

OPNAVINST 4790.15E
29 Jul 2011

**THE AIRCRAFT LAUNCH AND RECOVERY
EQUIPMENT MAINTENANCE PROGRAM
(ALREMP)**

**DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C.**



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

OPNAVINST 4790.15E
N88
29 Jul 2011

OPNAV INSTRUCTION 4790.15E

From: Chief of Naval Operations

Subj: AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT MAINTENANCE
PROGRAM

Ref: (a) OPNAVINST 4790.4E
(b) NAVSUP P485, Volume I

1. Purpose. To revise the maintenance policies, procedures and responsibilities for the conduct of the Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP) at all levels of maintenance throughout the aircraft carrier and test facility operational cycle.

2. Cancellation. OPNAVINST 4790.15D.

3. Scope. The ALREMP provides an integrated system for performing maintenance and related support functions on ship's installed aircraft launching and recovery systems and associated peripheral support systems and equipment. The provisions of the ALREMP also apply to Aircraft Launch and Recovery Equipment (ALRE) test facilities at Patuxent River, Maryland, and Lakehurst, New Jersey. Test facilities may apply to Program Executive Office, Tactical Aircraft Programs (PEO(T)), ALRE Program Office (PMA 251), for deviations as necessary to enable them to comply with program intent. This instruction outlines command, administrative and management relationships and establishes policies and procedures for the assignment of maintenance tasks and responsibilities for the ALREMP. The program encompasses equipment nominally managed under the auspices of PEO(T) and the Commander, Naval Sea Systems Command (COMNAVSEASYS COM). The ALREMP establishes standard procedures to control maintenance, provides quality assurance verification of performance, and provides for a more effective Navy ship's Maintenance and Material Management (3-M) System per reference (a). The ALREMP encompasses all Navy activities concerned with the operation, rework, repair, production and support of carrier and test facilities ALRE, including catapults, arresting gear,

visual landing aids, and associated deck gear and accessories. This instruction shall take precedence over all directives and instructions in conflict with its provisions. Because it is a dynamic program, the ALREMP will be revised and updated as necessary to incorporate improved methods and techniques. Specific questions of individual equipment applicability and program scope shall be forwarded to the Chief of Naval Operations (CNO) (Director, Air Warfare Division (OPNAV N88), Aircraft Carrier/Air Traffic Control Branch (OPNAV N885)) for determination.

4. Objectives. The ALREMP enhances the capability of aircraft carriers and test facilities to meet the expected threat and allows them to accomplish their assigned mission, with optimum use of manpower, facilities, materials and funds. This is to be accomplished through policy guidance, technical direction, management, and administration of all programs affecting activities responsible for ALRE maintenance, including associated materials and equipment. The ALREMP provides for the repair of ALRE and all associated equipment and material at the lowest maintenance level to ensure optimum use of resources, protection of systems from corrosive elements through active corrosion prevention and control effort, and the application of a systematic planned maintenance program. It also includes the documentation, analysis, and use of pertinent data to effectively improve material readiness and safety, while simultaneously increasing management efficiency. A major direction of the program is to establish concepts of quality assurance as an all-hands effort, stressing an attitude of pride in workmanship.

5. Policies

a. All echelons of commands shall develop and issue the necessary amplifying instructions to ensure that personnel, materials, training programs, and facilities assigned to support the ALREMP maintenance effort are used effectively and under their maintenance responsibilities.

b. Maintenance tasks will be assigned by specific levels as deemed necessary to support requirements assigned by the Secretary of the Navy (SECNAV) and the CNO. The CNO assigns

tasks to the naval components of the operating forces; PEO(T) (PMA 251); COMNAVSEASYSYSCOM; the Commander, Space and Naval Warfare Systems Command (COMSPAWARSYSYSCOM); the Commander, Naval Supply Systems Command (COMNAVSUPSYSYSCOM); the Commander, Naval Reserve Force (COMNAVRESFOR); and the Naval Education and Training Command (NETC). PEO(T) develops and identifies ALRE and associated system maintenance functions that must be performed in order to carry out assigned maintenance tasks or responsibilities.

c. Request authority to deviate from the maintenance policies, procedures, and responsibilities issued by the ALREMP from OPNAV (N885) via the chain of command, with copies to PEO(T) (PMA 251), and the Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV) ALRE Design and In-Service Engineering Division (Code 4.8.2) Lakehurst, NJ. Supply policies and procedures will conform to reference (b).

6. Responsibilities

a. The CNO is responsible for the achievement of maximum operational readiness of naval systems and equipment under his or her cognizance. The ALREMP is sponsored and directed by the CNO. It is administered through the chain of command and is provided material and technical support by cognizant systems commands.

b. PEO(T) (PMA 251) is delegated program management responsibility for the ALREMP.

c. Naval Air Systems Command (NAVAIRSYCOM) Support Equipment and Aircraft Launch and Recovery (ALRE) Department (AIR-4.8) on Joint Base Mcquire-Dix-Lakehurst (JBMDL) acts as the NAVAIRSYCOM technical manager.

d. ALRE custodians are responsible for the material condition and operational readiness of assigned equipment unless otherwise directed or relieved of this responsibility by higher authority.

e. The maintenance responsibilities of each echelon of command are defined here. However, when temporarily required by operational or combat necessity, any appropriate operational

authority may authorize or require the performance of any maintenance function or task that is within the capability of the personnel, materials, and facilities available.

f. An ALREMP working committee has been established under the sponsorship of the PEO(T) as follows:

(1) PMA 251 or designated representative acts as chairperson of the ALREMP Working Committee.

(2) Commander, U.S. Fleet Forces Command (COMFLTFORCOM); Commander U.S. Pacific Fleet; Commander, Naval Air Systems Command (COMNAVAIRSYSCOM); COMNAVSEASYSYSCOM; Commander, Naval Air Forces, (COMNAVAIRFOR Atlantic/Pacific); COMNAVRESFOR; COMNAVSUPSYSCOM; and NAVAIRWARCENACDIV (Code 4.8.2) Lakehurst, NJ, shall each provide one representative to serve on this committee.

(3) The primary function of the working committee is to recommend to CNO the policy and procedures required for the continued development, refinement, and use of the ALREMP in the operating forces and shore establishment of the Navy. The working committee is also responsible for addressing changes and corrections to the ALREMP submitted to OPNAV (N885).

(4) The ALREMP Working Committee normally meets annually, or as directed by the chairperson.

7. Action

a. PEO(T) (PMA 251) is designated as coordinator of this instruction and shall develop and implement CNO-approved changes, issue interim message changes, process and coordinate requests for deviation, coordinate and incorporate corrections, and prepare approved changes for printing and distribution. Additionally, PMA 251 shall interpret ALREMP policy as required and will coordinate the working committee meetings.

b. AIR-4.8 (JBMDL) will assist PEO(T) (PMA 251) in coordinating this instruction and will perform other functions and tasks as may be assigned.

c. COMSPAWARSSYSCOM will provide assistance to fleet users of the ALREMP portion of the Organizational Maintenance Management System (OMMS), including the following:

(1) Reviewing recommended changes and corrections to documentation procedures and requirements for ALREMP.

(2) Developing recommended changes to source documentation and data processing requirements for ALREMP as required by CNO.

d. Naval Sea Logistics Center, Navy Maintenance Support Office (NAMSO), shall provide assistance and primary support incident to the 3-M System including the following:

(1) Serving as the Maintenance Data System (MDS) central data bank.

(2) Providing timely, accurate, and meaningful data products that are tailored to specific fleet requirements.

(3) Publishing the Equipment Identification Code (EIC) Index and related documents.

e. The Commander, Naval Safety Center (NAVSAFECEN); Commanding Officer, Naval Aviation Inventory Control Point, Philadelphia (NAVICP); COMSPAWARSSYSCOM; and the Commanding Officer, NAMSO, shall each provide a representative to serve as technical advisors to the ALREMP Working Committee.

f. COMNAVAIRFOR Atlantic and COMNAVAIRFOR Pacific shall provide ALRE maintenance management teams to conduct assist visits and annual audits of all units to ensure operation and maintenance of ALRE is within the guidelines of this program.

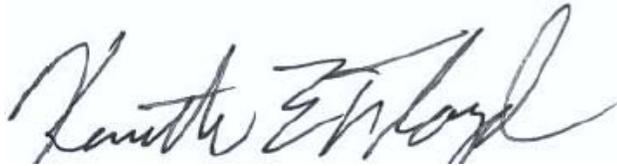
g. Recommended changes to the policies and procedures in this instruction shall be submitted under the procedures contained in chapter 1.

8. Records Management. Records created as a result of this instruction, regardless of media and format, shall be managed per SECNAV Manual 5210.1 of November 2007.

OPNAVINST 4790.15E
29 Jul 2011

9. Forms. Forms prescribed by this instruction are identified in appendix A.

10. Reports. The reports required by this instruction are exempt from reports control by SECNAV Manual 5214.1 of December 2005.

A handwritten signature in black ink, appearing to read 'K. E. Floyd', is centered on the page. The signature is fluid and cursive.

K. E. FLOYD
Rear Admiral, U.S. Navy
Director, Air Warfare

Distribution:

Electronic only, via Department of the Navy Issuances Web site
<http://doni.daps.dla.mil/>

TABLE OF CONTENTS

Chapter 1 - Introduction and Guide for Using the Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP) 1-1

1.1 Introduction 1-2

1.2 How to Obtain Copies..... 1-2

1.3 Guide for Using the ALREMP..... 1-2

1.4 Procedures for Recommending and Submitting Changes and Corrections to, or Requesting Deviations from the ALREMP.. 1-3

1.5 Definitions 1-3

1.6 Submission of Recommendations and Requests..... 1-4

1.7 Processing of Recommendations and Requests..... 1-4

Chapter 2 - Objective, Policy, and Responsibility for the ALREMP 2-1

2.1 Objective..... 2-2

2.2 Policy 2-2

2.3 Responsibility 2-3

2.4 Funding 2-4

2.5 Manpower Management..... 2-4

2.6 Material Management..... 2-5

Chapter 3 - Maintenance Concepts, Levels, and Types 3-1

3.1 Maintenance Concepts..... 3-2

3.2 Maintenance Levels..... 3-2

3.3 Maintenance Types..... 3-4

Chapter 4 - Aircraft Launch and Recovery Equipment Maintenance Organization 4-1

4.1 Command Structure..... 4-2

4.2 Command Relationships..... 4-2

4.3 Command Responsibilities..... 4-2

4.4 Support Responsibilities..... 4-3

Chapter 5 - Training 5-1

5.1 Navy Training Plan (NTP) and Naval Aviation Training Program..... 5-2

5.2 Command Relationships..... 5-3

5.3 Command Responsibilities..... 5-3

5.4 General Maintenance Training..... 5-5

5.5 Navy Training Schools..... 5-6

5.6 ALRE Maintenance Officer Training 5-8

5.7	In-Service Training.....	5-8
5.8	ALRE Maintenance Management Teams (AMMTs).....	5-9
5.9	Human Performance Requirements Review (HPRR).....	5-10
5.10	Organizational Responsibilities.....	5-11
5.11	Training Publications.....	5-13
5.12	Navy Integrated Training Resources and Administration System (NITRAS)	5-14
5.13	Funding	5-14
5.14	Manpower Management.....	5-14
Chapter 6 - ALRE Maintenance Management Teams		6-1
6.1	TYCOM ALRE Maintenance Management Team Composition.....	6-2
6.2	Concept of Operations.....	6-2
6.3	Duties and Functions.....	6-3
6.4	Evaluation Criteria.....	6-4
Chapter 7 - Special Programs		7-1
7.1	Foreign Objective Damage (FOD) Prevention.....	7-2
7.2	Metrology and Calibration (METCAL).....	7-2
7.3	Aircraft Launch and Recovery Equipment (ALRE) Discrepancy Reporting Program.....	7-2
7.4	Tool Control	7-3
7.5	Corrosion Prevention and Control.....	7-3
7.6	Non-destructive Inspection (NDI).....	7-3
7.7	Configuration Management.....	7-3
7.8	Flight Safe Program.....	7-7
7.9	Discrepant Parts List (DPL).....	7-8
7.10	Automated Shot and Recovery Log (ASRL) Program	7-8
Chapter 8 - Maintenance Organization and Responsibilities		8-1
8.1	Concept.	8-2
8.2	Organization.	8-2
8.3	Responsibilities.....	8-3
Chapter 9 - Maintenance Control		9-1
9.1	Maintenance Control (M/C).....	9-2
9.2	Job Control Number (JCN).....	9-3
9.3	Visual Information Display System (VIDS) Board.....	9-3
9.4	VIDS Board Verification.....	9-5
9.5	OPNAV 4790/180 Maintenance Action Form (MAF) Card.....	9-5
9.6	OPNAV 4790/160 Maintenance Action Form (MAF).....	9-7
9.7	OPNAV 4790/160 Function and JSN.....	9-9

9.8 Unscheduled (Corrective) and Scheduled (Planned Maintenance System (PMS)) Maintenance Procedures..... 9-10
9.9 ALRE PMS Maintenance Requirement (MR) Status Displays.... 9-11
9.10 Supporting Maintenance..... 9-12
9.11 Deviations from Normal OPNAV 4790/160 MAF and OPNAV 4790/180 MAF Card Procedures..... 9-12
9.12 Tracking Outside Maintenance Activity Job Status..... 9-13

Chapter 10 - Material Control 10-1

10.1 Navy Supply System..... 10-2
10.2 Policies and Concepts..... 10-3
10.3 V-2 Material Control Functions and Responsibilities..... 10-3
10.4 Material Reporting..... 10-6
10.5 Allowance Management..... 10-7
10.6 Coordinated Shipboard Allowance List (COSAL) and Ship's Equipment File (SEF)..... 10-10
10.7 ALRE Inventory Control Points (ICPs)..... 10-12
10.8 Operating Targets (OPTARs)..... 10-12
10.9 Supply Reference Publications..... 10-13

Chapter 11 - Quality Assurance 11-1

11.1 Quality Assurance (QA)..... 11-2
11.2 Concepts of Quality Assurance..... 11-2
11.3 Responsibility for Quality in Maintenance..... 11-4
11.4 Quality Assurance Responsibilities..... 11-4
11.5 Quality Assurance Inspectors (QAIs)..... 11-9
11.6 Collateral Duty Quality Assurance Inspectors (CDQAIs)... 11-11
11.7 Collateral Duty Inspectors (CDIs)..... 11-11
11.8 Quality Assurance Programs..... 11-12
11.9 Quality Assurance Program Management..... 11-13
11.10 ALRE Discrepancy Reporting Program..... 11-21
11.11 ALRE Hazardous Material Report (ALRE HMR)..... 11-30
11.12 ALRE Engineering Investigation (ALRE EI)..... 11-34
11.13 ALRE Product Quality Deficiency Report (ALRE PQDR)..... 11-35
11.14 ALRE Technical Publication Deficiency Report (ALRE TPDR) 11-39
11.15 ALRE Discrepancy Report Preparation..... 11-41
11.16 Other Required Reports..... 11-49
11.17 Address Indicator Group ONE THREE EIGHT EIGHT FIVE..... 11-50

Chapter 12 - ALRE Maintenance Support	12-1
12.1 Mission.	12-2
12.2 Organization.	12-2
12.3 Responsibilities.....	12-3
12.4 Maintenance Procedures.....	12-5
12.5 ALRE Tool Control Program (TCP).....	12-5
Chapter 13 - ALRE Maintenance Organizations and Responsibilities	13-1
13.1 Shipboard Procedures.....	13-2
13.2 Type Commanders (TYCOMs).....	13-3
13.3 Intermediate Maintenance Activities (IMAs) and Fleet Readiness Centers (FRCs).....	13-5
13.4 Depot Industrial Functions.....	13-6
13.5 Carrier and Field Service Unit (CAFSU).....	13-8
13.6 Overhauls and Availabilities.....	13-9
13.7 Supervisor of Shipbuilding Newport News, Code 1800 (SUPSHIP NNVA CODE 1800).....	13-11
13.8 Work Definition Conference (WDC).....	13-12
13.9 Emergency Essential Repairs (EER).....	13-12
13.10 Ship Installation (SI) Equipment Services Changes (SC) ..	13-13
13.11 Unauthorized Alterations of Ships.....	13-14

TABLE OF FIGURES

Fig	Title	Page
1-1	Sample Change Recommendation Letter.....	1-6
1-2	Sample Correction Recommendation Letter.....	1-7
1-3	Sample Deviation Request Letter.....	1-8
4-1	Office of the Chief of Naval Operations and N8 Organization	4-10
4-2	ALRE Maintenance Organization.....	4-11
4-3	ALRE Supply Organization.....	4-12
4-4	COMNAVAIRSYSCOM ALRE Maintenance Organization.....	4-13
4-5	Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV) Lakehurst Organization.....	4-14
4-6	COMNAVSEASYSYSCOM ALRE Maintenance Organization.....	4-15
5-1	ALRE Training Organization.....	5-16
8-1	ALRE Maintenance Organization.....	8-9
9-1	Maintenance Control VIDS Boards.....	9-18
9-2	Work Center VIDS Board.....	9-19
9-3	Unscheduled (Corrective) Maintenance Procedures	9-20/9-21
9-4	Scheduled Maintenance (PMS) Procedures.....	9-22/9-23
9-5	Emergency OPNAV 4790/160 Procedures.....	9-24
9-6	Sample Outside Maintenance Activity VIDS Board.....	9-25
10-1	Navy (Aviation) Application of Joint Service Uniform (SM&R) Codes	10-15
11-1	ALRE Quality Assurance Organization.....	11-52
11-2	Sample Maintenance Instruction.....	11-53
11-3	ALRE PQDR Process Flow.....	11-54
11-4	Sample ALRE Hazardous Material Report Message.....	11-55
11-5	Sample ALRE Engineering Investigation Request Message ...	11-56
11-6	Sample ALRE Engineering Investigation Request Message (Environmental Impact).....	11-57
11-7	Sample ALRE Hazardous Material Report and Engineering Investigation Request Message.....	11-58
11-8	Sample ALRE CAT I Product Quality Deficiency Report Message	11-59
11-9	Sample ALRE CAT II Product Quality Deficiency Report Message	11-60
11-10	Sample ALRE CAT I Technical Publications Deficiency Report Message	11-61
11-11	ALRE Discrepancy Reports Matrix.....	11-62
11-12	ALRE Fleet Support Team Response Matrix.....	11-63
11-13	ALRE EI, ALRE HMR, ALRE PQDR Message Template.....	11-64
12-1	Maintenance Support Organization.....	12-8
13-1	COMNAVAIRFOR Atlantic ALRE Maintenance Organization	13-15
13-2	COMNAVAIRFOR Pacific ALRE Maintenance Organization.....	13-16

APPENDICES

<u>Appendix</u>	<u>Subject</u>	<u>Page</u>
A	Forms and Reports	A-1
B	ALRE Malfunction and Corrosion Codes	B-1
C	Instructions for Completing OPNAV 4790/160.	C-1
D	ALRE Tool Control Manual.	D-1
E	ALRE Technical Manuals.	E-1
F	Acronyms and Abbreviations.	F-1
G	Index	G-1

**Chapter 1 - Introduction and Guide for Using the Aircraft Launch and
Recovery Equipment Maintenance Program (ALREMP)**

TABLE OF CONTENTS

<u>Sec</u>	<u>Subject</u>	<u>Page</u>
1.1	Introduction	1-2
1.2	How to Obtain Copies.....	1-2
1.3	Guide for Using the ALREMP.....	1-2
1.4	Procedures for Recommending and Submitting Changes and Corrections to, or Requesting Deviations from the ALREMP..	1-3
1.5	Definitions	1-3
1.6	Submission of Recommendations and Requests.....	1-4
1.7	Processing of Recommendations and Requests.....	1-4

TABLE OF FIGURES

<u>Fig</u>	<u>Subject</u>	<u>Page</u>
1-1	Sample Change Recommendation Letter.....	1-6
1-2	Sample Correction Recommendation Letter.....	1-7
1-3	Sample Deviation Request Letter.....	1-8

Chapter 1

Introduction and Guide for Using the Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP)

1.1 Introduction

The ALREMP is sponsored and directed by the Chief of Naval Operations (CNO). This instruction addresses the concepts, objectives, policies, programs, organizations, and responsibilities of the ALREMP.

1.2 How to Obtain Copies

1.2.1 To receive revisions and changes to this instruction automatically, a unit must be on the automatic distribution list maintained by CNO. To be included on the list or to change distribution requirements, submit a letter, with justification to:

Program Executive Office, Tactical Aircraft Programs
Aircraft Launch and Recovery Equipment, Code PMA 251
Building 2272 Suite 348
47123 Buse Road Unit IPT
Patuxent River, MD 20670-1547

1.2.2 Individual copies of this instruction for information or training purposes may be requested by letter to:

Program Executive Office, Tactical Aircraft Programs
Aircraft Launch and Recovery Equipment, Code PMA 251
Building 2272 Suite 348
47123 Buse Road Unit IPT
Patuxent River, MD 20670-1547

1.3 Guide for Using the ALREMP

1.3.1 This instruction is divided into 13 chapters. Each chapter reflects segments of the maintenance organization.

1.3.2 Each paragraph is numbered with a decimal system. The first digit identifies the chapter, the second and subsequent decimals identify the paragraph and subparagraphs.

Chapter	1
Paragraph	1.1
Subparagraph	1.1.1
Subparagraph	1.1.1.1

1.3.3 To find a specific item of information use the table of contents provided for each chapter, which lists the paragraph, subject, and page number of material within that chapter.

1.3.4 Pages are numbered in a separate series for each chapter and appendix. The pages of each chapter are numbered in sequence and preceded by the chapter number, e.g., the third page in chapter 1 is numbered 1-3.

1.3.5 Illustrations are provided to clarify or amplify text, and are located at the end of each chapter to which they apply. They are numbered consecutively within the chapter they appear.

1.4 Procedures for Recommending and Submitting Changes and Corrections to, or Requesting Deviations from the ALREMP

All recommended changes to this instruction are approved or disapproved by CNO, Director, Air Warfare (OPNAV (N88)) after they have been evaluated by the ALREMP Working Committee. The Program Executive Office, Tactical Aircraft Programs (PEO(T)), Aircraft Launch and Recovery Equipment (ALRE) Program Office (PMA 251), is responsible for coordinating and managing these changes.

1.5 Definitions

1.5.1 Changes. A change is a modification to the content of the ALREMP involving a revision of, addition to, or deletion of existing policies or procedures, and is issued in the form of replacement pages to the instruction via a change transmittal.

1.5.2 Interim Changes. An interim change is a change issued by rapid means, usually by message, to correct a procedure, policy, practice, or situation adversely affecting operation, maintenance, equipment and personnel safety, readiness, or a critical function in the ALREMP.

1.5.3 Corrections. A correction is a modification in punctuation, grammar, capitalization, spelling, syntax or tense; or rectification of typographical errors, word omissions, or ambiguities not affecting policies or procedures.

1.5.4 Deviations. A deviation is a departure from policies, procedures, or responsibilities in the ALREMP. Deviations are granted by CNO for a situation or set of circumstances not requiring a revision of the ALREMP.

1.6 Submission of Recommendations and Requests

1.6.1 Changes. Recommendations to change policies and procedures in the ALREMP shall be submitted by naval letter to OPNAV (N88) via the chain of command, with copies to PEO(T) (PMA 251) and AIR-4.8 (JBMDL) Fleet Liaison (Code 4.8.9). Figure 1-1 is a sample change recommendation letter.

1.6.2 Interim Changes. Any individual or activity having knowledge of any situation, procedure, or policy that adversely affects critical functions in the ALREMP shall report the information by naval message to PEO(T) (PMA 251) with information copies to OPNAV (N88), AIR-4.8 (JBMDL) (Code 4.8.2), and the chain of command.

1.6.3 Corrections. Recommendations to correct administrative discrepancies shall be submitted by naval letter directly to PEO(T) (PMA 251) with a copy to AIR-4.8 (JBMDL) (Code 4.8.2). Figure 1-2 is a sample correction recommendation letter.

1.6.4 Deviations. Requests to deviate from the ALREMP, with full justification, shall be submitted by naval letter to OPNAV (N88) via the chain of command, with copies to PEO(T) (PMA 251) and AIR-4.8 (JBMDL) (Code 4.8.2). Figure 1-3 is a sample deviation request letter.

1.7 Processing of Recommendations and Requests

1.7.1 Changes. Upon receipt of a change recommendation and its forwarding endorsements, PEO(T) (PMA 251) acknowledges receipt of all change recommendations, reviews it, and coordinates as necessary with affected organizations. Change recommendations accepted for processing will then be assigned an ALREMP control number.

1.7.1.1 Upon completion of the review, PEO(T) (PMA 251) will either:

a. Return the change recommendation for additional information, clarification, or cancellation, as applicable; or

b. Forward the change recommendation, including any comments, modifications, or recommendations developed during the review process, to the ALREMP Working Committee, and other activities as appropriate, for review and comments.

1.7.1.2 Upon receipt of comments from the ALREMP Working Committee, PEO(T) (PMA 251) shall prepare and submit a consolidated change proposal to OPNAV (N88).

1.7.1.3 Upon receipt of a consolidated change proposal, CNO shall evaluate and approve or disapprove it or, if required, refer it to the ALREMP Working Committee for further review.

1.7.1.4 Upon final approval by OPNAV (N88), the change recommendation is returned to PEO(T) (PMA 251) for inclusion in the next ALREMP change package.

1.7.1.5 Distribution of change packages shall be coordinated by PEO(T) (PMA 251) with OPNAV (N88) and Department of the Navy (DON) Records Management Office (Director of Navy Staff (DNS)-5), Secretary of the Navy/Office of the Chief of Naval Operations (SECNAV/OPNAV) Directives Control Office (DNS-52).

1.7.2 Interim Changes

1.7.2.1 PEO(T) (PMA 251), upon receipt of a report identifying a situation, procedure, or policy that adversely impacts a critical function in the ALREMP, reviews the report and develops, if warranted, an interim change for release by CNO.

1.7.2.2 Interim changes via messages shall be followed up by either an official change transmittal or revision and reissuance to the instruction within 90 days of the interim change.

1.7.3 Deviations. CNO, assisted by PEO(T) (PMA 251), will verify and substantiate the need for requested deviations. Subsequent to this investigation CNO will approve or disapprove the deviation.

OPNAVINST 4790.15E
29 Jul 2011

13800
CVN-71/03-V2 116823
Ser 738

USS THEODORE ROOSEVELT (CVN-71)
FPO AE 09599-2870

From: Commanding Officer, USS THEODORE ROOSEVELT (CVN-71)
To: Chief of Naval Operations (N88)
Via: Commander, Naval Air Force, U.S. Atlantic Fleet (Code N433)
Subj: CHANGE RECOMMENDATION TO OPNAVINST 4790.15E
Ref: (a) OPNAVINST 4790.15E

1. Recommend change to reference (a), chapter 12, page 12-2, and paragraph 12.2, as follows:

a. Recommend adding the following sentence at the end of paragraph 12.2: "MS may be organized as a separate work center or integrated into existing organizations, depending upon physical plan and divisional requirements."

b. New weapon system equipment installations have eliminated workspaces on several CVNs, primarily in the air department. Combining the MS branch with other work centers will allow integration into existing spaces and work force, where required.

2. Point of contact: C. D. Pendant, ABCM, deployed.

D. CABLE
By direction

Copy to:
PEO(T) (PMA 251)
AIR-4.8 (JBMDL) (Code 4.8.2)

Figure 1-1. Sample Change Recommendation Letter

OPNAVINST 4790.15E
29 Jul 2011

13800
CV-63/03/Ser 163

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

From: Commanding Officer, USS KITTY HAWK (CV-63)
To: Program Executive Office, Tactical Aircraft Programs
(PMA 251)

Subj: CORRECTION RECOMMENDATION TO OPNAVINST 4790.15E

Ref: (a) OPNAVINST 4790.15E

1. Recommend corrections to reference (a), chapter 9, page 9-9,
paragraph 9.2.3, as follows:

a. Correct the last sentence to read: "Each W/C is
responsible for providing M/C with..."

b. Justification. "M/C" had been printed as "W/C".

2. Point of Contact: S. Plat, LTJG, ALRE Maintenance Officer.

F. LENS
By direction

Copy to:
AIR-4.8 (JBMDL) (Code 4.8.2)

Figure 1-2. Sample Correction Recommendation Letter

13800
AIR-V2 168421

USS Dwight D. Eisenhower (CVN-69)
FPO AE 09538-3820

From: Commanding Officer, USS Dwight D. Eisenhower (CVN-69)
To: Chief of Naval Operations, (N88)
Via: (1) Commander, Carrier Group Three
(2) Commander, Naval Air Force, U.S. Atlantic Fleet
(Code N433)

Subj: REQUEST FOR DEVIATION FROM OPNAVINST 4790.15E

Ref: (a) OPNAVINST 4790.15E

Encl: (1) Block diagram of proposed maintenance reorganization

1. Request the following deviation from reference (a):

a. Request authority to deviate from the current maintenance organization authorized for USS Dwight D. Eisenhower (CVN-69). The proposed organization is shown in enclosure (1).

b. The requested change is necessitated by the loss of two air department spaces (03-116-M and 02-86-M) resulting from installation of SDI weapons system equipment. This loss precludes these spaces being assigned as the maintenance support work center and no other spaces are available. The reorganization would become effective immediately and would continue until additional space is provided during the refueling complex overhaul (RCOH) in 2001.

c. The deviation requested would integrate the maintenance support work center into other work centers until space availability is resolved following ship alteration (SHIPALT) completion during the RCOH.

2. Point of contact: LCDR N. T. Catapult and CW02 W. Brake.

A. SHUTTLE
By direction

Copy to:
PEO(T) (PMA 251)
AIR-4.8 (JBMDL) (Code 4.8.2)

Figure 1-3. Sample Deviation Request Letter

Chapter 2 - Objective, Policy, and Responsibility for the ALREMP

TABLE OF CONTENTS

Sec	Subject	Page
2.1	Objective	2-2
2.2	Policy	2-2
2.3	Responsibility	2-3
2.4	Funding	2-4
2.5	Manpower Management.....	2-4
2.6	Material Management.....	2-5

Chapter 2

Objective, Policy, and Responsibility for the ALREMP

2.1 Objective

2.1.1 The objective of the ALREMP is to achieve the established material readiness standards issued by the CNO, with optimum use of manpower, material, and funds. CNO material readiness standards include the operational capability to launch and recover tactical aircraft whenever and wherever required to meet and sustain national interests; to provide the necessary level of maintenance and support required to meet those operational requirements; to establish quality assurance (QA) as an all-hands responsibility; to apply a systematic planned maintenance program; and to collect, analyze, and use data in order to effectively improve material condition and safety.

2.1.2 Specific objectives must be met in order to attain identified goals. Among these are:

a. Achieve and sustain required operational readiness of ALRE in support of flight operations.

b. Achieve and maintain a zero maintenance error rate through use of standardized procedures, a dynamic QA program, and analytical review of maintenance documentation and records.

2.2 Policy

For the maintenance, support, and operation of ALRE, it is CNO policy that:

a. ALRE is an integral part of tactical naval aviation and shall be supported in the same relative priority as aircraft weapons systems.

b. Variations in organization, responsibilities and procedures shall be limited to those situations that are outside the scope of aircraft carrier operations (carrier vessel nuclear (CVN)). Any variations from standards herein shall require approval by OPNAV (N88).

c. Standard functional organizations will be established within existing constraints of resources, facilities, and equipment. All required functions will be accomplished in supporting ALRE maintenance and operations.

d. Intermediate level maintenance of ALRE equipment will be performed by designated operating and repair activities. Intermediate level support requirements such as non-destructive test, inspection, and calibration shall be performed by the nearest intermediate level repair activity, i.e., Aircraft Intermediate Maintenance Department (AIMD), ship's engineering department, regional maintenance center (RMC), or repair tender.

e. In addition to the requirements stated herein, during CNO ship availabilities as defined by COMFLTFORCOMINST 4790.3, Joint Fleet Maintenance Manual (JFMM), shipboard maintenance and alterations on ALRE systems shall be performed using the work authorization requirements and processes set forth in the JFMM volume IV, chapter 10, Work Authorization and Control. These requirements are not intended to replace quality initiatives set forth in this manual. Conflicts between requirements of OPNAVINST 4790.15E and the JFMM regarding the processing of work control documentation shall be resolved by agreement between ship's force, the lead maintenance activity and Commander, Naval Air Forces (COMNAVAIRFOR).

f. Material support and availability of parts are critical towards efficient sustained ALRE readiness. Lack of ALRE repair parts sharply impacts aircraft carrier readiness and can impose increase risk to pilots, aircraft and flight deck personnel. All required efforts through item and inventory management will be applied to ensure that ALRE repair parts are managed afloat and ashore per a "never out" concept.

2.3 Responsibility

ALRE maintenance is a command responsibility administered through the military chain of command. Technical management is exercised in consonance with this instruction, together with directives developed and published by PEO(T) (PMA 251), Commander, Naval Sea Systems Command (COMNAVSEASYS COM), NAVAIRWARCENACDIV Lakehurst, and the type commanders (TYCOMs).

2.4 Funding

2.4.1 CNO annually allocates materials and services for support of the ALREMP. Allocations are based upon competing requirements for the Navy's resources.

2.4.2 CNO distributes funds approved by Congress for Department of Defense (DoD) and Secretary of the Navy (SECNAV) program objectives. Funding for the ALREMP, included in a unit's operating target (OPTAR), is granted to operating ships and activities by the TYCOM. The OPTAR is an estimate of the amount of funds required by a ship or activity to perform its mission and is distributed quarterly. Further, sub-allocations are made into departmental and divisional OPTARs at the activity level. Activities are responsible to their respective TYCOMs for operating within the limitations of their individual OPTAR grants.

2.5 Manpower Management

2.5.1 CNO directs and coordinates the development and implementation of the manpower planning system to:

- a. Determine minimum manpower requirements to achieve approved operational and mission demands.
- b. Provide staffing standards based on functions performed.
- c. Relate support manpower requirements of the shore establishment to the changing demands of the operating forces.
- d. Ensure those manpower requirements for maintenance and operation of new weapons systems equipment and initiatives are specified sufficiently in advance of fleet introduction.

2.5.2 Manpower requirements are included in the DoD planning, programming, and budgeting system. This system operates on an 18-month cycle and is repeated annually.

2.5.3 CNO publishes annual guidance to manpower claimants. Manpower claimants screen, prioritize, and justify requests for additional manpower. Manpower requests that contribute to increased readiness have the highest chance of success for approval of funding.

2.6 Material Management

2.6.1 CNO directs and coordinates the development and implementation of the material acquisition planning system via the systems commands. Material requirements, like manpower requirements, are included in the DoD planning, programming, and budgeting system.

2.6.2 An essential part of effectively sustaining ALRE in a safe, high state of readiness, is the availability of critical spare parts that are unique to ALRE for the support of both preventive or corrective maintenance. The success of the ALREMP in meeting the primary CNO objective to attain maximum operational readiness of ALRE equipment in support of flight operations is directly dependent upon the readily available material and repair parts that shall be maintained as a "never out" basis both ashore and aboard ship. This is considered to be a critical state of carrier operational readiness and any delays in the repair and upkeep of ALRE not only affects carrier readiness, operational capabilities and tempo but additionally subjects pilots, aircraft and flight deck personnel to higher risks during air operations. The ALRE "never-out item" repair parts shall be made part of the TYCOM ALREMP audits and are subject to spot check verification for accuracy and program compliance.

Chapter 3 - Maintenance Concepts, Levels, and Types

TABLE OF CONTENTS

Sec	Subject	Page
3.1	Maintenance Concepts.....	3-2
3.2	Maintenance Levels.....	3-2
3.3	Maintenance Types.....	3-4

Chapter 3

Maintenance Concepts, Levels, and Types

3.1 Maintenance Concepts

3.1.1 The ALREMP supports CNO readiness and safety objectives while providing for optimum use of manpower, facilities, material, and funds to meet operational requirements.

3.1.2 The ALREMP is based on the DoD three-level maintenance concept and is supplemented by CNO, COMNAVAIRSYSCOM, COMNAVSEASYSYSCOM, and TYCOM directives. It provides the management tools required for efficient and economical use of personnel and material resources in performing maintenance, and enables standardization in the ALRE community to accomplish mission requirements. It provides the basis for establishing standard organizations, procedures, and responsibilities for the accomplishment of all maintenance on ALRE and associated material. The division of maintenance into three levels allows management to:

- a. Assign maintenance tasks according to the complexity, depth, scope, and range of work to be performed.
- b. Classify maintenance functions by levels.
- c. Assign responsibility for maintenance functions to a specific level.
- d. Accomplish any particular maintenance task or support service at that level which ensures optimum economic use of resources.

3.2 Maintenance Levels

3.2.1 ALRE maintenance is based on continuing operation in an environment approaching constant use of resources and equipment, on repetitive cycles. Reliability and safety of operation are the prime results of a successful maintenance program. These requirements are met through a Planned Maintenance System (PMS), defined in NAVSEAINST 4790.8B and augmented by corrective maintenance when required. Maintenance will be performed at the lowest practical level, either organizational, intermediate, or depot level, in order to maintain the required readiness and material condition.

3.2.2 Organizational maintenance is that maintenance which is normally performed by the operating unit in support of its own operations. This work is usually accomplished by maintenance or operator personnel assigned to the carrier's ALRE division (V-2); however, in some cases organizational maintenance may be done by intermediate or depot activities. Organizational maintenance functions generally can be grouped under the following categories:

- a. Inspection, operation, and servicing as defined and required by the PMS.
- b. Corrective and preventive maintenance, including on-equipment repair and removal or replacement of defective components.
- c. Incorporation of technical directives (TDs), within prescribed limitations.
- d. Record keeping and reports writing.

3.2.3 Intermediate maintenance is that maintenance that is normally performed by designated maintenance activities in support of fleet units. It consists of on or off-equipment repair, replacement of damaged or unserviceable components or assemblies, calibration, manufacture of certain parts, inspections, and technical assistance. Intermediate maintenance includes the following functions and services:

- a. Repair, test, inspection, and modification of ALRE components and related equipment.
- b. Calibration by field calibration activities that perform intermediate level calibration of designated equipment.
- c. Technical assistance to supported activities.
- d. Incorporation of TDs.
- e. Manufacture of selected and non-available parts.

3.2.4 Depot maintenance is that maintenance which requires skills and facilities beyond organizational and intermediate levels and is performed by naval shipyards, (NAVSHIPYDs), commercial shipyards, naval ship repair facilities (NAVSHIPREPFACs), contractor repair, NAVAIRWARCENACDIV Lakehurst Industrial, and by voyage repair teams (VRTs) from specified NAVAIRWARCENACDIV and fleet readiness centers

(FRCs). Depot maintenance is performed on ALRE requiring major overhaul or rebuilding of parts, assemblies, subassemblies, and end items. It includes major modifications, configuration changes, manufacture of parts, testing, inspecting, and all other repairs, as required. Depot maintenance supports lower levels of maintenance by providing engineering assistance and performing maintenance beyond the capability of lower level activities. Depot maintenance functions may be grouped as follows:

- a. Overhaul and repair of ALRE.
- b. Modernization, modification or conversion of system components.
- c. Calibration (type III) by Navy calibration laboratories (NAVCALABS), as well as standards laboratories (type I and II).
- d. Incorporation of TDs.
- e. Manufacture of parts and or accessory items.
- f. Technical and engineering assistance.

3.3 Maintenance Types

There are two general types of ALRE maintenance performed without distinction as to levels of maintenance. They are upkeep and overhaul.

3.3.1 Upkeep is preventive, corrective, or additive work performed on ALRE by operating units under management of the TYCOMs. The term applies to any method of processing required to ensure completion of standard operating periods, including, but not limited to, servicing, periodic inspections, functional and bench test, replacement, preservation, modification, and repair.

3.3.2 Overhaul is the process of disassembly sufficient to inspect all the operating components and the basic end article. It includes the repair, replacement, or servicing as necessary, followed by reassembly and functional test. Upon completion of the overhaul process, the equipment will be capable of performing its intended service life.

- a. Overhaul may be performed on any type of launch and recovery equipment, associated systems and supporting assemblies.

OPNAVINST 4790.15E
29 Jul 2011

It is performed by industrial type activities assigned functional responsibility of providing maintenance program support.

b. Overhaul is performed with civilian personnel managed by Naval Air Systems Command (NAVAIRSYSCOM) and Naval Sea Systems Command (NAVSEASYSYSCOM) under CNO direction, and coordinated through the TYCOMs. Overhaul is normally a function of industrial, and or engineering activities, and the NAVAIRWARCENACDIV and FRCs.

**Chapter 4 - Aircraft Launch and Recovery Equipment Maintenance
Organization**

TABLE OF CONTENTS

<u>Sec</u>	<u>Subject</u>	<u>Page</u>
4.1	Command Structure.....	4-2
4.2	Command Relationships.....	4-2
4.3	Command Responsibilities.....	4-2
4.4	Support Responsibilities.....	4-3

TABLE OF FIGURES

<u>Fig</u>	<u>Subject</u>	<u>Page</u>
4-1	Office of the Chief of Naval Operations and N8 Organization.	4-10
4-2	ALRE Maintenance Organization.....	4-11
4-3	ALRE Supply Organization.....	4-12
4-4	COMNAVAIRSYSCOM ALRE Maintenance Organization.....	4-13
4-5	Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV) Lakehurst Organization.....	4-14
4-6	COMNAVSEASYSYSCOM ALRE Maintenance Organization.....	4-15

Chapter 4

Aircraft Launch and Recovery Equipment Maintenance Organization

4.1 Command Structure

4.1.1 The CNO is responsible for the material condition, readiness and training of the operating forces of the Navy. The CNO carries out these responsibilities through the direction of the naval systems commands, as well as the fleet and TYCOMs, and their supporting subordinate commands and offices. In addition, the CNO commands such shore activities as assigned by SECNAV.

4.1.2 CNO is responsible for the disciplined use of resources and the operating efficiency of all commands and activities under his or her command. Figure 4-1 shows the CNO command organization.

4.1.3 OPNAV (N88), establishes policy, requirements, and priorities for carrier operations and maintenance. OPNAV (N88) is also responsible for programming the resources to support the ALRE program.

4.1.4 The Director, Surface Warfare Division (N86), establishes policy, requirements, and priorities for surface ships maintenance and is responsible for programming resources for RMCs.

4.2 Command Relationships

4.2.1 Command relationships and the exercise of command responsibilities for Navy shore activities are in SECNAVINST 5450.4F and are not affected by this instruction.

4.2.2 Figure 4-2 is provided to illustrate the command relationships for ALRE maintenance.

4.3 Command Responsibilities

4.3.1 The aviation TYCOMs shall support the ALREMP by achieving CNO-directed readiness objectives and safety standards while optimizing total resource requirements. This responsibility includes repair of ALRE equipment at the most economical level of maintenance. It also includes the efficient use of data as a management tool to improve equipment material condition and safety. Program responsibilities include funding, manpower management, training and material management. Aviation TYCOMs are the logistics agents for aeronautical equipment in the Atlantic and Pacific Fleets and provide technical liaison with surface TYCOMs,

systems commanders and their shore activities, and fleet carriers. Aviation TYCOMs are responsible for ensuring sound ALRE maintenance procedures and practices. Their functions include approving technical availabilities, analyzing malfunction reports, screening ship's work requests, OPNAV 4790/2K Ship's Maintenance Action Form, for accomplishment by ship's force, intermediate and depot level maintenance activities, controlling NAVAIRSYSCOM service change (SC) material, and coordination of NAVAIRWARCENACDIV Lakehurst's Carrier and Field Service Units (CAFSUs) support.

4.3.2 Commander, Carrier Strike Group is responsible for the overall functional and operational condition of ships under their cognizance (COG) with special emphasis on planning efforts prior to deployments. The commanding officer of a ship is ultimately responsible for the maintenance and material condition of the ship's ALRE.

4.3.3 Each fleet CVN is designated by OPNAVINST 4700.7L as an intermediate maintenance activity (IMA) comprised of the Aircraft Intermediate Maintenance Department (AIMD), and engineering, supply and weapons departments. AIMDs and the repair divisions of the engineering departments will provide appropriate ALRE intermediate maintenance support (MS), where capability and capacity exist.

4.3.4 Commanding officers shall insure that the identified "never out" parts are exempt from any automated (local or system) processes that would eliminate or reduce the parts availability below fleet required minimums without prior concurrence from COMNAVAIRFOR and Naval Air Systems Command War Center (NAVAIRWARCEN), Lakehurst.

4.4 Support Responsibilities

4.4.1 The Commander, Naval Supply Systems Command (COMNAVSUPSYSCOM) provides material in support of the operation and maintenance of ALRE. Every effort is made to have material located when and where it is needed. The success of the ALREMP in meeting the primary CNO objective to attain maximum operational readiness of ALRE equipment in support of flight operations is directly dependent upon the readily available material and repair parts that shall be maintained as a "never out" basis aboard ship. The critical repair parts and allowance levels, as identified by COMNAVAIRFOR and NAVAIRWARCENACDIV, Lakehurst shall be maintained as "never out" on all carriers at minimum allowance levels. Naval Inventory Control Point (NAVICP) shall insure that the identified "never out" parts are exempt from any automated (local or system)

processes that would eliminate or reduce the parts availability below fleet required minimums without prior concurrence from COMNAVAIRFOR and NAVAIRWARCEN, Lakehurst. The ALRE supply organization is shown in figure 4-3.

4.4.1.1 NAVICP Philadelphia is the primary Navy inventory control point (ICP) responsible for ALRE material support of the ALREMP. ALRE material consists of spares and repair parts for catapults, arresting gear (A/G), visual landing aids (VLAs), and support equipment (SE), common and peculiar. NAVICP Philadelphia's responsibilities include:

a. Computation of ALRE material requirements in both range and depth. This responsibility includes conducting and coordinating provisioning conferences and the identification and transfer of items to be managed by the Defense Logistics Agency (DLA) and other cognizant ICPs.

b. Budgeting for and funding of appropriate ALRE material requirements.

c. Procuring material directly from industry or via other government agencies.

d. Allocating NAVAIRSYSCOM-procured material to stock points, distribution of material to fill replenishment stock requirements, and referral of requisitions to stock points to meet requirements.

e. Directing the proper disposal of defective ALRE material when authorized by NAVAIRWARCENACDIV Lakehurst.

f. Maintaining ALRE spares and associated spare parts lists and ordering information. The catalog function includes obtaining National Stock Numbers (NSNs) from the Defense Logistics Service Center.

g. Determining wholesale system supply asset repair or rework requirements of repairable components to be processed by naval or commercial repair or rework facilities.

h. Providing areas of interest data to NAVICP Mechanicsburg, to maintain allowances for ALRE material in support of the CVN Coordinated Shipboard Allowance List (COSAL).

4.4.1.2 NAVICP Mechanicsburg is a field activity of Naval Supply Systems Command (NAVSUPSYSCOM) located at Mechanicsburg, PA.

NAVICP Mechanicsburg is the ICP for Integrated Launch and Recovery Television Surveillance System (ILARTS) and catapult trough components. NAVICP Mechanicsburg ALRE responsibilities are to maintain the CVN COSAL and those listed for NAVICP Philadelphia in paragraph 4.4.1.1. The COSAL is a technical and supply management document designed to enable ships to achieve maximum operating capability for extended periods, independent of external logistic support.

4.4.2 PEO(T) is responsible for research, design, development, test, acquisition, and logistics support of all ALRE, associated material, and equipment. Figure 4-4 shows the COMNAVAIRSYSCOM organization as it pertains to ALRE.

a. COMNAVAIRSYSCOM will act as the liaison between the fleet and PEO(T). In addition, will provide all fleet reported issues to PEO(T) and continue to monitor until outstanding issues are resolved.

b. PEO(T) shall facilitate the work of program teams by providing tools (expertise, assistance, resources) to program teams in addition to tracking, developing, and monitoring all fleet issues and discrepancies reported by COMNAVAIRSYSCOM for further investigation. PEO(T) will provide feedback to COMNAVAIRSYSCOM and cognizant activities with resolution.

4.4.2.1 As the technical manager for ALRE maintenance, COMNAVAIRSYSCOM:

a. Provides technical direction, guidance on procedures, and management review for each level of maintenance.

b. Provides ALRE maintenance procedural documents sufficient to clearly define the maintenance functions, organizations, and responsibilities to perform these functions.

c. Implements, manages, and maintains the ALREMP.

d. Assists CNO and others in developing training programs for officer and enlisted personnel assigned to ALRE maintenance.

e. Provides ALRE maintenance material allowance lists, together with lists of facilities that are authorized, available and required.

f. Makes recommendations concerning design of the ALRE Maintenance Data System (MDS) to reduce redundant, time consuming, and unnecessary reporting, and to ensure MDS is compatible for all three levels of maintenance as well as the ship's Maintenance and Material Management (3-M) System.

4.4.2.2 COMNAVAIRSYSCOM provides ALRE technical direction as directed by CNO. A major portion of this effort is done using a centralized system for the issue and control of TDs. Technical direction does not relieve commands from the responsibility of keeping seniors in the chain of command informed of material conditions affecting operational readiness. CNO, COMNAVAIRSYSCOM, and other interested commands must be kept fully informed if operational necessity precludes TD compliance within specified time limits. Any authority operating or having operational control over ALRE has full authority and responsibility to impose such additional operating restrictions as may be prudent. TYCOMs shall be concerned with technical direction matters. Requests for changes and amplification to technical direction shall be addressed to COMNAVAIRSYSCOM. When fleet operational requirements cannot be met as a result of limitations imposed by technical direction, recommendations shall be provided to CNO.

4.4.2.3 PEO(T) (PMA 251) is responsible for providing the material acquisition and logistics support functional management for ALRE installed in ships, in aircraft, and ashore from inception through service life of the systems involved. Responsibilities include:

- a. Certifying the safety and operability of ship's installed ALRE systems.
- b. Coordinating the shipboard installation of all COMNAVAIRSYSCOM cognizant equipment in ships.
- c. Developing the total aviation facilities requirements data package for integration into any Navy ship design.
- d. Ensuring compatibility of ship and aircraft installed automatic carrier landing systems.
- e. Providing technical direction to the NAVAIRWARCENACDIV Lakehurst and its CAFSU organization and exercising technical COG of VRT operations worldwide.
- f. Designated as the COMNAVAIRSYSCOM ALREMP manager.

4.4.3 PEO(T) (PMA 251) has command and support responsibility over the NAVAIRWARCENACDIV Lakehurst. This enables PEO(T) (PMA 251) Headquarters to fulfill its role in matters pertaining to ALRE maintenance and material support for fleet readiness.

4.4.3.1 NAVAIRWARCENACDIV Lakehurst is the cognizant field activity (CFA) for ALRE under PEO(T) (PMA 251). It is responsible for research, engineering, development, test and evaluation, systems integration, limited production, procurement, overhaul or repair, and in-service engineering of ALRE.

4.4.3.2 NAVAIRWARCENACDIV Lakehurst also provides technical and logistic support to all activities in support of installation, operation, overhaul, maintenance, repair and certification inspections of ALRE, and provides representatives to the Board of Inspection and Survey (INSURV).

4.4.3.3 CAFSUs are the technical representatives of NAVAIRWARCENACDIV Lakehurst and coordinate support efforts between NAVAIRWARCENACDIV Lakehurst, fleet, and support activities. Figure 4-5 depicts the NAVAIRWARCENACDIV Lakehurst organization. As the in-service engineering agent and life cycle manager for ALRE, responsibilities include:

a. Management and oversight of programs necessary to meet the primary CNO objective to attain maximum operational readiness of ALRE equipment in support of flight operations.

b. Technical authority accountable to COMNAVAIRSYSCOM and ICP for the designation of material and repair parts maintained aboard ship on a "never out" basis to support operations of both routine PMS or corrective maintenance. Shipboard "never out" material requirements shall be routinely reviewed by TYCOM and provided to NAVICP.

4.4.4 COMNAVAIRSYSCOM has command and support responsibility over the FRC and NAVAIRWARCENACDIV designated as ALRE depot maintenance activities. These industrial establishments, through their VRTs, perform a complete range of repair operations on ALRE.

4.4.4.1 FRC and NAVAIRWARCENACDIV VRTs are small groups of shipyard trade specialists who are cross-trained and capable of functioning in two or more trades.

4.4.4.2 VRT shall be overseen by a NAVAIRWARCENACDIV CAFSU representative to ensure ALRE maintenance standards established by

NAVAIRWARCENACDIV Lakehurst are maintained. VRTs are established at the FRC in North Island, CA and at NAVAIRWARCENACDIV detachments in Norfolk, VA and Mayport, FL.

4.4.4.3 VRT personnel perform designated depot level maintenance, repair, refurbishment, replacement and modification tasks in direct support of NAVAIRSYSCOM shipboard and shore-based ALRE installations. Artisans are responsible for ensuring the proper QA inspections of all work performed per established procedures.

4.4.5 COMNAVSEASYSYSCOM has responsibility for ALRE equipment foundations, components of the catapults steam system prior to the launch valve, high pressure air for hydraulic systems, electrical power, stabilization inputs to VLA systems from the ship's stable element, and interior communications to all areas. NAVSEASYSYSCOM also prepares ship alterations (SHIPALTs) to ALRE, as recommended by NAVAIRSYSCOM, authorizing the depot maintenance activities concerned to make approved alterations. NAVSHIPYDs and NAVSEASYSYSCOM shore activities are primary designated overhaul points (DOPs) for ALRE. Figure 4-6 shows the NAVSEASYSYSCOM ALRE maintenance organization.

4.4.5.1 NAVSHIPYDs. The NAVSHIPYDs, located at Bremerton (including San Diego detachment) and Norfolk, furnish depot level repair facilities and technical guidance for availabilities and overhaul periods. These activities perform major repairs, modifications and overhauls to ALRE and are responsible for the proper installation, alteration and test of this equipment under current drawings and directives.

4.4.5.2 Fleet technical support centers (FTSCs) are shore activities of NAVSEASYSYSCOM. The FTSC, Atlantic, is located at St. Julien's Creek Annex, Norfolk, VA, and FTSC, Pacific, is located in San Diego, CA. The FTSCs, using technical data received from NAVAIRWARCENACDIV Lakehurst, are responsible for maintaining ALRE Maintenance Requirement Cards (MRCs).

4.4.5.3 Supervisors of Shipbuilding, Conversion, and Repair, United States Navy (SUPSHIPS) are NAVSEASYSYSCOM shore activities which award and administer Navy and other DoD shipbuilding, design, conversion, repair, and facility contracts at commercial shipyards. SUPSHIP responsibilities include approval of certain design plans, inspections, tests and certifications. The SUPSHIP office also functions as a procurement activity and administers the commercial

industrial services (CIS) program, integrates the requirements of several commands and manages the planning and engineering efforts for overhauls and availabilities.

4.4.5.4 The Naval Sea Logistics Center (NAVSEALOGCEN) is the field activity of COMNAVSEASYSKOM and serves as the MDS central data bank for the ship's 3-M System.

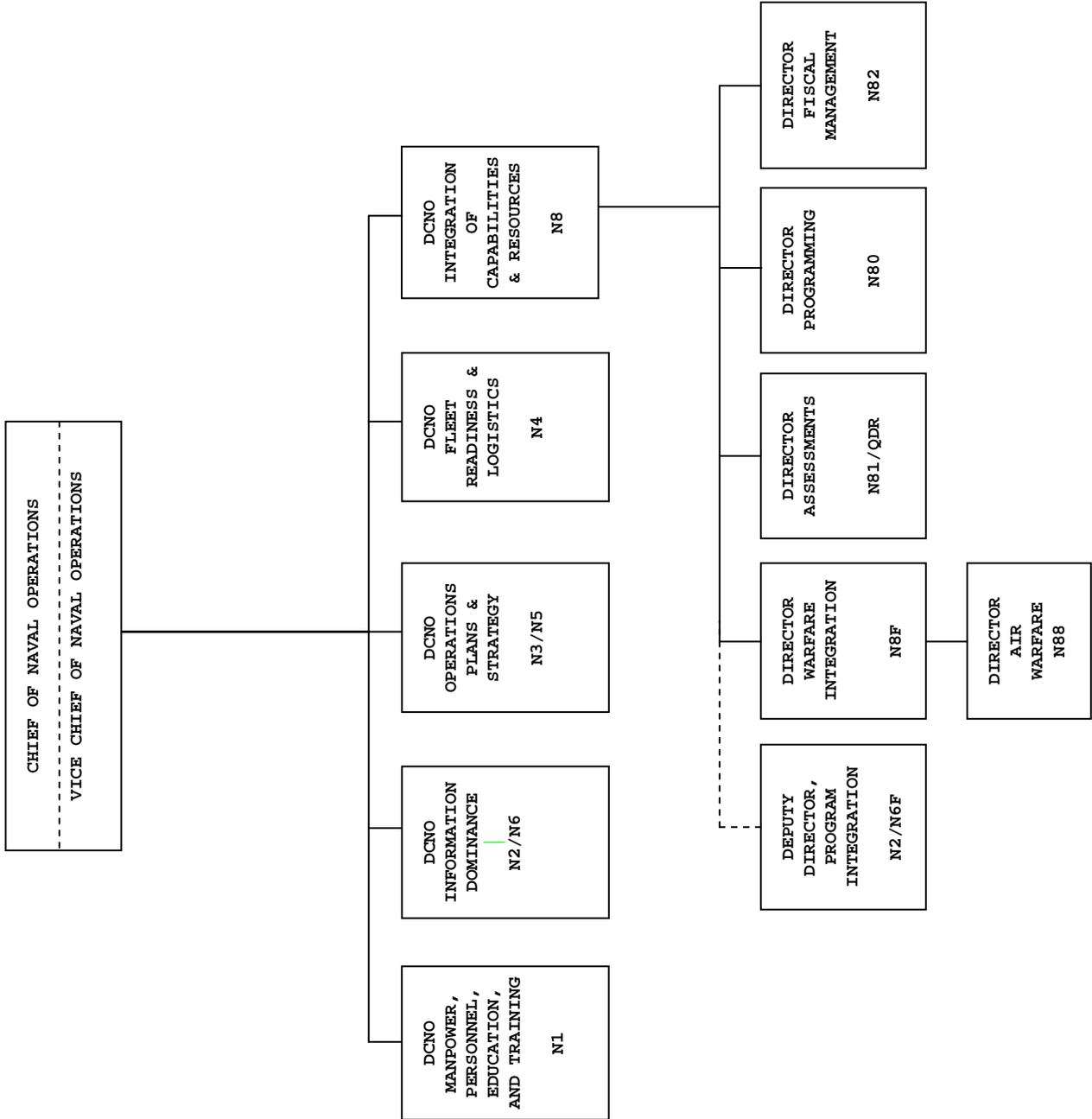


Figure 4-1. Office of the Chief of Naval Operations and N8 Organization

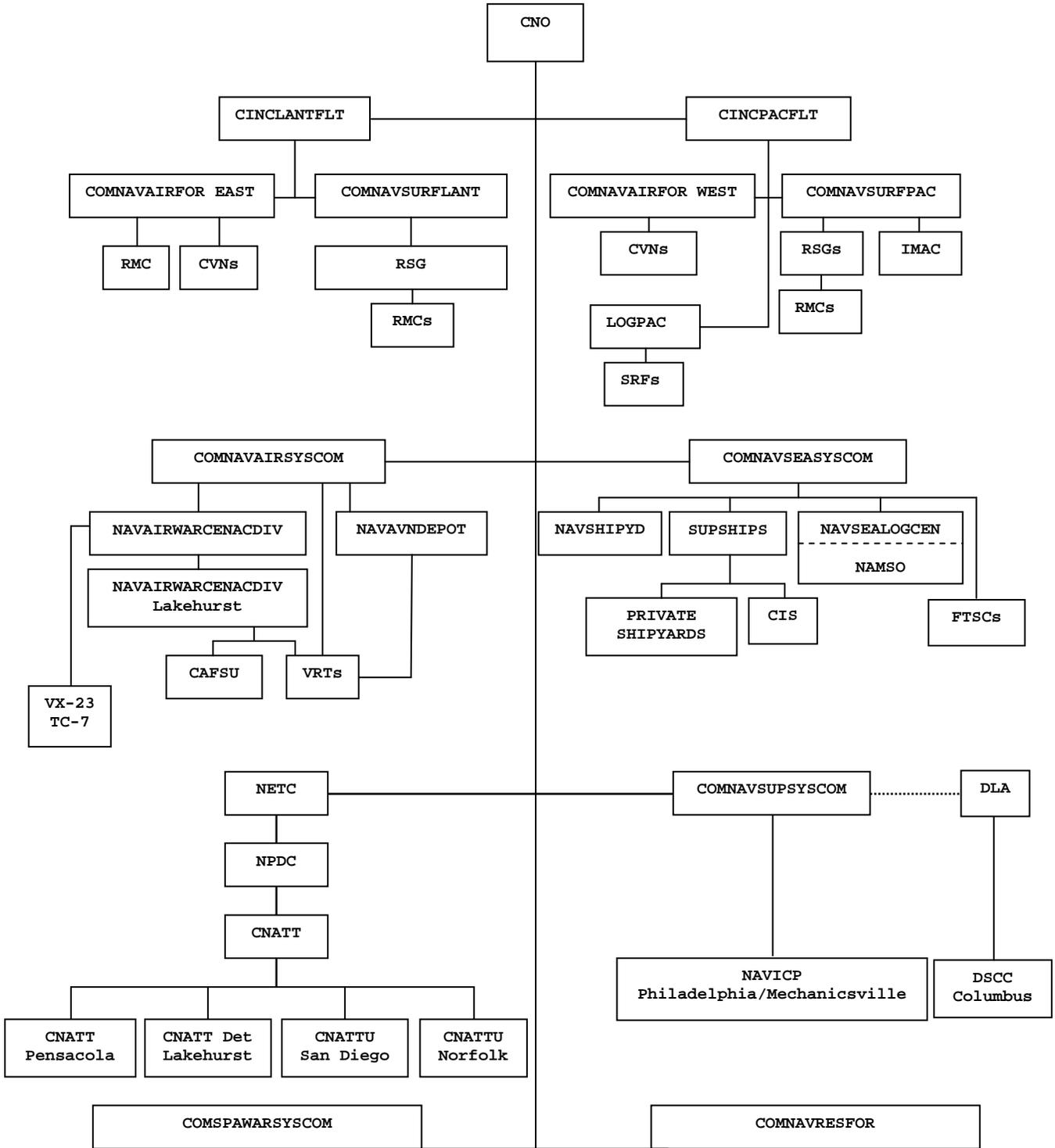


Figure 4-2. ALRE Maintenance Organization

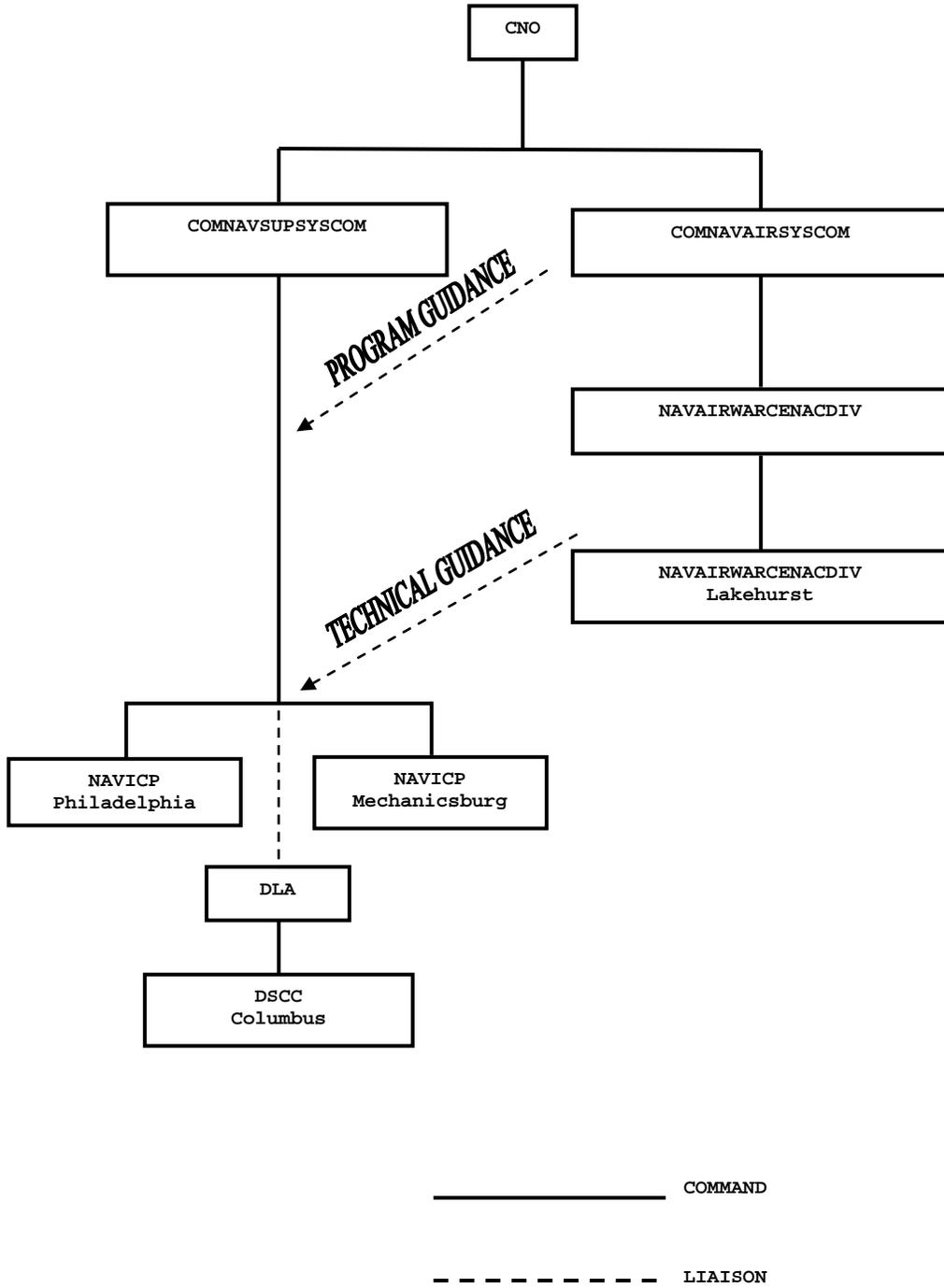


Figure 4-3. ALRE Supply Organization

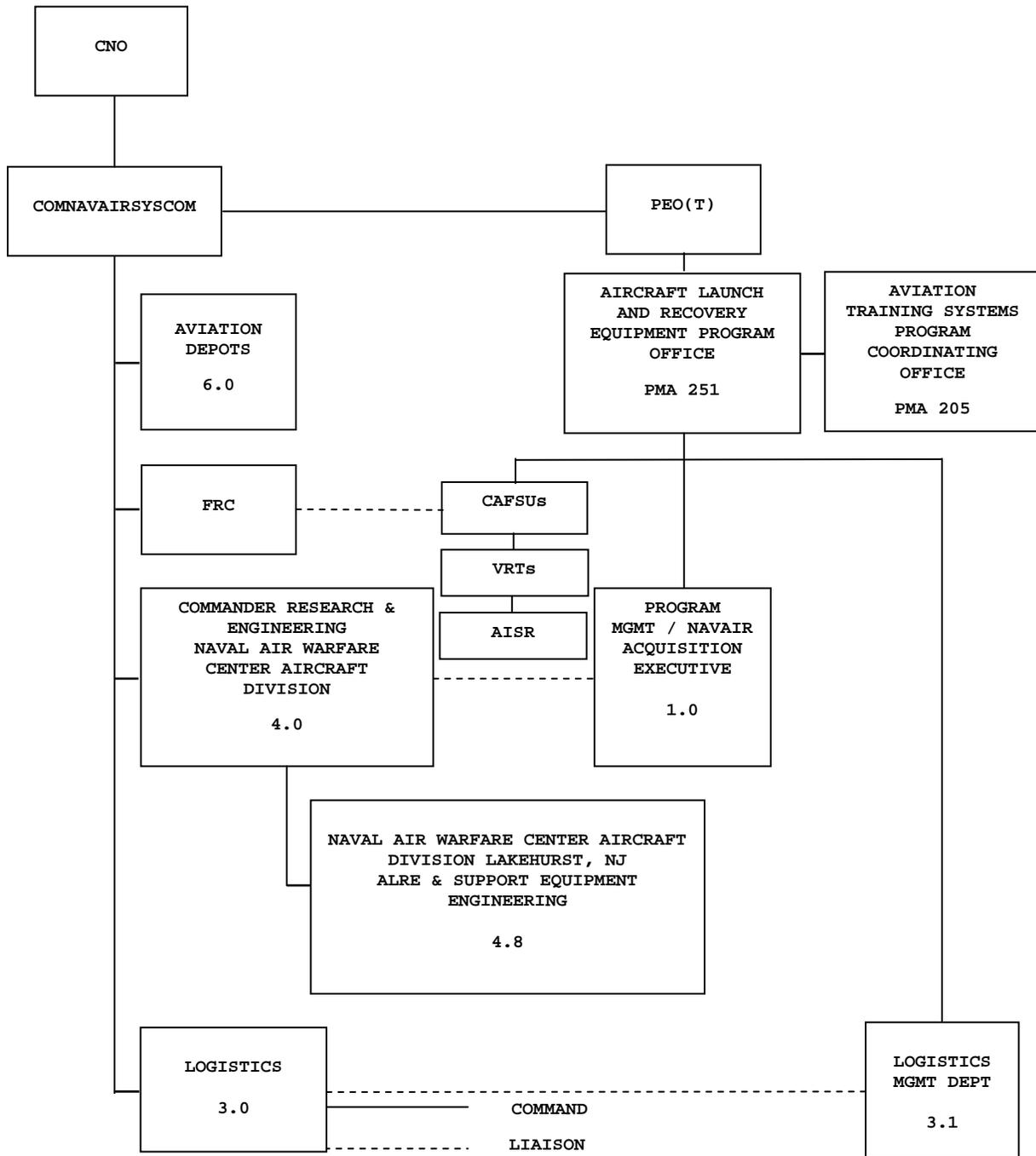


Figure 4-4. COMNAVAIRSYSCOM ALRE Maintenance Organization

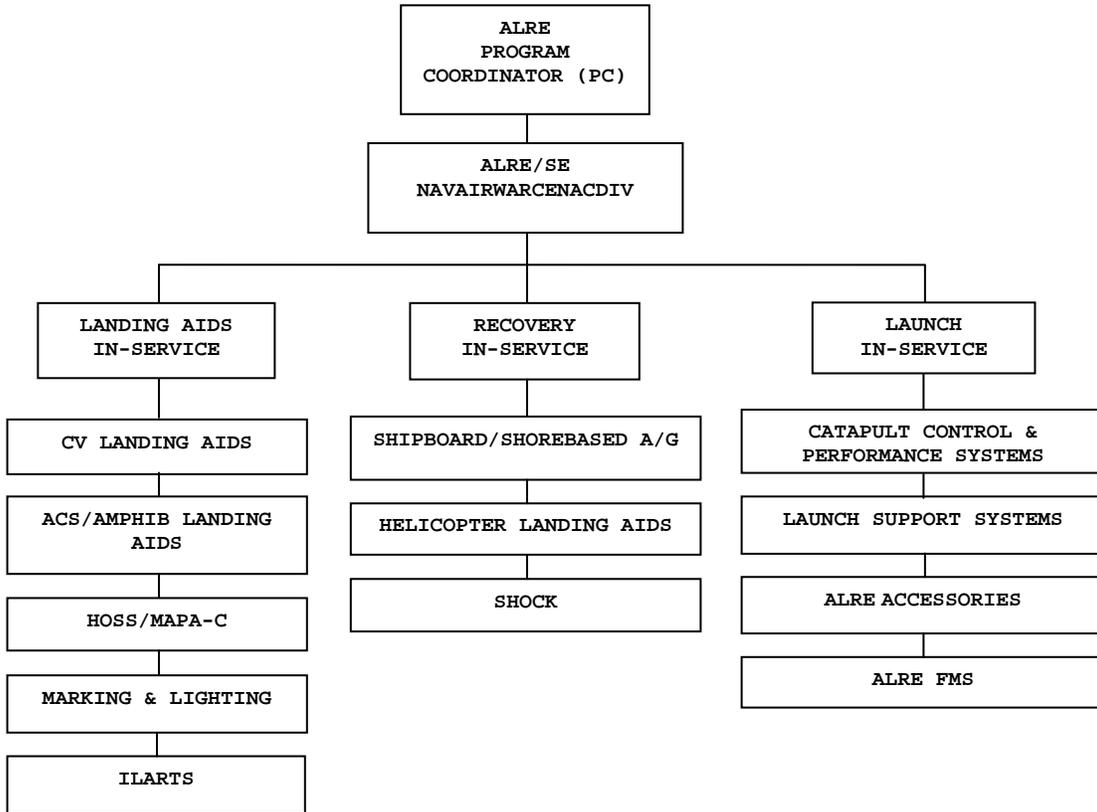


Figure 4-5. Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV) Lakehurst Organization

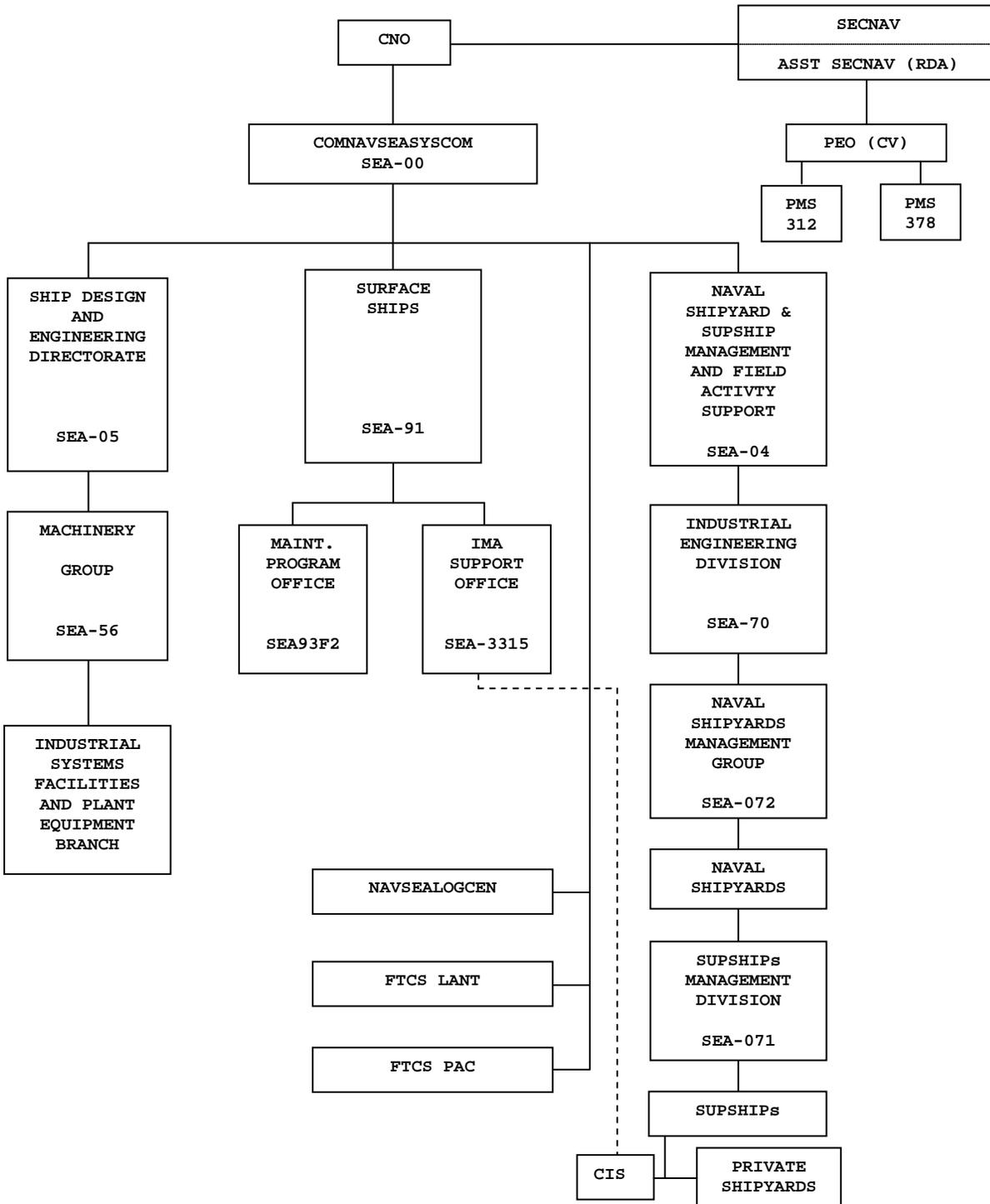


Figure 4-6. COMNAVSEASYS COM ALRE MAINTENANCE ORGANIZATION

Chapter 5 - Training

TABLE OF CONTENTS

<u>Sec</u>	<u>Subject</u>	<u>Page</u>
5.1	Navy Training Plan (NTP) and Naval Aviation Training Program.....	5-2
5.2	Command Relationships.....	5-3
5.3	Command Responsibilities.....	5-3
5.4	General Maintenance Training.....	5-5
5.5	Navy Training Schools.....	5-6
5.6	ALRE Maintenance Officer Training.....	5-8
5.7	In-service Training.....	5-8
5.8	ALRE Maintenance Management Teams (AMMTs).....	5-9
5.9	Human Performance Requirements Review (HPRR).....	5-10
5.10	Organizational Responsibilities.....	5-11
5.11	Training Publications.....	5-13
5.12	Navy Integrated Training Resources and Administration System (NITRAS)	5-14
5.13	Funding	5-14
5.14	Manpower Management.....	5-14

TABLE OF FIGURES

<u>Fig</u>	<u>Subject</u>	<u>Page</u>
5-1	ALRE Training Organization.....	5-16

Chapter 5

Training

5.1 Navy Training Plan (NTP) and Naval Aviation Training Program

5.1.1 The NTP is a NAVAIRSYSCOM-developed document which lists the multiple elements required for life cycle support of new aircraft, systems, subsystems, or equipment. Development, approval, and implementation procedures are provided in OPNAVINST 1500.76B. The NTP is the official statement of billets, personnel, and training input and resource requirements to support the introduction and operational use of aircraft, systems, subsystems, equipment, and other developments, including non-hardware related developments. The NTP assigns responsibilities for the planning, programming, and implementing actions necessary to provide required support to ensure:

a. Coordination of billets, personnel, military construction, training support, and training planning concurrently with hardware development and production.

b. Efficient and adequate training programs coincident with the introduction of aircraft, systems, subsystems, equipment, or other developments, or modifications to existing systems or equipment.

c. Support of the policies established for system acquisition within the Navy Department.

5.1.2 The Naval Aviation Training Program requires that billets, personnel, military construction, training support, and training planning be performed concurrently with hardware development and production. Further, training programs will be phased in with adequate lead times to meet the introduction of new aircraft, systems, subsystems, and related equipment. Program organization and management shall be complementary and coordinated to provide for minimizing operating costs, personnel movement, training pipeline time, training billets, and special manning requirements. The program is designed to ensure basic, intermediate, advanced, and in-depth levels of training for all maintenance personnel to support existing, planned, and future weapon system acquisitions.

5.2 Command Relationships

5.2.1 Command relationships are based on lines of authority among various echelons as well as among various administrative and support activities. Many echelons are involved in training aviation maintenance personnel. Liaison is maintained across all levels of command. Figure 5-1 illustrates the coordination relationships that exist in ALRE maintenance training.

5.3 Command Responsibilities

5.3.1 The CNO is responsible for training naval personnel and for directing the various commands and offices that provide resources required to implement the training program.

5.3.2 OPNAV (N88) is responsible for:

a. The establishment of policy, requirements, and priorities for aviation training and the development of aviation training plans.

b. The supervision and direction of aviation training, including formal technical class A school training provided by the Naval Education and Training Command (NETC); the supervision and direction of TYCOM aviation training; the approval of establishment, disestablishment, and modification of training programs; the programming of aviation training resource requirements, including training manpower; and approval or disapproval of Naval Air Technical Training Center (NATTC) Pensacola, NATTC Detachment Lakehurst, and Center for Naval Aviation Technical Training Unit (CNATTU) (Norfolk and San Diego) course establishment, disestablishment, and revision.

5.3.3 The Deputy Chief of Naval Operations (Manpower, Personnel, Training and Education) (DCNO (N1)), together with the Bureau of Naval Personnel (BUPERS):

a. Participates in personnel and training planning, in the development and review of Navy training plans (NTPs), and in meeting personnel inventory and skills requirements to support introduction of new acquisitions.

b. Performs occupational task analysis as specified by CNO in support of new systems and aviation training requirements.

5.3.4 COMNAVAIRSYSCOM:

a. Performs research, design, development, test, acquisition, and logistic support of all naval aviation weapon systems and associated material and equipment.

b. Initiates development of recommended NTPs for new weapon systems and components requiring establishment of in-house Navy training under OPNAVINST 1500.76B.

c. Initiates action for development, procurement, installation, maintenance, and repair of equipment required in support of aviation training programs.

d. Reviews existing training programs and curricula for technical adequacy and availability of suitable training equipment.

e. Provides for factory and other specialized contract training. Arranges for inter-service training where required.

f. Provides maintenance and logistics support of maintenance trainers required by fleet training activities.

5.3.5 Director, Training and Education Division (OPNAV (N15)):

a. Provides formal training for the operating forces.

b. Establishes procedures for the regular validation and review of assigned training programs.

c. Provides necessary planning, programming, and budgeting for manpower and training resources, including facilities, to support assigned training requirements.

5.3.6 COMNAVAIRFOR:

a. Supervises, coordinates, and directs internal aviation technical and management training programs for all activities.

b. Coordinates maintenance training, maintenance administration courses, and factory training under the auspices of NAVAIRSYSCOM.

c. Exercises quota control authority of all training under his or her COG.

d. Conducts reviews of new or revised training curricula.

e. Provides on-site training and management assistance to all carriers through the ALRE maintenance management teams (AMMTs).

5.3.7 The Naval Safety Center (NAVSAFECEN) provides technical assistance through reviews of training equipment, curricula, and training devices for safety related issues where inadequate training could result in excessive risk to personnel and equipment.

5.4 General Maintenance Training

5.4.1 This section defines the levels of training for ALRE personnel. It covers the required training for specific job requirements on ALRE systems and associated equipment.

5.4.2 Training is a continuing effort that begins with an individual's entry into service and continues through various courses, with his or her eventual assignment to a particular job. The technical knowledge and skills required to perform in the assigned job determine course requirements.

5.4.3 Training is accomplished in a sequential process with basic courses providing prerequisites for the following courses. Most aviation personnel receive initial training en route to their first duty station.

5.4.4 Formal training for ALRE personnel consists of "A" school at NATTC Pensacola and "C" school at the Center for Naval Air Technical Training (CNATT) Detachment Lakehurst, NJ. Most personnel undergoing ALRE training will follow a standard training path, with revisions and exceptions met on an as required basis. Recruit personnel enroute to a fleet billet will normally attend a class "A" school. Fleet personnel will normally attend specialized training in a class C course.

5.4.5 Navy Enlisted Classifications (NECs)

5.4.5.1 NECs supplement the enlisted rating structure by identifying personnel and billets in manpower authorizations. NEC codes reflect special knowledge and skills that identify personnel and requirements when the rating structure is insufficient by itself for manpower management purposes.

5.4.5.2 Personnel may earn five NECs that are maintained in the enlisted master record for detailing and distribution purposes.

The primary and secondary NECs are reflected on the Enlisted Distribution Verification Report (EDVR) at local commands.

5.4.5.3 Successful completion of C school is mandatory for the assignment of ALRE NECs. NECs will be automatically awarded to ensure faster assignment and reduce paper work at the command level.

5.4.5.4 Commanding officers may recommend cancellation of an NEC assignment when personnel do not qualify or perform their NEC duties satisfactorily, normally within 6 months after reporting aboard. Full details are defined in NAVPERS 18068F, Navy Enlisted Manpower and Personnel Classifications and Occupational Standards, the NEC Manual.

5.5 Navy Training Schools

5.5.1 NETC conducts training for officers and enlisted personnel in basic, technical, and specialized areas as described below:

a. Class A - Provides the basic technical knowledge and skills required to prepare an individual for entry-level performance and additional specialized training.

b. Class C - Provides the advanced knowledge, skills, and techniques necessary to perform a particular job in an assigned billet. An NEC may be awarded to identify the skill achieved.

c. Class F - Provides team training to fleet personnel, officer and enlisted, en route to duty as members of ship's company. It also provides individual refresher, operator, maintenance, and technical training to meet fleet or TYCOM needs.

5.5.2 NATTC, Pensacola, FL, and CNATT Lakehurst, NJ, provides training for officers and enlisted personnel in the operation, maintenance, and repair of ALRE systems and associated equipment using maintenance trainers. Trainers are instructional units that provide training support for a system, specific equipment, groups of related equipment, or specialized techniques.

5.5.3 The CNATTUs (Norfolk and San Diego) train fleet personnel in courses covering operation and maintenance of specific equipment and systems and in ALRE administration and management. They provide formal training for fleet personnel with the following courses:

- a. ALRE Operation and Maintenance for Catapult Refresher (C-604-2016).
- b. ALRE Operation and Maintenance for Catapult Basic (C-604-2024).
- c. ALRE Shipboard Arresting Gear (C-604-2025).
- d. ALRE Quality Assurance Administration (C-670-2017).

5.5.4 The fleet training centers (FTCs) of Commander, NETC, provide numerous courses in a wide variety of subjects. Course listing and quota control information are listed in the Catalog of Navy Training Courses (CANTRAC), NAVEDTRA 10500.

5.5.5 Shipyard technical training for fleet personnel consists of regularly scheduled courses that are convened periodically at NAVSHIPYDs and cover a wide range of technical areas. Courses not regularly scheduled may be arranged through the TYCOM, if sufficient requirements exist. Courses are normally in the hull, mechanical and electrical areas and include various types of welding, gas detection, insulation or lagging, brazing, boat repair, degaussing, rigging, fire watch, wire rope construction, and other similar industrial disciplines.

5.5.6 The Corporate Enterprise Training Activity Resource System (CETARS) is a computerized system used to facilitate management of the training program. CETARS provides student scheduling for various courses, generates student reports, performs diagnostic testing and grading, and maintains individual and unit statistical data.

5.5.7 TYCOM logistics support training for fleet personnel consists of regularly scheduled courses covering both ALRE integrated logistics support (ILS), Ship Configuration Logistics Support Information System (SCLISIS) functionality and shipboard maintenance reporting applications such as the Organizational Maintenance Management System (Next Generation) (OMMS (NG)) operations. Topics include ALRE configuration management fundamentals, material control and maintenance reporting documentation procedures, divisional configuration management and material control requirements with emphasis on identification and use of ALRE configuration in the OMMS (NG) maintenance reporting program. Classes can be arranged through the TYCOM.

5.6 ALRE Maintenance Officer Training

ALRE maintenance officers shall attend, and successfully complete, the ALRE maintenance officer course at the CNATT Lakehurst, NJ, prior to reporting for duty. The course provides the essential prerequisites for initial assignment to an ALRE maintenance officer billet. Topics include basic qualifications in management principles and techniques, ALRE systems and equipment, supply fundamentals, maintenance and material control procedures, QA requirements, the PMS, launch and recovery bulletins and TDs, data collection requirements, casualty reports (CASREPs), availability planning, and the fundamental elements of the ALREMP.

5.7 In-Service Training

5.7.1 In-service training is a command responsibility. Since this training represents a major contribution to the Navy's overall efforts, a systematic in-service training program shall be conducted. Both lectures and practical training are integral parts of a successful program and must be coordinated to satisfy each individual activity's particular requirements.

5.7.2 Formal in-service training is conducted through lectures, supplemented with visual aids and required reading. A schedule of training is prepared and published by the division officer listing each lecture, time, location, attendees, subjects, and instructors.

a. Branch officers prepare a training syllabus for their personnel and maintain progress records for them. They also furnish the division officer with the names of the personnel to schedule for training lectures.

b. Lectures may also be prepared by designated officers and petty officers. Instructors are usually detailed from the V-2 division and are responsible for presentations and report of student progress.

5.7.3 On-the-job training (OJT) is informal training and consists of practical instruction of personnel in the performance of maintenance tasks, by demonstration and simulation, under the supervision of designated personnel. The experienced personnel of the activity are used to instruct, demonstrate, and impart their skills to less experienced personnel. No special equipment is required, only the job and normal tools to do it. The striker or

trainee learns by seeing the job done and gains experience by participating in the work. The nature of this type of training makes regular scheduling impractical.

a. Practical training is performed at every opportunity and can be monitored by effective use of a training syllabus. The syllabus prepared for this type of training is commensurate with the skills of rated and striker personnel. OJT is documented on the OPNAV 4790/33 Training Syllabus.

b. A report of practical training accomplished is made to the division officer at regular intervals, and final attainment of satisfactory levels of skill is recorded in appropriate records. These records will indicate required training in special areas, documentation of OJT completed, as well as certify qualifications for individual advancement in rate.

5.7.4 The Personnel Qualification Standards (PQS) Program is a compilation of written requirements for a specific watch station or unit team member. PQS is in the format of a specification guide and contains questions pertaining to a specific task. Further detailed information regarding PQS procedures can be found in NAVEDTRA 43100-1, NAVEDTRA 43100-2 Handbooks, and OPNAVINST 3500.34F.

5.7.5 Required reading consisting of certain directives and publications, as directed by the division officer, are routed for dissemination as maintenance information. The material should be incorporated in the active required reading file for each branch or work center (W/C). The active file contains temporary maintenance information and such other information as the division officer may direct. The standing file will contain material of a continuing nature that has been read and initialed by all personnel presently assigned, but which is kept on file for the indoctrination of new personnel. OPNAV 4790/34 Required Reading and Maintenance Information Record is used to maintain a record on the progress of each person. When a required reading document is not itself contained in the reading file, a cross-reference sheet giving the document's location is filed in its place. Files are reviewed and initialed at least once monthly by the V-2 division officer and obsolete material removed.

5.8 ALRE Maintenance Management Teams (AMMTs)

The TYCOM AMMTs are available to advise, train, and assist fleet activities with ALRE maintenance procedures, logistics support

problems, and personnel utilization. Detailed information on concepts, responsibilities, and procedures are found in chapter 6.

5.9 Human Performance Requirements Review (HPRR)

5.9.1 The HPRR is a CNO-sponsored review of designated weapon systems training courses, to ensure the fleet has the best trained maintenance personnel. The HPRR:

- a. Identifies deficiencies in current training tracks, courses, curriculum content, and NECs.
- b. Resolves problems that have previously been identified.
- c. Programs corrective action.
- d. Establishes a tailored training track for enlisted aviation billets, where applicable.
- e. Provides a communications bridge for community participants to generate an interchange of ideas.

5.9.2 The HPRR process, which also applies to ALRE training, ensures compliance with CNO policy and development of structured training tracks to promote standardization between fleets per the following basic guidelines:

- a. Formal training shall be limited to subject matter taught most effectively and economically in a classroom setting.
- b. OJT will be used to reinforce classroom training, where feasible.
- c. Formal structured training shall provide the knowledge and skill required of specific tasks which the trainee will be required to perform.

5.9.3 The HPRR consolidates all elements of the training process. Commands represented on the policy committee include CNO, NETC, COMNAVAIRFOR, U.S. Atlantic and Pacific Fleets. Advisory committee membership includes BUPERS, NAVAIRSYSCOM, and others as appropriate. Policy and advisory committees primarily are concerned with maintenance and training policy. Working committees comprise fleet subject matter experts (SMEs) who must be familiar

with the technical aspects of the weapon system to be reviewed. SMEs must also be aware of current maintenance problems and their relationship to the training process.

5.9.4 When an HP RR conference is announced, affected TYCOMs should schedule and conduct a preliminary conference. The preliminary conference indoctrinates participants in review, scope, objectives, procedures and reports. Information concerning training tracks and applicable courses will be provided.

5.9.4.1 Participants in the preliminary conference will be required to attend the CNO conference and are to be selected accordingly.

5.9.4.2 Participants will normally perform the following at the CNO-sponsored conference:

- a. Review existing training and modify as required.
- b. Establish new training as required.
- c. Recommend revisions, deletions, or development of new NECs.
- d. Identify and describe new course requirements.
- e. Identify problems relative to training deficiencies that impact on fleet readiness and make appropriate recommendations.

5.10 Organizational Responsibilities

5.10.1 The commanding officer is responsible for personnel training within his or her command. All local unit training will include appropriate elements of OPNAVINST 5100.8G, Navy Safety Occupational Safety and Health Program, OPNAVINST 5100.19E, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat, and OPNAVINST 5100.23G, Navy Safety and Occupational Safety and Health Program Manual.

5.10.2 The air officer is responsible for ensuring that training is accomplished for both permanently and temporarily assigned personnel and for ensuring adequate monitoring of appropriate personnel documents (EDVR, OPNAV 1000/2, etc.).

5.10.3 V-2 division officers shall establish and carry out a suitable training program as directed by the air officer, monitor

5.10.4 Group and W/C supervisor responsibilities for the training program are as follows:

- a. Ensure formal in-service training is conducted through lectures, supplemented with visual aids and required reading.
- b. Ensure OJT is conducted by demonstration and simulation under supervision of designated W/C personnel.
- c. Ensure PQS is administered per established procedures.
- d. Maintain active and standing required reading boards.

5.11 Training Publications

5.11.1 NAVPERS 18068F, Navy Enlisted Manpower and Personnel Classifications and Occupational Standards Manual, defines rates and ratings by describing the Navy's requirements and identifies additional skills required in specified billets which are supplemental to rating skill requirements. The manual consists of two volumes as follows:

- a. Volume I - Contains occupational standards that express requirements for skills as determined by manpower management. These standards form the basis for personnel training and distribution.

- b. Volume II - Contains NECs which identify skills requiring more specific identification than is provided by rates and ratings and which are not rating-wide requirements.

5.11.2 CANTRAC. The CANTRAC (NAVEDTRA 10500) contains information on schools and courses offered through NETC and other Navy training commands.

5.11.2.1 Functions. The CANTRAC provides a consolidated and computerized catalog displaying courses available.

5.11.2.2 Organization. The CANTRAC is organized as follows:

- a. Volume I - Introduction and General Information, and on training activities. Volume I lists such information as seasonal uniform changes, quarters availability, and any other pertinent information relative to schools operated by the Navy.

b. Volume II - Catalog Course Descriptions and Convening Schedule. Volume II provides a listing of all courses arranged in numerical sequence by course identifying number. Volume II also provides prerequisites for courses.

5.11.3 The list of training manuals and correspondence courses (NAVEDTRA 10061-AR) is a catalog of current training manuals and self-study courses, for both officer and enlisted personnel, in professional subjects. It is revised and distributed annually to all ships and stations.

5.12 Navy Integrated Training Resources and Administration System (NITRAS)

NITRAS is an automated system designed to be responsive to demands for training information from NETC and other high-level commands. Also, it provides direct supportive data for BUPERS. NITRAS files provide functional commanders and the training activities with an automated capability to manage and support the Navy training effort. NETC is responsible for management and operation of NITRAS, as noted in NETCINST 1510.1A.

5.13 Funding

En route training is funded by BUPERS. ALRE maintenance training that requires the expenditure of temporary additional duty (TAD) and travel funds must be requested per type or functional commander directives and the CANTRAC. Follow-on training is funded by the TYCOMs. TAD and travel costs may be funded by the TYCOMs or BUPERS with modification to TAD orders requested via the appropriate chain of command.

5.14 Manpower Management

5.14.1 OPNAVINST 1000.16K, Navy Total Force Manpower Policies and Procedures provides information, policies, tasking, and procedures for Navy manpower management. The instruction is intended for use by all echelons in dealing with manpower change requests or other manning issues.

5.14.2 Manpower requirements for ships are developed through the ship manning document (SMD) process, which identifies quantitative and qualitative manpower requirements for the ship.

5.14.3 Occupational standards define the tasks required of specified rates or ratings. They are the minimum standards required to function effectively at a given level of

responsibility. They are the basis for enlisted training, advancement, distribution, and manpower requirements development.

5.14.4 OPNAV 1000/2 Manpower Authorization is the qualitative and quantitative document expressing military manpower requirements authorized by CNO for a naval activity. OPNAV 1000/2 is used for:

- a. Providing effective personnel distribution.
- b. Planning manpower requirements for recruiting, training, promotion, distribution, and Naval Reserve recall.
- c. Stating official organizational manning and billet authorizations approved by CNO.

5.14.5 NAVPERS 1000/3 Activity Manpower Document (AMD) Change Request contained in OPNAVINST 1000.16K is used to request changes to manpower authorization resulting from mission, tasking, or organizational changes. NAVPERS 1000/3 is submitted to the fleet commander in chief for update into the Total Force Manpower Management Systems (TFMMS).

5.14.6 The EDVR is a monthly statement of an activity's personnel account reflecting all individual assignments, including prospective gains, prospective losses, and an onboard rating or NEC summary.

5.14.7 Distribution NECs are used to inform commands of which NECs are being distributed and how they are carried against the activities' manpower authorizations.

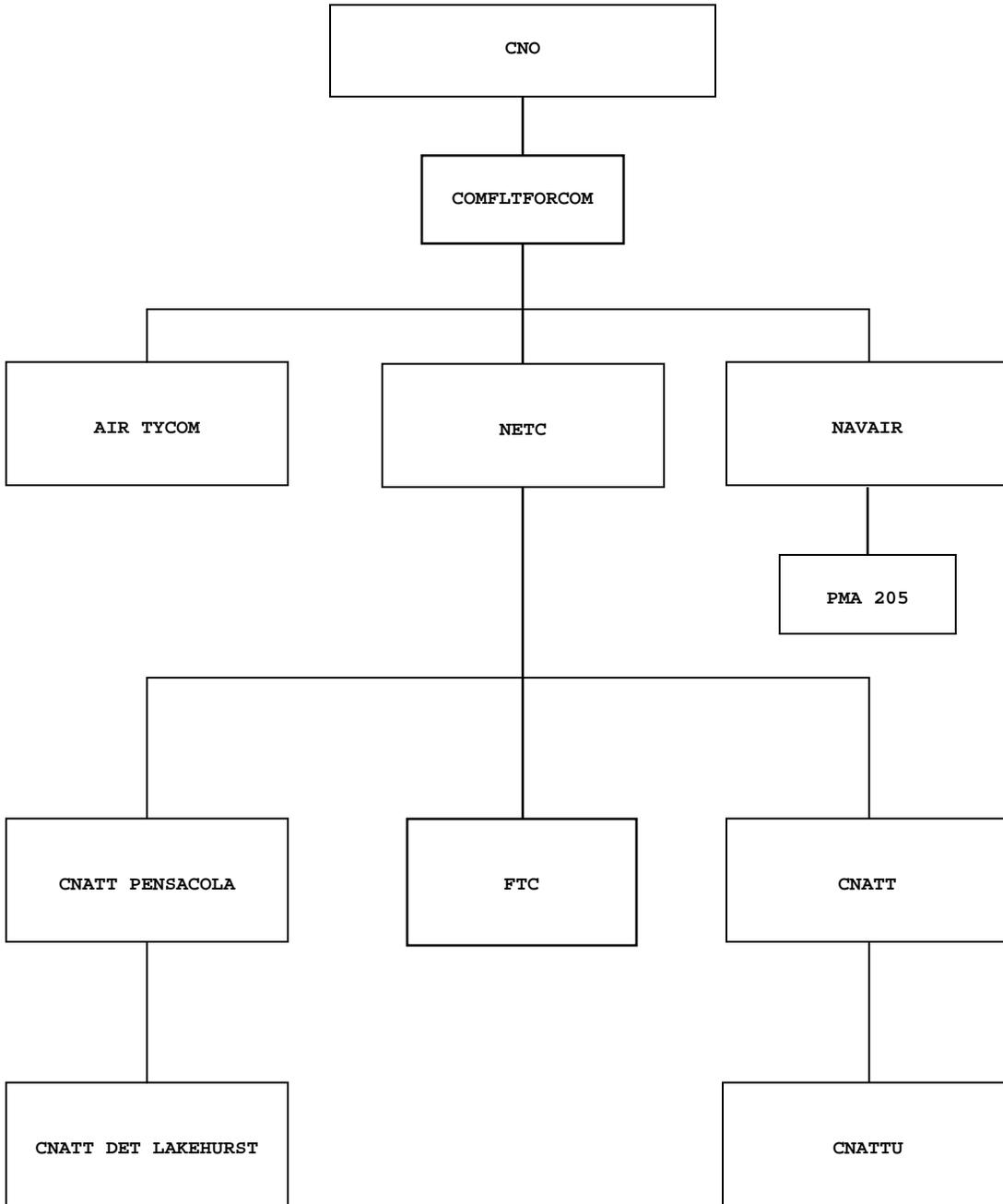


Figure 5-1. ALRE Training Organization

Chapter 6 - ALRE Maintenance Management Teams

TABLE OF CONTENTS

Sec	Subject	Page
6.1	TYCOM ALRE Maintenance Management Team Composition.....	6-2
6.2	Concept of Operations.....	6-2
6.3	Duties and Functions.....	6-3
6.4	Evaluation Criteria.....	6-4

Chapter 6

ALRE Maintenance Management Teams (AMMT)

6.1 TYCOM ALRE Maintenance Management Team Composition

AMMTs shall be established by the air TYCOMs and PEO(T) ((PMA 251) ALRE, Electro Magnetic Aircraft Launch System, Advanced Arresting Gear Program Management and Acquisition). These teams serve as the link between the CNO program sponsor and the fleet CVN and shore establishments, ensuring that ALREMP policy and maintenance practices are strictly adhered to. The ALREMP management teams, at a minimum, will consist of one highly experienced ALREMP maintenance officer and one highly qualified aviation boatswain's mate master chief petty officer, aviation boatswain's mate launch and recovery equipment senior chief petty officer, and aviation boatswain's mate launch and recovery equipment chief petty officer, capable of providing guidance in all facets of ALREMP. Two concepts of operation are used, assistance and audit.

6.2 Concept of Operations

6.2.1 Two concepts of operation are used, assistance and audit.

a. Assistance will be provided by the AMMT on a day-to-day basis as necessary. This assistance may consist of technical advice, ALREMP management, liaison between the ship and outside entities, CASREP submission, etc. Support of the ALRE maintenance officer is a core function of the AMMT. Operational commands are encouraged to request assistance as necessary for training in specific areas of ALREMP.

b. Audits will consist of periodic evaluation of details, plans, policies, procedures, products, directives, and records encompassed in the ALREMP program. Due to the critical nature of the ALREMP program and to ensure maximum dissemination of the inspection criteria throughout the chain of command, all audits shall be formal in nature. Formal audits shall be conducted by the AMMT to guarantee proper execution of the ALREMP and associated directives.

6.2.2 AMMT shall audit fleet CVNs annually during the ships fleet response plan (FRP) cycle. The FRP cycle audits shall be conducted during ship's availabilities, during the ship's work-up cycle, and prior to deployment. Audits will also be conducted on ALRE shore activities annually. These audits shall be formal in nature and

should not disrupt normal operations and maintenance. The AMMT will evaluate V-2 division's operation and maintenance procedures for adherence to current CNO, NAVAIRSYSCOM, NAVAIRWARCENACDIV Lakehurst, and all applicable TYCOM directives. Activities audited are encouraged to discuss their maintenance, material and personnel problems and to reveal other areas of concern where guidance may be beneficial. An out brief shall be conducted with the commanding officer or appointed representative, air officer, V-2 division or site officer, ALRE maintenance officer, and other designated personnel at a mutually agreed upon time. A formal report documenting the discrepancies found or identified by ship's force during the audit will be furnished to the audited command by the AMMT team leader.

6.2.3 The commanding officer may request the services of the AMMTs whenever he or she deems it necessary.

6.2.4 The AMMT shall notify the command being audited and PEO(T) (PMA 251) by naval message as early as possible, but no less than 2 weeks prior to the actual dates of all audits.

6.2.5 The AMMT may board any command for unscheduled audits at the TYCOM's discretion. Audits may also be requested by the activity via naval letter or message whenever the command feels it is necessary.

6.3 Duties and Functions

The AMMT shall advise, train, and provide direction in lieu of latest instructions and audit fleet carrier V-2 divisions and shore activities regarding aircraft launching and recovery equipment maintenance procedures, including related administrative and logistics requirements. Specific functions include, but are not limited to:

a. Providing guidance in interpretation of ALREMP directives, detecting and assisting in resolving problems, and ensuring uniformity and standardization of policies and procedures in all fleet CVNs.

b. Providing advice, training, and assistance in proper operation, maintenance of ship's installed ALRE.

c. Analyzing personnel use, including NEC assignment and utilization, divisional EDVR management, and SMD requirements for the V-2 division.

d. Advising, training, and assisting with maintenance training procedures and PQS.

e. Providing informal liaison between the fleet unit and the TYCOM staff.

f. Reviewing and advising management and supervisory personnel regarding compliance with all aspects of the QA program.

g. Advising and assisting in proper maintenance and material control techniques, requisitioning procedures, and record keeping requirements.

h. Reviewing and recommending changes to ALREMP policy, procedures, instructions, and publications.

i. Upon completion of audits, delivering or forwarding a copy of all discrepancies and comments to the audited command and PEO(T) (PMA 251).

j. Analyzing, advising, and assisting in training of proper maintenance and material reporting processes.

k. Conducting spot checks of the ALRE "never-out" repair parts list inventory during assist visits and audits in order to verify accuracy and program compliance.

6.4 Evaluation Criteria

6.4.1 Audits will require a formal report, listing all discrepancies, and a summary statement will be forwarded to the commanding officer within 30 days of audit completion. A copy of the report will also be forwarded to PEO(T) (PMA 251).

6.4.2 A report of corrective action taken or to be taken shall be submitted to the associated TYCOM within 30 days of the receipt of the formal audit results. Each discrepancy listed in the report will be addressed individually to correspond with item or paragraph. Major discrepancies identified by the AMMT must be corrected prior to operating the affected equipment. Updates will be submitted every 30 days on all minor discrepancies until corrective action is taken.

6.4.3 Major discrepancies identified will warrant a grade of "unsatisfactory" during the audit and must be reevaluated by the AMMT as soon as the ship has taken corrective action.

6.4.4 Results of TYCOM regularly scheduled audits will be considered for the overall determination of the competitive award for efficiency (Air Department YELLOW "E").

NOTE

A major discrepancy is any deficiencies, which, if not corrected, could result in death or injury to personnel, or damage to or loss of aircraft, equipment, or facilities. These discrepancies can include, but are not limited to, tag out violations, safety related program management deficiency trends, lack of overall maintenance control, etc.

Chapter 7 - Special Programs

TABLE OF CONTENTS

Sec	Subject	Page
7.1	Foreign Object Damage (FOD) Prevention.....	7-2
7.2	Metrology and Calibration (METCAL).....	7-2
7.3	Aircraft Launch and Recovery Equipment (ALRE) Discrepancy Reporting Program.....	7-2
7.4	Tool Control	7-3
7.5	Corrosion Prevention and Control.....	7-3
7.6	Non-destructive Inspection (NDI).....	7-3
7.7	Configuration Management.....	7-3
7.8	Flight Safe Program.....	7-7
7.9	Discrepant Parts List (DPL).....	7-8
7.10	Automated Shot and Recovery Log (ASRL) Program	7-8

Chapter 7

Special Programs

7.1 Foreign Object Damage (FOD) Prevention

7.1.1 Cleanliness of catapult and A/G equipment and machinery areas and the prevention of damage, through loose or foreign objects, is essential to safe operations. Foreign object damage to ALRE can be catastrophic to the equipment and could lead to the destruction of aircraft and serious injury to personnel. A continuing successful program to combat FOD (including fluid spills) requires active all hands participation.

7.1.2 An effective FOD prevention program that identifies, corrects, and eliminates causal factors is a command responsibility. A successful program depends on command support, knowledgeable and aware personnel, and a high degree of integration into the overall maintenance effort. Each carrier shall develop and implement a strong FOD prevention program, issue specific directives on internal control, and ensure verification of program compliance for all ALRE systems. The V-2 division officer is assigned ALRE FOD prevention responsibilities.

7.2 Metrology and Calibration (METCAL)

The METCAL program, established by COMNAVSEASYSCOM, provides for calibration and repair facilities to ensure optimum performance of precision measuring equipment (PME). COMNAVSEASYSCOM has overall management control for the Navy's METCAL program which is defined by NAVSEAINST 4734.1B. ALRE PME is also governed by the provisions set forth in NAVAIRINST 13640.1B. Activities will use the nearest supporting IMA for calibration support, as specified in appropriate directives.

7.3 Aircraft Launch and Recovery Equipment (ALRE) Discrepancy Reporting Program

7.3.1 The ALRE Discrepancy Reporting Program is the method by which hazardous situations, material and publications deficiencies, and improper QA procedures are reported. It includes the ALRE Product Quality Deficiency Report (PQDR), ALRE Hazardous Material Report (HMR), ALRE Engineering Investigation (EI) request, and the ALRE Technical Publications Deficiency Report (TPDR). This program is discussed in detail in chapter 11.

7.4 Tool Control

The Tool Control Program (TCP) provides a means to rapidly account for all tools following completion of a maintenance task, thus reducing the potential for FOD. Responsibilities for compliance with this program are in paragraph 12.5.

7.5 Corrosion Prevention and Control

7.5.1 To prevent mishaps, excessive out-of-service time, serious damage to aircraft and equipment, and a resultant reduction in readiness with increased costs, corrosion must be prevented or corrected at all levels of maintenance. Responsibilities for corrosion prevention and control, and documentation procedures are outlined in NAVAIRSYSCOM, NAVSEASYSYSCOM and other supporting directives. Under OMMS (NG), corrosion control documentation is mandatory. For additional information, see appendix B for corrosion codes that must be entered on OPNAV 4790/160 Aircraft Launch and Recovery Equipment Maintenance Action Form.

7.6 Non-destructive Inspection (NDI)

NDI is the practice of evaluating a part or sample of material without impairing its usefulness. Program requirements are defined in NAVAIRINST 13070.1C. NDI support for ALRE maintenance is a function of intermediate maintenance activities and is routinely obtained from AIMDs and RMCs.

7.7 Configuration Management

7.7.1 COMNAVAIRSYSCOM has management responsibility for controlling and tracking modifications to aeronautical equipment using the TD system.

7.7.1.1 Configuration management applies technical and administrative direction and surveillance to: (1) identify and document the physical and functional characteristics of an item; (2) control changes to any of those characteristics; and (3) record and report change processing and implementation status. Changes in equipment or the characteristics of the equipment must be documented and reported. Proper accounting of configuration changes helps ensure effective supply, maintenance, and other logistics support (i.e., current COSALs, technical manuals, and PMS coverage).

a. ALRE configuration items are defined by NAVAIRWARCEN for maintenance reporting and are the basis for logistics support from

the installation equipment maintenance plan (MAPL). They are identified from NAVAIRWARCEN drawings by NAVAIRWARCEN part number (P/N) and manufacture P/N if the item is manufacture specific (as in the case of catapult hydraulic pressure regulator valves or A/G motor units).

b. Every configuration item has a unique and distinct allowance parts list (APL) that contains the description and P/N identification of the configuration item in the component characteristics file section of the APL. The configuration item APL lists any component parts that belong to that configuration item in P/N sequence with the corresponding component NSN in the parts list section of the APL. This list of NSNs is then used to establish and drive the onboard allowances of authorized spares for the configuration.

7.7.1.2 Technical documents approving specifications establish a baseline for systems, subsystems, and equipment. Any changes, modifications, or replacement of the initial equipment is a deviation from the baseline and must be reported. Baselines, plus approved changes to those baselines, make up the current configuration of a piece of equipment or system.

a. The configuration items installed aboard ship are found in the ship's equipment file (SEF), as determined and structured by the equipment drawing top-down relationship portrayed in NAVAIRSYSCOM illustrated parts breakdown (IPB) work packages as the next higher to next lower relationships.

b. The SEF is comprised of the configuration items for the ship and is compiled following a ship, system, sub-system, assembly, sub-assembly hierarchical top down structure based upon the configuration item function.

7.7.2 PEO(T) (PMA 251), as ALRE program manager, retains configuration management responsibility and authority for ALRE. NAVAIRWARCENACDIV Lakehurst, the CFA for ALRE, prior to issuing a TD, must ensure that supply support is available, that affected documentation is updated, and that all impacted ILS elements are adequately addressed. Current configuration status is maintained by the TYCOMs for the equipment under their COG.

a. PEO(T) (PMA 251) is responsible for ensuring that all elements (material, funding, technical manuals, training, and facilities, etc.) affected by a change proposal are adequately addressed, provided for, and approved by the Configuration Change

Control Board per NAVAIRINST 4130.1D. PEO(T) (PMA 251) also coordinates with the ALRE supply support organizations to ensure adequate spares and material support is available in the supply system.

b. The responsibility for identifying and reporting configuration changes exists at all levels of the command. While the initial configuration is defined by NAVAIRWARCENACDIV and validated by TYCOM logistics teams to ensure proper configuration status, configuration changes can sometimes occur unknowingly and should be reported in order that the allowances for authorized spare items can be maintained. Configuration changes occur whenever a maintenance action:

(1) Replaces an installed configuration item found in the SEF with an item that has different characteristics and APL.

(2) Modifies an installed configuration item found in the SEF that then changes the characteristics of the installed item and APL.

(3) Removes an installed configuration item from the ships SEF.

(4) Relocates an installed configuration item found in the SEF to a different space.

(5) Installs a new configuration item to the SEF.

7.7.3 NAVAIRSYSCOM TDs are issued for different systems and equipment, generally in the form of changes and bulletins. Some of these include ship installed and expeditionary airfield, aircraft launch, recovery, VLAs, changes and bulletins, and numerous others. COMNAVAIRSYSCOM policy and requirements for the TD program are outlined in NAVAIRINST 4130.1D, the NAVAIR Configuration Management Manual, and NAVAIRINST 5215.12A, the NAVAIR TD System.

7.7.3.1 NAVAIRWARCENACDIV Lakehurst TDs are in the form of NAVAIRSYSCOM SCs, bulletins, and repair procedures which direct the modification, repair, or inspection of specific equipment or systems. These directives provide detailed information for accomplishment and documentation of the action. Completion of the action (modification, inspection and repair) is recorded on OPNAV 4790/171 Configuration Form 1511, which is provided as an enclosure to the change or bulletin annually, NAVAIRSYSCOM issues a Zero Bulletin that provides an index and current status of changes,

bulletins, and repair procedures. Action accomplishment for automated processing of OPNAV 4790/CK by ships force is documented by; submission of OPNAV 4790/171 by V-2 division to NAVAIRWARCENACDIV and automated OPNAV 4790/CK Ship's Configuration Change Form processing functionality of SCLSIS equipment file configuration updates thru OMMS(NG). Action accomplishment for non-automated processing of CK by ships force and outside activities is documented by; submission of form OPNAV 4790/171 by V-2 division to NAVAIRWARCENACDIV and submission of a paper 4790/CK by off-ship personnel under NAVSEASYS COM Technical Specification 9090-310E, OPNAVINST 4790.4E and NAVSEAINST 4790.8B. OPNAV 4790/171 is forwarded to NAVAIRWARCENACDIV Lakehurst, with copies to the TYCOM, NAVICP Philadelphia, and NAVICP Mechanicsburg. The activity shall also take appropriate action to ensure ship's plans are modified to reflect the installed change, as necessary.

7.7.3.2 Completion of an OPNAV 4790/CK, reports configuration status to the weapon system file (WSF) at NAVICP Mechanicsburg and the In-Service Engineering Agency at NAVAIRWARCENACDIV, Lakehurst. The MDS automated data reporting aboard ship is basically the same as in the non-automated 3-M program used by shore activities. The terms "2K," "CK," and "Work Candidate" are perpetuated in supporting software even though the paper forms are not filled out (with the exception of the OPNAV 4790/2L Supplemental Form. Appendix B of NAVSEAINST 4790.8B contains general guidelines for filling out a paper OPNAV 4790/CK by off-ship activities. Appendix A of NAVSEAINST 4790.8B and Configuration Data Managers Database - Open Architecture (CDMD-OA) Desk Guide (NSLC ID N40-991001-01) contain general guidelines for completing SCLSIS equipment file configuration updates through CDMD-OA work files to the configuration data manager (CDM) or In Service Engineering Agency (ISEA). The WSF is the basis for supply and MS for the reflected configuration status of fleet carriers. Configuration changes can result from installation of SCs, incorporation of request for engineering investigations (REIs), or completion of work candidates and should be reported by processing configuration file updates to the SEF through maintenance support center (MSC) to the CDM or ISEA. These actions are required in addition to the submission of the OPNAV 4790/171. The processing of OPNAV 4790/CK and data documents a configuration change resulting from:

a. Addition or installation of any new configuration equipment identified by NAVAIRWARCENACDIV Lakehurst.

b. Deletion, removal, turn-in (SEF serialized items only) of installed configuration equipment identified by NAVAIRWARCENACDIV Lakehurst.

c. Replacement or exchange of any configuration equipment containing different characteristics. Automated reporting requires SEF configuration file updates while non-automated reporting requires two documents, one for removal and one for replacement.

d. Modification of any installed equipment as a result of service change or REI that changes the characteristics of the configuration item.

e. Relocation of any configuration equipment identified in the SEF by a compartment to a new or different compartment space.

f. Accomplishment of any TD; i.e., service change, REI, SHIPALT or ship change document.

g. Correction or update of a configuration record in the SEF.

7.8 Flight Safe Program

7.8.1 The ALRE Flight Safe Program helps to ensure that critical ALRE parts and installation and overhaul processes receive the degree of quality control necessary to maintain safe and efficient ALRE operations.

7.8.1.1 Flight Safe Critical Safety Item (CSI). Quality controls of ALRE CSI parts are essential to facilitate correct installation and maintain operational safety. In order to ensure parts that are critical to safe ALRE operations are manufactured and tested to NAVAIRSYSCOM drawing specifications, the designation of CSI has been applied to these specific parts. The list of CSI is available through periodic distribution from NAVAIRWARCENACDIV Lakehurst guidance concerning critical applications including CSI are provided in SECNAVINST 4140.2.

7.8.1.2 Action required of organizational and intermediate level activities.

a. Perform QA part identification actions prior to the installation of a CSI part.

b. Locate the QA stamp number and record this number in block 35 of OPNAV 4790/160. The number is in the format QA XX-XXX.

7.8.1.3 Action required of depot level activities.

If during the repair or overhaul of an ALRE component, a CSI designated part is required, ensure compliance with the applicable NAVAIRSYSCOM technical manual. When a CSI designated part is installed, including shipboard and ship-to-shop repaired and overhauled equipment, ensure the QA stamp number, specific job order number and applicable W/C is recorded and provided to the ship's ALRE maintenance officer.

7.9 Discrepant Parts List (DPL)

7.9.1 The ALRE DPL Program is an automated computer program data base that will identify ALRE components and parts that have been determined to be discrepant. The program contains a listing of discrepant parts that will identify discrepant parts prior to their installation.

7.9.1.1 The DPL is used to identify parts that are discrepant prior to installation in ALRE equipment or systems. The DPL contains an up-to-date listing of all known discrepant parts that could be issued from the supply system for use by maintenance personnel. NAVAIRWARCENACDIV, flight safe/critical safety item (CSI) manager, Code 4.8.2.6, Lakehurst, NJ, maintains the discrepant parts data base. They will furnish updates to each command utilizing this program on a periodic basis.

7.9.1.2 All activities performing maintenance on ALRE equipment or systems are required to perform 100 percent DPL verification of all parts prior to installation.

7.9.2 Detailed instructions concerning the DPL Program are listed in NAWCADLKE-48J500-0007 Aircraft Launch and Recovery Equipment Discrepant Parts List Program Users Manual (Ship's) and Users Manual (Manager's).

7.10 Automated Shot and Recovery Log (ASRL) Program

7.10.1 The ALRE ASRL Program consists of two major subsystems - the ASRL Main System and the Log Entry System. The ASRL Main System is used to accumulate the log entry data from the remote W/C computers and provides an array of capabilities. The Log Entry System is designed to be installed on remote W/C computers to allow independent entry of steam catapult and pri-fly recovery data.

7.10.2 Steam Catapult Log

7.10.2.1 Catapult launching data shall be kept in a catapult rough shot log or directly loaded into a computer system running the ASRL Log Entry Program. Daily, the launching data will be transferred to the ASRL Program (ASRL Main). Detailed instructions concerning the ASRL program are listed in NAWCADLKE-48J500-0009, ALRE Automated Data Processing (ADP) Program Users Manual.

7.10.2.2 ASRL data shall be collected by all activities operating steam catapults for all launches, including no load and dead load. Care shall be taken to provide complete and accurate information. A clock, synchronized with ILARTS time, shall be installed in a location where it will be plainly visible from the console recorder's station during all launches.

7.10.2.3 Ships shall print out completed log sheets and review them for accuracy prior to creating a disk for NAVAIRWARCENACDIV Lakehurst. After any corrections are made, log sheets will be signed by a catapult officer, arranged in chronological order, and retained for a period of 1 year. The backup disk will serve as the ship's permanent record and will be retained with the life of the ship.

Note

Ensure that all disks are virus scanned prior to transferring data into the system or after data has been transferred to disk. Viruses can corrupt data and disable computers. Also, viruses may be passed between computers via disk. It is essential to check disks when they are received or prior to forwarding.

7.10.2.4 Ships shall submit ASRL reports no later than the fifth day of each month. Submission of ASRL reports should be made via e-mail to NAVAIRWARCENACDIV Lakehurst, Fleet Liaison, Code 4.8.9, when available. When e-mail is not available disk shall be sent to:

**COMMANDER, NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION LAKEHURST
ATTN: CODE 4.8.2.1
BLDG 596/1 HWY 547
LAKEHURST, NJ 08733-5090**

To ensure disks are received in a timely fashion, NAVAIRWARCENACDIV Lakehurst, Fleet Liaison, Code 4.8.9 will notify PEO(T) (PMA 251) and respective TYCOM's monthly of status of required reports.

7.10.3 Recovery and Wire Rope History Logs

7.10.3.1 A/G data shall be kept in an A/G rough log or directly loaded into a computer running the ASRL Log Entry System. A clock, synchronized with ILARTS time, shall be installed in a location where it will be plainly visible from the pri-fly Operator's station during all recoveries. Daily, the recovery data will be transferred to the ASRL program. Detailed instructions concerning the ASRL program are listed in NAWCADLKE-48J500-0009, Aircraft Launch and Recovery Equipment ADP Program Users Manual.

7.10.3.2 Ships shall print out completed log sheets of both pri-fly recovery logs and wire rope history and review them for accuracy prior to creating a disk for NAVAIRWARCENACDIV Lakehurst. After any corrections are made, log sheets will be signed by the arresting gear officer, arranged in chronological order, and retained for a period of 1 year. The backup disk will serve as the ship's permanent record and will be retained with the life of the ship.

Note

Ensure that all disks are virus scanned prior to transferring data into the system or after data has been transferred to disk. Viruses can corrupt data and disable computers. Also, viruses may be passed between computers via disk. It is essential to check disks when they are received or prior to forwarding.

7.10.3.3 Ships shall submit ASRL reports no later than the fifth day of each month. Submission of ASRL reports should be made via e-mail to NAVAIRWARCENACDIV Lakehurst, Fleet Liaison, Code 4.8.9, when available. When e-mail is not available disk shall be sent to:

**COMMANDER, NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION LAKEHURST
ATTN: CODE 4.8.2.2 BLDG 596/1 HWY 547
LAKEHURST, NJ 08733-5090**

To ensure disks are received in a timely fashion, NAVAIRWARCENACDIV Lakehurst, Fleet Liaison, Code 4.8.9, will notify PEO(T) (PMA 251) and respective TYCOMs of status of required reports.

Chapter 8 - Maintenance Organization and Responsibilities

TABLE OF CONTENTS

Sec	Subject	Page
8.1	Concept	8-2
8.2	Organization	8-2
8.3	Responsibilities.....	8-3

TABLE OF FIGURES

Fig	Subject	Page
8-1	ALRE Maintenance Organization.....	8-9

Chapter 8

Maintenance Organization and Responsibilities

8.1 Concept

ALRE includes catapults, A/G, visual landing aids (VLAs), and associated information systems. Since ALRE is utilized by high performance aircraft, safety must always be paramount to the personnel who operate and maintain this equipment. A properly implemented maintenance program will improve safety, maintenance integrity, effectiveness, performance, training of personnel, management, and evaluation of maintenance performed. The ALREMP is designed to maximize the effective utilization of manpower and material to accomplish this goal.

8.2 Organization

8.2.1 This program provides standard ALRE maintenance organization structures and procedures that will promote uniformity among carriers in the method of utilizing maintenance personnel, materials, and facilities. Figure 8-1 depicts the ALRE maintenance organization. Maintenance control (M/C), QA, and MS W/Cs are essential elements in the V-2 division organizations. To enable the program to run smoothly, certain controls and procedures have been formulated in the specific areas of M/C and administration; forms, records and reports; QA procedures; and in methods of performing maintenance. These procedures will aid in the establishment of good management practices and prevention of maintenance defects, and will enhance the ability of shipboard maintenance units to cope with the technical complexities of the ALRE they maintain.

8.2.2 The following is a list of W/C codes and the associated ALRE systems:

- a. VB01: Catapult #1 and all associated equipment
- b. VB02: Catapult #2 and all associated equipment
- c. VB03: Catapult #3 and all associated equipment
- d. VB04: Catapult #4 and all associated equipment
- e. VB05: Arresting Engine #1 and all associated equipment

- f. VB06: Arresting Engine #2 and all associated equipment
- g. VB07: Arresting Engine #3 and all associated equipment
- h. VB08: Arresting Engine #4 and all associated equipment
- i. VB09: Barricade Engine and all associated equipment
- j. VB10: Improved Frensel Lens Optical Landing System (IFLOLS) and all associated equipment
- k. VB11: ILARTS and all associated equipment
- l. VB12: ALRE electricians (refer to NAVAIRSYSCOM 51-50ABA-2 for applicable flight deck lighting systems) and all associated catapult and A/G electrical systems

8.3 Responsibilities

8.3.1 Commanding Officer and Department Head. The ultimate responsibility for ALRE readiness rests with the commanding officer of the carrier in which it is installed. Included in this responsibility is direct overall responsibility for ship's manning, training, and systems upkeep. Responsibility for specific areas of ship's operation is delegated to department heads; for ALRE this is the air officer.

8.3.2 Catapult and A/G Officer. The air officer in turn delegates to the catapult and A/G (V-2 division) officer the specific responsibility for the operation and administration of the ship's ALRE and of all personnel and programs affecting V-2 division.

8.3.3 ALRE Branch Officers. ALRE branch officers are responsible to the V-2 division officer and assist the group supervisor with the supervision of their respective W/Cs, for personnel performance and productivity, administration, and the material condition of the facilities.

8.3.4 ALRE Maintenance Officer. The ALRE maintenance officer is responsible to the catapult and A/G officer for conducting ALRE maintenance and upkeep. His or her duties include control of all maintenance evolutions and specifically the following:

- a. Upkeep maintenance normally performed on a day-to-day basis to include:

(1) Scheduled and unscheduled maintenance including on-equipment repair, removal or replacement of defective parts and components.

(2) Incorporation of TDs, SCs, interim rapid action changes (IRACs), rapid action changes (RACs), service bulletins, and repair procedures.

(3) Periodic review of the ALRE equipment work candidates in OMMS (NG) to verify accuracy and completeness of documented maintenance and corresponding material requisition records.

b. Administration of the MDS includes reporting of configuration changes and logistics support.

c. Maintenance of an active QA program to include the following:

(1) Ensuring that all critical areas of each maintenance action are inspected.

(2) Ensuring that qualified QA inspectors are available for all maintenance and support areas, to include QAIs, CDQAIs, and W/C CDIs.

(3) Operating and maintaining an ALRE TPL to support all equipment and maintenance required in the division, and ensuring that all changes and revisions are entered in each publication as required.

d. Performing upkeep maintenance consisting of off-equipment repair or replacement of damaged or unserviceable parts, components, or assemblies; and performance of PMS inspections on ALRE.

(1) Review PMS maintenance index page (MIPs) index for ALRE W/Cs to verify PMS coverage is per MAPLs as defined by NAVAIRWARCENACDIV. Provide recommendations to NAVAIRWARCENACDIV for expanding or increasing desired PMS actions from non-ALRE MIPs to be considered for inclusion onto NAVAIRWARCENACDIV ALRE MIPs and or NAVAIRWARCENACDIV equipment MAPL.

(2) Review W/C PMS audit reports for completeness and accuracy to identify actions necessary to correct deficiencies.

(3) Review and monitor PMS deficiencies for corrective action. Monitor PMS for reoccurring discrepancies and conduct follow up monitoring of deficiencies that have been reported as completed to ensure corrective action taken was effective.

e. Ensuring liaison with, and coordination and documentation of maintenance required from, RMCs, VRTs, NAVSHIPYDs, CAFSUs, TYCOMs; ship's maintenance manager; and local MS such as from the AIMD or ship's engineering department.

f. Performing the M/C functions outlined herein.

g. Planning and submitting of budget requests for funding tools, spare parts, and materials necessary for proper operation and maintenance of ALRE.

h. Maintaining OPTAR expenditure logs and records.

i. Requisitioning parts and materials to support ALRE operations and maintenance.

j. Establishing and maintaining an effective TCP.

8.3.5 ALRE M/C Supervisor. The ALRE M/C supervisor is responsible to the ALRE maintenance officer for maintenance and upkeep. Duties include:

a. Coordinating daily maintenance activities for all ALRE maintenance production activities.

b. Supervising scheduled and unscheduled maintenance actions.

c. Maintaining and updating the M/C VIDS board for all ALRE maintenance actions.

d. Maintaining and updating MRs status displays.

e. Witnessing immediate maintenance actions as detailed in paragraph 9.11.a.

8.3.6 Group Supervisors (normally chief petty officers). Group supervisors usually manage more than one W/C (i.e., bow catapults, waist catapults, A/G, VLAs) and are responsible for maintenance of all systems and equipment assigned to those W/Cs. Through the W/C supervisors, group supervisors direct and manage an effective maintenance program, supervise day-to-day ALRE operations, ensure

proper documentation of preventive and corrective maintenance, maintain effective communications between W/Cs and M/C, and require compliance with established ALRE support procedures.

8.3.7 W/C Supervisors (including the QA supervisor and MS chief petty officer). W/C supervisors are the key to successful accomplishment of assigned tasks. Each is responsible for maintenance of his or her assigned ALRE systems. This requires constant communication between the W/C and M/C concerning equipment status, availability of manpower, and other factors which affect the capability to maintain the assigned equipment. The W/C supervisor shall direct his or her personnel during daily operations and shall:

a. Keep the group supervisors apprised of all problems and equipment status within his or her W/C.

b. Keep the W/C VIDS status display up-to-date and validated with M/C.

c. Ensure that all maintenance documentation is complete and accurate. The supervisor's signature on the maintenance document signifies that all required maintenance actions have been completed, tool accountability has been maintained, documentation is correct, QA inspections have been performed and the configuration record accurately reflects the installed equipment.

d. Be knowledgeable of the procedures for ordering repair parts through OMMS (NG) and ensure that all W/C personnel have a basic understanding of ordering required parts; from initial identification using the IPB, to creating and submitting required parts listings for M/C approval, to creating and submitting required parts query through OMMS (NG) to material receipt.

e. Be knowledgeable of operating space item (OSI) operations. (Although stocking of OSIs is a supply department function, the inputs for stocking originate with the W/C.)

f. Maintain strict tool control accountability within the W/C. Ensure that all personnel comply with established tool control procedures.

g. Recommend to branch officers, via the group supervisors, qualified and responsible personnel to be CDIs for the W/C. Ensure that QAIs, CDQAIs or CDIs are available for all tasks requiring QA inspection.

h. Identify operations requiring certified operators; ensure steps are taken to qualify and certify necessary personnel. A minimum of 10 percent W/C personnel shall be forklift and tractor driver qualified.

i. Assist the QA W/C in implementing and maintaining support for the division safety program by:

(1) Disseminating appropriate safety posters and literature.

(2) Reporting all accidents and unsafe practices.

(3) Conducting safety training within the W/C.

(4) Using and promoting practices which enhance safety while instilling proper regard for safety considerations in supervised personnel.

j. Assist the branch officers in maintaining the W/C training program in order to:

(1) Ensure optimum use of personnel through job assignments based on their prior training and experience.

(2) Ensure formal in-service training is conducted through lectures supplemented with visual aids and required reading.

(3) Ensure OJT is conducted by demonstration and simulation under supervision of qualified W/C personnel.

(4) Ensure PQS are administered by established procedures.

(5) Ensure personnel understand contents, recognition, use and maintenance of accurate configuration for the W/C.

k. Maintain required reading files; active and standing.

(1) The active file contains maintenance information of a temporary or a short-term nature, such as messages, notices, or memorandums from the ALRE maintenance officer affecting a finite term period (i.e., a few days or weeks).

(2) The standing file contains information of a long-term nature such as directives, instructions, or manuals that are applicable all the time or for extended periods (i.e., several months or years).

(3) Both files will be retained for reference for indoctrination of newly assigned personnel. Assigned personnel will read and initial both files subsequent to the addition of new instructions, directives, and other pertinent information. Files are updated monthly and reviewed by the division officer.

1. Ensure that all publications required in the W/C are available and maintained with current changes.

m. Ensure that a configuration list of the ALRE and ALRE SE is available as a ready reference training aid to properly recognize and identify W/C equipment configuration from NAVAIRSYSCOM technical publications, listing of W/C equipment APL's filling a specific function. It is recommended that this list be in the hierarchical structure code (HSC) sequence for ease of configuration identification and use. Creating this configuration list is in OMMS (NG) by users; clearing their default W/C, applying the "Variations Tab" to select the fields (top or down) HSC, functional description, APL, protocol identifier, equipment identification number, location, support equipment installation and W/C responsible for equipment, sorted on HSC; entering the desired extended ships work breakdown structure (ESWBS) into the HSC field. This is demonstrated as part of the training provided by TYCOM and is useful when exporting data into spreadsheet or other applications.

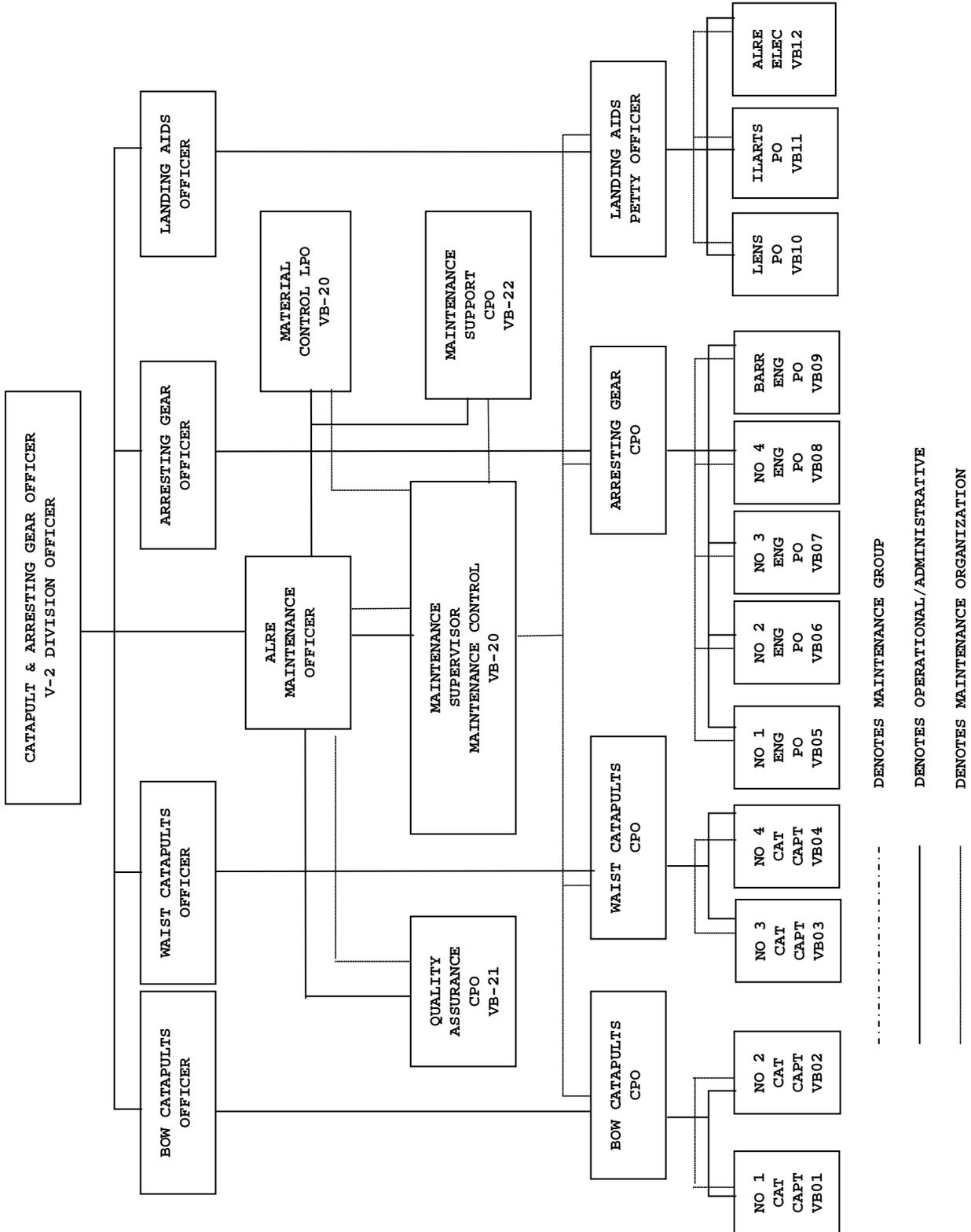


Figure 8-1. ALRE Maintenance Organization

Chapter 9 - Maintenance Control

TABLE OF CONTENTS

Sec	Subject	Page
9.1	Maintenance Control (M/C).....	9-2
9.2	Job Control Number (JCN).....	9-3
9.3	Visual Information Display System (VIDS) Board.....	9-3
9.4	VIDS Board Verification.....	9-5
9.5	OPNAV 4790/180 Maintenance Action Form (MAF) Card.....	9-5
9.6	OPNAV 4790/160 Maintenance Action Form (MAF).....	9-7
9.7	OPNAV 4790/160 Function and JSN.....	9-9
9.8	Unscheduled (Corrective) and Scheduled (Planned Maintenance System (PMS)) Maintenance Procedures.....	9-10
9.9	ALRE PMS Maintenance Requirement (MR) Status Displays....	9-11
9.10	Supporting Maintenance.....	9-12
9.11	Deviations from Normal OPNAV 4790/160 MAF and OPNAV 4790/180 MAF Card Procedures.....	9-12
9.12	Tracking Outside Maintenance Activity Job Status.....	9-13

TABLE OF FIGURES

Fig	Subject	Page
9-1	Maintenance Control VIDS Boards.....	9-18
9-2	Work Center VIDS Board.....	9-19
9-3	Unscheduled (Corrective) Maintenance Procedures.....	9-20/9-21
9-4	Scheduled Maintenance (PMS) Procedures.....	9-22/9-23
9-5	Emergency OPNAV 4790/160 Procedures.....	9-24
9-6	Sample Outside Maintenance Activity VIDS Board.....	9-25

Chapter 9

Maintenance Control

9.1 Maintenance Control (M/C)

The process of controlling maintenance requires information concerning equipment status, operational requirements, workload, and personnel assets available to perform the job. Efficient operation requires that all information concerning these areas pass through the M/C; W/C hereafter to be called M/C. In order to accurately assess and determine proper courses of action, M/C must receive up-to-date information. In every situation, M/C remains the controlling agent, acting as event manager, for all maintenance actions.

9.1.1 The group and W/C supervisors shall be responsible for the actual effort within their areas. They must keep M/C fully informed of any problems that can affect equipment operation and the maintenance process.

9.1.2 The ALRE maintenance officer will function as the M/C officer and shall be responsible for the overall management of the maintenance effort. This responsibility is exercised through the M/C supervisor. He or she shall direct the maintenance evolutions within the division.

9.1.3 Only the ALRE maintenance officer or the M/C supervisor shall have authority to certify that maintenance actions have been completed and that equipment can be returned to operational status. The M/C supervisor shall have this authority designated in writing by the commanding officer.

9.1.4 Clear communications between the W/C and M/C are essential to successful operation of the maintenance program. Two-way voice communication, which is not overcome by inherent operational noise levels, must be available. Portable communication should be available between the ALRE maintenance officer and the work site. Back-up systems, such as sound-powered phones, and similar equipment must be available as secondary means. Additionally, communications within the W/C operating areas must provide adequate and reliable information, as events occur, to ensure that operators are aware of on-going activities and or emergency situations.

9.1.5 Effective M/C requires current information. The VIDS and maintenance requirement (MR) status displays are designed to

provide optimum status information required for control of maintenance. The VIDS and MR status displays are management tools that provide a graphic display of vital, up-to-date information on a continuing basis. Each change in job status will be reflected on the VIDS board. The board displays all job status information, particularly system problems or failures and supply status, and provides the ability to review the overall situation quickly. This system allows the ALRE maintenance officer, M/C supervisor, and group and W/C supervisors to carry out their duties more effectively and efficiently.

9.2 Job Control Number (JCN)

9.2.1 The JCN for each maintenance task is composed of the cognizant W/C designator (i.e., VB01) and the job sequence number (JSN). All outstanding maintenance actions for each W/C, whether in work, awaiting maintenance (AWM), or awaiting parts (AWP), will be posted on the M/C VIDS board (see figures 9-1 and 9-2). Figure 9-2 shows the W/C VIDS board with systems and component identification in the equipment column (left hand side).

9.2.2 The JSN log shall be maintained for each W/C. The unit identification code (UIC) and W/C code must be entered on each page of the log. A separate JSN for each maintenance action reported from each W/C must be assigned. These JSNs shall be in sequential order. The W/C supervisor shall ensure that an identical JCN is assigned to the maintenance action and to any material requested.

9.3 Visual Information Display System (VIDS) Board

9.3.1 VIDS boards consist of enlarged cardex type pockets for the visual display of system status. Each pocket is overlapped by the one above so that approximately a 3/8 inch strip is visible at the bottom of the pockets. The strip provides basic job information including W/C and equipment discrepancy. VIDS boards are available in three sizes: 100-pocket, 50-pocket, and 25-pocket.

9.3.2 The M/C VIDS board provides the current in work, AWM, and AWP status of all ship's force jobs. VIDS board configuration in the W/Cs is similar to that in M/C. Outside maintenance activity (VRT, shipyard, RMC, etc.) job status will be displayed on a separate VIDS board in M/C (only) and is described in paragraph 9.12.

9.3.3 The M/C VIDS board layout, shown in figure 9-1, includes:

a. VIDS board space is used to display W/C designations. Identification of the W/C systems within the W/C maintenance areas, as depicted in figure 9-1 is optional.

b. Graduated space for displaying outstanding discrepancies in an in-work status. Column is entitled in work.

c. Graduated space for displaying discrepancies that are in a deferred or AWM status. Column is entitled AWM.

d. Graduated space for displaying outstanding jobs that are in an AWP status. Column is entitled AWP.

e. The VIDS board layout is flexible and can be used for a variety of informational presentations, but the preceding four elements are mandatory and shall be required of all branches and W/Cs.

f. Boards may have additional columns to monitor and manage such items as weekly PMS requirements, QA requirements (i.e., awaiting functional check, no-load, MAF completion), and to provide visual tag-out indicators. Figure 9-2 shows a board with additional columns. Optional board columns would be used as follows:

(1) PMS - Pre-printed PMS OPNAV 4790/180 Maintenance Action (MAF) Cards containing the maintenance requirement card (MRC) code (for example OPNAV 4790/180 with weekly periodicity MRC codes) are posted on the VIDS board at the beginning of the PMS week. Once posted, the PMS maintenance action is tracked to ensure completion by the end of the week.

(2) QA - For jobs requiring post-maintenance functional verification (no-loads, etc.). Jobs have been accomplished but are pending QA approval until those requirements are met. Also used for completed jobs awaiting QA MAF verification.

(3) Tag-Out - Provides visual indication of tag-out conditions. Supplements current procedures with a VIDS board visual reference to outstanding tag-outs.

9.4 VIDS Board Verification

9.4.1 Daily verification of the M/C VIDS board with the W/Cs, by W/C, JSN and Julian date, is essential to maintain current and correct job and equipment status. Concurrent status provides a quick and accurate review of all maintenance actions.

9.4.2 All OPNAV 4790/180s initiated by W/Cs will remain on the M/C, W/C, QA and MS (as required) VIDS boards until final action is completed. In order to maintain constant status of all maintenance tasks, every job status change must be reflected on each applicable VIDS board.

NOTE

Maintenance not scheduled for action within the next 30 days and that is listed on the current ship's maintenance project (CSMP) need not be displayed on the ALRE VIDS board.

9.4.3 Whenever a job is placed in AWM status or parts are required which halts work, the OPNAV 4790/180 is moved from in work to the proper column, either AWM or AWP. All changes must be reflected on the M/C VIDS board and all cognizant W/C VIDS boards.

9.4.4 Daily, at a time specified by the M/C supervisor, each W/C supervisor (or assistant) shall verify every outstanding OPNAV 4790/180 and status on his or her VIDS board with M/C. Any variations in JCN, Julian date, job status, and or outstanding OPNAV 4790/180 will be resolved at this time. Verification may be done via phone, intercom, or in person using a written list, as locally established.

9.4.5 The W/C supervisor (or assistant) shall certify verification by annotating the date and time and initials alongside the W/C designator on the M/C VIDS board or on a form located near M/C VIDS board. If a local form is used, it must be posted as to be clearly visible and will be established for 1-day use.

9.4.6 For each OPNAV 4790/180 an OPNAV 4790/160 must be initiated. Daily verification includes physical sighting of those MAFs to verify that they are actually initiated.

9.5 OPNAV 4790/180 Maintenance Action Form (MAF) Card

9.5.1 When maintenance is required, an OPNAV 4790/180 is initiated and placed on the VIDS board. M/C and the W/Cs will utilize duplicate OPNAV 4790/180 for every job. OPNAV 4790/180 will be

inserted on the applicable VIDS line in the appropriate column (in work, AWM, or AWP). When the job is started, the OPNAV 4790/180 is placed in the in work column; if the job is deferred, the OPNAV 4790/180 is placed in the AWM column; and, if parts are required before any further maintenance can be performed, the OPNAV 4790/180 is placed in the AWP column. M/C shall direct the W/C to place OPNAV 4790/180 in work, AWM or AWP status, as appropriate.

9.5.2 The OPNAV 4790/180 lists the W/C designation and JSN in the appropriate blocks. The "when discovered" Julian date shall be annotated on the OPNAV 4790/180 in the block provided to assist in tracking the job. This date must match the date found in block 17 of the OPNAV 4790/160.

NOTE

The OMMS computer will automatically provide a Julian date when the JCN is generated. Review and change (if necessary) this number in OMMS to ensure it reflects the discrepancy's actual date when discovered if the maintenance data is entered into OMMS on a different date than when the discrepancy was actually discovered.

9.5.3 The OPNAV 4790/180 uses colors in the priority section to indicate system and maintenance status. These colors are added as appropriate using colored pencils, felt-tip markers, etc., and shall be standardized as follows:

- a. Blue - used in the "Limited" (LIM) block to indicate limited capability (i.e., approaching hit limit, marginal operability, etc.)
- b. Red - used in the "Down" (DN) block to indicate equipment is out of commission (i.e., inoperable, taken apart, reached hit limit, etc.)
- c. No Color - routine maintenance action not affecting equipment operability.
- d. Black - when a maintenance action has been completed and inspected at the proper level, and only a functional check remains to return the equipment to service, a black mark shall be made across all four blocks of the priority section.

9.5.4 Similarly, MS and QA blocks are provided to indicate requirements for MS augmentation of the cognizant W/C, and QAI and CDQAI (not CDI) inspection of the job. The method of annotating these blocks shall be standardized as follows:

a. Green - used to indicate MS augmentation where MS action is required to assist the cognizant W/C.

b. Yellow - used to indicate requirement for QAI and CDQAI (not CDI) inspection of maintenance action.

9.5.5 Jobs requiring QAI and CDQAI (not CDI) inspection will be reflected with an OPNAV 4790/180 on the QA VIDS board. Jobs requiring MS participation will be similarly reflected on the MS VIDS board. MS personnel job man-hours will be documented on the OPNAV 4790/160 (in block 30, S/F MHRS) as a part of the total job man-hours by the cognizant W/C supervisor; additionally, MS will track their own man-hours on the appropriate OPNAV 4790/180 for transcription into a monthly summary. (OPNAV 4790/160s do not segregate man-hours by W/C.) MS and QA must track status changes of all pertinent jobs on the OPNAV 4790/180s located on their respective VIDS boards.

9.6 OPNAV 4790/160 ALRE Maintenance Action Form (MAF)

9.6.1 The OPNAV 4790/160 is designed to provide recorded information concerning inspections and maintenance actions performed on ALRE. The OPNAV 4790/160 shall be used to document all corrective and preventive inspections and maintenance actions performed on ALRE with the exception of pre- and post-operational inspections. Pre- and post-operational inspections may instead be documented on formal pre- or post-operational inspection forms which shall be retained for a minimum of 5 operating days.

9.6.2 Inspections and maintenance actions documented on the MAF are coded in sufficient detail to permit collection of necessary information relating to maintenance actions and equipment performance. Codes used on the OPNAV 4790/160 permit machine processing within OMMS. Blocks 1 through 45 of the OPNAV 4790/160 are identical to the OPNAV 4790/2R Automated Work Requests (AWR). As such, the OPNAV 4790/160 is used to support the CSMP. The OPNAV 4790/160 serves as a single source document that will provide automatic processing of 4790/CKs, OPNAV 4790/2Rs, automatic updating of CSMP, equipment history files, parts usage data, trend analysis, and man-hour documentation. The additional blocks supporting OPNAV 4790/160 data elements unique to ALRE are described and documented as select level reporting (SLR). The functionality of entering this data into OMMS is critical to the OPNAV 4790/160 and is dependent upon the configuration record SCLISIS field of "M" for ALREMP equipment. Configuration records not having this value for special emphasis item (SEI) do not have

the functionality of reporting the SLR data. This data appears in the first few lines of block 35 on a normal work candidate when printed out or during review of CSMP entries.

NOTE

Use of correct maintenance codes when documenting ALRE maintenance is essential for accurate local and historical trend analysis.

9.6.3 The OPNAV 4790/160 format is identical to that used in the shipboard OMMS. After job completion, M/C reviews the accuracy of the completed OPNAV 4790/160, closes out the OPNAV 4790/160 and forwards the OPNAV 4790/160 to QA for filing. Utilize the guidance provided in figures 9-3 through 9-4 to enter data into OMMS and to route OPNAV 4790/160s. In the event that the OMMS system is down, OPNAV 4790/160 is retained by M/C until entry into the OMMS system is completed.

9.6.4 To provide the information required, OPNAV 4790/160s must be completed, as appropriate, for each inspection and or maintenance action. A block-by-block description is presented in appendix C for each application. It is essential that all applicable blocks be filled out correctly, both to provide accurate maintenance data and to avoid rejection during data processing.

NOTE

When entering OPNAV 4790/160 data into OMMS, the computer will automatically generate the UIC. Therefore, it is not necessary to annotate the UIC on an OPNAV 4790/160 unless a hard copy will leave the command. The W/C designation must be annotated on the OPNAV 4790/160 and entered into OMMS. The JSN is assigned sequentially by the OMMS computer, which ensures that each JCN is unique. This number must be annotated on the OPNAV 4790/160.

The OPNAV 4790/160 MAF is divided into seven areas as follows:

- a. Information: contains JCN, equipment configuration data, and discrepancy description codes.
- b. Deferral Action: contains deferral dates and man-hours expended information.
- c. Completed Action: contains action taken codes, completion date and total man-hours expended.
- d. Remarks and Description: contains a narrative description of the discrepancy and work done to correct it.

e. Additional ALREMP Information that includes SLR data: contains ALRE-specific codes; safety tag data; shot, hit and VLA data; PMS data and ALRE QAI and maintenance officer signatures.

f. Material Control: contains quantity, nomenclature, P/N and contract number for requisitioned items. Also contains two blocks for AIMD-assist OPNAV 4790/60 Work Center Register, Control and Processing VIDS and MAF JCNs.

g. ALRE Tool Control: contains lines for the W/C and central tool room tool petty officers signatures.

9.6.5 When a maintenance action is completed, the appropriate W/C will complete a OPNAV 4790/160. The W/C supervisor will verify the OPNAV 4790/160 accuracy ensuring all necessary material requisitioning is listed before the JSN is closed. This will provide a comprehensive record of the maintenance action performed and establish historical data for future reference.

9.6.6 OPNAV 4790/160 MAF Retention

a. Corrective Maintenance Action. OPNAV 4790/160s shall be retained by QA for a period of 1 year.

b. Preventive Maintenance Action. For all preventive maintenance actions requiring data entry into OMMS, only the most recent OPNAV 4790/160 for each PMS action shall be retained by QA.

c. Other Maintenance Action. OPNAV 4790/160s shall be retained by QA for a period of 1 year.

9.7 OPNAV 4790/160 Function MAF and JSN

During extended availabilities personnel transfer and an excessive amount of OPNAV 4790/160s accumulate. Due to the significant amount of maintenance being completed, the details of each maintenance action may be lost or forgotten if not documented in a timely manner. These circumstances can lead to a significant administrative workload and confusion over what has been accomplished during the timeframe of a maintenance availability. Accountability and proper documentation of who performed and inspected a maintenance action is lost.

As a tool to the aircraft launch and recovery equipment maintenance officer (ALREMO), a function OPNAV 4790/160 may be initiated in order to close out and alleviate the buildup of OPNAV 4790/160s

within a W/C during extended maintenance availability. All steps directed within the MRC or technical manual must be completed up to the step a functional check of the equipment is required. Only then can an OPNAV 4790/160 be closed and its JSN be transferred to the function OPNAV 4790/160 for documentation of the equipment function.

The function OPNAV 4790/160 will only document the equipment function. All steps completed prior to the equipment function, to include the man-hours, maintenance man, CDI and QAI, parts used, etc. will be documented on the original OPNAV 4790/160. For accountability purposes the CDI or QAI inspecting and signing the original OPNAV 4790/160 is responsible for only those steps performed. The QAI inspecting the equipment function via the function OPNAV 4790/160 is only responsible to verify that the equipment was functioned and the component or system operates as required.

The JSN of the OPNAV 4790/160 being closed out shall be referenced in block 35 of the function OPNAV 4790/160, and the JSN of the function OPNAV 4790/160 shall be referenced in block 35 of the original MAF being closed out. This cross reference provides continuity between the two maintenance actions. Once completed, a copy of the function OPNAV 4790/160 shall be attached to each of the original OPNAV 4790/160s for which the function was completed.

NOTE

The following statement shall be documented in block 35 on the original OPNAV 4790/160 being closed out. This statement should be included in addition to the normally required information - "Equipment function will be performed under JSN VBOX-XXXX".

An example write-up for block 35 of the function OPNAV 4790/160 follows - "Equipment function is being completed for the following JSNs: VBOX-XXXX, VBOX-XXXX, VBOX-XXXX."

For 3-M documenting purposes, a PMS check cannot be completed until the equipment function is complete. Documenting a PMS check as a partial is still an option.

9.8 Unscheduled (Corrective) and Scheduled (Planned Maintenance System (PMS)) Maintenance Procedures

Figure 9-3 depicts the normal flow of maintenance documentation during an unscheduled corrective maintenance action, and figure 9-4 depicts the normal flow for scheduled PMS procedures.

NOTE

MAFs should be filled out as the job progresses to avoid processing delays when the job is completed.

9.9 ALRE PMS Maintenance Requirement (MR) Status Displays

9.9.1 PMS requirements are based on either calendar periods (e.g., daily, weekly, monthly) or situational requirements (number of catapult shots and A/G arrestments). Documentation of shots and hits is mandatory to ensure that prescribed MRs and inspections are performed on time. Tracking of shots and hits is maintained by use of the ASRL Program, daily "R" status file and MR status displays. Specific instructions on ASRL are contained in NAWCADLKE-48J500-0009. MR status displays will be located in M/C and each applicable W/C to track PMS MRs (R-checks).

9.9.2 MR status displays will reflect, at a minimum, situational PMS MRs (R-checks). Status displays will be locally procured or produced and will contain information on each time, shot and hit-related maintenance task specified in the PMS system. The minimum data elements required include:

- a. MR card number (M-1R, M-15R, etc.).
- b. Brief description of task and frequency of requirement.
- c. Shot or hit number MR due and last accomplished.
- d. Total shots or hits to date.

9.9.3 M/C's MR status display will reflect all W/C requirements.

NOTE

Status displays are official records containing vital information. M/C boards will be maintained and changed only by the ALRE maintenance officer, M/C supervisor, or a person specifically designated by the ALREMO. W/C displays will be maintained by the W/C supervisor or his or her designated assistant.

9.9.4 W/C supervisors will provide updated information on shots, hits or changes which affect equipment status as it occurs or at the completion of each operating day.

9.9.5 Daily verification of the M/C MR status display with the W/Cs is essential to maintain current and correct job and equipment

status. In order to ensure accuracy, correctness, and continuity of shot, hit, and or inspection requirements, every status change must be reflected on each applicable MR status display.

9.9.5.1 Daily, at a time specified by the M/C supervisor, each W/C supervisor shall verify MR status on his or her MR status display with M/C. Any variation in any MR element will be resolved at this time. Verification may be done via phone, intercom, or in person using a written list, as locally established.

9.9.5.2 The W/C supervisor (or assistant) shall certify verification by annotating with date and time and initials alongside the W/C designator on the M/C MR status display. The M/C supervisor shall annotate date and time that all W/C have verified on the upper right-hand side of the M/C MR status display.

9.10 Supporting Maintenance

Certain ALRE MS is provided by the ship's AIMD. Documentation of AIMD support requires use of the OPNAV 4790/60 or entered into Naval Aviation Logistics Command and Management Information System or a work request. This is used to request AIMD services of items beyond V-2 division capability, including NDI, emergency parts manufacture and other such services as may be needed. When AIMD support is required, a work request is initiated utilizing OPNAV 4790/60. The respective W/C will initiate an OPNAV 4790/160 referencing the OPNAV 4790/60 JCN in the block provided. When the job is completed, the W/C will forward the controlling OPNAV 4790/160 with the completed OPNAV 4790/60 copy attached to M/C for review. M/C reviews the accuracy of the completed OPNAV 4790/160 (with completed OPNAV 4790/60 attached), closes out the OPNAV 4790/160 and forwards the OPNAV 4790/160 to QA for filing. A copy may be provided to the W/C.

9.11 Deviations from Normal OPNAV 4790/160 MAF and OPNAV 4790/180 MAF Card Procedures

Safety of operations is paramount. In those situations where extraordinary actions are required to either protect life and equipment or to accomplish the mission, routine documentation procedures may be waived until normal operations can be resumed. Documentation of all maintenance actions shall immediately follow the action in such cases; however, the proper QA verification and surveillance must be maintained. The following guidelines will be adhered to:

a. In cases where immediate maintenance action is necessary, where time is extremely critical to preclude certain or likely death or injury to personnel or loss or damage to equipment, emergency deviation from routine OPNAV 4790/160 flow and work documentation is justified and may be authorized. (See figure 9-5.)

b. If the ALRE maintenance officer or maintenance supervisor or higher authority has approved emergency deviation, only the OPNAV 4790/160 documentation procedure is modified. All maintenance procedures remain as previously described. The OPNAV 4790/160 shall be initiated immediately after the job is complete, provided the ALRE maintenance officer or maintenance supervisor and QA have ensured that all maintenance actions were satisfactorily completed by personally witnessing events. This is the only time equipment can go from down to up status without an ALRE maintenance officer or M/C supervisor signature on an OPNAV 4790/160.

NOTE

Ensure contract numbers of parts installed are annotated on the OPNAV 4790/160 when it is completed. ALRE maintenance officer/maintenance chief shall initial contract number block of OPNAV 4790/160 for all UNKNOWN contract number entries.

c. In cases which do not meet the criteria for emergency deviation as given in paragraph 9.11.b, but timely return of equipment to operational status is still necessary, the W/C will take the OPNAV 4790/160 to the job site so that the ALRE maintenance officer or M/C supervisor may sign it off as a completed job immediately upon witnessing the work and appropriate QA inspection and operational check, if required. This procedure entails all the same elements as routine OPNAV 4790/160 flow and work documentation.

9.12 Tracking Outside Maintenance Activity Job Status

9.12.1 During technical availabilities or periods such as restricted availabilities (RAVs), selected restricted availabilities (SRAs), complex overhauls (COHs) and planned incremental availabilities (PIAs), outside maintenance activities may repair or modernize ALRE. Work authorization forms (WAFs) shall be used to authorize all outside maintenance activity shipboard repair and alterations per JFMM volume IV, chapter 10, Work Authorization and Control. It is imperative that the ALRE maintenance officer monitors this industrial activity repair

progress and performance. Ship's force maintenance during availabilities and COHs will still be tracked using the standard M/C and W/C VIDS boards.

9.12.2 The authorized integrated work package control document (IWPCD) will be used to identify jobs to be tracked and the accomplishing activities. This document also identifies cognizant W/C, JSNs of all work planned for VB W/Cs, and JSNs of all other jobs that may affect divisional W/C (but that are not listed under VB) such as SHIPALTs.

During availabilities where the IWPCD is not used, JSNs may be obtained from the ship's force work list. Additionally, liaison with the ship's maintenance manager may help with determining screening action for jobs requiring outside maintenance activity assistance.

9.12.3 Utilizing an OPNAV 4790/181 Outside MAF Card specifically designed for the outside maintenance activity MAF board (see figure 9-6), transcribe the following information from the IWPCD: W/C, JSN, brief job description, ESWBS, IWPCD item number, equipment location, and the activity accomplishing the task. Place each OPNAV 4790/181 on the outside maintenance activity VIDS board under the section designated for that particular activity and W/C. The QA block at the bottom right corner of this OPNAV 4790/181 may be used like that on a standard OPNAV 4790/181. The activity block at the bottom right corner may have the outside maintenance activity annotated and or be color coded to indicate the activity; color coding should not conflict with those color codes described in paragraphs 9.5.3 through 9.5.4. When color-coding is used, a legend depicting which color refers to which activity should be displayed at the top of the VIDS board.

9.12.4 Each job approved for accomplishment within the V-2 division must be tracked utilizing either a locally printed OPNAV 4790/182 Progress Report Sheet (PRS), automated data base or other tracking method to maintain up to date status of each outside maintenance activity job and correspond to each OPNAV 4970/181 on the outside maintenance activity VIDS board.

NOTE

The use of Progress Tracking Method is mandatory.

9.12.4.1 Review the IWPCD and transcribe the following to the tracking method: W/C, JSN, job description, ESWBS, and IWPCD item number.

9.12.4.2 On a weekly basis, or as required, the tracking method utilized will be updated by indicating percentage and or start and stop times toward completion and by annotating notes deemed necessary by the ALRE maintenance officer.

NOTE

Ensure all jobs that require a functional test or inspection by ship's force personnel are monitored for completion of this step.

9.12.4.3 If utilized, PRSs should be initiated for each job approved for accomplishment within V-2 division. PRSs shall be kept in a loose leaf, three-ring binder. Filing them in W/C/JSN order provides an easy cross-reference with the outside maintenance activity VIDS board. A PRS may be discarded when that job is completed and the requisite forms have been completed (OPNAV 4790/CK, OPNAV 4790/160, OPNAV 4790/171, etc.).

9.12.4.4 If a new job develops as a result of an emergency essential repair (EER) or assist ship's force funding being made available, an additional OPNAV 4970/181 must be originated and the OPNAV 4970/181 placed on the outside maintenance activity VIDS board and added to whichever tracking method is utilized.

9.12.5 In addition to completing the specific job on the CSMP, jobs having EICs for ALRE equipment (7A through 7M, LH, and TU), require an OPNAV 4790/160 to be originated and submitted. Submission of an OPNAV 4790/CK or OPNAV 4790/171 may also be required.

9.12.6 When completing an OPNAV 4790/160 to document work accomplished by outside maintenance activities, the MAF shall be filled out as appropriate, with the following special instructions:

a. Block 29 (Action Taken):

(1) For maintenance actions where the outside activity provides all parts, ensure the numeral "3" (which means "Maintenance Completed, No Parts Required") is entered.

(2) For maintenance actions where ship's force provides some or all parts for the job, ensure the proper code is entered; also ensure the remarks or description section of the OPNAV 4790/160 is detailed enough to reflect those portions of maintenance performed by ship's force and by the outside activity.

NOTE

For jobs performed by outside maintenance activities where ship's force provides some or all parts, or where ship's force provides maintenance assistance, including system or component disassembly or reassembly, an OPNAV 4790/180, OPNAV 4790/181, and an OPNAV 4970/160 are required. Each will bear the same JSN. The OPNAV 4790/180 will be placed on the normal divisional VIDS board to track ship's force maintenance and or parts; OPNAV 4790/181 will be used to track that activity's job status; and the OPNAV 4790/160 will be used to document the job. Only ship's force man-hours should be recorded on the OPNAV 4790/160 and OPNAV 4790/180. The OPNAV 4790/180 should never be removed from the divisional VIDS board before the OPNAV 4790/181 is removed from its VIDS board.

b. Block 36 (Continuation Sheet): Ensure this block is checked when it is necessary to continue block 35 (Remarks/Description) comments on additional OPNAV 4790/160s.

c. Block 38 (First Contact/Maint. Man): Enter the name of the outside activity that completed the work, i.e., VRT, etc. Do not attempt to obtain a signature for accomplished work.

d. Final QA inspected by:

(1) For maintenance, repair, or overhaul actions where the outside activity provides all parts, this block is used by ship's force to indicate final inspection of the work and receipt of applicable repair reports from the outside activity. For work completed by an outside maintenance activity, this block does not represent a total QA effort on the part of ship's force. The signature of the QAI or CDQAI in this block merely signifies that the equipment was functioned and the component or system operates as required.

(2) For maintenance actions where ship's force removes the equipment, reinstalls the equipment, or functions the equipment, the QAI and CDQAI signature signifies that all documentation of the outside activity's work is complete and correct (including required documentation for NDI, hydrostatic testing, etc.) and that all work accomplished by ship's force has received the applicable inspections by V-2 QA.

e. Start and Stop Times: These blocks are used to assist the W/C supervisor in determining total ship's force man-hours expended for the job. This total, including any MS man-hours, will be entered in block 30 (S/F MHRS).

NOTE

Do not enter any man-hours expended by outside maintenance activities in the start and stop time blocks.

f. Block 35 (Remarks/Description): A concise narrative description of the completed maintenance action shall be entered here.

g. The material control section of the OPNAV 4790/160 will not normally be utilized when documenting accomplishment of outside maintenance activity work. The ALRE tool control section will be completed only when ship's force personnel check out tools from the W/C or central tool room.

NOTE

If an adequate number of personnel cannot be maintained in order to execute proper QA of ship's force and shipyard maintenance actions, the TYCOM shall immediately be notified.

9.12.7 During ships in port periods that do not fit the availability criteria described in paragraph 9.12.1 where work is to be performed by an outside repair activity, the use of the ships force VIDS board may be used to track OPNAV 4790/181s.

ALL WORK CENTERS VIDS
BOARDS VERIFIED WITH M/C

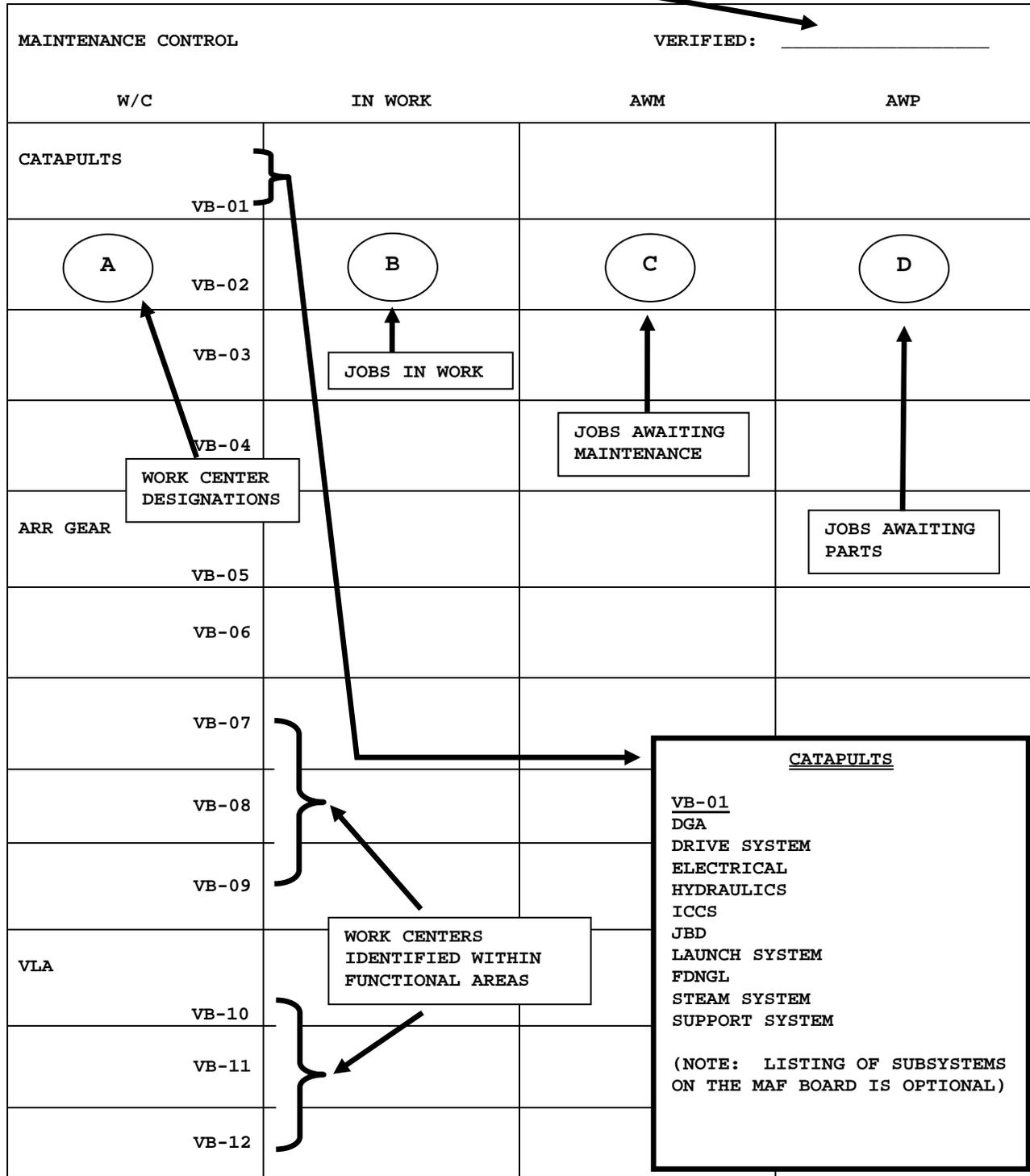


Figure 9-1. Maintenance Control VIDS Boards

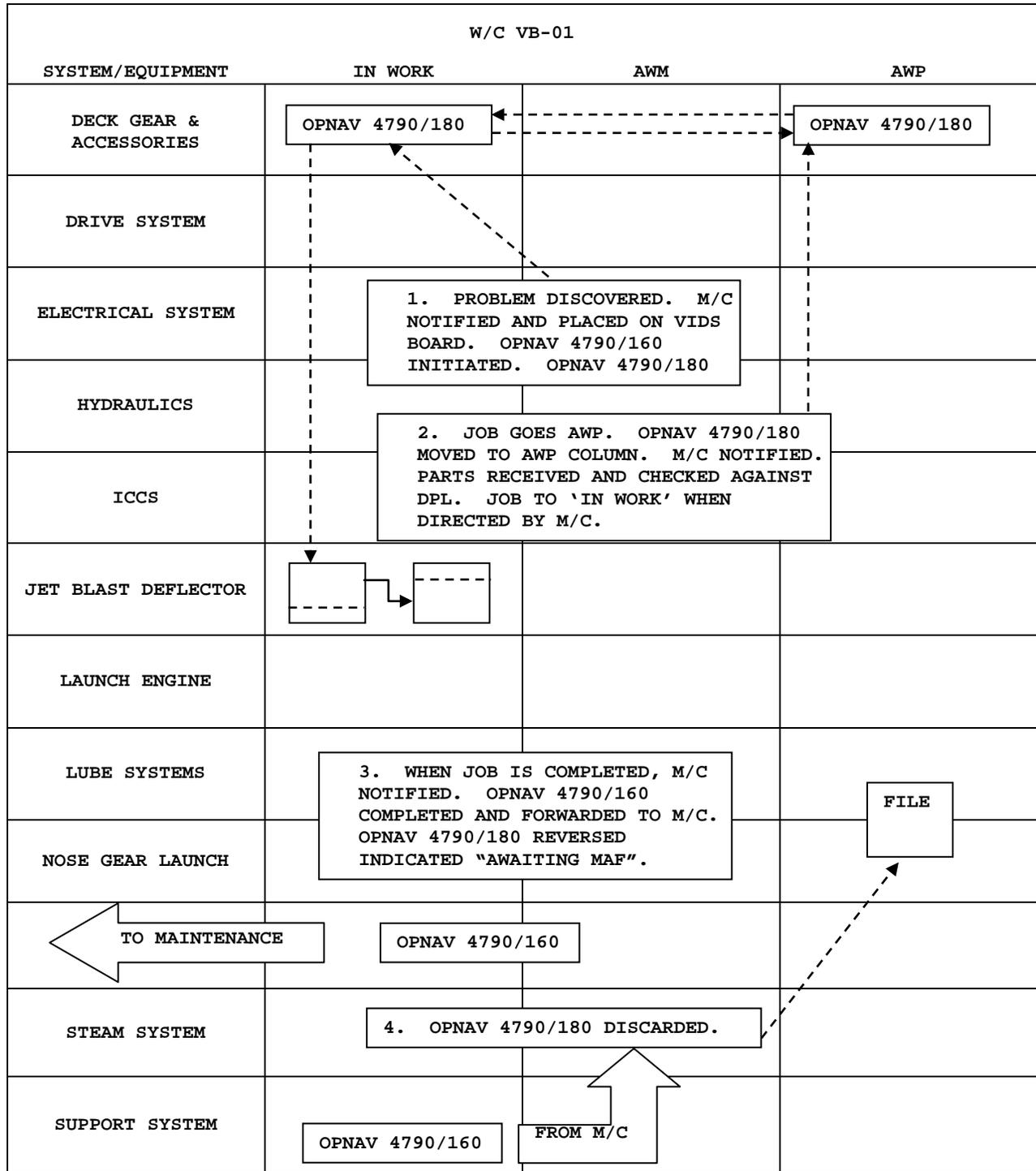


Figure 9-2. Work Center VIDS Board

Note: Task depicted horizontally occurs at approximately the same time.				
Work Center	Maintenance Control	Quality Assurance	Maintenance Support	Material Control
1a. Finds a problem. Notify M/C of problem.	1b. Notified of problem. Notify QA and MS (as applicable).	1c. Notified of problem (as applicable).	1d. Notified of problem (as applicable).	
2a. Enters OPNAV 4790/160 data into OMMS to get JSN (AWR deferral process). Print OPNAV 4790/1609 from OMMS and fill out OPNAV 4790/180.				
3a. Notify M/C of JSN.	3b. Get JSN from W/C. Fill out OPNAV 4790/180 and place in AWM. Notify QA and MS of JSN (as applicable).	3c. Get JSN from M/C. Fill out OPNAV 4790/180 and place in AWM (as applicable).	3d. Get JSN from M/C. Fill out OPNAV 4790/180 and place in AWM (as applicable).	
4a. As directed by M/C, call and place OPNAV 4790/180 IN WORK	4b. Inform W/C to start job. Notify QA and MS (as applicable).	4c. OPNAV 4790/180 to IN WORK (as applicable).	4d. OPNAV 4790/180 to IN WORK (as applicable)	
5a. Assign workers. Initiate tag out procedures (as applicable). Obtain tools.	5b. Issue NAVSEA 9890/8 DANGER tag (red) (as applicable).			
6a. Order parts through OMMS (as applicable). Notify M/C that parts are requested. Move OPNAV 4790/180 to AWP.	6b. Move OPNAV 4790/180 to AWP. Notify material control of JSN. Notify QA and MS (as applicable). 6f. Review printout of parts requested. Approve parts order and deliver printout to material control.	6d. OPNAV 4790/180 to AWP (as applicable).	6e. OPNAV 4790/180 to AWP (as applicable).	6c. Call up JSN in OMMS and perform a "print screen" of parts ordered by W/C. Deliver printout to maint. officer or chief. 6g. Approve parts in OMMS for ordering.
7b. Pick up parts from material control. Notify M/C and place OPNAV 4790/180 IN WORK (as directed by M/C). Screen DPL. Annotate contract number on OMMS printed OPNAV 4790/160.	7c. Place OPNAV 4790/180 IN WORK. Notify QA and MS (as applicable).	7d. Place OPNAV 4790/180 IN WORK (as applicable).	7e. Place OPNAV 4790/180 IN WORK (as applicable).	7a. Receive parts screen DPL. Notify M/C. NOTE: ALRE maint. officer or chief shall initial contract number block of OPNAV 4790/160 for all UNKNOWN contract number entries.

Figure 9-3. Unscheduled (Corrective) maintenance Procedures
(pg 1 of 2)

Note: Task depicted horizontally occurs at approximately the same time.				
Work Center	Maintenance Control	Quality Assurance	Maintenance Support	Material Control
8a. Job complete. Comply with tool control, clear tags, and notify M/C. Perform functional checks (as applicable).	8b. Notified job complete. Notify QA (as applicable).	8c. Witness functional checks (as applicable).	8d. Job complete. Document MS man-hours. Discard OPNAV 4790/180.	
9a. Enter information from printed OMMS MAF into OMMS (under change maintenance actions). Print OPNAV 4790/160.				
10a. Maintenance person signs printed MAF.		10b. Sign OPNAV 4790/160.		
11a. Work Center Supervisor (WCS) signs and forwards MAF to M/C. Turn OPNAV 4790/180 to AWAITING MAF.	11b. Turn OPNAV 4790/180 to AWAITING MAF.	11c. Turn OPNAV 4790/180 to AWAITING MAF (as applicable).		
12c. Discard OPNAV 4790/180.	12b. Maintenance officer or chief review, sign OPNAV 4790/160. M/C OMMS operator enters data into OMMS. Discard OPNAV 4790/180.			12a. Verify all material requisitioning is completed through OMMS, notify M/C.
	13a. After M/C OMMS operator enters data into OMMS, close JSN. Forward original OPNAV 4790/160 to QA. <u>NOTE</u> Verify material requisitioning is completed by material control before closing JSN.	13b. Receives MAF original for history file. Discard OPNAV 4790/180. <u>NOTE</u> When requesting work from AIMD, attach copy 4 of 4790/60 VIDS/MAF to OPNAV 4790/160.		

Figure 9-3. Unscheduled (Corrective) Maintenance Procedure
(pg 2 of 2)

Note: Task depicted horizontally occurs at approximately the same time.				
Work Center	Maintenance Control	Quality Assurance	Maintenance Support	Material Control
1a. Identifies scheduled maintenance to be completed.				
2a. Enter data into OMMS to get JSN (AWR deferral process). Print MAF OPNAV 4790/160 from OMMS and fill out OPNAV 4790/180.				
3a. Notify M/C of JSN.	3b. Get JSN from W/C. Fill out OPNAV 4790/180 and place in AWM. Notify QA and MS of JSN (as applicable).	3c. Get JSN from M/C. Fill out OPNAV 4790/180 and place in AWM (as applicable).	3d. Get JSN from M/C. Fill out OPNAV 4790/180 and place in AWM (as applicable).	
4a. As directed by M/C, call and place OPNAV 4790/180 Card IN WORK.	4b. Inform W/C to start job. Notify QA and MS (as applicable).	4c. Place OPNAV 4790/180 to IN WORK (as applicable).	4d. Place OPNAV 4790/180 to IN WORK (as applicable).	
5a. Assign workers. Initiate tag out procedures (as applicable). Obtain tools.	5b. Issue red "danger" tags (as applicable).			
6a. If parts are needed, order parts through OMMS. Notify M/C that parts are requested. Move OPNAV 4790/180 to AWP	6b. Move OPNAV 4790/180 to AWP. Notify Material control of JSN. Notify QA and MS (as applicable). 6f. Review printout of parts requested. Approve parts order and deliver printout to material control.	6d. OPNAV 4790/180 to AWP (as applicable).	6e. OPNAV 4790/180 to AWP (as applicable).	6c. Call up JSN in OMMS and do a "print screen" of parts ordered by w/c. Give printout to maint. officer or chief. 6g. Approve parts in OMMS for ordering.
7b. Pick up parts from material control. Notify M/C and place OPNAV 4790/180 IN WORK (as directed by M/C). Screen DPL. Annotate contract numbers on OMMS printed OPNAV 4790/160.	7c. Place OPNAV 4790/180 IN WORK. Notify QA and MS (as applicable).	7d. Place OPNAV 4790/180 IN WORK (as applicable).	7e. Place OPNAV 4790.180 IN WORK (as applicable).	7a. Receive parts. Screen DPL. Notify W/C to pick up parts. Notify M/C. NOTE: ALRE maint. officer or chief shall initial contract number block of OPNAV 4790/160 for all UNKNOWN contact number entries.

Figure 9-4. Scheduled Maintenance (PMS) Procedures
(pg. 1 of 2)

Note: Task depicted horizontally occurs at approximately the same time.				
Work Center	Maintenance Control	Quality Assurance	Maintenance Support	Material Control
8a. Job complete. Comply with tool control, clear tags, and notify M/C. Perform functional checks (as applicable)	8b. Notified job complete. Notify QA (as applicable).	8c. Witness functional checks (as applicable).	8d. Job complete. Document MS man-hours. Discard OPNAV 4790/180	
9a. enter information from printed OMMS OPNAV 4790/160 into OMMS (under change maintenance actions). Print OPNAV 4790/160 from OMMS.				
10a. Maintenance person signs printed OPNAV 4790/160		10b. Sign MAF		
11a. WCS signs and forwards MAF to M/C. turn OPNAV 4790/180 to AWAITING MAF.	11b. Turn OPNAV 4790/180 to AWAITING MAF.	11c. Turn OPNAV 4790/180 to AWAITING MAF (as applicable).		
12c. Discard OPNAV 4790/180.	12b. Maintenance officer/chief review, sign MAF. M/C OMMS operator enters data into OMMS. Discard OPNAV 4790/180.			12a. Verify all material requisitioning is completed through OMMS, notify M/C
	13a. After M/C OMMS operator enters data into OMMS, close JSN. Forward original OPNAV 4790/160 to QA. <u>NOTE</u> Verify material requisitioning is completed by material control before closing JSN	13b. Receives MAF original for history file. Discard OPNAV 4790/180. <u>NOTE</u> When requisitioning work from AIMD, attach copy 4 of OPNAV 4790/60 VIDS/MAF to OPNAV 4790/160 and retain by QA.		

Figure 9-4. Scheduled Maintenance (PMS) Procedure
(pg. 2 of 2)

Note: Task depicted horizontally occurs at approximately the same time.				
Work Center	Maintenance Control	Quality Assurance	Maintenance Support	Material Control
1a. Discrepancy occurs. Equipment is down. Notify M/C. Place OPNAV 4790/180 on VIDS Board.	1b. Notified of problem. Notify air boss. Alert QA and MS (as applicable). Obtain JSN and place OPNAV 4790/180 on VIDS Board.	1c. Notified of problem (as applicable). Place OPNAV 4790/180 on VIDS Board.	1d. Notified of problem (as applicable). Place OPNAV 4790/180 on VIDS Board.	
2b. Assign workers. Initiate tag out procedures (as applicable) Obtain tools, start job. When notified by M/C, order parts as required.	2a. Notify W/C to start job. Issue red "danger" tags (as applicable).			2c. Requisition parts.
3c. Receive parts. Record contract numbers for OPNAV 4790/160 entry.		3b. Screen parts in DPL prior to installation.		3a. Receive parts. Screen DPL. Notify M/C. NOTE: ALRE maint. officer/chief shall initial contract number block of OPNAV 4790/160 for all UNKOWN contract number entries.
4a. Work complete. Functional checks performed, as required. M/C notified.	4c. Maint. officer/chief witness maintenance equipment placed in UP status. Notify air boss.	4b. Inspect job and witness functional checks, as required.	4d. Job complete. Document MS man-hours.	4e. Verify all material requisitioning is completed through OMMS, notify M/C.
5a. OPNAV 4790/160 completed, signed, and forwarded as appropriate. OPNAV 4790/180 processing follows normal flow.	5c. OPNAV 4790/160/OPNAV 4790/180 processing follows normal OPNAV 4790/160 flow.	5b. OPNAV 4790/160 signed. OPNAV 4790/160/OPNAV 4790/180 processing follows normal flow.		

Figure 9-5. Emergency OPNAV 4790/160 Procedures

OUTSIDE MAINTENANCE ACTIVITY VIDS BOARD												
AWM					IN WORK				AWD			
VB01	VB01-2691	FAIRLEAD SHEAVE	QA	PSNS	VB01-2961	ALIGN TROUGH CVRS #1	QA	VRT	VB01-2742	CLASS "B" OVHL WTRBK PMP	QA	R M C
	VB01-2753	INSTALL MK-2 NGL #1	QA	PSNS	VB01-2761	REPLACE ROTARY DRUM ON CAT #1	QA	VRT				
VB02	VB02-2688	BOLT HOLE REPAIR #2	QA	VRT	VB02-2689	STRESS RELIEVE LV PIPING #2	QA	PSNS				
VB02	VB03-1921	WIRE SPRAY JBD PIT #3	QA	RMC	VB03-1963	INSTALL JBD DUPLEX STRAINER	QA	SUPSHIP				
VB04	VB04-1815	MANUF STEAM SMOTHERING BOX	QA	RMC								

AWM = Job is Awaiting Maintenance

INWORK = Job is in work

AWD = Job is complete, but M/C is Awaiting Documentation

Figure 9-6. Sample Outside Maintenance Activity VIDS Board

Chapter 10 - Material Control

TABLE OF CONTENTS

<u>Sec</u>	<u>Subject</u>	<u>Page</u>
10.1	Navy Supply System.....	10-2
10.2	Policies and Concepts.....	10-3
10.3	V-2 Material Control Functions and Responsibilities.....	10-3
10.4	Material Reporting.....	10-6
10.5	Allowance Management.....	10-7
10.6	Coordinated Shipboard Allowance List (COSAL) and Ship's Equipment File (SEF).....	10-10
10.7	ALRE Inventory Control Points (ICPs).....	10-12
10.8	Operating Targets (OPTARs).....	10-12
10.9	Supply Reference Publications.....	10-13

TABLE OF FIGURES

<u>Fig</u>	<u>Subject</u>	<u>Page</u>
10-1	Navy (Aviation) Application of Joint Service Uniform (SM&R) Codes	10-15

Chapter 10

Material Control

10.1 Navy Supply System

10.1.1 A major responsibility of the Navy Supply System is to provide material in support of the operation and maintenance of aeronautical equipment. Every effort is made to have material located when and where it is needed. The intent is to make the relationships between the suppliers and the user as simple and uncomplicated as possible within the boundaries of established logistics management requirements.

10.1.2 Navy stock is generally replenished on a system basis as a direct result of recorded usage and demand data, or on a program basis, from pre-calculated usage.

10.1.3 All elements of the Navy and Marine Corps, regardless of size and location, have an assigned activity to which they submit requests for material. These requests start at the organizational, intermediate, or depot level and flow to a designated point in the supply system.

10.1.4 Under the Uniform Material Movement and Issue Procedures (UMMIPS), all activities within the Navy establishment are assigned a force and activity designator (FAD), based on mission, for determining priorities for material support. Instructions for the use of the material priority system and for the assignment of FADs are issued by OPNAVINST 4614.1G and implemented by fleet commander and TYCOM instructions. The FAD is correlated with the urgency of need designator to determine the priority assigned to requisitions. For example, a FAD II activity can submit priority 2, 5, or 12 requisitions depending on the urgency of the requirement as related to mission readiness, while FAD III activities would submit priority 3, 6, or 13 requisitions for corresponding requirements. The priority assigned to material requisitions, not the project code, determines the speed with which a requisition must be filled by the supply system. UMMIPS abuse dilutes supply system responsiveness.

10.1.5 Supply responsibilities include operational readiness, achieved by following sound management practices in both maintenance and supply. Ship's supply department responsibilities are defined in NAVSUP P-485, Afloat Supply Procedures, Volume III (NOTAL) and NAVSUP P-487, Ship's Store Afloat (NOTAL).

10.2 Policies and Concepts

10.2.1 Of several significant principles that must be followed to achieve success in 3-M, the most important is extremely close liaison between supply and maintenance to achieve the common goal of optimum system operational readiness. It is important that these two complex operations have single points of contact for coordinating actions to achieve this goal.

10.2.2 V-2 (ALRE) material control is the primary point of contact for the ALRE maintenance organization and the MSC. Utilizing the ship's MSC, V-2 material control will coordinate all configuration management item research and the validation to ensure proper identification of required support.

10.2.3 Regular meetings should be held between supply department and V-2 division material control to resolve problem areas, establish local procedures that do not conflict with this or other governing instructions, while promoting material support effectiveness. Establishing points of contact between the supply department and V-2 maintenance and material personnel will enable effective routine resolution of material support issues.

10.2.4 The supply department shall augment V-2 division with a rated storekeeper to function within the material control branch.

10.3 V-2 Material Control Functions and Responsibilities

10.3.1 V-2 (ALRE) material control is the focal point for interface with supply. As such, all requirements for parts and material are routed through material control to the supporting supply department. Functional areas of responsibility include:

a. Ensure that MRs for parts and material are forwarded to supply, providing the supply department with a valid P/N, manufacturer's code and technical reference. Issue a priority, project code, and JCN for all material requested.

b. Accept and maintain custody of defective ALRE discrepancy report material exhibits until receipt of exhibit disposition instructions from the fleet support team (FST) or directing authority. Refer to paragraph 11.10.6.

c. Maintain and track all outstanding off-ship material from supply through the use of a material control register or automated program (separate from the OPTAR). It shall, at a minimum, contain

the nomenclature, distribution code, NSN, P/N, priority and assigned JSN (if applicable) and shall be updated weekly with requisition status. This log and program shall be reviewed weekly by the ALRE maintenance officer and M/C supervisor and distributed to all W/Cs to assist in tracking parts and material on order.

d. Maintain and monitor the working OPTAR for all V-2 accounts. This OPTAR will be validated under current command policies, but must receive weekly verification and validation by the ALRE maintenance officer and M/C supervisor.

e. Perform memorandum OPTAR charting and budgeting of cost. This includes out-year budgeting providing required reports to the appropriate chain of command as required.

f. Establish procedures for the internal control of accountable material, equipage and divisional spares. All divisional spares must be tracked internally by the use of an automated program. Quarterly verification of all spares shall be conducted and verified against the DPL. Specific attention shall be placed on parts with expiration and cure dates to ensure they are not utilized in maintenance procedures.

(1) OSIs are those items in the custody and under the management of the department heads. Adherence to established inventory control procedures and accurate documentation of valid usage are essential to the maintenance of prescribed stock levels and to sustain shipboard operations. The V-2 division custodian of such items shall be the ALRE maintenance officer in conjunction with the ALRE material control supervisor.

(2) Assets placed under local custodian control of the ALRE maintenance officer shall be routinely inventoried per locally established inventory control procedures as outlined by NAVSUP P-485.

g. Maintain close liaison with M/C and maintenance supervisors to keep them informed of the parts and material procurement and how it affects the maintenance efforts.

h. Maintain control records to ensure the turn-in of defective components within established time frames.

i. Furnish technical advice and information to supply to assist in proper identification of required parts, material and

supplies. Provide technical assistance in determining interchangeability and suitability of substituted items.

j. Material or M/C shall maintain a copy of all NAVAIRWARCENACDIV COG APLs found in the SEF for use in material ordering periods when OMMS is not available. MSC shall provide a master list of all NAVAIRWARCENACDIV COG APLs on a quarterly basis to V-2 division.

10.3.2 In the receipt or delivery of parts and material, material control shall:

a. Verify V-2 division requisitioned material. Perform visual inspection to check for damage or defects.

b. Ensure that parts and material received are screened in the DPL prior to stowage or issue to applicable W/C. Inform the ALRE maintenance officer or M/C supervisor of all items received that are on the DPL and or without contract numbers.

c. Verify receipt of material with OPTAR to ensure complete issue of requisition quantity. Update appropriate logs and programs as applicable.

d. Establish delivery or pick-up points for issuance of material to the W/Cs and issue material to appropriate W/Cs as procedures direct.

e. If the item is as a remain-in-place (RIP), ensure the carcass is adequately preserved, packaged and handled to prevent damage or deterioration prior to turn-in. Ensure turn-in documentation is maintained for a period of 1 year in V-2 division material control.

10.3.3 Initiate request for material using procedures outlined in NAVSEAINST 4790.8B. Proper use of OMMS provides functionality of identifying the correct requisition and configuration information. Discrepancies encountered should be corrected through the use of COSAL feedback reports routed to MSC. When ship OMMS systems are inoperative, material control will fill out and use DD 1348/6 DoD Single Line Item Requisition System Document (Manual-Long Form) forms to requisition required material and parts. The following procedures are provided as the minimum requirements for material ordering:

- a. The maintenance action JSN utilized for the material requisition will be from the current JSN in OMMS or the next sequential JSN from the W/C.
- b. Material request for items from V-2 spares shall be documented on the material parts list of the ALRE MAF and authorized by the ALRE maintenance officer and supervisor prior to issue.
- c. APL selection for all ALRE equipment maintenance actions shall be the NAVAIR equipment configuration item on which those repairs are being conducted. Where multiple APL's are applicable, the functionality of selecting "Other APL" in OMMS (radial button activated by SEI of "M") shall be used to requisition material from those required APLs to complete the maintenance action.

NOTE

The "Other" APL function shall not be used in lieu of opening required jobs for documenting or requisitioning material supporting unrelated maintenance.

- d. All material requisitions to the supply department in support of ALRE maintenance shall include a valid P/N, manufacturer's code, technical reference, APL, priority code, and JSN.

10.4 Material Reporting

10.4.1 Material usage data is extremely important and must satisfy the requirements of various managerial and support levels of the Navy supply organization and DoD. Data obtained through proper documentation of material usage determines the usage, failure and turn-around-time rates for allowance development and allowance change requests. This action alone provides the documentation for a ship's on board allowance including required on hand quantities at supply centers in support of regional operating units.

10.4.2 Material reporting is accomplished by translating the data elements from maintenance and supply source documents into cost data. The source documents used are designed to allow cost data to be related to the specific equipment or system to evaluate the effectiveness of the support program.

10.5 Allowance Management

10.5.1 Introduction of new systems and maintenance of existing systems requires an adequate range and depth of material and equipment on hand for effective supply support. Prior to determining individual activity outfitting allowances, certain other logistic processes occur which have a direct bearing on allowance determination.

a. An essential part of effectively sustaining ALRE in a safe, high state of readiness is the availability of critical spare parts that are unique to ALRE. The success of the ALREMP in meeting the primary CNO objective to attain required operational readiness of ALRE equipment in support of flight operations is directly dependent upon the readily available material and repair parts that shall be maintained as a "Never Out" basis both ashore and aboard ship. This is considered to be a critical state of carrier operational readiness and any delays in the repair and upkeep of ALRE not only affects carrier readiness, operational capabilities and tempo but additionally subjects pilots, aircraft and flight deck personnel to higher risks during air operations.

b. NAVSUPSYSCOM will insure that those critical repair parts and allowance levels, as identified by COMNAVAIRFOR and NAVAIRWARCENACDIV, Lakehurst are maintained as "Never Out" on all carriers at minimum allowance levels, as identified.

10.5.2 Provisioning is the process of determining the range and quantity of items (i.e., spares and repair parts, special tools, test equipment and SE) required to support and maintain an end item of material for an initial period of service. Provisioning includes the identification of items of supply, the establishment of data for cataloging, technical manual and allowance table preparation, and the preparation of instructions to ensure delivery of necessary support items with related end articles. In essence, provisioning encompasses all the actions necessary to ensure material support of the operational system. A basic input to the provisioning process is the MAPL, which identifies the repairable items and delineates their levels of removal and repair. Item selection conferences chaired by NAVICP Philadelphia will establish source, maintenance and recoverability (SM&R) codes for consumable items per approved equipment MAPLs.

10.5.3 Repairable components are designated during the provisioning process. SM&R coding designates the maintenance level at which components will be repaired. If repaired locally, support

items are provided to perform those repairs. If designated for depot repair, the unit must be sent to an overhaul point for repair or held over for shipyard repair action.

10.5.3.1 The supply system identifies all authorized RIP repairables in the master consolidated remain-in-place list (CRIPL). The supply system provides a master repairable item list (MRIL) to all supply activities. The MRIL (NAVSUP P-4107) (NOTAL) is a listing in National Identification Item Number (NIIN) sequence indicating the DOP, either Navy or commercial.

10.5.3.2 ALRE components that are determined to be repairable at the intermediate level will be forwarded to the nearest IMA for repair. Although operational inspections, pre-operational checks, daily servicing, and daily MRC requirements are performed by operator personnel, maintenance personnel are responsible for component maintenance which requires disassembly and repair.

10.5.3.3 ALRE maintenance philosophy is based on the premise that properly administered upkeep and maintenance programs allow formal overhaul and depot level repair during the ship's overhaul or repair availability cycle. Therefore, major repair and refurbishing is scheduled on a routine basis during COH/PIA/SRA periods. Subsystems or individual equipment may be reworked as operating experience dictates or incidental to incorporation of modifications. Depot rework is scheduled for necessary repair that is beyond the capability of the ships crews, local IMAs, or is planned in conjunction with major repairs to other ship elements.

10.5.4 Uniform SM&R codes are used to identify the source of spares, repair parts and items of SE, and the levels of maintenance authorized to maintain, repair, overhaul, or dispose of all equipment. SM&R codes expedite the maintenance, repair, and overhaul of equipment by providing maintenance and supply personnel with the necessary information relative to the source of supply, and where applicable, the maintenance implications and recoverability status of items.

10.5.5 Uniform SM&R codes shall be used to the maximum degree practicable, in all commodity areas where provisioning is practiced, and shall be applicable to:

- a. All new equipment being provisioned.
- b. All equipment being re-provisioned.

c. Equipment modified or added by approved engineering change proposal actions.

10.5.5.1 The standard SM&R code format is composed of four parts consisting of a two-position source code, a two-position maintenance code, a one-position recoverability code, and a one position optional supplemental code. A quick reference for SM&R codes may be found in figure 10-1.

a. Source codes in the first and second positions of the uniform format indicate the source for acquiring the item for replacement purposes; i.e., procured, stocked, manufactured, or assembled.

b. The maintenance code in the third position indicates the lowest maintenance level authorized to remove, replace and use the item.

c. The maintenance code in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform at least one type of complete repair action.

d. The recoverability code in the fifth position indicates the final disposition action on unserviceable items, and for repairables, the maintenance level responsible for repair and condemnation and disposal of the item.

e. The optional supplemental code is a NAVAIRSYSCOM and NAVSUPSYSCOM assigned approved code that modifies or clarifies the SM&R code as required. This code is usually reserved for aviation and specialty SM&R codes.

10.5.5.2 Changes in SM&R codes. As experience and or item usage develops, originally assigned SM&R codes may need to be changed.

Change request procedures for repairable items.

a. All SM&R code change requests for repairables will be submitted as follows:

(1) Fleet activities will submit a NAVAIR 4423/1 SM&R Code Change Request Form for all requests to the cognizant TYCOM. The TYCOM will approve or disapprove, and forward approved requests for ALRE to PEO(T) (PMA 251).

(2) Requests received by PEO(T) (PMA 251) directly from fleet activities without TYCOM approval will be returned to the originator without action.

b. PEO(T) (PMA 251) will expedite processing of change requests and forward its decisions and appropriate backup information to the cognizant program supply inventory control point (PSICP). These decisions will be passed by letter or message at the discretion of PEO(T) (PMA 251).

c. NAVICP Philadelphia, the cognizant PSICP, will:

(1) Process all SM&R change decisions expeditiously.

(2) Update data files.

(3) Revise Program Supply Inventory Control Point (PSICP) publications to cite latest SM&R code revisions.

(4) Process design notices, supply item change requests and analysis, and spare parts changes.

(5) Advise all concerned of actions taken, via source code change notice, citing effective date of change and date applicable publications will reflect the change.

(6) Chair periodic technical review conferences to evaluate fleet inputs.

10.6 Coordinated Shipboard Allowance List (COSAL) and Ship's Equipment File (SEF)

10.6.1 The COSAL and SEF are technical and supply management documents designed to enable ships to achieve maximum operating capability for extended periods of time independent of external logistics support and identify shipboard configuration records and parts.

10.6.2 The COSAL and SEF provide nomenclature, operating characteristics, technical manuals, specifications, parts lists and other technical data pertaining to all installed equipment and machinery, as well as the equipage and tools required to operate the ship and its equipment.

10.6.3 The COSAL is a supply management document that provides the supply officer the amount of material to stock in the storeroom and

how much of each item that must be carried aboard ship. The storeroom inventory is based upon those component parts list NSN items of the configuration record APLs in the SEF that calculate for an allowance or technical override. Complete COSAL details are outlined in NAVICPINST 4441.170B, COSAL Use and Maintenance Manual.

10.6.4 The inventory control points (ICPs) list all of the parts authorized to be stocked by the ship. This list is derived from the appropriate APLs, allowance equipage lists (AELs), and the NAVAIRSYSCOM initial outfitting lists into lists of spare parts to be stocked by the ship. The preparation of these lists takes into account the installed equipment on board, the quantity of each item of that equipment, the failure rate of parts, and the relative importance of these parts to the operation of the equipment.

a. An APL contains a detailed technical description of a particular piece of equipment and lists the parts that may be required to overhaul or repair it.

b. An AEL is a technical document prepared for various categories of equipment or mechanical, electrical or ordnance systems. When used for ALRE systems, the AELs include the items required for operation of the system and or the repair parts required for maintenance.

10.6.5 COSAL maintenance includes reporting configuration changes, updating the ship's COSAL, processing various changes received (i.e., revised APL, monthly COSAL maintenance action reports), detecting and reporting inconsistencies between COSAL and COSAL-related subsystems and any other problem which adversely affects the shipboard maintenance effort. It is essential that each equipment installation, removal, replacement or modification accomplished between regular availabilities be promptly reviewed for any impact on changes to the SEF configuration and if deemed necessary, reported on an OPNAV 4790/CK or configuration file update per OPNAVINST 4790.4E and NAVSEAINST 4790.8B, the ship's 3-M manual.

10.6.6 NAVICP and commanding officers shall insure that the identified "Never Out" parts are exempt from any automated (local or system) processes that would eliminate or reduce the parts availability below fleet required minimums without prior concurrence from COMNAVAIRFOR and NAVAIRWARCENACDIV, Lakehurst.

10.7 ALRE Inventory Control Points (ICPs)

10.7.1 NAVICP Philadelphia and Mechanicsburg are assigned responsibilities as PSICPs for ALRE. In this capacity, NAVICP Philadelphia and Mechanicsburg are required to take necessary action to ensure availability of required spares and repair parts and SE for those systems under their COG. Program support requires that spares and repair parts required for equipment support be controlled by an inventory manager. NAVICP Philadelphia and Mechanicsburg will:

- a. Prepare and maintain ALRE support allowance lists.
- b. Arrange for supply support with other inventory managers.
- c. Perform provisioning developed by NAVAIRSYSCOM, NAVSEASYSYSCOM and NAVSUPSYSCOM and implement ILS planning procedures.
- d. Perform cataloging and determine packaging requirements.
- e. Maintain technical and program support data provided by appropriate systems commands.
- f. Budget and provide financial control of allocated resources.
- g. Maintain, in coordination with NAVAIRSYSCOM, interim support arrangements for equipment until supply system support is available through scheduled provisioning actions.
- h. Provide representation on the equipment maintenance reviews and ILS management team as required.

10.8 Operating Targets (OPTARs)

10.8.1 OPTARs are the lowest subdivision of funds in an operating budget. They can be issued by the following:

- a. Expense limitation holders (TYCOMs) to ships, squadrons and units under their command.
- b. Shore activities (responsibility centers) to departments or detachments.

c. Any other activity that is issued an operating budget and wishes to further subdivide it to the cost centers under its command.

10.8.2 TYCOMs are responsible for development of resource requirements, administration of available funds, and continuous analysis of status of OPTARs issued. Each ship issued an OPTAR is responsible for the efficient and effective use thereof. This includes accurate and timely accounting and reporting.

Detailed instructions for managing OPTARs are contained in Department of Navy Staff Offices (NAVSO) P-3013-1, Financial Management of Resources (Operating Forces) Fund Administration (NOTAL) and NAVSO P-3013-2, Financial Management of Resources (Operating Forces) Procedures (NOTAL).

10.9 Supply Reference Publications

10.9.1 Following are listed pertinent general use manuals, publications and directives which are utilized by supply personnel to determine standard supply system operating procedures, and to obtain management data relative to material identification, material requisitioning, and processing of unserviceable repairable components:

a. Federal Catalog System. This is a database of supply system information for the Federal Government. This program include supplier names, addresses and phone numbers, as well as manufacturer information, P/N, NSN, ordering, and pricing information for over 12 million supply items. This information is updated monthly and distributed on compact disc read only memory (CDROM). Additionally these programs include:

(1) Section P2300, which lists repairable assemblies under COG of NAVICP Philadelphia and NAVAIRSYSCOM.

(2) Section P2310, designated to serve as master reference list for identifying and requisitioning all parts of replacement significance required to support repairable assemblies listed in section P2300.

(3) Section P2320, which provides SM&R code changes to inform field activities of approved changes in the recoverability (condemnation) levels on the items that call for retention, in lieu of disposal of these items.

b. NAVSUP P-485, Volume III, Afloat Supply Procedures (NOTAL). This publication issues policy and procedures relative to the Military Standard Requisitioning and Issue Procedures (MILSTRIP) and Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP). This publication covers procedures relative to supply system management, requisitioning, inventory control, financial matters, material movement, and serves as a ready reference for personnel involved in preparation and or processing of MILSTRIP documents.

c. List of Items Requiring Special Handling (LIRSH). The LIRSH is a microfiche publication that identifies items, by NSN, which require special handling procedures. Categories of such items include those that are hazardous, deteriorative in nature (shelf life controlled) and security classified.

d. CRIPL (NOTAL). The CRIPL is a microfiche publication that identifies those field and depot level repairable items that are authorized to remain in place until a serviceable item is received from supply. Normally, non-ready for issue (non-RFI) repairable items must be turned into supply when the like item is placed on order. The CRIPL consists of three parts: NIIN sequence listing of all RIP items, P/N to NIIN listing, and discrete listing showing all RIP items in NIIN sequence.

e. NAVSUP P-485, Afloat Supply Procedures (NOTAL). This publication establishes policies for operating and managing afloat supply departments. Much of the information applies to non-automated ships, but the procedures are applicable to all afloat supply activities and contain minimum essential procedures for acceptable supply management.

f. The Navy Stock List of Publications and Forms (CDROM NAVSUP P-600 Naval Logistics Library (NLL) contains publications and forms used on a repetitive basis throughout the Navy. It is available on the Naval Logistics Library Web site.

g. NAVSUP P-409, MILSTRIP and MILSTRAP Desk Guide (NOTAL). This guide is published as a small handbook to serve as a ready reference for personnel responsible for originating and processing MILSTRIP and MILSTRAP documents. It contains common definitions and code structures used on a day-to-day basis.

SOURCE		MAINTENANCE				RECOVERABILITY/ PROGRESSIVE REPAIR	OPTIONAL SUPPLEMENTAL CODES							
		USE		REPAIR										
1ST POSITION	2ND POSITION	3RD POSITION	4TH POSITION	5TH POSITION	6TH POSITION									
P	PROCURE	A	REPLENISH	O	ORGANIZATION AL (ORG)	Z	NO REPAIR (CONSUMABLE)	Z	LEVEL INDICATED IN 3RD POSITION (CONSUMABLE)	1	THREE-DEGREE GAS TURBINE ENGINE REPAIR PROGRAM ITEM WITH FIRST- DEGREE IMA LEVEL (1) HAVING THE MOST CAPABILITY & THIRD-DEGREE IMA (3) HAVING THE LEAST			
		B	INSURANCE			O	ORG	O	ORG FIELD LEVEL REPAIRABLE (FLR)	2				
		C	CURE-DATED							3				
		D	INITIAL (excluding SE)											
		E	END ITEM USE STOCKED FOR INITIAL ISSUE	F	IMA AFLOAT	F	IMA AFLOAT	F	IMA AFLOAT (FLR)	6	"PA" ITEM WITH OR- GANIC 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 ECM ACTION			
		G	LIFE OF 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	FILED (ORG/IMA)	L	SPECIALIZED IMA	L	SPECIALIZED	L	SPECIALIZED IMA (FLR) (CONNOTES PRIME IMA CONCEPT SEE APPENDIX D ENCL (2) NOTE IN INSTRUCTION)	P	PROGRESSIVE MAINTENANCE			
		D	DEPOT											
		B	BOTH O											
M A	MANUFACTURE ASSEMBLE	O	ORG	D	DEPOT	D	DEPOT	D	DEPOT LEVEL REPAIRABLE (DLR) (ORGANIC OR COMMERCIAL)	T	"PD" TRAINING DEVICE ITEM			
		F	IMA AFLOAT											
		H	IMA ASHORE											
		G	IMA AFLOAT OR ASHORE											
		D	DEPOT							J	ALL INTER-SERVICE DLR ITEMS WHICH NAVY AS SICA CONSIDERED FLR-IF ITEM IS UNDER THREE-DEGREE GAS TURBINE ENGINE REPAIR PROGRAM, APPLIES TO FIRST- DEGREE IMA LEVEL ONLY			
MISC		A	REQUEST NEXT HIGHER ASSEMBLY (NHA)	Z	NOT AUTHORIZED AT ANY LEVEL. FOR REFERENCE PURPOSES ONLY	B	NOT AUTHORIZED (RECONDIT- ION AT USER LEVEL)	A	SPECIAL HANDLING FOR DISPOSAL (CONSUMABLE)	8	SAME AS "J" EXCEPT APPLICABLE ONLY TO SECOND-DEGREE IMA LEVEL			
		B	OBTAIN FROM SALVAGE OR ONE TIME BUY											
		C	DIAGRAM/ SCHEMATICS/ INSTALLATION DRAWINGS											
										9	APPLICABLE AS "J" EXCEPT APPLICABLE ONLY TO THIRD DEGREE IMA LEVEL			

Figure 10-1. Navy (Aviation) Application of Joint Service Uniform (SM&R) Codes

Chapter 11 - Quality Assurance

TABLE OF CONTENTS

Sec	Subject	Page
11.1	Quality Assurance (QA).....	11-2
11.2	Concepts of Quality Assurance.....	11-2
11.3	Responsibility for Quality in Maintenance.....	11-4
11.4	Quality Assurance Responsibilities.....	11-4
11.5	Quality Assurance Inspectors (QAIs).....	11-9
11.6	Collateral Duty Quality Assurance Inspectors (CDQAIs) ...	11-11
11.7	Collateral Duty Inspectors (CDIs).....	11-11
11.8	Quality Assurance Programs.....	11-12
11.9	Quality Assurance Program Management.....	11-13
11.10	ALRE Discrepancy Reporting Program.....	11-21
11.11	ALRE Hazardous Material Report (ALRE HMR).....	11-30
11.12	ALRE Engineering Investigation (ALRE EI).....	11-34
11.13	ALRE Product Quality Deficiency Report (ALRE PQDR).....	11-35
11.14	ALRE Technical Publication Deficiency Report (ALRE TPDR)	11-39
11.15	ALRE Discrepancy Report Preparation.....	11-41
11.16	Other Required Reports.....	11-49
11.17	Address Indicator Group ONE THREE EIGHT EIGHT FIVE.....	11-50

TABLE OF FIGURES

Fig	Subject	Page
11-1	ALRE Quality Assurance Organization.....	11-52
11-2	Sample Maintenance Instruction.....	11-53
11-3	ALRE PQDR Process Flow.....	11-54
11-4	Sample ALRE Hazardous Material Report Message.....	11-55
11-5	Sample ALRE Engineering Investigation Request Message ...	11-56
11-6	Sample ALRE Engineering Investigation Request Message (Environmental Impact).....	11-57
11-7	Sample ALRE Hazardous Material Report and Engineering Investigation Request Message.....	11-58
11-8	Sample ALRE CAT I Product Quality Deficiency Report Message	11-59
11-9	Sample ALRE CAT II Product Quality Deficiency Report Message	11-60
11-10	Sample ALRE CAT I Technical Publications Deficiency Report Message	11-61
11-11	ALRE Discrepancy Reports Matrix.....	11-62
11-12	ALRE Fleet Support Team Response Matrix.....	11-63
11-13	ALRE EI, ALRE HMR, ALRE PQDR Message Template.....	11-64

Chapter 11

Quality Assurance

11.1 Quality Assurance (QA)

11.1.1 QA is a planned and systematic pattern of actions necessary to provide confidence that an item or product conforms to established technical requirements.

11.1.2 The QA W/C is organized with a relatively small group of highly skilled personnel. These permanently assigned personnel, under the ALRE maintenance officer, are responsible for conducting and managing the QA program of the division. The maintenance personnel assigned to QA are known as QAIs. Additionally, personnel assigned to other W/Cs may be designated to perform certain inspection functions. Figure 11-1 depicts the standard ALRE QA W/C organization.

11.2 Concepts of Quality Assurance

11.2.1 The QA concept is fundamentally that of the prevention of the occurrence of defects. The concept embraces all events from the start of the maintenance operation to its completion and is the responsibility of all personnel. The achievement of QA depends on prevention, knowledge, and special skills. These factors are described as follows:

a. Prevention relies on the principle that it is necessary to preclude maintenance failure. This principle extends to safety of personnel, maintenance of equipment, and virtually every aspect of the total maintenance effort. Prevention is concerned with regulating events rather than being regulated by them.

b. Knowledge is derived from factual information. Data collection and analysis are a means of acquiring this knowledge.

c. Special skills, not normally possessed by production personnel, are required of a staff of trained personnel for the analysis of data and supervision of the QA program.

11.2.2 The terms inspection and audit, as used in this instruction have separate and distinct meanings and should be used accordingly. The following definitions are provided to clarify the conceptual differences in these terms:

a. Inspection is the examination and testing of supplies (including raw materials, documents, data, components, and assemblies) and services to determine whether they conform to technical requirements.

b. Audit, as it applies to the QA program, is a periodic or special evaluation of details, plans, policies, procedures, products, directives, and records.

11.2.3 The QA program provides a systematic and efficient method for gathering, analyzing, and maintaining information on product quality and on the source and nature of defects and their impact on the current operation. It permits decisions to be based on facts rather than intuition or memory. It provides comparative data that will be useful long after the details of the particular time or events have passed. Its objective is to readily pinpoint problem areas in which management can:

a. Improve the quality, uniformity, safety, and reliability of the total maintenance effort.

b. Improve the work environment, tools, and equipment used in the maintenance effort.

c. Eliminate unnecessary man-hour and dollar expenditures.

d. Improve training, work habits, and procedures of maintenance personnel.

e. Increase the accuracy and value of reports and correspondence originated by maintenance personnel.

f. More effectively disseminate pertinent technical information.

g. Establish realistic material and equipment requirements in support of the maintenance effort.

h. Support the FOD prevention and other special programs.

11.2.4 Teamwork must be achieved before benefits can be obtained from a QA program. Individuals in the organization must use critical judgment in the course of their daily work. Judgment plays a vital part in the quality of the work performed. QA techniques supply each person, from the worker to the commanding

officer, with information on actual quality standards, goals, and achievements. The resultant recorded knowledge can encourage the best efforts of all personnel.

11.3 Responsibility for Quality in Maintenance

11.3.1 The commanding officer is ultimately responsible for the inspection and quality of material under his or her COG. Command policy and emphasis will establish high standards of quality in a maintenance organization.

11.3.2 Attaining quality in maintenance and the prevention of maintenance errors is an all hands task that can only be accomplished through positive leadership, proper organization, and a complete understanding of responsibilities by each individual in the division. The QA program requirements, as well as QA functions and responsibilities stipulated in this instruction, provide a sound basis for conducting an effective ALRE QA program.

11.3.3 QA is a staff function, which requires both authority and assumption of responsibility. Direct liaison between QA and the W/C is a necessity and must be energetically exercised. Although the QA supervisor is responsible to the ALRE maintenance officer for the overall quality of maintenance within the division, W/C supervisors are responsible for ensuring that required inspections are conducted and that quality workmanship is attained. The foremost responsibility of the ALRE QA program is the assurance of proper maintenance actions.

11.3.4 The QA supervisor shall be designated in writing by the commanding officer.

11.4 Quality Assurance Responsibilities

11.4.1 Specific program responsibilities assigned to the QA supervisor are to:

a. Maintain the central TPL for the division, including TDs; control classified technical publications for the division and ensure that each W/C receives all publications that are applicable and that they are kept current and complete.

b. Establish QAI qualifications and requirements for QAIs, CDQAIs and CDIs; review the qualifications of personnel nominated for these positions, and endorse nominations to the commanding

officer and air officer via the chain of command. A current list of all QAIs and CDQAIs and CDIs will be issued to all W/Cs and include the type of equipment each may inspect.

c. Recheck qualifications of CDIs by monitoring them at a minimum quarterly during scheduled or unscheduled maintenance tasks. Documentation of monitoring must be retained for a period of 2 years within the QA branch.

d. Ensure all work guides, check-off lists, check sheets, MRCs, etc., used to define and control maintenance, are complete and current prior to issuing to crews and individuals. Verify ships equipment file MIP pages for ALRE W/C are accurate and by NAVAIRWARCENACDIV equipment MAPL and TYCOM directives. Recommendations for additional MIP and MRC coverage's for non-NAVAIRWARCENACDIV MIP's shall be submitted to TYCOM and NAVAIRWARCENACDIV using the OPNAVINST 4790.4E and NAVSEAINST 4790.8B guidelines for consideration and possible inclusion into NAVAIRWARCENACDIV ALRE MIPs.

e. QA shall monitor and review all requests for departures from specifications, REIs, HMRS, TPDRs, PQDRs, EI requests, PMS fleet feedback reports, fleet COSAL feedback reports and MSC problem worksheets, to ensure that they are accurate, clear, concise, and comprehensive prior to submission.

f. Monitor use of PME to ensure compliance with calibration intervals and safety instructions.

g. Perform inspection of all maintenance equipment and facilities to ensure compliance with fire and safety regulations and existence of satisfactory environmental conditions. Additionally, monitor proper training, qualification, and licensing of equipment operators and drivers.

h. Provide a continuous training program in techniques and procedures pertaining to the conduct of QA inspections. When directed or required, provide technical task forces to study trouble areas and submit recommendations for corrective action.

i. Use information from the ALRE MAF in developing discrepancy trends to identify failure areas or other maintenance problems.

j. Review periodic inspection records, and note recurring discrepancies requiring special action.

k. Maintain liaison with TYCOMs, NAVAIRWARCENACDIV Lakehurst, carrier and CAFSU, and other available field technical services. Establish and maintain liaison with other maintenance and rework activities to obtain information on ways for improving maintenance techniques, quality of workmanship, and QA procedures.

l. Ensure personnel performing QA functions use inspection equipment such as mirrors, magnifying glasses, comparators, tensiometers, pressure gauges, etc., as required. Ensure that maintenance personnel have such equipment available, in operating condition and calibrated.

m. Ensure that established standard procedures are observed for conducting PMS actions.

n. Ensure that the configuration of equipment and components is such that all essential modifications have been incorporated. This requires checking equipment records with the current service bulletin and service change zero bulletin, SEF, which provides required configuration information.

o. Ensure an inspection is conducted on all equipment received for use, returned for repair, or held awaiting repair to verify its material condition, identification, packaging, preservation, and configuration are satisfactory; and when applicable, that shelf-life limits are not exceeded.

p. Ensure that prior to the installation of an ALRE component, part and contract numbers are validated against the DPL database to ensure the installation of non-discrepant parts. Ensure contractor, VRT personnel, and all repair activities are briefed on and utilize the ALRE DPL Program. Ensure maintenance documentation (e.g., OPNAV 4790/160) procedures support the program objective.

NOTE

Ensure contract numbers of parts installed are annotated on the OPNAV 4790/160 when it is completed. The ALRE maintenance officer and maintenance chief shall initial contract number block of OPNAV 4790/160 for all UNKNOWN contract number entries.

q. Review all incoming technical publications and directives to determine their applicability to the division.

r. Prepare or assist in the preparation of maintenance instructions (MIs) to ensure that QA requirements are included.

s. Develop and administer appropriate tests for QA nominees. Ensure currency and integrity of all testing materials.

t. The QA supervisor is assigned the overall responsibility for the division safety program as outlined in paragraph 11.9.3.1.

11.4.2 To comply with assigned responsibilities, QA will perform the inspections identified in the following paragraphs:

11.4.2.1 Mandatory QA inspections as specified in the MRCs, TDs, and MIs.

11.4.2.2 Those inspections required to be conducted by QA personnel during and upon the completion of a maintenance action.

11.4.2.3 ALRE QA cards are provided for certain preventive and corrective maintenance tasks that, if improperly performed, could cause equipment failure or jeopardize the safety of personnel. They contain guidelines for conducting QA inspections. QAI level inspections are performed during and after task performance, using the following criteria:

a. If the proper performance of a task cannot be determined after the task is completed, a QA inspection shall be required while the task is being performed. Work shall not proceed past the inspection point indicated on the task MRC until the QA inspection has been completed. For these inspections, the notation QA REQUIRED appears on the MRC containing the task.

b. If the proper performance of a task can be determined by a visual inspection after the task is completed, a QA inspection is required after the task completion.

11.4.2.3.1 QA cards shall be maintained and used by QA personnel. Upon receipt of a new QA card, the enclosed feedback form shall be filled out and forwarded to NAVAIRWARCENACDIV Lakehurst to acknowledge receipt of the card(s). Additionally, fleet units shall send a feedback report, indicating receipt, to their respective TYCOM.

11.4.2.3.2 Recommended changes and corrections shall be reported by ALRE category (CAT) I or CAT II TPDR under paragraphs 11.10.5.2 and 11.14.1.3.

11.4.2.3.3 NAVAIRWARCENACDIV Lakehurst Technical Data Branch (Code 6.8.5.1) will manage the ALRE QA MRC program and issue cards annually and as they are updated.

11.4.3 Procedures shall be established within each W/C to ensure that the QA inspection requirements are complied with during all maintenance evolutions. In developing procedures, inspections normally fall into one of the following categories:

a. Receiving or screening inspections apply to material, components, parts, equipment, logs and records, and documents. These inspections are normally conducted by CDIs to determine the condition of material, proper identification, MRs, disposition, and correctness of accompanying records, documents, etc.

b. In-process inspections are specific QA functions that are required during the performance of MRs and actions in cases where satisfactory task performance cannot be determined after the task has been completed. These inspections, when designated, include witnessing application of torque, functional testing, adjusting, assembly, servicing, installing, etc.

c. Final inspections are specific QA functions performed following the completion of a task or series of tasks.

d. In-process and final inspections are normally conducted by CDIs, however, QAIs shall conduct in-process and final inspections of all tasks on all which require the equipment to have a functional check. Additionally, QAIs will perform inspections of any other tasks as determined by the ALRE maintenance officer. It must be emphasized that only those personnel designated as QAI and CDQAIs and CDIs are authorized to sign as inspector for a QA inspection requirement. While not all QA inspections conducted during the various phases of maintenance require a signature, all specified QA inspections are conducted, witnessed or verified by designated QA personnel.

11.4.4 The INSPECTED BY block on all MAFs are signed by QA inspectors. Only the QA inspector(s) actually inspecting the work for proper standards will sign inspection documents.

11.4.5 Billet descriptions shall be prepared for QA personnel to ensure that all QA functions and responsibilities are assigned. Billet descriptions shall assign specific programs that are managed and monitored by each QA.

11.5 Quality Assurance Inspectors (QAIs)

11.5.1 QAIs perform the following functions:

a. Review incoming technical publications and directives to determine their application to the division.

b. Prepare or assist in the preparation of MIs to ensure QA objectives and requirements are defined.

c. Participate as members of technical task forces to investigate trouble areas and provide recommendations for corrective action.

d. Verify the certification of maintenance personnel; i.e., welder, tow tractor, or forklift.

e. Review qualifications of personnel nominated to become CDIs (or CDQAIs) and provide recommendations as appropriate.

f. Assist in the preparation of ALRE discrepancy reports (see paragraph 11.10.3), PMS feedback reports, and change recommendations to technical manuals. Review all report entries for adequacy and correctness prior to distribution.

g. Provide technical assistance to CDIs and maintenance personnel who are required to make decisions concerning QA.

h. Review ALRE discrepancy reports, PMS feedback reports, and change recommendations to technical manuals to determine discrepancy trends and specific problem areas relative to their areas of responsibility.

i. Conduct in-process and final inspections of tasks that require certification by QAIs and CDQAIs (e.g., functional check of A/G). Ensure that each QA inspection includes an examination of the work area for sources of potential FOD.

j. Monitor calibration status of equipment and tools in W/C.

k. Develop discrepancy trends and such charts and graphs that are necessary to depict quality performance.

l. Maintain liaison with TYCOM, NAVAIRWARCENACDIV Lakehurst, CAFSU and other field technical services. Establish and maintain

liaison with other maintenance and rework activities to obtain information for improving the maintenance techniques, quality of workmanship, and QA procedures.

m. Develop checklists for auditing W/C, specific maintenance programs, and processes that require monitoring by QA.

NOTE

No QAI may inspect his or her own work and sign as an inspector.

11.5.2 All personnel being considered for selection as QAIs should meet the following qualifications:

a. Be senior in grade and experience, at pay grade E-6 or above, with a well-rounded maintenance background. See paragraph 11.6.2 for additional information.

b. Have fully developed skills and experience and be technically qualified in fields under their COG.

c. Be able to research, read and interpret; drawings, technical manuals and directives, configuration records and APLs.

d. Be able to write with clarity and technical accuracy.

e. Be stable and excellent in performance.

f. Be motivated and have personal desire to acquire greater knowledge of their technical specialty.

g. Be observant, alert, and inquisitive.

h. Ability to work with others.

i. Successfully qualify by passing a test administered by the QA branch.

11.5.3 The QA supervisor shall ensure that personnel assigned to perform QA functions receive continuous training in inspecting, testing, and quality control methods specifically applicable to their area of assignment. They will also ensure that QAIs receive cross training to perform those QA functions not in their assigned area. This training should include local training courses, OJT, rotation of assignments, and PQS. QAIs shall have successfully completed the CNATTU (Norfolk and San Diego) ALRE QA Administration course (C-670-2017).

11.5.4 QAIs shall be designated in writing by the commanding officer. The OPNAV 4790/162 ALRE QAI Recommendation and a maintenance instruction (figure 11-2) shall be used for this purpose.

11.6 Collateral Duty Quality Assurance Inspectors (CDQAIs)

11.6.1 When shortages of skills or manpower preclude the assignment of a QAI, a qualified individual within an appropriate W/C may be designated a CDQAI. CDQAIs must meet the same criteria as QAIs, including designation in writing by the commanding officer, and will have the same authority as QAIs, but remain part of the W/C organization. CDQAIs are primarily assigned to meet duty and or in-port workload requirements, and are not assigned specific responsibility for programs monitored and managed by QA. CDQAIs shall perform QAI-level inspections only when tasked to do so by the ALRE maintenance officer, M/C supervisor or QA supervisor. Tasking shall be limited to specific maintenance events.

NOTE

No CDQAI may inspect his or her own work and sign as an inspector. No CDQAI may perform in a QA capacity and also sign as the W/C supervisor on the same job.

11.6.2 Should it become necessary to assign an individual below the grade of E-6 as a CDQAI to cover given skills or manpower shortfall a letter shall be submitted to the respective TYCOM requesting approval. Comprehensive information surrounding the shortfall and complete justification must be provided. Assignment of an individual below the grade of E-6 as a CDQAI shall not normally exceed a period of 90 days, however, TYCOMs may, at their discretion, approve greater time periods. These occurrences might be necessary to coincide with availabilities that exceed 90 days. The authorized period will commence on the date of the official correspondence response from the TYCOM, unless otherwise stated in said correspondence. In no case shall an individual below the grade of E-5 be appointed as a CDQAI.

11.7 Collateral Duty Inspectors (CDIs)

11.7.1 CDIs assigned to the W/Cs are to inspect all work and comply with the QA inspections required during all maintenance actions (with the exception of pre and post operation inspections) performed by their respective W/Cs. They will be responsible to the QA supervisor when performing these functions. CDIs will check

all work in progress, and will be familiar with the provisions and responsibilities in the various programs managed and monitored by QA.

NOTE

No CDI may inspect his or her own work and sign as an inspector. No CDI may perform in a QA capacity and also sign as the W/C supervisor on the same job.

11.7.2 QA will establish minimum qualifications for personnel selected for CDI. W/C supervisors are responsible for ensuring that sufficient qualified personnel are nominated for CDI to comply with QA inspections required during all maintenance actions. Due to the critical role of the CDI, it is imperative that branch officers, group and W/C supervisors carefully screen all candidates for these assignments. CDIs will be required to be PQS qualified and to demonstrate their knowledge and ability on the particular type equipment by successfully passing a test that is locally prepared and administered by QA.

11.7.3 CDIs shall be designated in writing by the air officer. The OPNAV 4790/162 and a maintenance instruction (figure 11-2) shall be used for this purpose.

11.8 Quality Assurance Programs

11.8.1 The QA management program includes continuous collection and distribution to cognizant personnel of all messages, letters, instructions, and other information concerning programs being managed. Programs assigned to QA for management include, but are not limited to:

- a. QA audit Program.
- b. TPL.
- c. Safety Programs including electrical safety.
- d. FOD.
- e. Tag-Out Program.
- f. Calibration Program.
- g. TCP (including electrical tool issue).

- h. QA Standards and Qualification Program.
- i. Configuration Validation Program.
- j. Government Support Equipment Licensing Program.
- k. Maintenance logs.
- l. Monthly maintenance plan (MMP).

11.8.2 MIs shall be prepared to carry out internal procedures and methods of administering specific programs and processes assigned for management. MIs are used to issue technical information and local policy of a sustaining nature. They direct efforts of QAIs, CDQAIs, CDIs, and other maintenance personnel. MIs shall be prepared in standard Navy directives format as prescribed in OPNAVINST 5215.17. A sample of the format is in figure 11-2.

11.8.3 QA shall prepare an audit MI, which describes the specific functions, required to monitor each of the QA managed programs. Checklists used to monitor and audit W/Cs and maintenance programs shall be included as part of the MI governing that program. The QA supervisor is responsible for ensuring that all appropriate QA elements are included in these instructions, including the applicable audit checklist. Audits are one of the tools used in program; however, continuous attention is required to effectively manage program performance.

11.8.4 The originals of all MIs will be maintained in the central technical publication library (CTPL). A numbering system shall be established to provide file control (e.g., 1-01, 2-01). A master MI list shall be prepared and maintained by the central TPL. It shall include the MI number, title, effective date, and latest change date (if any). A copy of this list shall be held by each W/C, and updated every 90 days.

11.8.5 MIs shall be reviewed for currency and validity on the MI anniversary date. The review shall be conducted jointly by the cognizant W/C and QA.

11.9 Quality Assurance Program Management

11.9.1 QA Audits. QA audits are essential elements of an effective QA program. Audits provide an evaluation of performance and program compliance throughout the division. They serve as an orderly method of identifying, investigating, and correcting

deficiencies on a scheduled and unscheduled basis. Audits are also used to monitor those specific maintenance programs and processes assigned to QA for management.

11.9.1.1 Audits fall into the following three categories:

- a. W/C audit.
- b. Special audit.
- c. TYCOM audit.

11.9.1.2 W/C audits are conducted quarterly to evaluate the overall quality performance of each W/C. As a minimum, the following applicable items are evaluated:

- a. Personnel and skills.
- b. Technical publications.
- c. MIs.
- d. Adherence to directives, procedures, and inspections.
- e. Adequacy and availability of process, test, and inspection procedures.
- f. Availability and calibration status of PME.
- g. Proper use of PME.
- h. Certification of personnel performing special processes such as welding, etc.
- i. Handling, packaging, protection, and storage of material.
- j. Cleanliness and condition of spaces.
- k. Compliance with fire, safety and electrical safety regulations.
- l. Configuration of components, equipment, and accuracy of associated logs and records.
- m. Equipment logs and records.

- n. Material condition and corrosion control of equipment.
- o. FOD Prevention Program compliance.
- p. TCP compliance.
- q. Tag Out Program compliance.

11.9.1.3 Special audits are conducted to evaluate specific maintenance tasks, processes, procedures, and programs. These audits provide a systematic, coordinated method of investigating known deficiencies, evaluating the quality of workmanship, and determining the adequacy of and adherence to applicable technical publications and instructions. The ALRE maintenance officer or QA supervisor on an as required basis normally directs conducting special audits.

11.9.1.4 Audit forms for each W/C, with appropriate checklists, are developed by QA.

11.9.1.5 Upon completion of an audit, the findings are reviewed with the W/C involved and reports of the findings, with recommendations when required, are submitted to the ALRE maintenance officer.

11.9.1.6 Adequate follow up procedures shall be established to ensure that discrepancies found during a QA audit are resolved and documented. Attention from all levels within the V-2 division organization is essential.

11.9.1.7 TYCOM AMMTs will visit each ship at least once during the work-up cycle and will audit the ALRE QA program prior to deployment.

11.9.2 TPL. The TPL serves two important functions. It provides a central source of up-to-date information for the use of all personnel in the performance of their work, and it is an excellent source of reference information to facilitate personnel training and individual improvement. To perform these functions properly, the TPL must contain at least one paper copy of all publications affecting the assigned equipment.

11.9.2.1 Management of the TPL is a function of QA. This function includes the determination of technical manuals, IRACs, RACs, repair procedures, TDs, etc., required to support the division, receipt and distribution control of these manuals, as well as the

responsibility for ensuring manuals are updated throughout the division. Detailed information for establishing and operating a TPL are contained in NAVAIR (NA) 00-25-100 (NOTAL).

11.9.2.2 Each activity that has established a TPL shall designate a CTPL. Personnel assigned as the CTPL must receive indoctrination and continuous training in library operation and successfully complete the Aeronautical Technical Publications Librarian Course (D-555-0007) under NA 00-25-100 (NOTAL), and be designated in writing by the air officer.

11.9.2.3 In order to ensure the most up-to-date technical publications are being used during maintenance procedures, technical publication work packages shall be printed from the Joint Knowledge Caching Server (JKCS) server or Naval Air Technical Data and Engineering Service Command (NATEC) Web site (<https://mynatec.navair.navy.mil>) and are the only authorized source for reference when performing corrective maintenance. Electronic copies from any other source are not permitted.

NOTE

Divisional personnel may use copies of technical manuals from others sources for training only. Only work packages issued by QA shall be used to perform maintenance.

The technical publication checkout process shall be controlled by the QA branch. Work packages from technical manuals must be verified, printed, stamped, and issued to the W/C CDI by the QA branch. The process is as follows:

a. Once a corrective action has been identified and an OPNAV 4790/180 is generated, the W/C CDI will notify QA and request copy or copies of the appropriate work package(s) needed to perform the MR(s).

b. The CTPL and QA will access the JKCS server or NATEC Web site and download the current publication that contains the needed work package(s) to be issued.

NOTE

If the work package includes drawings that do not fit on stock 8.5" x 11" paper, the affected pages must be produced at the nearest print shop facility.

c. After printing the applicable work package(s), the CTPL and QA will issue the work package(s) by stamping each page with a locally prepared stamp containing W/C, number of pages, current date and time, expiration date of material, and signature block for the CTPL and QA. The CTPL will also make a log entry with the same information. The work package(s) can now be used by the W/C to perform the maintenance action.

NOTE

Work packages issued are valid for 7 days. If MR exceeds 7 days, the work package shall be returned to QA to be validated and reissued.

d. Once the maintenance action is complete, the CDI will return the issued work package(s) to the QA branch. The CTPL and QA will verify that all pages of the work package(s) have been returned; enter the date and time returned in the log, and destroy the documents per local guidance. In addition, the CTPL and QA will initial block 35 of the ALRE MAF that the work package(s) have been returned and all pages have been accounted for.

11.9.2.4 Each W/C that contains a dispersed library shall assign a dispersed technical publication custodian (DTPC) who will be responsible for the storage, update and user availability of the publications issued to them. The training of DTPCs is a responsibility of the CTPL and the W/C supervisor and division officer. Each DTPC shall be recommended jointly by the appropriate W/C supervisor and division officer and designated in writing by the ALRE maintenance officer.

11.9.2.5 For continuity, effective operation and adequate training, personnel assigned to the CTPL should be retained in the billet a minimum of 1 year. Additionally, personnel assigned as a DTPC should be retained for a minimum of 6 months.

11.9.2.6 When an activity is unable to locate the applicable COMNAVAIRSYSCOM approved technical publication, or concludes that such a publication does not exist, that activity shall send an assistance request letter, via the chain of command, to: Commanding Officer, Naval Air Technical Data and Engineering Service Command (NATEC), Code 685.3, San Diego, CA 92135-7031, with a copy to PEO(T) (PMA 251) and NAVAIRWARCENACDIV Lakehurst (Code 6.8.5.1). In addition to a brief explanation of the problem, previous resolution attempts, a point of contact, and the following information shall be included, if applicable:

- a. Item nomenclature.
- b. P/N.
- c. NSN.
- d. Applicable ALRE system application.
- e. Serial number.
- f. Manufacturer's name or the contractor and government entity (CAGE) code.
- g. Identification of the next higher assembly (for example, nomenclature, P/N, NSN).

11.9.2.7 NATEC shall respond directly to the originator, with copies to other involved commands, within 30 calendar days of receiving the request for assistance.

11.9.2.8 TDs provide information on the proper administration, technical and or operational use of equipment. TDs also provide technical alteration specifications to install, remove, reconfigure, and repair equipment. The applicable zero dash bulletins provide a complete numerical index and current status of the TDs.

11.9.2.9 Detailed information concerning the ordering of technical publications and TDs is contained in NA 00-25-100 (NOTAL). Requisitions are submitted to the appropriate ICP listed in NAVSUP P-2008, Navy Stock List of Publications and Forms (NOTAL).

11.9.3 Division Safety Program. This program seeks to identify and eliminate hazards wherever and whenever they are found. Effectiveness and safety result when properly trained personnel use properly designed equipment per established procedures under competent and persistent supervision. It requires active daily participation by all personnel to obtain desired results. Any safety program must address the aviation, shipboard, and industrial aspects of safety.

The QA supervisor is assigned the overall responsibility for the V-2 division safety program. The intent of this program is not to conflict with any portion of the ship's overall safety program but to assist in the coordination of the total safety effort. The following responsibilities are included:

- a. Disseminating appropriate safety posters and literature.
- b. Reporting any hazards, mishaps, and unsafe practices in the division.
- c. Conducting training and safety meetings within the W/Cs.
- d. Coordinating with the ship's safety officer.
- e. Participating in the ship's safety surveys and stand-downs.

11.9.4 FOD Program. QA will ensure that:

- a. There is compliance with all instructions pertaining to FOD prevention issued by the FOD prevention officer.
- b. All W/Cs have instituted procedures that comply with applicable instructions and the FOD prevention and safety relationship is adequately addressed. Evaluation of FOD prevention measures shall be included in all special and planned W/C audits.
- c. Maintenance methods and procedures support the FOD prevention program.
- d. The ship's FOD prevention officer, the aircraft handling officer is made aware of FOD related problems.
- e. Contractor and field maintenance teams are briefed regarding the command's FOD prevention program requirements and that discrepancies are to be reported to the FOD prevention officer.

11.9.5 Tag-out Program. QA will ensure that:

- a. Tag-out procedures are verified under current directives.
- b. All W/Cs have instituted procedures that comply with OPNAVINST 3120.32C and other applicable instructions are adequately addressed.

11.9.6 Calibration Program. During daily walk-through, routine audits, and while conducting inspections of all maintenance actions, QA will verify that all equipment and components are in calibration and are in safe working condition. QA will ensure that cognizant W/Cs comply with procedures established for the induction of equipment and components that require calibration.

11.9.7 TCP. QA will ensure that:

a. Tool procedures are verified as directed by the ALRE maintenance officer and during W/C audits.

b. When work is to be performed by contractor and field maintenance teams, the division's tool control standard is maintained. A QAI will brief them upon their arrival regarding tool control responsibilities.

11.9.8 QA Standards and Qualification Program. To maintain proper quality inspections of maintenance, inspectors must be trained, tested and indoctrinated with the highest of standards. All personnel nominated to perform inspection of ALRE maintenance must meet the requirements specified in paragraphs 11.5.2, 11.5.3, and 11.7.3.

The TYCOM standardized ALRE job qualification requirements (JQR) for QAI, CDQAI and CDI will be utilized to assist in the effective and proper qualification of ALRE inspectors. Quality inspections require an aggressive continuous training program to ensure inspectors maintain quality in maintenance and prevention of maintenance errors.

11.9.9 MMP. The MMP is a comprehensive tool used by V-2 division to organize and track various qualifications, publications, training requirements and other pertinent maintenance and training related information. It is prepared by the V-2 QA branch on a monthly basis and reviewed by the V-2 QA supervisor, ALRE maintenance officer and V-2 division officer. At a minimum, the MMP will include the following appendixes:

- a. Key personnel.
- b. Collateral duties.
- c. QAI, CDQAI, CDI qualified personnel list.
- d. Special qualifications.
- e. PQS qualifiers list.
- f. MI index.
- g. QA monitor program and QA audit schedule.

- h. ALREMP reports tickler.
- i. Active, standing and safety required reading.
- j. V-2 tag out authorizing officers.
- k. ALREMP training schedule.

11.10 ALRE Discrepancy Reporting Program

11.10.1 Introduction

a. This program is the method by which hazardous deficiencies in material and publications, substandard workmanship, and improper QA procedures are reported.

b. COMNAVAIRSYSCOM has provided a Naval Aviation Maintenance Discrepancy Reporting (NAMDRP) Web site enabled capability to organizational level and intermediate level maintenance activities to create, transmit, and track EI requests, hazardous material EI requests and PQDRs. Requests will be routed to the assigned FSTs and automatically routed to other concerned activities. The NAMDRP Web site enabled capability also permits maintenance activities to receive reports and other information, conduct technical dialog with the FST technical representative, and verify status of an EI or PQDR. This Web site is accessible at <http://www.jdrs.mil> by all organizations with a role in the EI or PQDR process.

c. COMNAVAIRSYSCOM has also established a NAMDRP clearinghouse to oversee the EI and PQDR processes and interface between the requesting activity and the FSTs for all COMNAVAIRSYSCOM activities. The function of the NAMDRP clearinghouse is to monitor the performance of the EI and PQDR processes, and assist fleet activities resolve problems with specific discrepancy report requests. The NAMDRP clearinghouse will operate up to 16 hours each working day to respond to or expedite solutions to fleet problems or concerns. NAMDRP clearinghouse personnel can be contacted through the NAMDRP Web site at <http://www.jdrs.mil>.

d. It is the policy of this program to expeditiously resolve reported discrepancies relating to ALRE equipment. By utilizing prepaid commercial express shipping (e.g., FedEx) integrated on the NAMDRP Web site, EI and PQDR exhibits can usually be delivered to the investigation activity within 3 days continental United States (CONUS) and 7 days non-CONUS.

11.10.2 Exceptions to the ALRE discrepancy reports are:

a. Changes or corrections to carrier Naval Air Training and Operating Procedures Standardization (NATOPS) or tactical manuals are reported per OPNAVINST 3710.7U using OPNAV 3710/6 NATOPS Tactical Change Recommendation.

b. Deficiencies resulting from incorrect packaging, preservation, marking, handling (as reported by supply activities), or deficiencies in shipment which are the result of overage, shortage, expired shelf life, or misidentified material, are reported per SECNAVINST 4355.18A.

c. Locally procured material found to be deficient by the procuring activity or station is reported under SECNAVINST 4855.3B.

d. Deficiencies in letter type instructions and notices are reported by letter to the sponsor.

e. Recommendations for improvements in procedures which are not a result of incorrect information contained in publications are reported by NATEC. Provide an info copy to NAVAIRWARCENACDIV Lakehurst, Code 6.8.5.1.

11.10.3 Program Management

11.10.3.1 QA is responsible for managing the ALRE Discrepancy Reporting Program. Reports covered by this program are the ALRE PQDR, ALRE HMR, ALRE EI request, and ALRE TPDR. QA will assist the W/Cs in determining if one or more reports are needed for any maintenance problem or situation occurring in the activity. They will also review all discrepancy reports to ensure they are accurate, clear, concise, and comprehensive prior to submission.

11.10.3.2 The ship's safety officer shall review all correspondence pertaining to ALRE-related aircraft, ground, flight, and flight related mishaps.

11.10.3.3 Correspondence, reports, or requests involving the management of ALRE discrepancy reports shall be reviewed by the ALRE maintenance officer.

11.10.4 Safety

11.10.4.1 All hands have a responsibility to be alert for defects and discrepancies having an adverse effect on safety and to properly report them via their chain of command.

11.10.4.2 Safety shall be the primary consideration when submitting the reports outlined in this chapter. If an incident meets the criteria for an ALRE HMR and an ALRE EI, the hazard and the EI request should be reported in a single priority request on the NAMDRP Web site or a single priority message in the format shown in figure 11-4. Submission through the NAMDRP Web site is preferred and should be utilized when accessible. If a TPDR meets the criteria for a CAT I TPDR, it should be reported via priority message.

11.10.5 Reporting Procedures

11.10.5.1 Submit ALRE PQDRs, ALRE HMRS, ALRE EI requests and all combination ALRE discrepancy reports via the NAMDRP Web site to NAVAIRWARCENACDIV, Lakehurst, FST for ALRE. If submitting by naval message, use the message format shown in figure 11-13 and submit to Address Indicator Group (AIG) ONE THREE EIGHT EIGHT FIVE. In the remarks section of the message state, "THIS MSG ACTION FOR NAVAIRWARCENADLKE. INFO ALL OTHERS." AIG ONE THREE EIGHT EIGHT FIVE shall not be used in the info addressee line of the message.

NOTE

Submission of an ALRE discrepancy report is mandatory when the criteria of paragraph 11.11.2.1, 11.12.3.1, 11.13.3, or 11.14.1.1 is met. A CASREP may be required in addition to, but not in lieu of, an ALRE discrepancy report.

11.10.5.2 Submit CAT I ALRE TPDR messages to AIG ONE THREE EIGHT EIGHT FIVE and NATEC (Code 685.3) for dual action. AIG ONE THREE EIGHT EIGHT FIVE shall not be used in the info addressee line of the message. Submit OPNAV 4790/66 Technical Publications Deficiency Report (TPDR) CAT II to the NATEC (Code 685.3) and with an info copies to the originator's TYCOM and the FST.

NOTE

For ALRE TPDRs involving ALRE QA cards, NATEC will not be a recipient of the report. The report action addressee will be NAVAIRWARCENACDIV Lakehurst (Code 6.8.5.1).

11.10.5.3 A report control number (RCN) will be assigned to each ALRE discrepancy report. RCNs will be assigned sequentially throughout the calendar year, without regard for the type of report: for example, 8001 is the first report and is an ALRE HMR; 8002 is the second report and is a CAT I ALRE PQDR; 8003 is the third report and is an ALRE TPDR; and 8004 is the fourth report and is another ALRE HMR. The RCN shall not contain any spaces but will contain hyphens; for example, V03300-01-8001. The RCN is composed of the following elements:

a. Element (1) is the service designator code applicable to the originating activity, either R or V. These codes are the only correct service designator codes for ALRE discrepancy reports. V is for Navy and Marine Corps aviation Atlantic Fleet operating forces, and R is for Navy and Marine Corps aviation Pacific Fleet operating forces.

b. Elements (2) through (6) are the UIC of the originating activity; for example, 03300.

c. Elements (7) and (8) are a two-character identification of the calendar year; for example, 01. There will be a hyphen directly preceding and following the two-character year.

d. Elements (9) through (12) are the locally assigned control number. These numbers are sequential beginning with 8001 each calendar year.

11.10.5.4 Reference the RCN and message date-time-group of the originating activity on all supplemental correspondence. Include shipping information and the investigation control number (ICN) assigned by the FST.

NOTE

ALRE HMRS, ALRE TPDRs, ALRE PQDRs, ALRE EI requests and combined reports prepared as a result of an aircraft mishap are not privileged. Exercise extreme care to ensure that these reports and requests do not contain privileged information. Refer to OPNAVINST 3750.6R.

11.10.5.6 ALRE discrepancy report submission criteria, precedence, and time limits are summarized in figure 11-11.

11.10.6 Handling and preparation of ALRE PQDR, HMR, and EI material

11.10.6.1 The V-2 (ALRE) material control W/C will hold the defective material until disposition instructions are received from the FST or directing authority. When disposition instructions are received from the FST, V-2 (ALRE) material control shall take the defective material to the supporting supply department for shipping.

NOTE

Defective material investigations are often closed without reaching a conclusion about why the component failed because the exhibit is lost prior to shipment or damaged due to improper handling or packaging.

NOTE

Any material directed by the FST to be released to an authorized contractor's representative or shipped directly to a contractor's plant shall be processed through the supporting supply department. Supply can issue the material on a custody basis, only after receiving authority from the FST.

a. Maintain material in an AS IS condition, ensuring the ALRE ICN assigned by the FST appears on all documents, exhibits, and packaging. Whenever a hazardous condition is evident, request shipping instructions from the FST.

b. Take special care to cap and package material immediately upon removal from the system in such a manner as to prevent corrosion, contamination, or other damage that may contribute to confusion or loss of possible cause factors. Do not attempt any adjustments, disassembly, or perform any type of cleaning, externally or otherwise. If any adjustment, disassembly, or cleaning was done during a local investigation, a list of particulars describing the local investigation must accompany the material to the FST.

c. Forward samples of the fluid in clean, sealed, authorized containers. If contamination is suspected, annotate sample bottles accordingly.

NOTE

Hazardous material should be handled and packaged under OPNAVINST 5100.23G. Contact the supporting supply department for assistance.

d. Do not attempt to reassemble fragments of failed material. Wrap each fragment separately to prevent damage caused by relative movement. When feasible, forward associated accessories,

components, or material suspected of contributing to the malfunction or mishap. Do not touch failed surfaces as this could mask failure data.

e. Ensure DD 2332 Product Quality Deficiency Report Exhibit is attached to the exhibit. Also, provide a copy of the OPNAV 4790/160 (if applicable), appropriate copies of DD 1149 Requisition and Invoice/Shipping Document with a copy of the ALRE discrepancy report and all other supporting documents inside of the shipping container. QA shall ensure the OPNAV 4790/160 is marked with the ALRE ICN assigned by the FST and that ALRE PQDR, ALRE HMR or ALRE EI, as appropriate, appears in 3 inch red letters, in a manner not to obscure vital data.

NOTE

Exhibits shall be held 60 days by the originating point or until disposition instructions are received from an appropriate screening or action point. If after 60 days, shipping or disposition instructions have not been received, the originator shall conduct a follow-up with the appropriate screening or action point. Exhibits shall not be repaired within the 60 day holding time unless critical mission requirements dictate. In such instances, action should be initiated to retain evidence of the deficiency through photographs, testing, etc., which can be included with the ALRE discrepancy report.

NOTE

Within 45 days after receipt of an ALRE discrepancy report, the ALRE screening activity shall provide feedback to the originating activity concerning status of any possible exhibit request. Feedback shall delineate any requirement for the originator to hold the exhibit material for a period exceeding the initial 60 days.

11.10.7 Response to ALRE Discrepancy Reports

11.10.7.1 The originating point is an activity that finds a quality deficiency and reports it by ALRE PQDR, ALRE HMR, ALRE HMR/EI, or ALRE TPDR to the designated screening point. Figure 11-3 depicts the process flow for ALRE PQDRs. Processing for other ALRE discrepancy reports is similar.

a. The originator shall respond to all requests from screening, action or support points for additional information that may be necessary in the investigation of any ALRE discrepancy reports.

b. When a reply has not been received within the timeframes specified in paragraphs 11.11 through 11.14 for the applicable discrepancy report, the originating activity's ALRE QA will initiate follow-up action to the screening point via the NAMDRP Web site, priority message, routine message or naval letter, as appropriate. Submission through the NAMDRP Web site is preferred and should be utilized when accessible. At a minimum, information addressees and "copies to" for follow-up action will include PEO(T) (PMA 251), and COMNAVAIRFOR Pacific (Code N433), COMNAVAIRFOR Atlantic (Code N433).

11.10.7.2 The screening point is the activity that reviews the discrepancy report for proper category classification, validity, correctness of entries, accuracy, and completion of information addresses; determines and transmits the report to the cognizant action point; maintains an audit trail for each report; reviews PQDR closeout responses from action points; and collects, maintains, and exchanges report data. The primary screening point for ALRE equipment is the ALRE FST, NAVAIRWARCENACDIV Lakehurst, NJ. The screening point for NAVAIRSYSCOM publications is NATEC, Code 685.3. The screening point responsibilities are further broken down at NAVAIRWARCENACDIV, Lakehurst based on the type of report being submitted. These are outlined in the applicable report paragraphs, 11.11 through 11.14. Duties of the screening point for all type reports include the following:

a. The screening point shall forward an initial response, acknowledging receipt of the discrepancy report, to the originator within the time limits specified in paragraphs 11.11 through 11.14.

b. The screening point shall forward ALRE discrepancy reports to the appropriate action point within the time limits specified in paragraphs 11.11 through 11.14.

c. The screening points shall establish an audit trail for each ALRE Discrepancy Report forwarded to the action points for investigation.

d. Once the EI or HMR request or PQDR report has been screened and accepted, the screening point shall assign an ICN to the ALRE discrepancy report as follows:

(1) Request the deficient exhibit (if needed) from the originator (holding point) as soon as the need is determined, but

not later than time prescribed for the particular report. The support point may be authorized to request the exhibit directly from the holding point.

(2) Use the EI request and PQDR investigation control system for deriving control numbers shown in the following paragraphs:

```
WAFEI - ALRE - 0012 - 03R
|       |       |       | |__Routine
|       |       |       | |__2003
|       |       |       | Control Number
|       |       |__Type Equipment
|       |__Type Report (e.g., EI, PQDR)
|__NAVAIRWARCENACDIV Lakehurst
```

(3) The first three elements are the ORG code, as established in Navy MS Office or the Naval Aviation MS Office (NAMSO) 4790.A7065-01. The FRC identifier for NAVAIRWARCENACDIV Lakehurst is WAF.

(4) The next element, appended to the ORG code is "EI" or "PQDR," followed by a dash (-).

(5) The next four characters are the system identifier (type equipment). ALRE will be used for launch and recovery systems equipment. This element is followed by a dash (-).

(6) The next four elements comprise the serial number. This number will be assigned sequentially throughout the calendar year (beginning with 0001) without regard for the type of report. This element is followed by a dash (-).

(7) The next two elements are the calendar year identifier beginning with "00" for calendar year 2000, and continuing in arithmetic progression with changes in calendar year.

(8) The last element, appended to the calendar year, is a request urgency indicator, that is, "R" for routine, "S" for

safety, and "M" for mishap related. This indicator will be based on the nature of the request as specified in the ALRE discrepancy report.

11.10.7.3 The action point is a focal point identified within each activity, responsible for resolution of a reported product deficiency including necessary collaboration with support points. For PQDR reports, the action point should be determined using material COG codes, i.e., 1H, 5R, 7E, 9G, etc. For EI, HMR and all combination requests, the action point is the applicable equipment FST engineer at NAVAIRWARCENACDIV, Lakehurst, NJ. For ALRE discrepancy reports, the action point shall:

- a. Investigate the reported deficiency.
- b. Ensure action is taken to provide disposition instructions for the deficient product.
- c. Carefully evaluate the need to request an exhibit. If the exhibit is essential in the investigation, request it from the report originator as soon as the need is known but no later than the time limits specified in paragraphs 11.11 through 11.14.
- d. In the case of ALRE PQDRs, determine if a contract warranty applies and initiate any additional special actions that are required.
- e. Determine if the same deficiency is currently under investigation or has been resolved because of a previous report.
- f. Forward an initial, interim or final response to the originator or screening point as applicable within the time limits specified in paragraphs 11.11 through 11.14.
- g. Additional guidance for action points is provided in DLAR 4155.28 and SECNAVINST 4855.3B.

11.10.7.4 The support point is an activity that assists the action point, when requested, by conducting and providing results of a special analysis or investigation pertinent to the correction and prevention of a reported deficiency. The support point, when requested, shall:

- a. Conduct an investigation to determine the root cause(s) of the reported deficiency and the corrective actions necessary.

b. Evaluate the need to request an exhibit.

c. Provide an interim or final reply to the requesting action point within the time limits specified in paragraphs 11.11 through 11.14.

NOTE

Failure to meet the specified time limits does not relieve the requirement to process the ALRE discrepancy report. Activities will provide progress reports or request status reports as necessary to ensure timely completion of required action.

11.10.7.5 NAVAIRWARCENACDIV Lakehurst shall prepare a monthly summary and status report listing all new, open, and resolved (that month) ALRE discrepancy reports by type and category, and forward copies to COMNAVAIRSYSCOM, COMNAVAIRFOR Atlantic, COMNAVAIRFOR Pacific, all aircraft carriers (CVNs), NAVICP Philadelphia, NAVICP Mechanicsburg, NAVSAFECEN, and other concerned activities.

11.11 ALRE Hazardous Material Report (ALRE HMR)

11.11.1 This report provides a standard method for reporting material deficiencies that, if not corrected, could result in death or injury to personnel, or damage to or loss of aircraft, equipment, or facilities. Such incidents are reportable regardless of how or when the discrepant condition was detected.

NOTE

The ALRE HMR is not applicable for discrepancies related to new or newly reworked material. These discrepancies shall be reported using the ALRE PQDR (CAT I or CAT II, as applicable).

11.11.2 Reporting Criteria. Originating activities shall prepare and submit ALRE HMRs per this instruction. Submit an ALRE HMR or HMR and EI by priority request on the NAMDRP Web site or a priority precedence message (submission through the NAMDRP Web site is preferred and should be utilized when accessible) within 24 hours of the discovery under one or more of the following conditions:

NOTE

In case of a naval aircraft mishap, the required reports will be submitted under OPNAVINST 3750.6R. In addition, a report of deviation from normal catapult launch and arrested landing will be filed, when applicable (refer to COMNAVAIRFORINST 13800.6A

(NOTAL)). However, submission of the preceding reports does not negate the requirement to submit ALRE discrepancy reports as described in this instruction.

a. Malfunction or failure of a component part which, if not corrected, could result in death or injury to personnel, or damage to or loss of aircraft, equipment, or facilities.

b. A configuration deficiency, which constitutes a safety hazard, is discovered in ALRE or associated equipment.

c. Urgent action or assistance is required and corrective action must be completed at an early date because of an operational requirement.

d. A condition is detected wherein the design of a part is such that incorrect installation can be easily accomplished and system malfunction or failure may occur.

11.11.3 Screening Point Responsibilities. The primary screening point for ALRE equipment is the ALRE FST, NAVAIRWARCENACDIV Lakehurst, NJ. The functions of the screening point are described in paragraph 11.10.7.2, and for HMR and or EI requests the responsibilities are divided between the NAMDRP clearinghouse representative and the ALRE FST technical representative. The responsibilities of the NAMDRP clearinghouse and the FST technical representative are detailed below regarding HMR and or EI requests. Differences between the handling of an EI as opposed to an HMR are minor and are delineated in paragraph 11.12.

11.11.3.1 NAMDRP Clearinghouse. The function of the clearinghouse is to monitor the performance of the EI and PQDR processes, and assist fleet activities resolve problems with specific discrepancy report requests. This will include determining the cognizant action point when requested by the originating activity or FST technical point of contact, providing deficiency report status and metrics for process improvements and providing screening capability for reports submitted via the naval message system. Contact information for the NAMDRP clearinghouse is available on the NAMDRP Web site, <http://www.jdrs.mil>.

11.11.3.2 FST Technical Representative(s) Responsibilities. For HMR and or EI reports the FST technical representative(s) acts as both screening point and action point. Response times are summarized in figure 11-12. The responsibilities include:

a. Reviews the discrepancy report for proper FST technical representative routing and will readdress to the correct representative if required. Reviews for proper category classification, validity, correctness of entries, accuracy, and completion of information addresses. Conducts liaison with the request originator as required to obtain amplifying and clarifying information on the reported discrepancy and failure. "Accepts" receipt of the HMR and or EI request via the NAMDRP Web site within 1 working day.

b. Study the history of failures and utilize FST engineer (TOOL KIT) to determine the need for and value of an investigation on the equipment and material in question. The determination to proceed or not to proceed with the HMR and or EI shall be completed and an initial response forwarded to the originator, under paragraphs 11.11.3.2c and 11.11.3.2d below, within 3 working days of the request.

c. When engineering analysis, technical dialog, or other factors indicate that an HMR and or EI is not required, the FST engineer will inform the originator, as well as other required addressees through the NAMDRP Web site or by naval message. The FST engineer will summarize the factors that led to a decision to deny the HMR and or EI request.

d. When it is determined an HMR and or EI is required, the FST technical representative will provide an initial response to include an assigned ICN, (assigned over the NAMDRP Web site per paragraph 11.10.7.2), and provide shipping instructions for the discrepant equipment and material or describe the arrangements for an on-site investigation. All HMR and or EI exhibits will be shipped as directed in the shipping instructions received from the FST.

e. The FST technical representative in cooperation with the applicable support points shall develop an EI exhibit examination plan and post it on the NAMDRP Web site. He or she will ensure the examination plan is provided to the support points and the investigating activity if exhibit is to be examined off-site. He or she will notify the local investigating activity-receiving personnel (customer service representative) of the request for the equipment and material exhibit, so the exhibit can be properly identified and routed when received.

f. Follow-up on exhibit non-receipt. Under normal circumstances, follow-up shall be made within 4 days for CONUS

shipping or 8 days for non-CONUS shipping, after the initial response, but the period may be extended if it is known that shipment will take longer. Follow-up shall include a NAMDRP Web site report or message to the HMR and or EI request originator, after first checking with the local supply activity and investigating activity-receiving area, as a minimum. All possible follow-up actions shall be taken, particularly on equipment and material related to HMRS.

g. Acknowledge receipt of HMR and or EI exhibit via the NAMDRP Web site or naval message system within 1 working day of exhibit receipt.

h. The FST technical representative conducts the investigation by documented standard operating procedures. Immediate corrective action required to resolve life-threatening conditions shall be transmitted by telephone or message within 24 hours. An interim response for the HMR will be provided via the NAMDRP Web site or naval message system within 10 working days of the initial response (if exhibit was not required) or material receipt (if exhibit was required). A final HMR response will be provided via the NAMDRP Web site or naval message system within 30 working days of the initial response (if exhibit was not required) or material receipt (if exhibit was required). An interim response shall be provided every 30 working days until a final response is provided. Interim responses shall include status to date and a projected final response date. The final response shall include at a minimum, background, description of findings, conclusions, recommendations, related information, pending action and exhibit disposition information.

11.11.4 Action Point Responsibilities. As described above the action point for ALRE HMR and or EI requests is the equipment technical representative at FST, NAVAIRWARCENACDIV Lakehurst and their responsibilities are listed above.

11.11.5 Support Point Responsibilities. The responsibilities of the support point are delineated in paragraph 11.10.7.4. Using information provided by the action point, the support point will complete the requested service or analysis specified in the examination plan in order to meet the action point's reporting timeframes listed above.

11.12 ALRE Engineering Investigation (ALRE EI)

11.12.1 ALRE EIs are applicable to all ALRE systems, their subsystems, equipment, components, related SE, special tools, and fluids and materials used in the operation of the equipment. ALRE EIs:

a. Provide an investigation process to determine the cause and depth of fleet reported material failures.

b. Support the investigation of material associated with aircraft mishaps.

c. Support the scheduled removal component and equipment history record programs by providing for the investigation of high time and on-condition components and assemblies to confirm, revise, or initiate component or assembly operating times.

d. Provide for engineering assistance relating to any fleet ALRE material problem.

11.12.2 Types of ALRE EIs conducted are disassembly and inspection, material analysis, and engineering assistance.

11.12.3 Reporting Criteria. Originating activities shall prepare and submit ALRE EIs per this instruction.

11.12.3.1 Submit an ALRE EI request under one or more of the following conditions:

a. Safety is involved. This includes ALRE EI requests prepared in conjunction with aircraft mishaps and ALRE HMRs when it is evident that an unsafe condition exists.

b. Additional technical or engineering information is required to complete an aircraft mishap investigation.

c. Launch and recovery systems readiness is seriously impaired due to poor material reliability.

d. When environmental issues force material or process changes that conflict with existing publications or TDs.

e. When directed by higher authority.

11.12.3.2 Originating activities shall prepare and submit ALRE EIs per this instruction. They shall:

a. Submit an ALRE EI request by routine request on the NAMDRP Web site or routine precedence message (submission through the NAMDRP Web site is preferred and should be used when accessible) within 3 calendar days after discovery of deficiency, unless combined with an ALRE HMR.

b. A combined ALRE HMR and EI shall be sent by priority request on the NAMDRP Web site or priority precedence message within 24 hours of discovery, see the submission guidance under HMR.

c. Hold defective or environmentally sensitive material in V-2 (ALRE) material control for a minimum of 60 days or until receipt of disposition instructions from the Lakehurst FST.

11.12.4 The screening point, action point and support point functions and responsibilities, the combined handling of the EI request by the NAMDRP clearinghouse and FST technical representative, are nearly identical to those of the HMR. The only difference lies in the time of the interim response by the FST technical representative. An interim or final response for the EI will be provided via the NAMDRP Web site or naval message system within 30 working days of the initial response (if exhibit was not required) or material receipt (if exhibit was required). It shall be the goal of the FST technical representative to complete the investigation within the specified 30 working days and provide the final report response. If circumstances will not allow the completion of the investigation within this timeframe, interim responses are required every 30 working days until a final response is provided.

11.13 ALRE Product Quality Deficiency Report (ALRE PQDR)

11.13.1 An ALRE PQDR provides maintenance activities with a method for reporting deficiencies in new or newly-reworked material which may be attributable to nonconformance with contractual or specification requirements or substandard workmanship. Failures must have occurred at zero operating time, during initial installation, operation, test, or check. Discrepancies discovered after the initial use do not qualify for ALRE PQDR reporting, and shall be reported as ALRE HMRS and ALRE EIs, as appropriate. ALRE PQDRs are targeted toward reporting possible deficiencies in QA during the manufacturing or rework process. The goal is to improve

the quality of work done by FRC, NAVSHIPYDs, contractors, and subcontractors returning reworked material to supply stock. The process flow for ALRE PQDRs is depicted in figure 11-3. Processing for other ALRE discrepancy reports is similar.

11.13.2 Definition of Terms

11.13.2.1 New Material. Material procured under contract from commercial or government sources or manufactured by an in-house facility. Such material will be considered new until it has been proven in actual system operation.

11.13.2.2 Reworked Material. Material that has been overhauled, rebuilt, repaired, reworked, or modified by an outside military or commercial facility and unproven during actual system operation, will be considered newly reworked until it has been proven during actual system operation.

11.13.3 Types of ALRE PQDRs

11.13.3.1 CAT I. A quality deficiency in new or newly reworked material which may or will affect safety of personnel including causing injury or death; cause loss or major damage to a weapon system; or impair the combat efficiency of an individual or organization, or jeopardize mission accomplishment.

11.13.3.2 CAT II. A report of a quality deficiency in new or newly reworked material that does not meet the criteria set forth in CAT I.

11.13.4 Reporting Criteria

11.13.4.1 Originating activities shall prepare and submit ALRE PQDRs per this instruction.

11.13.4.1.1 ALRE CAT I PQDR Submission. ALRE CAT I PQDRs shall be submitted by a priority request on the NAMDRP Web site or a priority precedence message (the NAMDRP Web site is preferred and should be utilized when accessible) within 24 hours after discovery of the deficiency.

NOTE

Do not combine ALRE PQDRs and ALRE EIs or HMRS.

11.13.4.1.2 ALRE CAT II PQDR Submission

a. ALRE CAT II PQDRs shall be submitted by a routine request via the NAMDRP Web site or a routine precedence message to the FST, "INFO FOR" the originator's TYCOM. The FST for ALRE is NAVAIRWARCENACDIV Lakehurst.

b. Submit ALRE CAT II PQDRs by routine precedence message within 3 calendar days after discovery of the deficiency if, in the opinion of a QAI, a quality deficiency requires attention. Originating activities should evaluate the administrative costs involved to determine if such costs will exceed the benefits, giving less consideration to administrative costs when the deficiency is recurring or chronic in nature.

c. Units reporting ALRE CAT II PQDR should follow submission instructions on the NAMDRP Web site when using the Web site or use the general format contained in paragraph 11.15.1.1 when using the naval message system.

d. ALRE CAT II PQDRs must, as a minimum, include the FST as the action addressee and the originator's TYCOM as an information addressee.

e. Send copies of all supporting documents, such as, DD 1348-1A Issue Release/Receipt Document; DD 1155 Order for Supplies or Services; photographs; test reports; and other pertinent data to the FST order for supplies or services in order to facilitate processing. Include the ALRE CAT II PQDR RCN on all documents.

f. ALRE CAT II PQDRs on deficiencies in common or general type material, for example, tools, lubricants, corrosion preventative material, received bad from supply but not installed will be submitted to the Fleet Material Support Office. NAVAIRWARCENACDIV Lakehurst remains the FST for ALRE special tools.

NOTE

Exhibits shall be held 60 days by the originating point or until disposition instructions are received from an appropriate screening or action point.

11.13.4.2 All originating activities shall turn in defective ALRE discrepancy report material exhibits to the ALRE material control W/C to hold until receipt of exhibit disposition instructions from the FST or directing authority (see paragraph 11.10.6). When

disposition instructions are received from the FST, the ALRE material control W/C shall take the defective material to the supporting supply department for shipping.

NOTE

Any material directed by the FST to be released to an authorized contractor's representative or shipped directly to a contractor's plant shall be processed through the supporting supply department. Supply can issue the material on a custody basis, only after receiving authority from the FST.

11.13.5 Screening Point Responsibilities. The screening point for ALRE PQDRs is FST, NAVAIRWARCENACDIV Lakehurst, NJ. The functions of the screening point are summarized in figure 11-11 and described in paragraph 11.10.7.2. In addition to those responsibilities, the screening point shall:

a. Forward an initial response to the originator within 1 working day after receipt of an ALRE CAT I PQDR, or within 3 working days after receipt of an ALRE CAT II PQDR.

b. Forward the PQDR to the appropriate action point within 1 working day after receipt of an ALRE CAT I PQDR or within 10 working days after receipt of an ALRE CAT II PQDR.

11.13.6 Action Point Responsibilities. For ALRE PQDRs, the action point is often the particular exhibit's applicable government procuring activity or the applicable contractor. Action point responsibilities are described in paragraph 11.10.7.3. In addition to those responsibilities, the action point shall:

a. Request the exhibit from the originator, if required, as soon as the need is known but no later than 5 working days after receipt of an ALRE CAT I PQDR or within 10 working days after receipt of an ALRE CAT II PQDR.

b. For CAT I PQDRs, forward an interim or final reply to the screening point within 20 working days after CAT I PQDR receipt (if exhibit was not required) or material receipt (if exhibit was required). If an interim or follow-up interim reply is sent, include status to date and a projected final reply date. Immediate corrective action required to resolve life-threatening conditions shall be transmitted by telephone or message within 24 hours.

c. For CAT II PQDRs, forward an interim or final reply to the screening point within 30 working days after CAT II PQDR receipt

(if exhibit was not required) or material receipt (if exhibit was required). If an interim reply or follow-up interim reply is sent, include status to date and a projected final reply date.

11.13.7 Support Point Responsibilities. The support point responsibilities are described in paragraph 11.10.7.4. In addition to those responsibilities the support point will complete the requested service or analysis specified by the action point in order to meet the action point's reporting timeframes listed above.

11.14 ALRE Technical Publication Deficiency Report (ALRE TPDR)

11.14.1 This report provides a simplified procedure for reporting technical publication safety hazards and routine deficiencies.

11.14.1.1 A CAT I ALRE TPDR message is required when a technical publication deficiency is detected which, if not corrected, could result in death or injury to personnel or damage to or loss of aircraft, equipment, or facilities. These are to be reported using the priority precedence CAT I ALRE TPDR message format. The importance of submitting a message for the CAT I ALRE TPDR for safety related deficiencies are emphasized.

11.14.1.2 CAT II publication deficiencies are those that do not meet the criteria of a CAT I ALRE TPDR. They may include technical errors, wrong sequence of adjustments, P/N errors or omissions, and microfilm deficiencies, such as poor aperture card film quality. These are to be reported using OPNAV 4790/66 or on the NATEC Web site, <https://mynatec.navair.navy.mil>.

11.14.1.3 Technical publications include MRCs, maintenance and overhaul manuals, operation manuals, IPBs, TDs, service bulletins, and other technical manuals. The ALRE TPDR is not applicable when reporting deficiencies in instructions or notices.

11.14.1.4 For NAVSEASYSKOM publication deficiencies refer to paragraph 11.16.4.

11.14.2 Reporting Criteria

11.14.2.1 Originating activities shall prepare and submit ALRE TPDRs per this instruction.

11.14.2.2 CAT I ALRE TPDR

11.14.2.2.1 All activities shall prepare and submit a CAT I ALRE TPDR priority message within 24 hours of discovery of a deficiency under paragraph 11.15.2. The action addressee for the message report will be NAVAIRWARCENACDIV Lakehurst (Code 6.8.5.1) and NATEC (Code 685.3).

NOTE

For CAT I ALRE TPDRs involving ALRE QA and ALRE C cards, NATEC will not be a recipient of the report. The message report action addressee will be AIG ONE THREE EIGHT EIGHT FIVE. In the remarks section of the message state, "THIS MSG ACTION FOR AVAIRWARCENACDIVLKE. INFO FOR ALL OTHERS." AIG ONE THREE EIGHT EIGHT FIVE shall not be used in the info addressee line of the message.

11.14.2.2.2 When urgency dictates, CAT I ALRE TPDRs may be reported by the most expeditious means available, for example, telephone, facsimile (FAX) or local visit. The NAVAIRWARCENACDIV Lakehurst FAX numbers are (732) 323-7232/7233.

NOTE

Oral or FAX communication shall be promptly confirmed by message.

11.14.2.3 ALRE CAT II TPDR

All activities shall use the OPNAV 4790/66 or on the NATEC Web site <https://mynatec.navair.navy.mil> within 10 working days for reporting routine technical publication deficiencies (CAT II). The original and one copy shall be sent to NATEC (Code 685.3), one copy shall be sent to NAVAIRWARCENACDIV Lakehurst (Code 6.8.5.1), and one copy shall be sent to the originator's TYCOM COMNAVAIRFOR Atlantic or COMNAVAIRFOR Pacific.

NOTE

For CAT II ALRE TPDRs involving ALRE QA and ALRE C cards, NATEC will not be a recipient of the report. The report will be sent to NAVAIRWARCENACDIV Lakehurst (Code 6.8.5.1).

11.14.3 NATEC will serve as the central manager for all NAVAIRSYS COM technical publications and shall:

- a. Maintain a record of all technical manual deficiencies.
- b. Acknowledge receipt of each ALRE TPDR to the originator and assign FST action for ALRE TPDRs as required. This will be

accomplished within 1 working day after receipt of CAT I ALRE TPDRs, and within 10 working days after receipt of CAT II ALRE TPDRs.

c. Coordinate action with FST and contractor to ensure correction of technical publications.

d. Follow-up on each ALRE TPDR to ensure corrective action is accomplished.

e. Provide ALRE TPDR status as required to the applicable TYCOM.

11.14.3.1 FSTs will coordinate with the NATEC and take the appropriate action necessary to ensure the deficiency is resolved, for example, correctness of technical publication, appropriate printing assignment, or preparation and initiation of change for corrective action.

11.14.3.2 NATEC will report action taken on all ALRE TPDRs in a timely manner.

11.14.3.3 FSTs will notify NATEC and the ALRE TPDR originator of final disposition of each ALRE TPDR. FSTs shall also ensure that all addressees of the original report are included in all correspondence related to that report.

11.15 ALRE Discrepancy Report Preparation

11.15.1 ALRE HMR, ALRE EI and ALRE PQDR Preparation.

11.15.1.1 Whenever possible, ALRE HMRS, ALRE EIs, ALRE PQDRs and combined discrepancy reports should be reported through the NAMDRP Web site. Report submission instructions are posted on the Web site and are very similar to submission through the naval message system. When circumstances will not permit reporting through the Web site, the following format and content apply to ALRE HMR, ALRE EI, ALRE PQDR, and combined ALRE discrepancy message reports. (Examples are provided in figures 11-4 through 11-10 and a convenient message template is provided in figure 11-13).

NOTE

Use of MINIMIZE CONSIDERED shall be under the NTP-3 (NOTAL).

OPNAVINST 4790.15E
29 Jul 2011

Precedence: Priority and Routine (as applicable)
From: Message Originator
To: NAVAIRWARCENACDIV LAKEHURST NJ
AIG ONE THREE EIGHT EIGHT FIVE

NOTE

AIG ONE THREE EIGHT EIGHT FIVE shall not be used in the info addressee line of the message.

Info: NAVICP Mechanicsburg PA//05632// (all 1H or 7E COG material)

NOTE

Security classifications are defined in the DON Security Classification Guides (OPNAVINST 5513.1F); however, every attempt should be made to employ unclassified to expedite routing.

Subj: List applicable subject or combination of subjects, for example ALRE Catapult HMR and EI, or ALRE VLA CAT I PQDR

Ref: A. OPNAVINST 4790.15E

NOTE

Reference other applicable instructions and any related mishap or investigation reports submitted under OPNAVINST 3750.6R and mishap classification and serial number. Include only instructions and references applicable to the occurrence. When a technical manual is referenced, include issue date and latest change date.

1. Reporting custodian and UIC.
Example: USS SHIP (CV-00)/03300.
2. FST for failed item. Example: NAVAIRWARCENACDIV LAKEHURST, NJ.
3. Report Control Number (RCN): A number assigned by the originating activity under paragraph 11.10.5.3.
Example: R00123-02-8003
4. The five digit Julian date and location that deficiency was discovered.
Example: 03125/Deployed.
5. NSN information of discrepant item. Enter COG symbol, national stock number and special material identification code (SMIC) of the

unsatisfactory material. Example: 7RH, 1234-00-123-1234, EY.
Enter not applicable (N/A) or unknown (UNK) for these elements if not applicable or unknown.

NOTE

Do not leave the NSN blank without ALRE maintenance officer's approval.

6. Discrepant Item Nomenclature. Annotate as officially described on drawings or in manuals.

7A. For new material, indicate manufacturer's five digit CAGE code, name, city and state. Example: 12345, Vandeley Industries, Springfield, MO. Enter N/A or UNK for these elements if not applicable or unknown.

7B. For reworked material, indicate the last rework activity's five digit CAGE code, name, city, and state. Example: 54321, Overhaul Experts Inc., Columbus, OH. Enter N/A or UNK for these elements if not applicable or unknown.

7C. Enter Shipper's name, city and state. Example: 00012, Shipping Expeditors, Las Vegas, NV. Enter N/A or UNK for these elements if not applicable or unknown.

8. P/N of Discrepant Item. Enter the manufacturer's P/N and the NAVAIRWARCENACDIV Lakehurst P/N. Enter N/A or UNK for these elements if not applicable or unknown.

9. Serial, lot, or batch number (indicates number used). Enter N/A or UNK for these elements if not applicable or unknown.

10. Contract number, purchase order number, re-order requisition number (turn-in document number, government bill of lading (GBL) number. Separate information by commas. Enter N/A or UNK for these elements if not applicable or unknown.

a. Contract No: Enter the contract number, if applicable. Contract numbers are especially important and should be entered when available. Enter total contract number (13 to 17 characters), if available. For a 13-digit contract number, the first six characters identify buying activity (N68335 is NAVAIRWARCENACDIV Lakehurst, N00383 is NAVICP Philadelphia, N00140 is Naval Regional Contracting Center, etc). Next two digits identify year contract was awarded, next letter digit identifies contracting method, and

last four digits identify the contract serial number. Contract numbers are especially important and must be entered when available.

NOTE

The ALRE maintenance officer must approve an entry of "UNK" for the contract number.

b. Purchase Order No: Enter the purchase order number, if applicable.

c. Re-order Requisition No/Turn-in Document No: Enter the re-order requisition number (turn-in document number) of depot level repairable items to receive charge reversal credit. Enter UNK or N/A if unknown or not applicable.

d. GBL: Enter the GBL number, if known or applicable.

11. New or newly reworked, if known. Enter the word "NEW" for items received through the supply system (unless known to have been refurbished) or direct shipments from a manufacturer. Enter the word "REWORKED" for items received via the supply system that are known to have been refurbished or those items from an authorized rework activity (i.e., VRT and RMC). If the DD 1574-1 Serviceable Materiel (2 PART TAG), commonly known as the ready for issue (RFI) tag is still available, indicate REPAIRED, REWORKED, OVERHAULED or UPKEEP as indicated on the RFI tag. If status is unknown, enter "UNK" (unknown). If not applicable (ALRE HMR and ALRE EI), enter "N/A".

12. Date manufactured, reworked, or overhauled, when available. If unknown, enter "UNK".

13. Operating time at failure or events. Indicate units (such as hours, arrestments, catapult shots, etc.). If unknown, enter "UNK".

14. Government-furnished material (YES, NO, N/A or UNK). Government-furnished material includes SC kits, interim spares, and initial outfitting items.

15. Quantity: Quantity shall be a count of each individual item, disregarding unit of issue. If problem does not relate to a quantity, enter "N/A".

a. Received: Enter the total number of items received in the lot or batch in which the unsatisfactory material condition was found, if known.

b. Inspected: Enter the number of items that were inspected for the deficiency.

c. Deficient: Enter the number of items that were determined to be deficient as a result of the inspection.

d. In Stock: Enter the number of items remaining in stock locally.

16. Deficient item works on or with: Indicate the name and P/N of the equipment the problem is part of, adding MK and MOD where applicable.

a. End item nomenclature (A/G engine, jet blast detector (JBD), etc.), end item serial number (enter N/A if not applicable).

b. Next higher assembly NSN, nomenclature, P/N, serial number (if applicable.)

17. Dollar value of deficient material, man-hours to repair, estimated repair cost (if known or applicable, do not use commas). Example: 25000 DOLLARS, 150 MHRS, 300.00 DOLLARS.

18. If hazardous material or procedure, include military specification (MILSPEC), type, class and or grade, or NONE if no MILSPEC is available; if the report does not concern environmentally sensitive material or procedures, enter "N/A".

19. Item under warranty and expiration date. Enter YES, NO, N/A or UNK. (Enter UNK for ALRE material).

20. EIC: Enter the most specific code available.

21. Exhibit Disposition. Exhibits are important to determine the root cause of a problem, to return to a contractor for corrective-action purposes, or to precipitate a stock system purge action.

a. Identify the supply unit that may ship the exhibit. This will enable the identified supply unit to ship the exhibit using commercial premium shipping on the NAMDRP Web site.

b. Action and Disposition Narrative. Material shall be handled as per paragraph 11.10.6. Enter "EXHIBIT HELD" to indicate that problem item is available for examination. Identify the location where the deficient material is being held, if applicable. If an exhibit is being held, indicate the number of days (minimum of 60 calendar days) the exhibit will be held.

NOTE

Material shall be shipped within 3 days of receipt of disposition instructions from the FST.

22. Details

a. Narrative description. As precisely as possible, describe the type, scope and extent of the problem, known or probable causes, pertinent SCs incorporated, environmental issue listing references and regulatory agency, comments and recommendations to reduce or eliminate the source of the problem (if any). Indicate urgency, assistance needed, etc.

b. How safety of personnel or activity mission is affected.

c. Number of similar deficiencies in like items reported by the originating activity, for example, five in the past 4 months.

d. How deficiency was detected or confirmed, such as, visually or functional operation. Where deficiency was discovered, for example, maintenance and operational test.

e. Storage and handling information, if applicable. (If it appears these factors have contributed to the deficient material condition.)

f. Indicate if supporting documents will be supplied. Photographs to follow, are available upon request, are not available (as applicable). When photographs are taken, place a ruler alongside the object so as to appear in each photograph. Measurements should also appear on sketches. Write the report control number from block 3 on the back of photographs.

g. Description of incorrectly identified new material, if applicable.

h. Recommendations (PQDR Requisition Doc Number). Enter N/A for ALRE EIs and ALRE HMRs. For ALRE PQDRs use this field to identify or assign a requisition document number. In order to

receive credit for defective 9 COG and ships parts control center COG (1H,7E,7G,7H) material, list the original MILSTRIP requisition document number, "BILL TO" DoD Activity Address Code (DODAAC) (if different from requisitioned DODAAC), and the applicable fund and signal codes. When the original document number cannot be determined, a MILSTRIP document number must be assigned as follows:

NOTE

Following closing action on discrepant NAVICP managed material (any remaining 1H, 3H, 4R, 5R, 7E, 7G, 7H, 7R and OM COG), NAVAIRWARCENACDIV Lakehurst will request credit to the end user by submitting a letter to NAVICP Philadelphia and Mechanicsburg (Material Returns Program Code 015), as appropriate. The letter must contain the complete document number under which the discrepant item was issued, and must be accompanied by a copy of the original CAT I/II PQDR message with closing action. This procedure requires that the originating activity provide the original MILSTRIP requisition document number as detailed above.

(1) The originating point DODAAC will comprise the first six characters (the DODAAC will receive credit unless otherwise specified).

(2) The current Julian calendar date for the next four characters - the ending four-digit serial number beginning with "U" will complete the constructed document number.

(3) Example: N63124-4286-U001

i. Name, rank, and Defense Switch Network (DSN) number of ALRE maintenance officer. (If deployed, delete phone number and insert the word DEPLOYED).

j. W/C code (example: VB01 for Catapult No. 1.)

k. N/A.

l. N/A.

11.15.2 CAT I ALRE TPDR Preparation.

11.15.2.1 The following format and content apply to CAT I ALRE TPDR message reports. (An example is provided in figure 11-10.)

NOTE

Use of MINIMIZE CONSIDERED shall be under the NTP-3 (NOTAL).

OPNAVINST 4790.15E
29 Jul 2011

Precedence: Priority
From: Message Originator
To: AIG ONE THREE EIGHT EIGHT FIVE
NATEC SAN DIEGO CA//685.3//

NOTE

AIG ONE THREE EIGHT EIGHT FIVE shall not be used in the info address line of the message.

NOTE

Security classifications are defined in the DON Security Classification Guidance (OPNAVINST 5513.1F); however, every attempt should be made to employ UNCLAS to expedite routing.

UNCLASS//13800//
MSGID/GENADMIN/V-2//
SUBJ/CAT I ALRE TECHNICAL PUBLICATION DEFICIENCY REPORT
REF/A/DOC/OPNAV/01FEB97//
AMPN/OPNAVINST 4790.15E
RMKS/THIS MSG DUAL ACTION FOR NATEC SAN DIEGO AND NAVAIRWARCENACDIV
LKE. INFO FOR ALL OTHERS.

1. Reporting custodian and UIC.
2. Equipment FST.
3. Report control number.
4. Julian date deficiency discovered.
5. NSN of publication. **
6. through 21: N/A.
22. Details.
 - a. Technical manual number.
 - b. Equipment model number. **
 - c. Basic date of technical manual.
 - d. Change date and change number.
 - e. Work Package Number. **

- f. Page number.
- g. Paragraph number.
- h. Figure number and table number.
- i. Aperture card number. **
- j. Aperture card date. **
- k. Aperture card revision number and date. **
- l. Deficiency (be specific).
- m. Recommendations (be specific).
- n. Name, rank, and DSN number of ALRE maintenance officer.
(If deployed, delete phone number and insert the word DEPLOYED).

NOTE

**** Indicates these information blocks are not applicable for CAT I ALRE TPDRs concerning ALRE QA cards.**

11.15.3 CAT II ALRE TPDR Preparation.

The format and content for submission of CAT II ALRE TPDR reports are contained on the reverse of the OPNAV 4790/66.

NOTE

For CAT II ALRE TPDRs involving ALRE QA cards, refer to paragraph 11.14.2.3.

11.16 Other Required Reports

11.16.1 Familiarity with reports and compliance with reporting procedures such as Departures from Specifications, PMS feedback reports, and technical manual deficiency and evaluation reports (TMDERs) are necessary to an effective QA program.

11.16.2 A departure from specifications is a lack of compliance with any authoritative document, plans, procedure, instruction or notice. Specifications include:

- a. ALRE numerical drawing list, detail specifications.
- b. MIL Standard and MIL Specification series.

c. PEO(T) (PMA 251) technical manuals, instructions, bulletins, letters, notices, repair procedures, etc.

d. COMNAVAIRFOR instructions and notices.

e. OPNAV instructions and notices.

11.16.2.1 Whenever a departure from ALRE specifications (material and or installation) is necessary, a message request for departure from specifications will be submitted to the TYCOM (info PEO(T) (PMA 251) and NAVAIRWARCENACDIV Lakehurst). COMFLTFORCOMINST 4790.3B (NOTAL) gives a complete description of this procedure.

11.16.2.2 Departures from ALRE specification will be categorized as follows:

a. Minor departure - A departure from ALRE specification in a system and subsystem that poses no threat to safety of flight, injury to personnel or damage to equipment. Commanding officers have authority to approve such departure to place equipment in operational status but must follow up with a message to the TYCOM.

b. Major departure - A departure from ALRE specification in a system and subsystem that could jeopardize safety of flight, cause injury to personnel or damage to equipment. Such a departure must be granted by the TYCOM before normal operations resume. NAVAIRWARCENACDIV Lakehurst, as the FST, will make an engineering appraisal of the departure when requested by the TYCOM.

11.16.3 PMS Feedback Report. The OPNAV 4790/7B Planned Maintenance System Feedback Report is used to report discrepancies related to the PMS. The report notifies FTSC Atlantic and Pacific, and the TYCOM on PMS issues, procedural problems, or deficiencies in documentation requirements. Instructions on its use are found in NAVSEAINST 4790.8B.

11.16.4 Technical Manual Deficiency and Evaluation Report. Discrepancies in NAVSEASYS COM technical manuals will be reported via the NAVSEA 4160/1 NAVSEA/SPAWAR Technical Manual Deficiency/Evaluation Report (TMDER).

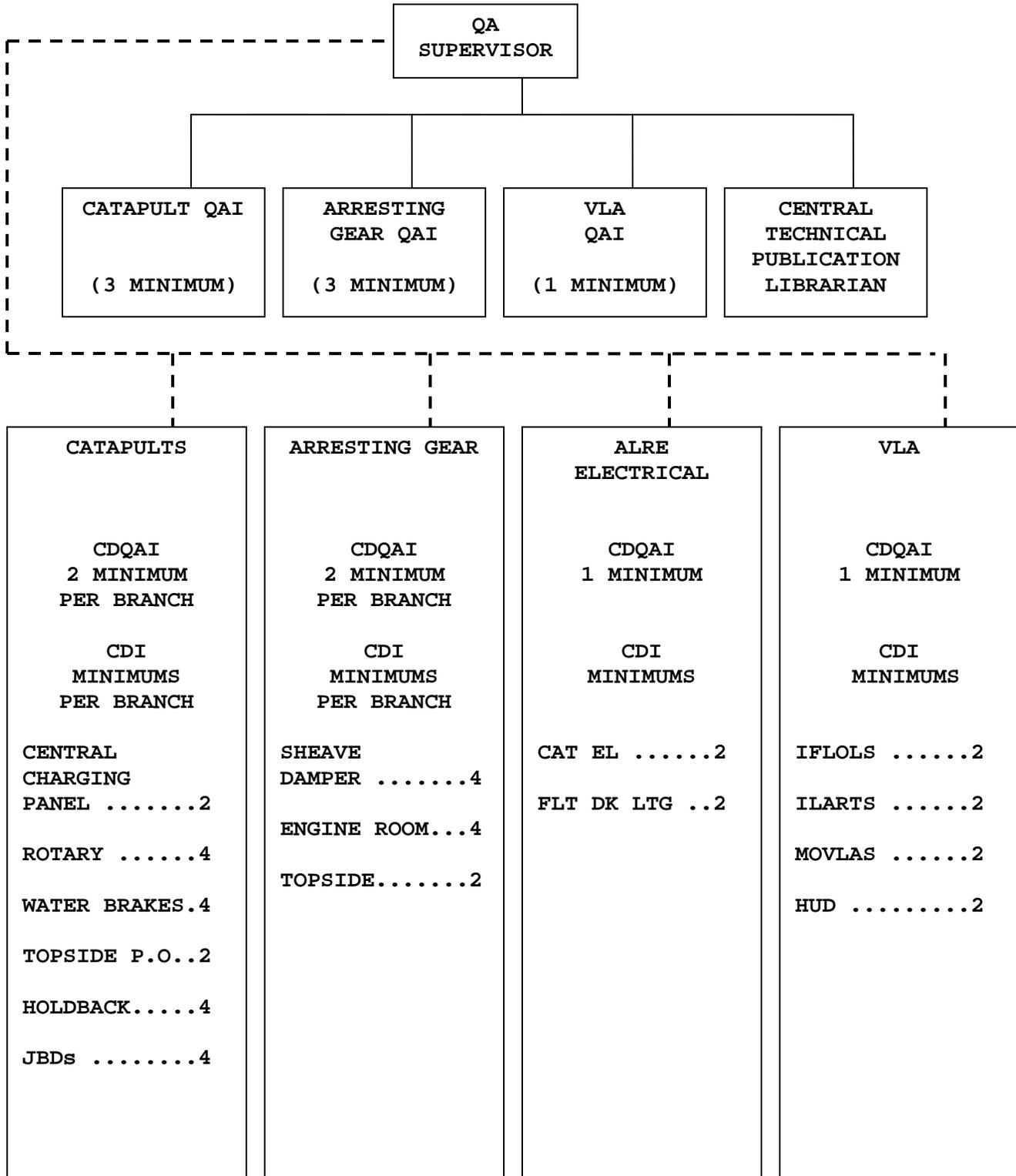
11.17 Address Indicator Group ONE THREE EIGHT EIGHT FIVE

11.17.1 AIG ONE THREE EIGHT EIGHT FIVE contains approximately 30 addressees including each carrier, all ALRE shore activities, all CAFSU field offices, RMCs, and some training commands. To obtain a

OPNAVINST 4790.15E
29 Jul 2011

current list, contact the command communications center AIG clerk. PEO(T) (PMA 251), as the cognizant authority of AIG ONE THREE EIGHT EIGHT FIVE, will update the AIG annually (June) via recapitulation message.

11.17.2 Care shall be taken in preparing naval messages to ensure that the AIG is NOT included in the "INFO" line of the message text. Further, commands shall NOT duplicate addresses, by ensuring that a command listed in the AIG is not also listed in the "TO" or "INFO" text of the message.



----- RESPONSIBLE TO QA WHEN FUNCTIONING AS CDQAI/CDI

Figure 11-1. ALRE Quality Assurance Organization

OPNAVINST 4790.15E
29 Jul 2011

CVN-76 MI 1-00
28 Feb 2011

CVN-76 Maintenance Instruction 1-00

From: ALRE Maintenance Officer

Subj: AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT QUALITY ASSURANCE
AUDIT PROGRAM

Ref: (a) (Include references as applicable)

Encl: (1) (Include enclosures as applicable)

1. Purpose. (The first paragraph of the maintenance instruction shall state the purpose of the directive.)

2. Cancellation. (The second paragraph must contain a cancellation statement if a prior maintenance instruction was issued.)

3. (Third and subsequent paragraphs contain the text of the maintenance instruction, such as background information, responsibilities, or action requirements.)

SAMPLE

S.V.L. COUPLING
(Signature and typed name
of the ALRE maintenance officer)

Distribution:
(Include a listing of
applicable work centers)

Figure 11-2. Sample Maintenance Instruction

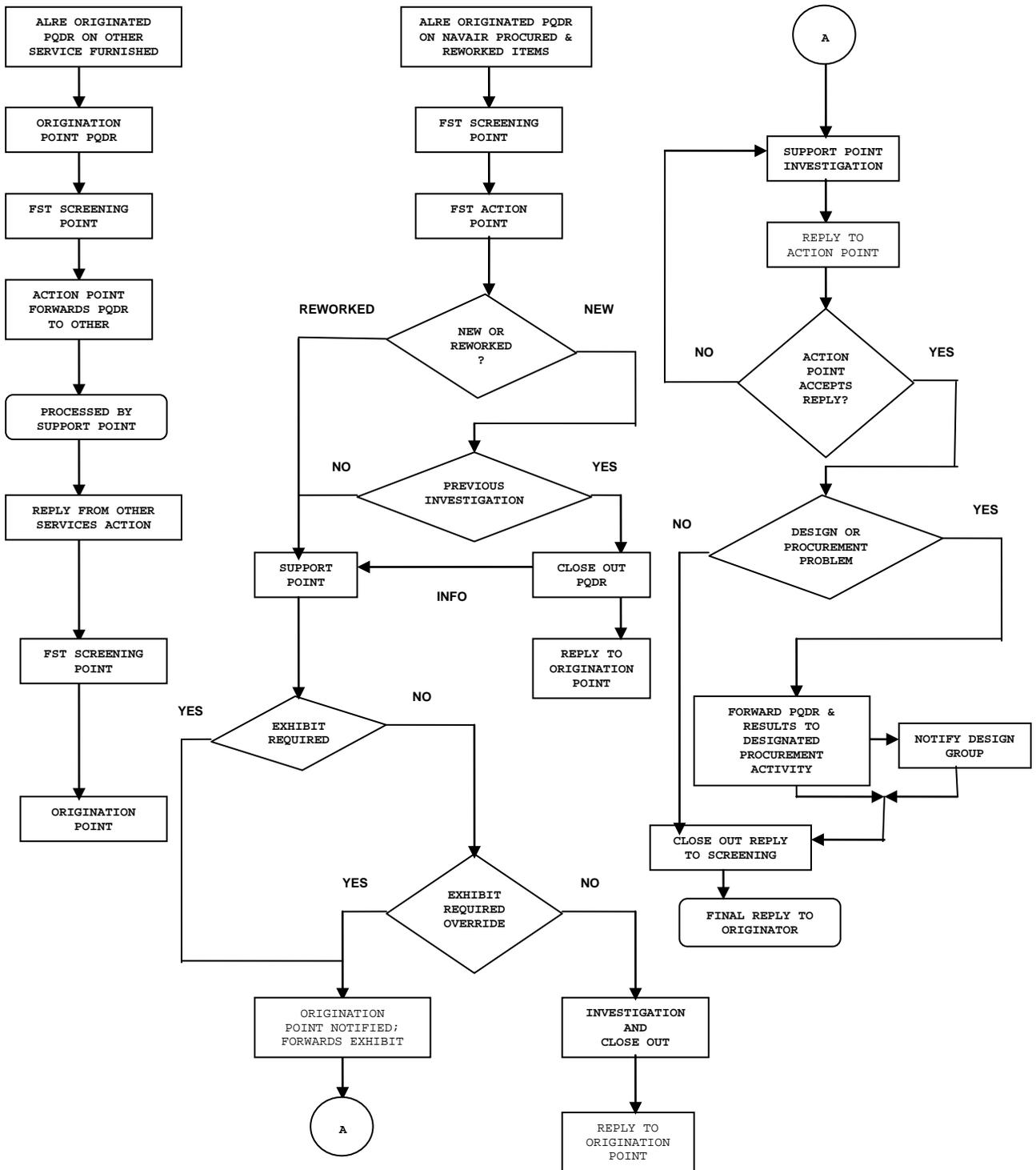


Figure 11-3. ALRE PQDR Process Flow

FROM: USS SHIP//
TO: NAVAIRWARCENACDIV LAKEHURST NJ//
AIG ONE THREE EIGHT EIGHT FIVE//
UNCLAS //13800//
MSGID/GENADMIN/V-2//
SUBJ/ALRE HAZARDOUS MATERIAL REPORT//
REF/A/DOC/OPNAV/26JUN02//
NARR/REF A IS OPNAVINST 4790.15E. THIS MSG ACTION FOR NAVAIRWARCENACDIV LKE. INFO
ALL OTHERS. //
RMKS/1. USS SHIP (CVN 00)/03300
2. NAVAIRWARCENACDIV LAKEHURST NJ
3. R03300-95-8032
4. 02300/DEPLOYED
5. 5R, 1710-00-102-7796, EY
6. PURCHASE CABLE ASSEMBLY
7A. 91796, RIDON AMERICAN CORP, SPRINGFIELD, NH
7B. N/A
7C. A-1 SHIPPERS INC., NORFOLK, VA
8. 515659-2, 515659-2
9. UNK, UNK
10A. N00383-91-C-5158
10B. N/A
10C. N0330050329003
10D. N/A
11. N/A
12. UNK
13. 50 ARRESTMENTS
14. N/A
15A. 1
15B. 1
15C. 1
15D. 0
16A. MK7 MOD3 ARRESTING GEAR P/N 624216-15, N/A
16B. N/A, PENDANT ENGINE, 624216-15, N/A
17. 10777.00 DOLLARS, 25 MHRS, UNK
18. N/A
19. UNK
20. 7C1A140
21A. USS SHIP SUPPLY
21B. EXHIBIT HELD BY CV-00 V-2 (ALRE) MATERIAL CONTROL FOR 60 DAYS PENDING
DISPOSITION INSTRUCTIONS.
22A. DURING FIRST 50 HIT PMS, INSPECTED CONTRACTOR Poured terminal. FOUND SIX
CAVITIES ON FACE OF terminal. FIVE OF THESE HOLES WERE GREATER THAN ACCEPTABLE
CRITERIA IAW NAVAIR 51-5BCA1.1 CHAPTER 17.
22B. COULD CAUSE WIRE TO FAIL AT terminal RESULTING IN REDUCED OPERATIONAL
CAPABILITY, LOSS OF AIRCRAFT OR LIFE.
22C. NONE
22D. VISUAL INSPECTION
22E. N/A
22F. N/A
22G. N/A
22H. N/A
22I. L.H. CROSSHEAD, CWO4, ALRE MAINTENANCE OFFICER, DEPLOYED
22J. VB07
22K. N/A
22L. N/A //

Figure 11-4. Sample ALRE Hazardous Material Report Message

FROM: USS SHIP//
TO: NAVAIRWARCENACDIV LAKEHURST NJ//
AIG ONE THREE EIGHT EIGHT FIVE//
UNCLAS //13820//
MSGID/GENADMIN/V-2//
SUBJ/ALRE ENGINEERING INVESTIGATION REQUEST//
REF/A/DOC/OPNAV/26JUN02//
NARR/REF A IS OPNAVINST 4790.15E. THIS MSG ACTION FOR NAVAIRWARCENACDIV LKE. INFO
ALL OTHERS.//
RMKS/1. USS SHIP (CVN-00)/03300
2. NAVAIRWARCENACDIV LAKEHURST NJ
3. R03300-95-8032
4. 02355/DEPLOYED
5. 5R, 1720-00-476-0009, EY
6. CHOKE RING
7A. 32145, TEXAS ELECTRONICS INC., DALLAS, TX7B. N/A
7C. UNK
8. TXEL50684, 14-50684-3
9. UNK, UNK
10A. V00383-87-C-9621
10B. N/A
10C. N0330050329003
10D. UNK
11. NEW
12. UNK
13. UNK
14. N/A
15A. 1
15B. 1
15C. 1
15D. 0
16A. C13 MOD2 CATAPULT P/N 622295-1, N/A
16B. N/A, WATER BRAKE INSTALLATION, 622123-1, N/A
17. 482 DOLLARS, 55 MHRS, UNK
18. N/A
19. UNK
20. 7A1AK00
21A. USS SHIP SUPPLY
21B. EXHIBIT HELD FOR 60 DAYS CVN-00 V-2 (ALRE) MATERIAL CONTROL AWAITING
DISPOSITION INSTRUCTIONS.
22A. LEFT HAND CHOKE RING FROM CATAPULT 3 HAS A CRACK IN SIX O'CLOCK POSITION.
CRACK IS 1/32 IN. WIDE ON SURFACE AND 2 IN LONG.
22B. CAN CAUSE DEGRADED WATERBRAKE PERFORMANCE.
22C. NONE
22D. VISUAL INSPECTION
22E. N/A
22F. PHOTOS AVAILABLE UPON REQUEST.
22G. N/A
22H. N/A
22I. J.W. BOWCAT, LT, ALRE MAINTENANCE OFFICER, DEPLOYED
22J. VB03
22K. N/A
22L. N/A //

Figure 11-5. Sample ALRE Engineering Investigation Request Message

FROM: USS SHIP//
TO: NAVAIRWARCENACDIV LAKEHURST NJ//
AIG ONE THREE EIGHT EIGHT FIVE//
UNCLAS //13800//
MSGID/GENADMIN/V-2//
SUBJ/ALRE ENGINEERING INVESTIGATION REQUEST//
REF/A/DOC/OPNAV/26JUN02//
NARR/REF A IS OPNAVINST 4790.15E. THIS MSG ACTION FOR NAVAIRWARCENACDIV LKE. INFO
ALL OTHERS. //
RMKS/1. USS SHIP(CVN-00)/03300
2. NAVAIRWARCENACDIV LAKEHURST NJ
3. R03300-95-8032
4. 03114/DEPLOYED
5. 9C, 9150-00-272-7652, EY
6. GREASE, GRAPHITE
7A. UNK, NONFLUID OIL CORP, BOSTON, MA
7B. N/A
7C. N/A
8. N/A, N/A
9. N/A, N/A
10A. DLA 40089 MA028
10B. N/A
10C. N/A
10D. N/A
11. N/A
12. N/A
13. NONE
14. NO
15A. 1
15B. 0
15C. 1
15D. 0
16A. MK 7 ARRESTING GEAR ENGINE ASSY P/N 624216-15, N/A
16B. N/A, A/G ENGINE, 624216-15, N/A
17. 54.00 DOLLARS, N/A, N/A
18. MILSPEC VV-G-671
19. UNK
20. SPMIG NR 568
21A. USS SHIP SUPPLY
21B. EXHIBIT HELD FOR 60 DAYS CVN-00 V-2 (ALRE) MATERIAL CONTROL AWAITING
DISPOSITION INSTRUCTIONS.
22A. VV-G-671 IS USED THROUGHOUT THE A/G SYSTEM. VV-G-671 IS NOT ABLE TO BE
ACQUIRED THROUGH THE LOCAL SUPPLY SYSTEM. SUPPLY IS UNABLE TO BRING THIS ITEM
ABOARD SHIP DUE TO LOCAL AND STATE EPA REGULATIONS. DISPOSITION HAS BEEN
DIFFICULT DUE TO HIGH COSTS.
22B. UNK
22C. ORIGINAL
22D. SUPPLY ORDER REJECTED
22E. N/A
22F. N/A
22G. N/A
22H. N/A
22I. ABEC L. RUNOUT, QA, LCPO
22J. VB20
22K. N/A
22L. N/A //

**Figure 11-6. Sample ALRE Engineering Investigation Request Message
(Environmental Impact)**

FROM: USS SHIP//
TO: NAVAIRWARCENACDIV LAKEHURST NJ//
AIG ONE THREE EIGHT EIGHT FIVE//
UNCLAS //13820//
MSGID/GENADMIN/V-2//
SUBJ/ALRE HAZARDOUS MATERIAL REPORT/ENGINEERING INVESTIGATION REQUEST//
REF/A/DOC/OPNAV/26JUN02//
NARR/REF A IS OPNAVINST 4790.15E. THIS MSG ACTION FOR NAVAIRWARCENACDIV LKE. INFO ALL OTHERS.//
RMKS/1. USS SHIP(CVN-00)/03300
2. NAVAIRWARCENACDIV LAKEHURST NJ
3. R03300-95-8032
4. 02351
5. 5RM, 1720-00-716-1269, EY
6. EMERGENCY CUTOUT VALVE
7A. 80012, TELEDYNE REPUBLIC MFG., COLUMBUS, OH7B. N/A
7C. N/A
8. 3124WLH127RH, 407530-2
9. UNK, UNK
10A. N68335-86-C-1221
10B. N/A
10C. UNK
10D. N/A
11. N/A
12. UNK
13. 12 MONTHS
14. N/A
15A. 1
15B. 1
15C. 1
15D. 816A. C13 MOD1 CATAPULT P/N 622295-1, N/A
16B. 9876-32-321-4321, CENTRAL CHARGING PANEL, 624123-13, N/A
17. 400 DOLLARS, 15 MHRS, UNK
18. N/A
19. UNK
20. 7A6A100
21A. USS SHIP SUPPLY
21B. EXHIBIT HELD CVN-00 V-2 (ALRE) MATERIAL CONTROL FOR SIXTY DAYS AWAITING DISPOSITION INSTRUCTIONS.
22A. VALVE STEM SNAPPED AT HANDLE DURING MONTHLY PMS FUNCTIONAL TEST. HANDLE CANNOT BE REMOUNTED ON VALVE STEM. VALVE STEM APPEARS TO BE INADEQUATELY DESIGNED AT THREADED HOLE FOR THE HANDLE FASTENING SCREW. STEM SNAPPED AFTER LIGHT IMPACT OF HANDLE AGAINST VALVE STOP.
22B. POSSIBLE CATASTROPHIC POTENTIAL IF THIS OCCURRED DURING AN AIRCRAFT HANGFIRE; LOSS OF AIRCRAFT OR LIFE. NO EMERGENCY PROCEDURES EXIST IF CUTOUT VALVE STEM FAILS IN MID STROKE.
22C. NONE
22D. FUNCTIONAL TEST
22E. N/A
22F. N/A
22G. N/A
22H. N/A
22I. R.T. LAUNCHVALVE, LT, ALRE MAINTENANCE OFFICER, DEPLOYED
22J. VB03
22K. N/A
22L. N/A //

Figure 11-7. Sample ALRE Hazardous Material Report and Engineering Investigation Request Message

OPNAVINST 4790.15E
29 Jul 2011

FROM: USS SHIP//
TO: NAVAIRWARCENACDIV LAKEHURST NJ//
AIG ONE THREE EIGHT EIGHT FIVE//
UNCLAS //13810//
MSGID/GENADMIN/V-2//
SUBJ/ALRE CAT I PRODUCT QUALITY DEFICIENCY REPORT//
REF/A/DOC/OPNAV/26JUN02//
NARR/REF A IS OPNAVINST 4790.15E. THIS MSG ACTION FOR NAVAIRWARCENACDIV LKE. INFO
ALL OTHERS.//
RMKS/1. USS SHIP(CV-00)/03300
2. NAVAIRWARCENACDIV LAKEHURST NJ
3. V03300-95-8032
4. 02330/DEPLOYED
5. 5RM, 1710-00-102-7796, EY
6. CABLE AND REEL ASSEMBLY
7A. 98247, CANADIAN COMMERCIAL CORP., ONTARIO, CANADA
7B. N/A8. 515659-2, 515659-2
9. UNK, UNK
10A. N00383-85-C-3512
10B. N/A10C. N033005032900310D. UNK
11. NEW
12. UNK
13. 0 ARRESTMENTS
14. NO
15A. 3
15B. 1
15C. 1
15D. 2
16A. MK7 MOD2 ARRESTING GEAR ENGINE P/N 624216-15, N/A
16B. N/A, PENDANT ENGINE, 624216-15, N/A
17. 10820 DOLLARS, 40 MHRS, N/A
18. N/A
19. UNK
20. 7C1A140
21A. USS SHIP SUPPLY
21B. EXHIBIT HELD BY CV-00 V-2 (ALRE) MATERIAL CONTROL FOR 60 DAYS AWAITING
DISPOSITION INSTRUCTIONS.
22A. DURING INSTALLATION OF NEW PURCHASE CABLE DISCOVERED BOTH MANUFACTURER POURED
TERMINALS DID NOT MEET REQUIRED SPEC'S IAW NA 51-5BBA-1.1. BOTH TERMINALS HAD
EXCESSIVE NUMBER OF PULLED WIRES AND CAVITIES. ZINC RECESSION ON THE STARBOARD
SIDE WAS 0.098 IN. INSTEAD OF MAXIMUM 0.060 IN. DISCREPANT TERMINALS WERE CUT
AND REPOURED ONBOARD.
22B. POSSIBLE WIRE FAILURE AT TERMINAL RESULTING IN REDUCED OPERATIONAL
CAPABILITY; POSSIBLE LOSS OF AIRCRAFT OR LIFE.
22C. NONE
22D. DETECTED DURING VISUAL INSPECTION PRIOR TO INSTALLATION.
22E. N/A
22F. PHOTOS ARE AVAILABLE UPON REQUEST.
22G. N/A22H. N0330050329003
22I. L.H. CROSSHEAD, LT, ALRE MAINTENANCE OFFICER, DEPLOYED.
22J. VB08
22K. N/A
22L. N/A //

**Figure 11-8. Sample ALRE CAT I Product Quality Deficiency Report
Message**

FROM: USS SHIP
TO: NAVAIRWARCENACDIV LAKEHURST NJ//
AIG ONE THREE EIGHT EIGHT FIVE//
UNCLAS//13800//
MSGID/GENADMIN/V-2//
SUBJ/ALRE CAT II PRODUCT QUALITY DEFICIENCY REPORT//
REF/A/DOC/OPNAV/26JUN02//
NARR/REF A IS OPNAVINST 4790.15E. THIS MSG ACTION FOR NAVAIRWARCENACDIV LKE. INFO
ALL OTHERS.//
RMKS/1. USS SHIP(CV00)/03300
2. NAVAIRWARCENACDIV LAKEHURST NJ
3. R03300-96-8001
4. 03034/DEPLOYED
5. S9C, 1720-00-476-0009, EH
6. CHOKE RING
7A. 62577, PIONEER SALES COMPANY, CLEVELAND, OH
7B. N/A
7C. UNK
8. PSC55432-012, 14-50684-3
9. SN312, N/A
10A. N00383-97-C-9621
10B. N/A
10C. N033050329003
10D. N/A
11. NEW
12. 12 DEC 98
13. 0 CAT SHOTS
14. NO
15A. 10
15B. 10
15C. 10
15D. 0
16A. C13 CATAPULT 10-61316-1, N/A
16B. 3214-12-123-1234, WATER BRAKE ASSY, 610614-1, N/A
17. 829.20 DOLLARS, 3 MHRS, UNK18. N/A
19. UNK
20. 7A1AK3421A. USS SHIP SUPPLY
21B. EXHIBIT HELD BY CV-00 V-2 (ALRE) MATERIAL CONTROL FOR 60 DAYS AWAITING
DISPOSITION INSTRUCTIONS.
22A. LOW URGENCY. ADEQUATE SPARES FROM ANOTHER CONTRACT ONBOARD.
22B. SAFETY NOT A FACTOR/MISSION NOT AFFECTED.
22C. NONE
22D. DURING PMS DISCOVERED LEFT CHOKE RING, CATAPULT THREE OUT OF TOLERANCE.
ATTEMPTED TO INSTALL NEW CHOKE RING. RING WOULD NOT THREAD INTO WTR BK CYL. USING
BOTH OLD RING FOR COMPARISON AND APERTURE CARD, QA DISCOVERED THREAD PITCH OF NEW
CHOKE RING INCORRECTLY MANUFACTURED.
22E. PACKING SEEMS SUFFICIENT
22F. PHOTOS TAKEN AND AVAILABLE ON REQUEST.
22G. N/A
22H. ORIGINAL REQ NR: N03305032900322I. A.B. CRUISER, CWO4, ALRE MAINTENANCE
OFFICER, DEPLOYED.
22J. VB03
22K. N/A
22L. N/A //

**Figure 11-9. Sample ALRE CAT II Product Quality Deficiency Report
Message**

FROM USS SHIP
TO AIG ONE THREE EIGHT EIGHT FIVE//
NATEC SAN DIEGO CA//685.3//
UNCLAS //13820//
MSGID/GENADMIN/V-2//
SUBJ/ALRE CAT I TECHNICAL PUBLICATION DEFICIENCY REPORT//
REF/A/DOC/OPNAV/01OCT00//
AMPN/OPNAVINST 4790.15E//
RMKS/THIS MSG DUAL ACTION FOR NATEC AND NAVAIRWARCENACDIV LKE.
INFO FOR ALL OTHERS.
1. ORIG: USS SHIP (CVN-00) 03300
2. CFA: NAVAIRWARCENACDIV LAKEHURST NJ
3. RCN: N03300008032
4. DATE DISC: 0249
5. NSN: 0851-LP-005-7041
6. THROUGH 21. N/A
22. A. TECH MAN: NA 51-15ABD-2
B. EQUIP MODEL: N/A
C. BASIC PUB DATE: 1 AUGUST 1990
D. CHG DATE/NO: N/A
E. WK PACK NO: N/A
F. PG NO: 3-23
G. PARA NO: 3-39.8
H. FIG NO: N/A
I. APTR CARD NO: N/A
J. APTR CARD DATE: N/A
K. APTR CARD REV: N/A
L. DEF: PARAGRAPH 3-39.8 STATES LAUNCH VALVE STROKE TIMER TIMES
WILL BE DETERMINED USING CSV SETTINGS OF 050, 150, AND 120. CSV
SETTINGS ARE INCORRECT AND SHOULD BE 050, 150, AND 250. ALL OTHER
PARAGRAPHS RELATING TO CSV SETTINGS FOR LAUNCH VALVE STROKE TIMER
TIMES CONFIRM THIS ERROR.
M. REC: CHANGE THE 120 SETTING TO READ 250.
N. POC: R.T. LAUNCHVALVE, LT, ALRE MAINTENANCE OFFICER,
DEPLOYED.//

**Figure 11-10. Sample ALRE CAT I Technical Publications Deficiency
Report Message**

<u>Report</u>	<u>Criteria</u>	<u>Precedence</u>	<u>When to send</u>
<u>ALRE HMR</u>	<ol style="list-style-type: none"> 1. Part malfunctions or fails; may cause injury or death, or damage to or loss of aircraft, equipment or facilities. 2. Configuration deficiency is a safety hazard. 3. Urgent assistance required; corrective action needed because of operational requirement. 4. Condition detected allows incorrect installation; system malfunction or failure may occur. 	PRIORITY	Within 24 hours after discovery.
<u>ALRE EI</u>	<ol style="list-style-type: none"> 1. Safety is involved. 2. Additional technical or engineering info for an aircraft mishap investigation. 3. Launch and recovery systems readiness impaired by material reliability. 4. When directed by higher authority 	ROUTINE	Within 3 calendar days after discovery.
<u>ALRE HMR/EI</u>	<ol style="list-style-type: none"> 1. Combination of ALRE HMR and ALRE EI criteria. 2. Safety concerns should be emphasized when submitting this combined report. 	PRIORITY	Within 24 hours after discovery.
<u>CAT I ALRE PQDR</u>	<ol style="list-style-type: none"> 1. New or newly reworked component. 2. Affects safety including injury or death; can cause equipment damage. 	PRIORITY	Within 24 hours after discovery.
<u>CAT II ALRE PQDR</u>	<ol style="list-style-type: none"> 1. Component may cause widespread material or human resource impact. 2. Does not meet criteria for a CAT I ALRE PQDR. 	ROUTINE	Within 3 calendar days after discovery.
<u>CAT I ALRE TPDR</u>	<ol style="list-style-type: none"> 1. Publication deficiency which may cause injury or death or damage equipment. 	PRIORITY	Within 24 hours after discovery.
<u>CAT II ALRE TPDR</u>	<ol style="list-style-type: none"> 1. Does not meet criteria for a CAT I ALRE TPDR. 	ROUTINE (OPNAV 4790/66)	Within 10 working days after discovery.

Figure 11-11. ALRE Discrepancy Reports Matrix

REPORT TYPE	FST ACKNOWLEDGEMENT AND RISK ASSESSMENT	GO AND NO-GO DECISION	FOLLOW-UP	ACKNOWLEDGE EXHIBIT RECEIPT	INTERIM RESPONSE	FINAL RESPONSE CONCLUSION
HMR	1 DAY	3 DAYS	4-8 DAYS AFTER INTIAL RESPONSE	1 DAY	10 DAYS	30 DAYS
EI	1 DAY	3 DAYS	4-8 DAYS AFTER INTIAL RESPONSE	1 DAY	1 DAY	30 DAYS
HMR/EI	1 DAY	3 DAYS	4-8 DAYS AFTER INTIAL RESPONSE	1 DAY	1 DAY	30 DAYS

REPORT TYPE	FORWARD INITIAL RESPONSE	REQUEST EXHIBIT FROM ORIGINATOR	FORWARD INTERIM, OR FINAL REPLY TO SCREENING POINT
ALRE CAT I PQDR	1 DAY FROM RECEIPT OF CAT I PQDR	7 DAYS FROM RECEIPT OF CAT I PQDR	20 DAYS FROM RECEIPT OF CAT I PQDR OR MATERIAL
ALRE CAT II PQDR	3 DAYS FROM RECEIPT OF CAT II PQDR	7 DAYS FROM RECEIPT OF CAT II PQDR	30 DAYS FROM RECEIPT OF CAT II PQDR OR MATERIAL

Figure 11-12. ALRE Fleet Support Team Response Matrix

(Enter N/A or UNK if not applicable or unknown)

Precedence: <Priority /Routine as applicable>
 FROM: <Message Originator PLA>
 TO: <NAVAIRWARCENACDIV LAKEHURST NJ>
 <AIG ONE THREE EIGHT EIGHT FIVE>
 INFO: <Enter PLAs of other activities as applicable>
 SUBJ: <Subject> (ex. ALRE MK 7 JBD TUBE ASSY CAT II PQDR)
 REFS: <References> (include OPNAVINST 4790.15Ex>
 AMPN/NARR: <Amplification/Narrative> (amplify the references. Include statement...THIS MSG
 ACTION FOR NAVAIRWARCENACDIV LKE. INFO ALL OTHERS//
 (ex. USS SHIP/12345)
 (ex. NAVAIRWARCENACDIV LAKEHURST NJ)
 (ex. R12345-03-8003)
 (ex. 03126/DEPLOYED)
 (ex. 7RH, 1234-00-123-1234, EY)
 (ex. TUBE ASSY, MK 7 JBD)
 (ex. 01234, NOMO MFG CO., ALBANY, NY)
 (ex. 54321, GOOD2GO INC., NEWARK, DE)
 (ex. A-1 SHIPPERS, NORFOLK, VA)
 (ex. 8765A12, 514309-14)
 (ex. 1234-01, 101)
 (ex. N68335-01-C-1234)
 (ex. N6833599PO1234)
 (ex. N0330050329003)
 (ex.
 (ex. REWORKED)
 (ex. 03 AUG 99)
 (ex. 120 CATAPULT SHOTS)
 (ex. YES)
 (ex. 2)
 (ex. 2)
 (ex. 1)
 (ex. 3)
 (ex. MK 7 MOD 1 JBD, N/A)
 (ex. 4321-00-321-5432, PANEL ASSY, 617018-33, N/A)
 (ex. 1500.00 DOLLARS, 3 MHRS, 500.00 DOLLARS)
 (ex. MIL-G-12345, TYPE I, CL 3 or N/A)
 (ex. UNK)
 (ex. 7A1AK00)
 (ex. USS SHIP SUPPLY)
 (ex. HOLDING EXHIBIT IN V-2 MATERIAL CONTROL PENDING
 DISPOSITION INSTRUCTIONS)
 (ex. PHOTOGRAPHS AVAILABLE)
 (for EIs and HMRs: enter N/A)
 (for PQDRs: enter/assign requisition doc. number)
 (ex. VB01)
 (Enter: N/A)
 // (Enter: N/A)

Figure 11-13. ALRE EI, ALRE HMR, ALRE PQDR MESSAGE TEMPLATE

Chapter 12 - ALRE Maintenance Support

TABLE OF CONTENTS

<u>Sec</u>	<u>Subject</u>	<u>Page</u>
12.1	Mission	12-2
12.2	Organization	12-2
12.3	Responsibilities.....	12-3
12.4	Maintenance Procedures.....	12-5
12.5	ALRE Tool Control Program (TCP).....	12-5

TABLE OF FIGURES

<u>Fig</u>	<u>Subject</u>	<u>Page</u>
12-1	Maintenance Support Organization.....	12-8

Chapter 12

ALRE MAINTENANCE SUPPORT

12.1 Mission

The MS W/C of V-2 division is a key element in the day-to-day successful operation of ALRE. MS is fundamental to the ALRE maintenance organization in that it establishes a single point of maintenance expertise tempered with flexibility and capability. The heart of the MS W/C is a group of experienced personnel who possess the requisite NEC necessary to be a maintenance technician. Together with catapult electrician's mates and tool control personnel; they make up the MS W/C. Their extensive training and background provide the required skills and knowledge to maintain ALRE equipment in a fully operational and safe status.

12.2 Organization

Figure 12-1 reflects the MS W/C organization in V-2 division. The MS chief or senior chief petty officer (CPO and SCPO) (MS00) is responsible directly to the ALRE maintenance officer, through the ALRE maintenance CPO, for all functions associated with assigned maintenance responsibilities. The MS CPO and SCPO shall possess the requisite NEC of a maintenance technician and be designated in writing by the air officer. Two team leaders support the MS CPO/SCPO.

12.2.1 The MS team leader functions as the VB22 W/C supervisor. When tasked, he or she may perform various maintenance actions independent from the primary W/C supervisor or work to assist the primary W/C. He or she is further tasked with the supervision of tool control center. His or her designation is MS01 and he or she shall possess the requisite NEC of a maintenance technician and be designated in writing by the air officer.

12.2.2 The catapult electrician team leader supervises the Electrician's Mates assigned to the MS W/C and shall possess the requisite NEC and be designated in writing by the air officer.

12.2.3 As illustrated in figure 12-1, MS technicians, with the requisite NEC 7006, shall fill all MS00 through MS07 billets.

12.2.4 The V-2 division tool control center will be manned to a level as directed by the ALRE maintenance officer. They will work directly for the MS support team leader and may be utilized as assistants to the designated maintenance technicians.

12.3 Responsibilities

12.3.1 MS will primarily function during non-operational hours. They may augment primary W/C personnel or in many instances serve as the full maintenance crew in order to allow for sufficient crew rest of primary W/C personnel. At the ALRE maintenance officer's discretion, MS may perform maintenance in the absence of the primary W/C supervisor. Under no circumstances will MS be allowed to function any equipment whether related to pre-operational inspections or not without the express permission and under the direct supervision of the primary W/C supervisor. Specific examples include, but are not limited to:

- a. A/G engine function.
- b. Sheave damper function.
- c. Barricade stanchion function.
- d. Power pack relief valve function.
- e. Pole checks.
- f. Cycle launch valves.
- g. Function grab (with rotary retraction engine (RRE)).
- h. JBD function.
- i. Nose gear launch (NGL) function.
- j. Deck tensioner function.
- k. Steam smothering test.
- l. Run water brakes.
- m. Operate any remote panels.
- n. Conduct no-loads.

Because MS is primarily a maintenance W/C, great care must be taken to ensure that all operational and functional requirements are carried out by qualified personnel under the direct supervision of the primary W/C supervisor.

12.3.2 The ALRE maintenance officer retains the responsibility to determine job assignment. This decision is normally made through M/C with W/C supervisor inputs. On those tasks where MS will augment the primary W/C, the MS team leader shall report to the primary W/C supervisor and assist in coordinating all aspects of the job including coordinating QA and material requirements, OPNAV 4790/160 MAF completion and keeping all parties apprised of work progress. On those tasks where the MS supervisor will act independently from the W/C supervisor, the MS supervisor shall coordinate all requirements and be responsible for providing job progress information.

NOTE

In those instances where MS will act independently from the primary W/C supervisor, an understanding of complete and thorough communication will be fostered by both supervisors. Communication between each during the planning stage of maintenance actions and thorough debriefs following the conclusion of maintenance actions is mandatory. Face to face turnovers will be the norm. The most minute and unique details of maintenance actions will be brought to the attention of the primary W/C supervisor. No detail, regardless of how minor, will be excluded from this debrief.

12.3.3 The MS W/C CPO, under direction of the ALRE maintenance officer and or M/C supervisor, is responsible for normal W/C administration functions and assignment of MS personnel to specific maintenance tasks. When MS is acting independently from the primary W/C supervisor, the MS CPO will assume those duties normally performed by the primary W/C CPO. As with the MS team leader and primary W/C supervisor, the MS CPO and primary W/C CPO, will have a face to face turnover discussing all details of the work performed by MS.

12.3.4 MS efforts are primarily to provide support to operating W/Cs. Documentation of both the primary W/C and MS's man hours shall be documented on an OPNAV 4790/160 MAF. In those instances where MS is conducting maintenance independent from the primary W/C, the MS team leader (MS01) shall provide sufficient documentation to the primary W/C supervisor to enable him to complete MAFs. Additionally, MS will track MS man-hours independently.

12.3.5 Maintenance performed on equipment shall be documented on the configuration record of the primary W/C. The MS W/C is a supporting W/C to the primary W/C of record and care shall be exercised to ensure the primary W/C for the configuration record remains intact.

12.4 Maintenance Procedures

Failure to follow correct maintenance procedures used in the assembly or disassembly of components or subassemblies inevitably results in further problems. Failure to use the proper technical manual, TD, or aperture card; use of the wrong tools and or improper procedures frequently creates additional problems. The urgency and criticality of the job often leads to hurried, quick-reaction repairs without adequate review of the situation. Standard procedures will include the proper use of technical manuals, TDs, aperture cards, and other technical data to ensure that adequate and complete maintenance is performed. MS is the established base of professional expertise which ensures that proper and complete maintenance evolutions become standard operating procedures, backed by QA inspections.

12.5 ALRE Tool Control Program (TCP)

12.5.1 The TCP provides a means to rapidly account for all tools after completing a maintenance task, thus reducing the potential for FOD mishaps. The TCP is based on accuracy of inventory. The most significant benefit of the TCP is the saving of lives and equipment damage by eliminating tool-induced FOD incidents caused by lost tools. Additional benefits are:

- a. Reduced initial outfitting and tool replacement costs.
- b. Reduced tool pilferage.
- c. Reduced man-hours required to complete each maintenance task.
- d. Assurance that proper tools are available for specific maintenance tasks.

12.5.2 Appendix D contains amplifying information on ALRE Tool Control including the following:

- a. An allowance list for tool containers.

b. A standard tool list and layout diagram for each container.

c. Procurement information for tool containers and other associated hardware.

12.5.2.1 COMNAVAIRFOR Pacific and Atlantic will implement the tool control plan (TCPL) aboard their respective ships.

12.5.2.2 The ALRE maintenance officer shall establish a V-2 division tool control center, which will be a responsibility of the MS team leader. The tool control center functions are as follows:

a. Use standardized tool lists to build and maintain V-2 tool containers as specified in the TCPL. Such tool lists shall be utilized in the conduct of an initial wall-to-wall inventory upon implementation of the TCP, and on a semi-annual basis.

NOTE

ALRE special tools are also subject to examination during the TYCOM maintenance management team audits.

b. Whenever possible, use approved allowance lists as the reference manual for tool requisitions. Report errors in approved allowance lists, to NAVAIRWARCENACDIV Lakehurst.

c. Initiate all requisitions for initial issue or replacement tools.

d. Ensure all tool requests are itemized, and all requisitions are itemized. Blank check DD 1348-1A requisitions are not authorized.

e. Ensure that all tool expenditures are recorded.

f. Maintain custody of all tool containers not signed out on sub-custody.

g. Require a signature to issue tool containers.

h. Require a signature to issue individual tools.

i. Issue initial issue and replacement tools; require turn-in of broken tools for all replacements.

j. Ensure all tools and containers are properly marked or etched and appropriate inventory procedures maintained.

k. Bring noted deficiencies and desired changes to the attention of the MS CPO.

12.5.3 Tool Control Containers

12.5.3.1 The silhouette method in conjunction with the inventory list method will be utilized for tool cabinets. The inventory list method is required for portable toolboxes and tool pouches for accountability of all tools.

12.5.3.2 A standardized tool list is specified in the TCPL for each type and model ALRE and includes a sufficient quantity of the necessary tools to perform the assigned maintenance tasks. The tool list will show the specific tool inventory required for each container.

12.5.3.3 A unique family of tool containers is designated for tool control. Tools listed in the TCPL shall be displayed by drawings therein. The container exterior will clearly identify the W/C and work package and organization. The tools within the containers shall be identified to comply with the TCPL and have the organization etched on the tool.

NOTE

ALRE maintenance officers may tailor the contents of individual tool boxes to conform to their ship's equipment MRs. All other requirements of the Tool Control Manual remain in effect.

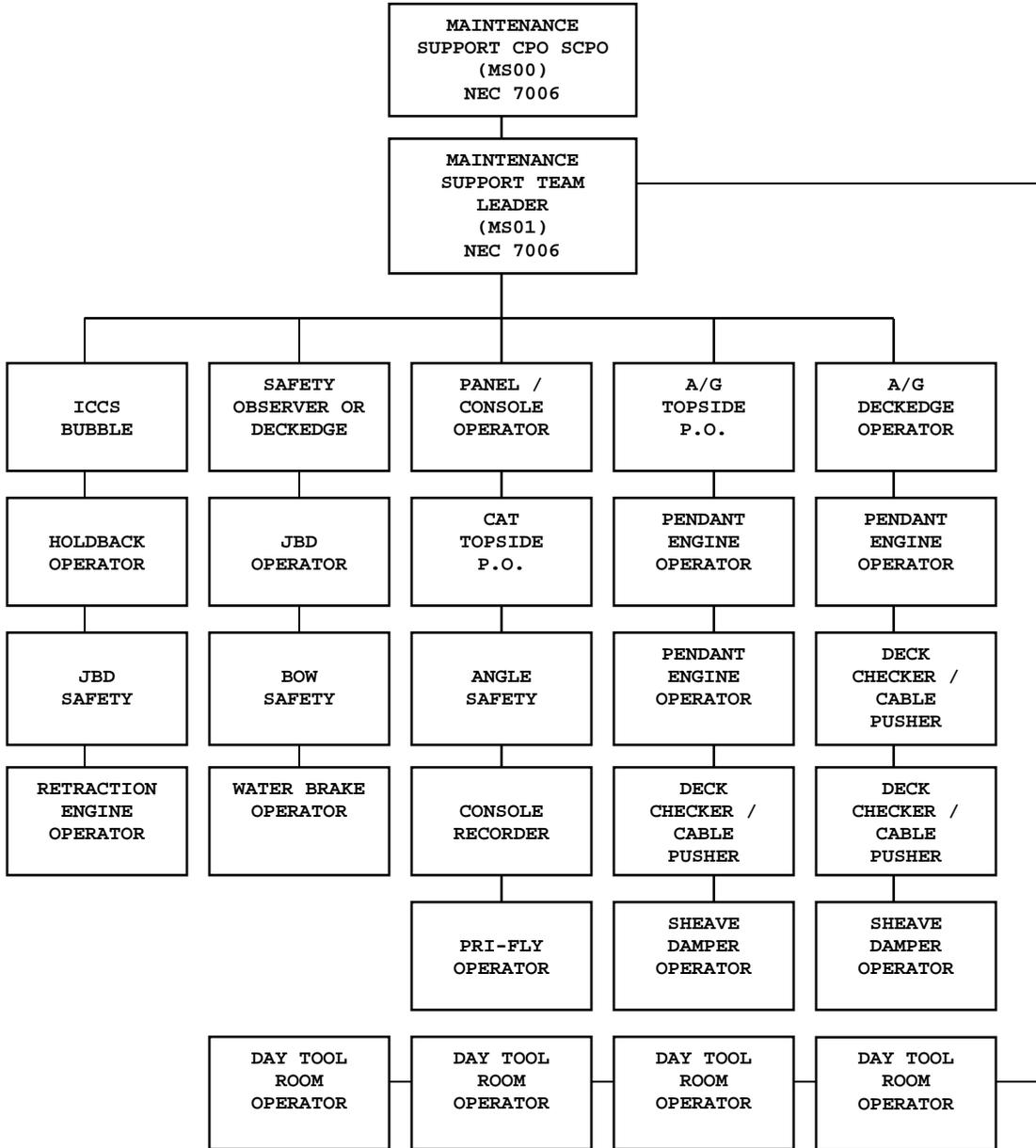


Figure 12-1. Maintenance Support Organization

Chapter 13 - ALRE Maintenance Organizations and Responsibilities

TABLE OF CONTENTS

Sec	Subject	Page
13.1	Shipboard Procedures.....	13-2
13.2	Type Commanders (TYCOMs).....	13-3
13.3	Intermediate Maintenance Activities (IMAs) and Fleet Readiness Centers (FRCs).....	13-5
13.4	Depot Industrial Functions.....	13-6
13.5	Carrier and Field Service Unit (CAFSU).....	13-8
13.6	Overhauls and Availabilities.....	13-9
13.7	Supervisor of Shipbuilding Newport News, Code 1800 (SUPSHIP NNVA CODE 1800).....	13-11
13.8	The Work Definition Conference (WDC).....	13-12
13.9	Emergency Essential Repairs (EER).....	13-12
13.10	Ship Installation (SI) Equipment Services Changes (SC) ..	13-13
13.11	Unauthorized Alterations of Ships.....	13-14

TABLE OF FIGURES

Fig	Subject	Page
13-1	COMNAVAIRFOR Alantic ALRE Maintenance Organization.....	13-15
13-2	COMNAVAIRFOR Pacific ALRE Maintenance Organization.....	13-16

Chapter 13

ALRE Maintenance Organizations and Responsibilities

13.1 Shipboard Procedures

13.1.1 The commanding officer is responsible to ensure correction of material problems at the lowest possible maintenance level. Maintenance accomplishment shall be in the following priority:

a. When maintenance is within the capacity and capability of ship's force, ship's force will accomplish it.

b. CVN AIMDs, ship's engineering, ship's combat systems, tenders, repair ships, and RMCs, have the ability to undertake work which is beyond the capacity and or capability of the V-2 division. Ships are encouraged to use these facilities to the maximum extent possible.

c. Naval and private shipyards and FRCs and NAVAIRWARCENACDIV Lakehurst, NJ, perform work beyond the capability and capacity of ship's force and RMCs.

13.1.2 Alterations shall not be accomplished unless properly authorized.

13.1.3 The responsibility for the inspection of work performed by industrial activities is assigned to ship's commanding officers by Navy regulations.

13.1.4 When the ship's V-2 division cannot accomplish ALRE maintenance, maintenance assistance should first be sought from the CVN's IMA. The ALRE maintenance officer seeks higher-level maintenance assistance through the ship's maintenance manager, using a properly authorized OPNAV 4790/2K or 4790/2R. The ALRE maintenance officer ensures that all work that must be deferred by V-2 division is entered into the CSMP. The CVN maintenance manager brokers the work by attempting to obtain maintenance services from either the engineering department (such as emergency parts manufacture from the repair division) or AIMD (calibration, NDI, etc.) before forwarding the work request to the TYCOM. Since AIMD is under the aviation 3-M System, MS from that department is requested using an OPNAV 4790/60. Documentation of maintenance completed by the AIMD is the responsibility of the ALRE maintenance officer. A copy of the VIDS and MAF must be attached to the completed ALRE MAF.

13.1.5 The ships' 3-M System shall be implemented and updated through careful planning by individual ships and critical study by responsible commanders so that material readiness will be maximized and that the time and expense required for maintenance availabilities are reduced to a minimum. A current and accurate CSMP is the basic foundation to any maintenance program.

The PMS defines the minimum scheduled planned maintenance to be carried out on board an individual ship, and will be used to the maximum degree possible.

13.1.6 Skilled ALRE maintenance personnel are scarce and must be utilized in actual maintenance and technical management. Skilled personnel should not normally be diverted to supply support or administrative functions.

13.2 Type Commanders (TYCOMs)

13.2.1 The Commanders, Naval Air Force, U.S. Atlantic and Pacific Fleets (COMNAVAIRFOR Atlantic and Pacific) are responsible for determining ALRE MRs to be developed in geographic support areas. This includes identification of ALRE MRs for RMCs, assistance in establishing manning levels, development of coordinating documents (memoranda of agreement) and coordination between surface and air communities to support the ALREMP.

13.2.2 COMNAVAIRFOR maintenance policy is to maintain CVNs in a state of material readiness that will assure the highest possible degree of operational readiness for all contingencies, consistent with the availability of resources. Responsibilities for overall maintenance of CVNs are defined in chapter 7, U.S. Navy Regulations; fleet regulations; and various TYCOM directives, as appropriate.

13.2.3 The COMNAVAIRFOR East ALRE maintenance organization is shown in figure 13-1, and the COMNAVAIRFOR ALRE maintenance organization (Code N43) is depicted in figure 13-2. These organizations provide total ship project and material management functions and force-wide technical direction for ship material maintenance.

13.2.4 The COMNAVAIRFOR Atlantic SI Officer (Code N433) and the COMNAVAIRFOR Pacific SI Air Systems Officer (Code N433) are responsible for monitoring the maintenance and material condition of all ALRE systems under their COG. They screen, control, and

direct work and funding for all catapult, A/G, and VLAs under their COG. These systems officers are responsible for the following actions:

- a. Screening and distributing all ALRE related work requests to readiness support groups (RSGs), RMCs, NAVSHIPPREPFACs, FRC, or NAVAIRWARCENACDIV and notifying the ship of maintenance action screening disposition.
- b. Screening and coordinating all ALRE maintenance and material message traffic.
- c. Reviewing CSMP on a recurring basis.
- d. Attending all meetings and conferences on maintenance and material matters (e.g., work definition conferences (WDCs)).
- e. Reviewing required ALRE SHIPALTs.
- f. Screening all ALRE maintenance and material CASREPs.
- g. Coordinating all ALRE maintenance and material requirements with the ship's maintenance manager for inclusion in the integrated work package.
- h. Coordinating Fleet Modernization Program (FMP) ALRE planning with SUPSHIP Newport News Code 1800.
- i. Ensuring NAVAIRWARCENACDIV Lakehurst Carrier and Field Services Unit (CAFSU) technical assistance is provided to fleet units and industrial activities.
- j. Coordinating the scheduling of FRC and NAVAIRWARCENACDIV VRTs who perform ALRE systems maintenance and repair.

13.2.5 TYCOM Aviation Systems Maintenance and Material Readiness (ASMMR) Program.

The ASMMR Program is a core functional responsibility within the logistics support group of COMNAVAIRFOR. It provides formalized structure, planning, execution, reporting and guidance for all matters relating to the status, management, accuracy, maintenance and tracking of ALRE ships installations equipment configuration and the corresponding ILS for that configuration aboard Naval Air Forces aircraft carriers. The program continually monitors, tracks, provides maintenance of and QA to the status of shipboard

configuration files as well as identifying the shipboard training requirements to properly use, shipboard ALRE configuration records in OMMS (NG). The ASMMR traps and eliminates erroneous changes in configuration that otherwise could lead to adverse changes to COSAL and parts support. The program is closed looped, in conjunction with the carrier FRP phases (availability, basic and advanced training, pre-deployment surge, deployment, post-deployment surge into the following Availability). Each phase of the program has key elements that collectively assemble into a specific event such as an assessment of configuration and logistics accuracy; logistics support assistance or review, ALRE ILS training including the use of ALRE configuration records in OMMS (NG) and the implementation of an ILS checklist used during ALREMP assist visits and audits. The ASMMR Program also includes the review and analysis of maintenance actions for equipment repairs or improvements in order to document deficiencies.

13.3 Intermediate Maintenance Activities (IMAs) and Fleet Readiness Centers (FRC)

13.3.1 An IMA comprises all departmental and organizational units responsible for providing MS to supported units, whether ashore or afloat. The Navy ship is a unique entity in that responsibility for both operation and maintenance rests with the ship itself. The ship's V-2 division has the primary responsibility for operating and maintaining a CVN's ALRE system. As a measure of the CVN's self-sufficiency, each carrier is designated, by OPNAVINST 4700.7L, an IMA comprised of the AIMD, engineering, supply, and weapons departments. The CVN AIMD will provide appropriate ALRE MS, where capability and capacity exist.

13.3.2 RMCs are responsible for performing maintenance functions on ships, ship's equipment, and other systems of the supported activities as directed by the TYCOMs.

13.3.2.1 RMC repair capabilities are designed to provide ALRE MS to the CVN air department. Repair capabilities and potential may be modified to meet expanded requirements. RMCs, performing ALRE maintenance shall:

a. Ensure that quality control is exercised in the accomplishment of every job.

b. Keep customer ships fully apprised of the status of all work accepted.

c. Inform the TYCOM of any ALRE maintenance related matters and problems that cannot be resolved at the ship and RMC level.

13.3.2.2 ALRE work requested from a RMC will be submitted under NAVSEAINST 4790.8B and TYCOM directives. Work is normally programmed during specified availability periods but may be requested at anytime, with TYCOM approval. Scheduled availability periods will be preceded by a WDC to discuss screening, services, problem areas, and to establish the basic procedures for RMC efforts. Work requests are submitted to the TYCOM for approval prior to the availability period, with additional work approved on a case-by-case basis.

13.3.3 The CIS program is designed to provide a means of accomplishing that ship's work which is beyond the capacity, but within the capability, of fleet IMAs. CIS may also be used to reduce working hours of fleet personnel by having contractors accomplish selected maintenance.

13.4 Depot Industrial Functions

13.4.1 ALRE depot maintenance provides technical help in carrying out those functions that are beyond the responsibility or capability of the shipboard maintenance organizations. Large-scale maintenance and repairs are usually performed during overhaul and availability periods with approved alterations and modifications also being accomplished. Industrial establishments may be any combination of government or contractor owned and operated. These facilities include NAVSHIPYDs, private shipyards, NAVSHIPREPFACs, FRCs and Naval Air Warfare Center Industrial (NAVAIRWARCENACDIV) and Lakehurst VRTs, and private contractors.

13.4.2 As implemented within the DON, depot industrial functions consist of three general categories:

a. Those involved in the maintenance or modification of existing ship installed ALRE end items, systems, components, and SE.

b. Those involved in the manufacture of items and component parts not otherwise available.

c. Those involved in support services functions that include professional engineering, technological, and calibration services.

13.4.2.1 Depot maintenance functions are required to maintain or restore the designed service levels of performance, reliability, and material condition; they include complete rebuild through reclamation, refurbishment, overhaul, repair, replacement, adjustment, servicing, and replacement of system consumables. They also include inspection, calibration, and testing.

13.4.2.2 Depot modification functions are required to change or improve design levels of performance, reliability, and material condition. The term modification, as used in this instruction, includes alterations, conversion, engineering changes, and modernization.

13.4.3 FRC and NAVAIRWARCENACDIVs are the Navy's primary aviation industrial establishments for ALRE repair. FRC and NAVAIRWARCENACDIVs are responsible for:

a. Ensuring compliance with controlling directives from higher authority concerning policies, procedures, workload, funding, organization, staffing and facilities.

b. Ensuring that production output of the establishment is timely and of proper quantity and quality.

c. Performing depot maintenance on ships' installed ALRE.

d. Providing type III (type I and II in certain instances) NAVCALAB facilities.

FRC and NAVAIRWARCENACDIV VRTs are small groups of shipyard trade specialists cross-trained and capable of functioning in two or more trades. All VRT personnel shall be trained to ALRE rework standards established by the NAVAIRWARCENACDIV Lakehurst. VRTs are established at the FRCs in North Island and NAVAIRWARCENACDIV Detachment Norfolk and Mayport. VRT personnel perform designated scheduled and unscheduled depot maintenance, repair, refurbishment, replacement, and modification tasks in direct support of NAVAIRSYSCOM shipboard and shore-based ALRE installations. Artisans are responsible for ensuring the QA inspection of all work performed.

13.4.4 NAVSHIPYDs are shore activities of NAVSEASYSYSCOM. The NAVSHIPYDs located at Norfolk and Puget Sound furnish depot maintenance facilities and technical guidance for carrier availabilities and overhaul periods. These industrial activities

perform major repair, modifications, and overhauls to ALRE and are responsible for the proper installation, alteration, and test of this equipment by current drawings and directives.

13.4.5 The NAVAIRWARCENACDIV Lakehurst as the FST is responsible for research, engineering, development, test and evaluation, systems integration, limited production, procurement, overhaul and repair, and in-service engineering of ALRE. It also provides technical and logistics support to all activities in support of installation, operation, overhaul, maintenance, repair and certification inspections of ALRE, and provides representatives to the INSURV.

NAVAIRWARCENACDIV Lakehurst is the designated repair point on selected ALRE (launch valves, capacity selector valves, etc.). In addition to ALRE overhaul and repair, it also can manufacture ALRE systems in limited quantities and is a source for ALRE spares and components which cannot be obtained by normal means.

13.5 Carrier and Field Service Unit (CAFSU)

13.5.1 CAFSU is under NAVAIRWARCENACDIV Lakehurst, Fleet Technical Services. The CAFSU is comprised of civilian technicians who are highly skilled and thoroughly qualified in the operation, maintenance, repair, installation and test of ship- and shore-based aircraft launching, recovery and VLAs. As the technical representatives of the TYCOMs and NAVAIRWARCENACDIV Lakehurst, they are dispersed in field offices to provide immediate technical assistance to fleet personnel and industrial activities throughout the Atlantic and Pacific Fleet operating areas. CAFSU field offices are located at FRC, North Island; Naval Stations Mayport; Bremerton, Norfolk, Portsmouth; Yokosuka NAVSHIPREPFAC, and Newport News NAVSHIPYD. The CAFSUs report to the NAVAIRWARCENACDIV Lakehurst for administrative purposes and are under the joint operational control of their TYCOM and NAVAIRWARCENACDIV Lakehurst.

13.5.2 CAFSU is required to maintain technical liaison with the above commands and is responsible for providing all parties with timely technical information. CAFSU will provide technical assistance during COHs, for all maintenance availabilities, and to ships not in a repair status. A CAFSU representative will monitor all shipyard repairs, modifications and operational tests of shipboard ALRE. All technical questions concerning this equipment will be directed to the local CAFSU representative. CAFSU will submit timely written reports concerning repairs, alterations, and work accomplished to the TYCOM (COMNAVAIRFOR Atlantic (Code N433)

or COMNAVAIRFOR Pacific (Code N433)), NAVAIRWARCENACDIV Lakehurst, and to the ship's ALRE Maintenance Officer. CAFSU is the final authority for recommending or not recommending certification of all ALRE following overhaul and other times.

13.5.2.1 Commanding officers:

a. Request CAFSU technical assistance when required, by message, letter, or informal means from the TYCOM. In case of a formal request, direct an information copy to the local CAFSU field office.

b. Provide officer-equivalent berthing and messing facilities for CAFSU representatives when embarked.

c. Pass to COMNAVAIRFOR Atlantic (Code N433) and COMNAVAIRFOR Pacific (Code N433) any comments concerning meritorious or substandard performance of CAFSU representatives.

d. Upon completion of a CAFSU assignment at sea, ensure timely departure from the ship.

13.5.2.2 NAVSHIPYDs and repair activities:

a. Provide support to CAFSU field offices, as appropriate, to allow for objective accomplishment.

b. Refer technical questions concerning launching, recovery, and VLAs equipment to a local CAFSU representative for timely resolution.

13.6 Overhauls and Availabilities

13.6.1 Large-scale ALRE maintenance and repairs requiring industrial facilities are performed during depot availabilities. Approved alterations and modifications that update and improve the ship's capabilities are also accomplished. Aircraft carriers are also assigned availabilities with afloat (tenders and repair ships) or shore IMAs. WAFs shall be used to authorize all outside maintenance activity shipboard repair and alterations per JFMM, volume IV, chapter 10, Work Authorization and Control. The following types of industrial availabilities are defined:

a. A COH/docking planned incremental availability/RCOH is an overhaul and availability that, because of funds, time, or manpower constraints, or the complexity or interrelationship of the various

ship subsystems affected by the overhaul or availability work packages, requires extraordinary coordination and extensive management of the planning and industrial phases of the overhaul and availability in order to produce a high level of confidence that the overhaul and availability will be satisfactorily completed.

b. An SRA/PIA is an availability for the accomplishment of repairs and selected alterations by depot and or IMAs. SRA/PIAs are assigned to sustain the material condition of ships between overhauls, particularly those ships on extended operating cycles. During SRA/PIAs required depot level maintenance is executed on a progressive or incremental overhaul strategy. SRA/PIAs are short, labor-intensive availabilities that are generally scheduled at specific times throughout the operating cycle. They are scheduled sufficiently far in advance to ensure planning time and funds are effectively utilized. Following each extended deployment, a 4 or 6 month SRA/PIA will be scheduled for each CVN in order to accomplish major repairs and high priority SHIPALTs.

c. Scheduled upkeep is a minor repair period during a ship's operational cycle where specific items of work by an industrial activity with the ship present. During a RAV, the ship is incapable of fully performing its assigned missions and tasks.

d. Voyage repair is emergency work necessary to enable a ship to continue its mission. VRs can be accomplished without requiring a change in the ship's operating schedule or changing the general steaming notice in effect.

13.6.2 The forward deployed CVN employs the incremental selected restricted availability (ISRA), the (progressive maintenance) concept which consists of availabilities by ship repair facilities. All of forward deployed carrier's availabilities are incrementally conducted in the Western Pacific area with the U.S. NAVSHIPREPFAC at Yokosuka, Japan.

13.6.2.1 COMNAVAIRPAC provides funds directly to NAVSHIPREPFAC Yokosuka for ALRE maintenance performed during availabilities at this activity.

13.6.2.2 Modernization of the forward-deployed CVN is accomplished, as it is with the other ships of the force, with NAVSHIPREPFAC Yokosuka performing as the planning agent. Assistance and management of the modernization program is provided by Supervisor of Shipbuilding Newport News, Virginia (SUPSHIP NNVA)

Code 1800. Although SHIPALTs are accomplished during each availability periods, large alterations are usually deferred to an ISRA. Normal planning milestones and procedures are followed except that ISRAs are programmed starting with the beginning of each fiscal year.

13.7 Supervisor of Shipbuilding Newport News, Code 1800 (SUPSHIP NNVA CODE 1800)

13.7.1 Supervisor of Shipbuilding, Conversion and Repair Newport News (Code 1800) is an extension of the NAVSEASYS COM Aircraft Carrier Program Office (PMS-312). SUPSHIP NNVA Code 1800 provides life cycle planning and engineering for repairs and alterations for aircraft carriers and integrates the requirements of various commands. It also manages the planning and engineering efforts for scheduled availabilities. SUPSHIP NNVA Code 1800 modernization planning assists COMNAVAIRSYSCOM, the COMNAVSEASYS COM (PMS 312), and the air TYCOMs in the execution of the advanced planning of SHIPALTS. The FMP, title K, title D SHIPALT and others such as Alteration Installation Team, etc., are used as the basis for alterations to be planned.

13.7.2 SUPSHIP NNVA Code 1800 prepares a modernization workbook for each major aircraft carrier availability which defines alteration work to be accomplished so that common understanding among systems commands, CNO, air TYCOMS, ship's force, and NAVSHIPYDs as appropriate is assured. SHIPALT records are developed and tailored to a specific ship and enables the preparation of accurate estimates, identifies special and long lead-time material, and becomes the basic planning document for the industrial activity accomplishing the overhaul. SHIPALT records are usually based on a shipcheck.

13.7.3 In order for SUPSHIP NNVA Code 1800 to perform its planning functions, SUPSHIP NNVA Code 1800 shall be an information addressee on all correspondence affecting ship maintenance.

Mailing Address: Supervisor of Shipbuilding,
Conversion and Repair (Code 1800)
4101 Washington Ave., Bldg 2
Newport News, VA 23607-2787

Message Address: SUPSHIP NEWPORT NEWS VA//1800/1822//

13.8 Work Definition Conference (WDC)

13.8.1 The WDC is the most significant planning event preceding overhaul or availability. Its primary purpose is to establish the scope of repairs to be undertaken by the naval shipyard for SUPSHIPS and to ensure that there is mutual understanding of all issues between all parties concerned. The WDC is normally conducted on board ship and includes key members of ship's force (i.e., commanding officer, executive officer, department heads, leading petty officers, W/C supervisors, the TYCOM maintenance manager and SI officer, SUPSHIP Code 1800, and the industrial repair activity). Alteration and repair package problems are resolved and screening decisions made about industrial and forces afloat repair packages with respect to available funds and industrial and ship's force man-days.

13.8.2 A significant portion of the total work undertaken during scheduled overhauls and availabilities is screened to ship's force for accomplishment. This work must be planned and managed to ensure the most effective utilization of available time and manpower. The ship's force work package (SFWP) (items screened for ship's force accomplishment) is defined following decisions made at the WDC. Development of the SFWP should be based on the CSMP, giving consideration to anticipated manning requirements, leave schedules, required schools, available skill levels, fire watches, PMS requirements, housekeeping, shipyard work inspection requirements, normal watches and other duties.

13.8.3 A secondary purpose of the WDC is to discuss preparations which must be made before entering a private shipyard. Certain precautions or special preparations with regard to off-loading or storage of items may be required. These requirements should be determined during the WDC. SUPSHIPS has documented information on planning, conducting and completing SRAs. Any off-loading requirements unique to the location in which the ship will be repaired will be contained in this compilation of information. If the commanding officer has not received this information prior to the WDC, it should be requested during the conference.

13.9 Emergency Essential Repairs (EER)

13.9.1 After the final WDC, additional work for an availability will be considered for essential repairs. EERs will be submitted by message and must meet all the following criteria:

- a. Not previously submitted.

b. Safe and reliable operation of the ship or equipment cannot be assured unless completed.

c. Must be completed during the current availability; would result in a CASREP if not corrected.

d. Are beyond the capability of ship's force and RMC.

13.9.2 EER work requests may be submitted subsequent to fixed-price determination. Since they invariably result in greatly increased cost and may delay overhaul completion, every effort must be made to ensure that all foreseeable work items are identified and submitted prior to fixed-price determination. Items which do not meet the EER criteria should be listed in the ship's CSMP for correction during subsequent availabilities.

13.9.3 Supplemental work requests and EER requests are not to be submitted for work that is presently authorized or should be corrected through the shipyard's discrepancy correction program.

13.10 Ship Installation (SI) Equipment Services Changes (SC)

13.10.1 SI SC are issued for catapult, A/G, VLAs, and wind measuring systems under the technical COG of NAVAIRSYSCOM.

13.10.2 SI SC designated for forces afloat accomplishment are authorized upon receipt of SC material kits provided by the TYCOM. Incidental material not provided in SC material kits will be requisitioned on a non-reimbursable basis or otherwise procured utilizing OPTAR funds. Commanding officers are encouraged to schedule the accomplishment of SI SC as time, funds, material, and manpower permit.

13.10.3 Only the TYCOMs may authorize SI SC designated for shipyard or VRT accomplishment. Approximately 300 days before shipyard availability, NAVAIRWARCENACDIV Lakehurst will forward to the industrial activity, via the TYCOM, a list of outstanding SI SCs. The TYCOM will review the list for applicability, material availability, status and priority. The list of SI SC that are authorized and funded for accomplishment will then be forwarded to the repair activity, with a copy to the ship concerned. Responsibility for accomplishment of a forces afloat change by the industrial activity will be stated in the endorsement to the basic letter. Upon receipt of the NAVAIRWARCENACDIV Lakehurst 300-day letter, with TYCOM endorsement, commanding officers will advise the TYCOM by message, with the appropriate commander carrier group as

information addressee, within 2 weeks if any authorized SI SCs have been completed or partially completed (stating what portions have been completed).

13.10.4 SI SCs which the TYCOM desires to be accomplished during scheduled post-deployment RAVs will be authorized concurrently with the authorization of SI equipment repairs.

13.10.5 Following major repairs or modifications, SI equipment must be tested to demonstrate proper performance capability.

13.10.6 All SCs approved for accomplishment by forces afloat shall be entered in the ship's CSMP until completed or canceled.

13.10.7 SI SC incorporation should be reported within 3 days of completion using OPNAV 4790/CK. Report completion to NAVAIRWARCENACDIV Lakehurst on OPNAV 4790/171 provided with the SC.

13.11 Unauthorized Alterations of Ships

Unauthorized alterations, rearrangements of ships, and deviations from ship class accomplished without specific written approval of higher authority exist among ships of the same class. These minor or major unauthorized changes include actual rearrangement of spaces, joiner bulkheads, and equipment to suit the desires of a particular ship's force which make logistic support difficult and may cause unsafe conditions. Therefore, commanding officers shall ensure that no alterations or rearrangements are made unless specifically approved and authorized by appropriate authority. Unapproved alterations or rearrangements shall be submitted into the ship's CSMP citing the letter reference which requests approval and listing 'UNAUTH' in the alteration number authority block.

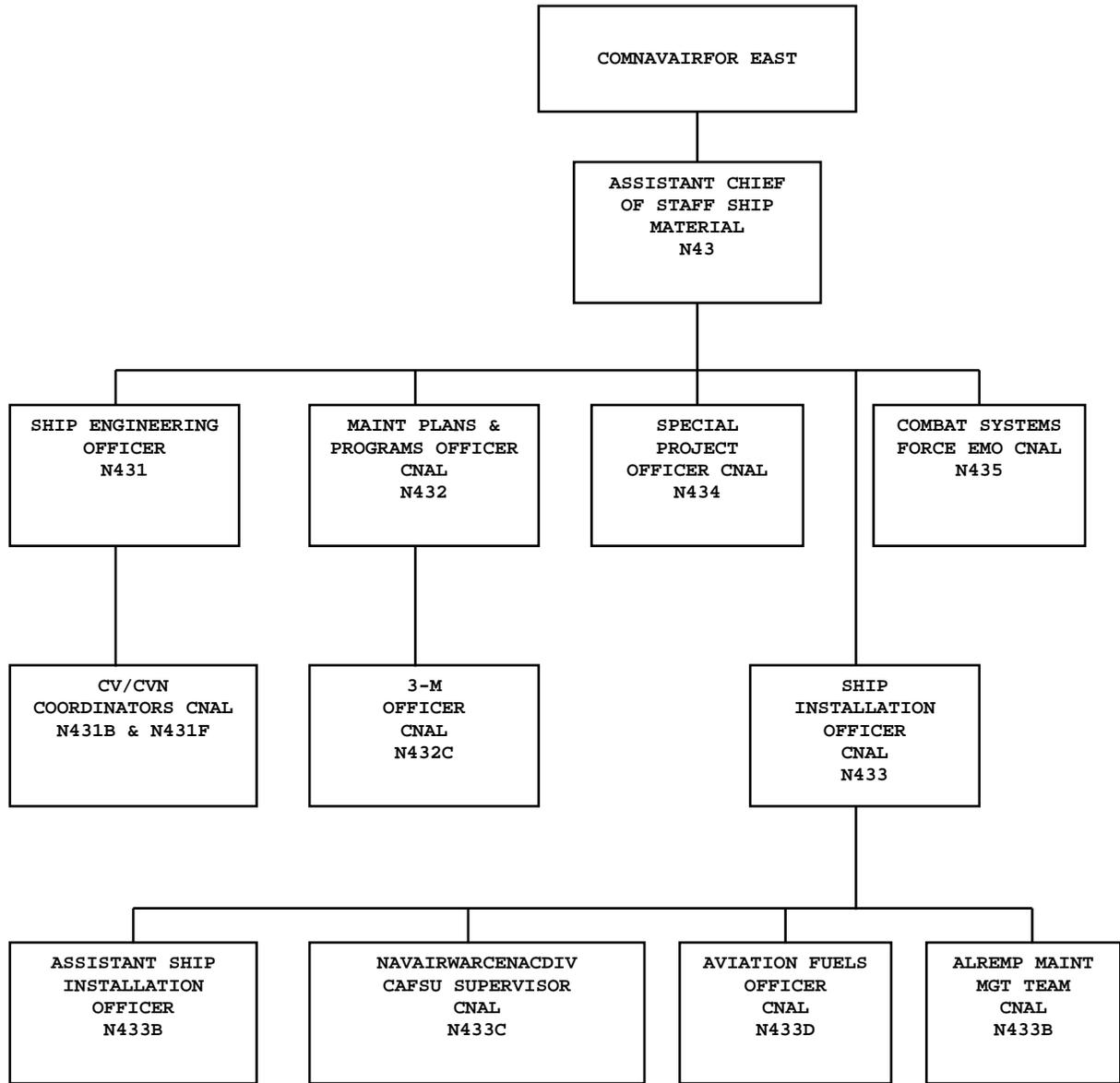


Figure 13-1. COMNAVAIRFOR Atlantic ALRE Maintenance Organization

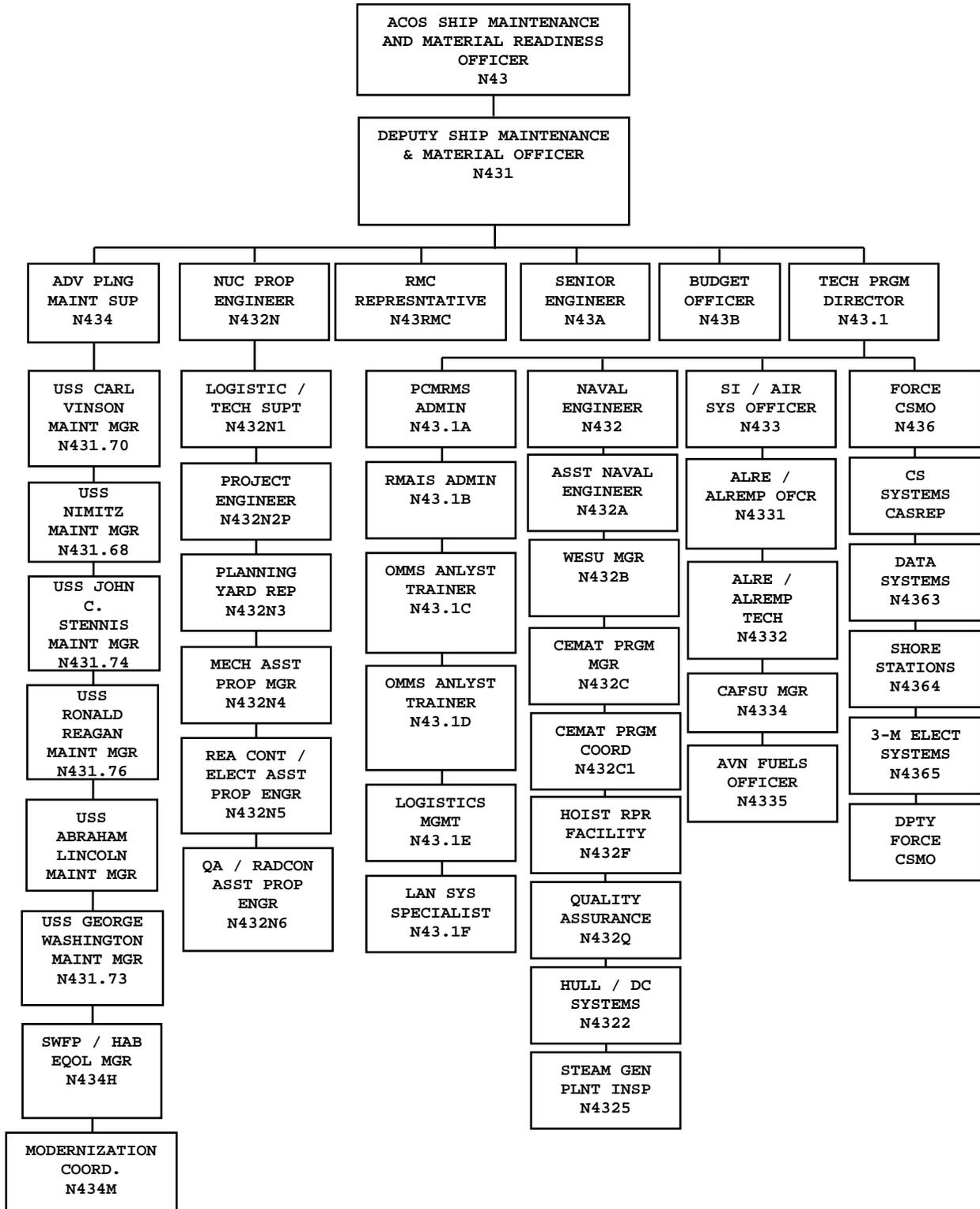


Figure 13-2. COMNAVAIRFOR Pacific ALRE Maintenance Organization

**APPENDIX A
FORMS AND REPORTS**

1. The forms listed in this appendix have been developed from a variety of originators and all play a relevant part in the ALREMP program. These forms are available at Naval Forms Online at <http://navalforms.daps.dla.mil/web/public/home>.

2. Retention period is indicated below, based on reporting requirements. If no specific retention period is listed, refer to applicable instructions for guidelines.

a. Retain for one COH and PIA cycle

FORMS (IN NUMERICAL ORDER)

DD 2332 - PRODUCT QUALITY DEFICIENCY REPORT EXHIBIT (Rev 01/99) S/N 0116-LF-983-8900

DD 1574-1 - SERVICEABLE MATERIEL (2 PART) (TAG) (Oct 1966) S/N 0102-LF-016-0375

OPNAV 3710/6 - NATOPS TACTICAL CHANGE RECOMMENDATION (Rev 4/90)

NAVAIR 4423/1 - SM&R CODE CHANGE REQUEST (Rev 7/79) S/N 0102-LF-604-4230

NAVSEA 4160/1 - NAVSEA/SPAWAR TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (Rev 7/2003)

NAVSEA 9890/8 - DANGER, DO NOT OPERATE TAG (Rev 6/01) S/N 0116-LF-115 4300

OPNAV 4790/CK - SHIP'S CONFIGURATION CHANGE FORM (Rev 5/84) (CK)

OPNAV 4790/2K - SHIP'S MAINTENANCE ACTION FORM (Rev 6/75) (2-KILO) 0107-LF-047-9011

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

OPNAV 4790/2R - AUTOMATED WORK REQUESTS (AWR) (Rev 10/2007).
Generated in the OMMS/SNAP data base.

OPNAV 4790/7B - PLANNED MAINTENANCE SYSTEM FEEDBACK REPORT (Rev 9/89) S/N 0107-LF-007-8000

- OPNAV 4790/11 - MATERIAL REQUISITION REGISTER (Rev 1/75)
- OPNAV 4790/33 - TRAINING SYLLABUS (Rev 3/73) 0107-LF-770-3701
- OPNAV 4790/34 - REQUIRED READING AND MAINTENANCE INFORMATION RECORD (Rev 10/69)
- OPNAV 4790/60 - WORK CENTER REGISTER, CONTROL AND PROCESSING FORM (VIDS/MAF) (Rev 5/88) 0107-LF-002-5900
- OPNAV 4790/66 - TECHNICAL PUBLICATIONS DEFICIENCY REPORT (TPDR) (Rev 2/2001)
- OPNAV 4790/82 - MAINTENANCE REQUIREMENTS CARDS (MRC) (Rev 8/76)
- OPNAV 4790/160 - AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT MAINTENANCE ACTION FORM (MAF) (OMMS NG) (Rev 10/2008)
- OPNAV 4790/162 - ALRE QUALITY ASSURANCE INSPECTOR RECOMMENDATION (Rev 7/2010)
- OPNAV 4790/163 - ALRE TOOL CONTROL INVENTORY SHEET (Rev 7/2010)
- OPNAV 4790/168 - CATAPULT POST-OPERATIONAL DATA (Rev 7/2010)
- OPNAV 4790/169 - CATAPULT PRE-OPERATIONAL DATA (Rev 7/2010)
- OPNAV 4790/170 - CONFIGURATION Form 1511 (Rev 7/2010)
- OPNAV 4790/171 - CROSSHEAD SLIPPER CLEARANCES (Rev 7/2010)
- OPNAV 4790/172 - ENGINE SHEAVE WEAR DATA (Rev 7/2010)
- OPNAV 4790/173 - FLOLS, MK6, MOD3, ALIGN, STAB, AND POLE (Rev 7/2010)
- OPNAV 4790/174 - HIGH SPEED SPACER WEAR DATA (Rev 7/2010)
- OPNAV 4790/175 - HYDRAULIC FLUID HISTORY REPORT (Rev 7/2010)
- OPNAV 4790/176 - HYDRAULIC PUMP PERFORMANCE DATA (Rev 7/2010)
- OPNAV 4790/177 - IFLOLS MK13 MOD 0 POLE CHECK DATA (Rev 7/2010)

- OPNAV 4790/178 - LAUNCHING VALVE LOW PRESSURE ACTUATION
(Rev 7/2010)
- OPNAV 4790/179 - MAINTENANCE ACTION FORM (MAF) CARD (Rev 7/2010)
- OPNAV 4790/180 - OUTSIDE MAINTENANCE ACTION FORM (MAF) CARD
(Rev 7/2010)
- OPNAV 4790/181 - PROGRESS REPORT SHEET (Rev 7/2010)
- OPNAV 4790/182 - ROTO LAUNCH VALVE DRY CYCLE DATA (Rev 7/2010)
- OPNAV 4790/183 - RRE TRAVERSE CARRIAGE SLIPPER CLEARANCES
(Rev 7/2010)
- OPNAV 4790/184 - SHEAVE DAMPER SLIPPER CLEARANCES (Rev 7/2010)
- OPNAV 4790/185 - SHEAVE WEAR DATA (Rev 7/2010)
- OPNAV 4790/186 - SHUTTLE AND CONNECTOR WEAR DATA (Rev 7/2010)
- OPNAV 4790/187 - WATER BRAKE AND PISTON ASSY DATA (Rev 7/2010)

FORMS (IN ALPHABETICAL ORDER)

- AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT MAINTENANCE ACTION FORM (MAF)
(OMMS NG) (OPNAV 4790/160) (10/2008)
- ALRE QUALITY ASSURANCE INSPECTOR RECOMMENDATION (OPNAV 4790/162)
- ALRE TOOL CONTROL INVENTORY SHEET (OPNAV 4790/163) (Rev 7/2010)
- AUTOMATED WORK REQUEST (AWR) (OPNAV 4790/2R) (Rev 11/73) S/N 0107-LF-
770-3005. Generated in the OMMS/SNAP data base.
- CATAPULT POST-OPERATIONAL DATA (OPNAV 4790/168) (Rev 7/2010)
- CATAPULT PRE-OPERATIONAL DATA (OPNAV 4790/169) (Rev 7/2010)
- CONFIGURATION Form 1511 (OPNAV 4790/170) (Rev 7/2010)
- CROSSHEAD SLIPPER CLEARANCES (OPNAV 4790/171) (Rev 7/2010)
- DANGER, DO NOT OPERATE TAG NAVSEA 9890/8 (Rev 6/01) S/N 0116-LF-115-
4300

ENGINE SHEAVE WEAR DATA (OPNAV 4790/172) (Rev 7/2010)

FLOLS, MK6, MOD3, ALIGN, STAB, AND POLE (OPNAV 4790/173) (Rev 7/2010)

HIGH SPEED SPACER WEAR DATA (OPNAV 4790/174) (Rev 7/2010)

HYDRAULIC FLUID HISTORY REPORT (OPNAV 4790/175) (Rev 7/2010)

HYDRAULIC PUMP PERFORMANCE DATA (OPNAV 4790/176) (Rev 7/2010)

IFLOLS MK13 MOD 0 POLE CHECK DATA (OPNAV 4790/177) (Rev 7/2010)

LAUNCHING VALVE LOW PRESSURE ACTUATION (OPNAV 4790/178) (Rev 7/2010)

MAINTENANCE ACTION FORM (MAF) CARD (OPNAV 4790/179) (Rev 7/2010)

MAINTENANCE REQUIREMENTS CARDS (MRC) (OPNAV 4790/82) (Rev 2/82)

MATERIAL REQUISITION REGISTER (OPNAV 4790/11) (Rev 1/75)

NATOPS TACTICAL CHANGE RECOMMENDATION (OPNAV 3710/6) (Rev 4/90)

NAVSEA/SPAWAR TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (NAVSEA 4160/1) (Rev 7/2003)

OUTSIDE MAINTENANCE ACTION FORM (MAF) CARD (OPNAV 4790/180) (Rev 7/2010)

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

PRODUCT QUALITY DEFICIENCY REPORT EXHIBIT (DD 2332) (Rev 01/99) S/N 0116-LF-983-8900

PROGRESS REPORT SHEET (OPNAV 4790/181) (Rev 7/2010)

REQUIRED READING AND MAINTENANCE INFORMATION RECORD (OPNAV 4790/34) (Rev 7/2010)

ROTO LAUNCH VALVE DRY CYCLE DATA (OPNAV 4790/182) (Rev 7/2010)

RRE TRAVERSE CARRIAGE SLIPPER CLEARANCES (OPNAV 4790/183) (Rev 7/2010)

OPNAVINST 4790.15E
29 Jul 2011

SERVICEABLE MATERIAL (2 PART) (TAG) (DD 1574-1) (Oct 1966)

SHEAVE DAMPER SLIPPER CLEARANCES (OPNAV 4790/184) (Rev 7/2010)

SHEAVE WEAR DATA (OPNAV 4790/185) (Rev 7/2010)

SHIP'S CONFIGURATION CHANGE FORM (CK) (OPNAV 4790/CK) (Rev 5/84)

SHIP'S MAINTENANCE ACTION FORM (2-KILO) (OPNAV 4790/2K) (Rev 6/75)
S/N 0107-LF-047-9011

SHUTTLE AND CONNECTOR WEAR DATA (OPNAV 4790/186) (Rev 7/2010)

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

SM&R CODE CHANGE REQUEST (NAVAIR 4423/1) (Rev 7/79) S/N 0102-LF-
604-4230

TECHNICAL PUBLICATIONS DEFICIENCY REPORT (TPDR) (CAT II) (OPNAV
4790/66) (Rev 2/01)

TRAINING SYLLABUS OPNAV 4790/33 (Rev 3/73) S/N 0107-LF-770-3701

VISUAL INFORMATION DISPLAY SYSTEM/MAINTENANCE ACTION FORM
(VIDS/MAF) (OPNAV 4790/60) (Rev 5/88) S/N 0107-LF-983-7800

WATER BRAKE AND PISTON ASSY DATA (OPNAV 4790/187)

WORK CENTER REGISTER, CONTROL AND PROCESSING COPY
(OPNAV/4790/60) (VIDS/MAF)(Rev 5/88) S/N 0107-LF-002-5900

APPENDIX B
ALRE MALFUNCTION AND CORROSION CODES

ALRE MALFUNCTION CODES

Identifying and reporting correct ALRE malfunction codes is vital to the continuing equipment improvement and engineering analysis programs at NAVAIRWARCENACDIV Lakehurst.

Malfunction Code: 1st DIGIT (When Discovered)

- 0 - No defect; planned maintenance
- 1 - No defect; precautionary maintenance
- 2 - During operations
- 3 - During pre and post operational inspection
- 4 - During planned maintenance
- 5 - During non PMS inspection
- 6 - Removal and replacement directed by higher authority
- 7 - Equipment damaged by malfunction of associated equipment

Malfunction Code: 2nd DIGIT (Extent of Damage)

- 0 - No failure
- 1 - Catastrophic failure (failure damaged other equipment)
- 2 - Serious failure (unit mission degraded until repaired, i.e., C-2 CASREP)
- 3 - Major failure (equipment down until outside assistance repairs)
- 4 - Minor failure (equipment down until repair by ships force personnel)
- 5 - Degraded condition (equipment operable with limitation)

Malfunction Code: 3rd DIGIT (Type of Malfunction)

- 0 - No defect
- 1 - Corrosion
- 2 - Burned and overheated
- 3 - Broken, bent, deformed
- 4 - Out of adjustment
- 5 - Jammed, binding
- 6 - Failed NDI
- 7 - Abnormal operation
- 8 - Falls outside normal acceptable parameters
- 9 - Abnormal wear
- A - Scored, gouged
- B - Long A/G ram travel

- C - Excessive catapult end speed
- D - Electrical and electronic component failure
- E - Leaking

ALRE CORROSION CONTROL CODES

When using OMMS (NG), corrosion control codes shall be annotated in the "Additional ALREMP Data" section of OPNAV 4790/160 and then entered into OMMS. This note also applies to ALRE shore test facilities documenting ALRE maintenance via micro-OMMS.

Specific requirements for documenting ALRE corrosion control data follows:

a. When corrosion is present, and is treated or removed during the course of normal scheduled or unscheduled maintenance, use of ALRE corrosion control codes will be mandatory. However, the third digit of the ALRE malfunction code will reflect the original discrepancy.

b. If corrosion is present and cannot be corrected during the course of normal scheduled or unscheduled maintenance because of time, operational, manpower, or material limitations or constraints, a separate ALRE MAF to defer correction of the corrosion discrepancy will be submitted. Use of corrosion codes on the original MAF will be mandatory.

c. When maintenance is performed specifically to correct a corrosion discrepancy, the third digit of the ALRE malfunction code will be "1" (corrosion). When this code is entered, use of the correct ALRE corrosion control codes will be mandatory.

NOTE

Corrosion prevention and control efforts shall be documented in conjunction with PMS and ALRE corrective maintenance actions. A separate ALRE MAF shall be initiated to document corrosion control that is not accomplished during a specific corrective or PMS maintenance action.

Corrosion Code: 1st DIGIT (Type Corrosion)

- 0 - No Corrosion Present
- 1 - Uniform Attack

Uniform attack is the most common type of corrosion and is characterized by uniform corrosion, or rusting, over an area of a metal surface. Corrosion on steel produces red or brown "rust", while corrosion of aluminum or zinc produces a white powdery corrosion product.

2 - Pitting Corrosion

Pitting corrosion is a type of localized corrosion. Pitting is characterized by the formation of "pits", holes or cavities in the surface of the metal. The pits may be surrounded or covered by corrosion debris, so the actual pits may not be apparent until the debris is removed. Pitting corrosion is especially serious on piping or tubing because it may proceed until the pipe or tube leaks. Pitting corrosion occurs mostly on stainless steel and aluminum parts.

3 - Crevice Corrosion

Crevice corrosion occurs where there is a joint with a tight space or opening - a crevice - formed between at least two surfaces. Crevice corrosion is a localized form of corrosion, and is limited to the joint between the metals. The full extent of crevice corrosion may not be apparent until the parts are disassembled.

4 - Exfoliation (Flaking)

Exfoliation is a type of severe uniform corrosion. The corrosion has proceeded to the point where actual flakes of rust are loosened and can be removed. Exfoliation almost always occurs on steel, but may be found on aluminum.

Corrosion Code: 2nd DIGIT (Corrosion Action Taken)

0 - No Corrosion Control Action Required

1 - Remove corrosion; apply oil, grease, and preservative. No coating is applied other than a film of oil, grease, or a preservative such as "P1," "P2," or AMLGuard.

2 - Remove corrosion; apply temporary coating. A temporary coating is one that is not prescribed in the applicable manual or MRC for correcting the corrosion problem. Temporary coatings are those which are not intended to be a permanent solution, just one which will be adequate until enough time or the proper materials (coating, etc.) are obtained. A temporary coating might be primer or other coating from a spray can.

- 3 - Remove corrosion; apply approved coating.
An approved coating is one that is specified by an MRC or a corrosion control manual for the permanent solution to an identified corrosion problem. An approved coating may be a two-coat epoxy coating applied following careful surface preparation.
- 4 - Remove part for IMA and depot corrosion control.
- 5 - No corrosion control action; deferral submitted.

**APPENDIX C
INSTRUCTIONS FOR COMPLETING OPNAV 4790/160**

Instructions for completing the OPNAV 4790/160. OPNAV 4790/160 serves as an active division equipment historical maintenance record. All equipment inspections and maintenance actions (scheduled/unscheduled and corrective maintenance) are documented on OPNAV 4790/160.

SECTION I INFORMATION									
1. SHIPS UIC	2. W/C	3. JSN	4. APL/AEL	5. EQUIPMENT NOUN NAME	6. WND	7. STAT	8. CAS	9. DFR	10.

1. SHIPS UIC

IDENTIFIES THE UIC OF THE ACTIVITY ORIGINATING THE MAINTENANCE ACTION. AUTOMATICALLY ENTERED IN OMMS. THIS BLOCK IS NOT REQUIRED TO BE FILLED OUT ON AN ALRE MAP UNLESS A HARD COPY WILL LEAVE THE COMMAND.

2. W/C (WORK CENTER)

ENTER THE 4-CHARACTER WORK CENTER CODE OF THE WORK CENTER INITIATING THE MAINTENANCE ACTION. EXAMPLE: VB01.

3. JSN (JOB SEQUENCE NUMBER)

ENTER THE 4-CHARACTER NUMBER ASSIGNED BY MAINTENANCE CONTROL

4. APL/AEL (ALLOWANCE PARTS LIST/ALLOWANCE EQUIPMENT LIST).

ENTER THE APL/AEL OF THE EQUIPMENT BEING REPORTED. THE MASTER INDEX OF APLs/AELs LISTS WHAT APLs/AELs ARE AVAILABLE AND CROSS REFERENCES VARIOUS EQUIPMENT IDENTIFICATION NUMBERS TO AN EXISTING APL/AEL.

5. EQUIPMENT NOUN NAME

ENTER THE EQUIPMENT NOMENCLATURE/DESCRIPTION ON WHICH MAINTENANCE IS BEING REPORTED. THE EQUIPMENT NOMENCLATURE/DESCRIPTION SHOULD BE THE SAME AS THAT IDENTIFIED BY THE EIC AND IS LIMITED TO 16 CHARACTERS.

6. WND (WHEN DISCOVERED)

ENTER THE CODE WHICH IDENTIFIES WHEN THE NEED FOR MAINTENANCE WAS DISCOVERED. THE CODES APPLICABLE TO THIS BLOCK ARE:

1. LIGHTING OFF OR STARTING
2. NORMAL OPERATION
3. DURING OPERABILITY TESTS
4. DURING INSPECTION
5. SHIFTING OPERATIONAL MODES
6. DURING PMS
7. SECURING
8. DURING AEC (ASSESSMENT OF EQUIPMENT CONDITION) PROGRAM
0. NOT APPLICABLE (TO BE USED WHEN REPORTING PRINTING SERVICES,ETC)

7. STAT (STATUS)

ENTER THE CODE WHICH MOST ACCURATELY DESCRIBES THE EFFECT OF THE FAILURE OR MALFUNCTION ON THE OPERATIONAL CAPABILITY OF THE EQUIPMENT OR SYSTEM WHEN THE NEED FOR MAINTENANCE WAS FIRST DISCOVERED. CODES APPLICABLE TO THIS BLOCK ARE:

- 1 = OPERATIONAL
- 2 = NON-OPERATIONAL
- 3 = REDUCED CAPABILITY
- 0 = NOT APPLICABLE (TO BE USED WHEN REPORTING PRINTING SERVICES, ETC)

8. CAS (CAUSE)

ENTER THE CODE BEST DESCRIBING THE CAUSE OF THE FAILURE OR MALFUNCTION WHEN THE NEED FOR MAINTENANCE WAS FIRST DISCOVERED. WHEN MORE THAN ONE CAUSE CONTRIBUTED TO THE FAILURE OR MALFUNCTION, SELECT THE PRIMARY OR OVERRIDING CAUSE. THIS BLOCK PROVIDES ESPECIALLY VALUABLE INFORMATION TO THE EQUIPMENT MANAGER. WITHOUT IT, ONLY THE FACT THAT NOT EXPECTED TO BE A TRAINED ENGINEER AND KNOW ABSOLUTELY THE CAUSE OF FAILURE, THEIR BEST JUDGEMENT IS DESIRED. CODES FOR THIS BLOCK ARE:

- | | | |
|---|--------------------------------------|---|
| 1 | ABNORMAL ENVIRONMENT | EXPOSURE TO CONDITIONS MORE EXTREME THAN THOSE REASONABLY EXPECTED IN THE NORMAL SHIPBOARD ENVIRONMENT. |
| 2 | MANUFACTURER | MATERIAL NOT MANUFACTURED OR ASSEMBLED ACCORDING TO SPECIFICATIONS. (NOTE:IN THESE INSTALLATION DEFECTS CASES, AN ALRE PQDR/HMR/EI SHOULD BE SUBMITTED IN ACCORDANCE WITH OPNAVINST 4790.15E) |
| 3 | LACK OF KNOWLEDGE OR | - FAILURE OR MALFUNCTION OF THE EQUIPMENT DUE TO INSUFFICIENT TRAINING, EXPERIENCE, OR SKILL |
| 4 | COMMUNICATION PROBLEM | PHYSICAL COORDINATION OF THE OPERATOR, MAINTAINER, OR OTHER PERSONNEL. |
| 5 | INADEQUATE INSTRUCTION/
PROCEDURE | A BREAKDOWN IN THE PASSING, RECEIVING, OR UNDERSTANDING OF INFORMATION |
| 6 | INADEQUATE DESIGN | THE INSTRUCTION OR PROCEDURAL GUIDE HAS OMISSIONS, ERRORS, AMBIGUITIES, OR OTHER DEFICIENCIES.
(NOTE: IN THESE CASES AN ALRE TPDR SHOULD BE SUBMITTED IN ACCORDANCE WITH OPNAVINST 4790.15E) |
| | | MATERIAL WHICH WAS MANUFACTURED AND INSTALLED IN ACCORDANCE WITH SPECIFICATIONS FAILED |
| | | PREMATURELY DURING NORMAL USAGE UNDER NORMAL ENVIRONMENTAL CONDITIONS. (NOTE:IN THESE CASES,
AN ALRE DISCREPANCY REPORT (ALRE PQDR/HMR/EI) SHOULD BE SUBMITTED IN ACCORDANCE WITH OPNAVINST
4790.15E) |
| 7 | NORMAL WEAR AND TEAR | MATERIAL REQUIRES REPLACEMENT AFTER LONG SERVICE AND/OR AS A RESULT OF PMS. |
| 0 | OTHER OR NO MALFUNCTION | EXPLAIN IN REMARKS. |

NOTE: EXAMPLES OF THE ABOVE CODES MAY BE FOUND IN OPNAVINST 4790.4E/NAVSEA 4790.8B.

9. DFR (DEFERRAL REASON).

ENTER THE DEFERRAL REASON CODE WHICH BEST DESCRIBES THE REASON MAINTENANCE CANNOT BE DONE AT THE TIME OF DEFERRAL. THIS BLOCK MUST ALWAYS BE FILLED IN WHEN DOCUMENTING A DEFERRED MAINTENANCE ACTION. THE CODES FOR THIS BLOCK ARE:

- | CODE | DEFERRAL REASON | WORK FOR WHICH CODE IS USED |
|------|--|--|
| 1 | DUE TO SHIP'S FORCE WORK
BACKLOG/OPERATIONAL PRIORITY | - WITHIN CAPABILITY OF SHIP TO ACCOMPLISH BUT UNABLE TO DO SO BECAUSE OF SHIP'S
OVERALL WORKLOAD OR OPERATIONAL. |
| 2 | LACK OF MATERIAL | CONDITIONS WITHIN CAPABILITY OF SHIP'S FORCE BUT UNABLE TO ACCOMPLISH DUE TO LACK OF
PARTS, OR LACK OF TOOLS, TEST EQUIPMENT, ETC., SPECIFIED FOR REPAIR BY THE EQUIPMENT
TECHNICAL MANUAL OR DRAWING. |
| 3 | NO FORMAL TRAINING ON | SHOULD BE WITHIN CAPABILITY OF SHIP'S FORCE BUT PERSONNEL RESPONSIBLE HAVE THIS
EQUIPMENT NOT RECEIVED FORMAL TRAINING IN THE MAINTENANCE OF THE EQUIPMENT. |
| 4 | FORMAL TRAINING INADEQUATE | SHOULD BE WITHIN CAPABILITY OF SHIP'S FORCE, AND PERSONNEL RESPONSIBLE HAVE FOR THIS
EQUIPMENT RECEIVED FORMAL TRAINING, BUT THE TRAINING IS CONSIDERED INADEQUATE. |
| 5 | INADEQUATE SCHOOL | SHOULD BE WITHIN CAPABILITY OF SHIP'S FORCE, AND PERSONNEL RESPONSIBLE HAVE
PRACTICAL TRAINING RECEIVED FORMAL TRAINING, BUT PRACTICAL MAINTENANCE ASPECTS OF
TRAINING ARE CONSIDERED INADEQUATE. |

- 6 LACK OF FACILITIES THE SHIP IS NOT ALLOWED SHOP EQUIPMENT OR OTHER FACILITIES TO ACCOMPLISH; CAPABILITIES WORK IS OTHERWISE BEYOND EXPECTED CAPABILITY OF SHIP'S FORCE ACCOMPLISH.
- 7 NOT AUTHORIZED FOR SHIPS DIRECTIVES OF HIGHER AUTHORITY SPECIFY THAT THE JOB WILL BE DONE BY OTHER THAN SHIP'S FORCE.
- 8 FOR SHIP'S FORCE OVERHAUL FOR JOBS TO BE DONE BY SHIP'S FORCE DURING FORTHCOMING OVERHAUL OR AVAILABILITY.
- 9 LACK OF TECHNICAL SHOULD BE WITHIN CAPABILITY OF SHIP TO ACCOMPLISH, BUT UNABLE TO DO SO BECAUSE DOCUMENTATION TECHNICAL MANUALS, BLUEPRINTS, DRAWINGS, ETC., NOT AVAILABLE
- 0 OTHER - OR - NOT APPLICABLE - IF "OTHER", DESCRIBE IN BLOCK 35-REMARKS

10. THIS BLOCK IS RESERVED FOR TYCOM DIRECTED APPLICATIONS

11.	12.	13. IDENT/EQUIP SERIAL NO.	14. EIC	15. SAFETY HAZARD	16. LOCATION	17. WND DATE				
18. ALTERATIONS (SERVICE CHANGE-SHIP ALT)				19. "J"	20. INSURV NUMBER	21. SUFFIX	22. U	23. S	24. P/F	

BLOCKS 11 and 12: THESE BLOCKS ARE RESERVED FOR TYCOM DIRECTED APPLICATIONS.

13. IDENT/EQUIPMENT SERIAL NUMBER.

ENTER THE IDENTIFICATION OR SERIAL NUMBER OF THE EQUIPMENT OR SYSTEM ON WHICH MAINTENANCE IS BEING PERFORMED OR DEFERRED. IF THERE IS NOT AN IDENTIFICATION OR SERIAL NUMBER, ENTER "N/A".

14. EIC (EQUIPMENT IDENTIFICATION CODE).

ENTER THE EQUIPMENT IDENTIFICATION CODE OF THE SYSTEM, SUBSYSTEM OR EQUIPMENT FOR WHICH THE MAINTENANCE IS BEING REPORTED.

NOTE: BE AS SPECIFIC AS POSSIBLE. DO NOT ENTER A SYSTEM OR GENERAL ARRANGEMENT DRAWING EIC FOR AN EQUIPMENT THAT HAS ITS OWN SPECIFIC EIC.

15. SAFETY HAZARD.

ENTER THE APPLICABLE SAFETY CODE WHEN, IN THE MAINTENANCE PERSON'S OPINION, THE DOCUMENTED MAINTENANCE ACTION DESCRIBES A PROBLEM OR CONDITION WHICH HAS CAUSED, OR HAS THE POTENTIAL TO CAUSE, INJURY TO PERSONNEL AND/OR DAMAGE TO MATERIAL. IF THE DOCUMENTED MAINTENANCE ACTION IS NOT SAFETY RELATED, ENTER "0".

- 1. CRITICAL SAFETY OR HEALTH DEFICIENCY - CORRECT IMMEDIATELY.
- 2. SERIOUS SAFETY OR HEALTH DEFICIENCY - SUSPENSION OF EQUIPMENT/SYSTEM/SPACE USE IS REQUIRED.
- 3. MODERATE SAFETY OR HEALTH DEFICIENCY - WAIVER OF EQUIPMENT/SYSTEM/SPACE USE IS GRANTED PENDING CORRECTION OF THE ITEM.
- 4. MINOR SAFETY OR HEALTH DEFICIENCY.
- 5. NEGLIGIBLE SAFETY OR HEALTH DEFICIENCY.
- 0. MAINTENANCE ACTION IS NOT SAFETY RELATED.

NOTE: SEE OPNAVINST 4790.4E/NAVSEA 4790.8B FOR ADDITIONAL EXPLANATION.

16. LOCATION.

ENTER THE LOCATION OF THE COMPONENT IDENTIFIED IN BLOCK 13 BY USING ONE OF THE METHODS LISTED BELOW:

- 1. COMPARTMENT: ENTER THE COMPARTMENT NUMBER IDENTIFIED ON THE COMPARTMENT CHECK-OFF LIST.
- 2. DECK-FRAME-SIDE: ENTER THE DECK, FRAME AND SIDE NOTATION THAT BEST DESCRIBES THE LOCATION OF THE COMPONENT.
- 3. IF NEITHER COMPARTMENT NOR THE DECK-FRAME-SIDE NOTATION IS APPROPRIATE, ENTER THE NAME OF THE LOCATION (E.G., FANTAIL, FLIGHT DECK, ETC.).

NOTE: FORMAL DEFINITIONS OF SHIPBOARD LOCATIONS CAN BE FOUND IN THE GENERAL SPECIFICATION FOR SHIPS OF THE U.S. NAVY (NAVSEA PUB-AA-SPN-010/GEN-SPEC) (NOTAL).

17. WND DATE (WHEN DISCOVERED DATE).

ENTER THE JULIAN DATE WHEN THE EQUIPMENT OR SYSTEM FAILURE OR MALFUNCTION WAS DISCOVERED. A JULIAN DATE IS A FOUR CHARACTER ENTRY AND IS COMPOSED OF THE LAST DIGIT OF THE CALENDAR YEAR FOLLOWED BY THE NUMERICAL DAY OF THE YEAR; I.E., 10 JANUARY 1992 IS "2010".

NOTE: USE THE ACTUAL DATE THE DISCREPANCY/MALFUNCTION WAS DISCOVERED. IF THE OMMS COMPUTER IS DOWN WHEN DISCREPANCY IS ACTUALLY DISCOVERED, THE OPERATOR MAY HAVE TO MANUALLY CHANGE THIS DATE TO REFLECT THE ACTUAL "WHEN DISCOVERED DATE".

18. ALTERATIONS (SERVICE CHANGE - SHIPALT).

FOR A SERVICE CHANGE: ENTER THE SERVICE CHANGE NUMBER.

FOR A SHIP ALT: ENTER THE ALTERATION IDENTIFICATION EXACTLY AS IT APPEARS ON THE SHIPALT RECORD.

NOTE: OPNAVINST 4790.4E/NAVSEA 4790.8B CONTAINS ADDITIONAL INFORMATION.

BLOCKS 19 THROUGH 24: FOR INSURV USE - NO ENTRIES REQUIRED.

SECTION II DEFERRAL ACTION	25. S/F MHRS EXP	26. DEFER DATE	27. S/F MHRS REM	28. DEADLINE DATE

25. S/F MHRS EXP (SHIP'S FORCE MANHOURS EXPENDED).

ENTER THE TOTAL MANHOURS (TO THE NEAREST WHOLE HOUR) EXPENDED BY PERSONNEL OF ALL WORK CENTERS INVOLVED IN THE MAINTENANCE ACTION UP TO THE TIME OF DEFERRAL (INCLUDE DOCUMENTATION TIME WHICH SHOULD NOT EXCEED 1 HOUR). IF TWO MEN SPEND 1.3 HOURS EACH IN DISASSEMBLING A COMPONENT, AND THEN DECIDE THAT OUTSIDE ASSISTANCE IS REQUIRED, THE ENTRY WOULD BE "0003" (2 TIMES 1.3 - 2.6, ROUNDED OFF TO 3.0 HOURS).

NOTE: WHEN ENTERING DATE INTO OMMS TO OBTAIN A JSN, THIS BLOCK MUST CONTAIN A MINIMUM VALUE OF "1".

26. DEFER DATE (DEFERRAL DATE).

ENTER THE JULIAN DATE WHEN THE MAINTENANCE ACTION WAS DEFERRED.

27. S/F MHRS REM (SHIP'S FORCE MANHOURS REMAINING).

ENTER THE ESTIMATED NUMBER OF SHIP'S FORCE MANHOURS REMAINING TO COMPLETE THE MAINTENANCE ACTION. ROUND OFF TO THE NEAREST WHOLE HOUR.

28. DEADLINE DATE.

THIS IS AN OPTIONAL ENTRY. THE ORIGINATOR OF THE DEFERRED ACTION MAY ENTER THE LATEST POSSIBLE JULIAN DATE THAT OUTSIDE ASSISTANCE AND SHIP'S FORCE WORK MUST BE COMPLETED. THIS ENTRY MAY BE USED TO INDICATE A COMPLETION DATE REQUIRED TO MEET AN OPERATIONAL COMMITMENT, OR TO ALLOW ANOTHER JOB TO START.

SECTION III COMPLETED ACTION		29. ACT TKN		30. S/F MHRS		31. COMPLETION DATE		32. ACT MAINT TIME		33. TI		34. METER READING	
	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	TIME
START													
STOP													

29. ACTION TKN (ACTION TAKEN).

ENTER THE CODE WHICH BEST DESCRIBES THE ACTION TAKEN TO COMPLETE THE MAINTENANCE.

1. MAINTENANCE COMPLETED; PARTS DRAWN FROM SUPPLY.
2. MAINTENANCE COMPLETED; REQUIRED PARTS NOT DRAWN FROM SUPPLY (LOCAL MANUFACTURE, PRE-EXPENDED BINS, ETC.).
3. MAINTENANCE COMPLETED, NO PARTS REQUIRED.
4. CANCELLED.
0. NOT APPLICABLE; DESCRIBE IN BLOCK 35 - REMARKS.

30. S/F MHRS (SHIP'S FORCE MANHOURS EXPENDED).

FOR A MAINTENANCE ACTION: ENTER THE TOTAL MANHOURS (TO THE NEAREST WHOLE HOUR) THAT SHIP'S FORCE EXPENDED DOING THE MAINTENANCE. TOTAL MAINTENANCE TIME, INCLUDING MAINTENANCE SUPPORT MANHOURS, MUST BE DOCUMENTED IN THIS BLOCK.

FOR A CONFIGURATION CHANGE (CK): ENTER THE TOTAL NUMBER OF MANHOURS (TO THE NEAREST WHOLE HOUR) USED BY SHIP'S FORCE TO COMPLETE AND DOCUMENT THE MAINTENANCE ACTION (DOCUMENTATION TIME SHOULD NOT EXCEED 1 HOUR).

31. COMPLETION DATE.

ENTER THE JULIAN DATE THE MAINTENANCE WAS COMPLETED.

32. ACT MAINT TIME (ACTIVE MAINTENANCE TIME).

THIS BLOCK IS NOT NORMALLY USED BY V-2 DIVISION PERSONNEL (SEE OPNAVINST 4790.4E /NAVSEA 4790.8B(NOTAL) FOR ADDITIONAL INFORMATION.)

33. TI (TROUBLE ISOLATION).

THIS BLOCK IS NOT NORMALLY USED BY V-2 DIVISION PERSONNEL. (SEE OPNAVINST 4790.4E/NAVSEA 4790.8B (NOTAL) FOR ADDITIONAL INFORMATION.)

34. METER READING.

THIS BLOCK IS NOT NORMALLY USED BY V-2 DIVISION PERSONNEL. (SEE OPNAVINST 4790.4E/NAVSEA 4790.8B (NOTAL) FOR ADDITIONAL INFORMATION.)

NOTE: ENTER HIT/SHOT/VLA INFORMATION IN THE SPACE PROVIDED IN THE "ADDITIONAL ALREMP INFORMATION" SECTION.

START/STOP TIMES.

ENTER JULIAN DATE AND START/STOP TIMES EACH TIME THE JOB GOES "IN WORK", AWM, OR AWP, AS APPROPRIATE.

NOTE: THE JULIAN DATE AND START/STOP TIMES ARE NOT ENTERED INTO OMMS. THIS INFORMATION WILL BE ANNOTATED ON THE HARD COPY ALRE MAF TO ASSIST IN TRACKING JOB PROGRESS. MANHOURS WILL BE TRACKED SEPARATELY BY THE WORK CENTER SUPERVISOR. TOTAL MANHOURS (TO THE NEAREST WHOLE HOUR) WILL BE ANNOTATED IN BLOCK 30.

44. IUC (SCREENING).

THIS BLOCK IS NOT NORMALLY USED BY V-2 DIVISION PERSONNEL. (SEE OPNAVINST 4790.4E/NAVSEA 4790.8B (NOTAL) FOR ADDITIONAL INFORMATION.)

45. TYCOM (SCREENING). THIS BLOCK IS NOT NORMALLY USED BY V-2 DIVISION PERSONNEL. (SEE OPNAVINST 4790.4E/NAVSEA 4790.8B (NOTAL) FOR ADDITIONAL INFORMATION.)

ADDITIONAL ALREMP INFORMATION											
CONFIG UPDATE?		P.C.O.	ALRE MALF CODES			CORROSION CODES		SAFETY TAG INFORMATION		RED TAG SER NO	SHOT/HIT/VLA
Y	N		WND	EXT DAMAGE	TYPE MALF	TYPE	ACT TKN	SAFETY TAGS REQUIRED?			
E	O							YES	NO	IF SO HOW MANY?	
<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>		

CONFIG UPDATE?

MANDATORY FOR HARDCOPY. CHECK THE YES OR NO BLOCK TO INDICATE WHETHER OR NOT AN OPNAV 4790/CK NEEDS TO BE SUBMITTED; I.E., YES WOULD BE CHECKED WHEN REPORTING ACCOMPLISHMENT OF A SERVICE CHANGE, SHIP ALTERATION OR CONFIGURATION CHANGE.

NOTE: IF THIS BLOCK IS CHECKED "YES" ON THE ALRE MAF, THE REQUIRED 4790/CK SHOULD BE ATTACHED TO THE ALRE MAF.

P/C/O BLOCK.

MANDATORY FOR HARDCOPY AND OMMs. ENTER THE CORRECT CODE:

P: PREVENTATIVE - THAT MAINTENANCE ACCOMPLISHED USING AN MRC CARD, OTHER THAN "C" CARDS, AS GUIDANCE TO PERFORM THE MAINTENANCE. EXAMPLES: PRE-OP INSPECTIONS, POST-OP INSPECTIONS, WEEKLY, MONTHLY, QUARTERLY, SEMI-ANNUAL, SITUATIONAL REQUIREMENTS, LAY-UP MAINTENANCE (AS LISTED ON MIP PAGES), MIP SCHEDULING AIDS. ANY MAINTENANCE ACCOMPLISHED USING TECHNICAL MANUALS THAT IS DIRECTED BY THE MIP PAGE, SHALL BE CONSTRUED AS PREVENTATIVE MAINTENANCE.
C: CORRECTIVE - THAT MAINTENANCE ACCOMPLISHED USING THE TECHNICAL MANUAL OR "C" CARDS AS GUIDANCE TO PERFORM THE MAINTENANCE. EXAMPLES: REPACK OF ANCHOR DAMPERS IAW NAVALR 51-5BCA-3.1.
O: OTHER - THOSE ACTIONS OTHER THAN PREVENTATIVE OR CORRECTIVE. EXAMPLES: INSTALLING A SERVICE CHANGE, COMPLYING WITH A SERVICE BULLETIN, COMPLETING A REPAIR PROCEDURE, COMPLETING AN ALTERATION, COMPLYING WITH A NAVAL MESSAGE, OR ANY PRESERVATION WORK ON ALRE EQUIPMENT.

ALRE MALF CODE - WHEN DISCOVERED.

MANDATORY FOR HARDCOPY AND OMMs. ENTER THE APPROPRIATE CODE BELOW TO INDICATE WHEN THE EQUIPMENT MALFUNCTIONED.

- 0 - NO DEFECT - PLANNED MAINTENANCE (PMS).
- 1 - NO DEFECT - PRECAUTIONARY MAINTENANCE.
- 2 - DISCOVERED DURING OPERATIONS.
- 3 - DISCOVERED DURING PRE/POST OPERATIONAL INSPECTION.
- 4 - DISCOVERED DURING PLANNED MAINTENANCE.
- 5 - DISCOVERED DURING NON-PMS INSPECTION.
- 6 - REMOVAL/REPLACEMENT DIRECTED BY HIGHER AUTHORITY.
- 7 - EQUIPMENT DAMAGED BY MALFUNCTION OF ASSOCIATED EQUIPMENT.

ALRE MALF CODE - EXTENT DAMAGE.

MANDATORY FOR HARDCOPY AND OMMs. ENTER THE MOST APPROPRIATE CODE BELOW TO INDICATE THE EXTENT OF DAMAGE SUFFERED BY THE MALFUNCTIONING EQUIPMENT.

- 0 - NO FAILURE.
- 1 - CATASTROPHIC FAILURE (FAILURE DAMAGED OTHER EQUIPMENT).
- 2 - SERIOUS FAILURE (UNIT MISSION DEGRADED UNTIL REPAIRED, I.E., C-2 CASREP).
- 3 - MAJOR FAILURE (EQUIPMENT DOWN UNTIL OUTSIDE ASSISTANCE REPAIRS).
- 4 - MINOR FAILURE (EQUIPMENT DOWN UNTIL REPAIR BY SHIP'S FORCE PERSONNEL).
- 5 - DEGRADED CONDITION (EQUIPMENT OPERABLE WITH LIMITATIONS).

ALRE MALF CODE - TYPE MALF.

MANDATORY FOR HARDCOPY AND OMMs. ENTER THE MOST APPROPRIATE CODE BELOW TO INDICATE THE TYPE OF EQUIPMENT MALFUNCTION.

- 0 - NO DEFECT.
- 1 - CORROSION.
- 2 - BURNED/OVERHEATED.
- 3 - BROKEN, BENT, DEFORMED.
- 4 - OUT OF ADJUSTMENT.
- 5 - JAMMED, BINDING.
- 6 - FAILED NDI.
- 7 - ABNORMAL OPERATION.
- 8 - FALLS OUTSIDE NORMAL ACCEPTABLE PARAMETERS.
- 9 - ABNORMAL WEAR.
- A - SCORED, GOUGED.
- B - ABNORMAL A/G RAM TRAVEL.
- C - ABNORMAL CATAPULT ENDSPEED.
- D - ELECTRICAL/ELECTRONIC COMPONENT FAILURE.
- E - LEAKING.

CORROSION CODE - TYPE.

MANDATORY FOR HARDCOPY AND OMMs. ENTER THE MOST APPROPRIATE CODE BELOW TO INDICATE THE TYPE OF CORROSION PRESENT. SEE APPENDIX C FOR AMPLIFYING INFORMATION.

- 0 - NO CORROSION.
- 1 - UNIFORM ATTACK.
- 2 - PITTING CORROSION.
- 3 - CREVICE CORROSION.
- 4 - EXFOLIATION (FLAKING).

CORROSION CODE - ACT. TKN. (ACTION TAKEN).

MANDATORY FOR HARDCOPY AND OMMs. ENTER THE MOST APPROPRIATE CODE BELOW TO INDICATE THE CORROSION CONTROL ACTION TAKEN. SEE APPENDIX C FOR AMPLIFYING INFORMATION.

- 0 - NO ACTION REQUIRED.
- 1 - REMOVE CORROSION; APPLY OIL, GREASE, PRESERVATIVE.
- 2 - REMOVE CORROSION; APPLY TEMPORARY COATING.
- 3 - REMOVE CORROSION; APPLY APPROVED COATING.
- 4 - REMOVE PART FOR IMA/DEPOT CORROSION CONTROL.
- 5 - NO CORROSION CONTROL ACTION TAKEN, DEFERRAL SUBMITTED.

SAFETY TAGS REQUIRED?

MANDATORY ENTRY FOR HARDCOPY. OPTIONAL ENTRY IN OMMs. ENTER "X" IN THE APPROPRIATE BLOCK TO INDICATE WHETHER OR NOT THE MAINTENANCE BEING PERFORMED REQUIRES A SAFETY TAG.

IF YES, HOW MANY? - **MANDATORY ENTRY FOR HARDCOPY. OPTIONAL ENTRY IN OMMs.** ENTER THE TOTAL NUMBER OF SAFETY TAGS REQUIRED (UP TO A TOTAL OF 99).

RED TAG SER. NO.

MANDATORY ENTRY FOR HARDCOPY. OPTIONAL ENTRY IN OMMs. ENTER THE FIRST RED TAG SERIAL NUMBER OF THE TAG SEQUENCE FOR THIS PARTICULAR MAINTENANCE TASK. IF MORE THAN ONE SEQUENCE OF TAGS ARE REQUIRED, AND THEY ARE NOT IN SEQUENTIAL ORDER, ANNOTATE THE FIRST SEQUENCE IN THIS BLOCK, AND ALL OTHER SEQUENCES IN THE BLOCK 35 NARRATIVE. THE TOTAL NUMBER OF RED TAGS IN ALL SEQUENCES MUST BE ANNOTATED IN THE "HOW MANY" BLOCK.

SHOT/HIT/VLA

MANDATORY FOR HARDCOPY AND OMMs. ENTER THE APPROPRIATE NUMBER AS DESCRIBED BELOW:

- FOR **CATAPULT ARRESTING GEAR FRESNEL LENS** AND ASSOCIATED SUBSYSTEM COMPONENTS, ENTER THE NUMBER OF CATAPULT LAUNCHES, ARRESTED LANDINGS, OR THE FLOLS METER READING AS APPROPRIATE.

- FOR **JET BLAST DEFLECTORS** (JBD), ENTER THE TOTAL LAUNCHES FOR THE RESPECTIVE CATAPULT.

- FOR **HOLDBACKS**, ENTER THE TOTAL CATAPULT LAUNCHES RECORDED FOR THAT INDIVIDUAL HOLDBACK.

- FOR VLA EQUIPMENT, IF THERE IS A SPECIFIC METER READING, ENTER THAT METER READING.
- FOR HEADS-UP DISPLAY (HUD), ENTER THE METER READING FROM AUXILIARY ELECTRONICS BOX UNIT TWO.
- FOR OTHER EQUIPMENT WITHOUT A SPECIFIC METER READING, ENTER MONTHS SINCE NEW/OVERHAUL

COMPONENT PART NUMBER		MIP CONTROL NO (MIP #)		MRC CODE
Q A	1st QA INSP BY (PRINT/SIGN)	2nd QA INSP BY (PRINT/SIGN)	FINAL QA INSP BY (PRINT/SIGN)	V-2 MAINT OFFICER (PRINT/SIGN)

COMPONENT PART NUMBER

MANDATORY ENTRY FOR HARDCOPY AND OMMS.

ENTER THE PART NUMBER OF THE COMPONENT BEING WORKED ON. PART NUMBERS OF REPLACEMENT PIECE COMPONENTS FROM SUPPLY/PRE-EX BINS/ETC. SHOULD BE ANNOTATED IN THE MATERIAL CONTROL SECTION.

MIP CONTROL NO.

MANDATORY HARDCOPY ENTRY. OPTIONAL ENTRY IN OMMS.

A. PREVENTATIVE MAINTENANCE (PMS): THE MIP CONTROL NUMBER IS FOUND AT THE BOTTOM RIGHT CORNER OF THE MAINTENANCE INDEX PAGE. IT IS A FOUR-SEGMENT CODE. THE FIRST SEGMENT IDENTIFIES THE EQUIPMENT GROUP AND MAY CONTAIN FROM ONE TO THREE CHARACTERS FOLLOWED BY A DASH (-). THE SECOND SEGMENT IDENTIFIES A SPECIFIC SUBGROUP/COMPONENT NUMBER WITHIN AN EQUIPMENT GROUP AND MAY CONTAIN FROM ONE TO THREE CHARACTERS FOLLOWED BY A SLASH (/). THE THIRD SEGMENT IDENTIFIES A DISTINCT VERSION WITHIN THAT EQUIPMENT SUBGROUP AND MAY CONTAIN FROM ONE TO THREE CHARACTERS FOLLOWED BY A DASH (-). THE FOURTH SEGMENT CONTAINS TWO CHARACTERS WHICH IDENTIFY THE MONTH AND YEAR THE MIP WAS PREPARED. PRELIMINARY MIPS WITHOUT MRCS ARE NUMBERED SEQUENTIALLY STARTING WITH "01" IN THE FOURTH SEGMENT TO IDENTIFY THE REVISION.

B. CORRECTIVE MAINTENANCE: IF A CORRECTIVE MAINTENANCE CARD WAS USED, ENTER THE CORRECTIVE MAINTENANCE MIP IN THIS BLOCK.

MRC CODE.

MANDATORY HARDCOPY ENTRY. OPTIONAL ENTRY IN OMMS.

A. PREVENTATIVE MAINTENANCE (PMS): THE TWO-PART MAINTENANCE REQUIREMENT CARD (MRC) CODE CONSISTS OF THE MIP SERIES CODE AND THE MRC PERIODICITY CODE. IT IS FOUND IN THE UPPER RIGHT HAND CORNER OF THE MRC CARD. MRCS APPLICABLE TO MORE THAN ONE MIP SERIES WILL HAVE EACH MIP SERIES LISTED IN THIS BLOCK. ENTER ONLY THE CODE APPROPRIATE TO THE PARTICULAR EQUIPMENT ON WHICH MAINTENANCE IS BEING PERFORMED. AUTHORIZED MAINTENANCE REQUIREMENT PERIODICITIES ARE FOUND IN OPNAVINST 4790.4E/NAVSEA 4790.8B, SHIP'S MAINTENANCE AND MATERIAL MANAGEMENT (3-M) MANUAL.

B. CORRECTIVE MAINTENANCE: IF A CORRECTIVE MAINTENANCE CARD WAS USED, ENTER THE CORRECTIVE MAINTENANCE CARD NUMBER IN THIS BLOCK.

1ST QA INSP.

MANDATORY ENTRY FOR HARDCOPY AND OMMS (WHEN APPLICABLE).

PRINT AND SIGN NAME OF THE FIRST INSPECTOR FOR MAINTENANCE IF MORE THAN ONE QUALITY ASSURANCE SIGNATURE (QAI/CDQAI/CDI) IS REQUIRED. **DO NOT USE THIS BLOCK IF ONLY ONE QAI OR CDI SIGNATURE IS REQUIRED.**

2ND QA INSP.

MANDATORY ENTRY FOR HARDCOPY AND OMMS (WHEN APPLICABLE).

PRINT AND SIGN NAME OF SECOND QA INSPECTOR (QAI/CDQAI/CDI) WHEN MORE THAN TWO QA SIGNATURES ARE REQUIRED. **DO NOT USE THIS BLOCK IF ONLY ONE OR TWO QA SIGNATURES ARE REQUIRED.**

FINAL QA INSP.

MANDATORY ENTRY FOR HARDCOPY AND OMMS.

PRINT AND SIGN NAME OF INSPECTOR FOR A MAINTENANCE ACTION THAT REQUIRES ONLY ONE QA SIGNATURE (QAI/CDQAI/CDI). ENTER THE RATE AND NAME OF THAT INSPECTOR IN THIS BLOCK. FOR A MAINTENANCE ACTION THAT REQUIRES MORE THAN ONE QA SIGNATURE (QAI/CDQAI/CDI), ENTER THE RATE AND NAME OF THE FINAL INSPECTOR AS APPROPRIATE. THIS WILL NORMALLY BE THE FINAL FUNCTIONAL TEST QAI OR CDI.

NOTE: IF ONLY ONE QAI/CDQAI/CDI SIGNATURE IS REQUIRED, ENTER THAT INSPECTOR'S NAME AND SIGNATURE IN THE FINAL QA INSP. BLOCK.

V-2 MAINT OFF.

MANDATORY ENTRY FOR HARDCOPY AND OMMS.

V-2 ALRE MAINTENANCE OFFICER'S RANK, PRINTED NAME AND SIGNATURE.

MATERIAL CONTROL		VIDS/MAF JCN:		VIDS/MAF JCN:	
QTY	NOMENCLATURE	PART NUMBER	CONTRACT NUMBER	ALRE TOOL CONTROL	
				ARE ALL TOOLS ACCOUNTED FOR?	
				YES <input type="checkbox"/>	NO <input type="checkbox"/>
				W/C TOOL PO (PRINT/SIGN)	
				YES <input type="checkbox"/>	NO <input type="checkbox"/>
				CENTRAL TOOL PO (PRINT/SIGN)	
				NOTE: A LOST/MISSING/ BROKEN TOOL REPORT MUST ACCOMPANY THIS MAF IF THE "NO" BOX IS CHECKED	
				PAGE	OF

VIDS/MAF JCN.

REFER TO PARAGRAPH 9.9 IN 4790.15D CHG1.

QTY (QUANTITY)

ENTER THE TOTAL NUMBER OF ITEMS OF THIS SPECIFIC NOMENCLATURE, PART NUMBER AND CONTRACT NUMBER BEING REQUISITIONED.

NOTE: WHEN PARTS ARE ORDERED, THE REQUISITION NUMBER SHALL BE ANNOTATED ON THE CORRESPONDING OPNAV 4790/180.

NOMENCLATURE.

ENTER THE NOMENCLATURE OF THE ITEM BEING REQUISITIONED.

PART NUMBER.

ENTER THE PART NUMBER OF THE ITEM BEING REQUISITIONED.

CONTRACT NUMBER.

ENTER THE CONTRACT NUMBER OF THE REQUISITIONED ITEM. **ALRE MAINTENANCE OFFICER/MAINTENANCE CHIEF SHALL INITIAL CONTRACT NUMBER BLOCK OF ALRE MAF FOR ALL UNKNOWN CONTRACT NUMBER ENTRIES.**

ALRE TOOL CONTROL.

THE WORK CENTER SUPERVISOR AND CENTRAL TOOL PETTY OFFICERS WILL "X" THE APPROPRIATE BOX TO INDICATE THAT ALL TOOLS CHECKED OUT FOR THIS MAINTENANCE ACTION HAVE BEEN (OR WERE NOT) ACCOUNTED FOR. WORK CENTER TOOL P.O.'S PRINTED RATE/NAME AND SIGNATURE INDICATE ALL WORK CENTER TOOLS ARE/ARE NOT ACCOUNTED FOR. CENTRAL TOOL P.O.'S PRINTED RATE/NAME AND SIGNATURE INDICATES HE/SHE HAS REVIEWED THE TOOL CHIT AND ATTACHED IT TO THIS MAF. (A LOST/MISSING/BROKEN TOOL REPORT MUST ACCOMPANY THE MAF IF A "NO" BLOCK IS CHECKED.)

PAGE _ OF _ .

ENTER THE APPROPRIATE NUMBER IN EACH BLOCK. FOR EXAMPLE: "PAGE 1 OF 1" WOULD INDICATE THAT THERE WERE NO CONTINUATION SHEETS USED. THE ENTRY "PAGE 2 OF 3" WOULD IDENTIFY THE PAGE AS THE SECOND OF THREE PAGES.

NOTE: CONTINUATION PAGES ARE NORMALLY USED TO ADD ADDITIONAL REMARKS IN BLOCK 35 REMARKS/DESCRIPTION AND TO ANNOTATE ADDITIONAL PARTS IN THE MATERIAL CONTROL SECTION. OMMS IS LIMITED TO FOUR CONTINUATION PAGES WHEN ADDING ADDITIONAL REMARKS/DESCRIPTION (BLOCK 35) COMMENTS.

OPNAVINST 4790.15E
29 Jul 2011

APPENDIX D

ALRE

TOOL CONTROL

MANUAL

TABLE OF CONTENTS		
<u>Section</u>	<u>Title</u>	<u>Page</u>
I	Introduction	D-1
	1-1 Purpose	D-1
	1-2 Scope	D-1
	1-3 Concept	D-1
	1-4 Use of this Appendix	D-1
II	IMPLEMENTATION AND OPERATING INSTRUCTIONS	D-3
	2-1 Establishing	D-3
	2-2 Operation	D-5
III	MATERIALS	D-8
	3-1 Introduction	D-8
IV	CONTAINER DESCRIPTION AND SPECIAL USES	D-10
	4-1 Container Types and Utilization	D-10
	4-2 Container and Tool Marking	D-11
V	CONTAINER HARDWARE	D-17
	5-1 Introduction	D-17
	5-2 Hardware Description and Fabrication	D-17
	5-3 Holder Description and Uses	D-17
VI	SPECIAL TOOLS LISTING	D-45
	6-1 Introduction	D-45

LIST OF FIGURES		
<u>Figure</u>	<u>Title</u>	<u>Page</u>
D-1	Sample ALRE Tool Control Inventory Sheet	D-7
D-2	Tool Pouch Opened (Typical)	D-12
D-3	Tool Pouch Closed (Typical)	D-13
D-4	Tool Box, Portable Briefcase, Style "A"	D-14
D-5	Tool Box, Portable Briefcase, Three Panel, Small "B" and Large "C"	D-15
D-6	Tool Cabinet, Repair "F" and "G"	D-16
D-7	Tool Retainer	D-18
D-8	Ninety Degree Support	D-18
D-9	Grip Bracket	D-18
D-10	Bracket Type Wire Roll Mount	D-18
D-11	Vertical Wire Roll Mount	D-19
D-12	Ninety Degree UPVC Bracket	D-19
D-13	Safety Goggle Holder	D-19
D-14	Hammer and Mallet Holder	D-20
D-15	Fitted Holder	D-20
D-16	Flexible Item Bracket	D-20
D-17	Cabinet Angle Bracket	D-20
D-18	Cord Holder Bracket	D-21
D-19	Multi-Purpose Bracket	D-21
D-20	Heavy Duty Bracket	D-21
D-21	Clip, Socket Wrench	D-21
D-22	Clip, Spring Tension	D-22
D-23	Headlamp Bracket	D-22
D-24	Rotary Electric Tool	D-22
D-25	Plate, Marking, Blank Tool	D-22
D-26	Tip Holder	D-23

LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page</u>
D-1	Materials	D-8
D-2	ALRE-1 Work Center Box (CAT), F-Box	D-24
D-3	ALRE-2 Flashlight Box, Catapult, C-Box	D-27
D-4	ALRE-3 Shuttle and Grab Latch Inspection Box, C-Box	D-28
D-5	ALRE-4 Jet Blast Deflector (JBD) Box, B-Box	D-30
D-6	ALRE-5 Waterbrake Box, B-Box	D-31
D-7	ALRE-6 R-27W Box, B-Box	D-32
D-8	ALRE-7 R-11 Box, B-Box	D-33
D-9	ALRE-8 Work Center Box (A/G), F-Box	D-34
D-10	ALRE-9 Flashlight Box (A/G), C-Box	D-37
D-11	ALRE-10 Topside Sheave Box, C-Box	D-38
D-12	ALRE-11 Fairlead Box, B-Box	D-39
D-13	ALRE-12 Constant Runout (CRO) Box, B-Box	D-40
D-14	ALRE-13 Socket Pouring Box, A-Box	D-41
D-15	ALRE-14 Work Center Box, VLA, Shop Equipment, . . . F-Box	D-42

APPENDIX D

SECTION I INTRODUCTION

1-1 PURPOSE

The purpose of this appendix is to present the TCP for ALRE aboard all aircraft carriers. The prime objective of the TCP is the prevention of FOD-related aircraft and SE mishaps which have been caused by factors of tools adrift. Additional benefits that will be realized by compliance with the procedures contained herein are the reductions of pilferage, initial outfitting costs, in-use inventories, tool replacement cost, and maintenance man-hours. All of these reductions make significant contributions to cost effectiveness.

1-2 SCOPE

Information presented in this appendix includes procedures, methods and detailed instructions for the operation, or the program duties of key personnel, tool matrix, material list, container identification and fixture fabrication instructions. Container layouts and tool inventories are also included. The procedures contained herein have been tried, proven practical, and are considered essential for positive control and accountability of tools.

1-3 CONCEPT

The TCP is based on the concept of a family of specialized toolboxes and pouches configured for instant inventory before and after each maintenance action. The content and configuration of each container is tailored to the task, W/C, and equipment maintained. W/C containers are assigned to, and maintained within a W/C. Other boxes and specialized tools are checked out from the Tool Control Center (Tool Room).

1-4 USE OF THIS APPENDIX

a. Section II includes the procedures and details for the implementation and operation of the program.

b. Section III is a composite list of materials by stock number and or P/N.

c. Section IV describes and illustrates the six types of containers utilized in the program.

d. Section V provides detailed instruction for cutting and forming unplasticized polyvinyl chloride (UPVC) sheet plastic into various brackets and holders used in box configuration. Illustrations of clip, spring tension and clip, socket wrench are included.

e. Section VI is Special Tool Listings.

NOTE

Sheet metal or aluminum may be used in place of UPVC. Pop rivets may be used to mount brackets and holders, except for finger clips, which require self-tapping screws.

SECTION II
IMPLEMENTATION AND OPERATING
INSTRUCTIONS

2-1 ESTABLISHING. No V-2 division will have the opportunity to stop all maintenance during the period required to establish this standard TCP. Utilizing the following method to initially establish this program is recommended. A period of 6 to 12 months will be required to fully implement this program. The key to successful implementation is to continue using your current system while training and establishing support of the new system.

a. PREPARATION

(1) Establish a tool control center (central tool room) in V-2 division under the responsibility of the MS branch supervisor.

(2) Select and appoint the division tool control coordinator (tool control center leading petty officer). This individual must be aggressive, industrious and, above all, a dedicated senior petty officer. The success of the program rests ultimately upon their shoulders. The division tool control coordinator is the key figure in the coordination of inventories, and the acquisition of tools and materials to support the program. The division tool control coordinator must be designated in writing by the air officer.

(3) Assign additional personnel to the Tool Control Center to be dedicated full time to fabricating boxes. Note: the number of personnel assigned to this duty can be adjusted as the program nears full support capability. These personnel should learn, in a short period of time, how to construct boxes of good quality and they should be utilized to construct the majority of the boxes required.

(4) Fabricate containers using information provided by this appendix. Stock containers as they are made using any excess tools within the division and purchase only individual tools necessary to complete the makeup of the boxes. Ensure tools are serialized as they are installed. A tool inventory list by serial number must be provided within each container. The tool control coordinator shall maintain a master inventory for all containers. Completed containers should be inventoried, sealed, and locked. The date and signature of the inventorying petty officer should be written on the seal. The container should then be stowed in the Tool Control Center awaiting implementation.

(5) Etch tools with division identification using one of the following identification, W/C, and container etchers:

- Electric Arc, NSN 5130-00-596-1062
- Electric Vibrator, NSN 5130-00-596-8404
- Etch-O-Matic, open purchase from:
Martronics Corporation
500 Wilcoxs Rd.
Salkum, WA 98582
(360) 985-2999
Starter kit price \$49.95 with instructions.

(6) Prepare and publish an MI assigning responsibilities and defining tasks required to support the program.

(7) Commence training for all personnel based on the MI describing all individual responsibilities for the establishment and operation of the program. An "all hands" effort should be strongly emphasized.

(8) Identify and stow all supplemental and special tools within the tool control center.

(9) Identify and order spare tools to ensure containers can be maintained.

b. IMPLEMENTATION. When the quantity of containerized tools reaches a level capable of supporting the majority of routine maintenance tasks, all personnel have received training, and all required supporting documents have been issued, implementation can take place.

(1) Collect and securely store all tools not required by inventories. These tools should be immediately inventoried. Broken tools, tools of no known use on ALRE, and excessive quantities of low usage tools should be disposed of per shipboard instructions. Do not retain these tools within the division. It is highly desired to inspect all divisional spaces for tools at this time (berthing spaces, personal lockers, equipment spaces, topside stowage boxes, etc.). Realize that any space, regardless of its function, can become a source of unaccountable tools. All divisional markings should be removed from the tools collected. Tools will be remarked prior to being returned to service. Spare

tools required to support this program can remain unmarked, but can only be in the custody of tool control center personnel. These tools must never be issued prior to serialization.

(2) Issue boxes which will be retained by the W/C. W/C should only retain tools required for normal daily tasks. The W/C pre-op or post-op boxes should be adequate.

2-2 OPERATION

To ensure the effectiveness of the program certain duties and responsibilities must be carried out on a continuing basis.

a. The MS supervisor shall:

(1) Screen all requisitions for issue of tools, ensuring requests are itemized.

(2) Do not allow substitutions.

(3) Record all expenditures for tools and submit to the Maintenance Officer a monthly memorandum indicating monetary value of replaced, missing, or broken tools.

(4) Keep accurate inventory records.

(5) Manage the Tool Control Center.

b. The Tool Control Center Custodian shall:

(1) Issue tools, containers, and special tools on a signature basis:

(a) When a special tool (i.e., seldom used, large, torque wrench, etc.) is issued to supplement a container, utilize the tool tags from that container to account for the item(s).

(b) A chit and logbook signature will be used for accountability if special tool is issued as other than supplement for a container.

(2) Issue replacements for tool(s) determined in damaged condition.

(3) Procure replacement tools.

(4) Assist maintenance personnel in any aspect of the TCP.

c. The work center tool control petty officer (WTCPO) will:

(1) Upon receipt of a locally-reproduced OPNAV 4790/163 ALRE Tool Control Inventory Sheet (sample, figure D-1) from M/C, issue appropriate tool or tool container to the assigned supervisor or maintenance technician after joint sight inventory. Shortages of inventory will be noted.

(2) Upon completion of the maintenance action, a joint inventory shall again be conducted and the ALRE MAF shall be signed indicating all tools have been accounted for. The locally-prepared tool chit will be attached to the ALRE MAF and will be maintained as follows:

(a) **Corrective Maintenance Action:** Locally prepared tool chits will be retained by QA for a period of 1 year.

(b) **Preventive Maintenance Action:** Only the tool chit for the most recent. PMS action needs to be retained.

(3) Conduct an immediate search for any missing tool. Notify the maintenance officer or M/C supervisor immediately if the tool cannot be found.

(4) The maintenance officer or M/C supervisor will direct an investigation to the depth necessary to determine that the tool is not in a hazardous location before the applicable equipment is returned to an up status. In the event the tool cannot be found, the QAI shall personally sign off the locally-prepared tool chit indicating the missing tool poses no potential hazard.

(5) Upon maintenance officers direction replace missing or broken tools (with proper serialization) in tool boxes requiring replacement tools.

(6) At any crew changes of working periods (i.e., day and night shifts) the off-going WTCPO must conduct a sight inventory of all tool containers with the on-coming WTCPO. Discrepancies should be resolved at that time. Upon completion of the maintenance task, the ALRE MAF shall be signed indicating that all tools have been accounted for.

ALRE TOOL CONTROL INVENTORY SHEET				
WORK CENTER _____		JSN _____		DATE

TOOL CONTAINER/TOOLS CHECKED OUT	CHECKED OUT/INVENTORIED BY (MAINTENANCE PERSONNEL)	INVENTORIED BY (TOOL CONTROL PO)	CHECKED IN BY (MAINTENANCE PERSONNEL)	INVENTORIED BY (TOOL CONTROL PO)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
COMMENTS: <div style="font-size: 2em; font-weight: bold; margin: 10px 0;">SAMPLE</div>				
LOST/BROKEN/MISSING TOOL REPORT REQUIRED?			YES <input type="checkbox"/>	NO <input type="checkbox"/>

CORRECTIVE MAINTENANCE ACTION: RETAIN WITH MAF FOR ONE YEAR.
 PREVENTIVE MAINTENANCE ACTION: RETAIN WITH MOST RECENT PMS ACTION MAF.

FIGURE D-1. SAMPLE ALRE TOOL CONTROL INVENTORY SHEET

**SECTION III
MATERIALS**

3-1 INTRODUCTION

Table D-1 is a listing of materials currently in use in the *ALRE TCP. Procure items through the normal supply system except for those which no *NSN has been established. These items must be open purchased through a local outlet.

Table D-1. Materials

Nomenclature	Part No.	NSN
Tool Cabinet, Repair "F"	6SE00570-1	9Q 5140001245644
Tool Cabinet, Repair "G"	6SE00570-2	9Q 5140001245693
Tool Box Portable Briefcase, Style "A"	6SE01085	9Q 5140-01-154-3870
Tool Box Portable Three Panel, Small "B"	6SE01086	9Q 5140-01-154-3868
Tier, Small*	6SE01088	No NSN/Do Not Order
Tier, Large*	6SE01089	No NSN/Do Not Order
Tool Box Portable Three Panel, Large "C"	6SE01087	9Q 5140-01-154-3869
Retainer Tool 1/4" (18" Length)**	4SE00566-1	9Q 5140-00-124-5718
Retainer Tool 3/8" (18" Length)**	4SE00566-2	9Q 5140-00-124-5613
Frame/Caster Assembly Tool Cabinet	5SE00702-1	9Q 5140-00-124-5634
Clip, Socket Wrench- 1/4" Drive	A271 (55719)	9Z 5340-00-124-5273
Clip, Socket Wrench - 3/8" Drive	A-272 (55719)	9Z 5340-00-124-5274
Clip, Socket Wrench - 1/2" Drive	A-273 (55719)	9Z 5340-00-124-5275
Clip, Socket Wrench- 3/4" Drive	A-274A (55719)	9Z 5340-00-124-5276
Mounting Strip, Socket Wrench, 16-3/4"***	A-270 (55719)	9Z 5340-00-124-5272
Clip, Spring Tension, 1" to 1-7/8- cap., nickel plated	2-B	9Z 5340-00-847-0102
Clip, Spring Tension, 5/8" to 1-1/4" cap., nickel plated	1-B	9Z 5340-00-801-7545

* Box will come with appropriate tier

** Cut to required length

Table D-1. Materials (Contd.)

Clip, Spring Tension, 5/16" to 3/4" cap., nickel plated	O-B	9Z 5340-00-584-9400
Clip, Spring Tension, 7/8" to 1-1/4" cap., nickel plated	88	9Z 5340-01-005-3118
Clip, Spring Tension, 9/16" to 7/8" cap., nickel plated	68	9Z 5340-00-329-2136
Clip Spring Tension, 5/16" to 9/16" cap., nickel plated	48	9Z 5340-00-854-6701
Clip, Spring Tension, 3/16" to 3/8", cap., nickel plated	28	9Z 5340-00-835-3638
Screws, Self-Tapping, #6, 3/8"		5305-00-969-6914
Screws, Self-Tapping, #6, 1/2"		5305-00-883-0633
Screws, Self-Tapping, #6, 5/8"		5305-00-883-0635
Rubber Sheet, Cellular 24" X 24" X 1"		9320-00-526-6900
Herculite (Pouch Material)		8305-00-926-1587
Tape Fastener Hook 1"		8315-00-106-5973
Tape Fastener Pile 1"		8315-00-106-5974
Adhesive Scotch Grip 847		8040-00-033-7507

SECTION IV
CONTAINER DESCRIPTIONS AND TYPICAL USES

4-1 CONTAINER TYPES AND UTILIZATION

a. The pouch is locally fabricated from canvas, nylon, or herculite material and may be equipped with a belt loop or strap. The belt pouch will usually carry ten to twelve tools. A flap secured with Velcro tape keeps tools from falling out. Figure D-2 shows a typical layout, and figure D-3 shows the pouch in the closed position.

b. Drawing (DWG) number (No.) 6SE01085 Toolbox, Portable Briefcase Style "A", shown in figure D-4 has two panels each measuring 11-1/2 X 18 inches. Approximately 30 tools can be mounted with retainer, spring clips or a combination thereof. This container of tools is used primarily by maintenance technicians in performing minor tasks.

c. DWG No. 6SE01086 Tool Box, Portable Three Panel, Small "B", shown in figure D-5, DWG No. 6SE01088 with tier has two door panels measuring 12 X 18 inches and a center section three level tiered insert. This box will hold approximately 70 tools and is used to accomplish task such as PMS, monthly or requirement checks. The layout drawing of this box have the vertical and horizontal panels shown in the same plane for simplification.

d. DWG No. 6SE01087 Tool Box, Portable Three Panel Large "G", shown in figure F-5, with DWG No. 6SE01089 with tier is of the same basic design as the small box except larger. The approximate outside dimension are 17 x 22 x 8 inches. This box will hold about 100 tools of average size. It is used on more extensive PMS checks such as launching engine inspection, or repacking MEC. As with the small box, the layout drawings show all vertical and horizontal surfaces in one plane. These are designated panels A through J.

e. DWG No. 6SE00570-1 Tool Cabinet, Repair "F", shown in figure D-6, is two feet square with doors closed. The doors are three inches deep the center section is nine inches deep. It has a two level tier in the center section; a five inch high tier and a shelf in each door. The layout drawings have been extended in height in order to show the horizontal surfaces of the tiers and the shelves. This cabinet can be made portable by the use of a frame and caster assembly. This cabinet is typically used for W/C pre-operational and post operational inspections and holds tools for both topside and below decks.

f. Tool Cabinet, Repair "G", P/N 6SE00570-2, is the same except for larger dimensions. This cabinet is 3 feet square and with doors closed is 1 foot thick. It is used as a shop box and may be mounted on a wall or bench. As with the "F" cabinet, the layout drawings have been extended in height in order to show the horizontal surfaces of the tiers and the door shelves.

4-2 CONTAINER AND TOOL MARKING

Each container will be marked to identify division, box type and box number. For example, V2-11-02 indicates the box belongs to V-2 Division, is a type eleven, and the second of a series. Each tool will be marked with the box information plus the location (panel) and the tool item number within that box. For example, V2-11-02-B-6 means box information plus panel B, item number 6.

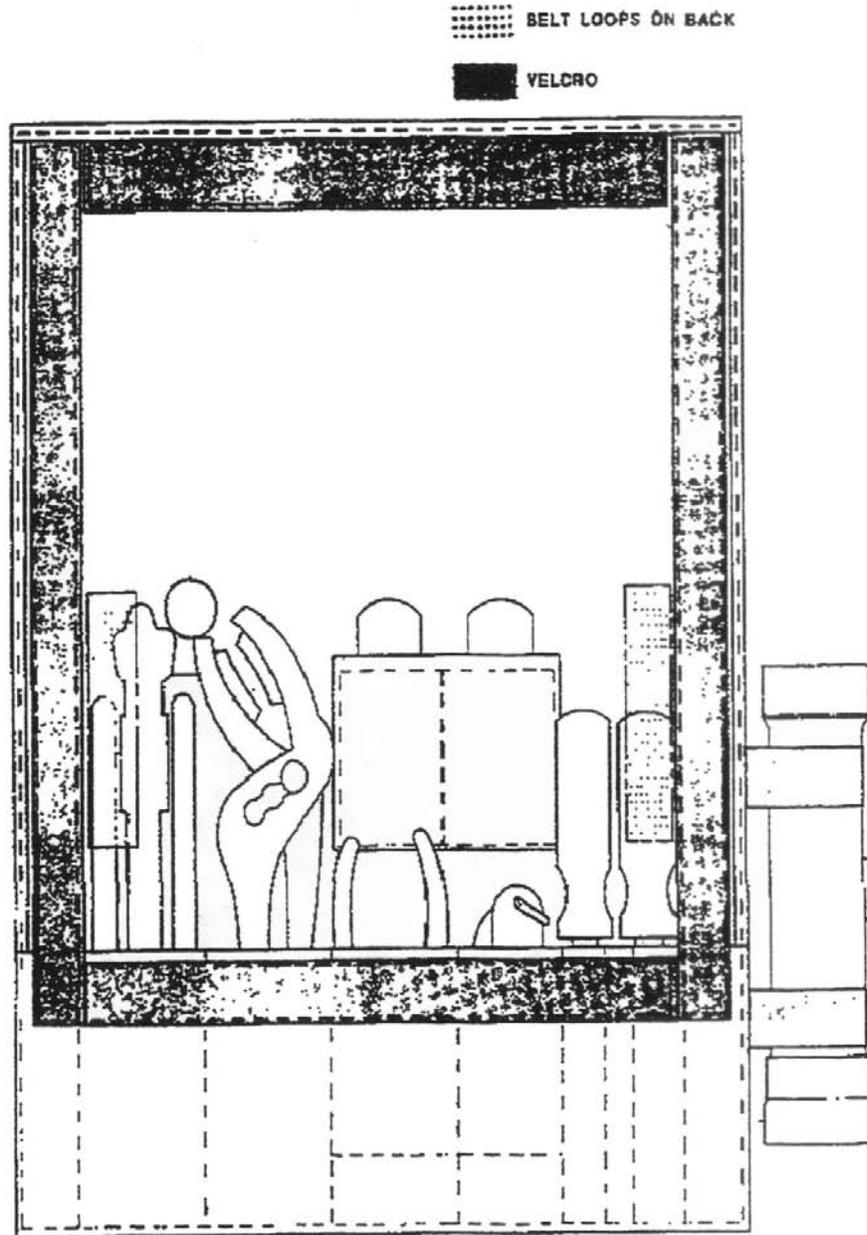


Figure D-2. Tool Pouch Opened (Typical)

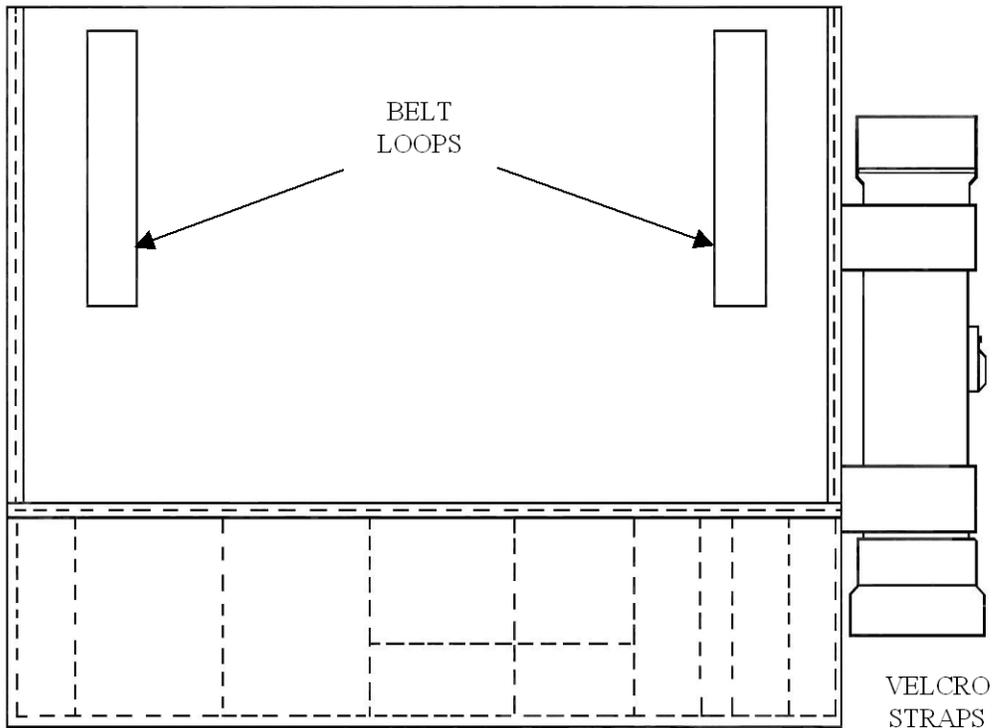


Figure D-3. Tool Pouch Closed (Typical)

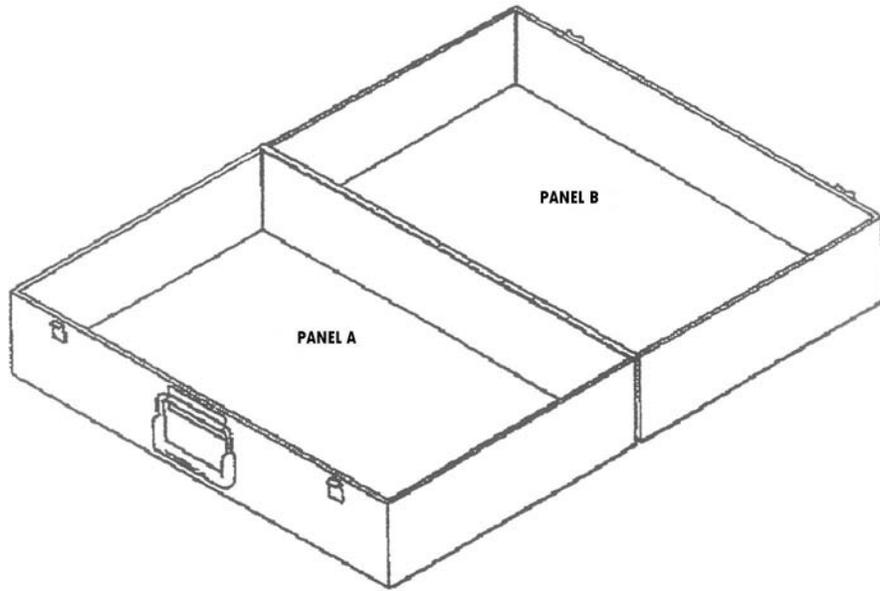


Figure D-4. Tool Box, Portable Briefcase, Style "A"

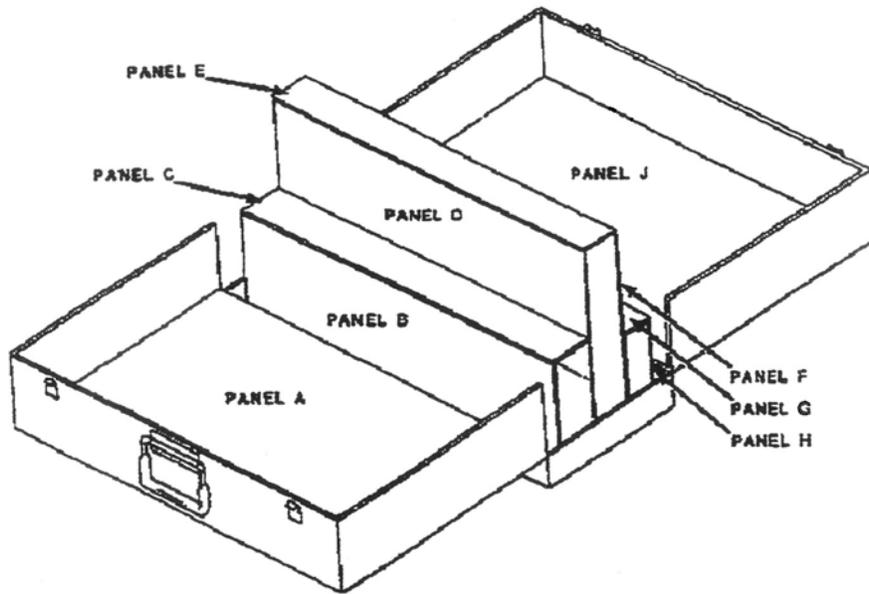


Figure D-5. Tool Box, Portable Briefcase, Three Panel,
Small "B" and Large "C"

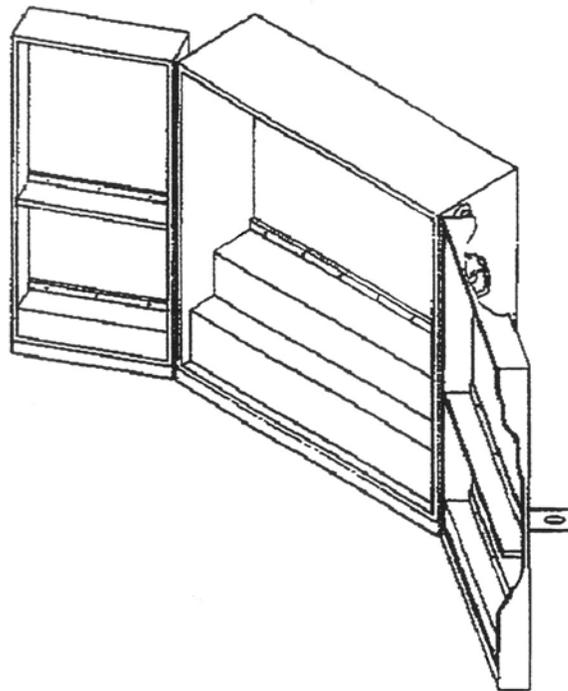


Figure D-6. Tool Cabinet, Repair "F" and "G"

SECTION V
CONTAINER HARDWARE

5-1 INTRODUCTION

The mounting brackets, fittings, and clips required to assemble tool containers are described and illustrated in this section. The container layouts in section VI, and subsequent sections, show where these fittings and brackets are used and tool inventories are keyed to the respective figure illustrated by figures D-7 through D-26.

5-2 HARDWARE DESCRIPTION AND FABRICATION

a. Drawings of the various tool holders, brackets and clips are shown in figures D-7 through D-26. The spring clips, socket clips, and mounting strips are obtained through normal supply channels. The mounting strip can be cut to the desired length and drilled for mounting with screws. Other holders and brackets are locally fabricated from one-eighth inch sheet UPVC material which is available from local outside sources and must be open purchased. These items are easily made by hand, using heat to bend or by cutting to the shape desired. Heating the UPVC is accomplished by using a heat gun (NSN 4940- 00-357-1369) or heating over an electric heater (NSN 4520-00-865-5939) along the area to be bent.

b. When a flexible state is reached place the plastic over the edge of a bench or table and using a piece of 90-degree angle iron press down and hold until the plastic cools. Applying pressure to the angle iron will give a sharper bend. In some cases it may be necessary to use blocks of wood and clamps to get the desired shape. UPVC material can be cut by deep scribing with a plastic knife, or scribe and breaking, or may be sawed with a hacksaw. A tool found to be useful in cutting holes and grinding is a rotary electric tool (NSN 5130-01-014-6856), which comes as a kit.

5-3 HOLDER DESCRIPTION AND USES

a. A tool retainer (figure D-7) is available in two sizes, 1/4 and 3/8-inch openings. It is available in 18-inch lengths and may be cut to any desired length. The primary use of this item is to hold wrenches, screwdrivers, extensions, etc.

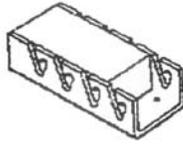


Figure D-7. Tool Retainer

b. The 90-degree support (Figure D-8) is used as a support for punches, chisels, etc. on a container tier attached with self-tapping screws.

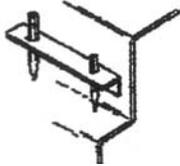


Figure D-8. Ninety Degree Support

c. The grip bracket (figure D-9) is a strip of rubber attached with screws to provide a gripping surface to hold allen wrenches, drill bits, etc. It may be mounted in the horizontal or vertical position.



Figure D-9. Grip Bracket

d. Figure D-10 shows a bracket type wire roll mount, which uses a bolt or section of dowel for a roller and may be mounted on a vertical or horizontal surface.

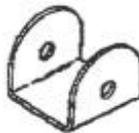


Figure D-10. Bracket Type Wire Roll Mount

e. Vertical wire or solder roll mounts (figure D-11) are made by cutting a dowel or broom handle to the appropriate length and securing from underneath with a screw.



Figure D-11. Vertical Wire Roll Mount

f. The 90-degree UPVC bracket used in combination with finger clips (figure D-12) may be cut to any desired length. It is used to mount ratchets, screwdrivers, etc. to a flat surface.



Figure D-12. Ninety Degree UPVC Bracket

g. Safety goggles are secured in a goggle holder (figure D-13). Slight variations may be required in dimensions to allow for different goggle styles.



Figure D-13. Safety Goggle Holder

h. Hammers and mallets are stowed on hammer and mallet holder brackets (figure D-14) in "F" and "G" cabinets.

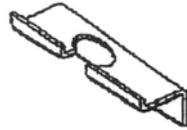


Figure D-14. Hammer and Mallet Holder

i. The fitted holder (figure D-15) is molded to the shape of the item it is intended to support. It works well on speed handles, combination wrenches, and hacksaws when mounted on vertical panel surfaces.

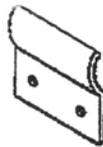


Figure D-15. Fitted Holder

j. A flexible item bracket (figure D-16) is used to mount flexible magnetic retrieving tools. This item is molded to shape and sized to fit the tool.



Figure D-16. Flexible Item Bracket

k. A cabinet angle bracket (figure D-17) is used to hold wrenches and other heavy items on the vertical surfaces of "F" and "G" cabinets. It also is used to hold sheet metal holders in holes drilled in the angle panel.



Figure D-17. Cabinet Angle Bracket

l. The cord holder bracket (figure D-18) is used to hold cords for electric drills, soldering irons, etc.



Figure D-18. Cord Holder Bracket

m. The multipurpose bracket (figure D-19) is used to hold magnifying glasses etc., and with modification, landing gear wrenches, oil sample bottles, etc. When mounted vertically it supports drill sets, file sets, sharpening stones, etc.



Figure D-19. Multi-Purpose Bracket

n. The heavy duty bracket (figure D-20) provides additional strength to support heavy items such as electric drills, pneumatic drills, soldering g-guns, etc.



Figure D-20. Heavy Duty Bracket

o. Clip, socket wrench (figure D-21) are stock items and are available in 1/4, 3/8, 1/2, and 3/4 inch size. The rail comes in 16-3/4 inch length and may be cut to desired shorter lengths, drilled and mounted with screws.

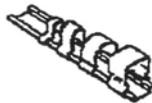


Figure D-21. Clip, Socket Wrench

p. Clip, spring tension (figure D-22) are stock items with NSNs listed in the materials section. They are used in various ways throughout the system.

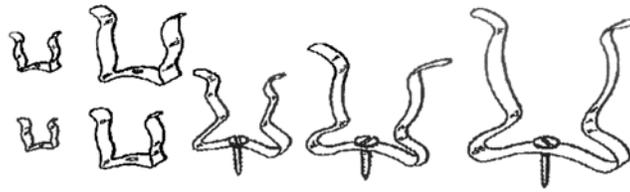


Figure D-22. Clip, Spring Tension

q. The headlamp bracket (figure D-23) is used to hold the headlamp and battery pack of the assembly.



Figure D-23. Headlamp Bracket

r. Figure D-24 illustrates the use of the rotary electric tool (NSN 5130-01-014-6856) which is used to cut holes of various shapes to retain tools.

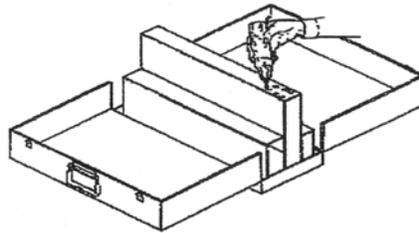


Figure D-24. Rotary Electric Tool

s. Plate, marking, blank tool (figure D-25) will be mounted using 1" tape fastener hook and pile secured with industrial adhesive, P/N 847 (04963) or equivalent.



Figure D-25. Plate, Marking, Blank Tool

t. The tip holder (Figure D-26) is cut out of rubber sheet (cellular medium) to retain Apex tips, drill bits, etc., secured with industrial adhesive P/N 847 (04963) or equivalent.

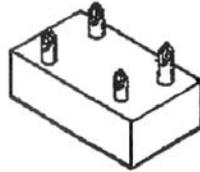


Figure D-26. Tip Holder

TABLE D-2. ALRE-1 WORK CENTER BOX (CAT)
F-BOX

ITEM	NSN
1. Oiler, Hand, 4 Oz	4930-00-274-5713
2. Oiler, Hand, 4 Oz	4930-00-274-5713
3. Lubricating Gun, Hand	4930-00-253-2478
4. Gage, Thickness 12", 14 Leaves	5210-00-223-9194
5. Gage, Thickness 12", 14 Leaves	5210-00-223-9194
6. Lubricating Gun, Hand	4930-00-253-2478
7. Wrench, Combination, 5/8"	5120-01-335-1236
8. Wrench, Combination, 11/16"	5120-01-335-1237
9. Wrench, Combination, 3/4"	5120-01-335-1258
10. Wrench, Combination, 3/4"	5120-01-335-1258
11. Wrench, Combination, 3/4"	5120-01-335-1258
12. Wrench, Combination, 3/4"	5120-01-335-1258
13. Wrench, Combination, 3/4"	5120-01-335-1258
14. Wrench, Combination, 3/4"	5120-01-335-1258
15. Wrench, Combination, 3/4"	5120-01-335-1258
16. Wrench, Combination, 3/4"	5120-01-335-1258
17. Wrench, Combination, 13/16"	5120-01-335-1259
18. Wrench, Combination, 7/8"	5120-01-335-1260
19. Wrench, Combination, 15/16"	5120-01-335-1261
20. Wrench, Combination, 1"	5120-01-335-1262
21. Extension, 1/2" Drive, 4-1/2" - 6"	5120-01-335-1050
22. Handle, Socket Wrench, Reversible 1/2" Drive	5120-01-355-1901
23. Extension, 1/2" Drive, 9-1/2" to 10-1/2"	5120-01-335-1051
24. Handle, Socket Wrench, Hinged, 1/2" Drive, 14"	5120-01-335-0713
25. Wrench, Open End, Angle Head, 1-5/8" (Roto Retract Only)	5120-01-355-1711
26. Wrench, Adjustable, Size 8	5120-01-367-3392
27. Wrench, Adjustable, Size 8	5120-01-367-3392
28. Hammer, Copper Head, 3 Lb.	5120-00-902-0089
29. Hammer, Ball Peen, 16 Oz	5120-01-335-1474
30. Hammer, Ball Peen, 16 Oz	5120-01-335-1474
31. Screwdriver, Flat Tip, 1/4" X 8"	5120-01-367-3749
32. Screwdriver, Flat Tip, 3/8" X 10"	5120-01-335-2484
33. Screwdriver, Phillips, #4, 8"	5120-00-764-8098
34. Screwdriver, Reed and Prince, 3/16" X 10"	5120-00-580-2361
35. File, Half, Round, Smooth Cut 8"	5110-01-335-1587
35A. Handle	5110-01-349-4826
36. Wire Twister Pliers	5120-00-305-2306
37. Pliers, Duckbill, 6"	5120-00-256-2150
38. Pliers, Diagonal Cut, Cushion Throat, 7-1/2"	5110-00-293-3210

TABLE D-2. ALRE-1 WORK CENTER BOX (CAT)
F-BOX CONT'D

ITEM	NSN
39. Gage, Thickness 26 Leaves, 3"	5210-00-221-1999
40. Gage, Thickness 26 Leaves, 3"	5210-00-221-1999
41. Wrench, Combination, 5/16"	5120-01-335-1230
42. Wrench, Combination, 3/8"	5120-01-335-1232
43. Wrench, Combination, 3/8"	5120-01-335-1232
44. Wrench, Combination, 7/16"	5120-01-335-1233
45. Wrench, Combination, 1/2"	5120-01-335-1234
46. Wrench, Combination, 1/2"	5120-01-335-1234
47. Wrench, Combination, 1/2"	5120-01-335-1234
48. Wrench, Combination, 9/16"	5120-01-335-1235
49. Key, Socket Head Screw, Hex, 1/4" Long	5120-00-241-3180
50. Key, Socket Read Screw, Hex, 1/4" Long	5120-00-241-3180
51. Key, Socket Head Screw, Hex, 3/8" Long	5120-00-198-5406
52. Key, Socket Read Screw, Hex, 3/8" Long	5120-00-198-5406
53. Key, Socket Head Screw, Hex, 1/2" Short	5120-00-198-5391
54. Key, Socket Head Screw, Hex, 1/2" Short	5120-00-198-5391
55. Key, Socket Head Screw, Hex, 5/8" Short	5120-00-224-2510
56. Key, Socket Head Screw, Hex, 5/8" Short	5120-00-224-2510
57. Key, Socket Head Screw, Hex, 3/4" Short	5120-00-222-1489
58. Key, Socket Head Screw, Hex 3/4" Short	5120-00-222-1489
59. Pliers, Slip Joint, 10"	5120-00-223-7398
60. Socket, Impact, 1/2" Drive, 3/8"	5130-01-348-9208
61. Socket, Impact, 1/2" Drive, 7/16"	5130-01-348-9209
62. Socket, Impact, 1/2" Drive, 1/2"	5130-01-348-9210
63. Socket, Impact, 1/2" Drive, 9/16"	5130-01-362-0020
64. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
65. Socket, Impact, 1/2" Drive, 11/16"	5130-01-348-9212
66. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
67. Socket, Impact, 1/2" Drive, 13/16"	5130-01-348-9261
68. Socket, Impact, 1/2" Drive, 7/8"	5130-01-348-9262
69. Socket, Impact, 1/2" Drive, 15/16"	5130-01-348-9263
70. Socket, Impact, 1/2" Drive, 1"	5130-01-348-9264
71. Socket Wrench Attachment, 1/2" Drive, 5/8" Hex	5120-01-367-3467
72. Tape, Measuring, 10 Feet	5210-01-335-1611
73. Tape, Measuring, 10 Feet	5210-01-335-1611
74. Brass Pin, 6"	NAEC P/N 317534-1
75. Plate, Marking, Blank, Tool	9905-00-473-6336
76. Plate, Marking, Blank, Tool	9905-00-473-6336
77. Plate, Marking, Blank, Tool	9905-00-473-6336
78. Plate, Marking, Blank, Tool	9905-00-473-6336
79. Plate, Marking, Blank, Tool	9905-00-473-6336
80. Handle, Socket Wrench, Hinged, 3/4" Drive	5120-00-221-7959

TABLE D-2. ALRE-1 WORK CENTER BOX (CAT)
F-BOX CONT'D

ITEM	NSN
81. Oiler, Hand, 4 Oz	4930-00-274-5713
82. Oiler, Hand, 4 Oz	4930-00-274-5713
83. Lubricating Gun, Hand	4930-00-253-2478
84. Screwdriver, Flat Tip, 3/8- X 12"	5120-00-278-1276
85. Lubricating Gun, Hand	4930-00-253-2478
87. Dynamometer (In Carrying Case) (2 Each)	

**TABLE D-3. ALRE-2 FLASHLIGHT BOX, CATAPULT
C-BOX**

ITEM	NSN
1. Flashlight, Traffic Baton	6230-00-926-4331
2. Flashlight, Traffic Baton	6230-00-926-4331
3. Flashlight, Traffic Baton	6230-00-926-4331
4. Flashlight, Traffic Baton	6230-00-926-4331
5. Flashlight, Traffic Baton	6230-00-926-4331
6. Flashlight, Traffic Baton	6230-00-926-4331
7. Flashlight, Traffic Baton With Green Filter	6230-00-926-4331
8. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
9. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
10. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
11. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
12. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
13. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
14. Flashlight, Traffic Baton With Green Filter	6230-00-926-4331

TABLE D-4. ALRE-3 SHUTTLE AND GRAB LATCH INSPECTION BOX
C-BOX

ITEM	NSN
1. Wrench, Combination, 1-1/4"	5120-01-335-1266
2. Retrieving Tool, Magnetic, Telescoping	5120-00-545-4268
3. Grab Latch, Catapult	1720-00-067-9567
4. Plate, Marking, Blank, Tool	9905-00-473-6336
5. Plate, Marking, Blank, Tool	9905-00-473-6336
6. Plate, Marking, Blank, Tool	9905-00-473-6336
7. Plate, Marking, Blank, Tool	9905-00-473-6336
8. Plate, Marking, Blank, Tool	9905-00-473-6336
9. Socket, Impact, 1/2" Drive, 7/8"	5130-01-348-9262
10. Socket, Impact, 1/2" Drive, 7/8"	5130-01-348-9262
11. Socket, Impact, 1/2" Drive, 7/8"	5130-01-348-9262
12. Socket, 1/2" Drive, 1-1/8"	5120-01-335-0786
13. Socket, 1/2" Drive, 1-1/8"	5120-01-335-0786
14. Adapter, Socket Wrench, 3/4" Female to 1/2" Male	5120-01-355-1894
15. Socket Wrench Attachment, 1/2" Drive, 9/16" Hex	5120-01-367-3466
16. Socket Wrench Attachment, 1/2" Drive, 9/16" Hex	5120-01-367-3466
17. Socket Wrench Attachment, 1/2" Drive, 5/8" Hex	5120-01-335-3467
18. Socket Wrench Attachment, 1/2" Drive, 5/8" Hex	5120-01-335-3467
19. Socket Wrench Attachment, 1/2" Drive, 3/4" Hex	5120-01-367-3468
20. Screwdriver, Flat Tip, 5/16" X 6 1/2"	5120-01-367-3745
21. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
22. Handle, Socket Wrench, Hinged, 1/2" Drive	5120-01-335-0713
22. Wrench, Combination, 9/16"	5120-01-335-1235
23. Wrench, Combination, 9/16"	5120-01-335-1235
24. Wrench, Combination, 9/16"	5120-01-335-1235
25. Wrench, Combination, 3/4"	5120-01-335-1258
26. Wrench, Combination, 3/4"	5120-01-335-1258
27. Wrench, Combination, 3/4"	5120-01-335-1258
28. Wrench, Combination, 1"	5120-01-335-1262
29. Hammer, Ball Peen, 8 Oz	5120-01-335-1472
30. Socket, Impact, 1/2" Drive, 9/16"	5130-01-362-0020
31. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
32. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
33. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
34. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
35. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
36. Socket, Impact, 1/2" Drive, 11/16"	5130-01-348-9212
37. Socket, Impact, 1/2" Drive, 11/16"	5130-01-348-9212

TABLE D-4. ALRE-3 SHUTTLE AND GRAB LATCH INSPECTION BOX
C-BOX CONT'D

ITEM	NSN
38. Socket, Impact, 1/2" Drive, 11/16"	5130-01-348-9212
39. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
40. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
41. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
42. Wrench, Shuttle Roller	NAEC P/N 504810-3
43. Key, Socket Head Screw, Hex, 3/4" Short	5120-00-222-1489
44. Key, Socket Head Screw, Hex, 3/8" Short	5120-00-198-5309
45. Key, Socket Head Screw, Hex, 5/16" Short	5120-00-240-5274
46. Key, Socket Head Screw, Hex, 1/4" Long	5120-00-241-3180
47. Key, Socket Head Screw, Hex, 7/32" Short	5120-00-242-7411
48. Key, Socket Head Screw, Hex, 3/16" Short	5120-00-240-5300
49. Pliers, Needle Nose 6" With Side Cut	5120-00-247-5177
50. Pliers, Diagonal Cut, Cushion Throat 7-1/2"	5120-00-247-5177
51. Pliers, Multiple Tongue And Groove, 8"	5120-00-278-0351
52. Wire Twister, Pliers	5120-00-305-2306
53. Flashlight	6230-00-299-3035
54. Mirror, Inspection, 2-1/4" Diameter	5120-01-335-1572
55. Screwdriver, Flat Tip, 3/8" X 12"	5120-00-278-1276
56. Finger, Mechanical, Flexible, 17-1/2"	5120-01-335-1526
57. Crowbar, 1-1/4" Diameter X 62" Long (4 Each)	5120-00-224-1390

**TABLE D-5. ALRE-4 JET BLAST DEFLECTOR (JBD) BOX
B-BOX**

ITEM	NSN
1. Wrench, Tap and Reamer, 1/4" to 3/4" Cap	5120-00-289-0539
2. Key, Socket Head Screw, Hex, 5/32" Short	5120-00-198-5392
3. Key, Socket Head Screw, Hex, 5/32" Short	5120-00-198-5392
4. Key, Socket Head Screw, Hex, 3/8" Long	5120-00-198-5406
5. Key, Socket Head Screw, Hex 3/8" Long	5120-00-198-5406
6. Key, Socket Head Screw, Hex, 1/2" Long	5120-00-198-5407
7. Key, Socket Head Screw, Hex, 1/2" Long	5120-00-198-5407
8. Screwdriver, Flat Tip, 3/16" X 3"	5120-01-367-3734
9. Screwdriver, Flat Tip, 1/4" X 8"	5120-01-367-3749
10. Wrench, Socket, Spin Type, 5/16"	5120-00-224-2596
11. Wrench, Pliers, Adjustable 8 1/2"	5120-00-277-4244
12. Wrench, Combination, 5/16"	5120-01-335-1230
13. Wrench, Combination, 1/2"	5120-01-335-1234
14. Wrench, Combination, 3/4"	5120-01-335-1258
15. Extension, 1/2" Drive, 4-1/2" - 6"	5120-01-335-1050
16. Extension, 1/2" Drive, 9-1/2 - 10-1/2"	5120-01-335-1051
17. Handle, Socket Wrench, Reversible 1/2" Drive	5120-01-355-1901
18. Handle, Socket Wrench, Reversible 1/2" Drive	5120-01-355-1901
19. Flashlight	6230-00-299-3035
20. Pliers, Multiple Tongue and Groove, 10"	5120-00-278-0352
21. Socket, Impact, 1/2" Drive, 7/16"	5130-01-348-9209
22. Socket, Impact, 1/2" Drive, 9/16"	5130-01-362-0020
23. Socket, Impact, 1/2" Drive, 1/2"	5130-01-348-9210
24. Socket, Impact, 1/2" Drive, 1/2"	5130-01-348-9210
25. Socket, 1/2" Drive, 1/2" Deep	5120-01-335-0843
26. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
27. Tap, Thread Cutting, 3/4" - 10"	5136-00-729-5682
28. Tap, Thread Cutting, 5/8" - 11"	5136-00-729-5683
29. Plate, Marking, Blank, Tool	9905-00-473-6336
30. Plate, Marking, Blank, Tool	9905-00-473-6336
31. Plate, Marking, Blank, Tool	9905-00-473-6336
32. Plate, Marking, Blank, Tool	9905-00-473-6336
33. Plate, Marking, Blank, Tool	9905-00-473-6336

**TABLE D-6. ALRE-5 WATERBRAKE BOX
B-BOX**

ITEM	NSN
1. Screwdriver, Flat Tip, 3/8" X 12"	5120-00-278-1276
2. Scriber, Machinist's 8-1/2"	5120-00-221-7063
3. Gage, Thickness, 26 Leaves, 3"	5210-00-221-1999
4. Gage, Thickness, 26 Leaves, 3"	5210-00-221-1999
5. Pliers, Needle Nose, 6"	5120-00-268-3579
6. Gage, Thickness, 14 Leaves, 12"	5210-00-223-9194
7. Gage, Thickness, 14 Leaves, 12"	5210-00-223-9194
8. Socket, 1/2" Drive, 11/16"	5120-61-335-0779
9. Socket, Wrench Attachment, 1/2" Drive, 5/8" Hex	5120-01-367-3467
10. Wrench, Combination, 1/2"	5120-01-335-1234
11. Wrench, Combination, 1/2"	5120-01-335-1234
12. Wrench, Combination, 3/4"	5120-01-335-1258
13. Wrench, Combination, 3/4"	5120-01-335-1258
14. Wrench, Combination, 13/16"	5120-01-335-1259
15. Wrench, Combination, 15/16"	5120-01-335-1259
16. Wrench, Combination, 15/16"	5120-01-335-1259
17. Key, Socket Head Screw, Hex, 1/2" Short	5120-00-198-5391
18. Key, Socket Head Screw, Hex, 1/2" Short	5120-00-198-5391
19. Key, Socket Head Screw, Hex, 5/32" Short	5120-00-198-5392
20. Key, Socket Head Screw, Hex, 9/16" Short	5120-00-240-5268
21. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
22. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
23. Rule, Steel, Machinist's, 6", No. 4	5210-00-234-5223
24. Wire Twister, Pliers	5120-00-305-2306
25. Wire Twister, Pliers	5120-00-305-2306
26. Socket, 1/2" Drive, 1-1/8", Deep	5120-01-335-0852
27. Socket, Impact, 1/2" Drive, 1"	5130-01-348-9264
28. Socket, Impact, 1/2" Drive, 15/16"	5130-01-348-9263
29. Socket, Impact, 1/2" Drive, 13/16"	5130-01-348-9261
30. Socket, Impact, 1/2" Drive, 13/16"	5130-01-348-9261
31. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
32. Socket, Impact, 1/2" Drive, 9/16"	5130-01-362-0020
33. Socket, Impact, 1/2" Drive, 1/2"	5130-01-348-9210
34. Flashlight	6230-00-299-3035
35. Flashlight	6230-00-299-3035
36. Plate, Marking, Blank, Tool	9905-00-473-6336
37. Plate, Marking, Blank, Tool	9905-00-473-6336
38. Plate, Marking, Blank, Tool	9905-00-473-6336
39. Plate, Marking, Blank, Tool	9905-00-473-6336
40. Plate, Marking, Blank, Tool	9905-00-473-6336
41. Screwdriver, Flat Tip, 5/16" X 6"	5120-01-367-3721
42. Extractor, Cotter Pin	5120-00-222-4284

TABLE D-7. ALRE-6 R-27W BOX
B-BOX

ITEM	NSN
1. Wrench, Combination, 3/4"	5120-01-335-1258
2. Wrench, Combination, 9/16"	5120-01-335-1235
3. Wrench, Combination, 15/16"	5120-01-335-1259
4. Wrench, Combination, 15/16"	5120-01-335-1259
5. Wrench, Combination, 1 1/8"	5120-01-335-1264
6. Screwdriver, Flat Tip, 3/8" X 12"	5120-00-278-1276
7. Gage, Thickness 26 Leaves, 3"	5210-00-221-1999
8. Wire Twister, Pliers	5120-00-305-2306
9. No-Go Gauge	
10. Gage, Thickness 26 Leaves, 3"	5210-00-221-1999
11. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
12. Extension, 1/2" Drive, 4-1/2" - 6"	5120-01-335-1050
13. Rule, Steel, Machinist's, 6", No. 4	5210-00-234-5223
14. Key, Socket Head Screw, Hex, 1/2" Short	5120-00-198-5391
15. Key, Socket Head Screw, Hex, 1/2" Short	5120-00-198-5391
16. Socket Wrench Attachment, 1/2" Drive, 9/16" Hex	5120-01-367-3466
17. Socket Wrench Attachment, 3/8" Drive, 3/8" Hex	5120-01-367-3478
18. Socket, Impact, 1/2" Drive, 13/16"	5130-01-348-9261
19. Socket, Impact, 1/2" Drive, 15/16"	5130-01-348-9263
20. Socket 3/4" Drive, 1-1/8"	5120-01-366-8425
21. Handle, Socket Wrench, Hinged, 3/4" Drive, 17"	5120-00-221-7959

TABLE D-8. ALRE-7 R-11 BOX
B-BOX

ITEM	NSN
1. Wrench, Combination, 3/4"	5120-01-335-1258
2. Wrench, Combination, 9/16"	5120-01-335-1235
3. Wrench, Combination, 15/16"	5120-01-335-1259
4. Wrench, Combination, 15/16"	5120-01-335-1259
5. Wrench, Combination, 1 1/8"	5120-01-335-1264
6. Screwdriver, Flat Tip, 3/8" X 12"	5120-00-278-1276
7. Gage, Thickness 26 Leaves, 3"	5210-00-221-1999
8. Wire Twister, Pliers	5120-00-305-2306
9. Gage, Thickness 26 Leaves, 3"	5210-00-221-1999
10. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901

TABLE D-9. ALRE-8 WORK CENTER BOX (A/G)
F-BOX

ITEM	NSN
1. Wrench, "T" Adjustable, Anchor	5120-00-590-8828
2. Wrench, "T" Adjustable, Anchor	5120-00-590-8828
3. Oiler, Hand, 40z, 3" Spout	4930-00-274-5713
4. Oiler, Hand, 40z, 3" Spout	4930-00-274-5713
5. Lubricating Gun, Hand	4930-00-253-2478
6. Oiler, Hand, 40z, 3" Spout	4930-00-274-5713
7. Oiler, Hand, 40z, 3" Spout	4930-00-274-5713
8. Lubricating Gun, Hand	4930-00-253-2478
9. Tensiometer, 1/4" Cable Capacity	1710-00-594-1376
10. Tensiometer, 1/4" Cable Capacity	1710-00-594-1376
11. Tensiometer, 1/4" Cable Capacity	1710-00-594-1376
12. Wrench, Combination, 5/8"	5120-01-335-1236
13. Wrench, Combination, 11/16"	5120-01-335-1237
14. Wrench, Combination, 3/4"	5120-01-335-1258
15. Wrench, Combination, 3/4"	5120-01-335-1258
16. Wrench, Combination, 3/4"	5120-01-335-1258
17. Wrench, Combination, 3/4"	5120-01-335-1258
18. Wrench, Combination, 3/4"	5120-01-335-1258
19. Wrench, Combination, 3/4"	5120-01-335-1258
20. Wrench, Combination, 3/4"	5120-01-335-1258
21. Wrench, Combination, 3/4"	5120-01-335-1258
22. Wrench, Combination, 3/4"	5120-01-335-1258
23. Wrench, Combination, 3/4"	5120-01-335-1258
24. Wrench, Combination, 3/4"	5120-01-335-1258
25. Wrench, Combination, 13/16"	5120-01-335-1259
26. Wrench, Combination, 7/8"	5120-01-335-1260
27. Wrench, Combination, 15/16"	5120-01-335-1261
28. Wrench, Combination, 1"	5120-01-335-1262
29. Wrench, Combination, 1"	5120-01-335-1262
30. Wrench, Combination, 1"	5120-01-335-1262
31. Wrench, Combination, 1"	5120-01-335-1262
32. Wrench, Combination, 1"	5120-01-335-1262
33. Handle, Socket Wrench, Hinged, 1/2" Drive 9"	5120-01-335-0713
34. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
35. Extension, 1/2" Drive, 4-1/2" - 6"	5120-01-335-1050
36. Wrench, Combination, 1-1/8"	5120-01-335-1264
37. Wrench, Combination, 1-1/8"	5120-01-335-1264

TABLE D-9. ALRE-8 WORK CENTER BOX (A/G)
F-BOX CONT'D

ITEM	NSN
38. Wrench, Combination, 1-1/8"	5120-01-335-1264
39. Wrench, Combination, 1-1/8"	5120-01-335-1264
40. Extension, 1/2" Drive, 9-1/2" -10-1/2"	5120-01-335-1051
41. Screwdriver, Flat Tip, 3/8" x 10"	5120-01-335-2484
42. Screwdriver, Flat Tip, 3/8" x	5120-01-335-2484
43. Screwdriver, Flat Tip, 3/8" x	5120-01-335-2484
44. Screwdriver, Flat Tip, 3/8" x 10"	5120-01-335-2484
45. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
46. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
47. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
48. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
49. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
50. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
51. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
52. Rule, Steel, Machinist's, 12", No. 4	5210-00-234-5224
53. Lubricating Gun, Hand	4930-00-253-2478
54. Wrench, Combination, 5/16"	5120-01-335-1230
55. Wrench, Combination, 3/8"	5120-01-335-1232
56. Wrench, Combination, 3/8"	5120-01-335-1232
57. Wrench, Combination, 3/8"	5120-01-335-1232
58. Wrench, Combination, 3/8"	5120-01-335-1232
59. Wrench, Combination, 3/8"	5120-01-335-1232
60. Wrench, Combination, 3/8"	5120-01-335-1232
61. Wrench, Combination, 3/8"	5120-01-335-1232
62. Wrench, Combination, 3/8"	5120-01-335-1232
63. Wrench, Combination, 7/16"	5120-01-335-1233
64. Wrench, Combination, 1/2"	5120-01-335-1234
65. Wrench, Combination, 9/16"	5120-01-335-1235
66. Wrench, Combination, 7/16"	5120-01-335-1233
67. Wrench, Combination, 1/2"	5120-01-335-1234
68. Wrench, Combination, 5/8"	5120-01-335-1236
69. Wrench, Combination, 11/16"	5120-01-335-1237
70. Socket, Impact, 1/2" Drive, 3/8"	5130-01-348-9208
71. Socket, Impact, 1/2" Drive, 7/16"	5130-01-348-9209
72. Socket, Impact, 1/2" Drive, 1/2"	5130-01-348-9210
73. Socket, Impact, 1/2" Drive, 9/16"	5130-01-362-0020
74. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
75. Socket, Impact, 1/2" Drive, 11/16"	5130-01-348-9212

TABLE D-9. ALRE-8 WORK CENTER BOX (A/G)
F-BOX CONT'D

ITEM	NSN
76. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
77. Socket, Impact, 1/ 2" Drive, 13/16"	5130-01-348-9261
78. Socket, Impact, 1/2" Drive, 7/8"	5130-01-348-9262
79. Socket, Impact, 1/2" Drive, 15/16"	5130-01-348-9263
80. Socket, Impact, 1/2" Drive, 1"	5130-01-348-9264
81. Fitting, Lubrication, Flush Style	4730-00-250-7902
82. Fitting, Lubrication, Flush Style	4730-00-250-7902
83. Fitting, Lubrication, Flush Style	4730-00-250-7902
84. Fitting, Lubrication, Flush Style	4730-00-250-7902
85. Coupling, Grease Gun, Nozzle	4930-00-722-4094
86. Coupling, Grease Gun, Nozzle	4930-00-722-4094
87. Coupling, Grease Gun, Nozzle	4930-00-722-4094
88. Coupling, Grease Gun, Nozzle	4930-00-722-4094
89. Wrench, "T" Adjustable, Anchor	5120-00-590-8828
90. Wrench, "T" Adjustable, Anchor	5120-00-590-8828
91. Oiler, Hand, 4 Oz, 3" Spout	4930-00-274-5713
92. Oiler, Hand, 4 Oz, 3" Spout	4930-00-274-5713
93. Lubricating Gun, Hand	4930-00-253-2478
94. Oiler, Hand, 4 Oz, 3" Spout	4930-00-274-5713
95. Oiler, Hand, 4 Oz, 3" Spout	4930-00-274-5713
96. Lubricating Gun, Hand	4930-00-253-2478
97. Plate, Marking, Blank, Tool	9905-00-473-6336
98. Plate, Marking, Blank, Tool	9905-00-473-6336
99. Plate, Marking, Blank, Tool	9905-00-473-6336
100. Plate, Marking, Blank, Tool	9905-00-473-6336
101. Plate, Marking, Blank, Tool	9905-00-473-6336

TABLE D-10. ALRE-9 FLASHLIGHT BOX (A/G)
C-BOX

ITEM	NSN
1. Flashlight, Traffic Baton	6230-00-926-4331
2. Flashlight, Traffic Baton	6230-00-926-4331
3. Flashlight, Traffic Baton	6230-00-926-4331
4. Flashlight, Traffic Baton	6230-00-926-4331
5. Flashlight, Traffic Baton	6230-00-926-4331
6. Flashlight, Traffic Baton	6230-00-926-4331
7. Flashlight, Traffic Baton With Green Filter	6230-00-926-4331
8. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
9. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
10. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
11. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
12. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
13. Flashlight, Traffic Baton With Red Filter	6230-00-926-4331
14. Flashlight, Traffic Baton With Green Filter	6230-00-926-4331

**TABLE D-11. ALRE-10 TOPSIDE SHEAVE BOX
C-BOX**

ITEM	NSN
1. Screwdriver, Flat Tip, 3/8" X 8" Cushion Grip	5120-01-335-2497
2. Holder, Inserted Hammer Face, 3-1/2 lbs., 3" Diameter With Face, Hammer, Inserted, Hard, 3" Diameter (2 Each)	5120-00-903-8552 5120-00-555-2086
3. Handle, Socket Wrench, Reversible 3/8" Drive	5120-01-355-1867
4. Extension, 1/2" Drive, 10"	5120-01-335-1051
5. Wrench, Tap and Reamer, 1/4" - 3/4" Cap.	5120-00-289-0539
6. File, Hand, Flat, Smooth Cut, 12"	5110-01-335-1583
7. Handle	5110-01-349-4828
8. Scraper, Ship, Paint, 1-3/4" X 15"	5110-00-240-3094
9. Plate, Marking, Blank, Tool	9905-00-473-6336
10. Plate, Marking, Blank, Tool	9905-00-473-6336
11. Plate, Marking, Blank, Tool	9905-00-473-6336
12. Plate, Marking, Blank, Tool	9905-00-473-6336
13. Plate, Marking, Blank, Tool	9905-00-473-6336
14. Tap, Thread Cutting, Bottoming, 1/2" - 13	5136-00-729-5688
15. Tap, Thread Cutting, Bottoming, 1/2" - 13	5136-00-729-5688
16. Tap, Thread Cutting, Bottoming, 7/8" - 14	UNK
17. Scraper, Ship, Paint, 1-3/4" X 15	5110-00-240-3094
18. Flashlight	6230-00-270-5688
19. Flashlight	6230-00-270-5688
20. Handle, Socket Wrench, Reversible, 3/4" Drive, 17"	5120-00-249-1076
21. Socket Wrench Attachment, 3/4" Drive 3/4" Hex	5120-01-024-0168
22. Adapter, Socket Wrench, 3/4" Female to 1/2" Male	5120-01-355-1894
23. Socket Wrench Attachment, 1/2" Drive, 1/2" Hex	5120-01-367-3465
24. Adapter, Socket Wrench, 1/2" Female to 3/8" Male, Impact	5130-01-366-8222
25. Socket Wrench Attachment, 3/8" Drive, 3/8" Hex	5120-01-367-3478
26. Wrench, Combination, 9/16"	5120-01-335-1235
27. Wrench, Combination, 9/16"	5120-01-335-1235

**TABLE D-12. ALRE-11 FAIRLEAD BOX
B-BOX**

ITEM	NSN
1. Scraper, Ship, Paint, 1-3/4" X 15"	5110-00-240-3094
2. Screwdriver, Flat Tip, 3/8" X 10"	5120-01-335-2484
3. Screwdriver, Flat Tip, 3/8" X 10"	5120-01-335-2484
4. Plate, Marking, Blank, Tool	9905-00-473-6336
5. Plate, Marking, Blank, Tool	9905-00-473-6336
6. Plate, Marking, Blank, Tool	9905-00-473-6336
7. Plate, Marking, Blank, Tool	9905-00-473-6336
8. Plate, Marking, Blank, Tool	9905-00-473-6336
9. Socket, Impact, 1/2" Drive, 7/8"	5130-01-348-9262
10. Socket, Impact, 1/2" Drive, 3/4"	5130-01-348-9260
11. Adapter, Socket Wrench, 3/4" Female to 1/2", Male	5120-01-355-1894
12. Socket, Wrench Attachment, 1/2" Drive, 3/4" Hex	5120-01-367-3468
13. Socket, Wrench Attachment, 1/2" Drive, 5/8" Hex	5120-01-367-3467
14. Socket, Wrench Attachment, 1/2" Drive, 9/16" Hex	5120-01-367-3466
15. Socket, Impact, 1/2" Drive, 5/8"	5130-01-348-9211
16. Socket, Impact, 1/2" Drive, 9/16"	5130-01-362-0020
17. Adapter, Socket Wrench, 1/2" Female to 3/8" Male, Impact	5130-01-056-7716
18. Socket Wrench Attachment, 3/8" Drive, 3/8" Hex	5120-01-367-3478
19. Socket Wrench Attachment, 3/8" Drive, 3/8" Hex	5120-01-367-3478
20. Socket Wrench Attachment, 3/8" Drive, 5/16" Hex	5120-01-367-3477
21. Bar, Cheater	LOCAL MFG
22. Wrench, Combination 3/4"	5120-01-335-1258
23. Wrench, Combination 3/4"	5120-01-335-1258
24. Wrench, Combination 11/16"	5120-01-335-1237
25. Wrench, Combination 11/16"	5120-01-335-1237
26. Wrench, Combination 9/16"	5120-01-335-1235
27. Wrench, Combination 9/16"	5120-01-335-1235
28. Hammer, Ball Peen, 16 Oz	5120-01-335-1474
29. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
30. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
31. Wire, Non-Electrical, 0.032	9505-00-293-4208
32. Wire Twister, Pliers	5120-00-305-2306
33. Handle, Socket Wrench, Hinged, 1/2" Drive, 14"	5120-01-335-0713
34. Mallet, Rubber, 24 Oz	5120-00-293-3399

TABLE D-13. ALRE-12 CONSTANT RUNOUT (CRO) BOX
B-BOX

1. Screwdriver, Flat Tip, 3/8" X 10"	5120-01-335-2484
2. Plate, Marking, Blank, Tool	9905-00-473-6336
3. Plate, Marking, Blank, Tool	9905-00-473-6336
4. Plate, Marking, Blank, Tool	9905-00-473-6336
5. Plate, Marking, Blank, Tool	9905-00-473-6336
6. Plate, Marking, Blank, Tool	9905-00-473-6336
7. Socket Wrench Attachment, 3/8" Drive, 3/16" Hex	5120-01-367-3457
8. Socket Wrench Attachment, 3/8" Drive, 3/8" Hex	5120-01-367-3478
9. Socket Wrench Attachment, 1/2" Drive, 5/16" Hex	5120-01-367-3462
10. Socket Wrench Attachment, 1/2" Drive, 5/8" Hex	5120-01-367-3467
11. Socket Wrench Attachment, 3/4" Drive, 3/4" Hex	5120-01-024-0168
12. Socket, 1/2" Drive, 9/16"	5120-01-335-0796
13. Socket, 3/4" Drive, 1-1/16"	5120-01-024-2453
14. Socket, 3/4" Drive, 1-1/8"	5120-00-239-0021
15. Adapter, Socket Wrench, 1/2" Female to 3/8" Male	5120-01-366-8220
16. Adapter, Socket Wrench, 3/4" Female to 1/2" Male	5120-01-355-1894
17. Crowfoot Attachment, 1/2" Drive, 1-1/8", Open End Box	5120-01-335-1120
18. Brass Pin, 1-1/4" Diameter, 9" Long	NAEC P/N 317534-1
19. Pliers Set, Retaining Ring, No. 1-9	5120-00-789-0492
20. Pliers Set, Retaining Ring, No. 1-9	5120-00-789-0492
21. Wrench, Combination, 9/16"	5120-01-335-1235
22. Wrench, Combination, 9/16"	5120-01-335-1235
23. Handle, Socket Wrench, Reversible 1/2" Drive	5120-01-355-1901
24. Extractor, Stuffing Box and Pump Packing, Size 2	5120-00-223-9557
25. Wire Twister, Pliers	5120-00-305-2306
26. Hammer, Brass, 32 Oz	5120-00-187-1034
27. Handle, Socket Wrench, Reversible, 3/4" Drive	5120-00-249-1076

TABLE D-14. ALRE-13 SOCKET POURING BOX
A-BOX

1. Pliers, Diagonal Cut, 7-1/2"	5110-00-222-2708
2. Hammer, Ball Peen, 16 Oz	5120-01-335-1474
3. Brush, Plater's, Steel Wire	7920-00-267-1215
4. Mallet, Rubber, 24 Oz	5120-00-293-3399
5. Wrench, Pliers, 8-1/2"	5120-00-277-4244
6. Screwdriver, Flat Tip, 3/8" X 10"	5120-01-335-2484
7. Screwdriver, Flat Tip, 3/8" X 10"	5120-01-335-2484
8. File, Hand, Flat, Second Cut, 12"	5110-00-203-4855
9. Wire Twister, Pliers	5120-00-305-2306
10. Pliers, Slip Joint, 8"	5120-00-223-7397
11. Tape, Measuring, 6 Feet	5210-01-335-1615
12. Tape, Measuring, 10 Feet	5210-01-335-1611
13. Knife, Pocket, Marlinespike	5110-00-530-1557
14. Plate, Marking, Blank, Tool	9905-00-473-6336
15. Plate, Marking, Blank, Tool	9905-00-473-6336
16. Plate, Marking, Blank, Tool	9905-00-473-6336
17. Plate, Marking, Blank, Tool	9905-00-473-6336
18. Plate, Marking, Blank, Tool	9905-00-473-6336
19. Saw, Hand, Metal Cutting	5110-00-221-0235

**TABLE D-15. ALRE-14 WORK CENTER BOX, VLA, SHOP EQUIPMENT
F-BOX**

Nomenclature	NSN
1. Flashlight	6230-00-270-5418
2. Alignment Tool Set, Electronics	5180-00-650-7823
3. Wrench, Combination, 3/16"	5120-01-264-6122
4. Wrench, Combination, 1/4"	5120-00-142-5357
5. Wrench, Combination, 9/32"	5120-01-173-7057
6. Wrench, Combination, 1"	5120-01-335-1262
7. Handle, Socket Wrench, Hinged, 3/8" Drive	5120-01-355-1864
8. Handle, Socket Wrench, Reversible, 3/8" Drive	5120-01-355-1867
9. Handle, Socket Wrench, Hinged, 1/2" Drive	5120-01-355-0713
10. Handle, Socket Wrench, Reversible, 1/2" Drive	5120-01-355-1901
11. Mirror, Inspection, 1-1/4" Diameter	5120-01-335-1568
12. Retrieving Tool, Magnetic	5120-01-335-1375
13. Hammer, Ball Peen, 16-Oz	5120-01-335-1474
14. Screwdriver, Flat Tip, 5/16 X 1-3/4"	5120-00-278-1273
15. Mirror, Inspection 11"	5120-00-278-9926
16. Screwdriver, Flat Tip, 1/4" X 4"	5120-01-367-3720
17. Screw Starter, Hand, Flat Tip, 7-1/4" X 1/4"	5120-00-278-0326
18. Screwdriver, Flat Tip, 3/8" X 8" Non-Sparking	5120-00-287-2502
19. Screwdriver, Flat Tip, 3/16" X 5"	5120-00-278-1270
20. Screwdriver, Flat Tip, 5/16" X 6"	5120-01-367-3721
21. Screwdriver, Flat Tip, 3/8" X 8" Insulated Blade	5120-01-367-3722
22. Screwdriver, Phillips #2, 7"	5120-00-596-0861
23. Screwdriver, Flat Tip, 5/32" X 10"	5120-00-293-3178
24. Soldering Aid, Reamer and Forked Tip	3439-00-629-2697
25. Soldering Aid, Brush and Forked Tip	3439-00-611-7136
26. Hammer, Hand Scaling, 1 LB	5120-00-224-4111
27. Panel Card Puller	5998-01-302-3384
28. Pliers, Slip Joint, 6"	5120-00-223-7397
29. Pliers, Diagonal Cut, Cushion Throat, 7-1/2"	5110-00-293-3210
30. Pliers, Needle Nose, 6-1/2" With Side Cut	5120-00-247-5177
31. Wire Twister, Pliers	5120-00-305-2306
32. Pliers, Multiple Tongue and-Groove, 10"	5120-00-278-0352
33. Pliers, Curved, Needle Nose, 6"	5120-00-239-8250
34. Pliers, Electrical Connector	5120-00-624-8065

TABLE D-15. ALRE-14 WORK CENTER BOX, VLA, SHOP EQUIPMENT
F-BOX CONT'D

Nomenclature	NSN
35. Crimping Tool, Terminal, Hand	5120-00-278-2423
36. Puller Fuse #2	5120-00-224-9456
37. Handle, Socket Wrench, Hinged, 1/4" Drive	5120-01-335-0759
38. Handle, Socket Wrench, Reversible, 1/4" Drive	5120-01-335-0766
39. Extension, 1/4" Drive, 5" - 6-1/2"	5120-01-335-1072
40. Extension, 1/4" Drive, 2" - 3-1/2"	5120-01-335-1070
41A. Tweezers, Craftsman, Fine Tip, 4-1/2"	5120-00-247-0867
41B. Tweezers, Craftsman, Clock, 6-1/2"	5120-00-233-6985
42. Key, Pocket Read Screw, Hex, 9/64" Short	5120-00-889-2163
43. Key, Socket Read Screw, Hex, 5/32" Short	5120-00-198-5392
44. Key, Socket Head Screw, Hex, 3/16" Short	5120-00-240-5300
45. Key, Socket Head Screw, Hex, 7/32" Short	5120-00-242-7411
46. Key, Socket Head Screw, Hex, 1/4" Short	5120-00-224-4659
47. Key, Socket Read Screw, Hex, 5/16" Short	5120-00-240-5274
48. Key, Socket Read Screw, Hex, 3/8" Short	5120-00-198-5390
49. Key, Socket Head Screw, Hex, 7/16" Short	5120-00-240-5277
50. Key, Socket Head Screw, Hex, 1/2" Short	5120-00-198-5391
51. Key, Socket Read Screw, Hex, 9/16" Short	5120-00-240-5268
52. Key, Socket Head Screw, Hex, 5/8" Short	5120-00-224-2510
53. Key, Socket Read Screw, Hex, 3/4" Short	5120-00-222-1489
54. Socket, 1/4" Drive, 3/16"	5120-01-335-0933
55. Socket, 1/4" Drive, 7/32"	5120-01-335-0934
56. Socket, 1/4" Drive, 1/4"	5120-01-335-0935
57. Socket, 1/4" Drive, 9/32"	5120-01-335-0936
58. Socket, 1/4" Drive, 5/16"	5120-01-335-0937
59. Socket, 1/4" Drive, 11/32"	5120-01-335-0938
60. Socket, 1/4" Drive, 3/8"	5120-01-335-0939
61. Socket, 1/4" Drive, 7/16"	5120-01-335-0940
62. Socket, 1/4" Drive, 1/2"	5120-01-335-0941
63. Socket, 1/4" Drive, 9/16"	5120-01-335-0942
64. Adapter, Socket Wrench, 1/4" Female to 3/8" Male	5120-01-335-0695
65. File Set, Needle	5110-00-204-2685
66. Socket, 3/8" Drive, 3/8"	5120-01-335-0916
67. Socket, 3/8" Drive, 3/8"	5120-01-335-0916
68. Socket, 3/8" Drive, 7/16"	5120-01-335-0917
69. Socket, 3/8" Drive, 1/2"	5120-01-335-0918

TABLE D-15. ALRE-14 WORK CENTER BOX, VLA, SHOP EQUIPMENT
F-BOX CONT'D

Nomenclature	NSN
70. Adapter, Socket Wrench, 3/8" Female to 1/4" Male	5120-01-335-0700
71. Socket, 1/2" Drive, 3/8"	5120-01-335-0774
72. Socket, 1/2" Drive, 7/16"	5120-01-335-0775
73. Socket, 1/2" Drive, 1/2"	5120-01-335-0776
74. Socket, 1/2" Drive, 9/16"	5120-01-335-0777
75. Adapter, Socket Wrench, 1/2" Female to 3/8" Male, Impact	5130-01-366-8222
76. Adapter, Socket Wrench, 1/2" Female to 3/8" Male, Impact	5130-01-366-8222
77. Screwdriver, Jewelers, 0.0251"	5120-00-180-0705
78. Screwdriver, Jewelers, 0.040"	5120-00-180-0706
79. Screwdriver, Jewelers, 0.055"	5120-00-180-0727
80. Screwdriver, Jewelers, 0.070"	5120-00-180-0728
81. Screwdriver, Jewelers, 0.080"	5120-00-180-0729
82. Screwdriver, Jewelers, 0.100"	5120-00-180-0730
83. Key, Socket Head Screw, Hex, .028" Short	5120-00-555-2639
84. Key, Socket Head Screw, Hex, .035" Short	5120-00-198-5400
85. Key, Socket Head Screw, Hex, .050" Short	5120-00-198-5401
86. Key, Socket Head Screw, Hex, 1/16" Short	5120-00-198-5398
87. Key, Socket Head Screw, Hex, 5/64" Short	5120-00-224-2504
88. Key, Socket Head Screw, Hex, 3/32" Short	5120-00-242-7410
89. Key, Socket Head Screw, Hex, 7/64" Short	5120-00-889-2162
90. Key, Socket Read Screw, Hex, 1/8" Short	5120-00-240-5292
91. Screwdriver, Offset, Phillips #1 and #2	5120-01-367-3758
92. Screwdriver, Offset, Flat Tip, 1/4" X 4-1/2"	5120-01-367-3763
93. Panel Card Puller	5999-01-060-5096
94. Plate, Marking, Blank, Tool	9905-00-473-6336
95. Plate, Marking, Blank, Tool	9905-00-473-6336
96. Plate, Marking, Blank, Tool	9905-00-473-6336
97. Plate, Marking, Blank, Tool	9905-00-473-6336
98. Plate, Marking, Blank, Tool	9905-00-473-6336
99. Lubricating Gun, Hand, Pistol Grip	4930-00-965-0288
100. Wrench, Combination, 1-7/8"	5120-01-335-1241

SECTION VI
SPECIAL TOOL LISTINGS

6-1 INTRODUCTION. Special tools and materials can be found on AELs, applicable technical manuals, and MRCs.

APPENDIX E
ALRE TECHNICAL MANUALS

ALRE TECHNICAL MANUALS	
MANUAL NUMBER	MANUAL TITLE
NA 00-25-100	NAVAL AIR SYSTEMS COMMAND TECHNICAL MANUAL PROGRAM
NA 00-25-300	MANAGEMENT AND PROCEDURES MANUAL NAVAIRSYSCOM TECHNICAL DIRECTIVES SYSTEM
NA 00-25-700	GUIDE TO THE GENERAL STYLE AND FORMAT OF WORK PACKAGE TECHNICAL MANUALS
NA 00-80R-14	NATOPS U.S. NAVY AIRCRAFT FIREFIGHTING AND RESCUE MANUAL
NA 00-80R-14-1	NATOPS U.S. NAVY AIRCRAFT EMERGENCY RESCUE INFORMATION MANUAL
NA 00-80T-105	CV NATOPS MANUAL
NA 00-80T-113	AIRCRAFT SIGNAL NATOPS MANUAL
NA 00-80T-120	CV FLIGHT/HANGAR DECK NATOPS MANUAL
NA 01-1A-16	NONDESTRUCTIVE INSPECTION METHODS, BASIC THEORY
NA 51-15ABB-4.1	O&I LEVEL MAINT WITH IPB FOR SHIPS STEAM CATAPULTS VOL 1
NA 51-15ABB-4.2	O&I LEVEL MAINT WITH IPB FOR SHIPS STEAM CATAPULTS VOL 2
NA 51-15ABB-4.3	O&I LEVEL MAINT WITH IPB FOR SHIPS STEAM CATAPULTS VOL 3
NA-51-15ABC-4	FORWARD ICCS OPERATION
NA 51-15-ABC-5	DECKEDGE ICCS OPERATION, MAINTENANCE, & IPB
NA 51-15ABD-2	OVERHAUL INSTRUCTION (DEPOT) FOR ALL STEAM CATAPULTS
NA 51-15ABD-3	IPB FOR ALL STEAM CATAPULTS
NA 51-15ABE-2	O&I LEVEL MAINT WITH IPB DIGITAL ENDSPEED INDICATOR
NA 51-15ABF-1	O, I, D LEVEL MAINT WITH IPB AIRCRAFT LAUNCHING ACCESSORIES
NA 51-15ABG-1	O, I, D LEVEL MAINT WITH IPB FOR CARVER PUMP CO. CATAPULT WATER BRAKE PUMP
NA 51-5BBA-2.1	IPB FOR ALL SHIPBOARD AIRCRAFT RECOVERY EQUIPMENT
NA 51-5BBA-2.2	IPB FOR ALL SHIPBOARD AIRCRAFT RECOVERY EQUIPMENT

NA 51-5BCA-3.1	OVERHAUL (DEPOT)FOR ALL SHIPBOARD AIRCRAFT RECOVERY EQUIPMENT
NA 51-5BCA-3.2	IPB FOR ALL SHIPBOARD AIRCRAFT RECOVERY EQUIPMENT
NA 51-25-3	VICKERS PUMP
NA 51-40ABA-21	IFLOLS, IMPROVED FRESNEL LENS OPTICAL LANDING SYSTEM, IPB
NA 51-40ABA-22	IFLOLS, IMPROVED FRESNEL LENS OPTICAL LANDING SYSTEM, OVERHAUL MANUAL
NA 51-40ACA-2	VLA, MANUALLY OPERATED VLA SYSTEM (SHIPBOARD)
NA 51-50ABA-6	LRLS, LONG RANGE LINE-UP SYSTEM, IPB
NA 51-50AAA-1	VLA, INSTALLATION FLIGHT DECK LIGHTING FOR VLA (SHIPBOARD)
NA 51-50ABA-2	VLA ON CV SHIPS
NA 51-60-7	ELECTRONIC CROSSHAIR STABILIZATION SYSTEM (ECSS)
NA 51-70-13	JBD MK 7 MOD 0, MK 7 MOD 1, MK 7 MOD 2
A1-436-AC-130-010	REPEATABLE RELEASE HOLDBK ASSY F/A-18
AM-410AA-MAN-000	WMIS, SHIPBOARD WIND MEASURING AND INDICATING SYSTEM
AM-410AB-MAN-000	WMIS, SHIPBOARD WIND MEASURING AND INDICATING SYSTEM
AM-420AD-MAN-000	WMIS, CROSSWIND AND HEADWIND COMPUTER
NA 0912-LP-005-8010	SHIPBOARD WINDOW WIPERS, DECKEDGE ICCS DOME
NA 0912-LP-005-7010	SHIPBOARD WINDOW WIPERS, FORWARD ICCS DOME
NS 0947-LP-152-7010	CATAPULTS WATER BRAKE COOLING PUMP
NAWCADLKE-48J500-0007	ALRE DPL ADP PROGRAM USERS MANUAL
NAWCADLKE-48J500-0009	ALRE AUTO SHOT AND RECOVERY LOG ADP PROGRAM USERS MANUAL
NS 0947-LP-153-4010	CATAPULTS WATER BRAKE PUMP
NS 0947-LP-161-4010	CATAPULTS, CIRCULATING CATAPULT HYDRAULIC FLUID PUMP
NS 0948-LP-069-8010	GLOBE VALVE, TYPE Y
NS 0965-LP-108-9010	WMIS, WIND IND EQUIP OPS AND MAINT MANUAL
NS 0983-LP-002-7010	ICCS, HEATED DE-ICING WINDOW FORWARD ICCS
NS 0983-LP-002-8010	CATAPULTS, HYDRAULIC FLUID COOLER

NS 9587-AD-MMM-010	ICCS, FORWARD ICCS
NS 9587-AE-MMM-010	ICCS, DECK EDGE ICCS

NOTES

1. Publications listed in this appendix are required for a CVN ALRE TPL, subject to a ship's installed equipment configuration. Applicable aperture cards, service bulletins, SCs, and repair procedures shall also be held.

2. Refer to CDROM NAVSUP P-600 (NLL) on Naval Logistics Library Web site.

APPENDIX F
ACRONYMS AND ABBREVIATIONS

3-MMaintenance and Material Management
A/GArresting Gear
ADPAutomated Data Processing
AELAllowance Equipage List
AIGAddress Indicator Group
AIMDAircraft Intermediate Maintenance Department
ALREAircraft Launch and Recovery Equipment
ALREMPAircraft Launch and Recovery Equipment
Maintenance Program
ALREMOAircraft Launch and Recovery Equipment
Maintenance Officer
AMDActivity Manpower Document
AMMTAircraft Launch and Recovery Equipment
Maintenance Management Team
APLAllowance Parts List
ASRLAutomated Shot and Recovery Log Program
AWDAwaiting Documentation
AWMAwaiting Maintenance
AWPAwaiting Parts
AWRAutomated Work Request
BUPERSBureau of Naval Personnel
CAFSSUCarrier and Field Service Unit
CANTRACCatalog of Navy Training Courses

CASREPCasualty Report

CDICollateral Duty Inspector

CDMConfiguration Data Manager

CDMDConfiguration Data Manager Database

CDMD-OAConfiguration Data Manager Database-Open
Architecture

CDQAICollateral Duty Quality Assurance Inspector

CETARSCorporate Enterprise Training Activity
Resource System

CFACognizant Field Activity

CISCommercial Industrial Services

CNATTCenter for Naval Aviation Technical Training

CNATTUCenter for Naval Aviation Technical Training
Unit

CNOChief of Naval Operations

COGCognizance

COHComplex Overhaul

COMCARGRUCommand Carrier Group

COMFLTFORCOMCommander, Fleet Forces Command

COMNAVAIRFORCommander, Naval Air Forces

COMNAVAIRSYSCOMCommander, Naval Air Systems Command

COMNAVRESFORCommander, Naval Reserve Forces

COMNAVSEASYSYSCOMCommander, Naval Sea Systems Command

COMNAVSUPSYSCOMCommander, Naval Supply Systems Command

COMNSVSUPSYSCOMCommander, Naval Supply Systems Command

COMSPAWARSSYSCOMCommander, Space and Naval Supply System
Command

CONUSContinental United States

COSALCoordinated Shipboard Allowance List

CPOChief Petty Officer

CR IPLConsolidated Remain-in-Place List

CSICritical Safety Item

CSMPCurrent Ship's Maintenance Project

CTPLCentral Technical Publication Library

CVCarrier Vessel

CVNAircraft Vessel, Nuclear

DCNODeputy Chief of Naval Operations

DLADefense Logistics Agency

DNSDirector of Navy Staff

DoDDepartment of Defense

DODAACDepartment of Defense Activity Address Code

DONDepartment of the Navy

DOPDesignated Overhaul Point

DPLDiscrepant Parts List

DSNDefense Switched Network

EDVREnlisted Distribution Verification Report

EEREmergency Essential Repair

EIEngineering Investigation

EICEquipment Identification Code
ESWBSExtended Ships Work Breakdown Structure
FADForce and Activity Designator
FMPFleet Modernization Program
FODForeign Object Damage
FRCFleet Readiness Center
FRPFleet Response Plan
FSTFleet Support Team
FTCFleet Training Center
FTSCFleet Technical Support Centers
GSEGovernment Support Equipment
HMRHazardous Material Report
HPRRHuman Performance Requirements Review
HSCHierarchical Structure Code
ICNInvestigation Control Number
ICPInventory Control Point
IFLOLSImproved Fresnel Lens Optical Landing System
ILARTSIntegrated Launch and Recovery Television
 Surveillance System
ILSIntegrated Logistics Support
IMAIntermediate Maintenance Activity
INSURVBoard of Inspection and Survey
IPBIllustrated Parts Breakdown

IRACInterim Rapid Action Change

ISEAIn-Service Engineering Agency

ISRAIncremental Selected Restricted Availability

IWPCDIntegrated Work Package Control Document

JBMDLJoint Base Mcguire-Dix-Lakehurst

JCNJob Control Number

JFMMJoint Fleet Maintenance Manual

JSNJob Sequence Number

LIRSHList of Items Requiring Special Handling

M/CMaintenance Control

MAFMaintenance Action Form

MAPLMaintenance Plan

MDSMaintenance Data System

METCALMetrology and Calibration

MHRSMan-hours

MIMaintenance Instruction

MILSTRAPMilitary Standard Transaction Reporting and
Accounting Procedures

MILSTRIPMilitary Standard Requisition and Issue
Procedures

MIPMaintenance Index Page

MMPMonthly Maintenance Plan

MRMaintenance Requirement

MRCMaintenance Requirement Card

MRILMaster Repairable Item List

MSMaintenance Support

MSCMaintenance Support Center

NAMDRPNaval Aviation Maintenance Discrepancy
Reporting Program

NAMSO Navy Maintenance Support Office

NATECNaval Air Technical Data and Engineering
Service Command

NATTCNaval Air Technical Training Center

NAVAIRSYSCOMNaval Air Systems Command

NAVAIRWARCENNaval Air Warfare Center

NAVAIRWARCENACDIV ...Naval Air Warfare Center Aircraft Division

NAVCALABNavy Calibration Laboratory

NAVICPNaval Inventory Control Point

NAVOSHNaval Occupational Safety and Health

NAVSAFECENNaval Safety Center

NAVSEALOGCENNaval Sea Logistics Center

NAVSEASYSYSCOMNaval Sea Systems Command

NAVSHIPYDNaval Shipyard

NAVSHIPREPFACNaval Ship Repair Facility

NDINon-destructive Inspection

NECNavy Enlisted Classifications

NETCNaval Education and Training Command

NGNext Generation

NGLNose Gear Launch

NIINNational Identification Item Number

NITRASNavy Integrated Training Resources and
Administration System

NLLNaval Logistics Library

NOTALNot to All

NSNNational Stock Number

NTPNavy Training Plan

OJTOn-the-Job Training

OMMSOrganizational Maintenance Management System

OPNAVOffice of the Chief of Naval Operations

OPTAROperating Target

OSIOperating Space Item

PEO(T)Program Executive Office, Tactical Aircraft
Programs

PIAPlanned Incremental Availability

PMEPrecision Measuring Equipment

PMSPlanned Maintenance System

P/NPart Number

POPetty Officer

POCPoint of Contact

PQDRProduct Quality Deficiency Report

PQSPersonnel Qualification Standards

PRSProgress Report Sheet

PSICPProgram Supply Inventory Control Point
QAQuality Assurance
QAIQuality Assurance Inspector
RACRapid Action Change
RAVRestricted Availability
RCNReport Control Number
REIRequest for Engineering Investigation
RFIReady for Issue
RIPRemain in Place
RMCRegional Maintenance Center
RRERotary Retraction Engine
RSGReadiness Support Group
SCService Change
SCPOSenior Chief Petty Officer
SCLISIS Ship Configuration Logistics Support
Information System
SESupport Equipment
SECNAVSecretary of the Navy
SEFShips Equipment File
SEISpecial Emphasis Item
SF MHRSShip's Force Man-hours
SFWPShip's Force Work Package
SHIPALTShip Alteration

SIShip Installation

SLRSelect Level Reporting

SM&RSource, Maintenance, and Recoverability Code

SMDShip's Manning Document

SMESubject Matter Expert

SRASelected Restricted Availability

SUPSHIPSupervisor of Shipbuilding, Conversion, and
Repair

SUPSHIP NNVASupervisor of Shipbuilding, Newport News, VA

TADTemporary Additional Duty

TCPTool Control Program

TCPLTool Control Plan

TDTechnical Directive

TFMMSTotal Force Manpower Management Systems

TMDERTechnical Manual Deficiency and Evaluation
Report

TPDRTechnical Publication Deficiency Report

TPLTechnical Publications Library

TYCOMType Commander (COMNAVAIRFOR Atlantic or
Pacific, etc.)

UICUnit Identification Code

UMMIPSUniform Material Movement and Issue Procedures

UPVCUnplasticized Polyvinyl Chloride

VIDSVisual Information Display System

VIDS/MAFWork Center Register, Control and Processing
Form (VIDS/MAF) (OPNAV 4790/60)

VLAVisual Landing Aid

VRTVoyage Repair Team

WAFWork Authorization Form

W/CWork Center

WCTCPOWork Center Tool Control Petty Officer

WDCWork Definition Conference

WSFWeapon System File

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Appendix G

Index

A

Aircraft Launch and Recovery Equipment (ALRE) Discrepancy Reporting Program	7-2
Aircraft Launch and Recovery Equipment (ALRE) Maintenance Organization	
Concept	8-2
Organization	8-2
Responsibilities	8-3
ALRE Branch Officers	8-3
ALRE Maintenance Control Supervisor	8-5
ALRE Maintenance Officer	8-3
Catapult and Arresting Gear Officer	8-3
Commanding Officer	8-3
Department Head	8-3
Group Supervisors	8-5
Work Center Supervisors	8-6
Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP)	
Command Relationships	4-2
Command Responsibilities	4-2
Aviation Type Commanders (TYCOMs)	4-2
Carrier Strike Group Commanders (COMCARSTRKGRUs)	4-3
Command Structure	4-2
Chief of Naval Operations (CNO)	4-2
Director, Air Warfare Division (N88)	4-2
Director, Surface Warfare Division (N86)	4-2
Funding	2-3
Instruction	1-3
Changes/Corrections/Deviation/Interim Changes	
Definition	1-3
Processing	1-4
Submission	1-4
Corrections	
Introduction	1-2
Obtaining Copies	1-2
Recommend Change or Correction	1-3
Maintenance Concepts	3-2
Maintenance Levels	3-2
Maintenance Types	3-4
Objective	2-2
Policy	2-2
Responsibility	2-3
Support Responsibilities	4-3
Commander, Naval Air Systems Command (COMNAVAIRSYSCOM)	4-5
Commander, Naval Sea Systems Command (COMNAVSEASYSYSCOM)	4-8
Commander, Naval Supply Systems Command (COMNAVSUPSYSCOM)	4-3
Fleet Technical Support Centers (FTSCs)	4-8
NAVAIRWARCENDIV Lakehurst	4-7
Naval Sea Logistics Center (NAVSEALOGCEN)	4-9
Naval Shipyards (NAVSHIPYDs)	4-8
FRC/NAWC VRTs	4-7
NAVICP Mechanicsburg	4-4
NAVICP Philadelphia	4-4
Supervisors of Shipbuilding, Conversion, and Repair (SUPSHIPS)	4-8
Training	5-2
Allowance Management	10-7
ALRE Branch Officers	8-3

ALRE Discrepancy Reporting Program	
AIG 13885	11-51
ALRE Engineering Investigation (ALRE EI)	11-34
ALRE Hazardous Material Report (ALRE HMR)	11-31
ALRE Technical Publication Deficiency Report (ALRE TPDR)	11-40
Program Management	11-23
PQDR/HMR/EI Material Handling	11-26
Report Control Number (RCN)	11-26
Report Preparation	11-42
Reporting Procedures	11-23
Response	11-27
ALRE Discrepancy Reporting Program	11-22
ALRE Maintenance Action Form (MAF)	9-7
Procedures	
Deviations	9-12
ALRE Maintenance Control Supervisor	8-5
ALRE Maintenance Management Teams	6-2
Concept of Operations	6-2
Duties and Functions	6-3
Evaluation Criteria	6-4
TYCOM Composition	6-2
ALRE Maintenance Officer	8-3, 9-2
ALRE Maintenance Organization	
Carrier and Field Service Unit (CAFSU)	13-8
Depot Industrial Functions	13-6
Emergency Essential Repairs (EER)	13-12
Overhauls and Availabilities	13-9
Responsibilities	
Intermediate Maintenance Activities	13-5
Supervisor of Shipbuilding Newport News Code 1800 (SUPSHIP NNVA CODE 1800)	13-11
Type Commanders (TYCOMs)	13-3
Ship Installation (SI) Equipment Services Changes	13-13
Shipboard Procedures	13-2
Unauthorized Alterations of Ships	13-14
Work Definition Conference (WDC)	13-11
ALRE Maintenance Support	
Maintenance Procedures	12-5
Mission	12-2
Organization	12-2
Responsibilities	12-3
Tool Control Program (TCP)	12-5
ALRE PMS Maintenance Requirement (MR) Status displays	9-11
Audits	
Categories	11-15
Automated Shot and Recovery Log Program (ASRL)	7-8
Aviation Type Commanders (TYCOMs)	5-9
C	
Calibration Program	11-20
Carrier and Field Service Unit (CAFSU)	13-8

Carrier Group Commanders (COMCARGRUS)	4-3
Catapult and Arresting Gear Officer	8-3
Chief of Naval Operations (CNO)	4-2, 5-3
Collateral Duty Inspectors (CDIs)	11-12
Collateral Duty Quality Assurance Inspectors (CDQAIs)	11-12
Commander, Naval Air Force, U.S. Atlantic Fleet (COMNAVAIRFOR)	4-3
Commander, Naval Air Force, U.S. Pacific Fleet (COMNAVAIRFOR)	4-3
Commander, Naval Air Systems Command (COMNAVAIRSYSKOM)	4-5, 5-3
Commander, Naval Sea Systems Command (COMNAVSEASYSKOM)	4-8
Commander, Naval Supply Systems Command (COMNAVSUPSYSKOM)	4-3
Commanding Officer	8-3
Configuration Management	7-3
Coordinated Shipboard Allowance List (COSAL/Ship's Equipment File (SEF))	10-10
Corrosion Prevention and Control	7-3

D

DCNO (Manpower and Personnel)	5-3
Department Head	8-3
Depot Maintenance Definition	3-3
Director, Air Warfare Division (N88)	4-2, 5-3
Director, Surface Warfare Division (N86)	4-2
Director, Naval Training and Education (N79)	5-5
Division Safety Program	11-19

E

Emergency Essential Repairs (EER)	13-12
-----------------------------------	-------

F

Fleet Technical Support Centers (FTSCs)	4-8
Fleet Training Centers (FTCs)	5-7
Foreign Object Damage (FOD) Program	11-20
Foreign Objective Damage (FOD) Prevention	7-2

G

Group Supervisor	8-5, 9-2
------------------	----------

H

Human Performance Requirements Review (HPRR)	5-10
--	------

I	
Discrepant Parts List (DPL)	7-8
Intermediate Maintenance	
Definition	3-3
Inventory Control Points (ICPs)	10-11

J	
Job Control Number (JCN)	9-3
JSN Log	9-3

M	
Maintenance Action Form (MAF) Card	9-5
Procedures	
Deviations	9-12
Maintenance Control	9-2
Maintenance Levels	3-2
Depot Level	3-3
Intermediate Level	3-3
Organizational Level	3-3
Maintenance Types	3-4
Overhaul	3-4
Upkeep	3-4
Manpower Management	2-4
Manpower Managment	5-14
Material Control	
Allowance Management	10-6
Coordinated Shipboard Allowance List (COSAL/Ship's Equipment File (SEF)	10-10
Inventory Control Points (ICPs)	10-11
Material Reporting	10-6
Navy Supply System	10-2
Operating Targets (OPTARs)	10-12
Policies and Concepts	10-3
SM&R Codes	10-8
Material Managment	2-4
Material Reporting	10-6
Metrology and Calibration (METCAL)	7-2

N	
NAVAIRWARCENACDIV Lakehurst	4-7
Center for Naval Aviation Technical Training Units (CNATTUs)	5-6
Naval Air Technical Training Center (NATTC)	5-6
Naval Safety Center (NAVSAFECEN)	5-5
Naval Sea Logistics Center (NAVSEALOGCEN)	4-9
Naval Shipyards (NAVSHIPYDs)	4-8

FRC/NAVAIRWARCENACDIV VRTs	4-7
NAVICP Mechanicsburg	4-4
NAVICP Philadelphia	4-4
Navy Training Plan (NTP)	5-2
Non-destructive Inspection (NDI)	7-3

O

Operating Targets (OPTARs)	10-12
Organizational Maintenance Definition	3-3
Outside Maintenance Activity Tracking Job Status	9-13

P

Personnel Qualification Standards (PQS)	5-9
--	------------

Q

Quality Assurance	11-3
ALRE Discrepancy Reporting Program	
ALRE Engineering Investigation (ALRE EI)	11-34
ALRE Hazardous Material Report (ALRE HMR)	11-31
ALRE Technical Publication Deficiency Report (ALRE TPDR)	11-40
ALRE Discrepancy Reporting Program Audits	11-22
Definition	11-4
Calibration Program	11-20
Collateral Duty Inspectors (CDIs)	11-12
Collateral Duty Quality Assurance Inspectors (CDQAIs)	11-12
Concept	11-3
Division Safety Program	11-19
Foreign Object Damage (FOD) Program	11-20
Inspections	11-8
Definition	11-3
Objectives	11-10
Programs	11-13
Quality Assurance Inspectors (QAIs)	11-10
Qualifications	11-12
Responsibility	11-5
QA Supervisor	11-5
Standards and Qualification Program	11-21
Tag Out Program	11-20
Technical Directives (TDs)	11-18
Technical Publications Library (TPL)	11-16
Tool Control Program	11-21
Quality Assurance Inspectors (QAIs)	11-10
Qualifications	11-12

R

Report Control Number (RCN)	11-25
------------------------------------	--------------

S

Scheduled (Planned Maintenance System (PMS)) Maintenance Procedures	9-10
Ship Installation (SI) Equipment Services Changes	13-13
SM&R Codes	10-8
Standards and Qualification Program	11-21
Supervisor of Shipbuilding Newport News Code 1800 (SUPSHIP NNVA CODE 1800)	13-11
Supervisors of Shipbuilding, Conversion, and Repair (SUPSHIPS)	4-8
Supporting Maintenance	9-12

T

Tag Out Program	11-20
Technical Directives	7-4
Technical Directives (TDs)	11-19
Technical Publications Library (TPL)	11-16
Tool Control	7-3
Tool Control Program	11-20
Tool Control Program (TCP)	12-5
Training	5-2
ALRE Maintenance Officer Training	5-8
Chief of Naval Operations (CNO)	5-3
Command Relationships	5-3
Command Responsibilities	5-3
Commander, Naval Air Force, U.S. Atlantic Fleet (COMNAVAIRFOR)	5-4
Commander, Naval Air Force, U.S. Pacific Fleet (COMNAVAIRFOR)	5-4
Commander, Naval Air Systems Command (COMNAVAIRSYSCOM)	5-4
DCNO (Manpower and Personnel)	5-3
Director, Air Warfare Division (N88)	5-3
Director, Naval Training and Education (N79)	5-4
Fleet Training Centers (FTCs)	5-7
Funding	5-14
General Maintenance Training	5-5
In Service Training	5-8
Manpower Management	5-14
Center for Naval Aviation Technical Training Units (CNATTUs)	5-6
Naval Air Technical Training Center (NATTC)	5-6
Naval Safety Center (NAVSAFECEN)	5-5
Navy Enlisted Classifications (NECs)	5-5
Navy Integrated Training Resources and Administration System (NITRAS)	5-14
Navy Training Schools	5-6
On-the-Job Training (OJT)	5-8
Organizational Responsibilities	5-11
Personnel Qualification Standards (PQS)	5-9
Training Publications	5-12

U

Unauthorized Alterations of Ships	13-14
Unscheduled (Corrective) Maintenance Procedures	9-10

V

Visual Information Display System (VIDS) Board
Verificaition

9-3, 9-4
9-4

W

Work Center Supervisor
Work Definition Conference (WDC)

8-6, 9-2
13-11