Number Reserved for Illustrated Parts Breakdown

CHAPTER 22
CATEGORY 31 - GROUND ELECTRONIC EQUIPMENT

22.1 GENERAL.

22.1.1 Much of the equipment covered by TOs in this category is identified under the Joint Electronics Type Designation System (JETDS). The JETDS, which was formerly known as the AN Nomenclature System, is described in MIL-STD-196D.

22.1.2 Category 31 contains seven primary ground electronic equipment systems. These systems are divided into equipment series; some are further divided into equipment subseries within the equipment series. TO numbers in Category 31 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 22.2.

22.1.3 TO data pertaining to more than one system is numbered in the category general series.

22.1.4 Information relating to more than one equipment series is numbered in the system general series.

22.1.5 General TOs for JETDS equipment are described in paragraph 1.23.

22.2 NUMBERING PATTERNS.

22.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within a system.

22.2.1.1 Part one is always the numeric 31 identifying Category 31.

22.2.1.2 Part two is an alpha character identifying the electronic equipment system, i.e., M - meteorological equipment; P - radar equipment; R - radio equipment; S - special electronic equipment; W - wire fixed electronic equipment; X - missile ground operational equipment; and Z - systems and site equipment. Missile ground operational equipment is the only system in Category 31 that has associated equipment. Its associated equipment is identified by XA.

NOTE

Although numerous TOs are currently numbered in the 31X and 31XA series, these series will not be used for numbering new TOs. Future TOs for missile ground operational equipment will be numbered in appropriate functional equipment systems of Category 31.

22.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series is outlined in paragraph 22.4.

22.2.2 GROUP TWO. The several numbering patterns currently used in Category 31 are most conspicuous in the group two numbering configurations. Numbering patterns are as follows:

22.2.2.1 This paragraph covers numbering patterns for 31M, 31P, 31R, 31S and 31W systems. The numbering patterns use both three and four basic groups; therefore, the identifiers in group two are not constant.

22.2.2.1.1 If the equipment types are JETDS nomenclatured, three basic groups are used in the TO number. The numeric 2 followed immediately by an alphameric JETDS nomenclature comprises group two.

22.2.2.1.2 If the equipment types are Signal Corps nomenclatured, three basic groups are used in the TO number. The numeric 3 followed immediately by an alphameric Signal Corps nomenclature comprises group two.

22.2.2.1.3 If the equipment types are Air Force nomenclatured, three basic groups are used in the TO number. The numeric 5 followed immediately by an alphameric AF nomenclature comprises group two.

22.2.2.1.4 If the equipment types are commercially nomenclatured (not JETDS, Signal Corps, or AF), four basic groups are used in the TO number. The numeric 4 is the only character in group two.

22.2.2.2 This paragraph covers numbering patterns for the 31X system which uses both three and four basic groups.

22.2.2.2.1 The numbering pattern for basic equipment TOs in the 31X System uses four basic groups. In this case one or more numeric characters in group two identify the equipment subseries.

22.2.2.2.2 The numbering pattern for associated equipment TOs (indicator 31XA) uses only three basic groups. In this case one or more numeric characters in group two represent the model, type or PN assigned to specific equipment.

22.2.2.3 The numbering pattern for 31Z series TOs uses three basic groups. Group two, with one or more numeric characters, identifies AFCS (formerly GEEIA) Engineering-Installation Standards or a specific system, site, facility or special project. The type of TO is identified in group three as described in paragraph 22.2.3.1, below.

22.2.3 GROUP THREE.

22.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 31:

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Instructions
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-5	Command Manuals
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests
-9	Alignment Instructions

22.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 31:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

22.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific equipment or components. When this occurs the specific type of TO is then identified in group four.

22.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 22.2.3.1.

22.3 EXAMPLES OF CATEGORY 31 NUMBERING PATTERNS.

22.3.1 Operating and maintenance instructions for timing and telephone set, type ML-110:

31M1-3ML110-1	
31	Category 31
M	Meteorological Equipment
1	Auxiliary Meteorological Equipment Series
3	Identifies Signal Corps Nomenclatured Items
ML110	Identifies Specific Signal Corps Nomenclatured Item
1	Number Reserved for Operating Instructions

22.3.2 Operating instructions with service instructions and illustrated parts breakdown for radio transmitter model TCS-4B:

31R2-4-153-1

31	Category 31
R	Radio Equipment
2	Communication Series
4	Commercial Nomenclatured Items
153	Represents Model TCS-4B
1	Number Reserved for Operating Instructions

22.3.3 Operating and service instructions for a combat reporting center, type AN/TSQ-91:

31S1-2TSQ91-1

31	Category 31
S	Special Electronic Equipment
1	Auxiliary Equipment Series
2	Identifies JETDS Nomenclatured Items
TSQ91	Identifies Specific JETDS Nomenclatured Item
1	Number Reserved for Operating Instructions

22.3.4 Illustrated parts breakdown for missile ground checkout equipment generator PN 55-11387:

31X2-9-16-4

31	Category 31
X	Missile Ground Operational Equipment
2	Checkout Equipment Series
9	Generator Subseries
16	Represents PN 55-11387
4	Number Reserved for Illustrated Parts Breakdown

22.3.5 Service instructions for mobile single sideband high frequency medium power facility, communication central, type AN/TSC-40, facility 691:

31Z3-691-2

31	Category 31
Z	Ground Defense Systems
3	Facility Publications Series
691	Identifies Facility 691
2	Number Reserved for Service Instructions

22.4 CATEGORY 31 NUMBERING SERIES.

31	GROUND-ELECTRONIC EQUIPMENT
31M	METEOROLOGICAL-ELECTRONIC EQUIPMENT
31M-10	AFCS Engineering - Installation (formerly GEEIA) Standards
31M1	AUXILIARY
31M1-2	JETDS Nomenclature
31M1-3	Signal Corps Nomenclature
31M1-4	Commercial Nomenclature
31M1-5	AF Nomenclature
31M2	BAROMETRIC
31M2-2	JETDS Nomenclature

31M2-3	Signal Corps Nomenclature
31M3	STATIONS
31M3-2	JETDS Nomenclature
31M3-4	Commercial Nomenclature
31M3-5	AF Nomenclature
31M4	TEMPERATURE AND HUMIDITY
31M4-2	JETDS Nomenclature
31M4-3	Signal Corps Nomenclature
31M4-4	Commercial Nomenclature
31M5	WIND DIRECTION AND VELOCITY
31M5-2	JETDS Nomenclature
31M6	CLOUD HEIGHT, DEPTH, AND DIRECTION
31M6-2	JETDS Nomenclature
31M7	TELEMETERING
31M7-2	JETDS Nomenclature
31M7-4	Commercial Nomenclature
31P	RADAR-ELECTRONIC EQUIPMENT
31P1	AUXILIARY
31P1-2	JETDS Nomenclature
31P1-4	Commercial Nomenclature
31P2	CONTROLS
31P2-2	JETDS Nomenclature
31P2-3	Signal Corps Nomenclature
31P2-4	Commercial Nomenclature
31P3	HEIGHT FINDING
31P3-2	JETDS Nomenclature
31P3-4	Commercial Nomenclature
31P4	IDENTIFICATION, FRIEND-OR-FOE
31P4-2	JETDS Nomenclature
31P5	NAVIGATION
31P5-2	JETDS Nomenclature
31P5-4	Commercial Nomenclature
31P6	SEARCH
31P6-2	JETDS Nomenclature
31P6-3	Signal Corps Nomenclature
31P6-4	Commercial Nomenclature
31P7	SURVEILLANCE
31P7-2	JETDS Nomenclature
31P8	COUNTERMEASURES
31P8-2	JETDS Nomenclature
31P8-4	Commercial Nomenclature
31P9	OVER-THE-HORIZON
31P9-2	JETDS Nomenclature
31R	RADIO-ELECTRONIC EQUIPMENT
31R1	AUXILIARY
31R1-2	JETDS Nomenclature
31R1-3	Signal Corps Nomenclature

31R1-4	Commercial Nomenclature
31R2	COMMUNICATION
31R2-2	JETDS Nomenclature
31R2-3	Signal Corps Nomenclature
31R2-4	Commercial Nomenclature
31R2-5	AF Nomenclature
31R3	CONTROL
31R3-2	JETDS Nomenclature
31R3-3	Signal Corps Nomenclature
31R3-4	Commercial Nomenclature
31R4	NAVIGATION
31R4-2	JETDS Nomenclature
31R4-3	Signal Corps Nomenclature
31R4-4	Commercial Nomenclature
31R5	RELAY MICROWAVE
31R5-2	JETDS Nomenclature
31R5-4	Commercial Nomenclature
31R6	(Not used)
31S	SPECIAL-ELECTRONIC EQUIPMENT
31S1	AUXILIARY
31S1-2	JETDS Nomenclature
31S1-4	Commercial Nomenclature
31S2	FACSIMILE
31S2-2	JETDS Nomenclature
31S2-4	Commercial Nomenclature
31S3	RECORDING
31S3-2	JETDS Nomenclature
31S3-3	Signal Corps Nomenclature
31S3-4	Commercial Nomenclature
31S4	TELEVISION
31S4-2	JETDS Nomenclature
31S4-4	Commercial Nomenclature
31S4-5	AF Nomenclature
31S5	COMPUTER SYSTEMS
31S5-2	JETDS Nomenclature
31S5-4	Commercial Nomenclature
31S6	COUNTERMEASURES
31S6-2	JETDS Nomenclature
31S6-4	Commercial Nomenclature
31S7	TELEMETRY
31S7-2	JETDS Nomenclature
31S7-4	Commercial Nomenclature
31S8	CONTROL
31S8-2	JETDS Nomenclature
31S8-4	Commercial Nomenclature
31S9	SPECIAL DETECTING
31S9-2	JETDS Nomenclature

31S9-4	Commercial Nomenclature
31S10	SIMULATED COHERENT RADIATION DEVICES
31S10-2	JETDS Nomenclature
31S10-4	Commercial Nomenclature
31S11	FIBER OPTIC
31S11-2	JETDS Nomenclature
31S11-4	Commercial Nomenclature
31S12	NONSTANDARD CRYPTOGRAPHIC EQUIPMENT
31W	GROUND WIRE, FIXED-ELECTRONIC EQUIPMENT
31W1	AUXILIARY
31W1-2	JETDS Nomenclature
31W1-3	Signal Corps Nomenclature
31W1-4	Commercial Nomenclature
31W2	INSIDE PLANT
31W2-2	JETDS Nomenclature
31W2-3	Signal Corps Nomenclature
31W2-4	Commercial Nomenclature
31W2-10	AFCS Engineering - Installation Standards
31W3	OUTSIDE PLANT
31W3-4	Commercial Nomenclature
31W3-10	AFCS Engineering - Installation Standards
31W4	TELETYPE
31W4-2	JETDS Nomenclature
31W4-4	Commercial Nomenclature
31X	MISSILE GROUND OPERATIONAL EQUIPMENT
31X1	COMMUNICATIONS
31X1-2	General
31X1-3	Public Address Set
31X1-4	Connecting Station
31X1-8	Telephone Set
31X1-10	Amplifier
31X1-11	Power Unit, Chassis, Relay
31X1-12	Headset
31X2	CHECKOUT
31X2-2	Checkout Assembly
31X2-3	Console
31X2-4	Panel
31X2-9	Generator
31X2-10	Control Unit
31X2-11	Power Supply
31X2-12	Counter
31X2-15	Selector
31X2-19	Receiver
31X2-20	Monitor
31X2-24	Simulator
31X2-26	Regulator
31X2-28	Meter, Measuring Equipment

31X2-29	Rectifier
31X2-30	Relay
31X2-32	Digital Unit
31X2-35	Switching Unit
31X2-36	Cable Unit
31X2-38	Amplifier Assembly
31X2-41	Signal Source Assembly
31X2-45	Coupler Group
31X2-47	Indicator
31X2-50	Circuit Assembly
31X2-55	Exerciser
31X2-56	Adapter Unit
31X2-57	Recorder, Memory Erase Unit
31X2-58	Reproducer
31X2-61	Modulator, Demodulator
31X2-62	Inserter
31X2-63	Alignment Equipment
31X2-66	Zeroing Unit
31X2-67	Pulse Assembly
31X2-68	Reset Assembly
31X2-69	Drawer
31X2-71	Filter, Network
31X2-73	Instrument Assembly
31X2-74	Computer
31X2-77	Semiconductor Device Set
31X3	LAUNCH CONTROL AND COUNTDOWN
31X3-2	Launch Control - Countdown
31X3-3	Console, Launch Control, and Countdown
31X3-6	Countdown Relay
31X3-8	Panel
31X3-10	Control
31X3-11	Programmer
31X3-12	Monitor
31X3-13	Power Supply
31X3-15	Recorder Group, Memory Erase Unit
31X3-16	Switching Unit
31X3-18	Synchronizer
31X3-23	Multiplexer
31X3-27	Decoder
31X3-28	Printed Circuit Assembly
31X3-31	Alarm
31X4	POWER DISTRIBUTION EQUIPMENT
31X4-2	Power Distribution Unit
31X4-3	Generation and Distribution Panel
31X4-5	Control Unit
31X4-8	Electrical Cable
31X7	GROUND GUIDANCE EQUIPMENT

31X7-2	System
31X7-3	Control Assembly
31X7-5	Power Supply Assembly
31X7-8	Amplifier Assembly
31X7-14	Converter
31X7-16	Computer
31X7-24	Storage Device
31X7-45	Timing Device
31X7-51	Altimeter
31X7-52	Stabilizer
31X8	CODE PROCESSING
31X8-2	Consoles
31XA	ASSOCIATED EQUIPMENT AND COMPONENTS FOR MISSILE GROUND OPERATIONAL EQUIPMENT
31XA2	INTERCONNECTING KITS
31XA3	COUPLERS
31XA4	VALVES
31XA5	SWITCHES
31XA6	MOTORS
31XA7	JUNCTION BOXES
31XA9	PUMPS
31XA16	LOAD DUCTS
31Z	GROUND DEFENSE SYSTEMS
31Z-10	AFCS Engineering - Installation Standards, General
31Z1	SYSTEM TECHNICAL ORDERS
31Z2	SITE TECHNICAL ORDERS
31Z3	FACILITY TECHNICAL ORDERS
31Z4	SPECIAL COMMUNICATIONS PROJECTS

CHAPTER 23
CATEGORY 32 - STANDARD AND SPECIAL TOOLS

23.1 GENERAL.

23.1.1 Category 32 contains two types of tool systems. These systems are divided into equipment series and both of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 32 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 23.2.

23.1.2 TO data pertaining to more than one system is numbered in the category general series.

23.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

23.2 NUMBERING PATTERNS.

23.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within a system.

23.2.1.1 Part one is always the numeric 32, identifying Category 32.

23.2.1.2 Part two is an alpha character identifying the system, i.e., A - special tools and B - standard tools.

23.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series is outlined in paragraph 23.4.

23.2.2 GROUP TWO. TO numbering patterns in Category 32 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

23.2.2.1 If the TO number uses only three basic groups, group two has one or more numeric characters representing the model, type or PN assigned to specific equipment.

23.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

23.2.3 GROUP THREE.

23.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 32:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-7	Installation Instructions

23.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 32:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

23.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific components.

23.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 23.2.3.1, above.

23.3 EXAMPLES OF CATEGORY 32 NUMBERING PATTERNS.

23.3.1 Operating instructions with parts breakdown for a borescope, model 120011-3.

32A2-9-1	
32	Category 32
A	Special Tools
2	Boresight Series
9	Represents Model 120011-3
1	Number Reserved for Operating Instructions

23.3.2 Operating and service instructions for an actuator repair tool kit, PN 7592417P1:

32A20-3-46-1	
32	Category 32
A	Special Tools
20	Kit Series
3	Tool Kit Subseries
46	Represents PN 7592417P1
1	Number Reserved for Operating Instructions

23.3.3 Operating instructions with illustrated parts breakdown for reversible impact wrench, model 7275:

32B14-4-18-1	
32	Category 32
B	Standard Tools
14	Wrench Series
4	Pneumatic Wrenches Subseries
18	Represents Model 7275
1	Number Reserved for Operating Instructions

23.4 CATEGORY 32 NUMBERING SERIES.

32	STANDARD AND SPECIAL TOOLS
32A	SPECIAL TOOLS
32A1	BALANCERS
32A2	BORESIGHTS
32A3	SPLICERS
32A3-2	Cable
32A4	GUNS
32A4-2	Pressure
32A4-3	Spring Charging
32A4-4	Heat
32A5	WRENCHES
32A5-2	Torque
32A5-3	Plain
32A5-4	Extension
32A5-5	Special

32A5-6	Socket
32A5-7	Power Kit
32A6	FIXTURES
32A6-2	Heater Curing
32A6-3	Zeroing
32A6-4	Spreader
32A6-5	Initiator Simulator
32A6-6	Torque
32A6-7	Fairing Assembly
32A6-8	Adapter
32A6-9	Mold
32A6-10	Turnover
32A6-11	Rigging
32A6-12	Airseal Trimming
32A6-13	Cockpit Display
32A6-14	Power Control Linkage Assembly
32A6-15	Mounter, Demounter
32A6-16	Gluing
32A6-17	Drill
32A6-18	Clutch Run-In
32A6-19	Gauge
32A6-20	Locating, Attaching Points
32A6-21	Special Tool
32A6-22	Spoiler
32A6-23	Installer, Extractor
32A6-24	Shipping
32A7	SHARPENERS
32A7-2	Chain Saw
32A8	DIGGERS
32A8-2	Clay
32A9	TAMPERS
32A9-2	Backfill
32A9-3	Rams
32A10	BREAKERS
32A10-2	Paving
32A11	VIBRATORS
32A11-2	Concrete
32A12	LEVELING TOOLS
32A12-2	Telescopic
32A12-3	Line Level Indicator
32A12-4	Guidance System
32A12-5	Electronic
32A13	WELL DRILLERS
32A13-2	Gasoline Engine Driven
32A14	GRINDING DEVICES
32A14-2	Antenna
32A15	PROTRACTORS

32A16	SWAGERS
32A17	DETECTORS
32A18	CALIBRATORS
32A19	TEMPLATES AND GAUGES
32A20	KITS
32A20-2	Adjusting
32A20-3	Tool, Tire Inflation Assembly Kit
32A20-4	Mount
32A20-5	Rigging
32A20-6	Installation
32A20-7	Wiring
32A21	BORING TOOLS
32A21-2	Carburetor Jet
32A21-3	Auger
32A21-4	Structural Repair
32A22	TARGET ASSEMBLIES
32A23	EXTRACTORS
32A24	ROLLERS
32A25	TEST TOOLS
32A26	BRAZING TOOLS
32A27	CLAMPS
32A27-2	Guidance Set
32A27-3	Nose
32A28	EJECTORS
32A28-2	Air
32A29	CONTROL UNITS
32A29-2	Heat
32A30	GAUGES (See 32A19)
32A31	PULLERS (See 32A23 Also)
32A32	EXTRACTORS (Use 32A23)
32A33	CUTTERS
32A34	SPREADERS
32A35	PULSER
32A36	ERASING DEVICES
32A37	PROTRACTORS (Use 32A15)
32A38	SERVICE TOOLS
32A39	COUNTERS
32A40	FRONT LENGTH TOOL
32A41	REELS
32B	STANDARD TOOLS
32B1	CUTTERS
32B1-2	Cable
32B2	DRILLS
32B2-2	Electric
32B2-3	Pneumatic
32B3	GAUGES

32B4	GRINDERS
32B4-2	Electric
32B4-3	Pneumatic
32B5	RIVETERS
32B5-2	Pneumatic
32B5-3	Hydraulic
32B6	HAMMERS
32B6-2	Pneumatic
32B6-3	Electric
32B7	IRONS
32B7-2	Electric
32B8	PLANES
32B8-2	Hand
32B8-3	Electric
32B9	PULLERS
32B10	SANDERS
32B10-2	Electric
32B10-3	Pneumatic
32B11	SCREWDRIVERS
32B11-2	Pneumatic
32B12	SHAVERS
32B12-2	Pneumatic
32B13	SAWS
32B13-2	Electric
32B13-3	Pneumatic
32B14	WRENCHES
32B14-2	Electric
32B14-3	Hand
32B14-4	Pneumatic
32B14-5	Hydraulic
32B15	ETCHERS
32B15-2	Electric
32B16	KITS
32B16-2	Canvas Repair
32B17	DRILL ATTACHMENT
32B17-2	Cutoff and Burring Tool
32B18	REFACING TOOLS
32B19	CRIMPING TOOLS
32B20	WRAPPING TOOLS

CHAPTER 24
CATEGORY 33 - TEST EQUIPMENT

24.1 GENERAL.

24.1.1 This category contains testers, test equipment and test interface equipment. Test procedures, test control and programmed test TOs are numbered with related equipment identified in the various airborne and ground component categories.

24.1.2 Category 33 contains five test equipment systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 33 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 24.2.

24.1.3 TO data pertaining to more than one system is numbered in the category general series.

24.1.4 Information relating to more than one equipment series within a system is numbered in the system general series.

24.2 NUMBERING PATTERNS.

24.2.1 GROUP ONE. This group has three parts that identify the category, system and equipment series within a system.

24.2.1.1 Part one is always the numeric 33 identifying Category 33.

24.2.1.2 Part two is an alpha character identifying one of five aerospace systems, i.e., A - general purpose test equipment; B - inspection test equipment; C - laboratory test equipment; D - special purpose test equipment; and K - calibration procedures. Only 33A and 33D systems have associated equipment TOs. Associated equipment for these systems is identified by adding the alpha A immediately following the system identifier, i.e., AA or DA.

24.2.1.3 Part three contains one or more numeric characters that identify an equipment series within a system. The TO numbering series is outlined in paragraph 24.4.

24.2.2 GROUP TWO. TO numbering patterns in Category 33 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

24.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

24.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

24.2.3 GROUP THREE.

24.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 33:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance Manuals
-4	Illustrated Parts Breakdown
-5	Depot Calibration
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests
-9	Alignment Instructions

24.2.3.2 In some instances the reserved numbers are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 33:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
VS -	Visual Slide
WC -	Workcards

24.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PNs assigned to specific components.

24.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 24.2.3.1, above.

24.3 EXAMPLES OF CATEGORY 33 NUMBERING PATTERNS.

24.3.1 Illustrated parts breakdown for a ballistics computer test set, PN T-101235:

33D5-5-78-4

33	Category 33
D	Special Purpose Test Equipment
5	Armament Equipment Series
5	Computer Subseries
78	Represents PN T-101235
4	Number Reserved for Illustrated Parts Breakdown

24.3.2 Operating and maintenance instructions for a radar analyzer test set, type AN/APM-226:

33D7-10-23-1

33	Category 33
D	Special Purpose Test Equipment
7	Electrical and Electronic Equipment Series
10	Analyzer Subseries
23	Represents Type AN/APM-226
1	Number Reserved for Operating Instructions

24.3.3 Operating instructions for associated equipment electron tube test set, type AN/USM-31:

33AA21-2-1

33	Category 33
A	General Purpose Test Equipment
A	Associated Equipment
21	Tube Analyzer Series
2	Represents Type AN/USM-31
1	Number Reserved for Operating Instructions

24.3.4 Illustrated parts breakdown for magnetic inspection unit, model H144-6AD-1:

33B2-11-14

33	Category 33
B	Inspection Test Equipment
2	Electrical Series

11	Represents Model H144-6AD-1
14	Number Reserved for Illustrated Parts Breakdown

24.3.5 Service instructions for a dynamotor test set, type TS-414/U:

33A1-12-95-2	
33	Category 33
A	General Purpose Test Equipment
1	Electrical and Electronic Equipment Series
12	Voltage, Current and Resistance Measuring Equipment Subseries
95	Represents Type TS-414/U
2	Number Reserved for Service Instructions

24.4 CATEGORY 33 NUMBERING SERIES.

NOTE

Technical Orders containing calibration procedures for nonstocklisted precision measuring equipment are numbered in the 33L1 category, system and series. These TOs are not listed in TO Indexes and are not distributed through the Air Force TO system. Publication and distribution are accomplished by Aerospace Guidance and Metrology Center (MLMA), Newark AFS, OH 43057-5475.

33	TEST EQUIPMENT
33-1	AIRFRAME
33A	GENERAL PURPOSE TEST EQUIPMENT
33A1	ELECTRICAL AND ELECTRONIC
33A1-2	Amplifying
33A1-3	Combination Group Test Set
33A1-4	Field Intensity Measuring
33A1-5	Frequency Measuring
33A1-6	Impedance, Standing Wave Ratio Measuring, Noise Meter
33A1-7	Power Measuring, Audio Indicating
33A1-8	Signal Generating
33A1-9	Temperature Measuring, Thermostat
33A1-10	Time Base Measuring, Counting
33A1-11	Vibration
33A1-12	Voltage, Current, Resistance Measuring, Multimeter
33A1-13	Wave Form Measuring, Recording
33A1-14	Interference Measuring
33A1-15	Electrical Circuit Check
33A1-16	Auxiliary Power Plant
33A2	HYDRAULIC
33A2-2	Stand
33A2-3	Gauge
33A2-4	Valve
33A2-5	Cylinder, Actuator
33A3	MECHANICAL
33A3-2	Analyzer
33A3-3	Cable Tensiometer
33A3-4	Torque Tester

33A3-5	Regulator
33A3-6	Unit
33A3-7	Actuator, Screw Jack Assembly
33A3-8	Anti-Skid
33A3-9	Stand
33A3-10	Tachometer Generator
33A3-11	Lock and Latch Assemblies
33A4	PNEUMATIC
33A4-2	Accumulator
33A4-3	Cabin Heater
33A4-4	Cabin Leakage
33A4-5	Regulator
33A4-6	Valve
33A4-7	Leak
33A4-8	Pressurization Kit
33A4-9	Pump
33A4-10	Pneumatic Dehydrator, Chemical Dryer
33A4-11	Air Filter
33A4-12	Components
33A5	VACUUM
33A5-2	Stand
33A6	LIQUIDS
33A6-2	Density
33A6-3	Flow Meter
33A6-4	Pressure
33A6-5	Temperature
33A6-6	Viscosity
33A6-7	Volume
33A6-8	Analyzer
33A7	GAS
33A7-2	Density
33A7-3	Flow Meter
33A7-4	Pressure
33A7-5	Temperature
33A7-6	Volume
33A7-7	Weight
33A7-8	Analyzer
33A8	SOLIDS
33A8-2	Balancing
33A8-3	Hardness
33A8-4	Tensile Strength
33A8-5	Volume
33A8-6	Weight
33A9	TIME
33A9-2	Watch Recording Device
33A10	NON-AERONAUTICAL ENGINES
33AA	ASSOCIATED EQUIPMENT

33AA1	ADAPTERS
33AA2	PANELS
33AA3	BLOWERS
33AA4	BOXES
33AA4-2	Attenuator
33AA4-3	Jack
33AA4-4	Junction
33AA4-5	Relay
33AA4-6	Shunt
33AA5	CORDS OR CABLES
33AA6	DECADE RESISTORS
33AA7	DUMMY LOADS
33AA8	DYNAMOTORS
33AA9	AIR SUPPLIES
33AA10	CHAMBERS
33AA11	FREQUENCY CONVERTERS
33AA12	HEADSETS
33AA13	INVERTERS
33AA14	JACKS
33AA15	MICROPHONES
33AA16	PLUGS
33AA17	POWER SUPPLIES
33AA18	PROBES
33AA19	SHUNTS AND MULTIPLIERS
33AA20	TEST ANTENNAS
33AA21	TUBE ANALYZERS
33AA22	VOLTAGE DIVIDERS
33AA23	FITTINGS
33AA24	CAPSULES
33AA25	CHARGERS
33AA26	MOTORS
33AA27	METERS (Use 33A1)
33AA28	HORNS
33AA29	COMPRESSORS (TEST)
33AA30	PUMPS
33AA31	VALVES
33AA32	BLOWERS (See 33AA3)
33AA33	AMPLIFIERS (Use 33A1-2)
33AA34	SERVOSCOPES
33AA35	TIMERS
33AA36	ATTENUATORS
33AA37	ACCELERATORS
33AA38	SYNCHRONIZERS
33AA39	DIGITAL COMPONENTS
33AA40	COUPLERS
33AA41	CONVERTERS
33AA42	COMMUTATORS

33AA43	CALIBRATION UNITS
33AA44	KEYBOARDS
33AA45	INDICATORS
33AA46	TELETYPEWRITERS
33AA47	FREQUENCY DIVIDERS
33AA48	STORAGE DISPLAY UNITS
33AA49	TRANSLATORS
33AA50	TRANSPORT MAGNETIC TAPE
33AA51	RESISTORS
33B	INSPECTION TEST EQUIPMENT
33B1	CHEMICAL
33B1-2	Penetrants
33B2	ELECTRICAL
33B3	ELECTRONIC
33B3-2	Reflectoscopes
33B3-3	X-Ray
33B4	OPTICAL
33B4-2	Inspectoscope, Borescope
33B4-3	Comparator
33B4-4	Binoculars
33B4-5	Theodolite
33B4-6	Collimator
33B4-7	Indicator
33B4-8	Calibration
33B4-9	Power Meter
33B4-10	Visual
33B4-11	Photometric
33B5	INSPECTION STANDS
33B6	X-RAY (Also see 33B3-3)
33B7	SHOP EQUIPMENT
33B8	LIGHTS AND LAMPS
33C	LABORATORY TEST EQUIPMENT
33C1	ANALYTICAL AND LEAK DETECTORS
33C2	MEASUREMENT
33C3	TEMPERATURE
33C4	LABORATORY FIXTURES
33D	SPECIAL PURPOSE TEST EQUIPMENT
33D1	AIRCRAFT AND MISCELLANEOUS GROUND SUPPORT EQUIPMENT
33D1-2	Bomber
33D1-3	Cargo
33D1-4	Fighter
33D1-5	Helicopter
33D1-6	Liaison
33D1-7	Trainer
33D1-8	Drone
33D2	AIRCRAFT ACCESSORIES (AIRBORNE)
33D2-2	Fire Detector System

33D2-3	Fuel System
33D2-4	Generator
33D2-5	Hydraulic System, Hydraulic Servo Actuator
33D2-6	Instrument, Crash Position Instrument
33D2-7	Landing Gear
33D2-8	Navigation System, Simulator Indexing
33D2-9	Oil System
33D2-10	Oxygen System
33D2-11	Propeller
33D2-12	Vacuum, Pneumatic System
33D2-13	Aerial Refueling
33D2-14	Cabin Heat, Vent
33D2-15	Weight and Balance System
33D2-16	De-Icing
33D2-17	Alternator
33D2-18	Air-Conditioning
33D2-19	Warning System
33D2-20	Explosion Extinguishing
33D2-21	Loader Assembly
33D2-22	Computer
33D2-23	Brake System
33D2-24	Helium Charging System
33D2-25	Recording System and Components
33D2-26	Assessment System and Components
33D2-27	Electrical System
33D2-28	Pressurization System
33D2-29	Variable Air Inlet System
33D2-30	Pod Assembly
33D2-31	Launch Gear Assembly
33D2-32	Starter
33D2-33	Augmenter System
33D2-34	Ejection System (Canopy)
33D2-35	Stabilization System
33D2-36	Hoist Assembly
33D2-37	Aerial Delivery System
33D2-38	Guidance System
33D2-39	Environmental Control System
33D2-40	Stall Prevention System
33D2-41	All Weather Landing System
33D2-42	Cargo Loading
33D2-43	Rescue and Survival
33D2-44	Radome System
33D2-45	Egress System
33D2-46	Head-Up Display Set
33D2-47	Atmospheric Research
33D3	AUTOMATIC FLIGHT CONTROL SYSTEMS (AIRBORNE)
33D3-2	Amplifier

33D3-3	Voltage, Current
33D3-4	Control Assembly, Yaw Damper
33D3-5	Electron Tube
33D3-6	Gyroscope
33D3-7	Power Supply
33D3-8	Servo
33D3-9	System, Yaw Damper
33D3-10	Table, (Rate, Speed, Variable, Rate Gyro)
33D3-11	Ejector
33D3-12	Linkage Assembly
33D3-13	Screwjack
33D3-14	Converter
33D3-15	Actuator
33D3-16	Reactor
33D3-17	Indicator
33D3-18	Spike Position
33D3-19	Autopilot (See 33D3-9 Also)
33D3-20	Valve
33D3-21	Accelerometer
33D3-22	Drive Assembly
33D3-23	Transducer
33D3-24	Computer
33D3-25	Adapter, Fixture
33D3-26	Card Assembly
33D3-27	Relay Unit
33D3-28	Regulator
33D3-29	Starter
33D3-30	Limiter
33D3-31	Leak Test
33D3-32	Shifter
33D3-33	Rack, Panel
33D3-34	Comparator
33D3-35	Coupler
33D3-36	Module
33D3-37	Electronic Plug-In
33D3-38	Transmitter
33D3-39	Altimeter
33D3-40	Switch
33D3-41	Sensor
33D4	AIRCRAFT ENGINES
33D4-2	Reciprocating
33D4-3	Rocket
33D4-4	Ramjet
33D4-5	Pulsejet
33D4-6	Turbojet
33D4-7	Turboprop
33D5	ARMAMENT

33D5-2	Amplifier
33D5-3	Cable, Circuit
33D5-4	Compass
33D5-5	Computer
33D5-6	Calibration
33D5-7	Gyroscope
33D5-8	Radar
33D5-9	Sight
33D5-10	Turret
33D5-11	Platform
33D5-12	System
33D5-13	Table
33D5-14	Voltage, Current
33D5-15	Test Bench
33D5-16	Control
33D5-17	Dehydrator
33D5-18	Timing, Sequencing
33D5-19	Cord (Do not use)
33D5-20	Simulator
33D5-21	Panel
33D5-22	Radalator, Evaluators
33D5-23	Power Supply
33D5-24	Components
33D5-25	Leak Test
33D5-26	Phototube
33D5-27	Astro Tracker
33D5-28	Spring Tester
33D5-29	Squib
33D5-30	Pylon
33D5-31	Boresight
33D5-32	Indicator
33D5-33	Sensor
33D5-34	Compensator
33D5-35	Converter
33D5-36	Switch
33D5-37	Repeater
33D5-38	Generator
33D5-39	Antenna
33D5-40	Detector
33D5-41	Multiplier
33D5-42	Receiver - Transmitter
33D5-43	Display Unit
33D5-44	Gear Accuracy
33D5-45	Limiter
33D5-46	Comparator, Analyzer
33D5-47	Synchronizer
33D5-48	Drive

33D5-49	Infrared Tester
33D5-50	Tool Kit
33D5-51	Ratiometers (Use 33A1)
33D5-52	Transducer
33D5-53	Rack
33D5-54	Plug-In Assembly
33D5-55	Filter
33D5-56	Spray Tank
33D5-57	Rocket
33D5-58	Nitrogen Circulator
33D5-59	Firing Pin
33D5-60	Guided Glide Weapon
33D5-61	Destructor
33D5-62	Eluminator
33D5-63	Stores
33D5-64	Motor
33D5-65	Collimator
33D5-66	Dispenser
33D5-67	Fuze
33D6	AUTOMOTIVE
33D6-2	Brake
33D6-3	Engine
33D6-4	Headlight
33D6-5	Instrument
33D6-6	Wheel
33D7	ELECTRICAL AND ELECTRONIC
33D7-2	Amplifier
33D7-3	Computer
33D7-4	Intercommunication
33D7-5	Phasing and Null Station
33D7-6	Power Supply
33D7-7	Quartz Crystal Unit
33D7-8	Simulator
33D7-9	Gyroscope, Gyroscope Platform
33D7-10	Analyzer
33D7-11	Radome
33D7-12	Data Recorder, Reader
33D7-13	Countermeasures
33D7-14	Identification, Friend-or-Foe - Radar
33D7-15	RF Head
33D7-16	Air Data System
33D7-17	Converter
33D7-18	Relay
33D7-19	Selector
33D7-20	Indicator
33D7-21	Shift Register
33D7-22	Detector, Leak Detectors

33D7-23	Servo
33D7-24	Video
33D7-25	Console
33D7-26	Teletypewriter
33D7-27	Antenna Boresight
33D7-28	Voltage, Current
33D7-29	Transmitter, Transceiver
33D7-30	Telemetering
33D7-31	Circuit
33D7-32	Pods
33D7-33	Module, Scanner Test Station
33D7-34	Tracking
33D7-35	Antenna
33D7-36	Receiver
33D7-37	Detection Radar Data Takeoff
33D7-38	System, Circuit Board
33D7-39	Scorer
33D7-40	Time Delay
33D7-41	Routing Assembly
33D7-42	Programmer
33D7-43	Rectifier
33D7-44	Radar
33D7-45	Calibration
33D7-46	Beacon
33D7-47	Control, Temperature Controllers
33D7-48	Miss Distance Measuring
33D7-49	Electronic Circuit Plug-In
33D7-50	Adapters, Interface Unit
33D7-51	Reconnaissance
33D7-52	Cylinder
33D7-53	Compressor
33D7-54	Go-No-Go
33D7-55	Discriminator
33D7-56	Oscillator
33D7-57	Electron Tube
33D7-58	Device, Drive
33D7-59	Generator
33D7-60	Comparator
33D7-61	Unit, Auxiliary Power Unit
33D7-62	Meteorological
33D7-63	Platform, Gyroscope, Accelerometer
33D7-64	Telegraph
33D7-65	Evaluator
33D7-66	Matrix Unit
33D7-67	Anti-Aircraft Fire Control
33D7-68	Memory
33D7-69	Magnetic Drum, Disk

33D7-70	Binary
33D7-71	Radio
33D7-72	Driver
33D7-73	Target Drone
33D7-74	Refrigeration
33D7-75	Multiplexer
33D7-76	Card
33D7-77	Display
33D7-78	Interrogator
33D7-79	Motor
33D7-80	Laser
33D7-81	Readout
33D7-82	Certification
33D7-83	Buffer
33D7-84	Error Corrector
33D7-85	Cold Proof Load Tester
33D7-86	Monitor
33D7-87	Compensator
33D7-88	TV Monitor
33D7-89	Mixer
33D7-90	Assembler
33D7-91	Editor
33D7-92	PROMS (Programmable Read-Only Memory System)
33D7-93	EROMS (Eraseable Read-Only Memory System)
33D7-94	ROMS (Read-Only Memory System)
33D7-95	Blanking
33D7-96	Processor
33D7-97	EPROMS (Eraseable Programmable Read-Only Memory Systems)
33D7-98	Vessel Assembly
33D7-99	Outlet Assembly
33D9	GUIDED MISSILES
33D9-2	Fuel System
33D9-3	Guidance System
33D9-4	Hydraulic
33D9-5	Power Plant (Engine)
33D9-6	Power Supply
33D9-7	Flight Control
33D9-8	Selector Van
33D9-9	Missile Components
33D9-10	Release Navigation Computer
33D9-11	Generator and Case Assembly
33D9-12	Hoist Support Boom
33D9-13	Payload
33D9-14	Simulator
33D9-15	Amplifier
33D9-16	Power Box
33D9-17	Control

33D9-18	Actuator, Motor
33D9-19	Adapter
33D9-20	Fuzing System
33D9-21	Oscillator
33D9-22	Gauge
33D9-24	Resolver
33D9-25	Timers
33D9-26	Ignitor
33D9-27	Targeting Tester
33D9-28	Frequency Meter
33D9-29	Indicator, Counter
33D9-30	Checkout
33D9-31	Pneumatic
33D9-32	Selector
33D9-33	Mechanical Instrument
33D9-34	Exerciser
33D9-35	Converter
33D9-36	Battery
33D9-37	Inverter
33D9-38	Circuit
33D9-39	Calibration
33D9-40	Analyzer, Dynamic Signal
33D9-41	Inspection Equipment Tester
33D9-42	Radar
33D9-43	Command
33D9-44	Beacon
33D9-45	Launch Control
33D9-46	Antenna
33D9-47	Transmitter and Receiver
33D9-48	Pack
33D9-49	Rectifier
33D9-50	Reference
33D9-51	Tape
33D9-52	Junction Box
33D9-53	Computer
33D9-54	Miscellaneous Test Set
33D9-55	Pump
33D9-56	Platform
33D9-57	Meter, Measuring
33D9-58	Generator, Controller
33D9-59	Electrical System
33D9-60	Interrogator
33D9-61	System Tester
33D9-62	Transponder
33D9-63	Acid System
33D9-64	Re-Entry Vehicle
33D9-65	Motor Generator

33D9-66	Synchro Zeroing
33D9-67	Computer (See 33D9-53)
33D9-68	Cable
33D9-69	Jack Box
33D9-70	Density
33D9-71	Gimbal Assembly
33D9-72	Gyroscope
33D9-73	Fluid Transfer System
33D9-74	Programmer Device, Fault Isolation
33D9-75	Transducer
33D9-76	Network
33D9-77	Distributor
33D9-78	Propellant Handling
33D9-79	Auxiliary Ring
33D9-80	Hydro-Pneumatic Trailer
33D9-81	Liquid Oxygen Trailer
33D9-82	Power Distribution Trailer
33D9-83	Fault Isolation, Security System Alarm Set
33D9-84	Leakage Detector
33D9-85	Optical
33D9-86	Checkout Tray
33D9-87	Signal Conditioner
33D9-88	Relay
33D9-89	Instrumentation
33D9-90	Stabilization Filter
33D9-91	Engine (See 33D9-5)
33D9-92	Valve (See 33D9-106)
33D9-93	Thermal Resistor
33D9-94	Adjuster
33D9-95	Moisture Content Tester
33D9-96	Handler's Environment
33D9-97	Telephone
33D9-98	Servo
33D9-99	Confidence Tester
33D9-100	Message Generator, Sweep
33D9-101	Continuity Tester
33D9-102	Cannister
33D9-103	Dead Weight
33D9-104	Recording
33D9-105	Triplexer
33D9-106	Valve (See 33D9-92)
33D9-107	Verifier
33D9-108	Safety and Arming
33D9-109	Sensing Instrument
33D9-110	Injection
33D9-111	Monitor
33D9-112	Data Link

33D9-113	Insulation
33D9-114	Rapid Firing
33D9-115	Transistorized Unit
33D9-116	Video Unit, Monitor
33D9-117	Reader (Decoder)
33D9-118	Oscilloscope (Do not use)
33D9-119	Trucks
33D9-120	Gas Systems
33D9-121	Offensive Subsystem
33D9-122	Heater, Cooler
33D9-123	Electronic Component
33D9-124	Trainer
33D9-125	Signal Generator (See 33D9-100)
33D9-126	Roofs and Erector
33D9-127	Ordnance
33D9-128	Panel, Release Control
33D9-129	Module
33D9-130	Cylinder
33D9-131	Switch
33D9-132	Sensitol Unit
33D9-133	Communication
33D9-134	Umbilical
33D9-135	Destruction System
33D9-136	Sequence Assembly
33D9-137	Alarm
33D9-138	Contamination Unit
33D9-139	Sump Tank
33D9-140	Alignment
33D9-141	Discriminator
33D9-142	Accelerometer
33D9-143	Degausser
33D9-144	Astrotracker
33D9-145	Receiver
33D9-146	Tuning Head
33D9-147	Ejector Rack
33D9-148	Common Missile Assembly
33D9-149	Missile Bit
33D10	PHOTOGRAPHIC EQUIPMENT
33D10-2	Camera
33D10-3	Diaphragm Test Fixture
33D10-4	Ejector
33D10-5	Collimator
33D10-6	Servo Test
33D10-7	Developer, Processor
33D10-8	Magazine
33D10-9	Shutter Trip, Timer
33D10-10	Simulator

33D10-11	Spot Scanner
33D10-12	Amplifier
33D10-13	Control
33D10-14	Modulator, Demodulator
33D10-15	Power Supply
33D10-16	Measuring, Counting
33D10-17	Mockup System
33D10-18	Oscillator
33D10-19	Indicator
33D10-20	Table
33D10-21	Gyroscope
33D10-22	Radar Recording Camera
33D10-23	Viewfinder
33D10-24	Detector
33D10-25	Photogrammetric
33D10-26	Mounting Base, Chassis
33D10-27	Mount (Use 33D10-26)
33D10-28	Analyzer
33D10-29	Switch
33D10-30	Balance Tester
33D10-31	Photo Recording Unit
33D10-32	Synchronizer
33D10-33	Converter
33D10-34	Drive Assembly
33D10-35	Photoflash
33D10-36	Calibrator
33D10-37	Photo Adapter Unit
33D10-38	Fixture
33D10-39	Cooling Unit
33D10-40	Transducer
33D10-41	Printer
33D10-42	Encoder
33D10-43	System
33D10-44	Computer
33D10-45	Cassette
33D10-46	Module
33D10-47	Infrared Photo Reconnaissance
33D10-48	Focusing Aid
33D10-49	Verifier
33D11	PHYSIOLOGICAL
33D11-2	Lie Detector
33D11-3	Stereoscopic
33D11-4	Test Chamber
33D12	TRAINING DEVICES
33D12-2	Current and Voltage
33D12-3	Recorder
33D12-4	Servo

33D12-5	System
33D12-6	Console
33D12-7	Tow Target
33D13	FLIGHT SIMULATORS
33D13-2	Bomber
33D13-3	Cargo
33D13-4	Test Rack
33D13-5	Test Cart
33DA	ASSOCIATED EQUIPMENT
33DA1	ADAPTERS
33DA2	RELAYS
33DA3	PANEL ASSEMBLIES
33DA4	EVALUATORS
33DA5	MONITORS
33DA6	INTERROGATORS
33DA7	ENCODERS
33DA8	GENERATORS
33DA9	CONTROLS
33DA10	RF LINK
33DA11	POWER SUPPLIES
33DA12	BOARDS, MULTI-MODULE
33DA13	POWER DISTRIBUTION
33DA14	AIR- AND SELF- TEST
33DA15	MISSILE ELECTRONICS
33DA16	SERVOS
33DA17	COMPARATORS
33DA18	TIMERS (Use 33A1-10)
33DA19	PROGRAMMERS
33DA20	BOX ASSEMBLIES, REGULATOR CHASSIS
33DA21	FIXTURE ASSEMBLIES
33DA22	LOAD BANKS
33DA23	LOAD BOXES (Use 33DA22)
33DA24	REGULATORS
33DA25	BOXES
33DA26	CHARGERS
33DA27	CONVERTERS
33DA28	PNEUMATIC SYSTEMS
33DA29	AMPLIFIERS
33DA30	RECORDERS
33DA31	OSCILLOSCOPES
33DA32	DRAWERS
33DA33	CHAMBERS
33DA34	DELAY LINES
33DA35	CONSOLES
33DA36	VALVES
33DA37	ATTACHMENTS
33DA38	TRANSFORMERS AND TRANSMITTERS

33DA39	METERS AND MEASURING EQUIPMENT
33DA40	PUMPS
33DA41	ANALYZERS
33DA42	INDICATORS
33DA43	DRIVES AND GEAR ASSEMBLIES
33DA44	MEMORY UNITS
33DA45	SIMULATORS
33DA46	DETECTORS
33DA47	BLOWERS (See 35E)
33DA48	MODULATORS AND DEMODULATORS
33DA49	FILTERS
33DA50	DELAY CIRCUITS
33DA51	AIR CONDITIONING (See 35E)
33DA52	MICROWAVE
33DA53	FREQUENCY SOURCE
33DA54	LIMIT COUNTERS
33DA55	RESOLVERS
33DA56	ANTENNA DRIVERS
33DA57	SOURCE, RADIO-FREQUENCY
33DA58	CHECKERS
33DA59	BRIDGES
33DA60	PLUG-IN ASSEMBLIES
33DA61	COMPRESSORS (See 34Y1)
33DA62	CYLINDERS
33DA63	VOLTMETERS (Use 33A1-12)
33DA64	CIRCUIT BREAKERS
33DA65	REGISTERS
33DA66	MICRO-POSITIONERS
33DA67	FANS AND BLOWERS (See 35E)
33DA68	DISC ASSEMBLIES
33DA69	PRESELECTOR ASSEMBLIES
33DA70	VERNISTATS
33DA71	SYNCHRONIZERS
33DA72	TRANSMITTERS
33DA73	DIGITIZERS
33DA74	COMMUTATORS
33DA75	GAUGES
33DA76	ACCUMULATORS
33DA77	THERMOSTATS
33DA78	LEAK TRACING DEVICES (See 33D3-31 and 33D9-84)
33DA79	PRESSURE BOXES (Use 33DA20)
33DA80	PLATE ASSEMBLIES
33DA81	MOTORS AND ACTUATORS (See 33D7-79)
33DA82	COMPUTERS (See 33D7-3)
33DA83	COMPENSATORS
33DA84	TANKS
33DA85	BENCHES

33DA86	SWITCHES
33DA87	TABLES
33DA88	THERMOMETERS, TEMPERATURE INDICATORS
33DA89	STARTERS
33DA90	RECTIFIERS
33DA91	GRAVITY TESTERS
33DA92	CALIBRATORS (See 33D7-45)
33DA93	TRANSPONDER SETS
33DA94	ALTERNATORS
33DA95	BRAKE ASSEMBLIES
33DA96	DOOR AND WINDOW ASSEMBLIES
33DA97	TRANSDUCERS AND FLOWSENSORS
33DA98	PROBES
33DA99	HORNS
33DA100	COUPLING ASSEMBLIES
33DA101	CLEANERS (Use 34Y2)
33DA102	COOLER UNITS
33DA103	CABLE ASSEMBLIES
33DA104	TERMINALS
33DA105	JUMPER ASSEMBLIES
33DA106	MANIFOLDS
33DA107	HOSE AND REELS
33DA108	PRINTERS
33DA109	DIVIDING HEADS
33DA110	TRANSPORTS
33DA111	PLOTTERS
33DA112	LOADERS
33DA113	TAPE HEADS
33DA114	OPTICAL UNITS
33DA115	TAPES AND TAPE COMPONENTS
33DA116	TARGETS
33DA117	POSITIONERS
33DA118	APPLICATORS
33DA119	MODULES (See 33D7-33)
33DA120	TELESCOPES
33DA121	CABINETS
33DA122	STANDARDS
33DA123	TEST KITS
33K	CALIBRATION PROCEDURES
33K1	PRECISION MEASURING EQUIPMENT (PME), VOLTAGE, CURRENT, AND POWER
33K2	PME, IMPEDANCE
33K3	PME, FREQUENCY
33K4	PME, MICROWAVE
33K5	PME, TEMPERATURE
33K6	PME, MECHANICAL
33K7	PME, RADIAC, AND SPECIAL WEAPONS
33K8	PME, ELECTRICAL

CHAPTER 25
CATEGORY 34 - SHOP MACHINERY AND SHOP SUPPORT EQUIPMENT

25.1 GENERAL.

25.1.1 Category 34 contains five shop machinery and shop support equipment systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore, TO numbers in Category 34 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 25.2.

25.1.2 TO data pertaining to more than one system is numbered in the category general series.

25.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

25.2 NUMBERING PATTERNS.

25.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within a system.

25.2.1.1 Part one is always the numeric 34 identifying Category 34.

25.2.1.2 Part two is an alpha character identifying the shop machinery systems, i.e., C - cutting machines; F - finishing machines; G - forming machines; W - welding and heat treating equipment; and Y - shop support equipment.

25.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series are outlined in paragraph 25.4.

25.2.2 GROUP TWO. TO numbering patterns in Category 34 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

25.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

25.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

25.2.3 GROUP THREE.

25.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 34:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests

25.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 34:

CL -	Checklists
S -	Operational Supplements

SS - Safety Supplements
WC - Workcards

25.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific components.

25.2.4 GROUP FOUR. When the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 25.2.3.1, above.

25.3 EXAMPLES OF CATEGORY 34 NUMBERING PATTERNS.

25.3.1 Operating instructions with parts breakdown for a drill press, model 1024:

34C2-3-12-1	
34	Category 34
C	Cutting Machines
2	Metal Cutting Machine Series
3	Drill Press Subseries
12	Represents Model 1024
1	Number Reserved for Operating Instructions

25.3.2 Installation instructions for a honing machine, model 244:

34F2-3-13-7	
34	Category 34
F	Finishing Machines
2	Metal Finishing Series
3	Hone Subseries
13	Represents Model 244
7	Number Reserved for Installation Instructions

25.3.3 An overhaul instruction for a low-pressure air compressor, model MS11:

34Y1-132-3	
34	Category 34
Y	Shop Support Equipment
1	Air Compressor Series
132	Represents Model MS11
3	Number Reserved for Overhaul Instructions

25.4 CATEGORY 34 NUMBERING SERIES.

34	SHOP MACHINERY AND SHOP SUPPORT EQUIPMENT
34C	CUTTING MACHINES
34C1	LEATHER
34C2	METAL
34C2-2	Boring
34C2-3	Drill Press
34C2-4	Lathe
34C2-5	Milling
34C2-6	Planer
34C2-7	Punch Press

34C2-8	Saw
34C2-9	Shaper
34C2-10	Shear
34C2-11	Reamer Driver
34C2-12	Threader
34C2-13	Disentegrating
34C2-14	Drum
34C2-15	Routing
34C2-16	Centering
34C2-17	Keyseater
34C3	PAPER
34C3-2	Shredder
34C3-3	Drill
34C4	WOOD
34C4-2	Jointer and Mortiser
34C4-3	Lathe (Use 34C4-8)
34C4-4	Planer
34C4-5	Router
34C4-6	Saw
34C4-7	Shaper
34C4-8	Lathe
34C4-9	Boring
34C4-10	Milling
34F	FINISHING MACHINES
34F1	GLASS
34F2	METAL
34F2-2	Grinder
34F2-3	Honing
34F2-4	Sharpener
34F2-5	Lapping
34F2-6	Electroplating
34F2-7	Vibratory
34F2-8	Gear Hobbing
34F3	WOOD
34F3-2	Floor
34F3-3	Sander
34F3-4	Surfacer
34G	FORMING MACHINES
34G1	METAL
34G1-2	Brakes
34G1-3	Forger
34G1-4	Header
34G1-5	Press
34G1-6	Roll
34G1-7	Shaper
34G1-8	Grooving
34G1-9	Flaring

34G1-10	Bending
34G1-11	Coiler
34G1-12	Stamping
34G1-13	Sheet Metal
34G1-14	Wire
34G2	RUBBER AND PLASTICS
34W	WELDING AND HEAT TREATING EQUIPMENT
34W1	FURNACES, INCINERATORS
34W2	OVENS AND DEHYDRATORS
34W3	SOLDERING POTS
34W4	WELDERS
34W5	EXHAUSTERS
34W6	FORGES
34W7	SOLDERING IRON
34W8	REGULATORS
34W9	CHAMBERS
34Y	SHOP SUPPORT EQUIPMENT
34Y1	AIR COMPRESSORS, PUMPS
34Y2	CLEANERS
34Y3	DEGREASERS
34Y4	PAINT SPRAY EQUIPMENT
34Y4-2	Booth
34Y4-3	Sprayer
34Y4-4	Rejuvenator
34Y4-5	Spray Gun
34Y4-6	Paint Mixer
34Y5	PUMPS
34Y5-2	Water
34Y5-3	Vacuum
34Y5-4	Air
34Y5-5	Oil
34Y5-6	Hand
34Y5-7	Liquid
34Y6	RIVETING MACHINES
34Y7	SEWING MACHINES
34Y8	TANKS
34Y8-2	Dipping
34Y9	TIRE REPAIR EQUIPMENT
34Y9-2	Tire Spreader
34Y9-3	Vulcanizer
34Y9-4	Recapping Machine
34Y9-5	Tire Press
34Y9-6	Breaker
34Y9-7	Retreading Mold
34Y9-8	Safety Inflation Guard
34Y9-9	Reel
34Y10	WIRE MARKING MACHINES

34Y11	WRAPPING AND PACKAGING EQUIPMENT
34Y11-2	Dehydrator
34Y11-3	Nail Machine
34Y11-4	Sealer
34Y11-5	Stitcher
34Y11-6	Tying Machine
34Y11-7	Sprayer, Protective Coating
34Y12	UNIVERSAL VALVING MACHINES
34Y14	GAS TRANSFER AND STORAGE
34Y14-2	Carbon Dioxide
34Y14-3	Oxygen
34Y15	STILLS
34Y15-2	Solvent
34Y15-3	Water
34Y16	VACUUM PUMPS (Use 34Y5)
34Y17	LUBRICATING EQUIPMENT
34Y17-2	Grease Gun
34Y17-3	Oil Gun
34Y17-4	Lubricator
34Y17-5	Pump
34Y17-6	Oil Purification Unit
34Y17-7	Gun Assembly (See 34Y31)
34Y18	WATER SEPARATORS (FILTERS)
34Y19	MOTORS
34Y20	VALVES
34Y20-2	Solenoid Operated
34Y20-3	Safety
34Y20-4	Control
34Y21	ADAPTERS
34Y22	DIMPLING MACHINES
34Y23	CLAMPS
34Y23-2	Flanging
34Y24	DRYERS
34Y24-2	Sand
34Y25	VANS
34Y25-2	Telescoping
34Y25-3	Cabinet
34Y25-4	Maintenance Shop
34Y26	STANDS
34Y26-2	Engine Stand
34Y26-3	Axle
34Y27	MAGNETIZERS
34Y28	MOTOR GENERATORS
34Y29	STAPLERS
34Y30	HOSE ASSEMBLY MACHINES
34Y31	SEALANT EQUIPMENT
34Y32	PRESSES

34Y33	CABINETS
34Y34	ALIGNING EQUIPMENT
34Y34-2	Connecting Rod Aligner
34Y35	ENGRAVING MACHINES
34Y35-2	Pantograph
34Y36	LINKING MACHINES
34Y37	DUST FREE BENCHES
34Y38	MILLING MACHINES (FOUNDRY)
34Y39	THAWING MACHINES
34Y40	DESCALING MACHINES
34Y41	DRYERS
34Y42	CONTROL UNITS
34Y43	CHAMBERS

CHAPTER 26
CATEGORY 35 - GROUND HANDLING, SUPPORT, AIR AND MISSILE BASE OPERATING EQUIPMENT

26.1 GENERAL.

26.1.1 Category 35 contains eight ground handling, support and operating systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 35 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 26.2.

26.1.2 TO data pertaining to more than one system is numbered in the category general series.

26.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

26.2 NUMBERING PATTERNS.

26.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within a system.

26.2.1.1 Part one is always the numeric 35 identifying category 35.

26.2.1.2 Part two is an alpha character identifying the ground handling, support or operating system, i.e., A - aircraft maintenance and inspection equipment; B - aircraft handling and weighing equipment; C - electric power supplies; D - loading and servicing equipment; E - air base utility equipment; G - aircraft ground support equipment; and M - missile erection and launching equipment. Associated equipment for these systems are identified by adding the alpha A immediately following the system identifier, e.g., AA, and CA.

26.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series are outlined in paragraph 26.4.

26.2.2 GROUP TWO. TO numbering patterns in Category 35 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns.

26.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

26.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

26.2.3 GROUP THREE.

26.2.3.1 When a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 35:

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-5	DCSC Technical Maintenance Standards
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures

-8 Test Procedures, Checkout Manuals, or Programmed Tests

26.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 35:

CL - Checklists
S - Operational Supplements
SS - Safety Supplements
WC - Workcards

26.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific components.

26.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group either identifies specific types of TOs described in paragraph 26.2.3.1, or it identifies a sequence number when alpha characters were used in group three as described in paragraph 26.2.3.2. Sequence numbers are described in paragraphs 1.9.2 through 1.9.6.

26.3 EXAMPLES OF CATEGORY 35 TO NUMBERING PATTERNS.

26.3.1 Operating instructions for a regulated power supply, model LP-410A-FM:

35C1-2-462-1	
35	Category 35
C	Electric Power Supplies
1	System Series
2	Electrical Subseries
462	Represents Model LP-410A-FM
1	Number Reserved for Operating Instructions

26.3.2 Illustrated parts breakdown for runway selector switch PN 3303760:

35F14-2-4	
35	Category 35
F	Field Lighting and Electrical Equipment
14	Switch Series
2	Represents PN 3303760
4	Number Reserved for Illustrated Parts Breakdown

26.3.3 An overhaul instruction for compressed oxygen cylinder trailer, type AF/M32R-3:

35D3-6-27-23	
35	Category 35
D	Loading and Servicing Equipment
3	Truck, Dolly, and Trailer Series
6	Servicing Truck and Trailer Subseries
27	Represents Type AF/M32R-3
23	Number Reserved for Overhaul Instructions

26.4 CATEGORY 35 NUMBERING SERIES.

35	GROUND HANDLING, SUPPORT, AIR, AND MISSILE BASE OPERATING EQUIPMENT
35A	AIRCRAFT AND MISSILE MAINTENANCE AND INSPECTION EQUIPMENT

35A1	DOCKS
35A2	JACKS
35A2-2	Aircraft
35A2-3	Automotive
35A2-4	General Purpose
35A2-5	Special Purpose
35A3	LADDERS AND STAIRCASES
35A4	STANDS
35A4-2	Adjustable
35A4-3	Nonadjustable
35A4-4	Missile Platform
35A4-5	Missile Stand
35A4-6	Blacklight Inspection (Do not use)
35A4-7	Storage
35A4-8	Drain
35A5	JACKPADS
35A6	RACKS
35AA	ASSOCIATED EQUIPMENT
35AA2	JACK COMPONENTS
35AA2-2	Cylinder
35AA2-3	Pump
35AA2-4	Valve
35AA3	(Not used)
35AA4	STAND COMPONENTS
35AA4-2	Valve
35AA4-3	Cable Assembly
35AA4-4	Pump
35AA4-5	Coupling
35AA4-6	Adapter
35B	AIRCRAFT AND MISSILE HANDLING AND WEIGHING EQUIPMENT
35B1	GROUND LOCK ASSEMBLIES
35B2	WEIGHING EQUIPMENT
35B2-2	Aircraft
35B2-3	Vehicle
35B2-4	Missile
35B3	SCALES
35B3-2	Balance
35B3-3	Counting
35B3-4	Platform
35B4	STEERING BARS
35B5	TOWBARS
35B6	TURNTABLES
35B7	MISSILE STANDS (Use 35A4)
35B8	SKIDS
35B8-2	Portable
35B9	CHOCK ASSEMBLIES
35B10	PRY BARS

35B10-2	Wheeled
35C	ELECTRIC POWER SUPPLIES
35C1	SYSTEMS
35C1-2	Electrical - UPS
35C1-3	Combination
35C1-4	Converter
35C1-5	Voltage Regulator
35C1-6	Inverter
35C1-7	Transfer Panel
35C2	GENERATORS
35C2-2	Electric Motor Driven
35C2-3	Engine Driven
35C2-4	Missile Generator Sets (Use 35C2-3)
35C3	RECTIFIERS
35C3-2	Battery Charger
35C3-3	Power Supply
35C3-4	Magneto Charger
35C4	TURBOCHARGERS
35CA	ASSOCIATED EQUIPMENT
35CA1	BOXES
35CA1-2	Control
35CA1-3	Junction
35CA2	CABINETS
35CA2-2	Distribution
35CA3	CABLES AND CABLE SYSTEMS
35CA4	CHARGERS
35CA4-2	Magnetic
35CA5	FAN ASSEMBLIES
35CA6	PANELS
35CA7	CONTROLS, OVER-VOLTAGE PROTECTION MODULES
35CA8	PUMPS
35CA9	CONTACTORS (Do not use)
35CA10	RELAYS
35CA11	DRIVES AND GEAR MOTORS
35CA12	VALVES
35CA13	CLUTCH ASSEMBLIES
35CA14	FILTERS
35CA15	HYDRAULIC MOTORS
35CA16	OIL COOLERS
35CA17	AXLE ASSEMBLIES
35CA18	MOUNTS
35CA19	SPEED REDUCERS
35CA20	STARTERS
35CA21	GOVERNORS
35CA22	PLUGS
35CA23	TURBOCHARGERS
35CA24	ALTERNATORS

35CA25	TRANSDUCERS
35CA26	STABILIZERS
35CA27	OSCILLATORS
35CA28	ADAPTERS
35CA29	MONITORS
35D	AIRCRAFT AND MISSILE LOADING AND SERVICING EQUIPMENT
35D1	CABLEWAYS
35D2	CONVEYORS
35D3	TRUCKS, DOLLIES, AND TRAILERS
35D3-2	Bomb
35D3-3	Engine, Truck Engine Transport
35D3-4	Fuselage
35D3-5	Propeller
35D3-6	Servicing Unit
35D3-7	Aircraft
35D3-8	Landing Gear
35D3-9	Lift
35D3-10	Air-Conditioning
35D3-11	Missile, Trailer Transporter-Erector
35D3-12	Antenna
35D3-13	Turret (Trailer)
35D3-14	Bomb Sight
35D3-15	Flush and Disposal
35D3-16	Wheel Change
35D3-17	Lavatory
35D3-18	Hydraulic
35D3-19	Nitrogen (See 35D3-6 also)
35D3-20	Cowling
35D3-21	Alternator Pack
35D3-22	Tow Target
35D3-23	Radar Maintenance
35D3-24	Platform
35D3-25	Missile Fuel
35D3-26	Wing
35D3-27	Fire Control System
35D3-28	Instrument
35D3-29	Missile (See 35D3-11 also)
35D3-30	Cable
35D3-31	Oil Servicing
35D3-32	Crash Removal
35D3-33	Test Equipment
35D3-34	Pod
35D3-35	Spray
35D3-36	Smoke Generator
35D3-37	Field Preflight
35D3-38	Radome
35D3-39	Chassis Assembly

35D3-40	Chaff and Decoy Rocket
35D3-41	Corrosion Control
35D3-42	Test Station Bay
35D3-43	Reel Winder
35D3-44	Infrared Unit
35D3-45	Fairlead Assembly
35D3-46	Camera
35D3-47	Seat
35D4	HOISTS
35D4-2	Electric
35D4-3	Hydraulic
35D4-4	Mechanical
35D4-5	Pneumatic
35D4-6	Engine Driven
35D4-7	Electro-Mechanical
35D5	LIFTS
35D5-2	Electric
35D5-3	Hydraulic
35D5-4	Mechanical
35D5-5	Pneumatic
35D5-6	Remote Control
35D6	SLINGS
35D6-2	Engine, Hoisting, Handling
35D6-3	Fuselage
35D6-4	Empennage
35D6-5	Bomb
35D6-6	Missile
35D6-7	Propeller
35D6-8	Canopy
35D6-9	Turret
35D6-10	Pylon
35D6-11	Wing
35D6-12	Inertial Guidance System
35D6-13	Landing Gear
35D6-14	Crash Removal
35D6-15	Door
35D6-16	Scanner
35D7	WINCHES (See 35D4 also)
35D8	CRADLES
35D8-2	Afterburner
35D8-3	Missile
35D8-4	Boom
35D8-5	Wing Removal
35D8-6	Bomb
35D8-7	Radome
35D8-8	Antenna
35D8-9	Pod

35D8-10	Re-Entry Vehicle
35D8-11	Rocket Launcher
35D8-12	Fuselage
35D8-13	Engine Pylon
35D8-14	Ejection Seat
35D8-15	Aircraft Engine
35D8-16	Miscellaneous
35D9	LOADING DOCKS
35D10	(Not used)
35D11	BINS
35D11-2	Cargo
35D12	STARTING EQUIPMENT
35D12-2	Gas Turbine
35D12-3	Adapters
35D13	AUXILIARY LOADING AND SERVICING
35D13-2	Missile
35D14	BEAM ASSEMBLIES
35D15	TANKS
35D15-2	Liquid Oxygen
35D16	MANIFOLDS AND MANIFOLD KITS
35D16-2	Drain
35D17	DRYING UNITS
35D18	FILL UNITS
35D19	ADAPTERS (Use 35DA3-6)
35D20	CORD ASSEMBLIES
35D20-2	Remote Control
35D21	SPREADERS
35D21-2	Engine
35D22	PURGERS (Use 35E22-2)
35D23	REGULATORS (Use 35E23)
35D24	SIMULATORS
35D24-2	Missile
35D25	FIXTURE ASSEMBLIES
35D25-2	Missile Rigging
35D25-3	Breakaway Attachment
35D25-4	Elevon Installation and Removal
35D25-5	Torquing
35D25-6	Bolster Assembly
35D25-7	Puller Assembly
35D25-8	Handling
35D25-9	Landing Gear
35D25-10	Engine
35D25-11	Support
35D25-12	Capsule
35D25-13	Nozzle
35D25-14	Gearbox
35D26	KITS

35D26-2	Aligning Fixture
35D26-3	Tiedown
35D26-4	Rigging
35D26-5	Pressurizing
35D26-6	Leveling
35D26-7	Booster Pump
35D26-8	Nose Radome
35D27	RAMPS
35D27-2	Wheel Set
35D28	PRIMING ASSEMBLIES
35D28-2	Hydraulic Oil
35D29	CARTS
35D29-2	Missile Propellent
35D29-3	Hydraulic
35D29-4	Magnetron
35D29-5	Liquid
35D29-6	Lavatory Servicing
35D29-7	Refrigeration Servicing
35D29-8	Pneumatic
35D30	LOADERS
35D30-2	Missile
35D30-3	Aircraft
35D30-4	Munitions
35D31	CARRIAGES
35D31-2	Re-Entry Vehicle
35D31-3	Rocket Motor
35D32	RINGS
35D32-2	Engine Roll Over
35D33	PALLETS
35D33-2	Air Cargo
35D34	PLATFORMS
35D35	GUIDES
35D36	MAN LIFT DEVICES
35D37	PROCESSORS
35DA	ASSOCIATED EQUIPMENT AND COMPONENTS
35DA1	CABLEWAYS
35DA2	CONVEYORS
35DA3	TRUCKS, DOLLIES AND TRAILERS
35DA3-2	Bomb Truck
35DA3-3	Cylinder, Pump Assembly
35DA3-4	Motor, Actuator
35DA3-5	Cylinder Assembly
35DA3-6	Adapter
35DA3-7	Thermostat
35DA3-8	Blower
35DA3-9	Power Pack
35DA3-10	Cap

35DA4	CONTROLS
35DA5	RAIL ASSEMBLIES
35DA6	ACTUATORS
35DA7	INDICATOR, MISSILE POSITION AND ALIGNMENT
35DA8	VALVES
35DA9	FILTER ASSEMBLIES
35DA10	GEAR REDUCER ASSEMBLIES
35DA11	GAUGES
35DA12	METERS
35DA13	CYLINDERS (See 35DA3-3 also)
35DA14	REGULATORS
35DA15	DRIVE ASSEMBLIES
35DA16	CHASSIS
35DA17	GUIDE ASSEMBLIES
35E	AIR AND MISSILE BASE UTILITY OPERATING EQUIPMENT
35E1	FIRE FIGHTING EQUIPMENT
35E1-2	Fire Extinguisher
35E2	LANDING MATS
35E3	PREFABRICATED BUILDINGS
35E4	SHELTERS
35E5	TENTS
35E6	BRIDGES
35E6-2	Pontoon
35E7	HEATERS
35E7-2	Aircraft Ground
35E7-3	Engine and Shelter
35E7-4	Utility, Low Silhouette Heater
35E7-5	Heat Exchanger
35E7-6	Space
35E7-7	Gyro
35E8	BARRIERS
35E8-2	Runway
35E8-3	Runup Fence
35E9	AIR-CONDITIONERS AND FREEZERS
35E10	GROUND COOLERS
35E11	GROUND BLOWERS AND FANS
35E12	VENTILATORS
35E13	PUMPS
35E14	COMPRESSOR BUILDINGS
35E15	MISSILE A AND M SHOPS, MAIN GROUND AIDS PENETRATION
35E16	ERECTORS
35E17	DECONTAMINATION EQUIPMENT, DEICERS
35E18	CONTROL EQUIPMENT
35E19	CASES (See 35E20 also)
35E20	CONTAINERS, SHIPPING AND STORAGE
35E20-2	Missile, Warhead Section
35E20-3	Engine

35E20-4	Miscellaneous
35E20-5	Helicopter Blade
35E20-6	Checkout Tape
35E20-7	Optical Equipment
35E20-8	Chemical, Biological Munitions
35E20-9	Guided Glide Weapon
35E20-10	Dispenser
35E20-11	Ammunition
35E21	COVERS
35E21-2	Missile
35E21-3	Aircraft
35E21-4	Bomb
35E21-5	Camera
35E21-6	Scanner
35E22	PURGING AND CLEANING EQUIPMENT
35E22-2	Missile
35E22-3	Aircraft
35E22-4	Engine
35E22-5	Trailer
35E23	REGULATORS
35E23-2	Missile
35E24	LEAK DETECTOR
35E25	MISSILE SHIPPING EQUIPMENT
35E26	PROTECTION EQUIPMENT
35E26-2	Engine Screen, Shield
35E26-3	Personnel Screen, Shield
35E26-4	Insulation
35E27	GAS AND UNDERGROUND PIPING SYSTEMS AND COMPONENTS
35E27-2	System
35E27-3	Valve
35E28	FILTERS AND DEHYDRATORS
35E29	CONVERTERS
35E30	WINDOWS
35E31	TANKS
35E31-2	Mixing
35E31-3	Water Storage
35E32	SWITCHES
35E33	RELOAD FACILITIES
35E34	TOWERS
35E35	SANITATION EQUIPMENT
35E36	WARNING DEVICES
35EA	ASSOCIATED EQUIPMENT
35EA1	NOZZLES
35EA2	SPEED REDUCERS
35EA3	FIRE PROTECTION AND SAFETY SHELTERS
35EA4	AIR-CONDITIONING
35EA4-2	Fan, Blower

35EA4-3	Valve
35EA4-4	Compressor
35EA4-5	Field, Rotor Assembly
35EA4-6	Tachometer
35EA4-7	Adapter, Duct
35EA4-8	Pump
35EA4-9	Filler, Bleeder
35EA5	LAUNCHER SHELTER, HIGH- AND LOW-HELIUM
35EA5-2	Valve
35EA5-3	Control-Indicator Assembly
35EA6	RIM BUILDING COMPONENTS
35EA7	DECONTAMINATION SYSTEM
35EA7-2	Pump
35EA7-3	Valve
35EA7-4	Measuring, Controlling Instrument
35EA8	CONTROL BENCH UNITS
35EA8-2	Pump
35EA9	PURGING AND CLEANING EQUIPMENT
35EA9-2	Valve
35EA9-3	Indicator
35F	AIR FIELD LIGHTING AND ELECTRICAL EQUIPMENT
35F1	CABINETS
35F2	CONTROL PANELS
35F3	CUBICLES
35F4	LAMP CHANGERS
35F5	LIGHTS
35F5-2	Air Traffic Control
35F5-3	Approach and Runway
35F5-4	Beacon
35F5-5	Flood
35F5-6	Lantern
35F5-7	Searchlight
35F5-8	Range
35F5-9	Flashlight
35F5-10	Marker
35F5-11	Launch
35F6	PANELBOARDS
35F7	REFLECTORS
35F8	REGULATORS
35F9	RELAYS
35F10	SIRENS
35F11	SWITCHBOARDS
35F12	WIND INDICATORS
35F13	BATTERIES
35F14	SWITCHES
35F15	ELECTRIC MOTORS
35F16	STARTERS

35F17	FANS
35F18	ELECTRIC POWER TRANSFER CONTROLS
35G	AIRCRAFT GROUND SUPPORT EQUIPMENT
35G3	SUPPORT ASSEMBLIES
35G3-3	Stand
35G5	KITS (HANDLING)
35G5-2	Panel and Rack
35G5-4	Gimbal Kit
35M	MISSILE SUPPORT EQUIPMENT
35M1	SYSTEM TECHNICAL ORDERS
35M1-2	Fluid Distribution
35M1-3	Propellant Utilization
35M1-4	Gas Distribution
35M1-5	Silo Helium Charge
35M1-6	Monorail
35M1-7	Crib Suspension
35M1-8	Damper, Lock System
35M1-9	Personnel Access
35M1-10	Environmental Control
35M2	ERECTION EQUIPMENT
35M2-2	Mount, Erector
35M2-3	Hydraulic Pumping Unit
35M2-4	Trunnion Erector (Use 35M2-2)
35M2-5	Buffer Assembly
35M2-6	Ratchet Assembly
35M3	LAUNCHING EQUIPMENT
35M3-2	Launcher, Alignment Assembly
35M3-3	Shock Absorber
35M3-4	Indicator
35M3-5	Adapter Unit
35M3-6	Boom
35M3-7	Aligning
35M3-8	Support and Positioner
35M3-9	Pack
35M3-10	Balancer
35M3-11	Rescue
35M4	MISSILE- AND COMPONENT- HANDLING EQUIPMENT
35M4-2	Installation Fixture
35M4-3	Carrier
35M4-4	Loader
35M4-5	Hydraulic Jack (Do not use - see 35A2)
35M5	SERVICERS
35M5-2	Hydro-Pneumatic
35M5-3	Hydraulic
35M5-4	Pneumatic
35M5-5	Electric
35M6	RING ASSEMBLY AND EQUIPMENT

35M6-2	Auxiliary Ring Assembly
35M6-3	Start Assembly
35M6-4	Filling Assembly
35M6-5	Control Assembly
35M6-6	Cable Mast
35M7	PROPELLANT SERVICING UNITS
35M7-2	Nitrogen
35M7-3	Liquid Oxygen
35M7-4	Solvent
35M7-5	Gas
35M7-6	Ammonia
35M7-7	Adapter
35M7-8	Hydraulic
35M7-9	Freon
35M8	RECHARGING UNITS
35M8-2	Nitrogen
35M8-3	Oxygen
35M8-4	Refrigerant
35M9	PRESSURIZING UNITS
35M9-2	Nitrogen
35M9-3	Canister
35M10	CONTROL UNITS
35M10-2	Nitrogen
35M10-3	Pressurization
35M10-4	Propellant
35M10-5	Temperature
35M10-6	Hydraulic, Pneumatic
35M10-7	Silo
35M11	PANELS (PROPELLANT)
35M11-2	Nitrogen
35M11-3	Liquid Oxygen
35M11-4	Ammonia
35M12	INDICATORS
35M12-2	Dew Point
35M13	REGULATORS
35M13-2	Pressure
35M14	VALVES
35M14-2	Shutoff
35M14-3	Vent, Relief
35M14-4	Regulator
35M14-5	Control
35M14-6	Selector
35M14-7	Check
35M14-8	Shuttle
35M14-9	Relay
35M15	FILTERS AND STRAINERS
35M15-2	Hydraulic

35M15-3	Pneumatic
35M15-4	Pressure
35M15-5	Liquid Oxygen
35M16	SENSORS
35M16-2	Liquid
35M16-3	Overspeed
35M17	CYLINDERS
35M17-2	Hydraulic
35M17-3	Actuating
35M17-4	Pneumatic
35M17-5	Mechanical
35M18	MOTORS
35M18-2	Electric
35M18-3	Hydraulic
35M18-4	Pneumatic
35M19	PUMPS
35M19-2	Electric
35M19-3	Hydraulic
35M19-4	Hand
35M19-5	Pneumatic
35M20	METERS AND MEASURING EQUIPMENT
35M20-2	Meter
35M20-3	Indicator
35M21	ACCUMULATORS
35M21-2	Hydraulic
35M21-3	Pneumatic
35M21-4	Propulsion
35M22	BEARINGS
35M22-2	Flanged
35M22-3	Spherical Roller
35M22-4	Floating
35M23	BRAKES
35M23-2	Hydraulic
35M24	GAUGES
35M24-2	Pressure
35M25	SURGE AND DESURGE EQUIPMENT
35M25-2	Hydraulic
35M25-3	Pneumatic
35M26	LOCK AND RELEASE ASSEMBLIES
35M27	ACTUATORS
35M27-2	Electro-Mechanical
35M27-3	Hydraulic
35M27-4	Ballistic
35M28	DRIVES
35M29	SWITCHES
35M30	MANIFOLD ASSEMBLIES
35M31	SPEED REDUCERS (GOVERNORS)

35M32	TRANSMISSIONS
35M33	CONNECTORS
35M34	TENSION DEVICES
35M35	ADAPTERS AND CLAMPS
35M36	TUBES
35M37	DOORS
35M38	SWIVEL AND GIMBAL ASSEMBLIES
35M39	VAPORIZERS THERMOCOUPLES
35MA	ASSOCIATED EQUIPMENT
35MA1	HYDRAULIC SYSTEMS COMPONENTS
35MA1-2	Valve
35MA2	ERECTION EQUIPMENT
35MA2-2	(Not used)
35MA2-3	Hydraulic Cylinder, Accumulator
35MA3	LAUNCHING EQUIPMENT
35MA3-2	Valve (See 35M14)
35MA3-3	Hydraulic Cylinder (See 35M17)
35MA3-4	Hydraulic Accumulator (See 35M21)
35MA3-5	Motor (See 35M18)
35MA3-6	Indicator (See 35M12)
35MA3-7	Pump (See 35M19)
35MA3-8	Coupling
35MA3-9	Control (See 35M10)
35MA3-10	Brake (See 35M23)
35MA3-11	Joint Assembly
35MA4	PROPELLANT LOADING AND PRESSURIZATION
35MA4-2	Regulator (See 35M13)
35MA4-3	Valve (See 35M14)
35MA4-4	Breaker Assembly
35MA4-5	Switch (See 35M29)
35MA4-6	Indicator (See 35M12)
35MA4-7	Pressure Unit
35MA4-8	Relay
35MA4-9	Pump (See 35M19)
35MA4-10	Starter
35MA4-11	Liquid Level
35MA4-12	Gauge (See 35M24)
35MA4-13	Meter (See 35M20)

CHAPTER 27
CATEGORY 36 - VEHICLES, CONSTRUCTION AND MATERIAL-HANDLING EQUIPMENT

27.1 GENERAL.

27.1.1 Category 36 contains six systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore, TO numbers in Category 36 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 27.2.

27.1.2 TO data pertaining to more than one system is numbered in the category general series.

27.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

27.2 NUMBERING PATTERNS.

27.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within a system.

27.2.1.1 Part one is always the numeric 36 identifying Category 36.

27.2.1.2 Part two is an alpha character identifying one of six systems; i.e., A - vehicles; C - construction equipment; G - gas generating equipment; M - materials handling equipment; R - ordnance equipment; and Y - vehicle, construction and material-handling equipment. Associated equipment for these systems are identified by adding the alpha A immediately following the system identifier, e.g., MA.

27.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series are outlined in paragraph 27.4.

27.2.2 GROUP TWO. TO numbering patterns in Category 36 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns.

27.2.2.1 If the TO number uses only three basic groups, group two will have one or more numeric characters representing the model, type or PN assigned to specific components.

27.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

27.2.3 GROUP THREE.

27.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 36:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-5	DCSC Technical Maintenance Standards
-6	Inspection Requirements
-7	Installation Instructions

27.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 36:

CL -	Checklists
LC -	Lubrication Charts
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

27.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific components.

27.2.4 GROUP FOUR. When the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 27.2.3.1, above.

27.3 EXAMPLES OF CATEGORY 36 NUMBERING PATTERNS.

27.3.1 A service manual for a low bed semi-trailer, 25 ton, type T25L-232:

36A9-2-32-2	
36	Category 36
A	Vehicles
9	Semi-Trailer Series
2	Cargo Type Subseries
32	Represents Type T25L-232
2	Number Reserved for Service Manuals

27.3.2 A field maintenance manual for a portable floor crane, model HLU-145A/E:

36C3-6-4-2	
36	Category 36
C	Construction Equipment
3	Crane Series
6	Portable Type Subseries
4	Represents Model HLU-145A/E
2	Number Reserved for Field Maintenance Manuals

27.3.3 Operating instructions for a fork lift, model FK-7-1:

36M2-2-82-1	
36	Category 36
M	Material Handling Equipment
2	Lift Series
2	Fork Lift Subseries
82	Represents Model FK-7-1
1	Number Reserved for Operating Instructions

27.4 CATEGORY 36 NUMBERING PATTERNS.

36	VEHICLES, CONSTRUCTION, AND MATERIAL-HANDLING EQUIPMENT
36A	VEHICLES
36A1	AMBULANCES
36A2	COMMERCIAL FLEET
36A2-2	International
36A2-3	Ford

36A2-4	General Motors
36A2-5	Chrysler
36A2-6	American Motors
36A2-7	White Motors
36A2-8	Mack Truck, Inc.
36A2-9	VW
36A2-10	Kenworthy
36A2-11	Freightliner
36A3	BUSES
36A4	DOLLIES, TRAILERS
36A5	JEEPS
36A6	MOTORCYCLES
36A7	PASSENGER CARS
36A8	SCOOTERS
36A9	SEMITRAILERS
36A9-2	Cargo
36A9-3	Fuel Servicing
36A9-4	Laundry
36A9-5	Refrigerating
36A9-6	Shower
36A9-7	Stake and Platform
36A9-8	Van
36A9-9	Wrecking
36A9-10	Pilotless Aircraft Transport
36A9-11	Translauncher
36A9-12	Chemical Handling
36A9-13	Water Handling
36A9-14	Support Trailer
36A9-15	Mobile Personal Support Trailer
36A10	TRACTORS
36A10-2	Tracklaying
36A10-3	Wheeled
36A11	TRAILERS
36A11-2	Ammunition
36A11-3	Antenna Mount
36A11-4	Bomb
36A11-5	Cargo
36A11-6	Chemical Handling
36A11-7	Clothing Repair
36A11-8	Firefighting
36A11-9	(Not used)
36A11-10	Fuel Servicing
36A11-11	Gas Plant
36A11-12	Laundry
36A11-13	Lubrication
36A11-14	Shoe Repair
36A11-15	Shower

36A11-16	Telephone Maintenance
36A11-17	Textile Repair
36A11-18	Utility
36A11-19	Van
36A11-20	Water Tank
36A11-21	Electronic Equipment, Enclosure Trailer
36A11-22	Photographic Equipment
36A11-23	Bolster
36A11-24	Pilotless Aircraft
36A11-25	Test Equipment
36A11-26	Water-Alcohol Tank
36A11-27	Radar Equipment, Radio Equipment
36A11-28	Heater
36A11-29	Housetrailer
36A12	TRUCKS
36A12-1A	1/4-Ton - 2-Ton
36A12-1B	2 1/2-Ton
36A12-1C	4-Ton and Over
36A12-2	Amphibian
36A12-3	Bomb Service
36A12-4	Bridge Erecting
36A12-5	Cargo
36A12-6	Carryall
36A12-7	Chemical Service
36A12-8	Crash, Fire and Rescue
36A12-9	Decontaminating
36A12-10	Dump
36A12-11	Field Lighting
36A12-12	Firefighting
36A12-13	Fuel, Oil Servicing
36A12-14	Pickup
36A12-15	Prime Mover
36A12-16	Refuse Collection
36A12-17	Shop
36A12-18	Stake and Platform
36A12-19	Telephone Maintenance
36A12-20	Weapon Carrier
36A12-21	Wrecking
36A12-22	Crane
36A12-23	Waste, Water
36A12-24	Multipurpose
36A12-25	Marker, Traffic Line
36A12-26	Liquid Nitrogen
36A12-27	Refrigerating
36A13	TRUCK TRACTORS
36A14	ARMORED
36C	CONSTRUCTION EQUIPMENT

36C1	AUGERS
36C1-2	Skid Mounted
36C1-3	Tractor Mounted
36C1-4	Trailer Mounted
36C1-5	Truck Mounted
36C2	CONVEYORS
36C2-2	Crawler Mounted
36C2-3	Self-Propelled
36C2-4	Skid Mounted
36C2-5	Wheel Mounted
36C3	CRANES
36C3-2	Crawler Mounted
36C3-3	Tractor Mounted
36C3-4	Truck Mounted
36C3-5	Wheel Mounted
36C3-6	Portable
36C3-7	Floating (Use 39B)
36C4	DERRICKS (Used on Diesel Engine)
36C5	DISTRIBUTORS
36C5-2	Bituminous Material
36C5-3	Water
36C6	DITCHERS
36C7	DRILLS
36C8	DRYERS AND DEHYDRATORS
36C9	GRADERS
36C9-2	Self-Propelled
36C9-3	Towed
36C10	HEATERS
36C11	KETTLES
36C12	LOADERS
36C12-2	Crawler Mounted
36C12-3	Wheel Mounted
36C13	CABLE LAYING EQUIPMENT
36C13-2	Lashing Machine
36C13-3	Reeling Machine
36C13-4	Cable Transporter
36C14	MIXERS
36C14-2	Bituminous Material
36C14-3	Concrete
36C14-4	Soil
36C15	PAVERS AND FINISHERS
36C15-2	Bituminous Material
36C15-3	Concrete
36C16	PIPE LAYERS
36C17	PLANTS
36C17-2	Asphalt Mixing
36C17-3	Batching

36C17-4	Concrete Mixing
36C17-5	Crushing, Screening and Washing
36C17-6	Steam Construction
36C18	PLOWS, SNOW PLOWS
36C19	PUMPS
36C20	ROLLERS
36C20-2	Self-Propelled
36C20-3	Towed
36C21	ROOTERS
36C22	SCRAPERS
36C22-2	Self-Propelled
36C22-3	Towed
36C23	SHOVELS
36C23-2	Crawler Mounted
36C23-3	Truck Mounted
36C23-4	Wheeled
36C24	SPREADERS
36C25	SWEEPERS
36C25-2	Self-Propelled
36C25-3	Towed
36C25-4	Magnetic
36C25-5	Manually Propelled
36C26	TRACTORS
36C26-2	Crawler
36C26-3	Wheeled
36C27	TRAILERS
36C28	WAGONS
36C29	WELL DRILLERS
36C30	PILE DRIVERS
36C30-2	Telescoping
36C31	MOTORIZED COMPRESSORS
36C31-2	Wheeled
36C32	CARRIERS
36C32-2	Snow Plow
36C32-3	Crane-Shovel
36C33	COLLECTORS
36C33-2	Dust
36C34	COMPACTORS AND VIBRATORS
36C34-2	Pneumatic, Gasoline Engine Driven
36C35	CLEANING MACHINES
36C36	RIPPERS AND PAVING BREAKERS, JACKHAMMERS
36C37	EXCAVATORS
36C37-2	Multipurpose
36G	GAS GENERATING EQUIPMENT
36G1	GENERATING AND CHARGING PLANTS
36G1-2	Generating Plant, Oxygen or Nitrogen
36G1-3	Hydrogen Generator

36G2	FILTER ASSEMBLIES
36M	MATERIAL-HANDLING EQUIPMENT
36M1	CRANES
36M1-2	Electrically Driven
36M1-3	Engine Driven
36M2	LIFTS
36M2-2	Fork
36M2-3	Platform
36M2-4	Scoop
36M3	TRACTORS
36M3-2	Electrically Driven
36M3-3	Engine Driven
36M4	TRAILERS
36M5	TRUCKS
36M5-2	Straddle
36M5-3	Wheel Type
36M5-4	Liftainer
36M5-5	Fixed Platform
36M6	POSITIONERS
36M6-2	Pallet
36M7	WHEELBARROWS
36MA	ASSOCIATED EQUIPMENT
36MA1	STACKERS (FORK LIFT)
36MA2	ELEVATORS
36R	ORDNANCE EQUIPMENT
36R1	(Not used)
36R2	ARMORED CARS
36R3	CARRIAGES
36R4	CARRIERS
36R4-2	Cargo
36Y	COMPONENTS - VEHICLES, CONSTRUCTION, AND MATERIAL HANDLING EQUIPMENT
36Y1	ANGLEDOZERS
36Y2	ATTACHMENTS
36Y2-2	Auger
36Y2-3	Magnet
36Y2-4	Shovel
36Y2-5	Snow Plow
36Y2-6	Sweeper
36Y3	AXLES, WHEEL ASSEMBLIES, BRAKE ASSEMBLIES
36Y4	BATTERIES AND BATTERY CABLES
36Y5	BINS
36Y6	BODIES
36Y6-2	Bus
36Y6-3	Dump
36Y6-4	Fire Truck
36Y6-5	Lift

36Y6-6	Passenger Car
36Y6-7	Refuse Collection
36Y6-8	Conveyor Delivery
36Y6-9	Ambulance
36Y6-10	Van
36Y7	BRAKES
36Y8	BUCKETS
36Y9	BULLDOZERS
36Y10	CHASSIS
36Y11	CLUTCHES
36Y12	FEEDERS
36Y13	GAUGES AND INSTRUMENTS
36Y14	GRADATION UNIT
36Y15	HEATERS
36Y16	HOISTS
36Y17	KITS
36Y17-2	Cold Starting
36Y17-3	Follow-me
36Y17-4	Hard Top Closure
36Y17-5	Personnel Heater
36Y17-6	Power Plant
36Y17-7	Winterization
36Y17-8	Brake Control
36Y17-9	Fire Protection
36Y17-10	Conveyor
36Y18	LIGHTS
36Y18-2	Flood
36Y18-3	Instrument
36Y18-4	Clearance
36Y18-5	Vehicle
36Y19	MOTORS
36Y20	METERS
36Y21	MOWERS
36Y22	POWER CONTROL UNITS
36Y23	POWER TRAINS
36Y24	PROPORTIONERS (VARIABLE FLOW)
36Y25	PUMPS
36Y26	RADIATORS
36Y27	SAWS
36Y28	SEGREGATORS
36Y29	SHOCK ABSORBERS
36Y30	SPRINGS
36Y31	TANKS
36Y31-2	Asphalt
36Y31-3	Fuel
36Y31-4	Vehicular
36Y31-5	Water

36Y32	TIRES AND TUBES
36Y32-2	Safety Guard
36Y33	TRANSMISSIONS
36Y34	WHEELS
36Y35	WINCHES
36Y36	WINDSHIELDS
36Y37	ROPES
36Y37-2	Wire Rope
36Y38	CUBICLES
36Y38-2	Power Distribution
36Y39	TRACKS
36Y39-2	Rubber
36Y40	FILTERS
36Y40-2	Fluid
36Y41	PACKS
36Y42	BELTS AND PULLEYS
36Y43	SPACERS
36Y44	CARRIAGES
36Y45	REELS
36Y46	ACTUATORS
36Y47	CONTROLS
36Y48	BOGIES
36Y49	CYLINDER ASSEMBLIES
36Y50	VALVES
36Y51	PIPELINES (Use 37C)
36Y52	BLADES
36Y53	BLOWERS
36Y54	SEPARATORS
36Y55	COMPRESSORS
36Y56	SHOCKS (Use 36Y29)
36Y57	LANDING JACKS
36Y58	AIR COMPRESSORS
36Y59	VEHICLE ONLOADING EQUIPMENT
36Y60	STEERING GEARS
36Y61	CARBURETORS

CHAPTER 28
CATEGORY 37 - FUEL-, OIL- AND PROPELLANT-HANDLING EQUIPMENT

28.1 GENERAL.

28.1.1 Category 37 contains three fuel-, oil-, and propellant-handling systems. These systems are divided into equipment series and most of the systems are further divided into equipment subseries within each equipment series. Therefore TO numbers in Category 37 use both three and four basic groups for data identification. Numbering patterns for both forms are discussed in paragraph 28.2.

28.1.2 TO data pertaining to more than one system is numbered in the category general series.

28.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

28.2 NUMBERING PATTERNS.

28.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series within the system.

28.2.1.1 Part one is always the numeric 37 identifying Category 37.

28.2.1.2 Part two is an alpha character identifying the oil-, fuel-, and propellant-handling systems, i.e., A - fuel and oil handling equipment; B - aircraft propellant systems; and C - propellant storage and handling equipment. Associated equipment for these systems is identified by adding the alpha A immediately following the system identifier, e.g., CA.

28.2.1.3 Part three contains one or more numeric characters identifying an equipment series within a system. The TO numbering series are outlined in paragraph 28.4.

28.2.2 GROUP TWO. TO numbering patterns in Category 37 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

28.2.2.1 If the TO number uses only three basic groups, group two uses one or more numeric characters representing the model, type or PN assigned to specific components.

28.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, group two identifies the equipment subseries with one or more numeric characters and the model, type or PN is identified in group three.

28.2.3 GROUP THREE.

28.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 37:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions

28.2.3.2 In some instances the reserved numbers in group three are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 37:

CL -	Checklists
S -	Operational Supplements

SS - Safety Supplements
WC - Workcards

28.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing model, type or PN assigned to specific components.

28.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 28.2.3.1, above.

28.3 EXAMPLES OF CATEGORY 37 NUMBERING PATTERNS.

28.3.1 Overhaul instructions for a fuel hose four-wheel trailer type MH-1:

37A2-2-2-3	
37	Category 37
A	Fuel- and Oil- Handling Equipment
2	Cart Series
2	Hose Cart Subseries
2	Represents Type MH-1
3	Number Reserved for Overhaul Instructions

28.3.2 An illustrated parts breakdown for a fuel and oil servicing nozzle, PN 9035:

37A6-2-24	
37	Category 37
A	Fuel- and Oil- Handling Equipment
6	Nozzle Series
2	Represents PN 9035
24	Number Reserved for Illustrated Parts Breakdown

28.3.3 An illustrated parts breakdown for a fuel storage tank, model TMU-4/E:

37C2-2-2-4	
37	Category 37
C	Propellant Storage and Handling
2	Storage Facility Series
2	Fuel Storage Subseries
2	Represents Model TMU-4/E
4	Number Reserved for Illustrated Parts Breakdown

28.4 CATEGORY 37 NUMBERING SERIES.

37	FUEL-, OIL- AND PROPELLANT-HANDLING EQUIPMENT
37A	FUEL- AND OIL- HANDLING EQUIPMENT
37A1	ADAPTERS
37A2	CARTS
37A2-2	Hose
37A3	CONTAINERS
37A3-2	Collapsible
37A3-3	Skid Mounted
37A4	COUPLINGS
37A5	HOSES

37A6	NOZZLES
37A6-2	Single Point
37A6-3	Automatic Shutoff
37A6-4	Over-the-Wing (Gravity)
37A7	PUMPS
37A8	SEPARATORS
37A8-2	Gasoline-Water
37A9	FUEL STORAGE, DISTRIBUTING AND DISPENSING SYSTEMS
37A9-2	Gravity Flow
37A9-3	Hydrant Fueling
37A9-4	Hydraulically Operated
37A9-5	Mechanical (Other than hydrant)
37A9-6	Fuel Dispensing Line
37A9-7	Fuel Distributing Unit
37A10	OIL STORAGE, DISTRIBUTING, AND DISPENSING SYSTEMS
37A11	REFUELING UNITS
37A12	TANKS
37A13	TRANSFER UNITS
37A14	VEHICLE FUEL AND OIL DISTRIBUTING AND DISPENSING SYSTEMS
37A15	OIL PURIFIERS
37A16	FUEL RETURN LINE ASSEMBLIES
37A17	SERVICING UNITS
37A17-2	Oil Servicing
37A17-3	Coolant Servicing
37A18	VALVES (Use 37A1)
37A18-2	Fuel Servicing
37A19	REELS
37B	AIRCRAFT PROPELLANT SYSTEMS
37B1	NITRIC ACID HANDLING EQUIPMENT
37C	PROPELLANT STORAGE AND HANDLING SYSTEMS
37C1	SYSTEMS
37C1-2	Acid
37C1-3	Fuel
37C2	STORAGE FACILITIES
37C2-2	Fuel
37C2-3	High Pressure Gas
37C2-4	Liquid Oxygen
37C2-5	Diesel Fuel
37C2-6	Nitrogen
37C2-7	Liquid Solvent Recovery
37C2-8	Liquid Oxygen, Nitrogen, Argon, and Air
37C3	MISSILE PROPELLANT PILE LINES
37C4	MISSILE PROPELLANT HOSE ASSEMBLIES
37C5	PUMPS
37C6	FILTERING UNITS
37C7	HEATERS
37C8	COMPRESSORS, PROPELLANT-TRANSFER

37C9	CLEANING AND PURGING EQUIPMENT
37C10	CONNECTORS
37C11	GAUGES
37CA	ASSOCIATED EQUIPMENT
37CA1	PROPELLANT TRANSFER
37CA1-2	Valve
37CA1-3	Breather Set

CHAPTER 29
CATEGORY 38 - NON-AERONAUTICAL ENGINES

29.1 GENERAL.

29.1.1 Category 38 contains four systems. These systems are divided into equipment series and the equipment series are further divided into equipment subseries. TO numbers in Category 38 use both three and four basic groups in the numbering patterns discussed in paragraph 29.2.

29.1.2 TO data pertaining to more than one system in this category is numbered in the category general series.

29.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

29.2 NUMBERING PATTERNS.

29.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

29.2.1.1 Part one is always the numeric 38 identifying Category 38.

29.2.1.2 Part two is an alpha character identifying the non-aeronautical engine, i.e., G - powered ground equipment engines; M - marine engines; V - vehicle engines; and X - non-aeronautical engine components and accessories.

29.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. The equipment series numbers for this category are outlined in paragraph 29.4.

29.2.2 GROUP TWO. TO numbering patterns in Category 38 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

29.2.2.1 If the TO number uses only three basic groups, group two will contain one or more numeric characters representing the model, type or PN assigned to specific equipment.

29.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

29.2.3 GROUP THREE.

29.2.3.1 If a TO number has only three basic groups, the third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 38:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

29.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 38:

CL -	Checklists
LC -	Lubrication Charts
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

29.2.3.3 If the TO number has four basic groups, the third group contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

29.2.4 GROUP FOUR. If the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 29.2.3.1, above.

29.3 EXAMPLES OF CATEGORY 38 NUMBERING PATTERNS.

29.3.1 Illustrated parts breakdown for a diesel engine, model D-318.

38G1-24-24	
38	Category 38
G	Powered Ground Equipment Engines
1	Diesel Series
24	Represents Model D-318
24	Number Reserved for Illustrated Parts Breakdown

29.3.2 Operating instructions for a Diesel marine engine, model 6DCMR-1879.

38M1-24-1	
38	Category 38
M	Marine Engines
1	Diesel Series
24	Represents Model 6DCMR-1879
1	Number Reserved for Operating Instructions

29.3.3 Overhaul manual for a fuel pump, PN 1539900 series:

38X11-2-4-3	
38	Category 38
X	Accessories
11	Pump Series
2	Fuel Pump Subseries
4	Represents PN 1539900 Series
3	Number Reserved for Overhaul Instructions

29.4 CATEGORY 38 NUMBERING SERIES.

38	NON-AERONAUTICAL ENGINES
38G	POWERED GROUND EQUIPMENT ENGINES
38G1	DIESEL
38G2	GASOLINE
38G3	JET FUEL
38M	MARINE ENGINES
38M1	DIESEL
38M2	GASOLINE
38M3	STEAM
38V	VEHICLE ENGINES
38V1	DIESEL
38V2	GASOLINE
38X	NON-AERONAUTICAL ENGINE COMPONENTS AND ACCESSORIES
38X1	BEARINGS

38X2	CARBURETORS
38X3	DISTRIBUTORS
38X4	FILTERS
38X4-2	Fuel
38X4-3	Oil
38X5	GEARS
38X6	GENERATORS
38X7	GOVERNORS
38X8	HOUSINGS
38X8-2	Clutch
38X9	MAGNETOS
38X10	PULLEYS
38X11	PUMPS
38X11-2	Fuel
38X11-3	Oil
38X11-4	Water
38X12	RADIATORS
38X13	SPARK PLUGS
38X14	STARTERS
38X15	THERMOSTATS
38X16	VALVES
38X17	SHIPPING CASES
38X18	SHAFTS
38X19	BUSHINGS
38X19-2	Bronze
38X20	IGNITION SYSTEMS
38X21	REGULATORS, CURRENT AND VOLTAGE
38X22	HEATERS
38X23	SWITCHES
38X24	INJECTORS
38X25	AIR EQUIPMENT
38X26	TURBOCHARGERS
38X27	FAN DRIVES

CHAPTER 30
CATEGORY 39 - WATERCRAFT EQUIPMENT

30.1 GENERAL.

30.1.1 Category 39 contains five watercraft systems. The TO numbers in this category use three basic groups for data identification. The numbering pattern is discussed in paragraph 30.2.

30.1.2 TO data pertinent to more than one system in this category is numbered in the category general series.

30.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

30.2 NUMBERING PATTERNS.

30.2.1 GROUP ONE. The five systems that identify types of watercraft use only two parts in group one to identify the category and type of watercraft.

30.2.1.1 Part one is always the numeric 39 identifying Category 39.

30.2.1.2 Part two is a single alpha character identifying the various systems of watercraft, i.e., C - cargo boats; P - personnel boats; R - range patrol boats; and V - vessels. The one exception is the tugboat system identified with the two alpha characters TG.

30.2.2 GROUP TWO. TO numbering pattern in Category 39 uses three basic groups. Group two has one or more numeric characters representing the model, type or PN assigned to specific components.

30.2.3 GROUP THREE.

30.2.3.1 The third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category.

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-5	Equipment Allowance Lists
-6	Inspection Requirements

30.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in this category.

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

30.3 EXAMPLES OF NUMBERING PATTERNS USED IN CATEGORY 39.

30.3.1 An operating and maintenance instruction for a mechanized landing craft, type LCM 8:

39C-47-1	
39	Category 39
C	Cargo Boats
47	Represents Type LCM 8
1	Number Reserved for Operating Instructions

30.3.2 Maintenance instructions for a 21-foot aluminum tow-rescue boat, type P-21:

39P-21-2	
39	Category 39
P	Personnel Boats
21	Represents Type P-21
2	Number Reserved for Maintenance Instructions

30.3.3 Equipment allowance list for a 24-foot USAF rescue boat, type R-4:

39R-4-5	
39	Category 39
R	Range Patrol Boats
4	Represents Type R-4
5	Number Reserved for Equipment Allowance List

30.4 CATEGORY 39 NUMBERING SERIES.

39	WATERCRAFT EQUIPMENT
39C	CARGO BOATS
39P	PERSONNEL BOATS
39R	RANGE PATROL BOATS
39TG	TUGBOATS
39V	VESSELS

CHAPTER 31
CATEGORY 40 - COMMERCIAL AIR-CONDITIONING, HEATING, PLUMBING, REFRIGERATING, VENTILATING AND WATER TREATING EQUIPMENT

31.1 GENERAL.

31.1.1 Category 40 contains six systems. These systems are divided into equipment series and most of the equipment series are further divided into equipment subseries. Therefore TO numbers in this category use both three and four basic groups for data identification. The numbering patterns for both forms are discussed in paragraph 31.2.

31.1.2 TO data pertaining to more than one system in this category is numbered in the category general series.

31.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

31.2 NUMBERING PATTERNS.

31.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

31.2.1.1 Part one is always the numeric 40 identifying Category 40.

31.2.1.2 Part two is an alpha character identifying the various systems, i.e., A - air-conditioners; H - heating equipment; P - plumbing equipment; R - refrigeration equipment; V - ventilating equipment; and W - water treating equipment.

31.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. The numbering series for this category are outlined in paragraph 31.4.

31.2.2 GROUP TWO. TO numbering patterns in Category 40 use both three and four groups; therefore, the identifiers in group two are not constant. The following describes both numbering patterns:

31.2.2.1 If only three basic groups are used in a numbering pattern, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

31.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

31.2.3 GROUP THREE.

31.2.3.1 If a TO number has only three basic groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions

31.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 40:

CL -	Checklists
S -	Operational Supplements

SS - Safety Supplements
WC - Workcards

31.2.3.3 If the TO number contains four basic groups, the third group has one or more numeric characters representing the model, type or PN assigned to specific equipment.

31.2.4 GROUP FOUR. In those cases where the TO number contains four basic groups, the fourth group identifies specific types of TOs described in paragraph 31.2.3.1, above.

31.3 EXAMPLES OF CATEGORY 40 NUMBERING PATTERNS.

31.3.1 Operating instructions with illustrated parts breakdown for air-conditioner, type MA-5:

40A1-6-10-1	
40	Category 40
A	Air-Conditioning Equipment
1	Air-Conditioner Series
6	Trailer Mounted Subseries
10	Represents Type MA-5
1	Number Reserved for Operating Instructions

31.3.2 A maintenance manual for a portable shower, model M1958:

40P1-2-2-2	
40	Category 40
P	Plumbing Equipment
1	Bath and Shower Unit Series
2	Eight Shower Head Subseries
2	Represents Model M1958
2	Number Reserved for Maintenance Manuals

31.4 CATEGORY 40 NUMBERING SERIES.

40	COMMERCIAL AIR-CONDITIONING, HEATING, PLUMBING, REFRIGERATING, VENTILATING, AND WATER TREATING EQUIPMENT
40A	AIR-CONDITIONING EQUIPMENT
40A1	AIR-CONDITIONERS
40A1-2	Aircraft, Ground
40A1-3	Base Mounted
40A1-4	Self-Contained
40A1-5	Skid Mounted
40A1-6	Trailer Mounted
40A1-7	Pack
40A2	DEHUMIDIFIERS
40A2-2	Chemical
40A2-3	Mechanical
40A2-4	Electrical
40A3	COLLECTORS
40A3-2	Dust
40H	HEATING EQUIPMENT
40H1	BOILERS

40H2	FURNACES
40H3	HEATERS
40H3-2	(Not used)
40H3-3	(Not used)
40H3-4	Immersion
40H3-5	Space
40H3-6	(Not used)
40H3-7	Water
40P	PLUMBING EQUIPMENT
40P1	BATH AND SHOWER UNITS
40P1-2	8-Shower Head
40P1-3	12-Shower Head
40P1-4	24-Shower Head
40P1-5	32-Shower Head
40P1-6	Multi Shower Head
40P2	PUMPS
40P2-2	Centrifugal
40P2-3	Diaphragm
40P2-4	Helical Rotor
40P2-5	Pneumatic
40P2-6	Reciprocating
40P2-7	Rotary
40P2-8	Turbine
40P2-9	Steam Driven
40R	REFRIGERATING EQUIPMENT
40R1	COMPRESSORS
40R2	CONDENSING UNITS
40R3	COOLERS
40R3-2	Aircraft, Ground
40R3-3	Rivet
40R3-4	Unit
40R3-5	Water
40R3-6	Semi-Trailer Mounted
40R4	DISPLAY CASES
40R5	ICE CREAM PLANTS
40R6	ICE MAKERS
40R7	REFRIGERATORS
40R7-2	Film Processing
40R7-3	Household
40R7-4	Industrial
40R7-5	Reach-In
40R7-6	Walk-In
40R8	SODA FOUNTAIN EQUIPMENT
40V	VENTILATING EQUIPMENT
40V1	BLOWERS
40V2	FANS
40V2-2	Pedestal

40V2-3	Centrifugal
40V2-4	Axial
40V2-5	Propeller
40V3	VENTILATORS
40W	WATER TREATING EQUIPMENT
40W1	DEMINERALIZERS
40W2	DISTILLATION EQUIPMENT
40W3	HYPOCHLORINATION EQUIPMENT
40W4	PURIFICATION EQUIPMENT
40W5	SOFTENING EQUIPMENT
40W6	FILTERING EQUIPMENT

CHAPTER 32
CATEGORY 41 - SUBSISTENCE AND FOOD SERVICE EQUIPMENT

32.1 GENERAL.

32.1.1 Category 41 contains two subsistence and food service systems. These systems are divided into equipment series and the equipment series are further divided into equipment subseries. TO numbers in category 41 use both three and four basic groups for data identification. The numbering patterns for both forms are discussed in paragraph 32.2.

32.1.2 TO data pertaining to more than one system in this category is numbered in the category general series.

32.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

32.2 NUMBERING PATTERNS.

32.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

32.2.1.1 Part one is always the numeric 41 identifying Category 41.

32.2.1.2 Part two is an alpha character identifying the two systems in the category, i.e., A - subsistence; and B - food service equipment.

32.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. The series for this category are outlined in paragraph 32.4.

32.2.2 GROUP TWO. TO numbering patterns in Category 41 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering pattern for both forms:

32.2.2.1 If only three basic groups are used in a numbering pattern, group two will contain one or more numeric characters representing the model, type or PN assigned to specific equipment.

32.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

32.2.3 GROUP THREE.

32.2.3.1 If a TO number has only three groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown

32.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 41:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

32.2.3.3 If the TO number contains four basic groups, the third group will have one or more numeric characters representing the model, type or PN assigned to specific equipment.

32.2.4 GROUP FOUR. Group Four. In those cases where the TO number contains four basic groups, the fourth group identifies specific types of TOs described in paragraph 32.2.3.1, above.

32.3 EXAMPLES OF CATEGORY 41 NUMBERING PATTERNS.

32.3.1 Illustrated parts breakdown for a food warming oven, type II, applicable to KC-135:

41B1-7-5-4	
41	Category 41
B	Food Service Equipment
1	Baking Equipment Series
7	Oven Subseries
5	Represents Type II
4	Number Reserved for Illustrated Parts Breakdown

32.3.2 Operating instructions for Peters-Dalton dishwashing machine, model HWC-80:

41B2-2-2-1	
41	Category 41
B	Food Service Equipment
2	Cleaning and Sanitation Equipment Series
2	Dishwashing Machine Subseries
2	Represents Model HWC-80
1	Number Reserved for Operating Instructions

32.4 CATEGORY 41 NUMBERING SERIES.

41	SUBSISTENCE AND FOOD SERVICE EQUIPMENT
41A	SUBSISTENCE
41A1	BEVERAGES
41A2	DAIRY PRODUCTS
41A3	DRIED FOODS
41A4	FIELD AND COMBAT RATIONS
41A5	FROZEN FOODS
41A6	MEAT AND MEAT PRODUCTS
41A7	PROCESSED FOODS
41A8	TROPICAL PLANTS
41B	FOOD SERVICE EQUIPMENT
41B1	BAKING EQUIPMENT
41B1-2	Doughnut Machine
41B1-3	Dough Divider
41B1-4	Dough Mixer
41B1-5	Dough Proofer
41B1-6	Fermentation Cabinet
41B1-7	Oven
41B1-8	Sifter
41B2	CLEANING AND SANITATION EQUIPMENT
41B2-2	Dishwasher
41B3	COOKING EQUIPMENT
41B3-2	Broiler

41B3-3	Cooker
41B3-4	Fryer
41B3-5	Griddle
41B3-6	Range
41B3-7	Stove
41B3-8	Toaster
41B3-9	Warmer
41B3-10	Urn
41B4	PREPARATION EQUIPMENT
41B4-2	Grinder
41B4-3	Meat Cutter
41B4-4	Mixer
41B4-5	Peeler
41B5	TESTING AND SCREENING EQUIPMENT

CHAPTER 33
CATEGORY 42 - COATING, CLEANING AND SEALING COMPOUNDS AND FUELS, GASES, LUBRICANTS, CHEMICALS AND MATERIALS

33.1 GENERAL.

33.1.1 Category 42 contains seven systems divided into equipment or material series. The series, in some instances, are further divided into material types. TO numbers in Category 42 use both three and four basic groups for data identification. The numbering patterns for both forms are discussed in paragraph 33.2.

33.1.2 TO data pertinent to more than one system in this category is numbered in the category general series.

33.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

33.2 NUMBERING PATTERNS.

33.2.1 GROUP ONE. This group has three parts identifying the category, system and material series.

33.2.1.1 Part one is always the numeric 42 identifying Category 42.

33.2.1.2 Part two is an alpha character identifying the various systems, i.e., A - dopes, paints, and cleaning compounds; B - fuels, lubricants, oxygen, and gases; C - chemicals; D - metals, plastics, and composition materials; E - rubber materials; F - cordage, leather, and miscellaneous fabric; and L - lumber.

33.2.1.3 Part three contains one or more numeric characters identifying the material series within a system. The material series numbers for this category are outlined in paragraph 33.4.

33.2.2 GROUP TWO. Since TO numbering patterns in Category 42 use both three and four basic groups, the identifiers in group two are not constant. The following describes both numbering patterns:

33.2.2.1 If the TO number uses only three basic groups, group two will have a numeric character identifying all TOs as being in a single, general Model-Type-Part Number series. This is due to the general or comprehensive nature of TO data in this category.

33.2.2.2 If the TO number contains four basic groups, the equipment or material series identified in part three of group one has been further divided into subseries. In this case, group two identifies the specific material subseries with one or more numeric characters.

33.2.3 GROUP THREE.

33.2.3.1 If the TO number has only three groups, the third group of the numbering pattern is made up of numeric characters identifying individual TOs. Specific numbers are not reserved to identify specific types of TOs as in other categories. In some instances the numeric characters are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 42.

CL - Checklists
S - Operational Supplements
SS - Safety Supplements
WC - Workcards

33.2.3.2 If the TO number has four basic groups, the third group contains a numeric character identifying all TOs as being in a single general Model-Type-Part Number series. This is due to the general or comprehensive nature of TO data in this category.

33.2.4 GROUP FOUR. Group Four When the TO number has four basic groups, the fourth group is made up of numeric characters identifying individual TOs. Specific numbers are not reserved to identify specific types of TOs as in other

categories. In some instances the numeric characters may be followed by one or more alpha characters described in paragraph 33.2.3.1.

33.3 EXAMPLES OF CATEGORY 42 NUMBERING PATTERNS.

33.3.1 Manual on fluids for hydraulic equipment:

42B2-1-3

42	Category 42
B	Fuels, Lubricants, Oxygen and Gases
2	Oil Series
1	General Model-Type-Part Number Series
3	Third Manual in a Series

33.3.2 Manual on aircraft hoses:

42E1-1-1

42	Category 42
E	Rubber Materials
1	Aircraft Hose Series
1	General Model-Type-Part Number Series
1	First Manual in a Series

33.3.3 Manual on quality control of nitrogen propellant pressurizing agent:

42B7-3-1-1

42	Category 42
B	Fuels, Lubricants, Oxygen, and Gases
7	High Energy Liquid Propellants
3	Propellant Pressurization
1	General Model-Type-Part Number Series
1	First Manual in a Series

33.4 CATEGORY 42 NUMBERING SERIES.

42	COATING, CLEANING, AND SEALING COMPOUNDS AND FUELS, GASES, LUBRICANTS, CHEMICALS, AND MATERIALS
42A	DOPES, PAINTS, AND CLEANING COMPOUNDS
42A1	CLEANING COMPOUNDS
42A2	DOPES AND PAINTS
42A3	GLUES AND CEMENTS
42B	FUELS, LUBRICANTS, OXYGEN, AND GASES
42B1	FUELS
42B2	OILS
42B3	GREASES
42B4	COMPRESSED GASES
42B5	GAS STORAGE AND SERVICING CYLINDERS
42B6	LIQUID OXYGEN
42B7	HIGH ENERGY LIQUID PROPELLANTS
42B7-2	JP-4 - General
42B7-3	Propellant Pressurization - General

42C	CHEMICALS
42C1	ENGINE
42C2	METAL TREATMENT
42D	METALS, PLASTICS, AND COMPOSITION MATERIALS
42D1	ALUMINUM ALLOYS
42D2	COMPOSITION MATERIALS
42D3	MAGNESIUM ALLOYS
42D4	PLASTICS
42D5	STEEL
42E	RUBBER MATERIALS
42E1	AIRCRAFT HOSE
42E2	RUBBER SEALS AND PACKING
42F	CORDAGE, LEATHER, AND MISCELLANEOUS FABRIC
42L	LUMBER

CHAPTER 34
CATEGORY 43 - SIMULATOR AND TRAINING DEVICES

34.1 GENERAL.

34.1.1 Category 43 contains three simulator and training systems. These systems are divided into equipment series and most of the equipment series are further divided into equipment subseries. TO numbers in Category 43 use both three and four basic groups in the numbering pattern for data identification. The numbering patterns for both forms are discussed in paragraph 34.2.

34.1.2 TO data pertaining to more than one system in this category is numbered in the category general series.

34.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

34.2 NUMBERING PATTERNS.

34.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

34.2.1.1 Part one is always the numeric 43 identifying Category 43.

34.2.1.2 Part two is an alpha character identifying the simulator and training systems, i.e., D - training devices; E - training equipment; and X-components. Associated equipment for these systems are identified by adding the alpha A immediately following the system identifier, e.g., DA, EA.

34.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. The numbering series for this category is outlined in paragraph 34.4.

34.2.2 GROUP TWO. TO numbering patterns in Category 43 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering pattern for both forms:

34.2.2.1 If only three basic groups are used in the numbering pattern, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

34.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

34.2.3 GROUP THREE.

34.2.3.1 If a TO number has only three groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category.

-01	List of Applicable Publications (LOAP)
-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions and Installation Test Procedures
-8	Test Procedures, Checkout Manuals, or Programmed Tests
-9	Alignment Manuals

34.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 43:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

34.2.3.3 If the TO number contains four basic groups, the third group has one or more numeric characters representing the model, type or PN assigned to specific equipment.

34.2.4 GROUP FOUR. Group Four. In those cases where the TO number has four basic groups, the fourth group identifies specific types of TOs described in paragraph 34.2.3.1.

34.3 EXAMPLES OF CATEGORY 43 NUMBERING PATTERNS.

34.3.1 Operating instructions for a mission simulator system, F-111 aircraft:

43D3-4-11-11	
43	Category 43
D	Training Devices
3	Flight Simulator Series
4	Fighter Aircraft Simulator Subseries
11	Represents Model F-111 Aircraft
11	Number Reserved for Operating Instructions

34.3.2 Operating instructions for a resident trainer and mobile training set, C-5A aircraft:

43E24-2-7-1	
43	Category 43
E	Training Equipment
24	Mobile Trainer Series
2	Cargo Aircraft Simulator Subseries
7	Represents Model C-5 Aircraft
1	Number Reserved for Operating Instructions

34.3.3 Overhaul instructions with illustrated parts breakdown for a turbine outlet temperature indicator, PN D06G0015-1:

43X5-23-2-3	
43	Category 43
X	Simulator Components
5	Indicator Series
23	Temperature Indicator Subseries
2	Represents PN D06G0015-1
3	Number Reserved for Overhaul Instructions

34.4 CATEGORY 43 NUMBERING SERIES.

NOTE

During about 1960, eight TO numbers, using five groups in the numbering pattern, were assigned in the 43D7-13 series. This was contrary to the standard practice and constitutes an exception. In the event that new TO numbers are added to extend this series, the character "2" used as the fourth group in all above mentioned eight TO numbers should be eliminated. This will change the series pattern to the standard four-group format.

43	SIMULATOR AND TRAINING DEVICES
43D	TRAINING DEVICES
43D1	BOMBING
43D2	MISSILE
43D2-2	GAM-87A (Skybolts)
43D2-3	LGM-30 (Minuteman)
43D2-4	SM-68 (Titan)
43D2-5	SM-65 (Atlas)
43D2-6	GAM-83 (AGM-12 Bullpup)
43D2-7	AGM-69A (SRAM)
43D2-8	AGM-86B
43D2-9	BGM-109G (Tomahawk)
43D2-10	LGM-118A (Peacekeeper)
43D2-11	AGM-129
43D2-12	AGM-131A (SRAM 2)
43D2-13	RESERVED
43D2-14	AGM-65A/B (Maverick)
43D3	FLIGHT SIMULATORS
43D3-2	Bomber
43D3-2-5	B-52
43D3-2-7	B-52 (Use 43D3-2-5)
43D3-2-8	B-57
43D3-3	Cargo
43D3-3-2	C-97
43D3-3-3	C-119
43D3-3-4	C-124
43D3-3-5	C-130
43D3-3-6	C-131
43D3-3-7	C-121
43D3-3-8	C-135
43D3-3-9	C-118
43D3-3-10	C-123
43D3-3-11	C-133
43D3-3-12	C-130B (Use 43D3-3-5)
43D3-3-13	C-130E (Use 43D3-3-5)
43D3-3-14	C-141
43D3-3-15	C-5A
43D3-4	Fighter
43D3-4-2	F-84
43D3-4-3	F-86

43D3-4-4	F-89
43D3-4-5	F-100
43D3-4-6	F-101
43D3-4-7	F-102
43D3-4-8	F-106A
43D3-4-9	F-105D
43D3-4-10	F-4
43D3-4-11	F-111
43D3-4-12	F-15
43D3-4-13	F117A
43D3-5	Cockpit
43D3-5-2	F-84
43D3-5-3	RB-66
43D3-5-4	T-33
43D3-5-5	F-104
43D3-5-6	F-86
43D3-5-7	F-100
43D3-5-8	F-105
43D3-5-9	T-29C
43D3-5-10	F-102
43D3-5-11	A-7D
43D3-5-12	C-5
43D3-5-13	C-130
43D3-5-14	C-141
43D3-5-15	F-16
43D3-6	Missile
43D3-6-2	TM-61
43D3-6-3	SM-62
43D3-7	VISUAL
43D3-7-2	SMK-23/F37A-T
43D3-7-3	SMK-87/F37A-T
43D3-7-4	Virtual Image
43D3-7-5	SMK-92/F37A
43D3-7-6	117/WST
43D3-8	Attack Aircraft
43D3-8-2	A-7D
43D3-8-3	A-10A
43D3-9	Helicopter
43D3-9-2	CH-3E, HH-53C
43D3-10	Electronic Aircraft
43D3-10-2	E-3
43D3-11	Trainer
43D3-11-2	T-46A
43D4	GUNNERY TRAINING
43D4-2	Fixed
43D4-3	Flexible
43D5	INSTRUMENT FLYING

43D6	NAVIGATION
43D7	RADIO AND RADAR
43D7-2	AN/APG
43D7-3	AN/APN
43D7-4	AN/APQ; AN/GJW
43D7-5	AN/APS
43D7-6	AN/GJW (See 43D7-4 also)
43D7-7	AN/GPN
43D7-8	AN/GPQ
43D7-9	Control
43D7-10	Telemetry
43D7-11	Countermeasures
43D7-12	AN/ASQ and AN/GSQ
43D7-13	Associated Equipment

NOTE

During about 1960, eight TO numbers, using five groups in the numbering pattern, were assigned in the 43D7-13 series. This was contrary to the standard practice and constitutes an exception. In the event that new TO numbers are added to extend this series, the character "2" used as the fourth group in all above mentioned eight To numbers should be eliminated. This will change the series pattern to the standard four-group format.

43D7-14	Fire Control
43D7-15	Beacon Set
43D7-16	Search Radar and Detecting
43D7-17	AN/FRC
43D7-18	AN/APY
43D7-19	AN/MST
43D8	INDOCTRINATION TRAINERS AND CHAMBERS
43D8-2	Egress System
43D8-3	Indoctrination Chamber
43D8-3-2	20-Man
43D8-3-3	16-Man
43D8-3-4	Test Chamber
43D8-3-5	6-Man
43D8-3-6	Recompression
43D8-4	High Altitude Helmet and Suit Training Aid
43D8-5	Night Vision
43D8-6	Missiles
43D8-7	Centrifuge
43D9	MOCK-UP AIRSPEED TRAINERS
43D10	DRIVER TRAINING
43D11	WEAPON SIMULATORS
43D12	ENGINES
43D13	TRAINERS
43D13-2	A/E-37A-T2, -T3, -T4, -T5, -T7
43D13-3	TAU Series

43D13-4	Operator (Do not use)
43D13-5	AF 37A-T18 (Use 43D2-6)
43D14	(Do not use)
43D15	(Do not use)
43D16	LAUNCH CONTROL AND CHECKOUT
43D16-2	Control System
43D16-3	Launch Complex System
43D16-4	Launch Operator Trainer
43D16-5	Checkout Trainer
43D16-6	Umbilical Tower Trainer
43D16-7	Launch Enable System
43D17	GUIDANCE SYSTEM TRAINERS
43D17-2	Airborne
43D17-3	Ground
43D17-4	Computer
43D17-5	Subsystem
43D18	PROPULSION TRAINERS
43D18-2	System Trainer
43D19	FLIGHT CONTROL TRAINERS
43D19-2	System
43D19-3	Ground Support Equipment
43D20	HYDRAULIC AND PNEUMATIC SYSTEMS
43D20-2	System
43D21	STORAGE, TRANSFER AND PRESSURIZATION
43D21-2	Liquid Oxygen
43D21-3	Helium
43D21-4	Propellant
43D22	ELECTRICAL SYSTEMS
43D22-2	System
43D22-3	Power Conversion and Distribution
43D22-4	Trouble Analysis
43D22-5	Missile Safety and Arming
43D23	INSTALLATION AND TRANSPORTATION
43D23-2	Rocket and Explosive Bolt
43D23-3	Ordnance Installation
43D23-4	Engine
43D23-5	Missile Handling
43D23-6	Pylon/Installation/Missile Loading
43D23-7	Thermo-Conditioner
43D23-8	Hydraulic System
43D24	PROGRAMMERS
43D24-2	Propellant Loading
43D24-3	Propulsion Signal
43D25	TEST SET (Do not use)
43D26	PROCEDURES
43D27	ALIGNMENT TRAINERS
43D28	ANTENNA SYSTEM TRAINERS

43D29	SILO TRAINERS
43D30	AIR-CONDITIONING
43D31	LAUNCHER TRAINERS
43D32	LAUNCH SITE TRAINERS
43D32-2	Equipment
43D32-3	Operation and Maintenance
43D33	MAINTENANCE
43D33-2	Security Support Bench
43D33-3	Thermo-Conditioner
43D34	NETWORKS
43D34-2	Sequence and Monitor
43D35	INSPECTION
43D36	SAFETY
43D37	COMMUNICATIONS
43D37-2	System
43D38	ATMOSPHERIC RESEARCH EQUIPMENT
43D39	GROUND ELECTRONIC SYSTEMS
43DA	ASSOCIATED EQUIPMENT
43DA1	PRINTER MECHANISM
43DA2	RECORDERS
43DA3	ANNOUNCERS
43DA4	MAGAZINES
43DA5	DECODERS
43DA6	TOOLS
43DA7	DESICCATORS
43DA8	CYLINDERS AND NITROGEN CYLINDERS
43DA9	CARDS
43DA10	PATCHBOARDS
43DA11	AMPLIFIERS
43DA12	DRIVERS
43DA13	VISUAL SYSTEMS
43DA13-2	Monitor and Components
43DA13-3	Projector and Components
43DA13-4	Camera and Components
43DA14	AUTOMATED FLIGHT TRAINING SYSTEMS
43DA14-2	Training Set, Mission - Simulator
43E	TRAINING EQUIPMENT
43E1	CARRIERS
43E1-2	Target
43E1-3	Radar
43E1-4	Electricity Demonstration
43E2	CONTROLS
43E2-2	Auto-Pilot
43E2-3	Pneumatic
43E3	KITS
43E3-2	Film Assessing
43E3-3	Radar Set Adapter

43E3-4	Radar Set Dolly
43E4	GENERATORS
43E4-2	Signal
43E5	PANELS
43E6	POWER SYSTEMS
43E6-2	Windlass
43E6-3	Power Supply
43E6-4	Rectifier
43E6-5	Engine
43E6-6	Motor Generator
43E7	RADIO AND RADAR
43E7-2	Accessory
43E7-3	Interphone System
43E7-4	Radio Range
43E7-5	Training Set
43E7-6	Signal
43E7-7	Scorer
43E7-8	Receiver
43E7-9	Amplifier
43E7-10	Converter
43E8	RECORDERS - REPRODUCERS (See 43X16 also)
43E8-2	Sound
43E9	READERS AND VISICORDERS
43E10	SIMULATORS
43E10-2	Bombsight
43E10-3	Radio, Radar
43E10-4	Line Store
43E10-5	Small Arms Fire
43E10-6	Circuit Analysis
43E10-7	Signal
43E10-8	Switch
43E10-9	Mortar
43E10-10	Antenna Assembly
43E10-11	Motion System
43E10-12	Control Tower
43E11	TARGETS
43E12	TRANSPONDER GROUPS (Interconnector)
43E14	WINDLASSES
43E15	CATAPULTS
43E16	LAUNCHERS
43E17	TOW TARGETS
43E17-2	Actuator
43E17-3	Cart
43E18	LOADING
43E19	TELEGRAPHIC
43E19-2	Code Training
43E20	REGULATORS

43E20-2	Oxygen
43E20-3	Pressure
43E21	LIQUID
43E21-2	Oxygen
43E22	CHEMICALS
43E22-2	Biological and Radiological
43E23	RESIDENT TRAINERS
43E23-2	Cargo Aircraft
43E23-2-2	C-141A
43E23-2-3	C-5A
43E23-3	FIGHTER ACFT
43E23-3-2	F-5A
43E23-3-3	F-4
43E23-3-4	F-15
43E23-3-5	F117A
43E23-4	Helicopters
43E23-4-2	HH-43
43E23-4-3	HH-53B
43E23-4-4	TF-1F
43E23-4-5	UN-1N
43E23-5	Bomber Aircraft
43E23-5-2	B-52
43E24	MOBILE TRAINERS
43E24-2	Cargo Aircraft
43E24-2-2	C-141
43E24-2-3	C-135
43E24-2-4	C-133
43E24-2-5	EC-121
43E24-2-6	C-123
43E24-2-7	C-5A
43E24-2-8	C-10
43E24-2-9	C-130
43E24-2-10	C-17
43E24-3	Fighter Aircraft
43E24-3-2	F-5
43E24-3-3	F-105
43E24-3-4	F-111
43E24-3-5	F-4
43E24-3-6	F-106
43E24-3-7	F-100
43E24-3-8	F-101/RF-101
43E24-3-9	F-15
43E24-3-10	F-16
43E24-4	Helicopter Aircraft
43E24-4-2	UH-1
43E24-4-3	HH-53C
43E24-5	Bomber Aircraft

43E24-5-2	B-52
43E24-5-4	B-1B
43E24-5-5	B-2A
43E24-6	Attack Aircraft
43E24-6-2	A-7
43E24-6-3	A-37
43E24-6-4	A-10
43E24-7	Observation Aircraft
43E24-7-2	OV-10A
43E24-8	Trainer Aircraft
43E24-8-2	T-38
43E24-8-3	T-46
43E24-8-11	T-38A
43E24-9	Electronic Aircraft
43E24-9-2	E-3
43E25	PROJECTORS
43E26	DIGITAL COMPUTERS (Use 31S5)
43E27	WIND TUNNELS
43E28	EXPLOSIVE DISPOSAL
43E29	BOMBING SYSTEMS TRAINER
43E30	GUNSHIP SYSTEMS TRAINERS
43E30-2	C-130
43EA	ASSOCIATED EQUIPMENT (Use 43X)
43X	COMPONENTS
43X1	AUTOSYNS
43X2	CABLES
43X3	DISPLAYS
43X3-2	Radar Data
43X3-3	Graphic
43X3-4	Control
43X3-5	System
43X4	FLARES
43X5	INDICATORS
43X5-2	Altimeter
43X5-3	Artificial Horizon
43X5-4	Cross Pointer
43X5-5	Directional Gyroscope
43X5-6	Landing
43X5-7	Standard Beam Approach
43X5-8	Turn and Bank
43X5-9	Single Autosyn
43X5-10	Photo Firing
43X5-11	Accelerometer
43X5-12	Attitude
43X5-13	Doppler
43X5-14	Compass
43X5-15	Altitude

43X5-16	Oxygen
43X5-17	Tachometer
43X5-18	Airspeed
43X5-19	Flap
43X5-20	Landing Gear
43X5-21	Fuel
43X5-22	Velocity
43X5-23	Temperature
43X5-24	Oil Pressure
43X5-25	Digital Angle
43X5-26	Radar Navigator
43X5-27	Groundspeed
43X5-28	Rudder Trim
43X5-29	Hydraulic Pressure
43X5-30	Torque
43X5-31	Hover
43X5-32	Engine
43X5-33	Horizontal Situation
43X5-34	Course
43X6	MAPS
43X6-2	Supersonic Radar
43X7	METERS AND MEASURING EQUIPMENT
43X8	COUNTERS AND TIMERS
43X9	PROTECTIVE BAGS
43X10	ADAPTERS
43X10-2	Universal Delivery
43X10-3	Monitor
43X10-4	Electrical
43X10-5	Installation
43X11	THERMOSTATS
43X12	REELS
43X12-2	Tow Target
43X13	LOAD SENSOR
43X14	VALVES
43X15	AMPLIFIERS
43X16	RECORDERS (See 43E8 also)
43X17	PUMPS
43X17-2	Vacuum
43X17-3	Hydraulic
43X18	SETTING DEVICES
43X19	DISCONNECT UNITS
43X20	TRAINER ATTACHMENTS
43X21	MECHANISMS AND DRIVES, DISK DRIVES
43X22	STANDS
43X23	COMPRESSORS
43X24	CYLINDERS
43X25	ACTUATORS

43X26	ACCUMULATORS
43X27	TANK ASSEMBLIES
43X28	POWER UNITS
43X29	NAVIGATION
43X30	SERVOS
43X31	PANELS
43X32	GEAR BOXES
43X33	SERVOMOTORS
43X34	LIGHT ASSEMBLIES
43X35	COMPUTERS
43X36	CONVERTERS
43X37	ALTIMETERS
43X38	UNITS
43X39	PLOTTERS
43X40	GENERATORS
43X40-2	Target
43X40-3	Sweep
43X40-4	Pulse
43X40-5	Function
43X40-6	Vector
43X41	POWER SUPPLIES
43X42	KITS
43X43	CONTROLS
43X44	DATA TERMINALS
43X45	TAPE TRANSPORTS
43X46	MONITORS
43X47	PRINTERS
43X48	READOUT UNITS
43X49	ANALYZERS
43X50	MODULES
43X51	TRANSLATORS
43X52	CARD ASSEMBLIES
43X53	VOLTAGE, CURRENT, AND RESISTANCE UNITS
43X54	TAPES AND DRUM ASSEMBLIES AND COMPONENTS
43X55	GAUGES
43X56	SYSTEMS
43X57	HUMIDIFIERS
43X58	PROJECTORS
43X59	PALLET ASSEMBLIES

CHAPTER 35
CATEGORY 44 - COMMON HARDWARE EQUIPMENT

35.1 GENERAL.

35.1.1 Category 44 contains two common hardware equipment systems. These systems are divided into equipment series and the equipment series are further divided into equipment subseries. TO numbers in Category 44 use both three and four basic groups for data identification. The numbering patterns for both forms are discussed in paragraph 35.2.

35.1.2 TO data pertaining to more than one system in this category is numbered in the category general series.

35.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

35.2 NUMBERING PATTERNS.

35.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

35.2.1.1 Part one is always the numeric 44 identifying Category 44.

35.2.1.2 Part two is an alpha character identifying the various hardware systems, i.e., B - bearings; and H - hardware.

35.2.1.3 Part three contains one or more numeric characters that identify the equipment series within a system. The numbering series for this category is outlined in paragraph 35.4.

35.2.2 GROUP TWO. TO numbering patterns in Category 44 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering pattern for both forms:

35.2.2.1 If the TO number uses only three basic groups, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

35.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

35.2.3 GROUP THREE.

35.2.3.1 If a TO number has only three basic groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements
-7	Installation Instructions

35.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 44:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

35.2.3.3 If the TO number contains four basic groups, the third group will have one or more numeric characters representing the model, type or PN assigned to specific equipment.

35.2.4 GROUP FOUR. Group Four. In those cases where the TO number contains four basic groups, the fourth group identifies specific types of TOs defined in paragraph 35.2.3.1.

35.3 EXAMPLES OF CATEGORY 44 NUMBERING PATTERNS.

35.3.1 A maintenance manual for anti-friction bearings:

44B-1-102	
44	Category 44
B	Bearings
1	System General Series
102	Number Reserved for General Series Maintenance Instructions

35.3.2 Overhaul instructions for an air starter coupling assembly, PN 3127-10:

44H1-2-3-3	
44	Category 44
H	Hardware
1	Aircraft Common Hardware Series
2	Coupling Subseries
3	Represents PN 3127-10
3	Number Reserved for Overhaul Instructions

35.4 CATEGORY 44 NUMBERING SERIES.

44	COMMON HARDWARE EQUIPMENT
44B	BEARINGS
44H	HARDWARE
44H1	AIRCRAFT COMMON HARDWARE
44H1-2	Coupling
44H1-3	Valve
44H2	UTILITY HARDWARE
44H2-2	Washer
44H2-3	Security Hardware
44H3	AIRCRAFT HOSE CLAMPS

CHAPTER 36
CATEGORY 45 - RAILROAD EQUIPMENT

36.1 GENERAL.

36.1.1 Category 45 contains two railroad equipment systems. These systems are divided into equipment series and the equipment series are further divided into equipment subseries. TO numbers in this category use both three and four basic groups for data identification. The numbering pattern for both forms are discussed in paragraph 36.2.

36.1.2 TO data pertinent to more than one system in this category is numbered in the category general series.

36.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

36.2 NUMBERING PATTERNS.

36.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

36.2.1.1 Part one is always the numeric 45 identifying Category 45.

36.2.1.2 Part two is an alpha character identifying the railroad equipment systems, i.e., A - rolling stock; and E - right-of-way maintenance equipment. Associated equipment for these systems is identified by adding the alpha A immediately following the system identifier, i.e., AA or EA.

36.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. The numbering series for this category is outlined in paragraph 36.4.

36.2.2 GROUP TWO. TO numbering patterns in Category 45 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering pattern for both forms:

36.2.2.1 If only three basic groups are used in a numbering pattern, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

36.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries will be identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

36.2.3 GROUP THREE.

36.2.3.1 If a TO number has only three basic groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

36.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards, supplements or other media. The following alpha characters are authorized for use in Category 45:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

36.2.3.3 If the TO number contains four basic groups, the third group will have one or more numeric characters representing the model, type or PN assigned to specific equipment.

36.2.4 GROUP FOUR. In those cases where the TO number contains four basic groups, the fourth group identifies specific types of TOs defined in paragraph 36.2.3.1.

36.3 EXAMPLES OF CATEGORY 45 NUMBERING PATTERNS.

36.3.1 Operating instruction for diesel electric locomotive, model 539-S:

45A2-2-13-1

45	Category 45
A	Rolling Stock
2	Locomotive Series
2	Diesel Electric Subseries
13	Represents Model 539-S
1	Number Reserved for Operating Instructions

36.3.2 Illustrated parts breakdown for a railway diesel crane, model 825D:

45E4-2-5-4

45	Category 45
E	Right-of-Way Maintenance Equipment
4	Crane Series
2	Diesel Crane Subseries
5	Represents Model 825D
4	Number Reserved for Illustrated Parts Breakdown

36.4 CATEGORY 45 NUMBERING SERIES.

45	RAILROAD EQUIPMENT
45A	ROLLING STOCK
45A1	CARS
45A1-2	Box
45A1-3	Flat
45A1-4	Hospital Unit
45A1-5	Maintenance
45A1-6	Tank
45A2	LOCOMOTIVES
45A2-2	Diesel, Electric
45A2-3	Gasoline
45AA	ASSOCIATED EQUIPMENT
45AA2	BRAKE EQUIPMENT
45E	RIGHT-OF-WAY MAINTENANCE EQUIPMENT
45E1	BRAKES
45E2	BRIDGES
45E3	COMPRESSORS
45E4	CRANES
45E4-2	Diesel
45E4-3	Gasoline
45E4-4	Steam

45E5	DERRICKS
45E6	HAMMERS
45E7	SIGNAL DEVICES
45E8	TRACKS
45E9	TRACK SHIFTERS
45E10	JACKS
45E11	WINCHES
45E12	HEATERS
45E13	TAMPERS

CHAPTER 37
CATEGORY 46 - OFFICE, DUPLICATING, PRINTING AND BINDING EQUIPMENT

37.1 GENERAL.

37.1.1 Category 46 contains three systems. These systems are divided into equipment series and the equipment series are further divided into equipment subseries. TO numbers in this category use both three and four basic groups for data identification. The numbering pattern for both forms are discussed in paragraph 37.2.

37.1.2 TO data pertinent to more than one system in this category is numbered in the category general series.

37.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

37.2 NUMBERING PATTERNS.

37.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

37.2.1.1 Part one is always the numeric 46 identifying Category 46.

37.2.1.2 Part two is an alpha character identifying the various systems, i.e., A - office equipment; D - duplicating equipment; and P - printing and binding equipment.

37.2.1.3 Part three contains one or more numeric characters identifying equipment series within a system. The numbering series for this category is outlined in paragraph 37.4.

37.2.2 GROUP TWO. TO numbering patterns in Category 46 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering patterns for both forms:

37.2.2.1 If only three basic groups are used in a numbering pattern, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

37.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

37.2.3 GROUP THREE.

37.2.3.1 If a TO number has only three basic groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

37.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 46:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

37.2.3.3 If the TO number contains four basic groups, the third group will have one or more numeric characters representing the model, type or PN assigned to specific equipment.

37.2.4 GROUP FOUR. In those cases where the TO number contains four basic groups, the fourth group identifies specific types of TOs defined in paragraph 37.2.3.1.

37.3 EXAMPLES OF CATEGORY 46 NUMBERING PATTERNS.

37.3.1 A maintenance manual for a calculator, model 9820A:

46A1-4-5-2	
46	Category 46
A	Office Equipment
1	Machine Series
4	Calculator Subseries
5	Represents Model 9820A
2	Number Reserved for Maintenance Manuals

37.3.2 An operating instruction for a mimeograph duplicator, model 92:

46D1-9-2-1	
46	Category 46
D	Duplicating Equipment
1	Machine Series
9	Stencil Subseries
2	Represents Model 92
1	Number Reserved for Operating Instructions

37.4 CATEGORY 46 NUMBERING SERIES.

46	OFFICE, DUPLICATING, PRINTING, AND BINDING EQUIPMENT
46A	OFFICE EQUIPMENT
46A1	MACHINES
46A1-2	Accounting
46A1-3	Adding
46A1-4	Calculating
46A1-5	Card Recording
46A2	PANTOGRAPHS
46A3	SAFES AND LOCKERS
46A4	TYPEWRITERS
46A5	READERS
46D	DUPLICATING EQUIPMENT
46D1	MACHINES
46D1-2	Addressing
46D1-3	Blue Printing
46D1-4	Embossing
46D1-5	Gelatin
46D1-6	Photographic
46D1-7	Plate
46D1-8	Spirit
46D1-9	Stencil

46D1-10	White Print
46P	PRINTING AND BINDING EQUIPMENT
46P1	CUTTERS
46P2	DRILLS
46P3	FRAMES
46P4	GRAINING MACHINES
46P5	PRESSES
46P6	WHIRLERS

CHAPTER 38
CATEGORY 47 - AGRICULTURE EQUIPMENT

38.1 GENERAL.

38.1.1 Category 47 contains four agriculture systems which are divided into equipment series. This category does not have a division of its equipment series into equipment subseries. Therefore the TO numbering pattern for this category will only contain three basic groups.

38.1.2 TO data pertinent to more than one system in this category is numbered in the category general series.

38.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

38.2 NUMBERING PATTERNS.

38.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

38.2.1.1 Part one is always the numeric 47 identifying the Category 47.

38.2.1.2 Part two is an alpha character identifying the agriculture systems, i.e., A - cultivation and soil preparation equipment; B - harvesting equipment; C - mowing equipment; D - weed and pest control. Associated equipment is identified by adding an alpha A immediately following the system identifier, e.g., AA.

38.2.1.3 Part three contains one or more numeric characters identifying equipment series within a system. The numbering series for this category is outlined in paragraph 38.4.

38.2.2 GROUP TWO. Inasmuch as the numbering pattern for this category has only three basic groups, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

38.2.3 GROUP THREE.

38.2.3.1 The third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 47:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Broakdown
-6	Inspection Requirements

38.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 47:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

38.3 EXAMPLE OF CATEGORY 47 NUMBERING PATTERNS.

38.3.1 An operating instruction for a sprayer, PN 44-10000-1:

47D1-5-1	
47	Category 47
D	Weed and Pest Control Equipment
1	Sprayer Series

5	Represents PN 44-10000-1
1	Number Reserved for Operating Instructions

38.4 CATEGORY 47 NUMBERING SERIES.

47	AGRICULTURE EQUIPMENT
47A	CULTIVATION AND SOIL PREPARATION
47A1	CULTIVATORS
47A2	HARROWS
47A3	PLOWS
47A4	SOIL MIXERS
47B	HARVESTING EQUIPMENT
47C	MOWING EQUIPMENT
47C1	LAWN MOWERS
47C2	TURF MOWERS
47C3	LAWN EDGERS
47D	WEED AND PEST CONTROL EQUIPMENT
47D1	SPRAYERS
47D2	WEED BURNERS

CHAPTER 39
CATEGORY 49 - OPTICAL INSTRUMENTS, TIMEKEEPING AND NAVIGATION EQUIPMENT

39.1 GENERAL.

39.1.1 Category 49 contains three systems that are divided into three equipment series. This category does not have a division of its equipment series into equipment subseries. Therefore the TO numbering pattern for this category will only contain three basic groups.

39.1.2 TO data pertinent to more than one system in this category is numbered in the category general series.

39.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

39.2 NUMBERING PATTERNS.

39.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

39.2.1.1 Part one is always the numeric 49 identifying Category 49.

39.2.1.2 Part two is an alpha character identifying the various systems, i.e., A - optical instruments; B - timekeeping equipment; and C - navigation equipment. Associated equipment for these systems are identified by adding the alpha A immediately following the system identifier, e.g., AA.

39.2.1.3 Part three contains one or more numeric characters identifying equipment series within a system. The numbering series for this category is outlined in paragraph 39.4.

39.2.2 GROUP TWO. Since the numbering pattern for this category uses only three basic groups, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

39.2.3 GROUP THREE.

39.2.3.1 The third group identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in Category 49:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-5	Test Procedures
-6	Inspection Requirements

39.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 49:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

39.3 EXAMPLES OF CATEGORY 49 NUMBERING PATTERNS.

39.3.1 An operating instruction for a navigation watch, type AN5740:

49B2-3-1	
49	Category 49
B	Timekeeping Equipment
2	Watch Series
3	Represents Type AN5740
1	Number Reserved for Operating Instructions

39.3.2 Test procedures for a surveying compass, type N5334:

49C1-4-5	
49	Category 49
C	Navigation Equipment
1	Compass Series
4	Represents Type N5334
5	Number Reserved for Test Procedures

39.4 CATEGORY 49 NUMBERING SERIES.

49	OPTICAL INSTRUMENTS, TIMEKEEPING, AND NAVIGATION EQUIPMENT
49A	OPTICAL INSTRUMENTS
49A1	BINOCULARS
49A2	MOUNTS
49A3	QUADRANTS
49A4	TELESCOPES
49A5	TRANSITS
49A6	PERISCOPES
49A7	AIMING CIRCLES
49A8	THEODOLITES
49A9	COLLIMATORS
49A10	MISSILE LAYING EQUIPMENT
49A11	CALIBRATION AND ALIGNMENT EQUIPMENT
49A12	SPOTTING SETS
49A13	MICROSCOPES
49A14	CATHEOMETER
49A15	CLINOMETERS
49A16	RANGE FINDERS
49A17	SPECTROPHOTOMETERS
49AA	ASSOCIATED EQUIPMENT
49AA1	ALIDADES
49B	TIMEKEEPING EQUIPMENT
49B1	CLOCKS
49B2	WATCHES
49B3	TIMERS
49C	NAVIGATION EQUIPMENT
49C1	COMPASSES
49C2	INDICATORS

CHAPTER 40
CATEGORY 50 - SPECIAL SERVICES EQUIPMENT

40.1 GENERAL.

40.1.1 Category 50 contains four systems. These systems are divided into equipment series and the equipment series are further divided into equipment subseries. TO numbers in this category use both three and four basic groups for data identification. The numbering pattern for both forms are discussed in paragraph 40.2.

40.1.2 TO data pertinent to more than one system in this category is numbered in the category general series.

40.1.3 Information relating to more than one equipment series within a system is numbered in the system general series.

40.2 NUMBERING PATTERNS.

40.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

40.2.1.1 Part one is always the numeric 50 identifying Category 50.

40.2.1.2 Part two is an alpha character identifying the special services equipment systems, i.e., A - musical instruments; B - athletic equipment; C - sanctuary equipment; and D - laundry equipment.

40.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. The numbering series for this category is outlined in paragraph 40.4.

40.2.2 GROUP TWO. TO numbering patterns in Category 50 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering pattern for both forms:

40.2.2.1 If only three groups are used in a numbering pattern, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

40.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment series is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

40.2.3 GROUP THREE.

40.2.3.1 If a TO number has only three basic groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category:

-1	Operating Instructions
-2	Service or Maintenance Manuals
-3	Depot Maintenance or Overhaul Instructions
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

40.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 50:

CL -	Checklists
S -	Operational Supplements
SS -	Safety Supplements
WC -	Workcards

40.2.3.3 If the TO number contains four basic groups, the third group has one or more numeric characters representing the model, type or PN assigned to specific equipment.

40.2.4 GROUP FOUR. In those cases where the TO number contains four basic groups, the fourth group identifies specific types of TOs defined in paragraph 40.2.3.1, above.

40.3 EXAMPLES OF CATEGORY 50 NUMBERING PATTERNS.

40.3.1 Operating instructions for an electric organ, model C-2G:

50A1-3-3-1	
50	Category 50
A	Musical Instruments
1	Organ Series
3	Electronic Organ Subseries
3	Represents Model C-2G
1	Number Reserved for Operating Instructions

40.3.2 Illustrated parts breakdown for laundry unit, model ELT9T:

50D1-2-14	
50	Category 50
D	Laundry Equipment
1	Laundry Unit Series
2	Represents Model ELT9T
14	Number Reserved for Illustrated Parts Breakdown

40.4 CATEGORY 50 NUMBERING SERIES.

50	SPECIAL SERVICES EQUIPMENT
50A	MUSICAL INSTRUMENTS
50B	ATHLETIC EQUIPMENT
50C	SANCTUARY EQUIPMENT
50D	LAUNDRY EQUIPMENT
50D1	LAUNDRY UNITS

CHAPTER 41
CATEGORY 51 - AUTOMATIC TEST SYSTEMS

41.1 GENERAL.

41.1.1 Normally test procedures, test control or programmed test TOs are numbered with related equipment in the various airborne and ground component categories. However, TOs pertaining to depot level, automatic test equipment software and software instruction manuals are numbered in Category 51. Three types of automatic test equipment numbered in this category can be defined as Computer Operated Multifunction Electronic Test Stations (COMETS); General Purpose Automatic Test Systems (GPATS); and Versatile Automatic Test Equipment Systems (VATES). GPATS and VATES TOs relate test modules to Line Replaceable Units (LRUs) and Shop Replaceable Units (SRUs) of an airborne or ground system. COMETS TOs identify LRUs and SRUs with a test system. Another basic difference between these automatic systems is GPATS and VATES test software do not require computer memory banks for test operations and can only test singular Units Under Test (UUTs). COMETS test software operates with computer memory banks and has the capability to test components of several systems on one test station.

41.1.2 Automatic Test Equipment in Category 51 contains seven systems. These systems are divided into equipment series and some of the equipment series are further divided into equipment subseries. TO numbers in this category use both three and four basic groups for data identification. The numbering pattern for both forms are discussed in paragraph 41.2.

41.1.3 TO data pertinent to more than one system in this category is numbered in the category general series.

41.1.4 Information relating to more than one equipment series within a system is numbered in the category general series.

41.2 NUMBERING PATTERNS.

41.2.1 GROUP ONE. This group has three parts identifying the category, system and equipment series.

41.2.1.1 Part one is always the numeric 51 identifying Category 51.

41.2.1.2 Part two is an alpha character identifying the various systems, i.e., C - computer operated multifunction electronic test stations; E - aircraft engines; N - navigation instruments; P - radar equipment; T - master hardware; and V - versatile automatic test equipment.

41.2.1.3 Part three contains one or more numeric characters identifying the equipment series within a system. The numbering series for this category is outlined in paragraph 41.4.

41.2.2 GROUP TWO. TO numbering patterns in Category 51 use both three and four basic groups; therefore, the identifiers in group two are not constant. The following describes the numbering pattern for both forms:

41.2.2.1 If only three basic groups are used in a numbering pattern, group two contains one or more numeric characters representing the model, type or PN assigned to specific equipment.

41.2.2.2 If the TO number contains four basic groups, the equipment series identified in part three of group one has been further divided into equipment subseries. In this case, the equipment subseries is identified with one or more numeric characters in group two, and the model, type or PN is identified in group three.

41.2.3 GROUP THREE.

41.2.3.1 If a TO number has only three basic groups, the third group of the numbering pattern identifies the type of TO. The following is a list of numbers reserved to identify specific types of TOs in this category:

-06	Work Unit Code Manuals
-07	thru -09 Reserved
-1	Operating Instructions
-2	Service or Maintenance Manuals
-4	Illustrated Parts Breakdown
-6	Inspection Requirements

-7 Installation Instructions and Installation Test Procedures
-8 Test Procedures, Checkout Manuals, or Programmed Tests

41.2.3.2 In some instances the reserved numbers listed above are followed by one or more alpha characters indicating a series of checklists, workcards or supplements. The following alpha characters are authorized for use in Category 51:

CL - Checklists
S - Operational Supplements
SS - Safety Supplements
WC - Workcards

41.2.3.3 If the TO number contains four basic groups, the third group has one or more numeric characters representing the model, type or PN assigned to specific equipment.

41.2.4 GROUP FOUR. In those cases where the TO number contains four basic groups, the fourth group identifies specific types of TOs defined in paragraph 41.2.3.1.

41.3 EXAMPLES OF CATEGORY 51 NUMBERING PATTERNS.

41.3.1 Operating and maintenance instructions with parts list for a microwave shop repair unit test adapter, PN 12A11786-1:

51C1-7-1

51	Category 51
C	Computer Operated Test Station
1	Microwave SRU Test Station Series
7	Represents PN 12A11786-1
1	Number Reserved for Operating Instructions

41.3.2 Checkout manual for TF-39-GE-1A gas turbine engine:

51E1-3-18-1

51	Category 51
E	Aircraft Engine
1	Jet Engine Series
3	Represents TF-39 Model Engine
18	Number Reserved for Checkout Manuals
1	First Manual in a Series

41.3.3 Operating and service instruction for a ratio transformer, PN 588618-401:

51T21-2-1

51	Category 51
T	Master Hardware
21	Transformer Series
2	Represents PN 588618-401
1	Number Reserved for Operating Instructions

41.3.4 Checkout manual for type SN-38011/APQ-113 fire control radar:

51P2-2-7-8-1

51	Category 51
P	Radar Equipment

2	Fire Control Radar Series
2	AN/APQ Subseries
7	Represents SN-38011/APQ-113
8	Number Reserved for Checkout Manuals
1	First Manual in a Series

41.4 CATEGORY 51 NUMBERING SERIES.

51	AUTOMATIC TEST EQUIPMENT
51C	COMPUTER OPERATED TEST STATIONS (COMETS)
51C1	MICROWAVE SHOP REPAIR UNIT TEST STATIONS
51C2	HIGH VOLTAGE VIDEO ANALOG MODULE TEST STATIONS
51C3	MULTIFUNCTION ANALOG/DIGITAL MODULE TEST STATIONS
51C4	PRECISION AC/DC ANALOG MODULE TEST STATIONS
51C5	DIGITAL LOGIC MODULE TEST STATIONS
51C6	AEROSPACE GROUND EQUIPMENT MODULE TEST STATIONS
51C7	LOGIC CIRCUIT CARD ANALYZER TEST STATIONS
51C8	HEADS UP DISPLAY CATHODE RAY TUBE ELECTRONICS TEST STATIONS
51C9	SYSTEM TIMING UNIT SCAN CONVERTER TUBE TEST STATIONS
51C10	DOPPLER RADAR ANTENNA CALIBRATION SYSTEM TEST STATIONS
51C11	GENERAL RADIO GR1792D SYSTEM
51E	AIRCRAFT ENGINES
51E1	JET ENGINES
51E1-2	J-79
51E1-3	TF-39
51E1-5	J-57
51E1-7	TF-30
51E1-8	TF-33
51E1-9	TF-41
51E1-10	T-56
51N	NAVIGATION INSTRUMENTS
51N1	NAVIGATION SYSTEMS
51N2	INERTIAL REFERENCE UNITS
51N3	COMPUTER DISPLAY UNITS
51N4	ALL WEATHER LANDING SYSTEMS
51P	RADAR EQUIPMENT
51P1	TERRAIN FOLLOWING RADAR
51P1-2	Type AN/APQ
51P2	FIRE CONTROL RADAR
51P2-2	Type AN/APQ
51P2-3	Type AN/APA
51P2-4	Type AN/GJQ
51P2-5	Type AN/AWG
51P3	IDENTIFICATION FRIEND-OR-FOE RADIO SETS
51P3-2	Type AN/APX
51P4	ULTRA HIGH FREQUENCY COMMUNICATION SETS
51P4-2	Type AN/APS
51P5	COUNTERMEASURES SETS

51P5-2	Type AN/ALR
51P5-3	Type AN/ALE
51P6	ALTIMETERS
51P6-2	Type AN/APN
51P7	INTERFERENCE BLANKER
51P7-2	Type AN/U
51R	RADIO EQUIPMENT
51R1	AUTOMATIC DIRECTION FINDER
51R1-2	Type AN/ARA
51R2	TACTICAL AIR NAVIGATION
51R2-2	Type AN/ARN
51R2-3	Type AN/ARN-21C
51R3	INSTRUMENT LANDING SYSTEM RADIO RECEIVING
51R3-2	Type AN/ARN
51R4	INTERCOMMUNICATION SET
51R4-2	Type AN/AIC
51T	MASTER HARDWARE
51T1	MASTER HARDWARE SYSTEMS
51T2	AMPLIFIERS
51T3	ANALYZER
51T4	CONTROLLERS
51T5	CONVERTERS
51T6	GENERATORS
51T7	INDICATORS
51T8	LOAD ASSEMBLIES
51T9	MEMORY UNITS
51T10	METERS
51T11	MONITORS
51T12	OSCILLATORS
51T13	POWER SUPPLIES
51T14	PRINTERS
51T15	READERS
51T16	READOUTS
51T17	SIMULATORS
51T18	SWITCHING UNITS
51T19	RESISTANCE UNITS
51T20	TAPE PREPARATION UNITS
51T21	TRANSFORMERS
51T22	SYNTHESIZERS
51T23	AVIONICS INTERFACE UNITS
51T24	PUNCHES
51T25	SUBSCRIBERS
51T26	ADAPTERS
51T27	ELECTRONIC CIRCUIT PLUG-IN UNITS
51T28	FLIGHT CONTROL COMPUTERS
51T29	PHOTOGRAPHY
51V	VERSATILE AUTOMATIC TEST EQUIPMENT

51V1	GUIDANCE EQUIPMENT
51V2	ADAPTERS
51V3	ANALYZERS
51V4	CONVERTERS
51V5	FREQUENCY MEASURING
51V6	MULTIMETERS
51V7	POWER SUPPLIES
51V8	VOLTMETERS

CHAPTER 42
ALPHABETICAL LIST OF EQUIPMENT NAMES TO TECHNICAL ORDER NUMBER GROUPS

42.1 ALPHABETICAL LIST OF EQUIPMENT NAMES.

The following is an alphabetical list of equipment names to technical order number groups.

ABSORBERS	
Air-Conditioning and Pressurizing	15A17
ACCELEROMETERS	
Automatic Flight Control System	5A24
Bombing System	11B63
Fire Control System	11F2
Flight Instrument	5F2
Guidance and Control System	11G14-4
Navigation Instrument	5N9
Training Component Indicator	43X5-11
ACCELEROMETERS AND GYROS, COMBINED	
Automatic Flight Control System	5A32-2
ACCUMULATORS	
Aircraft or Missile Engine Fuel System	6J25
Hydraulic System, Aircraft and Missile	9H1
Missile Support	35M21
Pneumatic System, Aircraft and Missile	9P1
Training Component	43X26
ACTUATORS	
Air Refueling System	6A1
Airborne Mechanical	16A1
Alternating- and Direct-Current, Airborne	8C1
Alternating-Current, Airborne	8A1
Automatic Flight Control System	5A44
Direct-Current, Airborne	8D1
Egress System	11P9
Engine Fuel System	6J29
Guidance System	11G12
Hydraulic System, Aircraft and Missile	9H2
Loading and Servicing, Associated	35DA6
Missile Support	35M27
Pneumatic System, Aircraft and Missile	9P2
Rocket Engine Fuel System	6K12
Supercharger Control, Airborne-Engine	2RA5-3
Training Component	43X25
ACTUATORS AND MOTORS	
Airborne Electrical System	8
Alternating- and Direct-Current	8C1
Alternating-Current	8A1
Direct-Current	8D1
ADAPTER ASSEMBLIES	
Structural Component, Airframe	16W35
ADAPTER KITS	
Photographic	10G17
ADAPTER UNITS	
Bombing System	11B95
Checkout, Missile	31X2-56
Supercharger Control System	2RA5-13
ADAPTERS	
Air Refueling System	6A17
Automatic Flight Control System	5A2
Camera Control System	10A6-20
Cluster Bomb	11A12
Electric Power Supply	35CA28
Engine and Temperature Instrument	5E2
Fire Control System	11F3
Fuel- and Oil-Handling	37A1
Launcher	11LA8
Loading and Servicing	35DA3-6
Missile Support	35M35
Navigation Instrument	5N19
Rocket Engine Fuel System	6K11
Shop Support	34Y21
Starting	35D12-3
Training Components	43X10
Turbojet and Turboprop Aircraft and Engine Fuel System	6J12
ADMINISTRATIVE PUBLICATIONS	
Blank Forms	00-35D
General Technical Order	00-35
Supply	00-35A
AERIAL DELIVERY SYSTEMS	
Cargo Loading, Tiedown, and Aerial Delivery	13C
Kit	13C7
Pick-up System	13C8

APPENDIX A
GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

A.1 LIST OF REFERENCED AND RELATED PUBLICATIONS.

Number	Title
DOD 4120.15-L	Model Designation of Military Aerospace Vehicles
DOD 5105.38-M	Security Assistance Management Manual (SAMM), Appdx 4
AFJI 16-401	Designating and Naming Defense Military Aerospace Vehicles
AFPD 21-3	Technical Orders
AFI 21-303	Technical Orders
AFJI 21-301	Interservicing of Technical Manuals and Related Technology
AFMAN 23-110V9	Security Assistance Program Procedures
AFMCI 21-301	Air Force Materiel Command Technical Order System Implementing Policies
AFMCMD 406	Oklahoma City Air Logistics Center (OC-ALC)
JCALS DI	Desktop Instructions (https://afkm.wpafb.af.mil/ASPs/CoP/EntryCoP.asp?Filter=OO-SC-MS-04, under "Bookshelf")
DA PAM 25-30	Consolidated Index of Army Publications and Blank Forms
TO 00-5-1	AF Technical Order System
TO 00-5-3	AF Technical Order Life Cycle Management
TO 00-5-15	Air Force Time Compliance Technical Order Process
MIL-STD-196	Joint Electronics Type Designation System
MIL-STD-1808	Interface Standard; System, Subsystem, Sub-Subsystem Numbering
MIL-PRF-83495	Technical Manuals - On-Equipment Maintenance Manual Set
MIL-DTL-87929	Technical Manuals, Operation and Maintenance Instructions in Work Package Format (For USAF Equipment)
ASD/AIA S1000D	International Specification for Technical Publication Utilizing a Common Source Database
D086	Mission Workload Assignments System
Air Force TO Catalog	(https://www.toindex-s.wpafb.af.mil/)

A.2 LIST OF REFERENCED AND RELATED FORMS.

Number*	Title
AFTO 22	Technical Manual (TM) Change Recommendation and Reply
AFTO 203	TO Numbering, Indexing and Control Record
AFTO 204	TO Numbering, Indexing and Control Record (Continuation)
DD 61	Request for Nomenclature

A.3 LIST OF ACRONYMS.

AAC	Air Armament Center
AEODPS	Automated EOD Publications System
AFMC	Air Force Materiel Command
AFMCI	AFMC Instruction
AFMETCAL	Air Force Metrology & Calibration
AFPD	Air Force Policy Directive
AFTO	Air Force Technical Order (forms)
ALC	Air Logistics Center

ARSS	Armament Systems Squadron
ATOS	Automated TO System
CAC	Common Access Card
CAGE	Contractor And Government Entity (Code)
CBSG	Combat Sustainment Group
CBSS	Combat Sustainment Squadron
CD-ROM	Compact Disk—Read-Only Memory
CL	Checklist
CONUS	Continental U.S.
COTS	Commercial Off-The-Shelf
CPIN	Computer Program Identification Number
CSDB	Common Source Data Base (IETM & S1000D)
CSTO	Country Standard TO
DA	Department of the Army
DI	Desktop Instructions (JCALS)
DLA	Defense Logistics Agency
DM	Data Module (S1000D)
DoD	Department of Defense
DVD	Digital Versatile Disk
EOD	Explosive Ordnance Disposal
ES	Equipment Specialist
ETIMS	Enhanced Technical Information Management System
ETM	Electronic Technical Manual
FI	Fault Isolation (Manual) (MIL-PRF-83495)
FMP	Flight Manuals Program
FMS	Foreign Military Sales
FOMM	Functionally-Oriented Maintenance Manuals
FR	Fault Reporting (Manual) (MIL-PRF-83495)
FSC	Federal Stock Class
GE	General Equipment (Manual) (MIL-PRF-83495)
GS	General Systems (Manual) (MIL-PRF-83495)
IAW	In Accordance With
IETM	Interactive Electronic Technical Manual
IM	Item Manager
IOS	Interim Operational Supplement
IPB	Illustrated Parts Breakdown
IPDF	Indexed Portable Document Format® (Adobe®)
ISS	Interim Safety Supplement
ITPS	Identifying Technical Publication Sheet
JCALS	Joint Computer-aided Acquisition and Logistics Support
JETDS	Joint Electronics Type Designation System
JG	Job Guide (MIL-PRF-83495)
JIL	Joint Interest List (Navy)
MDS	Mission / Design / Series
MIL-DTL	Military Detail (specification)
MIL-PRF	Military Performance (specification)
MIL-STD	Military Standard

MMAC	Material Management Aggregate Code
MPTO	Methods & Procedures TO
MSUG	Materiel Sustainment Group
NAVEODTECHDIV	Naval EOD Technology Division
NSS	Nuclear Systems Squadron
NW	Nuclear Weapon
NWC	Nuclear Weapons Center
OC-ALC	Oklahoma City Air Logistics Center
PAM	Pamphlet
PC	Product Center
PM	Program Manager
PM	Publication Module
PSN	Publication Stock Number
SAMM	Security Assistance Management Manual
SAP	Security Assistance Program
SATODS	Security Assistance TO Data System
SD	Schematic Diagram (Manual) (MIL-PRF-83495)
SWP	Sub-Work Package (MIL-PRF-83495)
TCM	Technical Content Manager
TCTO	Time Compliance TO
TM	Technical Manual
TO	Technical Order
TOPS	TO Page Supplement
U.S.	United States
UAV	Unmanned Air Vehicle
USAF	United States Air Force
VTOL/STOL	Vertical Take-Off & Landing / Short Take-Off & Landing
WAN	Wide Area Network
WC	Work Cards
WD	Wiring Diagram (Manual) (MIL-PRF-83495)
WP	Work Package (MIL-PRF-83495)
WUC	Work Unit Code