



**NONRESIDENT  
TRAINING  
COURSE**



March 1991

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# **Aviation Structural Mechanic E 1 & C**

**NAVEDTRA 14019**

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.

## 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.

**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.

*1991 Edition Prepared by  
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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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# 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: n315.products@cnet.navy.mil  
Phone: Comm: (850) 452-1001, Ext. 1713  
DSN: 922-1001, Ext. 1713  
FAX: (850) 452-1370  
(Do not fax answer sheets.)  
Address: COMMANDING OFFICER  
NETPDTC (CODE N315)  
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  
NETPDTC (CODE N331)  
6490 SAUFLEY FIELD ROAD  
PENSACOLA FL 32559-5000

## **NAVAL RESERVE RETIREMENT CREDIT**

If you are a member of the Naval Reserve, you will receive retirement points if you are authorized to receive them under current directives governing retirement of Naval Reserve personnel. For Naval Reserve retirement, this course is evaluated at 6 points. (Refer to *Administrative Procedures for Naval Reservists on Inactive Duty*, BUPERSINST 1001.39, for more information about retirement points.)

## **COURSE OBJECTIVES**

In completing this nonresident training course, you will demonstrate a knowledge of the subject matter by correctly answering questions on the following: management safety and supervision; electrically operated canopy systems; utility systems; air-conditioning systems; and the Navy aircrew common ejection seat (NACES).

## Student Comments

**Course Title:** Aviation Structural Mechanic E 1 & C

**NAVEDTRA:** 14019 **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><b>Privacy Act Statement:</b> 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

## MANAGEMENT SAFETY AND SUPERVISION

*Chapter Objective: Upon completion of this chapter, you will have a working knowledge of the AME work center supervisor's responsibilities for a continuous safety program.*

The *Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards*, NAVPERS 18068 (series), states that the AME is responsible for the maintenance of many systems. Some of these systems are covered in this manual. Other areas that the AME1 and AMEC must be qualified in are maintaining work center records, preparing reports, and training and leadership. The training and leadership responsibilities are addressed in the *Aviation Maintenance Ratings Supervisor*, NAVEDTRA 10343-A1, which you should complete along with this training manual (TM).

Senior AME personnel, because of the inherent dangers involved in the duty, must be more concerned with personnel and equipment safety than senior petty officers in other aviation ratings. Because of this concern, management, safety and supervisory information is presented here as a separate chapter, as well as in other places throughout this training manual.

### SAFETY

*Learning Objective: Identify safety precautions for working with hazardous substances and equipment.*

In the AME rating there are many ways for a careless or inexperienced worker to hurt himself or others and damage equipment. In fact, no other aviation ratings has more potential for loss of life or violent destruction of property than the AME rating. Because of the inherent dangers associated with survival equipment, AME supervisors must be able to recognize and correct dangerous conditions, avoid unsafe acts, and train others to recognize and respect the importance of safety.

Each year Navy personnel operating and maintaining safety and survival equipment are involved in accidents. These accidents result in excessive repair and/or replacement cost amounting to millions of dollars and reduced operational readiness. The magnitude of this recurring loss emphasizes the necessity for preventing accidents, and the associated human suffering. Investigations have revealed two major reasons for most accidents with and around safety and survival equipment; (1) lack of effective training, (2) lack of supervision and leadership. The supervision, leadership, and training required for the proper operation and maintenance of safety and survival equipment are provided by the AME1 and the AMEC.

The term *safety*, as discussed in this course, is defined as *freedom from danger*. This definition covers both personnel and equipment. It does not mean that hazards will not exist (they will); but it does mean that if the hazards are known, safety awareness can and will help prevent accidents.

Safety is everybody's responsibility, and all hands are required to promote and adhere to safety rules and regulations. This is easy to say, and it is the ultimate aim of all supervisory personnel, but it is not easy to achieve.

The AME's interest in safety is personal. Ask anyone about safety and they will agree it's very important. This means everyone wants to be safe, but may feel that observing safety precautions slows down their work. Some feel they know the job so well that they don't have to be cautious. Still others think "there will be accidents, but to the other guy, not me."

It is these attitudes toward safety that place the burden of responsibility for safety on AME supervisory personnel. They must realize that accidents can happen anywhere, anytime, and