



**NONRESIDENT
TRAINING
COURSE**

March 1993



Builder 3 & 2, Volume 1

NAVEDTRA 14043

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.

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ERRATA #2

7 JUN 1999

Specific Instructions and Errata for
Nonresident Training Course

BUILDER 3 & 2, VOLUME 1

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 questions deleted.
3. Assignment Booklet

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

Questions

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2-20
2-32
2-45
2-56
3-36
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5-17
7-7
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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.

*1993 Edition Prepared by
BUCS John Buza*

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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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SUMMARY OF BUILDER 3&2 RATE TRAINING MANUALS

VOLUME 1

Builder 3&2, Volume 1, NAVEDTRA 14043, is a basic book that should be mastered by those seeking advancement to Builder Third Class and Builder Second Class. The major topics addressed in this book include construction administration and safety; drawings and specifications; woodworking tools, materials and methods of woodworking; fiber line, wire rope, and scaffolding; leveling and grading; concrete; placing concrete; masonry; and planning, estimating and scheduling.

VOLUME 2

Builder 3&2, Volume 2, NAVEDTRA 14044, continues where Volume 1 ends. The topics covered in Volume 2 include floor and wall construction; roof framing; exterior and interior finishing; plastering, stuccoing, and ceramic tile; paints and preservatives; advanced base field structures; and heavy construction.

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
NETPDTC (CODE N314)
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 12 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: construction administration and safety; drawings and specifications; woodworking tools, materials, and methods; fiber line, wire rope, and scaffolding; leveling and grading; concrete; working with concrete; masonry; and planning, estimating, and scheduling.

Student Comments

Course Title: Builder 3 & 2, Volume 1

NAVEDTRA: 14043 **Date:** _____

We need some information about you:

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

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

Your comments, suggestions, etc.:

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.
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NETPDTC 1550/41 (Rev 4-00)

CHAPTER 1

CONSTRUCTION ADMINISTRATION AND SAFETY

Being a petty officer carries many inherent responsibilities. These include your personal obligation to be a leader, an instructor, and an administrator in all the areas of your rating-military, technical, and safety.

As a petty officer, you need to develop an ability to control the work performed by your workers, as well as to lead them. As you gain experience as a petty officer and increase your technical competence as a Builder, you begin to accept a certain amount of responsibility for the work of others. With each advancement, you accept an increasing responsibility in military matters and in matters relating to the professional work of your rate. As you advance to third class and then to second class petty officer, you not only will have increased privileges but also increased responsibilities. You begin to assume greater supervisory and administrative positions.

The proper administration of any project, large or small, is as important as the actual construction. This chapter will provide you with information to help you to use and prepare the administrative paperwork that you encounter as a crew leader or as a crewmember.

ADMINISTRATION

LEARNING OBJECTIVE: Upon completing this section, you should be able to identify crew leader responsibilities in preparing tool kit inventories, preparing supply requisitions, and submitting labor time cards.

Administration is the means a person or an organization uses to keep track of what's happening. It provides a means of telling others what's been done and planned, who's doing it, and what's needed. Administration ranges from a simple notebook kept in your pocket to filling out a variety of reports and forms. As a growing leader in the Navy, you must learn about and become effective in the use of both the tools of your trade and administrative tools. Once you become comfortable with these, you can be a successful administrator.

PLANNING WORK ASSIGNMENTS

For our purposes here, planning means the process of determining requirements and developing methods and schemes of action for performing a task. Proper planning saves time and money and ensures a project is completed in a professional manner. Here, we'll look at some, but not all, of the factors you need to consider.

When you get a project, whether in writing or orally, make sure you clearly understand what is to be done. Study the plans and specifications carefully. If you have any questions, find the answers from those in a position to supply the information you need. Also, make sure you understand the priority of the project, expected time of completion, and any special instructions.

Consider the capabilities of your crew. Determine who is to do what and how long it should take. Also, consider the tools and equipment you will need. Arrange to have them available at the jobsite at the time the work is to get under way. Determine who will use the tools and make sure they know how to use them properly and safely.

To help ensure that the project is completed properly and on time, determine the best method of getting it done. If there is more than one way of doing a particular assignment, you should analyze the methods and select the one most suited to the job conditions. Listen to suggestions from others. If you can simplify a method and save time and effort, do it.

Establish goals for each workday and encourage your crew to work as a team in meeting these goals. Set goals that keep your crew busy, but make sure they are realistic. Discuss the project with the crew so they know what you expect from them. During an emergency, most crewmembers will make an all-out effort to meet a deadline. But when there is no emergency, don't expect them to work continuously at an excessively high rate. Again, set realistic goals. Daily briefings of this type cannot be over-emphasized.

DIRECTING WORK TEAMS

After a job has been properly planned, it is necessary to carefully direct the job. This ensures it is completed on time and with the quality that satisfies both the customer and the crew.

Before starting a project, make sure the crew knows what is expected. Give instructions and urge the crew to ask questions on all points that are not clear. Be honest in your answers. If you don't have an answer, say so; then find the answer and get back to the crew. Don't delay in getting solutions to the questions asked. Timely answers keep projects moving forward. They also show the crew your concern for the project is as genuine as theirs.

While a job is under way, spot check to ensure that the work is progressing satisfactorily. Determine whether the proper methods, materials, tools, and equipment are being used. When determining the initial requirements, do so early enough so there are no delays. If crewmembers are incorrectly performing a task, stop them and point out the correct procedures. When you check crewmembers' work, make them feel the purpose of checking is to teach, guide, or direct—not to criticize or find fault.

Make sure the crew complies with applicable safety precautions and wear safety apparel when required. Watch for hazardous conditions, improper use of tools and equipment, and unsafe work practices. These can cause mishaps and possibly result in injury to personnel. There are no excuses for unsafe practices. Proper safety instructions and training eliminate the desire to work carelessly. When directing construction crews, practice what you preach.

When time permits, rotate crewmembers on various jobs. Rotation gives you the opportunity to teach. It also gives each crewmember an opportunity to increase personal skill levels.

As a crew leader, you need to ensure that your crew work together in getting the job done. Develop an environment where each crewmember feels free to seek your advice when in doubt about any phase of the work. Emotional balance is especially important. Don't panic in view of your crew or be unsure of yourself when faced with a conflict.

Be tactful and courteous in dealing with your crew. It sounds obvious, but don't show any partiality. Keep every crewmember informed on both work and personal matters that affect his or her

performance. Also, try to maintain a high level of morale. Low morale has a definite effect on the quantity and quality of a crew's work.

As you advance in rate, you spend more and more time supervising others. You have to learn as much as you can about supervision. Study books on both supervision and leadership. Also, watch how other supervisors—both good and bad—operate. Don't be afraid to ask questions.

TOOL KIT INVENTORY

Tool kits contain all the craft hand tools required by one, four-member construction crew or fire team of a given rating to pursue their trade. The kits may contain additional items required by a particular assignment. However, they should not be reduced in type of item and should be maintained at 100 percent of kit assembly allowance at all times.

As a crew leader, you can order and are responsible for all the tools required by the crew. This incurs the following responsibilities:

- Maintaining complete tools kits at all times;
- Assigning tools within the crew;
- Ensuring proper use and care of assigned tools by the crew;
- Preserving tools not in use;
- Securing assigned tools; and
- Ensuring that all electrical tools and cords are inspected on a regular basis.

To make sure tools are maintained properly, the operations officer and the supply officer establish a formal tool kit inventory and inspection program. As a crew leader, you perform a tool kit inventory at least every 2 weeks. Tools requiring routine maintenance are turned in to the central tool room (CTR) for repair and reissue. Damaged or worn tools should be returned to the CTR for replacement. You must submit requisitions for replacement items.

Tool management is further specified in instructions issued by Commander, Construction Battalion, Pacific (COMCBPAC) and Commander, Construction Battalion, Atlantic (COMCBLANT).