CHAPTER 7

MAINTENANCE PLANNING AND ADMINISTRATION

As the workcenter or branch supervisor, you are directly responsible for the maintenance effort of your workcenter. The planning, scheduling, control and parts ordering are essential to its accomplishment.

The factors that you must consider in maintenance planning are equipment status, operational requirements, the workload, and the personnel assets available to perform the job.

PLANNED MAINTENANCE SYSTEM

LEARNING OBJECTIVES: State who has the responsibility for managing PMS programs for equipment aboard ship. Identify three considerations used to determine PMS procedures.

The Planned Maintenance System (PMS) is a simplified, yet thorough means of accomplishing preventive maintenance aboard ship. It identifies maintenance requirements, and schedules maintenance actions to make the best use of your resources. It increases economy and simplifies records. It improves management, workload planning, equipment reliability, and on-the-job training of shipboard personnel. As a system, however, it is neither self-starting nor self-sustained, and careful supervision at all levels is required.

PMS procedures and how frequently the actions should be done are developed for each piece of equipment based on good engineering practices, practical experience, and technical standards. These step-by-step procedures are published on maintenance requirement cards (MRCs). The cards contain detailed information on each maintenance requirement, such as who (specific rate) should perform the maintenance, and when, how, and with what resources. Some MRCs have equipment guide lists (EGLs) to identify the locations of various pieces of the same type of equipment, such as motors, controllers, valves, life rafts, deck fittings, and hatches that are serviced at the same time.

Keep in mind that PMS actions, as preventive maintenance actions, are the minimum maintenance actions required to maintain the equipment in a fully operable condition. If PMS actions are performed according to schedule, they will allow equipment operators and maintenance personnel to identify possible problems before equipment failure. Properly performed PMS actions will help prevent failures that could result in repeated corrective maintenance actions.

PMS procedures are developed by the activities and offices of the systems commands responsible for the development and procurement of the systems and equipment they control. PMS maintenance index pages (MIPs) and MRCs are developed as part of the Integrated Logistics Support effort for all new procurements, alterations, and modifications of systems and equipment.

Management tools provided by PMS for each ship, department, and supervisor include the following:

- Comprehensive procedures for planned maintenance of systems and equipment
- Minimum requirements for planned maintenance
- Scheduling and control of maintenance
- Description of the methods, materials, tools, and personnel needed to perform maintenance
- Prevention or detection of hidden failures or malfunctions
- Test procedures to determine material readiness

PMS, though standard in concept and procedures, is flexible enough to be adjusted by the ship to be compatible with operational and other types of schedules.

DEPARTMENTAL MASTER PMS MANUAL

A Departmental Master PMS Manual is maintained in each departmental office for use in planning, scheduling, and supervising required maintenance. The information contained in this manual pertains only to equipment for which the department is responsible. The Departmental Master PMS Manual contains the following:

1. **Supplementary Information**: Additional instructions, information, and data provided to

assist in implementation and accomplishment of PMS.

2. **List of Effective Pages (LOEP)**: The Departmental LOEP (fig. 7-1) provides a listing of the MIPs assigned to each department, divided by workcenters, and contains the following information:

   a. Report date (date LOEP was produced).

   b. FR (Force Revision).

Date: 08/23/00 Planned Maintenance System Page: 1
Time: 14:37:51 List of Effective Pages (PMS 5) FR: 2-94

Unit: DDG 0053 UIC: R21313 Work Center: EA01 USS JOHN PAUL JONES

Adds/ Changes	MIP	Nomenclature
	1631/004-A2	SEA CHESTS
-	2560/006-24	CRCLT AND COOLING SW SYS
	4431/002-63	VISUAL/AUDIO COMM SYSTEMS
	5000/005-A2	VALVES & VALVE OPERATORS
	5000/007-82	ENG REPAIR PROCEDURES
	5140/011-C3	AIR CONDTN SYSTEM (R-114)
-	5161/001-C3	REFRD, SHIP SERVICE (R-12)
	5312/002-32	DISTILLING PLANT VPR CPRSN
	5331/002-33	WATER, POTABLE SERVICE
	5332/001/C0	DISTILLED WATER SERVICE
-	5511/010-44	AIR SYSTEM, HIGH PRESSURE
-	5515/009-44	COMPRESSORS, AIR
	5600/016-44	SHIP CONTROL SYSTEMS
	5713/006-B1	RAS TRANSFER HEAD & SLIDING
	5721/009-31	SHIPS STORES HDLG EQPT
-	5811/020-44	ANCHOR HANDLING & STOWAGE
-	5821/016-44	MOORING AND TOWING SYSTEM
-	5831/013-93	BOAT HANDLING & STOWAGE
-	5832/005-24	LIFE SAVING EQUIP PRESV
-	5833/047-83	SMALL BOATS (ENGINE(CUMN))
-	5833/201-24	SMALL BOATS (EQUIPMENT)
-	5833/202-24	SMALL BOATS (STEERING SYS)
	5833/309-83	SMALL BOAT (WILLARDRIB)
	5931/016-43	SEW/WST WTR POLL CONT SYS
-	6300/001-44	PRESERVATION & COVERINGS
-	6331/002-44	ZINCS (SACRIFICIAL ANODES)
-	6512/002-34	DISHWASHING MACHINE
	6512/027-63	DISHWASHING MACHINE
	6514/NMR	VEGETABLE PEELING MACHINE
-	6515/003-16	MEAT SLICING MACHINE
-	6517/006-34	GARBAGE DISPOSAL

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Figure 7-1.—Departmental LOEP.

c. Type Commander (TYCOM).

d. Unit (ship's hull number, UIC, and name). Shore activity (UIC number).

e. Workcenter.

f. MIP number.

g. Nomenclature (brief description of the system/equipment).

h. Equipment status code.

3. **Maintenance Index Pages (MIP)**: MIPs are prepared and issued for each installed system or piece of equipment for which PMS support has been established. MIPs are basic PMS reference documents. Each MIP is an index of a complete set of MRCs applicable to a ship system, subsystem, and equipment. MIPs (fig. 7-2) contain the following information:

SHIP SYSTEM, SYSTEM, SUBSYSTEM, OR EQUIPMENT Fire Extinguishing System, Fog, Foam, and AFFF 5551			REFERENCE PUBLICATIONS NAVSEA S8225-GY-MMA-010 NAVSEA S9555-AN-MMO-010			DATE May 2000	
TEST	OTHER	SYSCOM MRC CONTROL NO	MAINTENANCE REQUIREMENT DESCRIPTION	PERIO-DICITY CODE	RATES	MAN HOURS	RELATED MAINT-ENANCE
			A scheduling aid; Review maintenance requirements. Omit MRC(s) which do not apply; no feedback report required. # Mandatory scheduling required.				
		46 6UMU N	1. Inspect high-capacity AFFF injection station.	D-1	HT2	0.2	None
		42 8UNR N	1. Inspect proportioner station FP-180.	D-2	HT2	0.2	None
		42 8UNQ N	1. Turn AFFF proportioner shaft by hand. 2. Inspect oil level in AFFF proportioner.	W-1	HT/DC3	0.4	None
4		B4 6UMV N	1. Inspect high capacity AFFF injection station operation. 2. Test AFFF concentrate for seawater contamination.	Q-1	HT3 FN	2.0 0.5	None
4		80 6DAA N	1. Test operate, inspect, and clean 1000 gpm AFFF proportioner station.	Q-2	HT/DC3 FN	2.0 0.5	None
4		16 6DAD N	1. Test AFFF concentrate for seawater contamination at FP-180 station.	Q-3	HT3	2.0	None
		88 8DRU N	1. Clean and inspect hose reel stations.	Q-4	HT/DC3	0.5	None
		44 6UMW N	1. Lubricate AFFF injection pump bearings.	Q-5	HT3 EM3	0.3 0.3	Q-1
4		54 C1TH N	1. Test operate, inspect, and clean AFFF FP-180 station. 2. Lubricate FP-180 proportioner. NOTE: Accomplish quarterly or after each use, whichever occurs first.	Q-6R	HT/DC3 FN	2.0 0.5	None
		97 8GMG N	1. Accomplish liquid foam quantitative analysis at FP-180 stations.	S-2	DCA HT1 HG3	 0.7 0.4	D-2# Q-3# Q-4# or R-1#
		44 6UMY N	1. Change oil in AFFF injection station reducer.	S-3	HT3	0.4	None
		38 8HQR N	1. Inspect AFFF bilge sprinkling system nozzles.	S-4	HT/DC HTFN/ DCFN	1.0 1.0	None
		39 6UMZ N	1. Accomplish AFFF concentration analysis	A-1	HT/DC HG/DC2	0.7 0.4	D-1# Q-1# Q-4# or R-1#
		44 6UNA N	1. Lubricate high-capacity AFFF injection station flexible couplings.	A-2	HT3	0.8	None
		10 8NPR N	1. Inspect and hydrostatically test AFFF station hose(s)..	A-3	HT/DC2 2FN	0.3 0.6	None

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MAINTENANCE INDEX PAGE (MIP)
OPNAV 4790/85 (REV.2-82)

PAGE 1 OF 2

SYSCOM MIP CONTROL NUMBER 5551/011-54

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Figure 7-2.—Maintenance Index Page (MIP).

a. Ship system, subsystem, or equipment description of noun name.

b. Reference publications about the system, subsystem, or equipment.

c. Date: Preparation date of the MIP by month and year.

d. Test, Other, and SYSCOM MRC control number columns.

Date: 08/23/00 Planned Maintenance System Page: 1
Time: 14:29:20 MIP to Work Center by Dept (PMS 4A) FR: 2-94

Unit: DDG 0053 UIC: R21313 USS JOHN PAUL JONES
Department: ENGINEERING

MIP	Nomenclature	Work Center Distribution		
1230/001-54	TANKS, VOIDS, AND TRUNKS	EM04		
1501/001-32	SUPERSTRUCTURE & FITTINGS	ER01		
1631/004-A2	SEA CHESTS	EA01	EM01	EM02
1671/003-33	ARMORED DOORS & HATCHES	ER09		
1671/005-B1	WTRTT, DR, TORPEDO MAGAZINE	ER09		
1672/001-32	ARMORED DOORS & HATCHES	ER09		
1681/002-32	DECKHOUSE STRUCT CLOSURES	ER09		
1921/001-A9	COMPARTMENT TESTING	ER01		
2000/001-A2	MACHINERY LUBRICATING OIL	EM01	EM02	EM04
2340/004-44	MAIN PROPULSION GAS TURBIN	EM01	EM02	
2400/013/-44	XMSN & PROPULSOR SYSTEMS	EM01	EM02	
2411/015-44	PRPLN REDUCTION GEARS	EM01	EM02	
2421/002-C2	PROPULSION CLUTCH COUPLING	EM01	EM02	
2451/006-33	PROPELLERS AND PROPULSORS	EM01	EM02	
2513/007-34	COMBUSTION AIR SYSTEM	EM01	EM02	
2521/051-54	AUTO PROPULSION CTRL SYS	EM03		
2560/006-24	CRCLT AND COOLING SW SYS	EA01	EM01	EM02
2591/001-44	UPTAKES AND BAFFLES	EM01	EM02	
2610/059-54	FUEL SERVICE SYSTEM	EM01	EM02	EM04
2620/013-44	MAIN PROPULSION L O SYSTEM	EM01	EM02	EM03
2640/012-44	L O FILLXFR PURIFICATION	EM01	EM02	EM03
3000/001-14	MISC SHIPBOARD ELECT EQUIP	EE01	EM03	
3001/002-C2	MISC CONTROLLERS	EE01	EM03	
3002/001-24	MISC AC/DC MOTORS	EE01	EM03	
3113/004-44	S/S GAS TURBINE GEN SET	EM01	EM03	
3131/005-24	BATTERY/SERV FACILITIES	EE01		
3201/002-34	POWER CABLES (CASUALTY)	EE01		
3241/051-34	SWITCHGEAR AND PANELS	EE01	EM03	
3301/002-34	LIGHTING AND DISTRIBUTION	EE01		
3431/002-44	SSGTG SUPPORT SYSTEMS	EM01	EM03	EM03

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Figure 7-3.—Example of an MIP to Workcenter File.

e. Maintenance requirement: A brief description of each maintenance requirement.

f. Periodicity code: Shows how frequently the maintenance is to be performed.

g. Rate (skill level): Identifies the recommended skill level of the person(s) considered capable of performing the maintenance requirement. Qualified personnel other than the rate/rating specified may be assigned. When a Navy Enlisted Classification (NEC) is assigned, substitution of other personnel is not allowed.

h. Man-hours (MH): Total time required to do the maintenance.

i. Related maintenance.

(1) Mandatory

(2) Convenience

(3) None

j. Scheduling aids: Amplifying instructions, if needed, are located in the maintenance requirement description block.

k. SYSCOM MIP control number.

l. Inactive equipment maintenance (IEM): Maintenance performed when specific equipment will remain inactive for 30 days or longer and is not scheduled for repair, maintenance, or overhaul by either the ship's force or an external repair activity.

4. The Departmental Master PMS Manual also includes a MIP to Workcenter File (fig. 7-3).

WORKCENTER PMS MANUAL

The Workcenter PMS Manual contains only the planned maintenance requirements applicable to a particular workcenter. It is designed to provide a ready reference of planned maintenance requirements for the workcenter supervisor and should be retained in the working area, near the Weekly PMS Schedule, in the holder provided.

Maintenance Requirement Cards (MRCs)

Maintenance Requirement Cards (MRCs) (fig. 7-4) provide the detailed procedures used to perform a maintenance action and state who is to perform the maintenance and what is to be done, and when, how, and with what resources a specific requirement is to be accomplished. MRCs contain the following information and instructions:

SHIP SYSTEM, SYSTEM, SUBSYSTEM, EQUIPMENT.—These blocks contains the identification of the ship system (functional group), system, subsystem, or equipment involved.

MRC CODE.—The MRC code consists of two parts. The first part of the MRC code is the MIP series code. MRCs applicable to more than one MIP series will have each MIP series entered in this block. If more than four MIP series apply, reference will be made to a note in the Procedure block. The second part is the maintenance requirement periodicity code. The only authorized periodicities are listed in Table 7-1.

The periodicity code also includes a number for specific identification. When more than one MRC of the same periodicity exists in the same MRC set, the MRCs, in most cases, will be numbered consecutively; for example, D-1, D-2, D-3, or M-1, M-2, M-3. An existing MRC may be reapplied to a revised MIP even though the periodicity code of the reapplied MRC may not fall within the normally sequential numeric periodicity codes. For example, W-1, W-2, W-3, and W-6 may appear on a MIP, since W-6 was an existing MRC that was reapplied to this equipment. Technically, valid MRCs will not be reprinted merely to change the periodicity code number. Nonsequential numbers will not affect scheduling or management control.

Dual periodicity codes are used when configurations or utility differences of a permanent nature exist between installations of the same system/equipment. A dual periodicity may be assigned if no other aspect of the MRC requires modification to fit both periodicities. For example, equipment installed in an SSN or in a surface unit may see daily use, while the same equipment installed in an SSBN may be idle for long periods of time because of the nature of the ship's mission. This long period of idleness may result in less frequently performed maintenance requirements. In this case a dual periodicity, such as M-1/Q-I or Q-1/S-2, may be assigned. When dual periodicities are assigned a note on the MIP and the MRC will specify the frequency of maintenance, for example, "NOTE: SSBN, schedule quarterly; all others schedule monthly." The unrequired periodicity should be deleted by having a line drawn through it.

SHIP SYSTEM	SUBSYSTEM	MRC CODE
Miscellaneous Shipboard Electrical Equip and Installed Receptacles 3000	Miscellaneous Shipboard Electrical Equip and Installed Receptacles 3000	3000 M-4/ Q-2R

SYSTEM	EQUIPMENT	RATES	M/H
Miscellaneous Shipboard Electrical Equip and Installed Receptacles 3000	Miscellaneous Shipboard Electrical Equip and Installed Receptacles 3000XY	EM2 EMFN	0.1 0.1

TOTAL M/H
0.2
ELAPSED TIME
0.1

MAINTENANCE REQUIREMENT DESCRIPTION

1. Inspect portable electrical tool/device equipped with two-prong plug.
2. Measure Insulation resistance.

SAFETY PRECAUTIONS

1. Forces afloat comply with Navy Safety Precautions for Forces Afloat, OPNAVINST 5100 series.
2. Ensure all tag-out procedures are in accordance with current shipboard instructions.
3. Tool test set (SCAT 4547) can produce voltages dangerous to life. Wear rubber gloves.

TOOLS, PARTS, MATERIALS, TEST EQUIPMENT

TEST EQUIPMENT

1. [0399] Electrical tool testers, SCAT-4547, 07239-235000
2. [0883] Megger, 500V, 100MOhm, SCAT-4452
3. [0901] Multimeter, AC/DC, SCAT-4245

MISCELLANEOUS

1. [0526] Gloves, electrical workers, 7500 volt maximum safeuse, size 9, rubber

MATERIALS

1. [0096] Pen, ball-point
2. [1144] Tag, safety
3. [1657] Tag, safety check
4. [2277] Pad, writing paper

NOTE: Numbers in brackets can be referenced to Standard PMS Materials Identification Guide (SPMIC) for stock number identification.

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PROCEDURE

NOTE 1: For equipment issued on permanent or semi-permanent loan to work centers, accomplish monthly, all other accomplish quarterly or before each issue. For repair locker equipment, accomplish quarterly or after each use, whichever occurs first.

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4ABG

LOCATION	DATE	
Equipment Guide List Recommended	February 2000	N

MAINTENANCE REQUIREMENT CARD (MRC)
OPNAV 4790 (REV. 2-82)

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Figure 7-4.—Maintenance Requirement Card (MRC).

Table 7-1.—Periodicity Codes

PERIODICITY CODES	
D - Daily	S - Semiannually
2D - Every 2nd day	8M- - Every 8th month
3D - Every 3rd day	A - Annually
W - Weekly	18M - Every 18 months
2W - Every 2nd week	24M - Every 24 months
3W - Every 3rd week	30M - Every 30 months
M - Monthly	36M - Every 36 months
2M - Every 2d month	48M - Every 48 months
Q - Quarterly	54M - Every 54 months
4M - Every 4th month	60M - Every 60 months
NON-CALENDAR PERIODICITY	
R - Situation requirement	
U - Unscheduled maintenance	
INACTIVE EQUIPMENT MAINTENANCE (IEM)	
LU - Lay-up	
PM - Periodic maintenance	
SU - Start-up	
OT - Operational test	

Situation requirement codes may be used with a calendar periodicity code in certain circumstances. These situations fall within two general categories:

- When the situation governs the scheduling of the requirement
- When the calendar periodicity governs the scheduling of the requirement

For example, consider the occasion of weekly measurement of values when a certain system is in operation. The measurement of these values will not be required when the equipment is not being operated, regardless of how prolonged the idle period may be. There are cases in which requirements must be scheduled with regard to the situation rather than the calendar timing. The periodicity code will state the R for situation first, and after the hyphen and a unique number, a letter will recognize the calendar contingency. An example of a situation-calendar periodicity code is that an R-IW requires you to schedule equipment lubrication weekly when at sea. That means that the R-IW is entered into a daily column of the weekly schedule only when the ship is at sea. During in-port times the R-IW will remain in the Outstanding Repairs and PM Checks Due In Next 4 Weeks column.

When the periodicity code is of the calendar-situation combination, the calendar controls the scheduling and is only occasionally overtaken by the situation. The calendar periodicity is referred to first in the code, for example, 18M-2R. In the example, the 18M indicates that the longest time between accomplishment is every 18 months, and the 2R indicates that a situation could arise which would require it to be done more often. An explanation of such situations will appear on the MRC. When the situation no longer exists, scheduling reverts to the 18-month period. Some examples of the combined calendar and situation requirements are as follows:

M-1R: Monthly or every 600 hours, whichever occurs first.

W-3R: Weekly or after each use, whichever occurs first.

S-1R: Semiannually or during each upkeep period, whichever occurs first.

Q1-1R: Quarterly or prior to getting underway, whichever occurs first.

When the periodicity code includes a situation requirement (such as R-1 or Q-1R), a note of explanation is required in addition to the basic code. This note is the first entry in the Procedure block.

MAINTENANCE REQUIREMENT DESCRIPTION.—The maintenance requirement description is a brief definition of the PMS action to be performed.

RATES.—The rate is the recommended skill level of the person who should be qualified to do the work, identified by rate or NEC (Navy Enlisted Classification). Qualified personnel other than those specified may be assigned. When more than one person in the same rate is required, the appropriate number of persons precedes the rate. When more than one person in the same rate is required and time requirements are not equal, each person is listed separately.

MAN-HOURS (M/H).—Man-hours is the average amount of time required of each rate listed in the Rates block to perform the maintenance, on each piece of identical equipment, listed in hours and tenths of an hour. When more than one person in the same rate is required and time requirements are equal, man-hours listed are the sum of their requirements. When more than one person in the same rate is required and time requirements are not equal, man-hours are listed for each person separately. Total man-hours are the sum of all entries in the M/H block. Make ready and put away time, including removal and/or replacement of anything that interferes with the maintenance (covers, other equipment, and so on) is not included.

SAFETY PRECAUTIONS.—This section of the MRC provides a listing of precautions and publications that direct attention to possible hazards to personnel or equipment during maintenance. The word “NOTE” will precede procedural advisories. Specific categories of direction are as follows:

- **Warning**: Explains operating procedures, practices, and so forth, that, if not followed correctly, may lead to injury or death. Warnings are listed in the Safety Precautions block and are repeated preceding the procedure involved.
- **Caution**: Explains operating procedures, practices, and so forth that, if not correctly followed, may lead to damage to equipment. Cautions are not listed in the Safety Precautions block; however, they do precede the instructions for the procedure involved.

TOOLS, PARTS, MATERIALS, TEST EQUIPMENT.—This section lists the test equipment, materials, parts, tools, and miscellaneous requirements necessary to perform the maintenance action. Each of the above categories may include both Standard PMS Item Name (SPIN) and non-SPIN items. Entries in this block can be cross-referenced to the Standard PMS Materials Identification Guide (SPMIG) for stock number identification.

Equipment Guide List (EGL)

The EGL (OPNAV Form 4790/81) (fig. 7-5) is a 5x8-inch card that is used with a controlling MRC when the MRC applies to a number of identical items, such as motors, controllers, life rafts, valves, test equipment, and small arms. Each ship prepares its own EGLs.

The number of items included on an EGL is directly related to the time to do the maintenance on each item. Each EGL normally contains no more than a single day's work. If more than 1 day is required, separate EGL pages are prepared for each day and are numbered consecutively.

In some instances it may be unnecessary or impractical to list the equipment on EGLs. For instance, if the equipment is listed on a TYCOM-directed checklist or if an Automated Calibration Recall Program is in effect, a notation of the applicable instruction in the Location block of the MRC is all that is required.

Tag Guide List (TGL)

The TGL (OPNAV Form 4790/107) (fig. 7-6) contains the information necessary for equipment tag-out required during PMS actions. The TGL contains the number of tags required, locations of the tags, position of each tagged item (open, shut, off, on, and so on) and permission or notification requirements. Each ship prepares its own TGLs.

EQUIPMENT GUIDE LIST
OPNAV 4790/81 (2-76)
S/N 0107-LF-047-9405

PAGE OF

MIIP NO. *(Less last 2 characters)* _____ MRC PERIODICITY _____

EQUIPMENT NAME NOMENCLATURE	SERIAL NO. QUANTITY	LOCATION	APPLICABLE DATA AS REQUIRED BY MRC

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Figure 7-5.—Equipment Guide List (EGL).

TAG GUIDE LIST
OPNAV 4790/107 (10-80) S/N 0107-LF-047-9545

MIP & MRC NO. _____

EQUIPMENT _____

NUMBER OF TAGS PER EQUIP

NOTIFICATION DATA		
COLD IRON	INPORT STEAMING	UNDERWAY

EQUIPMENT SERIAL NO.	SERIAL NO. SWITCH / VALVE	LOCATION OF SWITCH / VALVE	POSITION OF TAGGED ITEM	AMPLIFICATION DATA

VERIFICATION / APPROVAL SIGNATURES

WCS	DIV OFF	DEPT HEAD	CO

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Figure 7-6.—Tag Guide List (TGL).

Location of MRCs, EGLs, and TGLs

A master MRC deck is maintained at the departmental level. Each departmental master deck contains only one copy of applicable MRCs filed by SYSCOM control number. Applicable master EGLs and TGLs are attached to related master MRCs. In addition, a complete working deck of applicable MRCs, EGLs, and TGLs is located in MRC holders in each workcenter. Maintenance personnel use these to perform assigned planned maintenance.

REPORT SYMBOL OPNAV 4790-4

SEE INSTRUCTIONS ON BACK OF GREEN PAGE

FROM (SHIP NAME AND HULL NUMBER)	SERIAL #
USS NEVERWAS FFG 999	1074-94
	DATE 09 MAR 94

TO
[X] NAVAL SEA SUPPORT CENTER PACIFIC (Category A)
[ ] TYPE COMMANDER (Category B)

SUBJECT: PLANNED MAINTENANCE SYSTEM FEEDBACK REPORT

SYSTEM, SUB-SYSTEM, OR COMPONENT	APL/CID/AN NO./MK. MOD
SONAR RECEIVING SET	AN/SQR-18A (V) 1
SYSCOM MIP CONTROL NUMBER 4621/23-23	SYSCOM MRC CONTROL NUMBER VARIOUS

DESCRIPTION OF PROBLEM

CATEGORY A	CATEGORY B
[X] MIP/MRC REPLACEMENT	[ ] TECHNICAL [ ] TYCOM ASSISTANCE [ ] OTHER (Specify)

REMARKS

REQUEST TWO COPIES EACH OF FOLLOWING CLASSIFIED MRCs:

72 EZV9 N

12 EZV0 N

20 EZW5 N

TOTAL OF 6 MRCs REQUESTED. ADEQUATE SECURE STORAGE PER OPNAVINST 5110.1H IS AVAILABLE.

ORIGINATOR & WORK CENTER CODE	DIV. OFFICER
ET (SW) Boat EE01	LT Jay Gee
DEPT. HEAD I. M. Daboss, CDR, USN	3-M COORDINATOR GMC (SW) Jack Frost

Originator do not write below. For TYCOM use only.

TYCOM [ ] CONCUR [ ] DO NOT CONCUR [ ] TAKES ACTION [ ] PASSES FOR ACTION

TYCOM REP SIGNATURE	DATE

OPNAV 4790/7B (Rev. 9-89)
S/N 0107-LF-007-8000

ACTION COPY
EDITION OF 3-84 MAY BE USED UNTIL EXHAUSTED

PAGE 1 OF 1

ABEf0707

Figure 7-7.—PMS Feedback Report, category A.

PMS Feedback Report (FBR)

The PMS Feedback Report (FBR) (OPNAV 4790/2B) is a form used by maintenance personnel to notify NAVSEACEN, NAVAIRENGCEN, and TYCOM, as applicable, of technical and nontechnical matters related to PMS. The FBR is a five-part form composed of an original and four copies. Figures 7-7 and 7-8 provide examples of FBRs. Instructions for

REPORT SYMBOL OPNAV 4790-4

SEE INSTRUCTIONS ON BACK OF GREEN PAGE

FROM (SHIP NAME AND HULL NUMBER)	SERIAL #
USS NEVERWAS FFG 999	1074-94
	DATE 04 MAR 94

TO

[ ] NAVAL SEA SUPPORT CENTER _____ (Category A)

[X] TYPE COMMANDER (Category B)

SUBJECT: PLANNED MAINTENANCE SYSTEM FEEDBACK REPORT

SYSTEM, SUB-SYSTEM, OR COMPONENT	APL/CID/AN NO./MK. MOD
Auto Ballast Comp Sys	
SYSCOM MIP CONTROL NUMBER F-37/2-67	SYSCOM MRC CONTROL NUMBER T 44 E12F N

DESCRIPTION OF PROBLEM

CATEGORY A	CATEGORY B
[ ] MIP/MRC REPLACEMENT	[X] TECHNICAL [ ] TYCOM ASSISTANCE [ ] OTHER (Specify)

REMARKS

Before testing setting on relief valve, we need calibration steps for Leslie-Matic controller. This step is not contained on the present MRC. This ship does not have any pub or tech manual showing the steps that should be taken in checking the Leslie-Matic controller for accuracy.

ORIGINATOR & WORK CENTER CODE	DIV. OFFICER
ET (SW) Boat EE01	Lt Jay Gee
DEPT. HEAD I.M. Daboss, CDR, USN	3-M COORDINATOR GMC (SW) Jack Frost

Originator do not write below. For TYCOM use only.

TYCOM [ ] CONCUR [ ] DO NOT CONCUR [ ] TAKES ACTION [ ] PASSES FOR ACTION

TYCOM REP SIGNATURE	DATE

OPNAV 4790/7B (Rev. 9-89)
S/N 0107-LF-007-8000

ACTION COPY
EDITION OF 3-84 MAY BE USED UNTIL EXHAUSTED

PAGE 1 OF 1

ABEf0708

Figure 7-8.—PMS Feedback Report, category B.

preparation and submission of the form are printed on the back of the last copy (fig. 7-9).

PMS FBR Categories

There are two categories of FBRs-category A and category B-defined as follows:

1. **Category A**—This category (fig. 7-7) is nontechnical in nature and is intended to meet PMS needs that do not require technical review. Category A FBRs are submitted to request classified or other PMS documentation which cannot be obtained locally. With the ship's master PMS requirements on compact

1. ORIGINATOR

   a. Typewritten copies are preferred, however, handprinted copies are acceptable. Use ballpoint pen and ensure all copies are legible.

   b. EQUIPMENT IDENTIFICATION: Fill in titled blocks that apply. Give as much information that can be determined. Ensure that correct APL number is used for hull, mechanical or electrical equipment or electronic/weapons equipment which does not have any Army-Navy number or mark/mod designation.

   c. DESCRIPTION OF PROBLEM: Check the appropriate box.

      Category A

      (1) MIP/MRC REPLACEMENT: Ensure that PMS documentation request is current in accordance with latest SFR. For missing MIPs/MRCs, give SYSCOM control numbers when they can be determined. If SYSCOM control numbers cannot be determined, provide as much nameplate data as can be obtained. When ordering a variety of missing/worn MIPs/MRCs, the subject section shall be left blank.

      Category B

      (2) TECHNICAL:

         (a) Identify specific discrepancy discovered in PMS by MRC control number, step number, etc.

         (b) For publication discrepancies identify publication by number, volume, revision date/number, change number, page, paragraph and or figure as appropriate.

      THIS FORM WILL NOT BE USED TO ORDER PUBLICATIONS.

      (3) TYCOM ASSISTANCE: Includes clarification of 3-M instructions and other matters related to PMS administration.

      (4) OTHER: Identify in detail any problem not covered by (1) through (3) above. Shifts of maintenance responsibility will be reported under this item. Ensure that all work centers involved in the change are identified by work center code. Approval by the Executive Officer will be shown in the "Remarks".

   d. REMARKS: Provide brief, but complete, description of problem or requirement. Executive Officer indicate approval of maintenance responsibility shift by endorsement. Use additional forms if more space is required. Mark additional forms, "page 2 of 2", "page 2 of 3", etc. Staple additional forms behind basic form.

   e. ORIGINATOR IDENTIFICATION: Sign and insert work center code in appropriate space.

2.. DIVISION OFFICER: Review for accuracy and completeness and sign in the space provided.

3. DEPARTMENT HEAD: Review for accuracy and completeness and sign in the space provided.

4. 3-M COORDINATOR:

   a. Serialize, date and sign in the appropriate spaces.

   b. ROUTING INSTRUCTIONS: For Category "A" FBRs, forward the white and yellow copies to the appropriate NAVSEACEN and the pink copy to the TYCOM. For Category "B" FBRs, forward the white, yellow and pink copies to the TYCOM. Retain blue copy in suspense file. Return green copy to the originator.

Figure 7-9.—Instructions for preparation of PMS Feedback Report.

disk, replacement copies will be generated with the print-on-demand capability.

2. **Category B**—This category (fig. 7-8) is technical in nature. These FBRs are submitted by the ship's 3-M coordinator to the applicable TYCOM and pertain to the following:

   a. Technical discrepancies that inhibit PMS performance. These discrepancies can exist in documentation, equipment design, maintainability, reliability, or safety procedures as well as operational deficiencies in PMS support (parts, tools, and test equipment).

   b. Shift of maintenance responsibilities. Individual ships sometimes desire or need to shift maintenance responsibility from one workcenter to another, combine two or more existing workcenters, or split an existing workcenter. Such changes can only be made with the approval of the type commander. When changes in maintenance responsibility are considered necessary, ship's personnel should submit a PMS FBR (category B) via the applicable TYCOM, indicating from which workcenter(s) equipment is to be deleted and to which workcenter(s) it is to be transferred. All such FBRs are signed by the executive officer.

Preparation of the PMS FBR

The FBR is prepared and submitted according to the instructions contained on its reverse side (fig. 7-9).

REVIEW QUESTIONS

Q1. What is Inactive Equipment Maintenance (IEM)?

Q2. The workcenter PMS manual contains what requirements?

Q3. What provide the detailed procedures used to perform a maintenance action?

PMS SCHEDULES

LEARNING OBJECTIVE: Describe the types of information displayed on each of the following PMS schedules: Cycle, Quarterly, and Weekly. State the purpose of each schedule.

PMS schedules are categorized as Cycle, Quarterly, and Weekly Schedules.

CYCLE PMS SCHEDULE

The Cycle PMS Schedule (fig. 7-10) displays the planned maintenance requirements to be performed during the period between major overhauls of the ship; that is, from the first quarter after overhaul to the next first quarter after a ship's overhaul. For ships in phased maintenance or similar incremental overhaul programs and other short industrial availability programs, the first quarter after overhaul is the quarter immediately following completion of the docking availability. Cycle and multi-month requirements need to be scheduled during this time period. Any checks that have not been accommodated in this cycle period are front loaded into the new cycle schedule period.

Content of the Cycle PMS Schedule

The following information is found in the block/column indicated in figure 3-10:

- Ship-The ship's name and hull number
- Workcenter-The applicable workcenter designator
- Schedule Quarter After Overhaul As Indicated-The annual, semiannual, multiple-month (4M and greater) maintenance requirements, and any related maintenance checks to be completed during the quarter indicated
- Approval Signature/Date-The department head's signature and the date the Cycle Schedule was approved
- Each Quarter-Maintenance that is performed every 2 weeks, monthly, every 2 months, quarterly maintenance requirements, and any related maintenance checks and situation requirements regardless of periodicity to be completed during each quarter are listed in this column.

Preparation of the Cycle PMS Schedule

Cycle PMS Schedules are used to plan and schedule maintenance requirements to be conducted during each calendar quarter. Department heads devote considerable attention to the preparation of the Cycle Schedule since these efforts directly affect long range

CYCLE PMS SCHEDULE (CONVENTIONAL)
OPNAV FORM 4790/13 S/N 0107-LF-3220

SHIP	WORK CENTER	SCHEDULE QUARTER AFTER OVERHAUL AS INDICATED				APPROVAL SIGNATURE
USS ROOSEVELT CVN-71	EA07 (pg 1 of 1)	⊗ 13 ⊗ 17	⊗ 14 ⊗ 18	⊗ 15 7 19	⊗ 16 8 20	*B. A. Olson LCDR, USN*
						DATE *30 JAN 94*
MIP	COMPONENT	9 21	10 22	11 23	12 24	EACH QUARTER
2000/001	MACHINERY LUB OIL NO. 1 AMR		18M-1 (6) (18)		18M-1 (12) (24)	2M-6, R-1
3000/001	MISC SHIPBOARD ELECT EQUIPMENT		S-4R		S-4R	S-4R M-1, M-2, M-4R, R-2
	RECEPTACLES EGL-1		A-2			2W-1, 3W-2
	RUBBER GLOVES EGL-1		S-3R		S-3R	S-3R, R-1
5210/009	FIREMAIN & FLUSHING	S-2		S-2		Q-1, Q-5R#
5510/018	COMPRESSED AIR SYSTEM EA07-001	A-11		A-5R#		A-5R# M-1, M-2, R-1, R-5W
5530/001	02N2 SYSTEM FWD 1-30-6	S-1#		S-1#	A-14#	M-1, ~~M-2~~, Q-2# BAU
	PUMP 27345		A-1			Q-3, R-16D, R-17W
	VALVES EGL-1	A-13R				A-13R, R-11M, D-1R, W-1R
	VALVES EGL-2		A-13R			D-1R, W-1R, A-13R, R-11M

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Figure 7-10.—Cycle PMS Schedule.

PMS scheduling. The materials required and the procedures followed in schedule preparation are detailed in the paragraphs that follow.

MATERIALS REQUIRED FOR PREPARATION.—The following materials are required:

- Blank Cycle Schedules (OPNAV 4790/13 or approved automated form). Use of automated forms generated from PMS scheduling programs that have been approved by CNO and the TYCOM are authorized for use in lieu of paper forms
- Workcenter PMS Manuals (List Of Effective Pages) (LOEP)
- Applicable MRCs (for general reference)

PROCEDURES.—The following are basic instructions for filling out the cycle schedule (refer to figure 7-10):

1. Neatly enter initial entries, either typed or in black ink, on the Cycle Schedules. Changes will be made in ink and initialed by the department head.
2. From the LOEP (Report PMS 5), list each item of equipment in MIP sequence. It is not necessary for the Cycle Schedule to match the LOEP line for line.
   a. Use the MIP column to list the MIP code without the date coding; for example, E-1/55, EL-2/80, and 4411/1.
   b. Use the Component column to list the name of each system, subsystem, or equipment. Enter the item's serial number or ship's numbering system number in the Component column if more than one of the items is located within a workcenter. Also enter EGL in this column when an EGL is applicable. When multiple EGLs are used, they can either be scheduled on separate lines or be scheduled on the same line (or group of lines) using the EGL number as the prefix to the scheduling code; that is, a quarterly check for MRC Q-1 would be

scheduled as 1-Q-1 on the same line with 2-Q-1, 3-Q-1, and so on. These techniques permit the use of a reasonably compact schedule for MIPs with large quantities of EGLs that are normally found on large ships, such as aircraft carriers.

3. From the applicable MIP, list the periodicity codes in the Schedule Quarter After Overhaul As Indicated and Each Quarter columns as described in the sections that follow. From the Related Maintenance column of the MIP schedule all mandatory related maintenance requirements which are to be completed during the quarter are indicated by the pound sign symbol "#". The pound sign placed next to a primary check, indicates that there is mandatory related maintenance associated with that maintenance requirement (e.g. S-1#).

   a. In the Schedule Quarter After Overhaul As Indicated column:

      (1) List each semiannual (S) maintenance requirement in one of the four columns, and then list it again 6 months later. For example, an S-1 requirement scheduled to occur in the 1st, 5th, and 9th quarters is also scheduled in the 3d, 7th, and 11th quarters.

      (2) List each annual (A) maintenance requirement in one of the four columns.

      (3) List each multiple month periodicity MR (18M, 24M, 30M, 36M, and so on). The quarter after overhaul must be indicated in parentheses. (For example, 18M-1(6) indicates an "every 18 months" periodicity MR scheduled to be accomplished in the sixth quarter after overhaul.) Table 7-2 serves as an example for determining the quarter after overhaul. To use the

Table 7-2.—Multiple Month Periodicity Scheduling Table

(NUMBERS INDICATE QUARTER AFTER OVERHAUL)	
18M Scheduling Table	
First Scheduling	1 2 3 4 5 6
Second Scheduling	7 8 9 10 11 12
Third Scheduling	13 14 15 16 17 18
Fourth Scheduling	19 20 21 22 23 24
24M Scheduling Table	
First Scheduling	1 2 3 4 5 6 7 8
Second Scheduling	9 10 11 12 13 14 15 16
Third Scheduling	17 18 19 20 21 22 23 24
30M Scheduling Table	
First Scheduling	1 2 3 4 5 6 7 8 9 10
Second Scheduling	11 12 13 14 15 16 17 18 19 20
Third Scheduling	21 22 23 24 25 26 27 28 29 30
36M Scheduling Table	
First Scheduling	1 2 3 4 5 6 7 8 9 10 11 12
Second Scheduling	13 14 15 16 17 18 19 20 21 22 23 24
48M Scheduling	
First scheduling in first 16 quarters and second scheduling 16 quarters later.	
60M Scheduling	
First scheduling in first 20 quarters and second scheduling 20 quarters later.	

table, first determine in which quarter after overhaul the MR will be first scheduled. Go to this quarter in the first row of the table. Then schedule the MR for the quarters in that column as applicable. For example, if an 18M-1 is scheduled for the 4th quarter after overhaul, it must also be scheduled for the 10th, l6th, and 22d, as applicable.

NOTE

Prior to scheduling 30M, 36M, 48M, or 60M, review the MRC to see if a specific quarter after overhaul is indicated.

(4) Ships with overhaul cycles of less than 24 quarters must schedule cycle requirements within this operational time frame. Ships delayed beyond 24 quarters must extend their Cycle PMS Schedule by adding quarter numbers in the Schedule Quarter After Overhaul As Indicated column. (Multiple month requirements needed before entering overhaul must be reviewed and rescheduled as necessary.)

b. In the Each Quarter column, list every 2 weeks, monthly, every 2 months, and quarterly maintenance requirements (2W-1, M-1, 2M-1, Q-1, and so on), and situation requirements (M-IR, Q-IR, S-IR, A-IR, 18M-IR, R-1, and so on). Daily, every 2d day, every 3d day, and weekly maintenance requirements are not listed here.

4. Have the completed Cycle PMS Schedule reviewed, signed, and dated by the department head.

5. Once the Cycle Schedule has been completed, maintenance requirements listed are not to be moved from one quarter to another. If rescheduling becomes necessary, reflect it on the Quarterly PMS Schedules.

6. All superseded cycle schedules will be retained for 12 months.

QUARTERLY PMS SCHEDULE

The Quarterly PMS Schedule (OPNAV Form 4790/14) (fig. 7-11) displays each workcenter's PMS requirements to be performed during a specific 3-month period. This schedule, when updated weekly, provides a ready reference to the current status of PMS for each workcenter. This schedule represents a departmental directive and, once completed, may be changed only at the department head's discretion. Responsibility for changes is sometimes delegated to division officers on carriers and cruisers.

Contents of the Quarterly PMS Schedule

The Quarterly PMS Schedule contains the following:

- Space is provided for entering the workcenter, year, quarter after overhaul, department head's signature, date prepared, and months covered.
- Thirteen columns, one for each week in the quarter, are available to permit scheduling of maintenance requirements on a weekly basis throughout the quarter. Additional columns provide space to enter the complete MIP codes and any PMS requirements that may be required to be rescheduled into the next quarter. Take care to ensure that rescheduling changes conform to the periodicity specified for the requirement.

Preparation of the Quarterly PMS Schedule

Prepare OPNAV Forms 4790/14 or approved automated forms, in ink as follows:

1. Enter the workcenter code.
2. Enter the calendar year of the current quarter.
3. Enter the number of the quarter after overhaul as reflected on the Cycle PMS Schedule.
4. Enter the calendar months of the quarter as follows:

   JAN/FEB/MAR

   APR/MAY/JUN

   JUL/AUG/SEP

   OCT/NOV/DEC

   a. A ship ending a major overhaul, conversion, or construction in August would use the months of July, August, and September as the first quarter after overhaul. If the ship finished a major overhaul, conversion, or construction during the last 2 weeks in September, the first Quarterly PMS Schedule prepared

QUARTERLY PMS SCHEDULE (CONVENTIONAL)
OPNAV FORM 4790/14 (REV 6-73) S/N 0107-LF-3241

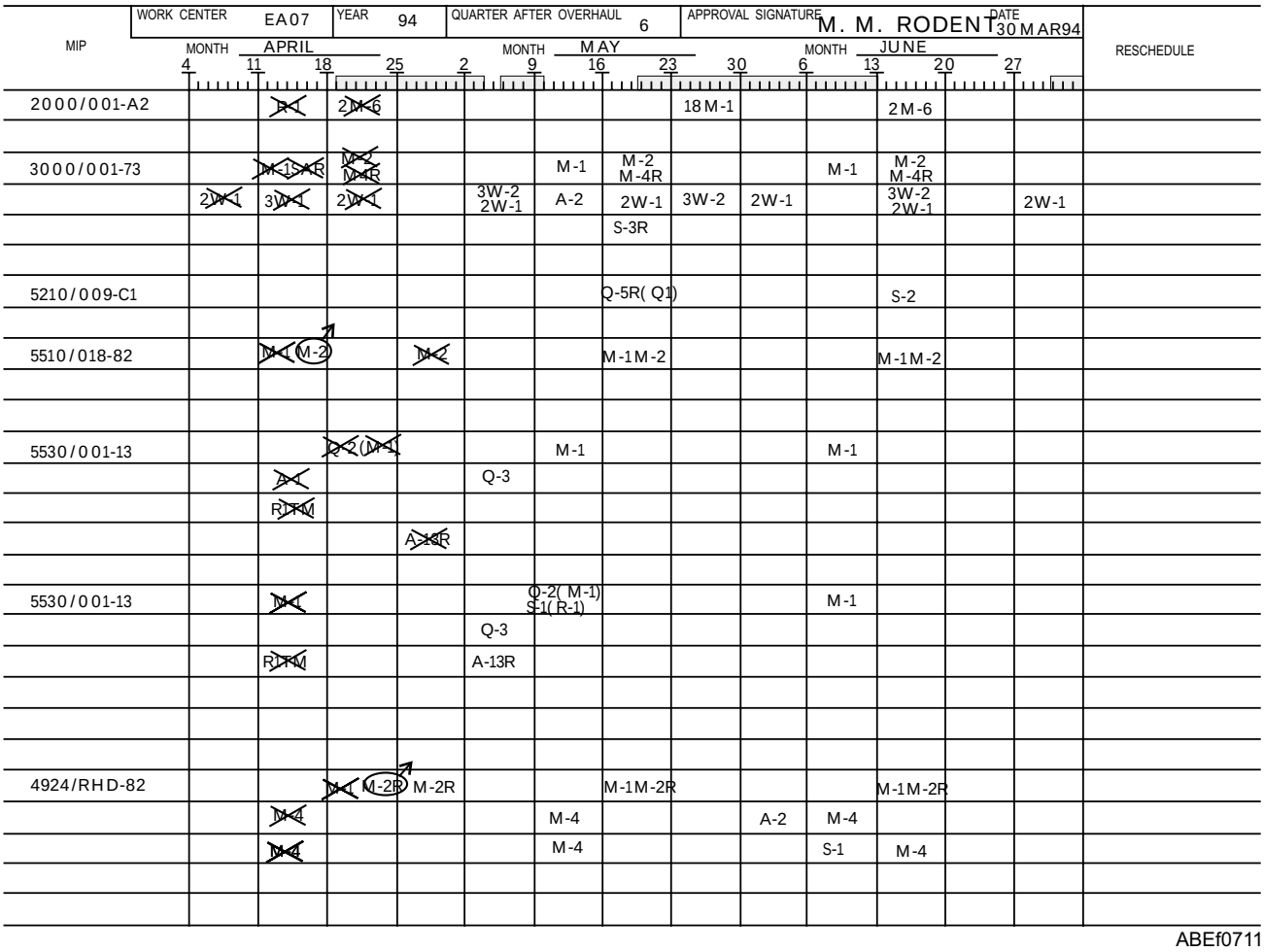

Figure 7-11.—Quarterly PMS Schedule.

would include the months of October, November, and December as the first quarter.

b. Ships completing overhaul late in the quarter are not expected to do all planned maintenance scheduled during that quarter, but should do a certain amount based on the time remaining in the quarter. In this instance, the maintenance done and the effective dates are recorded on the back of the Quarterly PMS Schedule, and the schedule is marked to show that it is only a partial quarterly PMS record.

5. Each column represents a week and is divided into 7 days by the use of tick marks across the top. The first tick marked space within a column represents Monday. Place Monday's date for each week in the quarter on the pedestal between each column.

6. Lightly shade in across the tick marks the days that the ship expects to be underway.

7. Using both the LOEP and the Cycle PMS Schedule, enter the MIP number including the date code in the MIP column in a space on line with the subject equipment on the Cycle Schedule.

8. From the Cycle PMS Schedule, select the Schedule Quarter After Overhaul As Indicated column corresponding to the quarter being scheduled. Each of the maintenance requirements listed in this column and the Each Quarter column will be transcribed to an appropriate weekly column of the Quarterly PMS Schedule. If possible, do not schedule in the last 2 weeks of the quarter. These 2 weeks may then be used for rescheduled maintenance requirements.

9. Refer to the MIPs and the departmental master deck of MRCs for a brief description of the maintenance actions represented by the periodicity codes on the Cycle PMS Schedule to determine if the actions should be performed in port or at sea. Schedule the requirements on

the Quarterly PMS Schedule in the week most appropriate for accomplishment. With the exception of related daily and weekly PMS requirements, ensure that all mandatory related maintenance are scheduled within parentheses on the same line and during the same week as the primary maintenance requirement.

10. From the Cycle PMS Schedule column titled Each Quarter, schedule monthly, quarterly, and applicable situation requirements into the appropriate weeks of the Quarterly PMS Schedule. All calendar situation requirements (24M-2R, A-2R, S-IR, Q-3R, M-IR) must be accomplished at least once during the periodicity specified and also each additional time the situation arises. Schedule 2M( ) periodicity as indicated by a number in parentheses. For example, 2M(2) occur twice in the quarter (7 to 10 weeks apart).

11. From the Cycle PMS Schedule column, titled Schedule Quarter After Overhaul As Indicated, schedule the annual, semiannual, and multiple month requirements. Schedule the cycle requirements for which the number in parentheses matches the quarter after overhaul being scheduled.

12. Be sure that any PMS requirement listed in the Reschedule column of the previous Quarterly PMS Schedule is brought forward to the Quarterly PMS Schedule you are preparing.

13. The complete Quarterly PMS Schedule should be reviewed and then signed and dated by the department head in the appropriate block. If the ship's operating schedule changes significantly, PMS requirements scheduled in the affected periods may need to be reviewed and rescheduled as necessary to coincide with the new operating schedule.

Use of the Quarterly PMS Schedule

The Quarterly PMS Schedule serves as a directive to workcenter supervisors for scheduling weekly maintenance. Quarterly PMS Schedules are used as follows:

1. Each Monday, the division officer updates the previous week's column of the Quarterly PMS Schedule, using the following symbols:

   X = Completed maintenance. The symbol X indicates completion of a maintenance requirement. Fully accomplished MRs are addressed and X'd off separately on the Quarterly Schedule. Pay particular attention to make sure situation requirements that were accomplished are added and X'd off separately.

   0 = Maintenance not completed. A circled requirement indicates a requirement that was not accomplished according to the applicable MRC.

   ¢ = Satisfied by higher authority test. This symbol is used to mark scheduled equipment maintenance or lower level MRC requirements that have been satisfied by the completion of the parent system test. A brief explanation of the parent system test (including the MIP, who performed the maintenance, and when) is required on the reverse side of the Quarterly Schedule. An X marked over the higher level test symbol indicates that the lower level test requirement annotated with the ¢ has been satisfied. (MRCs that are so satisfied are identified on the applicable system level test MIP.)

2. The division officer is responsible for rescheduling circled requirements still within periodicity and for determining the reason for nonaccomplishment.

3. From the Quarterly PMS Schedule, the workcenter supervisor schedules the requirements for the following week on the Weekly PMS Schedule and updates the information in the Outstanding Repairs and PMS Requirements Due In The Next 4 Weeks column.

4. Any requirement that was not completed in strict accordance with the applicable MRC within its periodicity during the quarter must (in addition to being circled on the front of the Quarterly PMS Schedule) be identified on the back of the schedule by the complete MIP number and MRC code, followed by a brief reason for noncompletion. Example:

C-2/1 - 11 M-1 Unable to accomplish step I.J., "Test operate transmitter," due to antenna casualty. (This is an indication of a partial completion.) G-58/3-72 Q-1 Heavy seas preclude accomplishment as scheduled.

Unaccomplished S, A, or multiple-month periodicity requirements should be added to

the Reschedule column for accomplishment in the next quarter, if they are within their assigned periodicities. At the end of the quarter the department head should indicate awareness of the maintenance actions which were not accomplished by reviewing, signing, and dating the back of the schedule for the quarter just completed. The department head should also take positive steps to ensure that priority is given to completing maintenance requirements rescheduled from the previous quarter and those not accomplished within their assigned periodicities.

5. The completed Quarterly PMS Schedule is removed from the holder after the close of each quarter and retained as a planned maintenance record. The four previously completed quarterly schedules will be retained.

6. The recopying of Quarterly Schedules to facilitate legibility is discouraged, and should only be done with the division officer's written approval.

WEEKLY PMS SCHEDULE

The Weekly PMS Schedule (fig. 7-12) displays the planned maintenance scheduled for accomplishment in

WEEKLY PMS SCHEDULE (CONVENTIONAL)

OPNAV FORM 4790/15 (3-71) #U.S. GPO: 1982-508-678
S/N 0107-LF-770-3260

WORK CENTER	EA07		PMS SCHEDULE FOR WEEK OF	2-9 MAY			APROVAL SIGNATURE	W.M. Smith	
MIP	COMPONENT	MAINTENANCE RESPONSIBILITY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT - SUN	OUTSTANDING REPAIRS & PM CHECKS DUE IN 4 WKS
2000/001	MACH LUB OIL NO.1 AMR								R-1
3000/001	MISC SHIPBOARD ELECT EQUIPMENT								M-1 M-4R, R-2, S-4R
	RECEPTACLES EGL-1	OVERTURF		2W-2	3W-1				2W-1, 3W-2
	RUBBER GLOVES EGL-1								S-3R,R-1
5210/009	FIREMAIN & FLUSHING	STERLING							Q-5R#, Q-1
5510/018	COMMPRESSED AIR SYSTEM EA07-001	HOYLE	D-1	D-1	D-1	D-1	D-1	D-1 / D-1	M-1, M-2 A-5R,R-1,R-5W
5530/001	02N2 SYSTEM FWD 1-30-6								Q-1(+M-1)
	PUMP 27345	PADGETT	Q-3						R-16D,R-17W
	VALVES EGL-1	GALLE	W-1R D-1R	A-13R D-1R	D-1R	D-1R	D-1R	D-1R D-1R	A-13R,R-11M,D-1R,W-1R
	VALVES EGL-2	HOOFA	W-1R D-1R	D-1R	D-1R	D-1R	D-1R	D-1R D-1R	D-1R,W-1R
5530/001	02N2 SYSTEM AFT 1-240-7								M-1
	PUMP 26439	RUHNKE	Q-3						R-16D,R-17W
	VALVES EGL-1								A-13R,R-11M
	VALVES EGL-2	McCLURE	W-1R						D-1R,W-1R
4924/RHD	LSD HUD MR3 MOO0	JACK	W-1						M-2R,R-1R
	#1 HUD								R-1, M-4
	#2 HUD								R-2, M-4
6641/005	VENT DUCTS EGL-1								S-11R#
	FILTERS								M-9
	VENT DUCTS EGL-2								S-41R#

UPDATE THIS SCHEDULE DAILY

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Figure 7-12.—Weekly PMS Schedule.

a given workcenter during a specific week. A Weekly PMS Schedule is posted in each workcenter and used by the workcenter supervisor to assign and monitor the accomplishment of required PMS tasks by workcenter personnel.

Content of the Weekly PMS Schedule

The Weekly PMS Schedule contains the following information:

1. Workcenter code
2. Date of current week
3. Division officer's approval signature
4. MIP number (minus the date code)
5. A list of applicable components/equipment
6. Maintenance responsibilities assigned, by name, to each line item of equipment
7. The periodicity codes of maintenance requirements to be performed, listed by columns for each day
8. Outstanding major repairs, applicable PMS requirements, and all situation requirements

Preparation of Weekly PMS Schedule

Prepare the Weekly PMS Schedule as follows:

1. Using OPNAV Form 4790/15 or approved automated form, type in or neatly enter in ink the following basic (permanent) information from the Cycle PMS Schedule, the LOEP, and applicable MIPs:
    a. Workcenter identification.
    b. MIP codes and component nomenclature, line for line, to match the Cycle PMS Schedule. (Include serial or identifying numbers and EGL information if applicable.)
    c. Daily and weekly PMS requirements as indicated in the MIPs for each workcenter. List all weekly requirements in the MONDAY column and daily requirements once in each day of the week column and twice in the SAT.-SUN. column. Schedule 2D periodicity on Monday, Wednesday, Friday, and once in the SAT.-SUN. period. Schedule 3D periodicity on Monday, Thursday, and once in the SAT.-SUN. period.
    d. List all situation requirements in the Next Four Weeks column, and schedule them, as the situation requires. Also list the 2W periodicity requirements in the Next Four Weeks column.
    e. Now, either laminated or covered with plastic so that it can be cleared and updated each week.
2. The following information is not permanent in nature and is written in after the schedule is laminated.
    a. Using the Quarterly PMS Schedule, the workcenter supervisor transposes all PMS requirements from the column for the week being scheduled to the Weekly PMS Schedule. MIPs/MRCs must be reviewed to ensure that related maintenance actions are scheduled for the same day and that appropriate consideration is given to the week's operating schedule.
    b. Using information from the Quarterly PMS Schedule, the workcenter supervisor lists in the Next Four Weeks column of the Weekly PMS Schedule all PMS requirements due in the next 4 weeks.
    c. The workcenter supervisor assigns personnel, by name, to specific line entries.
    d. The Weekly PMS Schedule is signed and dated by the division officer prior to its posting in the holder in the workcenter.

Use of the Weekly PMS Schedule

The Weekly PMS Schedule is used by the workcenter as follows:

1. Maintenance personnel obtain PMS assignments from the Weekly PMS Schedule and report completed and uncompleted maintenance actions to the workcenter supervisor.

2. When satisfied that the work has been properly completed, the workcenter supervisor crosses off, with an *X*, the maintenance requirement. If the maintenance is not completed, the maintenance requirement is circled and rescheduled. However, if material deficiencies or casualties that are unrelated to the maintenance requirement are discovered, the maintenance requirement can be X'd off, but the discrepancy must be reported to the workcenter supervisor. PMS requirements (other than daily checks) accomplished during the prescribed week but not on the day specified are considered completed on schedule and X'd off.

3. Each Monday morning, the division officer compares the preceding week's Weekly PMS Schedule with the Quarterly Schedule and ensures that the Quarterly Schedule is properly updated as follows:

   a. Scheduled requirements that were completed are X'd out.

   b. Scheduled requirements that were not completed are circled.

   c. Situation requirements that occurred and were completed are entered and X'd off.

   d. Requirements that were completed ahead of schedule are circled, back scheduled and X'd out.

4. Each Monday morning, the division officer reviews the current week's Weekly PMS Schedule, ensures that it is properly made out according to the Quarterly Schedule, and signs and dates the Weekly Schedule in the appropriate block.

REVIEW QUESTIONS

Q4. What maintenance requirements do the cycle schedules display?

Q5. All superseded cycle schedules are retained for how many months?

Q6. How often is the quarterly schedule updated?

THE MAINTENANCE DATA SYSTEM

LEARNING OBJECTIVES: State the purpose of the Maintenance Data System and describe the types of maintenance actions reported on the following OPNAV forms: 4790/2K, 4790/CK, 4790/2P.

The Maintenance Data System is used to record information considered necessary for workload planning and coordination and to provide a data base for evaluating and improving equipment installed in the fleet. Much of the data collected by MDS returns to the ship in the form of a material history known as the Current Ship's Maintenance Project (CSMP).

Nearly all the reporting of maintenance actions other than normal PMS actions is done on a single multipurpose form, the Ship's Maintenance Action Form, OPNAV 4790/2K. Personnel completing a maintenance action fill out the appropriate sections of the form and send it via the ship's data collection center to an ADP (automatic data processing) facility to be processed. The 4790/2K contain information on the reporter's ship, workcenter, equipment worked on, and initial symptoms observed. In other sections, space is provided to record completion information, deferral of the work for various reasons, remarks, and special information for work requests. A space also exists for recording time meter and counter readings where they are required.

Normally, the following types of maintenance actions will be reported on the 4790/2K: system or equipment repairs or improvements; maintenance actions that require the use of parts or materials specifically requisitioned for the job; actions that cannot be completed in the usual amount of time due to the ship's operations; requirements for outside assistance, or unavailability of parts or material; assistance received from nonreporting activities, such as mobile technical training units (MOTUs) or technical representatives; major work associated with corrosion control and preservation of the ship; and certain PMS actions listed in the *3-M Manual*, OPNAVINST 4790.4.

To prevent the loss of significant data when it is recorded on several forms, each maintenance action must be assigned a unique identifier. Under MDS, this identifier is known as the job control number (JCN). It consists of a five-character unit identification code (UIC), a four-character workcenter code, and a four-character serial number called the job sequence number (JSN). Figure 7-13 shows an example of a JCN log used to record the JSNs. This system gives a workcenter at least 9,999 JCNs. If additional JCNs are desired, letters can be substituted for the first numeral. In any event, take care to make sure that two different jobs are not assigned the same JCN.

There are many different situations that could be covered by the MDS documents. This text will cover only the basic actions.

SHIP'S MAINTENANCE ACTION FORM (OPNAV 4790/2K)

The ship's maintenance action form (OPNAV 4790/2k) (fig. 7-14), printed on a single sheet of "no-carbon-required" paper, is the basic MDS document. If multiple copies are needed, the necessary number of forms may be fastened together and filled in at one time. The form may also be reproduced on electrostatic (Xerox-type) copying machines.

This form contains six sections that require entries to describe the type of maintenance action being reported. Entries should be printed in capital letters. All entries must be legible and should be inserted within the tic marks. If an error is made, it should be lined out using a single line, and the correct information entered.

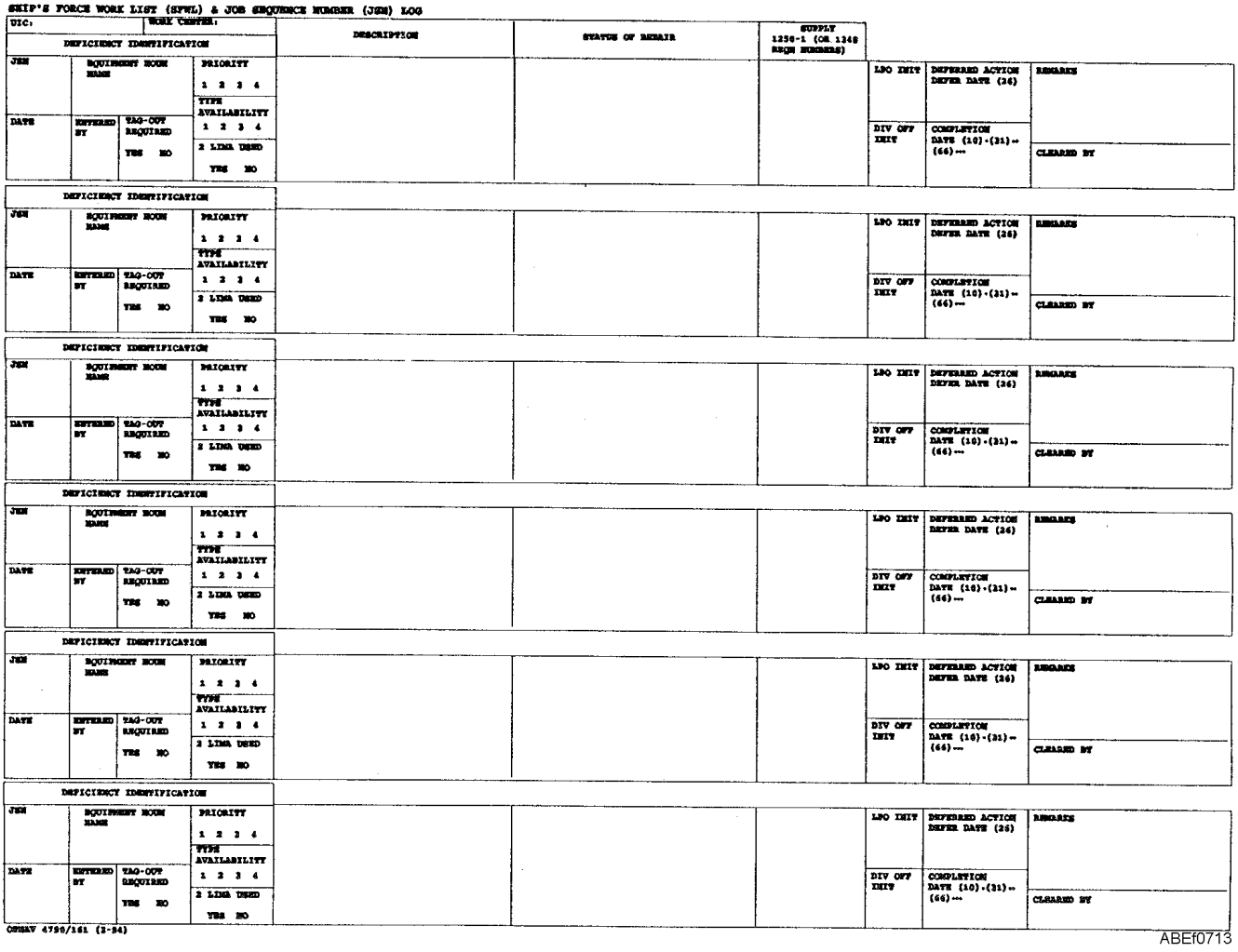

Figure 7-13.—Example of an job control number log.

OPNAV 4790/2K (Rev. 6-75) S/N 0107-LF-047-9011

SHIP'S MAINTENANCE ACTION FORM (2-KILO)

COMP | DEPL X

SECTION I. IDENTIFICATION

JOB CONTROL NUMBER

1. SHIP'S UIC	2. WORK CENTER	3. JOB SEQ. NO.	4. APL/AEL
21685	EB01	01111	02120016 6

A. SHIP'S NAME	5. EQUIPMENT NOUN NAME	6. WND	7. STA	8. CAS	9. DFR	10.	11.	12.
USS STOUT	BOILER RH							

B. HULL NUMBER	13. IDENT./EQUIPMENT SERIAL NUMBER	14. EIC
DDG-55	IA	F101 1276

15. SAFETY HAZARD	16. LOCATION (Compartment, Deck, Frame, Side)	17. WHEN DISCOVERED DATE YR DAY
X	B1-5-61-0	40 11

CONFIGURATION CHANGE		FOR INSURV USE				
18. ALTERATIONS (SHIPALT, ORDALT, Fld Chg, etc.)	19. "/"	20. INSURV NUMBER	21. SUFFIX	22. U	23. S	24. P/F

SECTION II. DEFERRAL ACTION

25. S/F MHRS. EXP.	26. DEFER. DATE YR DAY	27. S/F MHRS. REM.	28. DEADLINE DATE YR DAY
0020	40 11	0017	40 41

SECTION III. COMPLETED ACTION — FOR SELECTED EQUIPMENTS ONLY

29. ACT. TKN.	30. S/F MHRS.	31. COMPLETION DATE YR DAY	32. ACT. MAINT. TIME	33. TI	34. METER READING

SECTION IV. REMARKS/DESCRIPTION

35. REMARKS/DESCRIPTION

SAFETY VLV B OPERATING ERRATIC INDICATING A BENT VLV SPINDLE. XXXREMOVE SAFETY VLV DELIVER TO IMA DISASSEMBLE AND IN-SPECT. REPAIR VLV AND TEST. SHIP PICKUP VLV RE-INSTALL AND TEST INOPERABLE SAFETY VLV BOILER MAY BE OVER PRESSURIZED.

35. CONT. SHEET

37. CSMP SUMMARY

SAFETY VLV B SPINDLE BENT

38. FIRST CONTACT/MAINT. MAN (Print)	39. RATE	40. SECOND CONTACT/SUPERVISOR (Print)	41. PRI	42. TAD	43. INTEGRATED PRIORITY	SCREENING
J. LINGO	BTC	D. HAMMOND	1	2		

C. DIV. INIT.	D. DEPT. INIT.	E. COMMANDING OFFICER'S SIGNATURE	F. TYCOM AUTHORIZATION	44. IUC	45. TYCOM
D.M.	L.R.	C.E. PARKER, CDR, USN			

46. SPECIAL PURPOSE	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.	L.

SECTION V. SUPPLEMENTARY INFORMATION

47. BLUEPRINTS, TECH. MANUALS, PLANS, ETC.	AVAILABLE ON BOARD YES	NO	48. PREARRIVAL/ARRIVAL CONFERENCE ACTION/REMARKS
NS-351-0664	X		

SECTION VI. REPAIR ACTIVITY PLANNING/ACTION

49. REPAIR W/C	50. EST. MHRS.	51. ASST. REPAIR W/C	52. ASST. EST. MHRS.	53. SCHED. START DATE YR DAY	54. SCHED. COMP DATE YR DAY

55. REPAIR ACTIVITY UIC	56. WORK REQ. ROUTINE	57. EST. MANDAYS	58. EST. MANDAY COST $	59. EST. MATERIAL COSTS $

60. EST. TOTAL COST $	61. JOB ORDER NUMBER	62. LEAD P&E CODE	63. DATE OF EST. YR DAY

64. FINAL ACT.	65. MHRS. EXPENDED	66. DATE COMPLETED YR DAY	G. COMPLETED BY (Signature - Rate)	H. ACCEPTED BY (Signature - Rate/Rank)

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Figure 7-14.—Ship's Maintenance Action Form (OPNAV 4790/2K).

The OPNAV 4790/2K is used to report all deferred maintenance actions and the completion of maintenance actions that do not result in configuration changes. Partially completed maintenance actions that will result in configuration changes and complete or partial accomplishment of alterations are reported on OPNAV 4790/CK. A description of the OPNAV 4790/2K information sections is presented in the following paragraphs.

Section I-Identification

This section identifies the equipment or system on which maintenance actions are being performed.

Section II-Deferral Action

This section filled in when reporting the deferral of a maintenance action. Indicates ship's force man-hours expended up to the time of deferral, the date of the deferral, ship's force man-hours remaining, and if the work must be completed by a certain date.

Section III-Completed Action

This section is filled in to report the completion of a maintenance action.

Section IV-Remarks/Description

This section must be filled in when the deferral of a maintenance action is reported. It is filled in when the completion of a maintenance action is reported, only when such remarks are considered important to the maintenance action. This section must also be filled in to report maintenance actions on selected equipment requiring second level reporting, and to describe situations that are safety related.

Section V-Supplementary Information

This section contains helpful information about deferred maintenance actions, such as what technical manuals and blueprints are available and whether or not they are retained on board the requesting ship.

Section VI-Repair Activity Planning Action

The repair activity may use this section for internal planning and scheduling of the workload.

Block G, Completed By

This block contains the signature and rate/rank of the senior person actively engaged on the job in the lead workcenter. For maintenance actions not requiring assistance from an outside workcenter, the senior person working on the job signs this block and indicates his or her rate.

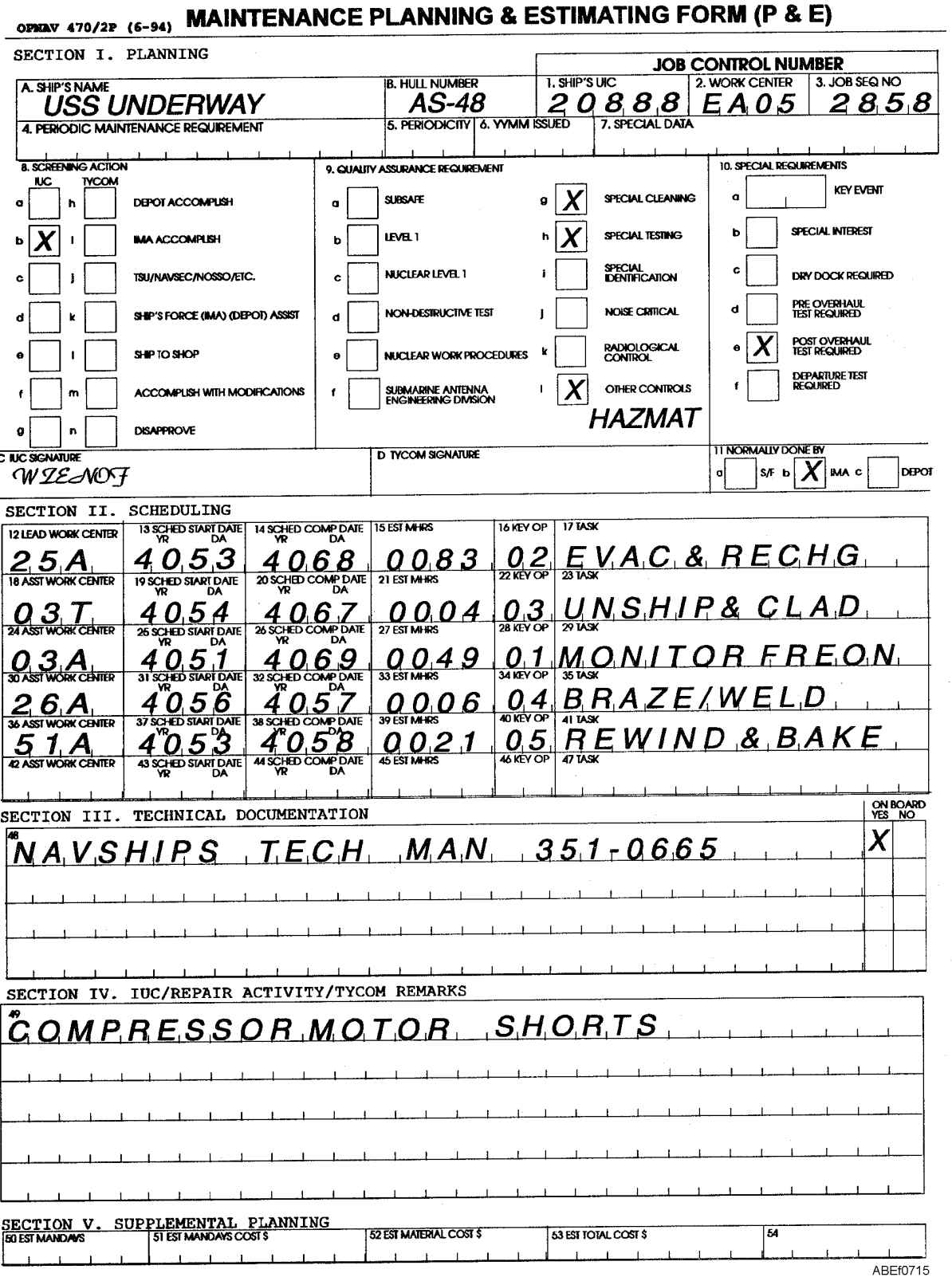
Block H, Accepted By

This block contains the signature and rate/rank of the individual authorized by the tended ship to verify the acceptability of the work performed. Completion of this block is mandatory when an OPNAV 4790/2K is used to report completion of a previously deferred maintenance action. For maintenance actions not requiring assistance from an outside workcenter, the workcenter supervisor will sign this block and indicate his or her rate/rank.

The commanding officer, or his/her authorized representative, places his/her signature on all original deferrals in block E. Two copies are held in a deferral suspense file in the workcenter until the JCN appears on the automated CSMP report, at which time the copies are transferred to the active suspense file held in the workcenter

MAINTENANCE PLANNING AND ESTIMATING FORM (OPNAV 4790/2P)

The maintenance planning and estimating form (OPNAV 4790/2P) (fig. 7-15) is used along with the OPNAV 4790/2K form for deferring maintenance to be done by an intermediate maintenance activity (IMA). Attached to the original 2K at the intermediate maintenance activity, it is used by the IMA to screen and plan the job in detail.



OPNAV 470/2P (6-94) **MAINTENANCE PLANNING & ESTIMATING FORM (P & E)**

SECTION I. PLANNING

JOB CONTROL NUMBER

A. SHIP'S NAME	B. HULL NUMBER	1. SHIP'S UIC	2. WORK CENTER	3. JOB SEQ NO
USS UNDERWAY	AS-48	20888	EA05	2858

4. PERIODIC MAINTENANCE REQUIREMENT	5. PERIODICITY	6. YYMM ISSUED	7. SPECIAL DATA

8. SCREENING ACTION

	IUC	TYCOM	
a		h	DEPOT ACCOMPLISH
b	X	i	IMA ACCOMPLISH
c		j	TSU/NAVSEC/NOSSO/ETC.
d		k	SHIP'S FORCE (IMA) (DEPOT) ASSIST
e		l	SHIP TO SHOP
f		m	ACCOMPLISH WITH MODIFICATIONS
g		n	DISAPPROVE

9. QUALITY ASSURANCE REQUIREMENT

a	SUBSAFE	g	X SPECIAL CLEANING
b	LEVEL 1	h	X SPECIAL TESTING
c	NUCLEAR LEVEL 1	i	SPECIAL IDENTIFICATION
d	NON-DESTRUCTIVE TEST	j	NOISE CRITICAL
e	NUCLEAR WORK PROCEDURES	k	RADIOLOGICAL CONTROL
f	SUBMARINE ANTENNA ENGINEERING DIVISION	l	X OTHER CONTROLS

HAZMAT

10. SPECIAL REQUIREMENTS

a		KEY EVENT
b		SPECIAL INTEREST
c		DRY DOCK REQUIRED
d		PRE OVERHAUL TEST REQUIRED
e	X	POST OVERHAUL TEST REQUIRED
f		DEPARTURE TEST REQUIRED

C IUC SIGNATURE: WZENOF

D TYCOM SIGNATURE:

11 NORMALLY DONE BY: a [ ] S/F b [X] IMA c [ ] DEPOT

SECTION II. SCHEDULING

12 LEAD WORK CENTER	13 SCHED START DATE YR DA	14 SCHED COMP DATE YR DA	15 EST MHRS	16 KEY OP	17 TASK
25A	4053	4068	0083	02	EVAC & RECHG
18 ASST WORK CENTER	19 SCHED START DATE YR DA	20 SCHED COMP DATE YR DA	21 EST MHRS	22 KEY OP	23 TASK
03T	4054	4067	0004	03	UNSHIP & CLAD
24 ASST WORK CENTER	25 SCHED START DATE YR DA	26 SCHED COMP DATE YR DA	27 EST MHRS	28 KEY OP	29 TASK
03A	4051	4069	0049	01	MONITOR FREON
30 ASST WORK CENTER	31 SCHED START DATE YR DA	32 SCHED COMP DATE YR DA	33 EST MHRS	34 KEY OP	35 TASK
26A	4056	4057	0006	04	BRAZE/WELD
36 ASST WORK CENTER	37 SCHED START DATE YR DA	38 SCHED COMP DATE YR DA	39 EST MHRS	40 KEY OP	41 TASK
51A	4053	4058	0021	05	REWIND & BAKE
42 ASST WORK CENTER	43 SCHED START DATE YR DA	44 SCHED COMP DATE YR DA	45 EST MHRS	46 KEY OP	47 TASK

SECTION III. TECHNICAL DOCUMENTATION

48	ON BOARD YES	ON BOARD NO
NAVSHIPS TECH MAN 351-0665	X	

SECTION IV. IUC/REPAIR ACTIVITY/TYCOM REMARKS

49 COMPRESSOR MOTOR SHORTS

SECTION V. SUPPLEMENTAL PLANNING

50 EST MANDAYS	51 EST MANDAYS COST $	52 EST MATERIAL COST $	53 EST TOTAL COST $	54

ABEf0715

Figure 7-15.—Maintenance Planning and Estimating Form (OPNAV 4790/2P).

SUPPLEMENTAL FORM (OPNAV 4790/2L)

The supplemental form (OPNAV 4790/2L) (fig. 7-16) is used by maintenance personnel to provide amplifying information (such as drawings and listings) related to a maintenance action reported on an OPNAV 4790/2K. The information on this form will never be entered into the computer. The form is prepared in the following manner:

1. The ship's name and hull number are entered in blocks A and B.
2. If the form is a continuation of a maintenance data form or another supplemental report form, the appropriate form is checked in block F and the JCN assigned to the basic form is entered in blocks C, D, and E.
3. Section II will contain comments, sketches, or other supplemental information.

OPNAV 4790/2L (Rev. 6-73) S/N 0107-LF-770-3060 SUPPLEMENTAL FORM (2-LIMA)

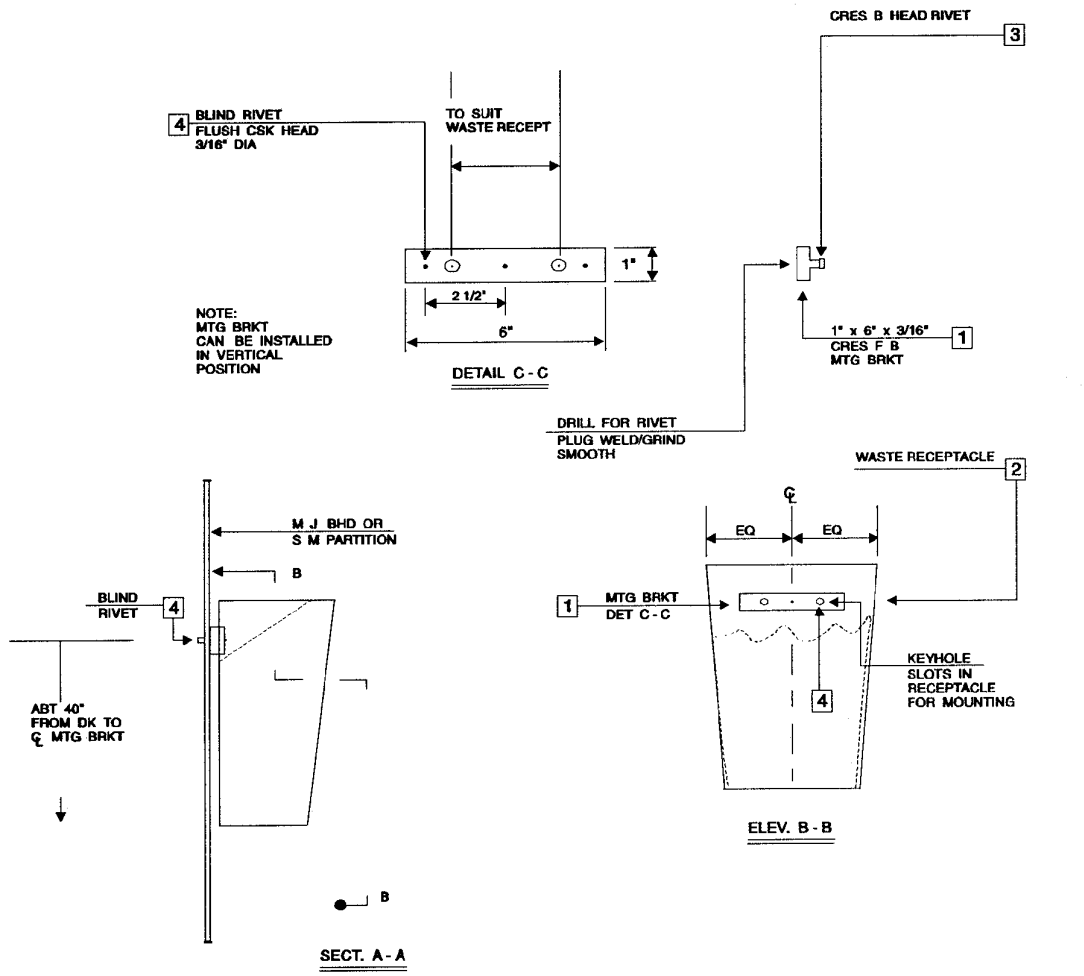
SECTION I. IDENTIFICATION

A. SHIP'S NAME	B. HULL NUMBER	JOB CONTROL NUMBER		
		C. SHIP'S UIC	D. WORK CENTER	E. JOB SEQ. NO.
USS CHANDLER	DDG-996	21439	WD01	0195

F. CONTINUATION FOR [X] 2K [ ] 2L [ ] 2P

SECTION II. REMARKS/SKETCHES

G.



INSTALLATION & MOUNTING DETAILS OF WASTE RECEPTACLE MOUNTED ON M J BULKHEADS & S M PARTITIONS

SECTION III. AUTHENTICATION

H. FIRST CONTACT/MAINTENANCE MAN *(Print)*	I. DATE YR DAY	J. SECOND CONTACT/SUPERVISOR *(Print)*	K. DATE YR DAY
A. J. SWENEY, SN	32 07	B. J. WALTERS, BMI	32 07

ABEf0716

* U.S. Government Printing Office: 1975-603-627/5225 2-1

Figure 7-16.—Supplemental Form (OPNAV 4790/2L).

4. Section III (blocks H, I, J, and K) will contain the names of the person and the supervisor submitting the report.

REPORTING CHANGES TO EQUIPMENT CONFIGURATION

One of the major objectives of the MDS is to provide the capability for reporting configuration changes. The importance of configuration change reporting cannot be overemphasized. Whenever any system, equipment, component, or unit within the ship is installed, removed, modified, or relocated, the change must be reported. This action will ensure proper accounting of configuration changes, and will improve supply and maintenance support such as technical manuals, PMS coverage, and COSAL to the fleet. The Configuration Change Form (ONNAV 4790/CK) (fig. 7-17) is used to provide this service.

SHIP'S CONFIGURATION CHANGE FORM — OPNAV 4790/CK

CONFIG FILE CORR | COMP. M/A NO DEFL | COMP DEFL

SECTION I JOB IDENTIFICATION

JOB CONTROL NUMBER			ALTERATION IDENTIFICATION
1. SHIP'S UIC	2. WORK CENTER	3. JOB SEQ. NO.	4. ALTERATIONS (SHIPALT, ORDALT, FLD. CHG, etc.)
2 0 0 1 2	E X S A	B 6 8 9	S A L S D 2 8 7 5 8 D

A. SHIP'S NAME	B. HULL NUMBER	5. EIC	6. ACT. TKN
USS PORTLAND	LSD 37	1 F 0 3	5 B

7. EQUIPMENT NOUN NAME	8. S/F MHRS. EXP.	9. ACT. MAINT. TIME	10. COMP. DATE	11. M/R
L P A I R C O M P R E S S R	0 0 4 0	0 1 0	4 0 3 0	

SECTION II JOB DESCRIPTION/REMARKS

12. JOB DESCRIPTION/REMARKS
R E M O V E D L P A I R C O M P R E S S O R P E R
S H I P A L T D I R E C T I V E

SECTION III CONFIGURATION CHANGE IDENTIFICATION

13. COMPONENT NOUN NAME		14. QUANTITY	15.CA
L P A I R C O M P R E S S O R		0 0 2	R

16. COMPONENT IDENTIFICATION	17. COMPONENT SERIAL NUMBER
1 A N D 2	N O N E

18. COMPONENT APL/AEL	19. LOCATION (DECK/FRAME/SIDE)	22. EIC
0 6 1 9 0 0 5 1 1	3 - 1 1 0 - 0	1 F 0 3

21. NEXT HIGHER ASSEMBLY	21. SAC	23. WORK CENTER
C O M P R E S S E D A I R S Y S T E M	0	B A C B E M 0 1

24. NAMEPLATE DATA

25. MIP	26. EOSS
A - 0 0 4 / 0 0 3 - A 2	L P A C / 0 0 0

27. TM
9 2 4 1 - A B - M M O - 0 1 0

SECTION IV. SPECIAL PURPOSE

28. RIN	29. AILSIN	30. SECAS OFFICE USE
B 0 5 1 0	5 5 1 5 3	

- INSTRUCTIONS -

ITEM NUMBER	SECTION I & II DESCRIPTION	SECTION I & II PAGE 1	SECTION I & II CONT PAGE
1-3	JOB CONTROL NUMBER	M	M
4	ALTERATION IDENTIFICATION	IP	IP
5	EQUIPMENT IDENTIFICATION	M	NR
6	ACTION TAKEN	M	NR
7	EQUIPMENT NOUN NAME	M	NR
8	SHIP'S FORCE MANHOURS	M	NR
9	ACTIVE MAINTENANCE TIME	M	NR
10	COMPLETION DATE	M	NR
11	METER READING	IP	NR
12	JOB DESCRIPTION (REMARKS)	O	NR

ITEM NUMBER	SECTION III DESCRIPTION	REMOVE (R/D)	INSTALL (I/A)	MODIFY (M/C)
13	COMPONENT NOUN NAME	M	M	M
14	QUANTITY	M	M	M
15	COMPONENT ACTION	M	M	M
16	COMPONENT IDENTIFICATION	IP	IP	IP
17	COMPONENT SERIAL NUMBER	IA	IA	IA
18	COMPONENT APL/AEL	M	IA	IA
19	LOCATION	M	M	M
20	EQUIPMENT IDENTIFICATION CODE	NR	IA	NR
21	NEXT HIGHER ASSEMBLY	IP	IP	IP
22	SERVICE APPLICATION CODE	IA	IA	IA
23	WORK CENTER	NR	M	NR
24	NAMEPLATE DATA	NR	M	NR
25	MAINTENANCE INDEX PAGE	IA	IA	IA
26	EOSS	IP	IP	IP
27	TECHNICAL MANUAL NUMBER	IA	IA	IA

LEGEND

IA IF AVAILABLE — O OPTIONAL
IP IF APPLICABLE — NR NOT REQUIRED
M MANDATORY

SECTION I, BLOCK 6 ACTION TAKEN

5A - PARTIALLY COMPLETED ALTERATION
5B - FULLY COMPLETED ALTERATION
5C - FULLY COMPLETED EQUIVALENT TO ALTERATION
5D - ALTERATION DIRECTIVE NOT APPLICABLE
1 - MAINTENANCE ACTION COMPLETED: PARTS
2 - MAINTENANCE ACTION COMPLETED : REQUIRED PARTS NOT DRAWN FROM SUPPLY (LOCAL MANUFACTURE, PRE-EXPENDED BINS)
3 - MAINTENANCE ACTION COMPLETED: NO PARTS REQUIRED

SECTION III, BLOCK 15 COMPONENT ACTION

MAINTNENACE ACTIONS
R - REMOVED EQUIPMENT
I - INSTALLED EQUIPMENT
M - MODIFIED EQUIPMENT

CONFIG FILE CORR NO MAINTENANCE ACTION
A - ADDITION OF RECORD
D - DELETION OF RECORD
C - CORRECT/CHANGE EXISTING RECORD

WORK CENTER SUPERVISOR	DIVISION OFF	SUPPLY DEPT	3M COORDINATOR	SHIP SEQUENCE NUMBER	PAGE
MJL	FTS	TJP	BFD	6 9 9 9 9	1 OF 2

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Figure 7-17.—Ship's Configuration Change Form (OPNAV 4790/CK).

The OPNAV 4790/CK form is completed to the maximum extent possible by the accomplishing activity and provided to the ship or activity 3-M coordinator.

The 3-M coordinator then reviews the forms for legibility (all copies) and ompleteness and provides the forms to the applicable workcenter supervisor, who ensures that the proper documentation is completed and processed when a configuration change is accomplished, including required signatures to indicate verification of all reported configuration changes.

The ship is also responsible for reporting and monitoring all changes accomplished by ship's force during any type of availability, and for providing the Configuration Change Form to the overhauling activity. The ship is not responsible for reporting configuration changes accomplished by an overhauling activity during availabilities.

A configuration change is either (1) the accomplishment of any action prescribed by an alteration directive (SHIPALT or equipment alteration) or (2) the installation, removal, or modification of any system, equipment, component, or unit. The replacement of repair parts (such as nuts, bolts, wires, 0-rings, gaskets, resistors, and capacitors) with like parts, does not constitute a configuration change.

The OPNAV 4790/CK form is used to report a configuration change or to report the completion of a previous deferral that resulted in a configuration change. Deferred maintenance actions and completed maintenance actions that do not result in configuration changes are reported on OPNAV 4790/2K. The OPNAV 4790/2K form will never be used to report accomplishment of any maintenance action that results in configuration changes.

A configuration change occurs whenever the accomplishment of a maintenance action results in the following:

- Addition or installation of any new equipment.
- Deletion, removal, or turn-in of any installed equipment.
- Replacement or exchange of any equipment. A replacement or exchange is reported as the removal of an installed item of equipment and the installation of a new item of equipment.
- Modification of any installed or in-use equipment. A modification occurs when a maintenance action alters the design or operating characteristics of the equipment or when nonstandard replacement parts (not identified on the APL or in the technical manual) are used.
- Relocation of any equipment to a new deck, new frame, or new compartment.
- Accomplishment of any alteration directive, such as a field change or SHIPALT.

CAUTIONS ON ERRORS

Since the data entered on the MDS forms is used by data processing equipment to provide information to a ship in the form of the CSMP report, it is essential that each form be filled in completely and accurately. A computer cannot recognize anything that it is told does not exist. It will reject incorrect and incomplete entries and the data will not be available for use. To prevent this from happening, it is important that the completed forms be reviewed at all levels. Some of the common errors that workcenter supervisors, division officers, department heads, and 3-M coordinators should be alert for are

- omission of slash marks through zeros and Z's;
- incorrect EICs;
- use of improper codes for alterations and field changes;
- too many or not enough spaces between words in the Remarks section;
- incorrect dates; and
- incorrect entries.

These are only a few of the many errors detected each day by a typical TYCOM 3-M staff section.

Some areas on the 4790/2K require special mention. Alterations and field changes are identified in block 18 by a two-letter code in the first two spaces, followed by the identification number of the change. A title code, such as A, D, F, or K may be shown in the authorizing directive of SHIPALTs. This title code, if assigned, must be entered in the extreme right hand position of the block.

In block 18, the first two letters identify SHIPALT (SA), ORDALT (OA), field change (FC), or any other appropriate instruction. Electronic equipment is always identified by serial number, and only one piece of equipment may be reported under a given JCN. If several pieces of the same type of equipment are altered by field changes, there must be one document for each piece of equipment. Example:

A ship has four C-13 Mod 1 catapults, and field change 17 is to be installed in all of them. Each catapult will be changed, and the changes will be reported on separate documents showing a specific JSN and equipment serial number. This will enable the computers to identify which items of equipment have been changed and which have not. It also will be reflected on the readouts returned to the ship as part of its material history.

Another problem is the use of the noun name in block 5. For electronic equipment the "AN" designation is the best entry for the noun name. If there is no "AN" designation, the name from the nameplate should be used. Up to 16 characters of a name may be entered.

In block 35, a space follows each word, and words that cannot be completed on a line are continued on the next line with no spaces or hyphens inserted. On deferred actions, the XXX's used to separate the trouble from the desired corrective action must not be separated. If they cannot be fitted in on one line, extra spaces will be left blank on that line and the XXX's will be put in the first spaces of the next line.

REVIEW QUESTIONS

Q7. Maintenance Data System is used to record what type of information?

Q8. Under the maintenance Data System, what is a Job Control Number?

Q9. What is the OPNAV 4790/2K used to report?

Q10. The OPNAV 4790/2P provide what type of information?

SUPPLY

LEARNING OBJECTIVES: Recognize the different types of stock and control numbers. Recall the purpose of cognizance symbols. Recognize sources of identifying material when a stock number is not available. Recognize the uses of the following supply publications: FED LOG, ML–C, MCRL, MRIL, ASG, and GSA.

One of the duties of an ABE is to identify and requisition material. This section provides basic information to help you develop the knowledge you need to perform these duties. Proper material identification is essential to the requisitioning and receipt of the correct item. You must understand the terminology used in material identification.

GENERAL INFORMATION

Material is managed according to category (Federal Supply Classification) and its intended use. An inventory manager is assigned for each category of material, and has overall responsibility for all items within the category. All items in the supply system have an assigned two-position cognizance symbol code. This code identifies the inventory manager and the stores account in which the material is carried. The items assigned to bureau, office, or systems command for inventory management includes the following material:

- Material in the research and development stage
- Material that requires continuing logistics, engineering, or fiscal administration and control at the department level.
- Material recognized as a onetime installation that was bought and issued for a specific use

Naval Supply System Command (NAVSUP) Inventory Control point (ICP) items are those for which bureau, office, or systems command management is not essential. The NAVSUP ICP provides stocks of these items to its segment of the supply system. This group of items includes equipment, repair parts, and consumables. It also includes those items for which stocking determination, quality control, funding, and issue control can be accomplished by the ICP if required, the ICP ensure that these items are available from commercial sources and other government agencies. NAVSUP selects the items assigned to ICP for inventory management with the advice of the appropriate bureau, office, or systems command.

The Navy Retail Office items are items for which joint military supply management responsibility is vested to the Defense Logistics Agency (DLA). These items include components, repair parts, consumables, and other material. The requirement determination and procurement of these items can be accomplished by the

defense supply center on a combined basis for all military services.

MATERIAL CATALOGING AND CLASSIFICATION

LEARNING OBJECTIVE: Recognize the different types of stock and control numbers. Recall the purpose of cognizance symbols. Recognize sources of identifying material when a stock number is not available. Recognize the uses of the following supply publications: MCRL, ML-C, MRIL, ASG, and GSA.

This will help you understand the information used in material identification. There are ore than 4 million supply items in the Department of Defense (DOD) supply system. The Navy supply system alone stocks more than 1 million items. Each item must be identified to make buying, stocking, and issuing easier. To accomplish this, each item must be listed in different groups or categories.

FEDERAL CATALOG SYSTEM

The Federal Catalog System encompasses the naming, description, and numbering of all items carried under centralized inventory control by the Department of Defense (DOD) and civil agencies of the Federal Government as well as the publication of related identification data. Only one identification may be used for each item in all supply functions from purchase to final disposal. The North Atlantic Treaty Organization (NATO) countries also use the Federal Catalog System. The Defense Logistics Agency (DLA) administers the Federal Cataloging System under the direction of the Assistant Secretary of Defense (Installation and Logistics).

FEDERAL SUPPLY CLASSIFICATION SYSTEM

The Federal Supply Classification (FSC) System was designed to permit the classification of all items of supply used by the Federal Government. Each item of supply is classified in only one four-digit Federal Supply Classification class. The first two digits denote the group or major division of commodities within the group. Currently, there are 76 groups assigned. Group numbers start from 10 and end at 99. Table 7-3 is an example list of federal supply groups and titles.

Table 7-3.—Example List of Federal Supply Groups

GROUP	TITLE
17	Aircraft launching, landing, and ground handling equipment
48	Valves
53	Hardware and abrasives

The number of classes within each group varies. Each class covers a particular area of commodities according to physical or performance characteristics. The items in the class are usually requisitioned or issued together. This is used as a basis for including items in the same area of commodities. Examples of how classes are used to divide types of material within a stock group are shown in figure 7-18. The stock group and class together make the Federal Supply Classification (FSC).

GROUPS	CLASSES
Group 17 Aircraft launching, landing, and ground handling equipment	1710 Arresting gear and barricade equipment 1720 Catapult launching equipment
Group 48 Valves	4810 Valve solenoid 4820 Valve angle
Group 53 Hardware and abrasives	5305 Screws 5306 Bolts 5307 Studs 5310 Nuts and washers 5320 Rivets

Figure 7-18.—Examples of supply classes within a stock group.

The Navy uses groups 01 through 09 for forms and publications that are not included in the Federal Catalog System. The forms and publications are numbered according to the following system:

01 Navy Department forms

02-08 Publications

09 District and fleet forms

NATIONAL STOCK NUMBER (NSN)

All items of supply that are centrally managed or bought for system stock are required to have a National Stock Number (NSN) assigned to them. National Stock Numbers are used in all supply management functions and publications that mention the items. The NSN is a 13-digit number assigned by Defense Logistics Information Service (DLIS) to identify an item of material in the supply distribution system. The following paragraph discusses the breakdown of an NSN. Figure 7-19 is an example of an NSN.

Federal Supply Classification (FSC)

The Federal Supply Classification (FSC) is a four-digit number that occupies the first part of an NSN. The Defense Logistics Agency Cataloging Handbook H2 (in book form) lists the groups and classes in use today.

National Codification Bureau (NCB) Code

The National Codification Bureau (NCB) code is a two-digit code that occupies the fifth and sixth position of a NATO stock number. These code identities the NATO country that originally cataloged the item of supply. The NCB codes currently assigned are listed in *Afloat Supply Procedures*, NAVSUP P-485. The NSN assigned by United States uses NCB codes "00" and "01."

National Item Identification Number (NIIN)

The National Item Identification Number (NIIN) consists of a two digit National Codification Bureau (NCB) code and seven digits which in conjunction with the NCB code, uniquely identify each NSN item in the federal supply distribution system. In the example given in figure 3-2, the "00-1234567" is the NIIN. Although part of the NSN, NIINs are used independently for material identification. Except for identification list, most federal supply catalogs are arranged in NIIN order.

In addition to the 13-digit NSN, the Navy uses other codes for material identification. These codes may be prefixes or suffixes to the NSN. The following paragraphs describe these codes.

Cognizant (COG) Symbol

The cognizant (COG) symbol consists of a two-character code that identifies the stores account and cognizant inventory manager of an item. The cognizant symbols are listed in table 7-4. To understand cognizant symbols, you must understand the following terms:

Stores Account: This is an account reflecting the value of material, supplies, and similar property on hand. The accounts are the Appropriation Stores Account (APA) and the Navy Stock Account (NSA).

Appropriations Purchase Account (APA): This account is for all stock material paid for out of appropriations. This material is not charged to the user's operating funds. If the material was ought for a purpose other than its original appropriation, the material is chargeable to the user's fund.

Navy Stock Account (NSA): The NSA consists of all material paid from the Defense Business Operating Fund (DBOF). NSA material is always charged to the user's allotment, operating budget, or operating target funds.

Inventory manager: This is an organizational unit or activity within the Department of Defense. The inventory manager has the primary responsibility for controlling the functions of cataloging, identification, determination of requirements, procurement, inspection, storage, and distribution of categories of material.

Technical responsibility: This is the systems command or office that determines the technical characteristics of equipment. For example, the electronics equipment characteristics include items such as circuitry and the types and arrangement of components.

1710	00	1234567
Federal Supply Classification Code Number	National Codification Bureau Code	National Item Identification Number

Figure 7-19.—Example of an NSN.

Expense type item: This term identifies stock items that are financed by the Defense Business Operating Fund, and is the same as NSA items.

Consumable: Consumable material is material that is consumed in normal use. Some of the examples of these materials are paints, cleaning supplies, office supplies, and common tools.

Table 7-4.—Cognizance (COG) Symbols

COG SYMBOL	COGNIZANT INVENTORY MANAGER	STORES ACCOUNT	TECHNICAL RESPONSIBILITY	DEFINITION
0I	Naval Publication and Forms Directorate	None	Navy Publication and Printing Service	Publications
1I	Naval Publication and Forms Directorate	NSA	Navy Publication and Printing Service	Forms
1R	Naval Inventory Control Point Philadelphia (NAVICP PHIL)	NSA	Naval Air System Command	Aeronautical, photographic, and meteorological 1 material (consumable or expense type material).
4R	Naval Inventory Control Point Philadelphia (NAVICP PHIL)	APA	Naval Air System Command	Catapult and arresting gear material (repairable or investment type material).
4V	Naval Air System Command	APA	Naval Air System Command	Aircraft engines.
4Z	Naval Inventory Control Point Philadelphia (NAVICP PHIL)	APA	Naval Air System Command	Airborne armament.
5R	Naval Inventory Control Point Philadelphia (NAVICP PHIL)	NSA	Naval Air System Command	Catapult and arresting gear material (consumable or expense type material).
6R	Naval Inventory Control Point Philadelphia (NAVICP PHIL)	APA	Naval Air System Command	Aviation ground support equipment (repairable or investment type material.
6V	Naval Air System Command	APA	Naval Air System Command	Technical directive change kits.
7R	Naval Inventory Control Point Philadelphia (NAVICP PHIL)	NSA	Naval Air System Command	Depot-level repairable aviation material.

Cognizance symbols are two-character, alphanumeric codes prefixed to national stock numbers. Cognizance symbols are listed in Table 7-4. The first character of the cognizance symbol identifies the stores account. The following information refers to the first character of the cognizance symbol:

- Cognizance symbols 0 (zero), 2A and 8A is not carried in the stores account and is issued without charge to the requisitioner.
- Even numbers 2, 4, 6, and 8 are carried in the Appropriation Stores Account (APA).
- Odd numbers 1, 3, 5, and 7 are carried in the Navy Stock Account (NSA).
- Number 9 is Navy-owned material carried in NSA and managed-by the Naval Inventory Control Point Mechanicsburg.

The second position of the cognizance symbol identifies the item manager. The item manager exercises supply management over specified categories of material.

Material Control Codes

A Material Control Code (MCC) is a single alphabetic character assigned by the inventory manager. It is used to segregate items into manageable groupings (fast, medium, or slow movers) or to relate to field activities special reporting and control requirements. Table 7-5 contains a list of MCCs commonly encountered.

NAVY ITEM CONTROL NUMBER (NICN)

As we have discussed in a previous paragraph, NSNs are required for all items centrally managed or bought for supply system stock. With changes of equipment and products, the Navy buys new items from the suppliers. New items entering the Navy supply system are identified in time to permit assignment of NSNs before shipment. In numerous instances, the Navy Item Control Number (NICN) is used to identify the items before an NSN can be assigned. Some items are permanently identified by the NICN because of the nature of the items. The NICN designation includes the following:

- Inventory Control Point ICP control numbers
- Kit numbers
- Publications and forms ordering numbers
- Local Navy Activity Control (NAC) numbers
- Other locally assigned numbers

The NICN is a 13-digit number that identifies an item of supply. It is composed of the following parts:

- Federal Supply Classification (FSC) code (numbers that occupy the first four digits of the NICN)

Table 7-5.—Material Control Codes

CODE	DEFINITION
D	Field level repairable.
E	(1) Depot-level repairables. (2) Material (expendable ordnance) requiring lot and serial number control, but is reported by serial number only.
H	Depot-level repairables.
L	Items of local stock or items pending NSN assignment.
M	Medium demand velocity items (consumables).
S	Slow demand velocity items.
T	Terminal items.
W	Ground support equipment.
X	Special program repairables.
Z	Special program consumables.

Table 7-6.—Navy Item Control Codes

NIC NUMBER CODES	USED TO DESIGNATE
LD	Directive ordering number (COG 0I). Example:1234-LD-123-4567
LF	Form ordering number (COG 1I). Example:1234-LF-123-4567
LK	Aircraft change kit number. Example:1234-LK-123-4567
LP	Publication ordering number (COG 0I and 0P). Example:1234-LP-123-4567
LX	Control number assigned by NAVICO PHIL field activities to certain items under their inventory control. Example:1234-LX-123-4567

- Navy Item Control Number (NICN) code (letters that occupy the 5th and 6th position)
- Serial number (alphanumeric and occupies the 7th through the 13th position)

The NIC numbers that you must be familiar with are listed in Table 7-6. These codes differentiate the types of NICN.

Permanent LL Coded NICNs

The NICNs with "LL" in the 5th and 6th positions and a "C" in the 7th position mean that the ICPs or other Navy item managers (including field activities) assigned them. Its purpose is to identify and monitor nonstocked items that are not expected to have enough demand to qualify for NSN assignment. The NICNs are assigned to permit the maintenance of a complete and uniform inventory control point weapons system file. It is also used to ensure that selected items are considered for inclusion in future allowance lists. Stock points must purchase items identified by this type of NICN. Stock points currently do not have the capability to translate permanent LL coded NICNs to applicable CAGES and part numbers. The items are requisitioned by using the DD 1348-6 format (part number requisition).

Temporary LL Coded NICNs

The NICNs with "LL" in the 5th and 6th positions and any letter except "C" in the 7th position are assigned by ICPs or other Navy inventory managers for temporary identification. These NICNs enables the item manager to establish and maintain automated file records, to ease procurement action, and to maximize automated processing of requisitions. The cognizant item managers review the temporary NICNs periodically to convert them to NSN or to delete the ones that are no longer required. When a requisition identifies an item by a temporary NICN that has been converted to an NSN the status card will include the new NSN. A NICN to NIIN cross-reference list is published monthly by the Defense Logistics Information Service (DLIS) on the FED LOG CD-ROM.

LOCAL ITEM CONTROL NUMBER (LICN)

The LICN (fig. 7-20) is an identification number assigned by an activity for its own use. However,

1710	LL	0000123
Appropriate Federal Supply Classification Code Number	Designation for locally assigned identification number	Serially assigned identification number

Figure 7-20.—Example of an LICN.

LICNs are not authorized in supply transaction documents. LICNs are for local use only and may be assigned to shipboard stocked consumable items that are not identified by and NSN or another type of NICN. A LICN consists of 13 characters. The first four will be numbers corresponding to the federal supply classification (FSC) of a similar NSN items, the fifth and sixth will be LL and the remaining seven alpha numeric.

SOURCES OF MATERIAL IDENTIFICATION

This chapter presents different sources of information that is needed in performing technical research. Material identification does not end with the assignment of the NSN. Some means of identifying other particular needs by the stock number must be provided to the customers. This includes the means of determining the correct quantities of these items to carry in stock. Identification of needs maybe determined by using the lists described in the following paragraphs.

FEDERAL LOGISTICS (FED LOG)

The FED LOG on Compact Disc Read-Only Memory (CD-ROM) (fig.7-21) is the access to DOD logistics data. The FED LOG includes the basic management data necessary for preparing requisitions and it includes an integrated historical record of deleted and superseded NIINs with appropriate codes to indicate disposition action.

PART NUMBER

The part number, also called reference number, is an identification number assigned to an item by the manufacture. It is made up of letters, numbers, or combinations of both. When used with the Commercial And Government Entity (CAGE) code, it identifies the item. It is used with other technical data (for example, model, series, and end-use application) to requisition an item when an NSN is not assigned. Part number to NSN cross-reference is provided in FED-LOG.

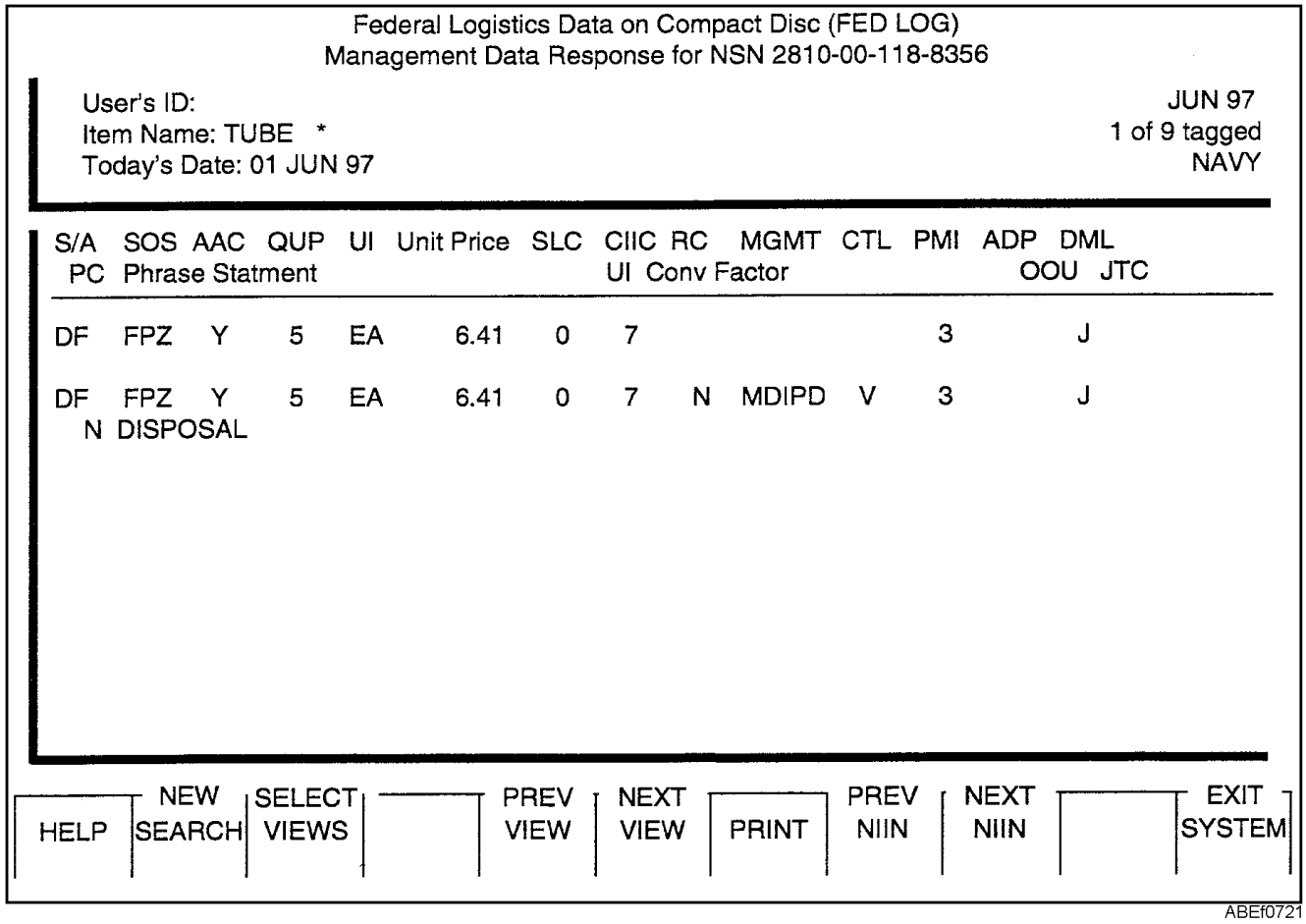


Figure 7-21.—Example of FED LOG query.

COMMERCIAL AND GOVERNMENT ENTITY CODE

The Commercial And Government Entity (CAGE) (fig. 7-22) Code is a five-digit, numeric identification code assigned to manufacturers which have previously or are currently producing items used by the Federal Government. The CAGE is used in conjunction with part number, item number, symbol, or trade name assigned by the manufacturer to his product. The CAGE catalog handbook is published the Defense Logistics Information Service (DLIS) on the FED LOG CD-ROM.

MANAGEMENT LIST-CONSOLIDATED (ML-C)

The Management-List Consolidated (ML-C) is a consolidated, cumulative listing of National Stock Numbers for all branches of the armed services. Each NSN is listed one time only. The integrated material manager and service or agency is listed separately. The ML-C is a tool used for determining management data applicable to items used or managed by other military activities.

MASTER CROSS-REFERENCE LIST (MCRL)

The Master Cross-Reference List (MCRL) (fig. 7-23) Part I, provides a cross-reference from a reference number (manufacturer's part number, drawing number, design control number, etc.) to its assigned National Stock Numbers (NSN). The MCRL, Part II, provides a cross-reference from an NSN to a reference number. The MCRL is published on the FED LOG CD-ROM.

MASTER REPAIRABLE ITEM LIST (MRIL)

The Master Repairable Item List (MRIL) (fig. 7-24 and 7-25) is a catalog of selected Navy-managed items which, when are unserviceable and not locally repairable, are required to be turned in to a Designated Overhaul Point (DOP) for repair and return to system stock. The MRIL is part of the FED LOG that is distributed in compact disc format. The MRIL is published on the FED LOG CD-ROM and is made up of two parts as shown in figures 7-24 and 7-25.

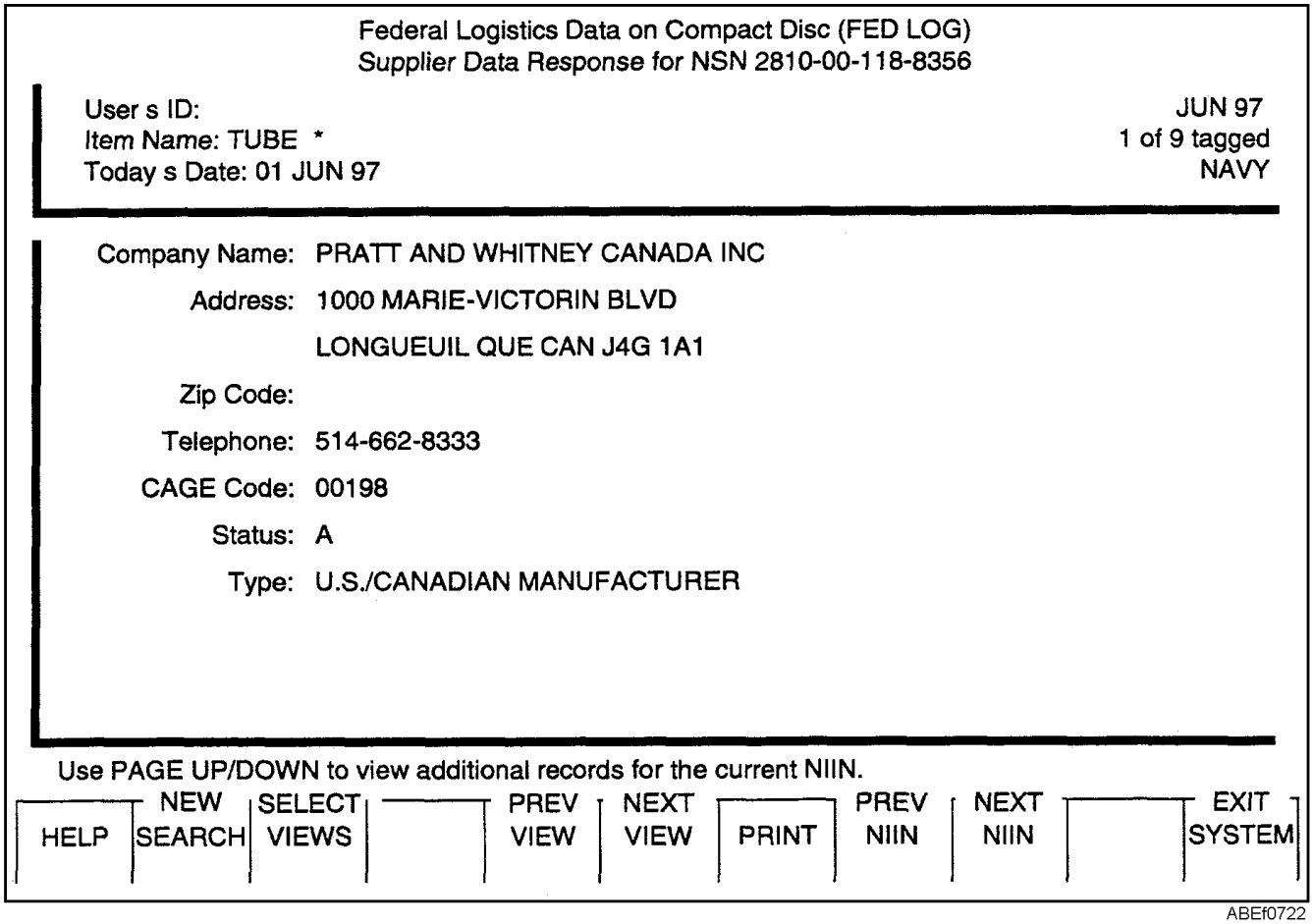


Figure 7-22.—Example of CAGE from FED LOG.

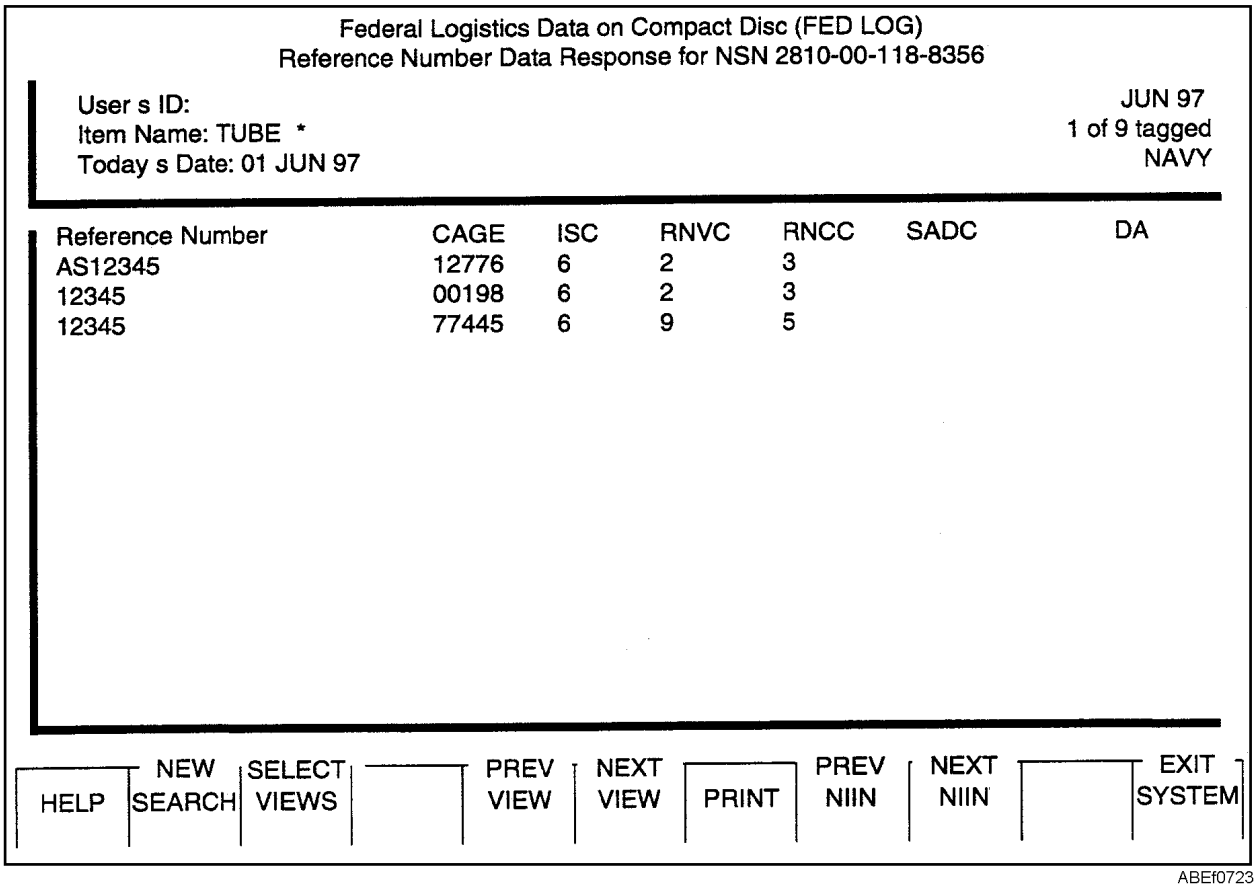


Figure 7-23.—MCRL from FED LOG.

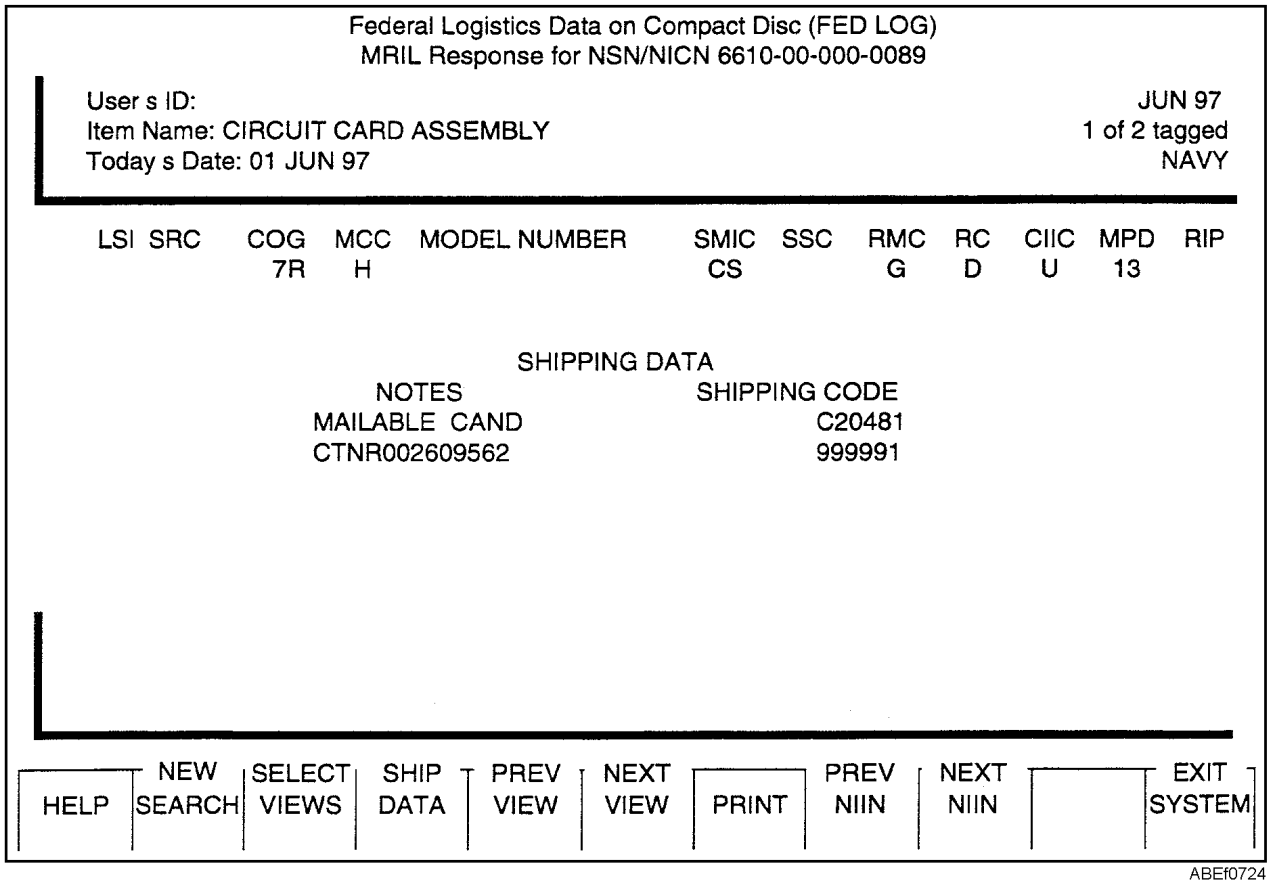


Figure 7-24.—MRIL Part I from FED LOG.

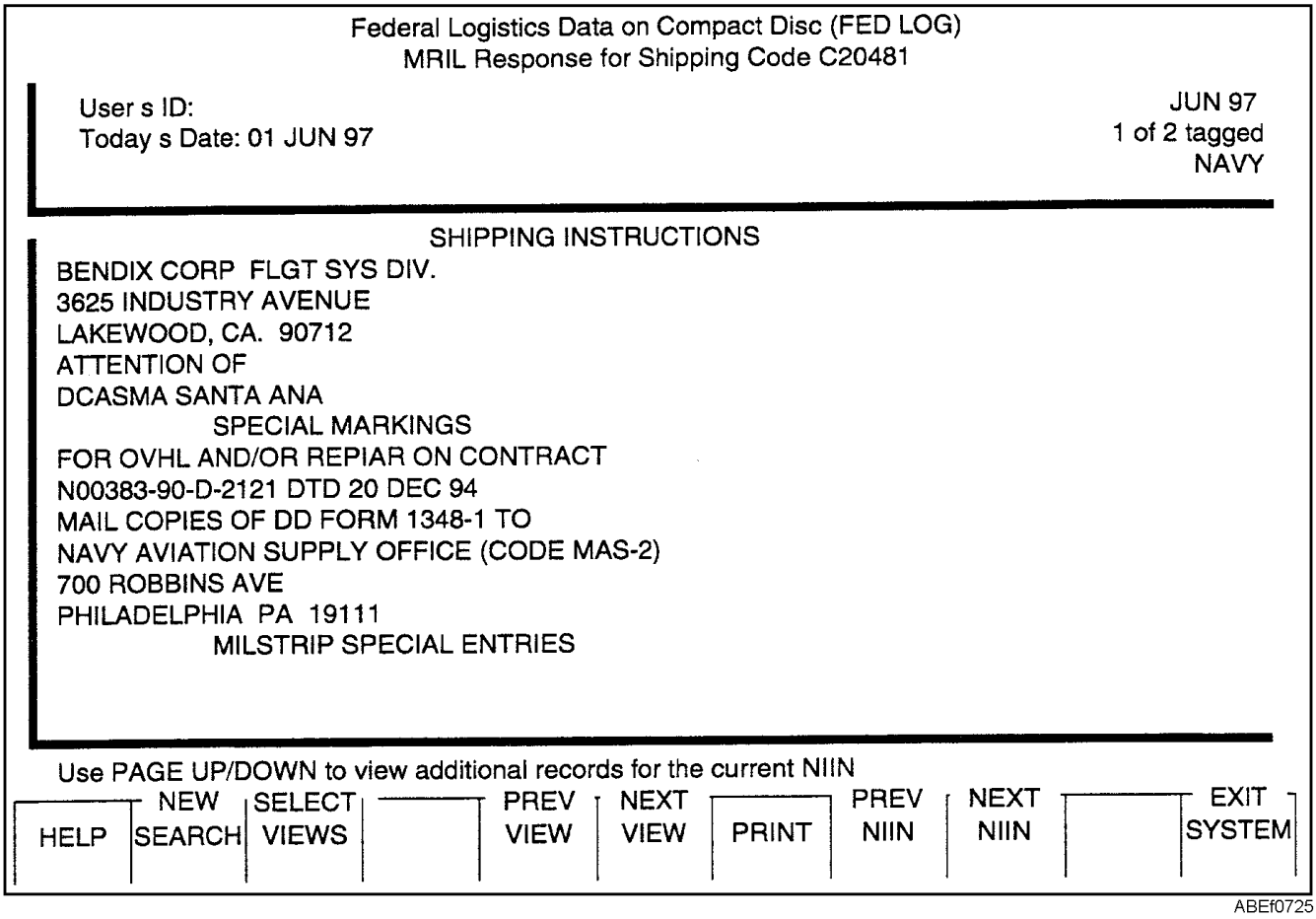


Figure 7-25.—MRIL Part II from FED LOG.

AFLOAT SHOPPING GUIDE

The *Afloat Shopping Guide* (ASG) (fig. 7-26) is designed to assist the fleet personnel in identifying the NSNs for items that are frequently requested by ships. It includes a detailed description of each item, and (when applicable) the stock number for substitute items. The ASG is distributed in CD-ROM format and in printed form.

GENERAL SERVICES ADMINISTRATION FEDERAL SUPPLY CATALOG

The *General Services Administration* (GSA) *Federal Supply Catalog lists* approximately 20,000 line items that are stocked in GSA supply distribution facilities. The items listed in this catalog are assigned cognizance 9Q. The GSA supply catalog series serves as the major merchandising instrument of the Federal Supply Service (FSS) Stock Program. Since they are prepared for civilian agencies, the FED LOG must be referred to for supply management data. The GSA supply catalog series consists of the following:

The GSA *Supply Catalog Guide* contains consolidated alphabetical and NSN indexes to all stock items. These are items listed in the four commodity catalogs and other items available through the FSS program. It provides detailed information concerning the program and requisitioning procedures.

The GSA *Supply Catalog (Tools)* contains listings of common and special use tools. It includes alphabetical and numerical indexes and a price list.

The GSA *Supply Catalog (Office Products)* lists a wide variety of items for office use, including paper supplies, standard and optional forms, and many items of equipment. It includes alphabetical and numerical indexes and a price list.

The GSA *Supply Catalog (Industrial Products)* contains descriptive listings of a broad range of items, such as hardware, paints, adhesives, and cleaning

GROUP 48
VALVES
CLASS 4820
VALVES, NONPOWERED

BOOT DUST AND MOISTURE SEAL

Silicone Rubber Body, thru-hole style. Compression type mtg. 1.469 in. O/A H. .080 in. thk., 2.000 in. body OD, 2.875 in. base OD, 1.875 in. base ID, and .875 opening ID. Used on Valves, Pressure Regulating. Leslie Co Navy Sales Ref No. 37740.

00-615-6762

COCK, DRAIN

AUTOMOTIVE TYPE

Threaded male pipe inlet. Brass body. For use in fluid pipping systems up to 150 PSI pressure.

Straight Internal Seat

00-684-0880	1/8-27NPTF	MS35782-1
00-720-4488	1/4-18NPTF	MS35782-2
00-174-0339	3/8-18NPTF	MS35782-3

Straight External Seat

00-752-9040	1/8-27NPTF	MS35782-4
00-849-1220	1/4-18NPTF	MS35782-5

Cross Extrernal Seat

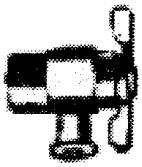
00-276-9041	3/8-18NPT	MS35782-6

BIBB TYPE

Threaded male pipe inlet. Brass body. Angle type with level handle. Spec MIL-C-1203, 150 PSI steam service.

00-272-3332	1/8-27NPTF	MS35787-1
00-272-3333	1/4-18NPT	
00-272-3335	1/2-14NPT	MS35787-4

Threaded male pipe inlet. Brass body, T handle w/hose bib that accommodates 3/8 in. ID hose. Has 150 PSI liquid/gas rating.



00-845-1096	1/4-18NPTF	MS35783-2

PET TYPE

Threaded male pipe inlet. Brass body, F use in liquid or gas systems up to pressure as indicated below. Spec MIL-C-1203.

50 PSI

00-555-9761	1/8-27NPTF	MS35784-1
00-287-4268	1/4-18NPTF	MS35784-2
00-272-3346	3/8-18NPTF	MS35784-3
00-272-3347	1/2-14NPTF	MS35784-4

125 PSI

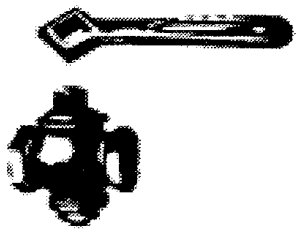
00-826-2190	1/8-27NPT	MS35785-1
00-272-3340	1/8-27NPT	
00-197-4984	1/4-18NPT	MS35785-2
00-554-8391*	1/2-14NPT	MS35785-4

*Disc or stem flow control device.

COCK, PLUG

FEMALE ENDS

Threaded female pipe inlet. Brass body, 360 deg, plug turn. Furnished with square head wrench. For use in fluid piping systems. Spec MIL-C-1203.



00-274-3565	3/4-14NPT

FEMALE to MALE

Threaded female and male pipe ends. Brass body. For use with fluid or gas to 125 PSI pressure.

CONTINUED ON FOLLOWING PAGE

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Figure 7-26.—Page from *Afloat Shopping Guide*.

equipment and supplies. It includes alphabetical and numerical indexes and a price list.

The *GSA Supply Catalog (Furniture)* provides a single source of information for all furniture items stocked by the FSS.

NAVY STOCK LIST OF PUBLICATIONS, FORMS, AND DIRECTIVES

The *Navy Stock List of Publications, Forms, and Directives*, NAVSUP P-2002, contains requisitioning procedures and sources of supply to assist in the determination of how and where material may be obtained.

HAZARDOUS MATERIAL INFORMATION SYSTEM

The DOD Hazardous Material Information System (HMIS) provides information concerning the use, procurement, receipt, storage, and expenditure of hazardous material. The NAVSUPSYSCOM maintains and distributes the HMIS hazardous item list. This list includes information concerning hazardous ingredients, use of hazardous material, protective clothing, and emergency treatment.

ILLUSTRATED PARTS BREAKDOWN

An illustrated Parts Breakdown (IPB) is prepared by the manufacturer for each model aircraft, engine, accessory, electronic equipment, support equipment, or other equipment considered advisable by NAVAIR. The IPB is printed and issued by the authority of NAVAIR. It is used as reference for identifying and ordering replacement items. Each item of equipment is listed in assembly breakdown order, with the illustration placed as close as possible to its appropriate listing. Some IPBs have a different format from others

The TABLE OF CONTENTS shows the breakdown of publication into sections. It also furnishes an alphabetical listing of the various assemblies and lists the page, work package, or figures where they are illustrated.

The GROUP ASSEMBLY PARTS LIST is the main text of the publication. It consists of series of illustrations and parts list in which parts of the aircraft or equipment are shown in assembly breakdown order. The items in the illustration pages are identified by index numbers. These index numbers match the numbers listed in the parts list of the assembly breakdown. The parts list is arranged in numerical sequence by index number to make it easier to use. The information in the parts list include index number, part number, description, units per assembly, Usable On code, and the Source, Maintenance, and Recoverability (SM&R) code. Each major assembly in the parts list is followed immediately by its component parts or subassemblies. Component parts listed in the description column may be prefixed with a dot or indented to show their relationship. You should use this information to identify and obtain the required material in accordance with the SM&R code. The numerical index of the IPB lists all parts in reference/part number sequence. Each reference/part number is cross-referenced to the figure and index number or the work package where the item is listed in the text.

SOURCE, MAINTENANCE, AND RECOVERABILITY CODES

The SM&R code consists of two-position source code, two single-position maintenance codes, single-position recoverability code, and if applicable, a single-position service option code. Table 7-7 breaks down the SM&R code by position and defines the source, maintenance level, and reparability level of the component.

Source Code: The source code is a two-character code that occupies the first two positions of the SM&R code format. This code shows the manner of getting the material needed for maintenance, repair, or rework of items.

Maintenance Code: The maintenance codes are indicated in the third and fourth positions of the SM&R code. Levels of maintenance authorized to replace and repair an assembly or part are given. The code shown in the third position provides the lowest level of maintenance authorized to remove or replace the assembly or part. The fourth position indicates if the item is to e repaired and identifies the lowest maintenance level authorized to perform the repair.

Recoverability Code: The Recoverability Code is indicated in the fifth position, this code defines the approved disposition of unserviceable items.

CASUALTY REPORTING (CASREP)

The casualty report (CASREP) us designed to support the Chief of Naval Operations (CNO) and fleet commanders in the management of assigned forces. The effective use and support of Navy forces requires an up-to-date, accurate operational status for each unit. An important part of operational status is casualty

Table 7-7.—SM&R Code Format

TABLE 2. NAVY (AVIATION) APPLICATION OF JOINT SERVICE UNIFORM SM&R CODES UNDER NAVAIRINST 4423.11

SOURCE				MAINTENANCE				RECOVERABILITY/ PROGRESSIVE REPAIR		OPTIONAL SUPPLEMENTAL CODES	
				USE		REPAIR					
1ST POSITION		2ND POSITION		3RD POSITION		4TH POSITION		5TH POSITION		6TH POSITION	
P	PROCEDURE	A	REPLENISH	O	ORG	Z	NO REPAIR (CONSUMABLE)	Z	LEVEL INDICATED IN 3RD POSITION (CONSUMABLE)	1 2 3	THREE-DEGREE GAS TURBINE ENGINE REPAIR PROGRAM ITEM WITH FIRST DEGREE IMA LEVEL (1) HAVING THE MOST CAPABILITY AND THIRD-DEGREE IMA (3) HAVING THE LEAST
		B	INSURANCE								
		C	CURE-DATED			O	ORG	O	ORG (FLR)		
		D	INITIAL (EXCLUDING SE)								
		E	END ITEM SE STOCKED FOR INITIAL ISSUE	F	IMA AFLOAT	F	IMA AFLOAT	F	IMA AFLOAT (FLR)	6	"PA" ITEM WITH ORGANIC CAPABILITY FOR STOP GAP REQUIREMENTS
		F	SE NOT STOCKED	H	IMA ASHORE	H	IMA ASHORE	H	IMA ASHORE (FLR)	E	END TO END TEST REQUIRED BY IMA PRIOR TO BCM ACTION
		G	LIFE OR TYPE	G	IMA AFLOAT OR ASHORE	G	IMA AFLOAT OR ASHORE	G	IMA AFLOAT OR ASHORE (FLR)	N	"XB" ITEM TO BE PROCURED LOCALLY
K	REPAIR KIT COMPONENT	F D B	FIELD (ORG IMA) DEPOT BOTH	L	SPECIALIZED IMA	L	SPECIALIZED IMA	L	SPECIALIZED IMA (FLR) (CONNOTES PRIME IMA CONCEPT-SEE APPENDIX D ENCL (2) NOTE IN INSTRUCTION)	P	PROGRESSIVE MAINTENANCE
M	MANUFACTURE	O F H G	ORG IMA AFLOAT IMA ASHORE IMA AFLOAT OR ASHORE	D	DEPOT	D	DEPOT	D	DEPOT (DLR) (ORGANIC OR COMMERCIAL)	T	"PD" TRAINING DEVICE ITEM
A	ASSEMBLE	D	DEPOT							J	ALL INTER-SERVICE DLR ITEMS WHICH NAVY AS SICA CONSIDERS FLR-IF ITEM IS UNDER THREE-DEGREE GAS TURBINE ENGINE REPAIR PROGRAM, APPLIES TO FIRST-DEGREE IMA LEVEL ONLY
X	MISC.	A	REQUEST NHA								
		B	OBTAIN FROM SALVAGE OR ONE TIME BUY	Z	NOT AUTHORIZED AT ANY LEVEL-USED ONLY WHEN REQUIRED FOR REFERENCE PURPOSES	B	NOT AUTHORIZED (RECONDITION AT USER LEVEL)	A	SPECIAL HANDLING FOR DISPOSAL (CONSUMABLE)	8	SAME AS "J" EXCEPT APPLICABLE ONLY TO SECOND DEGREE IMA LEVEL
		C	DIAGRAMS SCHEMATICS INSTALLATION DRAWINGS							9	SAME AS "J" EXCEPT APPLICABLE ONLY TO THIRD-DEGREE IMA LEVEL

ABEt0707

information. The CASREP system contains four types of reports: Initial, Update, Correct, and Cancel. These reports are described in general in the following paragraphs.

Initial Casualty Report (INITIAL)

An initial casrep identifies the status of the casualty and any parts or assistance needed. Operational and staff authorities use this information to set priorities for the use of resources.

Update Casualty Report (UPDATE)

An update casrep is used to submit changes to previously submitted information.

Correction Casualty Report (CORRECT)

A correct casrep is submitted when equipment that has been the subject of casualty reporting is repaired and is back in operational condition.

Cancellation Casualty Report (CANCEL)

A cancel casrep is submitted when equipment that has been the subject of casualty reporting is scheduled to be repaired during an overhaul or some other availability. Outstanding casualties that will not be repaired during such availability will not be canceled and will be subject to normal follow-up casualty reporting procedures as specified.

REVIEW QUESTIONS

Q11. National Stock Numbers are made up of how many digits?

Q12. What occupies the first part of a National Stock Number?

Q13. What does the Cognizant Symbol identify?

Q14. The Afloat Shopping Guide is designed for what purpose?

Q15. List the different types of casualty reports.

ADMINISTRATION

LEARNING OBJECTIVE: Describe the use and maintenance of various logs and reports used to record details of catapult and arresting gear operations and maintenance

Record keeping in relation to launch and recovery equipment is as important as the operation of the machinery or maintenance procedures. Because of the many 3-M maintenance requirements that must be adhered to and periodic reports that must be made, the important of accurate logs, reports, and records should be emphasized.

CATAPULT WORK CENTER MAINTENANCE LOG

The work center maintenance log (fig. 7-27) is the most important record kept on the catapult systems. Each catapult workcenter supervisor shall maintain a separate maintenance log for each catapult. Sufficient pages in the front of the log should be reserved for entering data of a historical or permanent nature, which will provide a read reference when required. Daily entries should be made listing all maintenance performed during a 24-hour period. This will provide a continuous record of maintenance actions performed

1. Data which may be required periodically or could affect equipment over long periods of time should be entered in the front section of the maintenance log and transferred to new logs as necessary. Listed below are some examples:

   a. At shot number 75,982 the launch valve and its associated CSV were replaced by overhauled launch valve SN 88006 and CSV, SN EMP-S-124. Valve characteristics at certification are as follows:

      (1) Cold launch valve cycle times:

CSV	CLOCK TIMES (SEC)		FULL OPEN TIME (SEC)	CLOSE
	1	2		
050	0.81	9.22	20.11	
100	0.56	3.78	7.87	
150	0.42	2.24	4.54	0.55
200	0.34	1.55	3.08	
250	0.28	1.16	2.31	
300	0.23	0.92	1.80	
300	0.23	0.92	1.80	
250	0.27	1.16	2.30	
200	0.33	1.54	3.10	0.55
150	0.42	2.23	4.52	
100	0.55	3.78	7.87	
050	0.80	9.24	20.13	

      (2) Cold low-pressure actuations, CSV 300:

		OPENING		
	TENSIONER REQ PRESS (PSI)	OPENING PRESSURE	FINAL OPENING PRESSURE	OPENING TIME
	95	25	95	01:12
	95	25	95	01:05
Average	95	25	95	01:08
		CLOSING		
	95	20	95	01:19
	95	20	95	01:17
Average	95	20	95	01:18

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Figure 7-27.—Catapult maintenance log entries.

on each catapult. When a logbook is filled, the historical or permanent data shall be transferred into a new maintenance log and the completed log retained for a minimum of two years.

STEAM CATAPULT LOG

The steam catapult log (fig. 7-28) is maintained during all catapult operations by a catapult recorder stationed at the central charging panel (CCP) or main control console (MCC).

ARRESTING GEAR WORK CENTER MAINTENANCE LOG

The work center maintenance log (fig. 7-29) is the most important record kept on the arresting gear system. The arresting gear supervisor shall maintain a separate maintenance log for each arresting engine. Sufficient pages in the front of the log should be reserved for entering data of a historical or permanent nature. Daily entries should be made listing all maintenance performed during a 24-hour period. When a log is filled, the historical or permanent data shall be transferred into a new maintenance log and the completed log retained for a minimum of two years.

RECOVERY LOG

The Recovery Log (fig. 7-30) is maintained during all aircraft recovery operations by the Pri-fly control pane operator to provide a uniform system of recording pertinent arresting gear data.

STEAM CATAPULT LOG

U.S.S. KITTY HAWK CV 63

CATAPULT TYPE C-13 CATAPULT NO 2

STEAM RECEIVER LAUNCHING PRESSURE 520 psi

(FOR CONSTANT RECEIVER PRESSURE SYSTEM)

MONTH JUNE 19 95

AMBIENT TEMPERATURE 79 °F

NAVAIR MANUAL 51-15AAA-1
51-15ABB-1, 51-15ABC-1, 51-15ABD-1

SHOT NO.	DATE AND TIME	AIRCRAFT DATA			WIND OVER DECK	CYLINDER ELONGATION (inches)		LAUNCHING STEAM PRESS (PSI) OR CAPACITY SELECTOR VALVE SETTING	STEAM RECEIVER DATA				LAUNCH VALVE TIME		END SPEED	BRIDLE ARRESTER DATA		REMARKS
		TYPE	WEIGHT (LBS)	SIDE NO.		LEFT	RIGHT		PRESS AFTER (PSI)	STEAM TEMP °F	WATER TEMP °F	WATER LEVEL (INCHES)	CLOCK 1	CLOCK 2		PRI. PRES	DECK RUNOUT	
085470	20:00	F/A 18	33.0	301	24	7.8	7.8	164	490	480	480	48	.36	2.36	126			
085471	20:03	F/A 18	34.0	315	25	7.8	7.8	170	490	480	480	48	.35	2.03	127			
085472	20:05	F/A 18	33.0	323	26	7.8	7.8	164	480	480	480	48	.36	2.15	127			
085473	21:30	S-3A	40.0	704	15	7.5	7.3	134	500	480	480	48	.46	2.80	109			
085474	21:32	S-3A	38.0	743	20	7.5	7.3	114	505	480	480	48	.50	3.30	101			
085475	21:35	A-6E	39.0	500	25	7.5	7.3	124	490	480	480	48	.48	3.14	105			

SIGNATURE (Catapult Officer)

DATE

NAVAIR 13208/1 (REV. 3-94) S/N 0102-LF-623-8011

PREVIOUS ISSUES OF THIS FORM ARE OBSOLETE

ABEf0728

Figure 7-28.—Steam catapult log.

MAINTENANCE LOG

1. Data which may be required periodically or could affect equipment over long periods of time should be entered in the front section of the maintenance log and transferred to new logs as necessary. Listed below are some samples for arresting gear engine number four:

a. Length of retract valve control cable: 275 feet 10 inches.

b. Length of barricade retract valve control cable: 248 feet 11 inches.

c. Include any additional items which may aid in work package development for overhauls, ship's restricted availability, etc., such as excessive slipper wear, which could indicate a possible out-of-alignment situation.

d. The remainder of the maintenance log should consist of daily entries containing all maintenance performed in a 24-hour period. Include with the daily entries the P/N, manufacturer and any other component identification available for any replacement part.

ABEf0729

Figure 7-29.—Arresting gear maintenance log entries.

RECOVERY LOG (FOR USE IN PRI-FLY)
NAVAIR FORM 13810/4 (8-75)

FROM	SHIP IDENTIFICATION NO.	DATE
U.S.S. KITTY HAWK	CV-63	01/10/96

TO (ORIGINAL ONLY) (MONTHLY)
COMMANDING OFFICER, NAVAL AIR WARFARE CENTER (CODE 4.8.10.4) LAKEHURST, NEW JERSEY 08733-5090

RECOVERY NO.	PENDANT NO.	TIME	TYPE	SIDE NO.	WEIGHT	APP SPEED	WIND OVER DECK	(1) DISTANCE OFF CENTER	(2) LANDING TYPE	(3) ENGINE WEIGHT SETTING	(3) RAM TRAVEL	(4) F.L.S / B.A.	(5) REMARKS
300608	P3	10:00	F1A18	300	36.0		22	0	RI	36.0	180	16.7 / .50	
300609	P3	10:01	F1A18	310	36.0		23	2P	RI	36.0	181	16.7 / .50	
300610	P2	10:02	F-14	203	54.0		25	0	RI	54.0	182	19.7 / .50	
300611	P4	10:03	F-14	111	54.0		27	3S	RI	54.0	180	19.7 / .50	
300612	P3	10:05	S-3	706	41.0		27	0	RI	41.0	180	14.5 / .50	
300613	P1	10:06	EA-6B	621	46.0		30	0	RI	46.0	180	18.8 / .50	
300614	P3	10:07	F-14	103	54.0		29	0	RI	54.0	178	19.7 / .50	
300615	P3	11:17	F1A18	353	36.0		25	0	RI	36.0	180	16.7 / .50	#3 CDP CHANGE BW

(1) IF ON CENTER, WRITE "0"; IF OFF CENTER, INDICATE NUMBER OF FEET AND WHETHER TO PORT OR STARBOARD, I.E., "12S" (12 FEET TO STARBOARD)
(2) WRITE "FF" (FREE FLIGHT) OR "RI" (ROLL-IN)
(3) OBTAIN FROM ENGINE COMPARTMENT
(4) FRESNEL LENS SETTING/BASIC ANGLE: MAKE ALL ENTRIES IN DECIMAL FOR
(5) ENTER ALL UNUSUAL EVENTS, INCLUDING: 2-WIRE ENGAGEMENT, CABLE DAMAGE TO AIRCRAFT, PENDANT CHANGE AND REASON

ABEf0730

Figure 7-30.—Recovery Log sheet (NAVAIR Form 13810/4).

WIRE ROPE HISTORY REPORT

The wire rope history chart (fig. 7-31) provides a uniform system for recording arresting gear wire rope data. Engine operators shall maintain this for each specific engine, with the last recovery number being obtained from pri-fly. A new sheet shall be used at the beginning of each month.

FLIGHT DECK OPERATIONS (NAVAIR FORM 13810/1 AND 138/1A)

The flight operation report (fig. 7-32) and (fig. -33) is a two part form and is compiled from information contained in the catapult shot logs and the arresting gear recovery logs.

ALRE AUTO SHOT RECOVERY LOG PROGRAM

The Auto shot and recovery log program provides a computerized program for the collection and dissemination of launch and recovery log data. The automated program has been developed to record the Shot Log, Recovery Log, and the Wire Rope History Report on computer disc. These discs would then be sent to NAWC Lakehurst vice the paper forms.

REVIEW QUESTIONS

Q16. The work center maintenance logs are retained for what minimum period of time?

SUMMARY

In this chapter, you learned that the Planned Maintenance System is a means for accomplishing preventive maintenance aboard ship. You also learned that PMS procedures for a specific piece of equipment are based on good engineering practices, practical experience, and technical standards. You studied the role the Maintenance Data System has in planning workloads and providing a database for evaluating and improving equipment installed in the fleet. The supply information in this chapter is not intended to make you an expert in supply matters. Rather, this section was developed to give you a basic understanding and provide you with some of the information needed for ordering supplies. You also studied the maintenance logs and reports for recording the details of catapult and arresting gear operations and maintenance.

RECOVERY WIRE ROPE HISTORY
NAVAIR FORM 13810/5 (REV. 8-75)

FROM:	SHIP IDENT. NO.	ENGINE IDENT NO.	PENDANT NO.	MK 7 MOD	MONTH & YEAR	NOTE: ALL DATA (EXCEPT PENDANT REPLACED) APPLIES TO PURCHASE CABLE
USS KITTY HAWK (CV-63)	03363	357	ONE	3	FEB 95	

TO: (ORIGINAL) (MONTHLY)
COMMANDING OFFICER, NAVAL AVIATION WARFARE CENTER A/C DIVISION (CODE 4.8.10.4) LAKEHURST, N.J. 08733

ENGINE ENGAGEMENT NUMBER	DATE	LAST RECOVERY NUMBER	NO. OF HITS ON PURCHASE CABLE	"Q" FACTOR VALUE (2)	"Q" FACTOR LOC (3)	BROKEN WIRES QUAN	BROKEN WIRES LOC (2) (3)	TERMINAL REPLACEMENT REASON (4)	PURCHASE CABLE REPLACEMENT REASON (3) (5)	NEW CABLE DATA REEL NUMBER	NEW CABLE DATA CONTRACT NUMBER	NEW CABLE DATA MANUFACTURER	PENDANT REPLACEMENT AND REASON	REMARKS
2566	07 FEB	300331	486	11 7/16	8P									M-2R PCI
				11 7/16	20P									
				11 7/16	8S									
				11 1/4	20S									
2594	09 FEB	300935	511										"BW"	76 HITS
2601	09 FEB	300943	519										"MAX H"	96 HITS
2619	11 FEB	301576	537										"MAX H"	96 HITS

LEGEND: (1) OBTAIN FROM PRI-FLY. (2) DISTANCE (FT) FROM DECK TERMINAL. (3) SPECIFY WHETHER PORT OR STBD ACTIONS. (4) FOR TERMINAL REPLACED, INDICATE DUE TO "S" (STRETCH), "R" (RECESSION OF WIRES), OR "Z" (ZINC). (5) REASON FOR REPLACEMENT OF "MAX H" (MAXHITS). "Q" (MIN. Q FACTOR) "BW" (BROKEN WIRES). "K" (KINK), "COR" (CORROSION). AMPLIFY UNDER REMARKS IF REQUIRED.

ABEf0731

Figure 7-31.—Recovery Wire Rope History chart (NAVAIR Form 13810/5).

FLIGHT DECK OPERATIONS (PART I - LAUNCHING)
NAVAIR FORM 13810/01 (Rev. 8-79) S/N 0102-LF-613-8101

FROM	TO
COMMANDING OFFICER USS KITTY HAWK (CV 63) FPO AP 96634-2770	COMMANDING OFFICER NAVAL AIR WARFARE CENTER (CODE 48J400) LAKEHURST, N.J. 08733-5092
CALENDAR YEAR 1995	QUARTER JAN/FEB/MAR

AIRCRAFT SERIES AND MODEL NO.	DAY OR NIGHT	BOW		WAIST		TOUCH AND GO OR FREE-DECK AND HELO TAKE-OFFS
		NO. 1	NO. 2	NO. 3	NO. 4	
A-6	D	39	66	0	0	
	N	24	21	0	0	
C-2	D	22	2	0	0	
	N	2	0	0	0	
EA-6B	D	52	62	0	0	
	N	38	29	0	0	
E-2C	D	67	2	0	0	
	N	32	0	0	0	
F-14	D	112	6	0	0	
	N	56	3	0	0	
F/A-18	D	162	33	0	0	
	N	101	18	0	0	
S-3	D	144	11	0	0	
	N	70	6	0	0	
	D					
	N					
	D					
	N					
SUB-TOTAL		921	655	0	0	
NO LOADS		16	14	14	14	
DEAD LOADS		0	0	0	0	

TOTAL CATAPULT LAUNCHES THIS REPORT	TOTAL CATAPULT LAUNCHES TO DATE	TOTAL HELO TAKE-OFFS THIS REPORT	TOTAL HELO TAKE-OFFS TO DATE
1576	327, 375		N/A

LAUNCHING INCIDENTS — List date and summary of all launching incidents, include message DTG, if applicable: note circumstances of runaway shots or launching incident due to material failure or malfunction of equipment including launching accessories; note any significant downtime and reason. Include other pertinent remarks. (continue on reverse if necessary)

ABEf0732

Figure 7-32.—Flight Deck Operations (Part I) (NAVAIR Form 13810/1).

FLIGHT DECK OPERATIONS (PART II - LANDING)
NAVAIR FORM 13810/1A (REV.8-79) S/N 0102-LF-613-8106

REPORT SYMBOL NAVAIR 13810-1

FROM
COMMANDING OFFICER
USS KITTY HAWK (CV-63)
FPO AP 96634-2770

TO
COMMANDING OFFICER
NAVAL AIR WARFARE CENTER (CODE 4.8.10)
LAKEHURST, NJ 08733-5092

CALENDAR YEAR: 1997

QUARTER: JAN/FEB/MAR

AIRCRAFT SERIES AND MODEL NO.	DAY OR NIGHT	ARRESTED LANDINGS	BOLTER (CAUSE) MW	BOLTER (CAUSE) MLA	TOUCH AND GO OR HELO LANDING
			0	0	0
EA-6B	D	120	0	0	0
	N	40	0	0	0
F-14A	D	970	0	0	0
	N	124	0	0	0
F/A-18	D	1120	0	0	0
	N	190	0	0	0
E-2C	D	115	0	0	0
	N	36	0	0	0
US-3A	D	80			
	N	0			
S-3B	D	860			
	N	240			

PENDANT NO.	LANDING PER PENDANT POSITION	NO. HITS EACH PENDANT CHANGED
P1	152	94
P2	998	98, 78, 88, 90, 63, 93, 80, 90
P3	2114	93, 98, 96, 97, 99, 65, 100, 95, 98, 100, 99, 82, 100
P4	152	96, 83, 90
P5	0	

TOTAL ARRESTED LANDINGS THIS REPORT: 3895

TOTAL ARRESTED LANDINGS TO DATE: 283259

TOTAL HELO LANDINGS THIS REPORT:

TOTAL HELO LANDINGS TO DATE:

LANDING INCIDENTS: List date and summary of all landing incidents, include message DTG if applicable, note circumstances of all barricade engagements, failure of landing gear arresting hooks, cable, etc., or arresting gear malfunction and significant down-time. Give cause of purchase cable replacement and number of arrestments. Include other pertinent remarks. (Continue on reverse if necessary.)

1. Replaced purchase cables on P3 after maximum traps (reduced by heavies) of 1500.
2. Replaced purchase cables on P4 after 1467 traps due to exceeding "Q" factor limits.

SIGNATURE (Commanding Officer) DATE

COPY TO TYPE COMMANDER

ABEf0733

Figure 7-33.—Flight Deck Operations (Part II) (NAVAIR Form 13810/1A).