



NONRESIDENT TRAINING COURSE



April 1987

Engineman 1 & C

NAVEDTRA 14075

NOTICE

Page 6-2 must be printed on a
COLOR printer

Although the words “he,” “him,” and “his” are used sparingly in this course to enhance communication, they are not intended to be gender driven or to affront or discriminate against anyone.

COMMANDING OFFICER
NETPDTC
6490 SAUFLEY FIELD RD
PENSACOLA, FL 32509-5237

ERRATA #1

12 Mar 1991

Specific Instructions and Errata for
Training Manual and
Nonresident Training Course

ENGINEMAN 1 & C

1. No attempt has been made to issue corrections for errors in typing, punctuation, etc., that do not affect your ability to answer the question or questions.
2. To receive credit for deleted questions, show this errata to your local course administrator (ESO/scorer). The local course administrator is directed to correct the course and the answer key by indicating the question deleted.

3. Assignment Booklet

Delete the following questions, and leave the corresponding spaces blank on the answer sheets:

<u>Questions</u>	<u>Questions</u>
3-69	8-46
7-32	9-21
7-40	9-22
7-53	

Make the following changes:

<u>Question</u>	<u>Change</u>
2-23	In the question, line 2, change the words "ship-to-ship" to "ship-to-shop."
3-35	In the question, line 4, delete the word "chief."
4-35	In choice 1, change the word "pressure" to read "presence" and delete the word "the" before "oil."
5-42	In choice 2, change the word "tapped" to read "tappet."

8-4

In the question, line 1, change the words "an air" to read "A."

In the instructions for answering questions 9-55 through 9-58

Change figure numbers "9-4" and "9-5" to read "7-4" and "7-5."

4. Textbook, Engineman 1 & C

Make the following changes:

<u>Page</u>	<u>Column</u>	<u>Par.</u>	<u>Change</u>
2-4	Right	2	Change "feed" to "feet."
8-14	Right	1	Change "chapter 63" to "chapter 631."
9-13	Left	3	Delete repeat sentence starting from "a few lights ending to switchboards."

PREFACE

By enrolling in this self-study course, you have demonstrated a desire to improve yourself and the Navy. Remember, however, this self-study course is only one part of the total Navy training program. Practical experience, schools, selected reading, and your desire to succeed are also necessary to successfully round out a fully meaningful training program.

COURSE OVERVIEW: In completing this nonresident training course, you will demonstrate a knowledge of the subject matter by correctly answering questions on the following: maintenance of engines, reduction gears, air-conditioning equipment, and additional auxiliary machinery; the performance and efficiency of an engine; engineering casualty control; engineering records and reports; and ship inspections and trials.

THE COURSE: This self-study course is organized into subject matter areas, each containing learning objectives to help you determine what you should learn along with text and illustrations to help you understand the information. The subject matter reflects day-to-day requirements and experiences of personnel in the rating or skill area. It also reflects guidance provided by Enlisted Community Managers (ECMs) and other senior personnel, technical references, instructions, etc., and either the occupational or naval standards, which are listed in the *Manual of Navy Enlisted Manpower Personnel Classifications and Occupational Standards*, NAVPERS 18068.

THE QUESTIONS: The questions that appear in this course are designed to help you understand the material in the text.

VALUE: In completing this course, you will improve your military and professional knowledge. Importantly, it can also help you study for the Navy-wide advancement in rate examination. If you are studying and discover a reference in the text to another publication for further information, look it up.

*1983 Edition Prepared by
ENC Kenneth L. Butts*

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AND TECHNOLOGY CENTER

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Sailor's Creed

"I am a United States Sailor.

I will support and defend the Constitution of the United States of America and I will obey the orders of those appointed over me.

I represent the fighting spirit of the Navy and those who have gone before me to defend freedom and democracy around the world.

I proudly serve my country's Navy combat team with honor, courage and commitment.

I am committed to excellence and the fair treatment of all."

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CREDITS

The illustrations indicated below are included in this edition of *Engineman I & C* through the courtesy of the designated sources. Permission to use these illustrations is gratefully acknowledged. Permission to reproduce illustrations and other materials in this publication should be obtained from the source.

Sources:

Bacharach Industrial Instrument
Company

Figures:

3-1, 3-2, 3-3

INSTRUCTIONS FOR TAKING THE COURSE

ASSIGNMENTS

The text pages that you are to study are listed at the beginning of each assignment. Study these pages carefully before attempting to answer the questions. Pay close attention to tables and illustrations and read the learning objectives. The learning objectives state what you should be able to do after studying the material. Answering the questions correctly helps you accomplish the objectives.

SELECTING YOUR ANSWERS

Read each question carefully, then select the BEST answer. You may refer freely to the text. The answers must be the result of your own work and decisions. You are prohibited from referring to or copying the answers of others and from giving answers to anyone else taking the course.

SUBMITTING YOUR ASSIGNMENTS

To have your assignments graded, you must be enrolled in the course with the Nonresident Training Course Administration Branch at the Naval Education and Training Professional Development and Technology Center (NETPDTC). Following enrollment, there are two ways of having your assignments graded: (1) use the Internet to submit your assignments as you complete them, or (2) send all the assignments at one time by mail to NETPDTC.

Grading on the Internet: Advantages to Internet grading are:

- you may submit your answers as soon as you complete an assignment, and
- you get your results faster; usually by the next working day (approximately 24 hours).

In addition to receiving grade results for each assignment, you will receive course completion confirmation once you have completed all the

assignments. To submit your assignment answers via the Internet, go to:

<http://courses.cnet.navy.mil>

Grading by Mail: When you submit answer sheets by mail, send all of your assignments at one time. Do NOT submit individual answer sheets for grading. Mail all of your assignments in an envelope, which you either provide yourself or obtain from your nearest Educational Services Officer (ESO). Submit answer sheets to:

COMMANDING OFFICER
NETPDTC N331
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32559-5000

Answer Sheets: All courses include one “scannable” answer sheet for each assignment. These answer sheets are preprinted with your SSN, name, assignment number, and course number. Explanations for completing the answer sheets are on the answer sheet.

Do not use answer sheet reproductions: Use only the original answer sheets that we provide—reproductions will not work with our scanning equipment and cannot be processed.

Follow the instructions for marking your answers on the answer sheet. Be sure that blocks 1, 2, and 3 are filled in correctly. This information is necessary for your course to be properly processed and for you to receive credit for your work.

COMPLETION TIME

Courses must be completed within 12 months from the date of enrollment. This includes time required to resubmit failed assignments.

PASS/FAIL ASSIGNMENT PROCEDURES

If your overall course score is 3.2 or higher, you will pass the course and will not be required to resubmit assignments. Once your assignments have been graded you will receive course completion confirmation.

If you receive less than a 3.2 on any assignment and your overall course score is below 3.2, you will be given the opportunity to resubmit failed assignments. **You may resubmit failed assignments only once.** Internet students will receive notification when they have failed an assignment--they may then resubmit failed assignments on the web site. Internet students may view and print results for failed assignments from the web site. Students who submit by mail will receive a failing result letter and a new answer sheet for resubmission of each failed assignment.

COMPLETION CONFIRMATION

After successfully completing this course, you will receive a letter of completion.

ERRATA

Errata are used to correct minor errors or delete obsolete information in a course. Errata may also be used to provide instructions to the student. If a course has an errata, it will be included as the first page(s) after the front cover. Errata for all courses can be accessed and viewed/downloaded at:

<http://www.advancement.cnet.navy.mil>

STUDENT FEEDBACK QUESTIONS

We value your suggestions, questions, and criticisms on our courses. If you would like to communicate with us regarding this course, we encourage you, if possible, to use e-mail. If you write or fax, please use a copy of the Student Comment form that follows this page.

For subject matter questions:

E-mail: n314.products@cnet.navy.mil
Phone: Comm: (850) 452-1001, Ext. 1826
DSN: 922-1001, Ext. 1826
FAX: (850) 452-1370
(Do not fax answer sheets.)
Address: COMMANDING OFFICER
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6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32509-5237

For enrollment, shipping, grading, or completion letter questions

E-mail: fleetservices@cnet.navy.mil
Phone: Toll Free: 877-264-8583
Comm: (850) 452-1511/1181/1859
DSN: 922-1511/1181/1859
FAX: (850) 452-1370
(Do not fax answer sheets.)
Address: COMMANDING OFFICER
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PENSACOLA FL 32559-5000

NAVAL RESERVE RETIREMENT CREDIT

If you are a member of the Naval Reserve, you may earn retirement points for successfully completing this course, if authorized under current directives governing retirement of Naval Reserve personnel. For Naval Reserve retirement, this course is evaluated at 22 points. Points will be credited in units as follows:

Unit 1: 12 points upon satisfactory completion of assignments 1 through 5.

Unit 2: 10 points upon satisfactory completion of assignments 6 through 11.

(Refer to *Administrative Procedures for Naval Reservists on Inactive Duty*, BUPERSINST 1001.39, for more information about retirement points.)

Student Comments

Course Title: Engineman 1 & C

NAVEDTRA: 14075 **Date:** _____

We need some information about you:

Rate/Rank and Name: _____ SSN: _____ Command/Unit _____

Street Address: _____ City: _____ State/FPO: _____ Zip _____

Your comments, suggestions, etc.:

<p>Privacy Act Statement: Under authority of Title 5, USC 301, information regarding your military status is requested in processing your comments and in preparing a reply. This information will not be divulged without written authorization to anyone other than those within DOD for official use in determining performance.</p>
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NETPDTC 1550/41 (Rev 4-00)

CHAPTER 1

INTRODUCTION

At this stage in your naval career, you are well aware that training on a continuous basis is essential if you are to reach your desired goals, and if the mission of the Navy is to be successfully accomplished. The purpose of this manual is to serve as one of many sources of information as you continue your training to become proficient in the tasks you will be required to perform at the E-6 and E-7 levels of your rating. A knowledge of the information in this manual, combined with the everyday practical experience, should help you learn to perform assigned tasks and accept greater responsibilities.

RESPONSIBILITIES AND REWARDS

As you attain each higher promotional level in your rating, you, as well as the Navy, benefit. The fact that you are using this training manual indicates that you have found personal satisfaction in developing your skills, increasing your knowledge, and getting ahead in your chosen career. The Navy has benefited, and will continue to do so as you become more valuable as a technical specialist in your rating and as a person who can supervise and train others, thus making far reaching and long lasting contributions to the success of the Navy.

In large measure, the extent of your contribution to the Navy depends upon your willingness and ability to accept increasing responsibilities as you advance. When you assumed the duties of an EN3, the Navy rewarded you with an increase in pay and responsibility, a responsibility not only for yourself but for the work of others. With each advancement, you accept an increasing responsibility in military matters and in matters relating

to the occupational requirements of the Engineman rating.

You will find that your responsibilities for military leadership are about the same as those of petty officers in other ratings, since every petty officer is a military person as well as a technical specialist. Your responsibilities for technical leadership are specific to your rating and are directly related to the nature of your work. Operating and maintaining the machinery and equipment for which an Engineman is responsible is a job of vital importance. It is a teamwork job which requires that special kind of supervisory ability that can only be developed by personnel who have a high degree of technical competence and a deep sense of personal responsibility.

Certain practical details that relate to your responsibilities for administration, supervision, and training are discussed in subsequent chapters of this training manual. At this point, let's consider some of the broader aspects of your ever increasing responsibilities for military and technical leadership.

YOUR RESPONSIBILITIES WILL EXTEND BOTH UPWARD AND DOWNWARD. Officers and Supervisors will expect you to carry out their orders. Enlisted personnel will expect you to translate the general orders given by officers into detailed, practical on-the-job language that can be understood and followed even by relatively inexperienced personnel. In dealing with your juniors, it is up to you to see that they perform their work properly. At the same time, you must be able to explain to officers any important needs or problems pertaining to the enlisted personnel.

YOU WILL HAVE REGULAR AND CONTINUING RESPONSIBILITIES FOR TRAINING. Even if you are fortunate enough to have