



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
WASHINGTON, DC 20362-5101

IN REPLY REFER TO
NAVSEAINST 4790.4A
OPR CEL-TD1/225
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24 Feb 1987

NAVSEA INSTRUCTION 4790.4A

From: Commander, Naval Sea Systems Command

Subj: EQUIPMENT IDENTIFICATION CODE

Ref: (a) OPNAVINST 4790.4A
(b) NAVSEAINST 4790.1A

Encl: (1) Equipment Identification Code (EIC) Development
Criteria and Instructions
(2) Example of Mechanical EIC Top Down Break Down
(TDBD) Format
(3) Example of Electronic EIC TDBD Format
(4) EIC Assignment and Distribution Instructions

1. Purpose. To establish policies, responsibilities, and procedures for the development, distribution, and maintenance (addition, change, deletion) of EICs for ship and shore based systems and equipment.

2. Cancellation. NAVSEAINST 4790.4 of 31 January 1976 and NAVMATINST 4790.3A of 12 March 1976.

3. Scope

a. This instruction applies to NAVSEASYSKOM, SPAWARISYSKOM and NAVAIRISYSKOM organizations that have management responsibility for shipboard installed and shore based equipment requiring maintenance data reporting through the Navy Ships Maintenance, Material Management (3-M) Maintenance Data System (MDS).

b. This instruction does not apply to material or equipment under the cognizance of the Strategic Systems Project Office (PM-1) and the Deputy Commander for Nuclear Propulsion (NAVSEA-08). Also exempted are Work Unit Codes (WUC) applicable to aircraft and aeronautical support equipment under the cognizance of the Naval Air Systems Command.

4. Background

a. The EIC is a basic maintenance data management tool that:

(1) Provides a standardized method to report, aggregate, and process maintenance related data at various hardware levels for use by the Navy management, engineering, and logistic communities, compiled in accordance with reference (a).



(2) Provides a standardized coding system and nomenclature for identifying maintenance actions and parts data, and relating these data to all hardware items encompassed by Navy Ships 3-M MDS.

(3) Describes the hierarchical structure of hardware in terms of physical relationships from the system through the subassembly level.

b. The Expanded Ship Work Breakdown Structure (ESWBS)/Functional Group Code (FGC) hierarchical system established by reference (b) will be the Navy standard for ship and system configuration breakdown. During its phase-in, use of EICs will continue to describe system relationships to aid in data compilation for maintenance. As the ESWBS/FGC system becomes operational, the EIC system will be phased-out in order that a single hierarchical structure code can be established throughout the Navy.

5. Definitions

a. Equipment Identification Code. A seven character numeric-alphabetic hierarchical code, structured in a prescribed format so as to identify specific hardware items from the highest to the lowest level; i.e., system to the component or subassembly level. These codes are designed to provide a description of the physical relationships of the various elements within a given hardware application.

b. EIC Master File. The EIC Master File is the official record of EICs and nomenclatures. This file is also the primary source of the EIC data element in the Weapon Systems File, which is used to generate the Shipboard Nontactical Automated Data Processing (ADP) Program (SNAP) Ships Equipment File.

c. EIC Master Index. The EIC Master Index is the official catalog of codes and related descriptive nomenclatures that identify hardware categories, systems, and equipment on which data is submitted through the Ships 3-M MDS. It is the primary source document for locating codes and nomenclatures when documenting maintenance actions in accordance with reference (a).

d. EIC Master Index Addendum. A subset of the EIC Master Index tailored to a specific ship class.

e. EIC Change Notice. The EIC Change Notice is an amendment to the current EIC Master Index. It is issued quarterly to expedite the dissemination of Master Index changes to be included in the subsequent reissue of the Master Index.

6. Policy. EICs shall be assigned to all hardware items that are required to have maintenance performed and data collected.

7. Responsibility. The Deputy Chief Engineer for Logistics (CHENG-L) is assigned Navy-wide responsibility for the EIC program. The Technical Data Division (CEL-TD) is assigned responsibility for management execution.

8. Action

a. Commander, Naval Sea Systems Command. The Deputy Chief Engineer for Logistics, Technical Data Division (CEL-TD) shall:

(1) Coordinate the EIC program as part of the Ships 3-M System, in accordance with the requirements of reference (a).

(2) Issue directives and procedures concerning EIC structure, EIC Master Index, and Change Notice preparation and distribution.

(3) Evaluate and approve the format for, and revisions to the EIC Master Index and EIC Change Notices.

(4) Monitor the overall EIC program to ensure consistency with MDS objectives.

b. Systems Commands and Equipment Managers. Organizations with management control of ship or shore based systems or equipment shall use the procedures of this instruction to develop and submit EIC actions. Specific responsibilities include:

(1) Issue internal directives to implement the requirements of this instruction.

(2) Determine if the hardware item has maintenance significance and warrants an EIC assignment.

(3) Submit requests for EIC assignment, change, or delete actions to the Naval Weapons Station, Data Systems Department (WPNSTA/DSD-543), Concord, CA.

(4) Provide hardware top-down breakdowns (TDBD) with standard nomenclature for EIC assignments, in accordance with instructions in enclosure (1). Define the hardware to an appropriate level to satisfy data feedback requirements.

(5) Review and approve EIC assignments, changes, or deletions.

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c. Naval Weapons Station (Code DSD-543), Concord, CA

(1) Develop EICs for all hardware items which are covered by the Ships 3-M System.

(2) Ensure that all hardware items are placed in the appropriate functional category for code assignment.

(3) Assign EICs to system through subassembly or component nomenclatured items to TDBD structure in accordance with the development criteria and instructions of enclosure (1).

(4) Provide proposed EIC structure to the program manager or In-Service Engineering Activity (ISEA) for review and approval.

(5) Each calendar quarter, prepare and submit all approved EIC adds, changes, and deletes to the Ships Parts Control Center (SPCC/Code 86) for processing into the EIC Master File in accordance with instructions in enclosure (4).

(6) Establish and maintain a file of deleted EICs to be held in suspense for a period of three years before reassignment.

d. Navy Ships Parts Control Center (SPCC/Code 86), Mechanicsburg, PA

(1) Maintain the official current EIC Master File for authorized EICs.

(2) Update the EIC Master File quarterly with WPNSTA Concord input, and disseminate change notices to Fleet, shore and other authorized users.

(3) Publish a new EIC Master Index annually.

(4) Develop and maintain EIC cross-reference and history files for validation and audit trail.

(5) Provide tape outputs to users that require EICs in local processing systems.


H. L. YOUNG
Vice Commander

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EQUIPMENT IDENTIFICATION CODE (EIC) DEVELOPMENT CRITERIA
AND INSTRUCTIONS

1. General. This enclosure provides guidance, criteria, and instructions for the development of EICs.

2. EIC Structure Concept

a. General. The EIC structure scheme is composed of seven characters that identify hardware through six possible structural levels. This TDBD coding structure must be followed to achieve the objectives of the Ships 3-M MDS. The EICs depict the physical relationships of the hardware items. The code sequence is ascending numeric-alphabetic, with the numeral, zero, having the lowest value.

b. Structure Format. The TDBD format arranges the code characters in corresponding positions to represent various levels of hardware configuration. The EIC format is:

<u>LEVEL</u>	<u>LEVEL DESCRIPTION</u>	<u>STRUCTURE</u>	
<u>1st</u>	Category	<u>1st</u> Character	X
<u>2nd</u>	System	<u>2nd</u> Character	X
<u>3rd</u>	Equipment or Set	<u>3rd</u> and <u>4th</u> Characters	XX
<u>4th</u>	Assembly or Unit	<u>5th</u> Character	X
<u>5th</u>	Subassembly or Assembly	<u>6th</u> Character	X
<u>6th</u>	Component or Subassembly	<u>7th</u> Character	X

c. Structure Level Definitions. Terms used to describe hardware may differ at the various structural levels, because there are mechanical, electronic, and ordnance type systems. One set of definitions applicable to all is provided. Enclosures (2) and (3) illustrate specific examples of TDBD EIC structures.

(1) Category. A major functional part of ships, consisting of systems, equipments or sets, assemblies or units, subassemblies or assemblies, and components or subassemblies, necessary to perform a specific, major, mission-essential function or functions.

(2) System. A combination of two or more equipments or sets which, working together, perform a major operational function aboard ship.

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(3) Equipment or Set. A combination of two or more assemblies or units that are physically joined to perform a portion of the major operational functions of a parent system.

(4) Assembly or Unit. A combination of two or more subassemblies or assemblies that are physically joined together to perform a portion of the function of a parent equipment or set.

(5) Subassembly or Assembly. A combination of two or more components or subassemblies that are physically joined to perform a portion of the function of a parent assembly or unit.

(6) Component or Subassembly. A part or group of parts that are physically joined as a replaceable entity to perform a portion of the function of a parent subassembly or assembly.

3. EIC Development

a. Coding Level or Depth. The determination of the level to which a hardware item is coded; for example, to the equipment, assembly, or lower, shall be based on two criteria: maintenance significance and management requirements.

(1) Maintenance Significance. The test of maintenance significance means the unique EICs should be assigned to the same, or variations of the same, equipment in a system only if there is a significant maintenance or functional difference that the maintainer or user of the EIC Master Index can readily discern. For example, EICs should not be assigned to Right and Left or Fore and Aft unless these are descriptors designating equipment that have different functions or have different maintenance requirements.

(2) Management Requirements. The test of management requirements means that EICs should be assigned to levels of material for which visibility in the collected data is needed to support the management of the material (e.g., a unique EIC may be required for the management of a valve with a specific application, either because of complexity or criticality). Conversely, a unique EIC should not be assigned if management has neither the resources nor a requirement to collect, analyze, and act on the information derived from the unique coding. EICs for hardware levels that will not be the subject of maintenance actions are costly to develop and distribute, and they complicate the look-up process by the maintainer in his search and selection for the correct EIC for data entry.

b. EIC Assignment Criteria. The following rules govern the assignment and structuring of EICs:

(1) EICs shall be assigned in the TDBD structure, reflecting application levels and relationships. This structure aids the maintainer in locating the correct EIC and facilitates access and summarization of the data to any EIC level.

(2) A unique EIC shall not be assigned to identical hardware items having the same function within a given system or equipment; for example, multiple gun mounts, display consoles, or computers that perform the same function within a given system. Hardware that falls into this category can be uniquely identified by its assigned serial number.

(3) More than one EIC may identify the same material item if the function served is different. For example, the same pump, radar, computer, power supply, or motor-generator set may have different EICs depending on the functional application.

(4) Every effort should be extended to maintain consistency within the content, format, and sequence of the words and symbols contained in the EIC nomenclature. The TDBD indenture should be the same for similar equipment. For example, if the 5"/54 gun mount is at the equipment level in the TDBD structure, the 5"/38 gun mount should be at the equipment level. Likewise, common groups or components (e.g., training gear, gun barrels, sights) should also be at the same indenture within the equipment.

(5) Test equipment that is only applicable to a specific system TDBD should be coded within the parent EIC. General purpose test equipment should be coded within Category W.

(6) The code sequence within each hardware category is ascending numeric-alphabetic beginning with zero (0), followed by 1 through 9, then A through Z. Because of their similarity to the numerals 0 and 1, the letters O and I shall not be used in any character of the EIC. Likewise, because of their similarities to other numeric-alphabetic characters, the letters S, V, Y, and Z are used only if absolutely required. Therefore, the maximum number of characters available for each of the seven EIC positions is 34, and the preferred number is 30. The numeral zero is a filler and should not be used as a significant character.

(7) An EIC structure should be developed with full recognition that other identifiers are available to determine specific hardware items and failure locations. For example, Ship Type and Hull Number or Unit Identification Code, Allowance Parts List (APL), Allowance Equipage List (AEL), Serial Numbers, Reference Designators or Circuit Symbols, and National Stock Numbers are some data elements which may be used to ascertain unique equipment, components, or failure locations.

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(8) Time and Navy management needs may require change to the structure concept. For example, newly introduced or critical operational equipment may require in-depth coding to develop and monitor data for such diverse factors as Mean Time to Repair (MTTR) and Mean Time Between Failures (MTBF) or training course inputs. Over a period of time, as the equipment performance stabilizes, this coding depth may no longer be required because the information is not necessary. At such time, the coding structure should be changed to reflect the decreasing management requirements.

(9) Piece parts will not normally be coded unless they require management attention. However, the EIC should provide for repairables management.

4. EIC Nomenclature. A specific objective of the EIC program is to establish standard nomenclature and standard abbreviations to identify the material or hardware divisions being coded for 3-M data collection. The following paragraphs outline procedures and guidelines to be followed to accomplish this objective.

a. Nomenclature Requirements

(1) Standard nomenclature shall be established in accordance with the MIL-STD, directive, or instruction that is applicable to the type of hardware being coded (see paragraph 4b).

(2) The nomenclatures represented by the EICs shall be developed utilizing standard terms and abbreviations that aid in identifying the relationships of the hardware division levels; e.g., sets, assemblies.

(3) Equipment design variations and manufacturers' identification are not required in the EIC nomenclature. This type of design detail information is part of the configuration record maintained in the Weapon Systems File (WSF).

(4) EIC nomenclatures should agree with Technical Manual (TM) (including Ordnance Pamphlets (OP)) nomenclature whenever possible, within the requirements stated above. This is the preferred nomenclature source since TMs and OPs are primary reference documents used by Fleet maintenance personnel.

b. Nomenclature References. Listed below are some of the documents that are available providing instructions, guidance, and information related to establishment of standard nomenclatures.

MIL-STD-1661A	Mark and Mod Nomenclature System
MIL-STD-280A	Military Standard Definition of Item Levels, Item Interchangeability, Models, and Related Terms
FED-STD-No. 5	Standard Guides for Preparation of Item Descriptions by Government Suppliers (GSA)
Handbook H-6-1	Federal Item Identification Guide, Cataloging Handbook - Section A (DSA)
MIL-STD-12C	Abbreviations for Use on Drawings, Sketches, Standards, and in Technical Documents
IEEE-STD-200 (ANSI Y32.16)	Electrical/Electronics Reference Designations
MIL-STD-196D	Joint Electronics Type Designation System
TMs and OPs (JETDS)	Applicable technical manuals and ordnance pamphlets (if TM/OPs not available use the Joint Electronics Type Designation System (JETDS) available from U.S. Army Electronics Command, AMSDEL-MMC-D, Fort Monmouth, NJ)

EXAMPLE OF MECHANICAL EIC TOP DOWN BREAK DOWN (TDBD) FORMAT

<u>IDENT LEVEL</u>	<u>EIC</u>	<u>NOMENCLATURE</u>
Category	T000000	Auxiliary
System	TK00000	Distilling Plants
Equipment	TK05000	Distilling Unit, Heat Recovery, Submerged Tube Type
Assembly	TK05100	Evaporator Assembly
Subassembly	TK05110	Evaporator
Subassembly	TK05130	Valve, Relief
Assembly	TK05300	Pump Assy, Centrifugal, Motor Driven, Distiller Feed
Subassembly	TK05310	Pump Unit, Centrifugal
Component	TK05311	Pump, Centrifugal
Component	TK05313	Motor, Electric, AC
Subassembly	TK05330	Controller, Electric, AC
Assembly	TK05400	Pump Assy, Centrifugal, Motor Driven, Distillate
Subassembly	TK054	Pump Unit, Centrifugal
Component	TK05411	Pump, Centrifugal
Component	TK05413	Motor, Electric, AC
Subassembly	TK05430	Controller, Electric, AC

EXAMPLE OF ELECTRONIC EIC TOP DOWN BREAK DOWN (TDBD) FÖRMAT

<u>IDENT LEVEL</u>	<u>EIC</u>	<u>NOMENCLATURE</u>
Category	P000000	Radar and IFF Systems
System	P100000	Radar, Surface Search
Set	P11P000	AN/SPS-55, Radar Set
Unit	P11P100	OE-172/SPS-55, Antenna Group Assembly
Assembly	P11P110	AS-2953/SPS-55, Antenna
Assembly	P11P130	AB-1211/SPS-55, Pedestal, Antenna
Subassembly	P11P131	Motor, AC
Subassembly	P11P133	Transmitter, Synchro
Subassembly	P11P136	Solenoid, Brake
Subassembly	P11P139	Train Assembly, Gear
Subassembly	P11P13A	Coupler, Flexible
Subassembly	P11P13B	Coupler, Rotary
Assembly	P11P140	Switch, Waveguide
Assembly	P11P150	Cable Assembly, Antenna
Unit	P11P300	RT-1124/SPS-55, Receiver-Transmitter Assembly
Unit	P11P400	C-9447/SPS-55, Control, Radar Set
Unit	P11P500	SA-1963/SPS-55, Switch, Antenna Safety
Unit	P11P600	Waveguide, M/W Transmission

EIC ASSIGNMENT AND DISTRIBUTION INSTRUCTIONS

1. General. This enclosure provides general instructions and procedures for requesting assignment, approval, registration, printing, and distribution of EICs.

2. Assignment Requests

a. Requests for new EIC assignments, deletions, or changes normally should be addressed to the cognizant technical authority; that is, Systems Command, Project Office, or their delegated representative, such as an ISEA. However, if needed to accommodate priority Navy programs (such as Coordinated Shipboard Allowance List (COSAL) production schedules), new EIC assignments that apply to valid maintenance significant equipments/components reported incident to formal configuration reporting programs (such as SLCC, FOMIS, OPNAV 4790/CK) may be requested directly from the Naval Weapons Station (DSD-543). Requests of this nature must identify the date that the new EIC assignments are required.

b. The cognizant technical authority shall review the EIC requests to determine if they are maintenance significant and warrant EIC assignments, or if change or deletion is necessary. The cognizant technical authority shall provide a letter requesting an EIC action, along with the hardware TDBD to the Commanding Officer, Naval Weapons Station (DSD-543), Concord, CA 94520-5000. The breakdown shall define the hardware to an appropriate level which will satisfy the data management feedback requirements. EICs should not be assigned to hardware levels that will not be the subject of maintenance actions or management needs.

c. WPNSTA Concord shall assign, delete, or change EICs to the hardware breakdown in accordance with development criteria and instructions of enclosure (1). WPNSTA Concord shall then return the EICs to the requester for review and approval. After the requester approves the EIC transactions, WPNSTA Concord shall forward the approved EIC transactions to SPCC (Code 86), Mechanicsburg, PA for inclusion in the next quarterly change notice.

d. SPCC (Code 86) shall update the EIC Master File, and publish and distribute EIC information as described in subsequent paragraphs of this enclosure.

e. SPCC (Code 86) and WPNSTA Concord shall jointly develop, promulgate, and maintain the detailed ADP procedures required to carry out the responsibilities of this instruction.

3. Printing and Distribution. After updating the EIC Master File, SPCC (Code 86) shall prepare and distribute the following EIC products.

a. EIC Master Index

(1) Format. The index shall consist of two sections. Section 1 shall be arranged in standard numeric-alphabetic EIC sequence, and Section 2 shall be arranged in the sequence of Equipment or Set level nomenclatures.

(2) Periodicity. A revision to the Index is governed by the number of EIC Change Notices which have been distributed. When four Change Notices have been distributed, the requirement for another update will trigger a complete revision and distribution of the Index, incorporating all accumulated actions contained in the EIC Change Notices since the last Index publication.

(3) Distribution. SPCC (Code 86) shall maintain a standard distribution list and shall distribute the EIC Master Index (and EIC Change Notices) to all ships and shore activities on the list, in the mode requested (tape or hard copy). In addition, SPCC (Code 86) shall respond to special requests for the EIC Master Index in hard copy or tape format.

b. EIC Change Notice

(1) Format. The EIC Change Notice contains all new EIC assignments, corrections to existing EIC nomenclatures, and EICs to be deleted from the Master File submitted since the last EIC Change Notice or complete EIC Master Index publication. The Change Notice, published as inserts for the Master Index, shall consist of two parts. Part 1 shall contain all new EIC additions and nomenclature changes, and shall be provided in the same two sequences (EIC and nomenclature) as the EIC Master Index. Part 2 shall list, in EIC sequence, the EICs being deleted. This method reduces confusion and assists in preventing the use of EICs that are being canceled. All accumulated actions published in change notices shall be incorporated in the next reprint of the EIC Master Index.

(2) Periodicity. The EIC Change Notice shall be printed quarterly.

(3) Distribution. EIC Change Notices shall be forwarded to the same distribution as the EIC Master Index.

4. EIC Master Index Addenda. In addition to the EIC Master Index and EIC Change Notice discussed above, it will occasionally be necessary to develop EIC manuals related to a specific ship class. Approval to print and distribute an addendum must be obtained from NAVSEA (CEL-TD), and the cognizant technical authority must allocate sufficient resources to cover the cost.