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of Transportation
**United States
Coast Guard**



Aviation Survival Technician Second Class



**U.S. Coast Guard
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Aviation Survival Technician Second Class

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QUESTIONS ABOUT THIS TEXT SHOULD BE
ADDRESSED TO THE SUBJECT MATTER SPECIALIST
FOR THE **AVIATION SURVIVAL TECHNICIAN (AST) RATING**

References

Selected References

This pamphlet contains original material developed at AVTECHTRACEN Elizabeth City, NC. The references used to develop this pamphlet are listed throughout the text under the corresponding performance qualification number. A complete list of these references is provided in Appendix C.

Introduction

The purpose of this pamphlet is to provide guidance and references to assist you in completing the AST2 Performance Qualifications and the End-of-Course Test.

Important Note

This text has been compiled for TRAINING ONLY. It should NOT be used in place of official directives or publications. The text information is current according to the references listed. You should, however, remember that it is YOUR responsibility to keep up with the latest professional information available for your rate. Current information is available in the Enlisted Qualifications Manual, COMDTINST 1414.8 (series).

How to Proceed

This pamphlet contains assignment objectives and syllabus objectives that are used to describe the tasks you will need to perform to satisfy the requirements of the performance qualifications.

- For the assignments: Read the text and answer the self-quiz at the end of each assignment. The 5.B.GTG assignment should be completed before attempting to complete any of the Equipment repair performance qualifications (5.D. series).
- For the syllabus: Read the performance, then read the syllabus performance objectives and refer to the applicable references listed to perform the task. Performance of these objectives should be completed on your assigned equipment and aircraft type (only one type is required).

The initial line (_____ ) in the syllabus portion is used to keep track of each task you have completed. This entry should be completed by a petty officer at least one pay grade higher than the student.

End-of-Course Test (EOCT)

To prepare for the EOCT, read the assignment objectives and carefully study the information contained in the text. You should also review the self-quiz for each assignment along with the pamphlet review quiz. Answers and references are found on the page following each quiz. Remember, these questions are only samples of the types of questions on the EOCT.

The syllabus performance objectives will NOT be tested on the EOCT due to their aircraft specific nature.

Continued next page

Notice to Student (Continued)

Performance Qualifications Sign-Off

As PROFICIENCY in each performance qualification is demonstrated, the DATE and INITIALS columns of the Record of Performance Qualifications (CG-3303C-19, Tab-2 of this pamphlet) should be completed by your supervisor. A “Notice to Supervisor” page is included to provide guidance for your supervisor. Ensure that your supervisor reads the instructions on that page. Also, Tab-2 should be used as your permanent record documenting the completion of each performance qualification. It is up to YOU to ensure that this documentation is complete in order to be considered eligible for the Service Wide Exam (SWE).

This pamphlet was developed as a guide to assist you in completing your performance qualifications. You should **USE IT**.

Performance Qualification Numbers

The performance qualifications beginning with a “5” are the requirements for qualifying for E-5. Also, performance qualifications ending in “c” are common for all aviation ratings. The assignments need not be completed in any specific order.

Student Feedback Form

A student feedback form (Appendix D) is provided for you to submit recommendations to the subject matter specialist. As you read the training material, you may have comments, such as

- suggestions for adding or deleting information,
- notations of errors in the text (include page number and your reference material), or
- questions about the text or a practice exercise.

Write your comments in sentence form on Appendix D. Tear it out of the pamphlet and mail it through your unit’s mail room. The subject matter specialist will review all submissions received.

SWE Study Suggestions

Service-wide exam questions for your rate and pay grade are based on the Professional and Military Requirements sections of the Enlisted Qualifications Manual. If you use the references listed in your rating section of the Enlisted Qualifications Manual, COMDTINST 1414.8 (series), you should have good information for review when you prepare for your service-wide exam.

Introduction

The purpose of this pamphlet is to provide guidance and references to assist the student in completing the AST2 performance qualifications and the EOCT. It also identifies what the student is expected to know and demonstrate for each performance qualification.

NOTE

This text has been compiled for TRAINING ONLY. It should NOT be used in place of official directives or publications. The text information is current according to the references listed to date.

Supervisor Guidelines

Supervisors should follow the guidelines provided below to improve the consistency of the training process:

- The syllabus portion of this pamphlet contains objectives for each performance qualification. The student should be able to demonstrate proficiency in each of the objectives in order to meet the requirements for the performance qualification. The supervisor should use the syllabus to determine if the student is proficient in each performance qualification.
 - An initial line (_____ ) is provided to keep track of each objective the student has completed, and should be initialed by a petty officer at least one pay grade higher than the student. The initial line also provides a quick way to chart the student's progress and allows you, the supervisor, to assess the student's training needs and to plan accordingly.
 - The supervisor should provide the discrepancy information or scenarios for the syllabus objectives requiring this information. It's up to the supervisor to decide whether or not to use actual discrepancies such as CG 4377 Part III or CG 4377B (No Fly) entries or to give the student realistic scenarios to work on. Again, the supervisor should decide what method will work best for their training environment.
-

Continued next page

Notice to Supervisor (Continued)

Performance Qualifications Sign-Off

NOTE

It is highly recommended that all supervisors review the information covered in the “Administration” section of the Enlisted Qualifications Manual, COMDTINST 1414.8 (series) before any performance qualifications are signed-off or waived.

As PROFICIENCY in each performance qualification is demonstrated, the DATE and INITIALS columns of the Record of Performance Qualifications (CG-3303C-19, Tab-2 of this pamphlet) should be signed-off by the student’s supervisor. Also, Tab-2 should be used as the student’s permanent record documenting the completion of each performance qualification.

For More Information

For more detailed information on completion of the Record of Performance Qualifications, refer to (COMDTINST M1414.8, series).

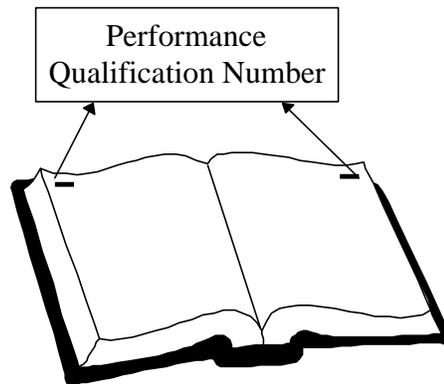
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Performance Qualification Assignments

ASSIGNMENTS

The assignments are numbered and arranged in the same manner as are the performance qualifications; Alpha-Numeric. The actual performance qualification number is listed in the upper-outer corner of each page which allows you to quickly scan the pages in order to find the specific performance qualification section. See the example below:



APPENDIXES

Pamphlet Review Quiz	A-1
Pamphlet Review Quiz Answer Key	B-1
References.....	C-1
Student Feedback Form.....	D-1
AST Record Of Performance Qualifications	Tab-2

Performance

COMPLETE assigned aircraft Aircrewmember Syllabus.

Performance Objective

Given an assigned aircraft type, **COMPLETE** the applicable Aircrewmember course and the syllabus IAW your assigned station's instructions.

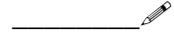


NOTE

After being assigned an aircraft type, contact your unit's Educational Services Officer for course enrollment.

Performance ORDER aircraft parts.

Performance Objective 1 Given the name of an aircraft part and the name of the related system, **RESEARCH** the information needed to order the part using the applicable aircraft Illustrated Parts Catalogs and the Federal Logistics Data System (Fed Log).



NOTE

The E-4 Aviation Administration Pamphlet #A1AA03, included with the Airman Course, contains the information required to help you complete this performance objective.

Performance Objective 2 Using the information obtained from performance objective 1, **SUBMIT** an aircraft parts requisition to supply IAW the Aeronautical Engineering Maintenance Manual, COMDINST M13020.1 (series) and local station instructions.



Objectives

To successfully complete this assignment, you must study the text and master the following.

- **STATE** in writing how often a shop technical publications audit should be completed.
 - **STATE** in writing the two primary functions of a technical library audit.
 - **STATE** in writing the time allowed for completion of a shop technical publications audit.
 - **VERIFY** (compare) publication status on an audit report.
 - **ANNOTATE** (write) correct entries on an audit report that contains discrepancies
-

References

The information contained in this assignment can be found in the Technical Information Management and Ordering System (TIMOS) Users Manual, CGTO PG-85-00-50 and ACMS cards.

Introduction

In this reading assignment you will complete procedures required to perform an audit of your shop technical publications library.

Aircraft technicians frequently use technical publications and directives such as ACMS cards and maintenance manuals to perform complex aircraft maintenance.

One of your tasks may be to perform periodic audits of your shop or workcenter technical library to verify all publications and directives contain the most current changes. This will ensure that all technicians are received valid maintenance information

In This Assignment

Subject	Page
Technical Information Management and Ordering System.....	3
Technical Library Audits.....	4
Publication Audit Report.....	7
Audit Report Information.....	9
Performing Publications Audit.....	10
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Introduction

In this section we will discuss a general background of the Technical Information Management and Ordering System (TIMOS) used by the Coast Guard. This instruction will provide some insight on how a technical publication audit fits into the TIMOS system.

Background

TIMOS is a computerized publication ordering and inventory management system designed to assist air stations with establishing and maintaining their technical publication requirements. This system also allows authorized users to approve or reject orders, as well as track publication inventories at air stations. The system functions have been designed to correspond to the order of events in which a publication order is processed.

Air Stations/ARSC Communications

This system allows Coast Guard air stations to communicate with the technical publications section at AR&SC to:

- Order Publications
 - Establish or change initial publication distribution
 - Follow up/cancel existing orders
-

Publication Updates

Once the unit's publication requirements are transmitted to the TIMOS computer database, all technical publications will be on automatic distribution for necessary periodic updates.

Introduction

Although the TIMOS publication tracking software is an excellent tool for managing and maintaining a unit's publication library. An audit of all-technical publications and directives is required every four months as a check-and-balance to the system.

This audit is tracked on ACMS and is signed-off by the librarian when completed.

Location of Technical Libraries

Not all of a unit's technical publications and directives are located in a central QA library. Extra copies of applicable publications and directives are also located in shops or work center technical libraries. Some publications may be unique to your shop alone.

Your Responsibilities

Your responsibilities during the audit will be to assist the librarian by cross-checking your shop publications and directives with the technical librarians records to ensure complete accuracy.

Function of a Publication Audit

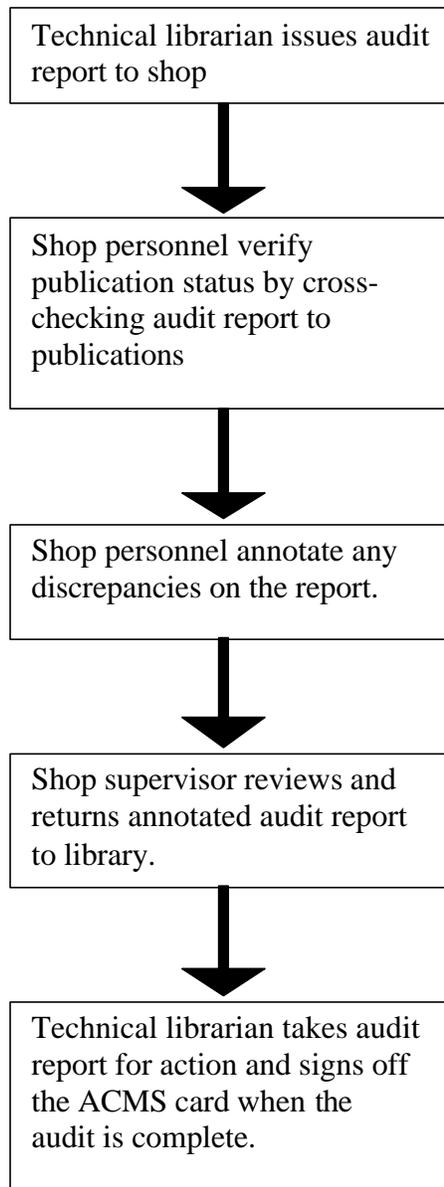
The two primary functions of a publication audit are to:

- Ensure all of your technical publications and directives contain most current updated information.
 - Provide an opportunity to review your publication requirements, and make recommendations for additions or deletions to the shop technical library.
-

Continued next page

Audit Process

The flowchart below depicts a typical technical library audit process:



Definition

The Publication Audit Report is a computer printout generated by the TIMOS system. It is a comprehensive listing of a shops technical publications including all updates that have been issued.

Purpose

The technical librarian issues an audit request to each shop every four months, or at the shop's request. This report allows shop personnel to verify the status of their shop's publications by cross-checking the list with each publication.

Continued next page

Audit Report Example

Below is an example of a typical shop publications Audit Report.

Heading Block

AUDIT REPORT																			
UNIT NAME: CGAS LOS ANGELES																			
SHOP: HELO																			
RUB NO.	BASIC COPY NO.	REV	DATE	CHANGE	DATE	PAC	DATE	IRAC	DATE	TOPS	DATE	SUP	DATE	SAFETY SUP	DATE	OF SUP	DATE	COMMENTS	
ACMS H65		2	910915	18	931207														
ACMS MSR		2	920101																
IH-65A-1		3	901119	10	931123				1	940620							2	931215	
IH-65A-2-1		3	870302	3	900930														
IH-65A-2-2		3	860228	4	900501								3	931230					
IH-65A-2-3		3	880731	1	930524														
IH-65A-4		3	870601	5	930930														
IH-65A-11-72-2B-2		2	860201	4	900601					2	920314								
IH-65A-11-72-4B-2		2	930415																
IH-65A-11-210000		2	880301	2	910210														
802-3-1		2	850930	5	921115									3	930104				

Introduction

In this section we will explain the information displayed on a typical publication Audit Report. Most of the terms and information contained on the report are self-explanatory, but there are some items that you may be unfamiliar with.

Heading and Information Blocks

In the illustration on the preceding page, the Audit Report is divided into two major sections as follows:

The shaded area of the example highlights the “Heading Block” which is common to all Audit Reports. The heading block contains several categories used to divide data displayed in the “Information Block” section.

The unshaded area of the example depicts an information block, which contains data about your particular shop library contents.

Heading Categories

The first column of the Heading Block is the publication number followed by the basic date. The copy number column is for the librarians use only so it is disregarded. The next 16 columns list each type of update that may be issued for a publication followed by its’ effective date. The last column is for any comments that the librarian may have entered into the database about the publication.

Introduction

In this section we provide guidance on how to perform a technical publication audit with a condensed demonstration. In this scenario, the librarian sends a memorandum (memo) along with the audit report outlining what must be done. At your unit, you may or may not receive a similar memo. You must complete the audit and return the report to the library within five working days.

Scenario

Petty Officer Gimble, of the helo shop, has received a memo with an attached audit report (see next page) from the unit technical librarian requesting an audit of the helo shop technical library. The memo below provides instructions on how to complete the audit.

**Library Audit
Memo Example**

The following example gives PO Gimble directions on completing the audit.

From: AST1 Roscher
To: All Shops Supervisors

1. It is time for the technical publication library audit. I am requesting your assistance in performing an audit of your respective shop technical library. Listed below are the steps required to complete your audit.
 - A. Verify that the attached Audit Report is for your shop.
 - B. Ensure all publication updates that have been issued by QA are installed in your shop publications.
 - C. Locate each manual on your report and verify the following information:
 - (1) Basic Date—Should match basic date on publication title page.
 - (2) All updates listed on the report are installed in your publications.
 - D. You may disregard the copy number column.
 - E. All entries/corrections to the audit report should be in red ink. As each publication is checked, place a checkmark next to the manual number. If there are discrepancies, please circle the incorrect information and enter the actual information from the publication.
2. After all manuals have been checked return the annotated Audit Report to AST1 Roscher within five working days. Thank your for your assistance.

AST1 Roscher

Technical Librarian

Continued next page

Audit Report Example

Below is an example of the Audit Report PO Gimble received for the Helo shop.

AUDIT REPORT

UNIT NAME: CGAS ELIZABETH CITY
SHOP: HELO

PUB NO.	BASIC COPY DATE	NO.	REV	DATE	CHANGE	DATE	RAC	DATE	IRAC	DATE	TOPS	DATE	SUP	DATE	SAFETY SUP	DATE	SUP	DATE	OP	DATE	COMMENTS
A1-H60CA-1PB-450	930808	2			1	940115			2	931202											
A1-H60CA-140-200	930131	2																			
A1-H60CA-140-400	930131	3			1	930808															
A1-H60CA-150-100	910531	3			3	930205															
A1-H60CA-150-200	910531	3			2	930205															
A1-H60CA-150-300	900709	3			2	930205															
A1-H60CA-150-400	920531	3			3	930808															
A1-H60CA-220-100	910531	2			1	920531															
A1-H60CA-220-200	910531	2			4	930808															
A1-H60CA-220-300	920531	2			3	930808			6	931217											
A1-H60CA-220-400	920531	2			5	921115	2	930507													
A1-H60CA-240-100	920815	2			1	930205															
A1-H60CA-240-200	920815	2			2	930808															

Continued next page

**Scenario
(Continued)**

After ensuring this audit report (see page 11) is for the helo shop, PO Gimble located the manual number A1-H60CA-220-300, and opens the manual to the title page (see next page).

On the publication title page, PO Gimble notes the following information:

- Basic Date – 31 May 92
- Change Number - Change 3
- Change Date – 08 Aug 93

This information is consistent with the audit list shown on the preceding page.

Continued next page

Title Page

Below is the title page for technical manual A1-H60CA-220-300.

Basic Date	<p>A1-H60CA-220-300 31 MAY Change 3 - 8 AUG 1993</p>
Change No.	
Change Date	

ORGANIZATIONAL MAINTENANCE

POWERPLANT SYSTEMS

NAVY MODELS

SH-60B
SH-60F
HH-60H

COAST GUARD MODEL

HH-60J

DISTRIBUTION - Distribution authorized to U.S. agencies and their contractors to protect publications required for official use or for administrative or operational purposes only, determined on 31 May 1992. Other requests for this document shall be referred to Naval Air Technical Services Facility, 700 Robbins Avenue, Philadelphia PA 19111-50

DESTRUCTION - For unclassified, limited documents, destroy by any method that will prevent disclosure of contents or reconstruction of the document.

Published by Direction of
 Commander, Naval Air Systems Command

0801LP8882013
A1-H60CA-220-300 CHG 3

Continued next page

Scenario
(Continued)

PO Gimble verifies all the changes shown on the List of Effective pages (below) are installed by cross checking actual pages in the manual.

According to the List of Effective pages, Changes 1-3 are effective Rapid Action Changes (RAC) should be installed.

All changes and RACs are confirmed to be installed.

A1-H60CA—220-300		Page A			
Change 3- 8 August 1993					
NUMERICAL INDEX OF EFFECTIVE WORK PACKAGES/PAGES					
LIST OF CURRENT CHANGES					
Original 0	31 May 1992				
Change 1	08 August 1992				
RAC 1	15 January 1993				
Change 2	05 February 1993				
RAC 2	14 June 1993				
Change 3	08 August 1993				
<p>Only those work packages assigned to the manual are listed in this index. Insert Change 3, dated 08 August 1993. Dispose of superseded and deleted work packages/pages. Superseded and deleted classified work packages/pages shall be destroyed in accordance with applicable regulations. If changed pages are to be issued to a work package, insert the changed pages in the applicable work package. The portion of text affected in a changed or revised work package is indicated by change bars or the change symbol "R" in the outer margin of each column of text. A change to an illustration is indicated by a change bar next to the figure title.</p>					
WP Number	Title	WP Number	Title		
Page A	Numerical Index of Effective Work Packages/Pages	007 00	Oil System		
		008 00	Fuel Boost pump		
		009 00	Torque and Overspeed Sensor		
TDPR-1	List of Technical Publications Deficiency Reports Incorporated	010 00	Electrical Control Unit		
		011 00	Air Inlet		
HMWS-1	Hazardous Materials Warning	012 00	Therocouple Assembly		
001 00	Alphabetical Index	013 00	Start Speed Switch		
002 00	Introduction	014 00	Engine Control Quadrant		
003 00	Engines	015 00	Exhaust Module		
004 00	Quick Engine Change Assembly (QECA)	016 00	Load Demand Spindle		
005 00	Accessory Gear Box	017 00	Hover Infrared Suppression System		
006 00	Radial Drive Shaft	018 00	Anti-Ice Start/Bleed Valve		
TOTAL NUMBER OF PAGES IN THIS MANUAL IS 243 CONSISTING OF THE FOLLOWING:					
WP/Page No.	Change No.	WP/Page No.	Change No.	WP/Page No.	Change No.
Title.....	3	006 00.....	2	013 00.....	2
A.....	3	1-17.....	2	1-12.....	2
TDPR-1.....	3	1-18 Blank.....	2	014 00.....	3
HMWS.....	3	007 00.....	3	1-20.....	3
001 00.....	3	1-8.....	3	015 00.....	3
1-5.....	3	008 00.....	3	1-9.....	3
6 Blank.....	3	1-14.....	3	10 Blank.....	3
002 00.....	3	009 00.....	1	016 00.....	3
1-14.....	3	1-12.....	1	1-17.....	3
003 00.....	3	010 00.....	3	18 Blank.....	3
1-26.....	3	1-7.....	3	017 00.....	0
004 00.....	0	8 Blank.....	3	1-23.....	0
1-12.....	0	011 00.....	0	24 Blank.....	0
005 00.....	3	1-10.....	0	018 00.....	1

Continued next page

**Scenario
(Continued)**

PO Gimble turns to the front of the manual looking for Interim Rapid Action Change (IRAC) #6, which according to the Audit Report shown below should be the latest IRAC installed in this publication. He doesn't find IRAC #6 but does find IRAC #5 dated 930923 (see example on next page).

This discrepancy is annotated on the Audit Report by circling the incorrect information, and writing in actual information from the manual update.

Annotated Audit Report

After checking all the publications, PO Gimble annotated the Audit Report as shown below. The shaded areas highlight the information that PO Gimble was looking for and the entries he was requiring to make.

AUDIT REPORT													
UNIT NAME: CGAS ELIZABETH CITY													
SHOP: HELO													
PUB NO.	BASIC DATE	COPY NO.	REV	DATE	CHANGE	DATE	RAC	DATE	IRAC	DATE	TOPS	DATE	SUP
VA1-H60CA-1PB-450	930808	2			1	940115			2	931202			
VA1-H60CA-140-200	930131	2											
VA1-H60CA-140-400	930131	3			1	930808							
VA1-H60CA-150-100	910531	3			3	930205							
VA1-H60CA-150-200	910531	3			2	930205							
VA1-H60CA-150-300	900709	3			2	930205							
VA1-H60CA-150-400	920531	3			3	930808							
VA1-H60CA-220-100	910531	2			1	920531							
VA1-H60CA-220-200	910531	2			4	930808							
VA1-H60CA-220-300	920531	2			3	930808			5	930923			
VA1-H60CA-220-400	920531	2			5	921115	2	930507	6	931217			
VA1-H60CA-240-100	920815	2			1	930205							
VA1-H60CA-240-200	920815	2			2	930808							

Continued next page

**Example of
Latest
Supplement**

The IRAC shown below is an example of the latest supplement installed in A1-H60CA-220-300.

```
ZZCCGGBA817
RUHGOAA T COMCARGRU SEVEN
RUHFPAA T HELOSUPPSECRON FIVE
RUHNABE T USS ABRAHAM LINCOLN
P 231920Z SEP 93 ZFD
FROM DPRO SIKORSKY STRATFORD CT//RAE60//
TO AIG ONE ONE SIX FIVE
ONE ONE THREE SEVEN FIVE
ONE ONE FOUR TWO ONE
ACCT DSGA4D
BT
UNCLASS//NO5600//
SECTION ONE OF ONE
SUBJ: HH-60 PROGRAM INTERMIN RAPID ACTION CHANGE
NO.5 TO TECHNICAL MANUAL A1-H60CA-220-300,
POWERPLANT SYSTEMS, ORGANIZATIONAL LEVEL
MAINTENANCE MANUAL.
REF: A1-H60CA-220-300, WP 005 00, PAGE 2, STEP 5A.

1. PEN AND INK CHANGES TO THE TECHNICAL CONTENT OF
A MANUAL ARE NOT AUTHORIZED. THE FOLLOWING
TECHNICAL CONTENT CHANGE INFORMATION APPLIES TO THE
ABOVE REFERENCED PAGE AND PARAGRAPH UNTIL A FORMAL
CHANGE IS RELEASED.

REVISE FIRST BULLET OF CAUTION PRECEEDING STEP 5A
TO READ AS FOLLOWS:

ENGINE MUST BE SHUT DOWN AND ALLOWED TO COOL TO A
TGT OF 80 DEGREES C (176 DEGREES F) OR BELOW BEFORE
CLEANING SOLUTION IS SPRAYED INTO ENGINE.

BT
#8323
```

Introduction

In this section you will practice performing publication audits on selected technical manuals.

This practice exercise consists of a scenario, a procedure table, an example Audit Report, and an example List of Effective Pages. This information is located on the following pages.

The manual selected for this exercise may or may not contain discrepancies in accordance with the information provided in the Audit Report.

Directions

Read the scenario below carefully and follow the procedure table on the next page to complete the exercise. Review the example publication (TO 8D2-3-1) on page 20-22 and annotate the Audit Report on page 19 with your results.

Try to complete the practice exercise without assistance, but should you have trouble, review the appropriate section of this assignment.

Scenario

You are stationed at Air Station Los Angeles. The technical librarian sends you an audit report (page 19) and a memo requesting you to perform an audit of the helo shop library.

You have started your task, and up to now you have found no discrepancies. You locate the last manual on the audit report, T.O. 8D2-3-1, and compare the data to the title page, the List of Effective pages, and the Safety Supplement.

Verification indicates that all the changes up to and including Change 4 are installed in T.O. 8D2-3-1.

While performing the audit, you determine that your shop publication requirements have not changed.

Continued next page

Procedure Table

Follow this procedure table to complete the practice exercise.

Step	Action
1	Verify Audit Report is for your shop.
2	Verify basic date of manual.
3	Verify latest revision and date.
4	Verify latest change number and date.
5	Verify all changes shown on the list of effective pages are installed in the manual.
6	Verify the numbers and the dates of the following applicable updates: Rapid Action Change (RAC), Interim Rapid Action Changes (IRAC), Technical Ordering Page Supplements (TOPS), Supplements (SUP), Safety Supplements (SAFETY SUP), Operational Supplements (OP SUP).
7	Place a check mark next to manuals as they are completed.
8	Identify discrepancies by circling incorrect information and writing in actual information.
9	Return the report to the library after completing the audit.

Continued next page

Audit Report Example

While performing the audit, annotate this example of the helo shop audit report with the required information.

AUDIT REPORT

UNIT NAME: CGAS LOS ANGELES
SHOP: HELO

PUB NO.	BASIC COPY NO.	REV	DATE	CHANGE	RAC	DATE	IRAC	DATE	TOPS	DATE	SUP	DATE	SAFETY	SUP	DATE	OP	SUP	DATE	COMMENTS
ACMS H65	910915	2		18		931207													
ACMS MSR	920101	2																	
IH-65A-1	901119	3		10		931123			1	940620						2		931215	
IH-65A-2-1	870302	3		3		900930													
IH-65A-2-2	860228	3		4		900501					3	931230							
IH-65A-2-3	880731	3		1		930524													
IH-65A-4	870601	3		5		930930													
IH-65A-11-72-2B-2	860201	2		4		900601			2	920314									
IH-65A-11-72-4B-2	930415	2																	
IH-65A-11-210000	880301	2		2		910210													
8D2-3-1	850930	2		5		921115								3					930104

Continued next page

Publication Supplement Example

Use this Safety Supplement example to complete the practice exercise.

SS SS SS SS SS SS SS SS SS SS SS	T.O. 8D2-3-1 SS-3	
SS	TECHNICAL MANUAL	SS
SS	SAFETY SUPPLEMENT	SS
SS	OPERATION SERVICE AND REPAIR	SS
SS	AIRCRAFT NICKEL CADMIUM	SS
SS	STORAGE BATTERIES	SS
SS	<p>THIS PUBLICATION SUPERCEDES T.O. 8D2-3-1SS-1 DATED 09 OCTOBER 1992, and supplements T.O. 8D2-3-1 DATED 30 SEPTEMBER 1985. Reference to this supplement will be made on the title page of the basic manual by personnel responsible for maintaining the publication in a current status.</p>	SS
SS	<p>DISTRIBUTION STATEMENT B - Distribution authorized to U.S. Government agencies only, for administrative or operational use (04 JAN 1993). Other requests for this document shall be referred to Sacramento ALC/TILBE, 3200 Peacekeeper Way, Suite 1 McCellan AFB, CA 95652.</p>	SS
SS	<p>COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS SUPPLEMENT TO THE ATTENTION OF ALL AFFECTED PERSONNEL.</p>	SS
SS	<p>Published under the authority of the Secretary of the Air Force</p>	SS
SS	04 Jan 1993	SS
SS	<p>1. PURPOSE.</p> <p style="padding-left: 20px;">To update the basic manual.</p>	SS
SS	<p>2. INSTRUCTIONS.</p> <p style="padding-left: 20px;">a. On page 4-11, paragraph 4-49 is added to read as follows.</p>	SS
SS	<p>4-49. HEATER BLANKET WIRING HARNESS: Two element heater blankets are to be wired in series with each other, and not in parallel.</p>	SS
SS	<p>WARNING</p> <p>If wired in parallel, one element may overheat. This may cause internal shorting of cell(s) resulting in the failure of battery and cell case rupture.</p>	SS
SS	<p>THE END</p>	SS
SS	1/ (2 Blank)	SS
SS SS SS SS	SAFETY SUPPLEMENT	SS SS SS SS

Continued next page

List of Effective Pages Example

Use this List of Effective Pages example to complete the practice exercise.

T.O. 8D2-3-1

INSERT LATEST CHANGED PAGES, DESTROY SUPERSEDED PAGES

LIST OF EFFECTIVE PAGES

NOTE: The portion of text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages are:

Original.....0.....30 SEP 85
 Change.....1.....13 MAY 87
 Change.....2.....04 MAY 89
 Change.....3.....08 JUL 91
 Change.....4.....04 MAY 92

Total number of pages in this publication is 52 consisting of the following:

Page No.	Change *No.	Page No.	Change *No.	Page No.	Change *No.
Title.....	4	4-3.....	2	7-3.....	1
A.....	4	4-4.....	4	7-4.....	1
i.....	2	4-4.1 Added.....	2		
i-v.....	3	4-4.2 Blank.....	2		
vi Blank.....	3	4-5.....	1		
1-1.....	3	4-6 - 4-7.....	3		
1-2 - 1-3.....	0	4-8 - 4-11.....	0		
1-4.....	3	4-12 Blank.....	0		
1-5.....	1	5-1.....	0		
1-6.....	0	5-2 - 5-3.....	1		
1-7.....	1	5-4.....	4		
1-8 - 1-9.....	0	5-5.....	1		
1-10.....	3	5-6.....	0		
2-1.....	4	5-7.....	2		
2-2 Blank.....	3	5-8.....	4		
3-1.....	4	6-1.....	0		
3-2.....	3	6-2 Blank.....	0		
4-1.....	3	7-1.....	3		
4-2.....	0	7-2.....	0		

*Zero in this column indicates an original page

USAF

A Change 4

Feedback

Your annotated Audit Report should be similar to the one shown below. The shaded areas highlight the entries you should have made. If you had troubles with this exercise, please review the appropriate section of this assignment.

AUDIT REPORT

UNIT NAME: CGAS LOS ANGELES SHOP: HELO		BASIC COPY		CHANGE	DATE	RAC	DATE	IRAC	DATE	TOPS	DATE	SUP	DATE	SAFETY	DATE	SUP	DATE	OP	DATE	COMMENTS
PUB NO.	REV	NO.	DATE																	
ACMS H65	2	2	910915	18	931207															
ACMS MSR	2	2	920101																	
IH-65A-1	3	3	901119	10	931123					1	940620							2	931215	
IH-65A-2-1	3	3	870302	3	900930															
IH-65A-2-2	3	3	860228	4	900501															3
IH-65A-2-3	3	3	880731	1	930524															
IH-65A-4	3	3	870601	5	930930															
IH-65A-11-72-2B-2	2	2	860201	4	900601															
IH-65A-11-72-4B-2	2	2	930415																	
IH-65A-11-210000	2	2	880301	2	910210															
JD2-3-1	2	2	850930	3	921115															
				4	920513															3
																				2
																				930104

Questions

Answer the following questions on technical publications audits.

- 1) How often should all shop technical publications and directives be audited?

a) _____

- 2) From memory, write the two primary functions of a technical library audit.

a) _____

b) _____

- 3) After the audit report is issued, how much time is allowed for completion of a shop technical publication audit?

a) _____

Feedback

Compare your answers to the feedback provided below. If you had trouble with the Self-Quiz, please review the appropriate page of this reading assignment.

Questions	Answers	Reference
1.	Every four months	4
2.	a. Ensure publications contain the most current changes/updates. b. Provides an opportunity to review your shop technical library requirements.	4
3.	five working days	10

Performance

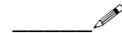
AUDIT technical publication directives.

**Performance
Objective 1**

Given a technical publications audit report, **VERIFY** the shop publications status compared to the audit report IAW the Technical Information Management and Ordering System, CGTO PG-85-00-50, and the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)

**Performance
Objective 2**

Given a technical publications audit report, **ANNOTATE** (write) correction entries on the audit IAW the Technical Information Management and Ordering System, CGTO PG-85-00-50, and the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)



Objectives

To successfully complete this assignment, you must study the next and master the following objectives:

- **STATE** in writing the forms used for recommending a change to publications.
 - **COMPLETE** a CG-22 form with the required information from a given scenario.
 - **COMPLETE** an AF Form 847 with the required information from a given scenario.
-

References

The information contained in this assignment can be found in the following references:

- Aeronautical Engineering Maintenance Management Manual, COMDINST M13020.1
 - Aeronautical Engineering Process Guide, (CG-22 Process), CGTO PG-85-00-20
-

Introduction

In this reading assignment, you will learn how to fill out and submit the appropriate form used to propose changes to directives, ACMS, or technical publications.

As a Coast Guard Petty Officer and an aircraft technician you must rely upon many different publications to perform your duties. Keeping these publications up to date and as reliable as possible is everyone's responsibility. There will be times when you will read something you know is incorrect and affects the meaning of instructive information. These errors could be as simple as a typing error or as critical as a missing step on an ACMS card. When an error is encountered, **You** should attempt to get corrected. If you wait for the other person to submit a change form, the error may never be corrected.

In This Assignment

In this assignment we will discuss the following topics:

Subject	Page
Publication Improvement Recommendation Forms.....	3
Completing the CG-22 Form.....	5
CG-22 Form Practice.....	10
CG-22 Form Feedback.....	12
Completing the AF Form 847.....	13
AF Form 847 Practice.....	16
AF Form 847 Feedback.....	18
Publication Improvement System Self-Quiz.....	19
Publication Improvement System Self-Quiz Feedback.....	20
Syllabus.....	21

Introduction

Publication improvement recommendation forms are used to recommend changes, error corrections, updates or deletions to all publications and ACMS/MSR maintenance procedure cards in use by the Coast Guard.

Types of Forms

The two types of forms discussed in the instructions and used to recommend changes to publication are as follows:

- CG-22, Aeronautical Publication Change Recommendation Form
 - AF Form 847, Recommendation for Change of Publication (Flight and Standardization Manual)
-

Introduction

The Aeronautical Publication Change Recommendation Form (CG-22) is used to recommend changes to correct errors which affect the meaning of instructive information or procedures contained in technical manuals or procedures contained in technical manuals or ACMS/MSR cards except aircraft flight manuals (-1 series).

Availability of Forms

The CG-22 Form can be obtained from your shop supervisor or the Quality Assurance (QA) office. If you have access to a CG standard work station II, this form is available on the SAE Forms Plus Laser Library, or Jet Filler on standard work station III. If more room is needed than is available on the CG-22 Form, also obtain a CG-22 continuation sheet (see example on page 8).

Operation

The technician/mechanic who originates a CG-22 form fills out a draft copy and submits it to the unit's QA office. The proposal is reviewed by QA personnel for validity and technical accuracy. They then make necessary corrections without changing the intended meaning of the original proposal. Using a CG standard work station, QA personnel transfer the information onto the computer version of the form and then print out what becomes known as the original. You, the originator, will be asked to review this original to ensure it still says what you intended to say.

Signatures

Once the originator and QA are in agreement, the CG-22 Form is signed by the originator and the QA officer. It is then forwarded to the unit engineering Officer for local approval.

Control Number

The control number enables tracking of individual CG-22's. After the Engineering Officer approves the CG-22, the ACMS Field Terminal Operator will enter the information into the ACMS CG-22 Tracking System. The ACMS then assigns a control number for the CG-22 which is handwritten on the form.

Distribution

After the control number is entered on the CG-22, it is returned to QA for submission to the appropriate aircraft Prime Unit. Changes that are not specific to any aircraft type can be sent to any Prime Unit. Distribution is limited to the original CG-22 Form being submitted to Prime Unit.

**CG-22 Block
Entry Table**

The following table contains remarks for the blocks that should be completed prior to submitting the CG-22 Form to the Quality Assurance Office. Only the applicable blocks from block #1 through block # 24 should have an entry. See example on the following page.

Block #	Entry/Remarks
1	Insert unit OPFAC number
2	Insert unit name to identify the originating unit.
3	Insert the date (MM DD YY – i.e. 10 25 99).
4	Quality Assurance will insert the Control Number
5	Insert change title if applicable
6	Insert Originator name
7	Insert originator phone
8	Indicate the type of publication affected.
9	Enter aircraft type or equipment affected by this change.
10	Insert yes or no if change is procedural.
11	Insert yes or no if change affects a TCTO.
12	Insert the publication number.
13	Insert the revision date.
14	Insert the affected page(s)
15	Insert the ATA chapter
16	Insert the affected paragraph
17	Insert the affected figure (if applicable)
18	Insert the affected Commandant Change (if applicable)
19	Insert the affected MPC number (if applicable)
20	Insert the affected date of MPC (if applicable)
21	Insert the affected page of MPC (if applicable)
22	Insert the affected interval change (if applicable)
23	Describe the manual deficiency and recommend changes using clear and concise terms. Use a continuation sheet if necessary.
24	Describe the MPC deficiency and recommend changes using clear and concise terms. Use a continuation sheet if necessary. (if applicable)
25	Ensure QA receives and signs original copy of CG-22

Continued next page

Example of a Completed CG-22

The following is an example of a CG-22 Form that was submitted by the Aviation Technical Training Center.

AERONAUTICAL PUBLICATION CHANGE RECOMMENDATION					
1. OPFAC 78 - 61300		2. UNIT ATTC, Elizabeth City, NC		3. DATE INITIATED 10 / 25 / 99	
5. CHANGE TITLE			6. ORIGINATOR (First, MI, Last, Rank) Paul. D. Doe AVTC		4. CONTROL NUMBER 93 - 016 - R
8. CG-22 TYPE Pub <input checked="" type="checkbox"/> MPC <input type="checkbox"/> Comb. <input type="checkbox"/>		9. AIRCRAFT TYPE HU-25		7. ORIGINATOR PHONE (2 5 2) 335 - 6856	10. PROCEDURAL (Y/N) NO
12. PUBLICATION NUMBER 1U - 25A - 6WB			13. REV. DATE 02 / 04 / 84		11. TC TO (Y/N) NO
15. ATA CHAPTER 23 - 51 - 00		16. PARAGRAPH 39a , 1e		17. FIGURE	14. PAGE 8 / 146 / 147
19. MPC NUMBER		20. DATE		21. PAGE	18. COMDT. CHANGE (Y/N)
23. PUBLICATION		22. INTERVAL CHANGE (Y/N)			
<p>The manual states that a 47 Ohm, 1 Watt load resister is used during testing. This value is incorrect. In accordance with Collins "Production Test Requirements". Audio Control</p> <p>RECOMMENDATION:</p> <p>Change the resister value to 470 Ohms, 1 Watt.</p>					
24. MPC DEFICIENCY:					
RECOMMENDATION:					
25. LOCAL QA (Signature)			26. ENGINEERING OFFICER OR DESIGNATED REPRESENTATIVE (Signature)		
27. PRIME UNIT REMARKS:					
29. ACTION CODE (A/P/D/X) APP. <input type="checkbox"/> PAR. <input type="checkbox"/> DISAPP. <input type="checkbox"/> CANCEL <input type="checkbox"/>				30. PRIORITY U / N / R	28. DATE OUT:
			31. TOPS (Y/N) Y / N	32. SIGNATURE	
33. TECHNICAL SERVICES REMARKS:					
35. ACTION CODE (A/P/D/X) APP. <input type="checkbox"/> PAR. <input type="checkbox"/> DISAPP. <input type="checkbox"/> CANCEL <input type="checkbox"/>				36. PRIORITY U / N / R	34. DATE OUT:
			37. TOPS (Y/N) Y / N	38. SIGNATURE	
39. RCM SIGNATURE: (Interval Changes Only)			40. G-EAE-2 SIGNATURE: (COMDTINST Changes Only)		
41. DATE OUT:	42. CODE A / P / D / X	43. PRIORITY U / N / R		44. DATE OUT:	45. CODE A / P / D / X
					46. PRIORITY U / N / R
47. TPS MANAGER Signature: _____ Date: _____			48. TPS FINAL: Signature: _____ Date: _____		
49. MPC COTR: Signature: _____ Date: _____			50. MPC FINAL: Signature: _____ Date: _____		
Remarks:			Remarks:		

CG FORM 22

PREVIOUS EDITIONS OBSOLETE

Continued next page

**CG-22
Continuation
Sheet**

This form is provided to give the originator more space to identify the deficiency and to make recommendations. When a continuation sheet is used, enter the appropriate page number, in the top, right-handed corner of the form. In blocks 1 through 4, enter the same information that is on page number one (see page 6).

AERONAUTICAL PUBLICATION CHANGE RECOMMENDATION					
<i>CONTINUATION SHEET</i>				<i>PAGE</i>	<i>OF</i>
1. UNIT	2. OPFAC	3. CONTROL NUMBER	4. ATA CODE		
MANUAL					
5. MANUAL DEFICIENCY:					
<p>RECOMMENDATION:</p>					
<small>(Use continuation pages as necessary)</small>					
ACMS					
6. ACMS DEFICIENCY:					
<p>RECOMMENDATION:</p>					
<small>(Use continuation pages as necessary)</small>					

CG FORM 22 Continuation Sheet

REPLACES AFTO-22
AUGUST 1991

Introduction

Now that you have seen how a CG-22 Form should be filled out, practice by completing the form on page 11 using the following scenario.

Scenario

You are stationed at Coast Guard Air Station Clearwater, OPFAC # 07-20150. While reading about the operation of the T-56 engine in the Air Force T.O. 1C-130H-2-70GS-00-1, (Change 3, Date 12 Mar 96, paragraph 5-2.2 states that the engine low-speed operating range is between 9 and 30 degrees of throttle lever travel. However, paragraph 5-2.5, states that the low-speed operating range is between 9 and 40 degrees of throttle lever travel. To determine which statement is correct you look up the information in the CGTO 1C-130-1 Flight Manual. On page 1-37 and 1-38 the “Low-Speed Ground Idle Control” paragraph states that the operating range is between 9 and 30 degrees of throttle lever travel.

Continued next page

CG-22 Practice Form

Complete the form below using the information in the practice scenario given on the previous page.

AERONAUTICAL PUBLICATION CHANGE RECOMMENDATION					
1. OPFAC _____		2. UNIT _____		3. DATE INITIATED _____	
5. CHANGE TITLE _____			6. ORIGINATOR (First, MI, Last, Rank) _____		7. ORIGINATOR PHONE (_____) _____
8. CG-22 TYPE Pub _____ MPC _____ Comb. _____		9. AIRCRAFT TYPE _____		10. PROCEDURAL (Y/N) _____	
12. PUBLICATION NUMBER _____			13. REV. DATE _____		14. PAGE _____
15. ATA CHAPTER _____		16. PARAGRAPH _____		17. FIGURE _____	
19. MPC NUMBER _____		20. DATE _____		21. PAGE _____	
18. COMDT. CHANGE (Y/N) _____		22. INTERVAL CHANGE (Y/N) _____			
23. PUBLICATION DEFICIENCY: RECOMMENDATION:					
24. MPC DEFICIENCY: RECOMMENDATION:					
25. LOCAL QA (Signature) _____			26. ENGINEERING OFFICER OR DESIGNATED REPRESENTATIVE (Signature) _____		
27. PRIME UNIT REMARKS: _____ _____					
29. ACTION CODE (A/P/D/X) APP. _____ PAR. _____ DISAPP. _____ CANCEL _____		30. PRIORITY U / N / R		31. TOPS (Y/N) Y / N	
32. SIGNATURE _____				28. DATE OUT: _____	
33. TECHNICAL SERVICES REMARKS: _____ _____					
35. ACTION CODE (A/P/D/X) APP. _____ PAR. _____ DISAPP. _____ CANCEL _____		36. PRIORITY U / N / R		37. TOPS (Y/N) Y / N	
38. SIGNATURE _____				34. DATE OUT: _____	
39. RCM SIGNATURE: (Interval Changes Only)			40. G-EAE-2 SIGNATURE: (COMDTINST Changes Only)		
41. DATE OUT: _____		42. CODE A / P / D / X	43. PRIORITY U / N / R		44. DATE OUT: _____
45. CODE A / P / D / X		46. PRIORITY U / N / R			
47. TPS MANAGER Signature _____ Date: _____			48. TPS FINAL: Signature _____ Date: _____		
49. MPC CONTR: Signature _____ Date: _____			50. MPC FINAL: Signature _____ Date: _____		
Remarks: _____			Remarks: _____		

CG FORM 22

PREVIOUS EDITIONS OBSOLETE

Feedback

Your CG-22 Form should be completed as shown below. If there are errors, please review the scenario and pages 6 and 7 to correct any errors found.

AERONAUTICAL PUBLICATION CHANGE RECOMMENDATION			
1. OFFAC 07 - 20150	2. UNIT CGAS Clearwater	3. DATE INITIATED 09/27/99	4. CONTROL NUMBER
5. CHANGE TITLE		6. ORIGINATOR (First, MI, Last, Rank) Your Name	7. ORIGINATOR PHONE ()
8. CG-22 TYPE Pub <input checked="" type="checkbox"/> MPC _____ Comb. _____		9. AIRCRAFT TYPE HC - 130	10. PROCEDURAL (Y/N) Yes
11. TCTO (Y/N) No		12. PUBLICATION NUMBER 1C-130H-2-70GS-00-1	13. REV. DATE 03 / 12 / 96
14. PAGE 5-5	15. ATA CHAPTER 76	16. PARAGRAPH 5-2.5	17. FIGURE
18. COMDT. CHANGE (Y/N) No	19. MPC NUMBER	20. DATE	21. PAGE
22. INTERVAL CHANGE (Y/N)			
23. PUBLICATION DEFICIENCY: On page 5-5, paragraph 5-2.5 states that the engine low-speed ground idle switch is closed when the throttle is between 9 and 40 degrees of throttle lever travel (read on the coordinator). The C-130 Flight Manual, pages 1-37 & 1-38 state the Low-Speed ground Idle Control range is between 9 and 30 degrees. RECOMMENDATION: Change paragraph 5-2.5 to read, "The Low-Speed ground idle switch is closed when the throttle is between 9 and 30 degrees of throttle lever travel (read on the coordinator).			
24. MPC DEFICIENCY: RECOMMENDATION:			
25. LOCAL QA (Signature)		26. ENGINEERING OFFICER OR DESIGNATED REPRESENTATIVE (Signature)	
27. PRIME UNIT REMARKS: 			
28. DATE OUT:			
29. ACTION CODE (A/P/D/X) APP. _____ PAR. _____ DISAPP. _____ CANCEL _____		30. PRIORITY U / N / R	31. TOPS (Y/N) Y / N
32. SIGNATURE			
33. TECHNICAL SERVICES REMARKS: 			
34. DATE OUT:			
35. ACTION CODE (A/P/D/X) APP. _____ PAR. _____ DISAPP. _____ CANCEL _____		36. PRIORITY U / N / R	37. TOPS (Y/N) Y / N
38. SIGNATURE			
39. RCM SIGNATURE: (Interval Changes Only)		40. G-EAE-2 SIGNATURE: (COMDTINST Changes Only)	
41. DATE OUT:	42. CODE A / P / D / X	43. PRIORITY U / N / R	44. DATE OUT:
			45. CODE A / P / D / X
			46. PRIORITY U / N / R
47. TPS MANAGER Signature _____ Date: _____		48. TPS FINAL: Signature _____ Date: _____	
49. MPC COTR: Signature _____ Date: _____		50. MPC FINAL: Signature _____ Date: _____	
Remarks:		Remarks:	

CG FORM 22

PREVIOUS EDITIONS OBSOLETE

Introduction	The Recommendation for Change of Publication (AF Form 847) is used to correct errors which affect the meaning of instructive information of procedures in all Coast Guard aircraft flight manuals (-1 series).
Availability of Form	The AF Form 847 can be obtained from your shop supervisor or the Quality Assurance (QA) office. If you have access to a Coast Guard standard work station, this form is available on the SAE Forms Plus Laser Library or on the Jet Form Filler on standard work station III.
Process	The aircrew member/mechanic who originates an AF Form 847 fills out a draft copy and submits it to the unit's QA office. The proposal is reviewed by QA personal for validity and technical accuracy. They then make necessary correction without changing the intended meaning of the original proposal. Using a CG standard work station, QA personnel transfer the information onto the computer version of the form and print out what becomes known as the original. You, the originator, will be asked to review this original to ensure it still says what you intended it to say.
Signatures	Once the originator and QA are in agreement, the AF Form 847 is signed by the originator and the QA Officer. It is then forwarded to the unit Engineering Officer for local approval.
Distribution	After the Engineering Officer approves the AF Form 847, it is returned to QA for submission to appropriate aircraft Prime Unit, Commandant (G-SAE), Commandant (OCA), and appropriate aircraft Standardization Unit. For distribution details refer to Aeronautical Engineering Maintenance Management Manual COMDINST M13020.1 (series)

Continued next page

AF Form 847
Block Entry Table

The following table contains remarks for the blocks that are required to be completed prior to submitting the AF Form 847 to the Quality Assurance Office. See example on the next page.

Block #	Entry/Remarks	
Date	Enter the date which you are submitting this form.	
Unit Number	Enter you units OPFAC Number.	
1	Enter the Publication Number.	
2	Enter the T.O.'s Basic Date. Located on the cover page.	
3	Enter the Revision/Change Date, located on the cover page.	
4	Enter the affected Page Number you want changed.	
5	Enter the Major Paragraph Title in this block, it will be in bold black lettering.	
6	Enter the Sub-Paragraph Title in this block if one applies.	
7	Enter the Item Number in this block.	
8	Enter whether you want to change or delete a paragraph, item or figure. State how it presently reads, and how you want it to read.	
9	Enter whether you wish to change or to delete a paragraph, item or figure. State how you want it to read.	
10	Enter whether you are adding a new Paragraph, Sentence, Item or Figure. State how you want it to read. This block is used in conjunction with block 9.	
11	Enter you reason for recommending a Change, Addition or Deletion. State any adverse operational effects that your change will correct if instituted.	
Organ-ization	Enter your units name and address.	
Name, Grade and Signature	Self-explanatory	

Example of a Completed AF Form 847

The Following is a example of a completed AF Form 847 that was submitted by Aviation Technical Training Center.

Recommendation For Change Of Publication <i>(Flight Publications)</i>			Date 17 May 1995	Unit Number 78-61300
Publication Number (1) C.G.T.O. 1C-130-1	Basic Date (2) 1 January 1992	Revision/Change Date (3) None	<i>(Reserved)</i>	
Page Number (4) 1-75/76	Major Paragraph Title (5) AC Power Distribution, 1500 Series, Figure 1A-49			
Sub-Paragraph Title (6) LH AC Bus, Pilot's Upper Circuit Breaker Panels			Item Number (7)	
(8) <input type="checkbox"/> Change <input type="checkbox"/> Delete so much of <input type="checkbox"/> Paragraph <input type="checkbox"/> Item <input checked="" type="checkbox"/> Figure				
As Reads Figure 1A-49 shows circuit breakers for the windshield washer system.				
To Read Delete the reference to the windshield washer circuit breakers.				
After Present (9) <input type="checkbox"/> Sentence <input type="checkbox"/> Item				
As Reads				
<input type="checkbox"/> Add New (10) <input type="checkbox"/> Paragraph <input type="checkbox"/> Sentence <input type="checkbox"/> Item <input type="checkbox"/> Figure				
To Read				
Reason For Recommended Change, Addition or Deletion <i>(Include Adverse Operational Effects)</i> (11) CGTCTO HC130-930001 directs units with 1500 series C-130s to remove the windshield washer system. Therefore the reference to these circuit breakers needs to be eliminated.				
Organization Aircraft Repair and Supply Center, Elizabeth City NC. 27909				
Type Name and Grade of Originator Stan Lane AVTC			Signature Your Signature	

Introduction

Now that you have seen how an AF Form 847 is filled out, practice by completing the form on page 17 using the following scenario.

Scenario

You are stationed at Coast Guard Air Station Sacramento OPFAC #11-20290. You are reading the Omega Navigation System paragraph in CGTO 1C-130-1 flight manual. In the Search Mode Operation subparagraph on page 1-474, you notice that item #11 reads as follows:

FIRST TURN DIRECTION-ENTERED

Press L for left turn or R for right turn.

Having just graduated from Basic Air Navigation School, you know the L or R for left or right turns cannot be entered without first pressing the R push button to blank out the right display, therefore the search cannot be used.

Your recommendation is to change item 11 to read as follows:

FIRST TURN DIRECTION-ENTERED

Press the R push button to blank the right display,
then press the R push button for right turn or L
push button for left turn.

The basic date of CGTO 1C-130-1 is 6 November 1986.

Continued next page

**AF Form 847
Practice Form**

Complete the form below using the information in the practice scenario on the previous page.

Recommendation For Change Of Publication <i>(Flight Publications)</i>			Date	Unit Number
Publication Number (1)	Basic Date (2)	Revision/Change Date (3)	<i>(Reserved)</i>	
Page Number (4)	Major Paragraph Title (5)			
Sub-Paragraph Title (6)			Item Number (7)	
(8) <input type="checkbox"/> Change <input type="checkbox"/> Delete so much of <input type="checkbox"/> Paragraph <input type="checkbox"/> Item <input type="checkbox"/> Figure				
As Reads				
To Read				
After Present (9) <input type="checkbox"/> Sentence <input type="checkbox"/> Item				
As Reads				
<input type="checkbox"/> Add New (10) <input type="checkbox"/> Paragraph <input type="checkbox"/> Sentence <input type="checkbox"/> Item <input type="checkbox"/> Figure				
To Read				
Reason For Recommended Change, Addition or Deletion <i>(Include Adverse Operational Effects)</i> (11)				
Organization				
Type Name and Grade of Originator			Signature	

Feedback

Your AF Form 847 should be completed as shown below. If there are errors, review the scenario and pages 14 & 15. Correct any errors found.

Recommendation For Change Of Publication <i>(Flight Publications)</i>			Date Today's Date	Unit Number 20290
Publication Number (1) CGTO 1C-130-1	Basic Date (2) 6 Nov. 1986	Revision/Change Date (3)	<i>(Reserved)</i>	
Page Number (4) 1-474	Major Paragraph Title (5) Omega Navigation System (LTN-211)			
Sub-Paragraph Title (6) Search Mode Operation			Item Number (7) 11	
(8) <input checked="" type="checkbox"/> Change <input type="checkbox"/> Delete so much of <input type="checkbox"/> Paragraph <input type="checkbox"/> Item <input type="checkbox"/> Figure				
As Reads FIRST TURN DIRECTION-ENTERED Using Push button, press L for left turn or R for right turn.				
To Read FIRST TURN DIRECTION-ENTERED Press the R push button to blank the right display, then press the R button for right turn or L for left turn.				
After Present (9) <input type="checkbox"/> Sentence <input type="checkbox"/> Item				
As Reads				
<input type="checkbox"/> Add New (10) <input type="checkbox"/> Paragraph <input type="checkbox"/> Sentence <input type="checkbox"/> Item <input type="checkbox"/> Figure				
To Read				
Reason For Recommended Change, Addition or Deletion <i>(Include Adverse Operational Effects)</i> (11) L or R for left or right turn cannot be entered without first pressing the R push button to blank the right display, therefore the search cannot be used.				
Organization Coast Guard Air Station Sacramento				
Type Name and Grade of Originator Your Name and Rate			Signature Your Signature	

Questions

Answer the following question on the publication improvement system.

1. Which form would be used to request a change to an ACMS Maintenance Procedure Card?

2. Which form would be used to request a change to a Flight Manual?

Feedback

Compare your answers to the feedback provided below. If you had trouble with the Self-Quiz, please review the appropriate page of this reading assignment.

Question	Answers	Reference
1.	CG-22	5
2.	AF Form 847	13

Performance

Submit a publication change request.

Performance Objective 1

Given a blank CG-22 form and a maintenance publication or a ACMS/MSR card containing incorrect information, **COMPLETE** the CG-22 form with the required information IAW the Aeronautical Engineering Maintenance Management Manual, COMDINST M13020.1 (series), and the CG-22 Process Guide, CGTO PG-85-00-20.



Performance Objective 2

Given a blank AF Form 847 and a flight manual containing incorrect information, **COMPLETE** the form with the required information IAW the Aeronautical Engineering Maintenance Management Manual, COMDINST M13020.1 (series).



Instruct Care, Handling, and Safe Use of Survival/Rescue Equipment

Introduction

As an AST, you will be tasked with instructing aircrew members in the care, handling, and safe use of survival/rescue equipment. Having previously received training in these subjects, and Instructor Training in the Basic SAR Aircrew Member non-resident course and AST “A” School, no additional training other than the performance objectives sign-off, will be included in this course. Additional preparation and presentation training sessions are provided in the Military Requirements for Senior Petty Officer Course. There will be no questions asked on this End-of-Course Test in regard to this qualification, although you may have questions on this qualification on the Service-Wide Exam.

Performance INSTRUCT aircrew in the proper care, handling, and safe use of aviation Flight Clothing, Aerial Delivery Systems (ADS), Air Drop Rafts (ADR), Survival/ Rescue/Emergency equipment, and aviation pyrotechnics.

Performance Objective 1 Given personal protective equipment used in Coast Guard aviation, **INSTRUCT** aircrew members in the proper care, handling, and safe use IAW the Aviation Life Support Manual, COMDTINST M13520.1.1 (series).



Performance Objective 2 Given aerial deliverable rescue/emergency equipment used in Coast Guard aviation, **INSTRUCT** aircrew members in the proper care, handling, and safe use IAW the Aviation Life Support Manual, COMDTINST M13520.1.1 series and applicable -1 Flight Manuals.



Performance Objective 3 Given pyrotechnics used in Coast Guard aviation, **INSTRUCT** aircrew members in the proper care, handling, and safe use IAW the Pyrotechnic Screening, Marking and Countermeasure Devices Manual, SW050-AB-MMA-010.



Introduction

As an AST, you will be tasked with briefing passengers in the safe use of personal protective clothing and survival equipment. Having previously received training in the safe use of personal protective clothing and survival equipment, and Instructor Training in the Basic SAR Aircrew Member non-resident course and AST “A” School, no additional training other than the performance objectives sign-off, will be included in this course. Additional preparation and presentation training sessions are provided in the Military Requirements for Senior Petty Officer Course. There will be no questions asked on this End-of-Course Test in regard to this qualification, although you may have questions on this qualification on the Service-Wide Exam.

Performance

BRIEF passengers in the safe use of aviation personal protective equipment and survival equipment.

Performance Objective 1

Given the assignment to brief passengers in the safe use of aviation personal protective equipment provided at your unit, **COMPLETE** the briefing IAW the applicable aircraft -1 Flight Manuals and Aviation Life Support Manual, COMDTINST M13520.1.1 (series).

**Performance Objective 2**

Given the assignment to brief passengers in the safe use of aviation survival equipment carried on unit aircraft, **COMPLETE** the briefing IAW the Air Operations Manual, COMDTINST M3710.1 (series) and Aviation Life Support Manual, COMDTINST M13520.1.1 (series).



Introduction

As an AST, you will be tasked with instructing aircrew members in the proper procedures for aircraft emergency egress and basic survival. Having previously received training in the aircraft emergency egress, basic survival, and Instructor Training in the Basic SAR Aircrew Member non-resident course and AST "A" School, no additional training other than the performance objectives sign-off, will be included in this course. Additional preparation and presentation training sessions are provided in the Military Requirements for Senior Petty Officer Course. There will be no questions asked on this End-of-Course Test in regard to this qualification, although you may have questions on this qualification on the Service-Wide Exam.

Performance

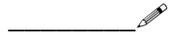
INSTRUCT aircrew members in the proper procedures for aircraft emergency egress and survival.

Performance Objective 1

Given the type aircraft assigned to your unit, **INSTRUCT** unit aircrew members the proper procedures in emergency egress IAW the Air Operations Manual, COMDTINST M3710.1 (series) and applicable aircraft -1 Flight Manuals.

**Performance Objective 2**

Given your units geographical area of operations, **INSTRUCT** unit aircrew members in proper survival techniques IAW the Air Operations Manual, COMDTINST M3710.1 (series) and applicable Survival Manuals.



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- ? **DEFINE** the term inspection.
 - ? **STATE** the purpose of aircraft inspections.
 - ? **STATE** the two categories of aircraft inspections.
 - ? **STATE** the manual that contains specific inspection requirements for each aircraft type.
 - ? **DEFINE** the term routine inspection.
 - ? **IDENTIFY** routine and special inspections.
 - ? **STATE** the form used to schedule special inspections.
-

References

The information contained in this assignment can be found in the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series).

Introduction

This assignment introduces you to the different types of inspections performed on Coast Guard aircraft.

In This Assignment

In this assignment we will discuss the following topics:

Subject	Page
Introduction to Aircraft Inspections	3
Routine Inspections	4
Preflight Inspection.....	5
Thruflight Inspection	6
Postflight Inspection.....	7
Hourly/Weekly Inspection.....	8
ACMS Scheduled Inspections	9
Special Inspections	10
Documenting Special Inspections	13
Aircraft Inspections Self-Quiz.....	17
Aircraft Inspections Self-Quiz Feedback.....	20
Syllabus	21

Introduction	The Coast Guard's Aviation Computerized Maintenance System (ACMS) includes all applicable inspection requirements for aircraft, ground support equipment, and special equipment. These inspections or tasks are completed and accounted for on an individual basis. This allows operational and maintenance flexibility with optimum use of staff-hours.
Definition of Inspections	Inspections, varying in scope, purpose, and frequency, are periodic or on-condition maintenance checks performed on assigned aircraft.
Purpose of Inspections	These inspections ensure that the aircraft are maintained in a safe, serviceable condition.
Inspection Categories	Inspections performed on US Coast Guard aircraft are grouped into the following categories: <ul style="list-style-type: none">• Routine• Special
Inspection Criteria	For specific inspection requirements for each aircraft type, refer to the Aeronautical Engineering Maintenance Management manual, COMDTINST M13020.1 (series).

Definition

Routine inspections are maintenance checks that are accomplished on a regular or scheduled basis.

**Inspections
Considered to be
Routine**

The following inspections are considered to be of a routine nature:

- Preflight
 - Thruflight
 - Postflight
 - Hourly/Weekly
 - ACMS Maintenance Due List (MDL)
-

**Purpose of a
Preflight
Inspection**

The preflight inspection consists of checking the aircraft for flight preparedness by performing visual examinations and operational tests to discover defects and mal-adjustments which, if not corrected, could adversely affect safety of flight or mission accomplishment.

**Preflight
Inspection
Characteristics**

The Preflight Inspection consists of the following characteristics:

- Accomplished prior to the first flight of the day
 - Remains effective for 24 hours provided no subsequent maintenance has been performed
-

Purpose of a Thruflight Inspection

The Thruflight Inspection is accomplished as a turn-around inspection on selected types of aircraft listed in the Aeronautical Engineering Maintenance Management manual, COMDTINST M13020.1 (series).

Thruflight Inspection Characteristics

The Thruflight Inspection consists of the following characteristics:

- Accomplished prior to take off on the second and each subsequent flight of the day
 - Completion of a thruflight satisfies the requirements of a preflight. Therefore preflight certification can be documented on the CG-4377 Part I upon completion.
-

Purpose of a Postflight Inspection

The purpose of a postflight inspection is to ensure that the aircraft is suitable for continued flight.

Characteristics of a Postflight

- A postflight inspection consists of the following characteristics:
 - Accomplished after the last flight of the flying period
 - A visual inspection of certain components, systems, or areas, to ensure that no defects exist which would be detrimental to further flight
 - Discloses defects requiring correction before deterioration into major maintenance items
 - Inspection frequency ranges from once a day to once per week depending on the type of aircraft
 - Performed on selected types of aircraft listed in the Aeronautical Engineering Maintenance Management manual, COMDTINST M13020.1 (series).
-

Purpose of an Hourly/Weekly Inspection

These inspections are designed to provide servicing and verification of satisfactory functioning of critical systems/components at frequent intervals.

Characteristics of an Hourly/Weekly Inspection

An Hourly/Weekly inspection consists of the following characteristics:

- Frequency of these types of inspections prohibits the use of the computer for scheduling
 - Procedures for performing these inspections are located in the ACMS Maintenance Procedure Cards
-

Purpose of ACMS Scheduled Inspections

These inspections ensure that a thorough examination of all aircraft systems and components is accomplished on a scheduled basis.

Types of ACMS Scheduled Inspections

These inspections consist of the following types:

- Operations
 - Calendar
 - Hourly
 - Cycles
 - Landings
-

Characteristics of ACMS Scheduled Inspections

These inspections consist of the following characteristics:

- Procedures for performing these inspections are located in the ACMS Maintenance Procedure Cards
 - Appear on the ACMS Maintenance Due List (MDL) for action
-

Definition

Special inspections are certain additional inspections, distinct in frequency from routine inspections, which are conditional upon operational environment, specific incidents, or other circumstances requiring inspections.

Examples of Special Inspections

The number of special inspections required for all aircraft and circumstances are too numerous to list. A few examples are given in the following items to illustrate their distinction from routine:

Overtemperature, Overspeed, Overtorque, Metal Contamination, Hard Landing, Lightning Strike Inspections, (etc): These types of special inspections define the specific maintenance actions taken based upon the circumstances of the event. Procedures for performing these types of inspections have been written into existing manuals and the Aviation Computerized Maintenance System as the result of actual experiences or a high probability that the event will happen.

Time Compliance Technical Order (TCTO)/Message Time Compliance Technical Order (Message TCTO): A TCTO is normally generated by a reported safety-of-flight incident or failure trend and is issued to perform inspections of an aircraft component or system. TCTO's will appear on the ACMS Maintenance Due List (MDL) report for action. A TCTO provides detailed information on how to perform the inspection.

Aircraft Damage Sustained as a Result of a Mishap: The commanding officer will ensure that all damage sustained is properly inspected by competent maintenance personnel and that the complete extent of the damage is reported. This inspection should not be limited solely to the damaged area. A qualified maintenance officer should perform a complete evaluation prior to releasing the aircraft for flight.

Continued next page

**Examples of
Special
Inspections
(Continued)**

Aircraft Damage Sustained as a Result of Flight Through Volcanic Ash: Inadvertent flight through volcanic ash clouds is an infrequent but very real and significant hazard. Numerous commercial and military aircraft have sustained tremendous damage at jet airway altitudes hundreds of miles from active volcanoes. If flight through a volcanic ash cloud is known or suspected, contact Commandant (G-SEA) for decontamination procedures. Depot and Original Equipment Manufacturer (OEM) support will most likely be required.

Special Inspection Due to Maintenance: Some maintenance procedures require special inspections be performed as a follow up check. This inspection assures that the maintenance procedure was performed correctly and/or that the assembly or equipment is not defective.

Example: After installing the Main Rotor Head (MRH) on a HH-60J helicopter the MPC requires a torque check be performed on the MRH shaft nut bolts after 9-11 flight hours.

Introduction

The administrative process for documenting special inspections should be the same at all units but may vary slightly. Generally, you should document special inspections as outlined in the following tables.

Documenting a Special Inspection Due to a Specific Incident

When an incident occurs that requires a special inspection, the following steps should be performed to document performance of the inspection.

Step	Action						
1	Write up the discrepancy describing the incident. <table border="1" data-bbox="712 726 1373 1005"> <thead> <tr> <th data-bbox="712 726 1015 789">If...</th> <th data-bbox="1015 726 1373 789">Then...</th> </tr> </thead> <tbody> <tr> <td data-bbox="712 789 1015 898">the incident occurred during flight</td> <td data-bbox="1015 789 1373 898">write up the discrepancy on the CG-4377 Part III</td> </tr> <tr> <td data-bbox="712 898 1015 1005">the incident did not occur during flight</td> <td data-bbox="1015 898 1373 1005">write up the discrepancy on the CG-4377B</td> </tr> </tbody> </table>	If...	Then...	the incident occurred during flight	write up the discrepancy on the CG-4377 Part III	the incident did not occur during flight	write up the discrepancy on the CG-4377B
If...	Then...						
the incident occurred during flight	write up the discrepancy on the CG-4377 Part III						
the incident did not occur during flight	write up the discrepancy on the CG-4377B						
2	Perform the inspection in accordance with the applicable maintenance publication.						
3	Sign off the discrepancy written up in Step 1 and complete any applicable MPC's.						
4	Follow the appropriate instruction below depending on the outcome of the inspection. <table border="1" data-bbox="703 1360 1373 1680"> <thead> <tr> <th data-bbox="703 1360 1015 1423">If...</th> <th data-bbox="1015 1360 1373 1423">Then...</th> </tr> </thead> <tbody> <tr> <td data-bbox="703 1423 1015 1570">any problems or defects were found</td> <td data-bbox="1015 1423 1373 1570">write up the discrepancies on the CG-4377B for further maintenance</td> </tr> <tr> <td data-bbox="703 1570 1015 1680">no problems or defects were found</td> <td data-bbox="1015 1570 1373 1680">you are done</td> </tr> </tbody> </table>	If...	Then...	any problems or defects were found	write up the discrepancies on the CG-4377B for further maintenance	no problems or defects were found	you are done
If...	Then...						
any problems or defects were found	write up the discrepancies on the CG-4377B for further maintenance						
no problems or defects were found	you are done						

Continued next page

Scheduling a Special Inspection Due to Maintenance

After installing the MRH on the HH-60J helicopter, a torque check is required to be performed every 10 flight hours until the torque stabilizes, or for a maximum of four times. This type of special inspection is scheduled on the CG-5181 in the Special Inspections/Services Record section as illustrated in the example on the following page (refer to the example while reading the table).

Special Inspection Step-Action Table

Schedule special inspections by performing the steps in the following table:

Step	Action						
1	Enter the description of the inspection (MRH Torque Check)						
2	Enter the frequency of the inspection (10 hours)						
3	Calculate the Next Due hours by performing the following steps: <table border="1" data-bbox="727 930 1360 1178"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Round off the aircraft flight hours to the nearest whole number</td> </tr> <tr> <td>2</td> <td>Add 10 hours to the number from Step 1</td> </tr> </tbody> </table>	Step	Action	1	Round off the aircraft flight hours to the nearest whole number	2	Add 10 hours to the number from Step 1
Step	Action						
1	Round off the aircraft flight hours to the nearest whole number						
2	Add 10 hours to the number from Step 1						
4	Enter the number from Step 3 in the first available Next Due block (from the left)						

Continued next page

Example of Scheduling a Special Inspection Due to Maintenance

In the following example the aircraft had 384.5 flight hours at the time the MRH was installed. The number 384.5 is rounded up to 385 and then 10 hours is added to it, therefore 395 is entered in the Next Due block to schedule the inspection. Refer to the step-action table on the proceeding page.

SPECIAL INSPECTIONS/SERVICES RECORD						
DESCRIPTION	FREQUENCY	NEXT DUE				
MRH Torque Check	10 Hours	395				

Documenting Performance of a Special Inspection Due to Maintenance

When the inspection in the example above becomes due, the technician will perform the following steps to document performance of the inspection:

Step	Action						
1	Write up a discrepancy on the CG-4377B, requiring the inspection to be performed						
2	Perform the inspection in accordance with the applicable maintenance publication						
3	Document completion of the inspection by performing the applicable step below <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>If...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>the torque is stable</td> <td>sign off the discrepancy written up in Step 1 and notify your supervisor</td> </tr> <tr> <td>the torque is not stable</td> <td>sign off the discrepancy written up in Step 1 and schedule another one by adding 10 hours to the total aircraft flight hours and enter that number in the next blank Next Due block on the CG-5181</td> </tr> </tbody> </table>	If...	Then...	the torque is stable	sign off the discrepancy written up in Step 1 and notify your supervisor	the torque is not stable	sign off the discrepancy written up in Step 1 and schedule another one by adding 10 hours to the total aircraft flight hours and enter that number in the next blank Next Due block on the CG-5181
If...	Then...						
the torque is stable	sign off the discrepancy written up in Step 1 and notify your supervisor						
the torque is not stable	sign off the discrepancy written up in Step 1 and schedule another one by adding 10 hours to the total aircraft flight hours and enter that number in the next blank Next Due block on the CG-5181						

Questions

Answer the following questions on aircraft inspections:

1. What is the definition of an inspection? _____

2. The purpose of aircraft inspections is to _____

_____.

3. What two categories are aircraft inspections grouped into?

a. _____

b. _____

4. Specific inspection requirements for each aircraft type can be found in what manual? _____

5. What is the definition of routine inspections? _____

Continued next page

**Questions
(Continued)**

6. Match each inspection listed in column B to the appropriate type of inspection listed in column A. Use each letter only once.

Column A

___, ___, ___ 1. Routine Inspection

___, ___, ___ 2. Special Inspection

Column B

a. Hourly/Weekly

b. Lightning Strike

c. MRH Torque Check

d. Postflight

e. Preflight

f. TCTO

7. Which routine inspection is performed before the first flight of the day?

8. On which ACMS report will TCTO's appear for action?

9. If a maintenance procedure requires a follow up special inspection, it should be scheduled on the _____.

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Question	Answer	Reference
1.	A periodic or on-condition maintenance check performed on assigned aircraft	3
2.	ensure the aircraft are maintained in a safe, serviceable condition	3
3.	a. Routine Inspections b. Special Inspections	3
4.	Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)	3
5.	Maintenance checks that are accomplished on a regular or scheduled basis.	4
6.	1. a, d, e 2. b, c, f	4 10, 11
7.	Preflight	5
8.	ACMS Maintenance Due List	10
9.	CG-5181	14

Performance PERFORM special inspections of aircraft and aviation equipment.

Performance Objective 1 Given the necessary equipment and publications, **PERFORM** special inspections of aircraft IAW the applicable publication.



NOTE

The number and types of special inspections are too numerous to provide a detailed reference list for each aircraft type. Instructions for performing special inspections are covered by the ACMS Maintenance Procedure Cards, the aircraft's maintenance publications, and issued Time Compliance Technical Orders (TCTO's).

Performance Objective 2 Given the necessary equipment and publications, **PERFORM** special inspections of aviation equipment IAW the applicable publication.



NOTE

The number and types of special inspections are too numerous to provide a detailed reference list for all aviation equipment. Instructions for performing special inspections are covered by the ACMS Maintenance Procedure Cards, the equipment maintenance publications, and issued Time Compliance Technical Orders (TCTO's).

Objectives

To successfully complete this assignment, you must study the references and master the following objectives:

- **STATE** the purpose of a Time Compliance Technical Order (TCTO).
 - **STATE** the organization that can authorize modifications of Coast Guard aircraft.
 - **DEFINE** the Aviation Computerized Maintenance System (ACMS) reports that TCTO's appear on and the purpose.
 - **DEFINE** the characteristics of TCTO's.
 - **DEFINE** the characteristics of Special Compliance Technical Orders (SCTO's)
-

References

The information that you must study is contained in the following references:

- Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)
 - Aeronautical Engineering TCTO Process Guide, CGTO PG-85-00-40
-

Introduction

This assignment introduces you to the process of making modifications to aircraft and aviation equipment.

Notice to Student

There is no information presented in this pamphlet, however, you must read and study the material in the references to prepare for the Self-Quiz, Pamphlet Review Quiz, and the EOCT.

In This Assignment

This assignment contains the following:

Subject	Page
How to Complete This Assignment.....	3
Aircraft Modifications Self-Quiz.....	5
Aircraft Modifications Self-Quiz Feedback.....	6
Syllabus	7

Before You Begin

To complete this assignment, it is recommended that you do the following:

- Get permission from the reference custodian to use the documents
- Get a current copy of each of the references listed, usually from Quality Assurance
- Ensure that no pages in the references are missing or damaged
- DO NOT write in references or remove any pages
- Return the references to the custodian when you have finished the lesson

Continued next page

How to Proceed

To successfully complete this assignment, follow the steps listed below:

Step	Action
1	Read the objectives on page 1
2	<p>Read and study the material in each reference listed below and ensure that you can fulfill each objective:</p> <ul style="list-style-type: none"> • Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) <ul style="list-style-type: none"> - Chapter 5, Directives and Publications, (Paragraph on TCTO's) - Chapter 8, Aircraft Inspections, (Section on Special Inspections) • Aeronautical Engineering TCTO Process Guide, CGTO PG-85-00-40 <ul style="list-style-type: none"> - Chapter 1, Coast Guard TCTO's - Chapter 2, Coast Guard Message TCTO's - Chapter 3, Contractor Produced Coast Guard TCTO's - Chapter 4, TCTO Guidelines - Chapter 5, CG Special Compliance Technical Order's (SCTO), (TOPS 1)
3	Take the self-quiz and review the feedback. If you have no trouble with the self-quiz, you should be well prepared for the pamphlet review quiz and the EOCT.

Questions

Answer the following questions on aircraft modifications:

- 1. What is the purpose of a Time Compliance Technical Order?

- 2. To track compliance of a TCTO, it will appear on which ACMS report?

- 3. Which digits in a TCTO number indicate the applicable ATA chapter?

- 4. Which Coast Guard organization can authorize modifications of aircraft?

- 5. What type of TCTO is used for rapid dissemination of information, generally of an urgent or safety-of-flight nature?

- 6. A Special Compliance Technical Order (SCTO) provides a means to implement aircraft, Mandatory Special Requirements (MSR), and Avionics Tracking System (ATS) changes which are not

_____.

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section in the applicable reference.

Question	Answer	Reference
1	A TCTO generally requires a physical change to an aircraft or a special inspection	COMDTINST M13020.1 (series) Page 5-3
2	Maintenance Due List (MDL)	COMDTINST M13020.1 (series) Page 5-4
3	Second and Third	COMDTINST M13020.1 (series) Page 5-4
4	Commandant (G-SEA)	COMDTINST M13020.1 (series) Page 5-4
5	Message TCTO	COMDTINST M13020.1 (series) Page 5-4
6	time sensitive	CGTO PG-85-00-40 Page 5-1

Performance PERFORM authorized modifications of aircraft and aviation equipment.

Precautions You must be aware of the following caution and note before modifying aircraft or aviation equipment.

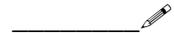
CAUTION

Only authorized modifications will be made on aircraft and aviation equipment. TCTO's can be authorized only by Commandant (G-SEA).

NOTE

TCTO's will be accomplished using standard aircraft maintenance practices and following the step-by-step procedures published in the TCTO.

Performance Objective 1 Given the necessary equipment, directions, and publications, **PERFORM** authorized modifications of aircraft IAW an issued TCTO and applicable publications.



Performance Objective 2 Given the necessary equipment, directions, and publications, **PERFORM** authorized modifications of aviation equipment IAW an issued TCTO and applicable publications.



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **STATE** the correct manuals used by the Coast Guard for air station shop safety programs.
- **STATE** the instructing policy on safety in the Coast Guard.
- **SELECT** the definition of acute exposure.
- **SELECT** the definition of chronic exposure.
- **DESCRIBE** the effects of dermatitis.
- **STATE** the responsibility of the technician in the Coast Guard respiratory protection program.
- **SELECT** the proper oxygen concentration required for the use of air-purifying respirators.
- **STATE** the approval ratings required for the respirators used in the Coast Guard.
- **STATE** the warning associated with the maintenance and repair of respirators.
- **STATE** who is responsible for the ultimate success of the hearing conservation program.
- **LIST** the symptoms of a person showing signs of over exposure to excessive noise
- **STATE** the first aid response for someone who is showing signs of over-exposure to excessive noise.
- **STATE** the decibel level at which hearing protection is required.
- **DEFINE** noise reduction rating (NRR).
- **STATE** the two conditions that must be present to result in an electrical shock.
- **STATE** the current flow that is usually considered fatal.
- **STATE** the meaning of secondary electrical injury.

Continued next page

References

The information in this assignment can be found in the following references:

- Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)
 - Safety and Environmental Health Manual, COMDTINST M5100.47 (series)
 - Technical Guide: Practices For Respiratory Protection, COMDTINST M6260.2 (series)
 - Hazardous Waste Management Manual, COMDTINST M16478.1 (series)
 - First Aid and Health Lesson Plans, COMDTINST M6000.3(series)
 - Electronics Manual, COMDTINST M10550.25
 - The Coast Guardsman's Manual (Blue Jacket's Manual) current edition
-

Introduction

The purpose of this assignment is to introduce you to general safety and your responsibilities as a Aviation Survival Technician. This assignment will also give you a basic understanding of general safety guidelines, available sources of information, individual, supervisor, and command responsibilities.

Your Responsibility

As a Second Class Petty Officer you will have a hand in the training of both the Airman and AST3's, therefore it is your responsibility to familiarize yourself with the publications listed and learn from the information in this course to safely train your subordinates.

In This Assignment

This assignment contains the following:

Subject	Page
Types of Aviation Maintenance Publications.....	5
Policy for Instructing Safety Lessons.....	6
Types of Eye Protection.....	7
Guidelines For Choosing Eye Protection.....	8
Cleaning Eye Protection.....	9
Personal Protection.....	10
Shop Safety Practices.....	12
Chemical Exposure.....	14
Types of Poisoning.....	18
Coast Guard Policy On Respiratory Protection.....	19
Atmospheric Supply Respirator.....	21
Air-Purifying Respirators.....	23
Types of Test Ratings for Respirators.....	24
How to Conduct a Respirator Negative Pressure Fit Check.....	25
How to Conduct a Respirator Positive Pressure Fit Check.....	26
How to Conduct a Pre-Use Fit Check for Respirators.....	27

Continued next page

In This Assignment (Continued)	Subject	Page
	Respirator Care.....	28
	Hearing Conservation.....	29
	The Effects of Noise	30
	Hearing Protection Devices.....	32
	Noise Reduction Rating.....	34
	Administering First Aid in a Shop.....	35
	Eye Injuries and First Aid.....	36
	Electrical Safety.....	37
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Introduction

The following publications are used in the aviation maintenance safety programs and throughout the Coast Guard. Your ability to properly use and reference information within these manuals is integral to your job as an Aviation Survival Technician and will help as a guide for preparing your training lecture.

**COMDTINST
M13020.1 (series)**

The Aeronautical Engineering Maintenance Management Manual, COMDTINST, M13020.1 (series) establishes shop safety standards and procedures for all Coast Guard aviation maintenance facilities. It contains information on basic shop safety practices and hand tool safety.

**COMDTINST
M5100.47 (series)**

The Safety and Environmental Health Manual, COMDTINST M5100.47 (series) is used throughout the Coast Guard and sets forth the policy and the elements of the Coast Guards safety program.

**COMDTINST
M16478.1 (series)**

The Hazardous Waste Management Manual, COMDTINST M16478.1 (series) prescribes policies and procedures for compliance with federal hazardous waste regulations for all Coast Guard ships and shore activities.

**COMDTINST
M6260.2 (series)**

The Technical Guide: Practices for Respiratory Protection, COMDTINST M6260.2 (series) provides the technical information necessary for the safe use of respiratory protection devices and requirements for administering the respiratory protection program.

**Coast
Guardsman's
Manual (current
edition)**

Other wise known throughout the fleet as the Blue Jacket's manual, this publication gives you an excellent overview of basic everyday safety and first aid used in the Coast Guard.

Definition of Safety

Safety is the science and art devoted to the recognition, evaluation, and control of risk factors arising from man's environment which may cause injury, significant discomfort and inefficiency, property damage, or which could adversely affect the Coast Guard's mission capability.

Responsibility

You, as a member of the Coast Guard, have a personal responsibility to safeguard yourself and your fellow members as well as the government property entrusted to your care.

Instructing Policy

When instructing, only teach safety procedures and techniques that are 100% safe and IAW Coast Guard regulations.

Common-Sense Questions

Common-sense is your best protection and safety device. Only you know your physical limits and demands that you can place upon yourself so, use your brain. Below is a list of questions you should ask yourself and teach others to ask prior to doing any job.

- Are there published guidelines for this task?
 - Do I have the required safety equipment?
 - Do I know what is expected from me?
 - Can I accomplish this task without hurting myself?
 - Can I accomplish this task without hurting others?
 - Do I have the required skills needed to do the task?
 - Do I have the required tools/materials to do the task?
 - Do I have any unanswered questions?
 - When in doubt, ask your supervisor.
-

Introduction

Various types of eye protection, like tools, have a specific use for the job at hand. There is no one type of eye protection that can be used for all applications. Some applications might require you to use two types of eye protection at one time.

Eye Protection and Their Descriptions

Listed below are some types of eye protection that all protect your eyes, but in different ways.

Name of Protection	Descriptions
Safety Glasses	Similar in appearance to eye glasses, they have a mesh screen around the lenses to protect from large chips.
Safety Goggles	Protect by wrapping around your eyes much like a mask, has small screens around to protect from small chips from entering
Safety Goggles (Liquid Use)	Protect by wrapping around your eyes much like a mask, but have small vents facing towards the back to prevent liquid from entering your goggles. This type is not to be used for grinding operations.
Face Shields	Used for covering your whole face, normally used for grinding operations and in conjunction with safety goggles.

Prescription Eye Glasses Warning

Though most prescription glasses are impact resistant they are not of the same standard as safety glasses and will not offer the required protection.

WARNING

Prescription eye glasses shall not be used as safety glasses. If you wear prescription eye wear, always put safety goggles or a face shield over your glasses.

Continued next page

Methods For Choosing Eye Protection

Eye protection has only one function. That is to protect your eyes. When selecting eye protection ensure that the proper type of eye protection is selected for the task at hand. There are several factors involved in determining what type of eye protection devices should be used. They are as follows:

- Read the:
 - label of the product that you are using
 - Material Data Safety Sheet (MSDS)
 - maintenance manual or ACMS/MSR MPC
 - If your work includes:
 - looking upwards at work surface
 - mixing, pouring, or moving liquids
 - grinding operations
 - compressed gas use
-

Guidelines For Pre-Use Checks

Eye protection should be inspected prior to use. The following checks will be done prior to donning the eye wear. Check for the following characteristics:

- Proper protection for the job at hand (grinding, liquids etc.)
 - Lens cleanliness
 - Lenses not scratched
 - Strap or ear pieces intact
 - Overall condition of the gear is in good repair (no loose hardware)
-

Introduction

Eye protection, to be effective, must be usable. If eye protection is not clean and in usable condition no one will want to use it and this can cause accidents or injuries.

Cleaning Policy

Eye protection shall be stored and cleaned IAW the manufacturers instructions and OSHA regulations.

Cleaning Eye Protection

Eye wear should be clean before you put it on and cleaned after you are done using it. There are various types of cleaning solutions but use only the types that:

- Are compatible with the lens (no harsh solvents)
 - Have an anti-bacterial agent
 - Have degreasing characteristics
-

Stowage of Eye Protection

Properly stowing eye protection is every bit as important as cleaning. Eye protection is not cheap and if not properly stowed will render the eye protection useless. After properly cleaning the eye protection, stow it by:

- Hanging it on hooks
- Placing in a well ventilated cabinet/rack
- Placing the eye protection in the case provided by the manufacture

NOTE

Never place the eye protection so that it is resting on the lenses. This will cause undesired scratching and impair the optical quality of the eye protection.

Introduction

Your attitude towards safety is important. A good positive attitude and outlook will allow you to do the following:

- Achieve a maintenance goal safely
 - Accomplish your job without injury
 - Also by you using the proper safety equipment and projecting a good attitude, you enforce the safety standards to your subordinates.
-

Policy on Jewelry

The wearing of any type of jewelry, metal or non-metallic, shall not be worn while working in the shop or on aircraft.

NOTE

Medical Alert identification bracelets/necklaces are exempt from this rule.

Hazards of Jewelry

Jewelry can become caught on the side of the aircraft, snagged on machinery, or come in contact with live electrical circuits causing you to lose a finger, hand or become electrocuted.

Examples of Jewelry

Listed below are some examples of jewelry.

- Bracelets
 - Earrings
 - Necklaces/dog tags
 - Rings
 - Watches
-

Policy For Wearing Head Protection

Hard hats or head protection should be worn during any overhead work (any work over eye level) while on the hanger deck, flight line, or in shops, during crane and forklift operations or any work under an aircraft where there is a chance of hitting ones head.

Continued next page

Protective Clothing

Clothing is issued as protective gear for a variety of reasons. They can be issued due to:

- Extreme temperatures (either cold or hot)
 - Welding
 - Grinding
 - Painting
 - Fire fighting operations.
-

Care of Protective Clothing

Protective clothing is only as good as the condition it is in. Always clean and store the gear IAW the applicable publications.

Introduction

Housekeeping is essential to shop safety. By keeping your shop and work area clean and clear of debris, you can dramatically cut down on the chance of injury.

Housekeeping Guidelines

Good housekeeping starts with a plan. Below is a list of general housekeeping guidelines that you should follow prior to starting a task. Always ensure that the:

- Work area is clean
 - Work area is sufficient to accomplish the task
 - Proper fire safety equipment is available
 - Proper waste/spill containment is available
 - Work area is properly lit
-

Machine Safety

In almost all survival shops within the Coast Guard there is some sort of machinery. Machine safety should be practiced by everyone who walks into a shop. Just because there is no loud noise associated with the machine, do not assume that it is off. There have been untold numbers of MISHAP reports from units stating that a person has been injured because of the “I thought it was secured” syndrome. Even though a machine has been secured, most machines require a long coast-down time to come to a complete stop.

Electrical Hand Tool Safety

Ensure that all power tools are properly grounded and check that none of the following occur:

- Frayed wire
 - Bent prongs
 - Split insulation
 - Previous signs of arcing damage
 - Flammable material or vapors are present
-

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Hand Tool Safety

The use of hand tools causes more accidents annually than power driven tools. The main reason for this is the person using the tool. Often, the hand tool is being used for a purpose other than what it was designed for.

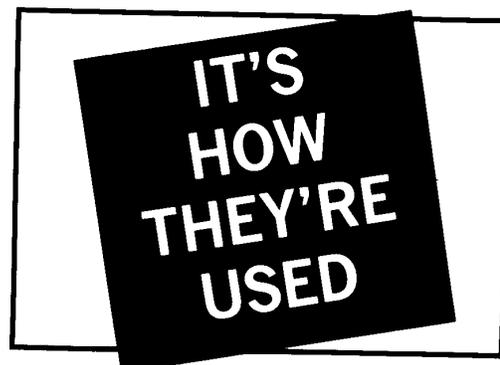
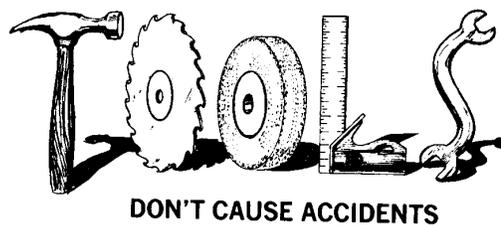
Non-Example of Hand Tool Safety

Some of the more obvious examples are the screwdriver being used as the pry bar. On top of the fact that most manufacturers print the caution on the handle informing the user not to do this, it still gets done. Result, a broken screwdriver and a technician with a hole in the hand or a chip of metal in the eye. Not to mention the paperwork the supervisor has to submit to the safety officer.

Don't Forget

Use the proper tool for the proper job and the proper tool, properly. Below is a list of some basic hand tool safety practices. For a full in-depth discussion see the Aeronautical Engineering Maintenance Management Manual (M13020.1 (series).

- Do not throw tools from one person to the other
- Do not drop them down from one person to the other
- Do not carry them in your pockets
- Do not use defective tools



Introduction

Due to the nature of the work of a survival technician, you are exposed to a bewildering array of chemicals. Chemicals are used every day from cleaning parts, aircraft, to floors. This section will introduce you to some of the more common problems associated with the effects of chemical exposure.

Definition of Acute Exposure

Acute exposure is the result of exposure to excessive concentrations of a chemical, fume, or mist within a short time period.

Example of an Acute Exposure

A technician was working in the fuel cell of a HC-130H when suddenly the technician started feeling dizzy, nauseous, and faint. This was presumably caused by the high concentrations of fuel vapors in the surrounding air and a possible leak in the technicians mask. Once removed from the area and breathing fresh air the technician was feeling fine.

Definition of Chronic Exposure

Chronic exposure is the result of being repeatedly exposed to a chemical, mist, or fume for prolonged periods of time.

Example of Chronic Exposure

A technician has worked the night shift for over eight months. With the fast-paced maintenance tempo, the technician decided putting on the proper hand protection seemed to be a waste of time while working with chemicals such as jet fuel and de-greasers, now the technician is constantly bothered with dried out itchy skin, the results of dermatitis.

Continued next page

Definition of Skin Absorption

Your body can absorb chemicals through the skin. Chemicals that are absorbed through the skin can damage or burn your skin, damage your liver, kidneys, blood cells or nervous system. Knowing the chemical you are using, its effects and how to protect your self is important.

Example of Skin Absorption

An example of skin absorption is the medical skin patches that are used for cigarette smoking cessation programs. This patch has a medication which permeates the skin and is absorbed into the blood stream.

Definition of Dermatitis

Dermatitis is a condition in were the skin is red, swollen , and often cracked, usually caused by the skin being stripped from its natural body oils. Dermatitis can be an annoying and painful skin problem. Dermatitis is avoidable if you use the proper precautions.

Example of the Effects of Dermatitis

An example of dermatitis is the effect upon your hands after washing an aircraft. The cleaner that you use has chemicals that are designed to remove grease, be it grease from the aircraft or the natural oils of your hands, it makes no difference to the cleaner. Result. Your hands feel dry and chapped due to the loss of natural oils in your hands.

Continued next page

**Definition of
Protective Gloves**

Since the chances of you getting dermatitis is increased by you being an AST, wear protective gloves whenever required. But just putting on any glove will not guarantee your safety. The proper glove for the type of exposure you will encounter must be used. Certain chemicals will deteriorate certain gloves. For the proper protection requirements read the MSDS.

**Example of
Correct
Protective Gloves**

You were assigned to re-glue some velcro on the airframe of a HH-65A. The maintenance manual tells you use hand protection from the glue. While reading the MSDS, latex surgical gloves are the type of hand protection recommended.

**Example of
Incorrect
Protective Gloves**

Your are assigned to take fuel samples on an aircraft. You get a pair of surgical gloves from your shop instead of those heavy rubber fuel resistant gloves next the fuel sampling gear. While you are taking the fuel samples, fuel drips on the latex gloves and begin to swell and they fall apart in a matter of minutes, leaving you with no protection.

Continued next page

Testing Rubber Gloves

Prior to putting on any rubber, latex, or plastic protective gloves, you should ensure that they are free from holes, tears or cuts.

Rationale

The reasoning is simple, if there is a hole in the glove the liquid can enter, and the purpose of the glove has been defeated.

Procedure for Testing Rubber Gloves

To check your glove, follow the steps below.

Step	Action
1.	Hold glove at each side of the edge of the gauntlet. 
2.	Revolve it about the edge of the gauntlet as an axis, thus rolling it towards the palm and fingers. 
3.	Hold the rolled-up gauntlet tightly in one hand. 
4.	Squeeze the palm of the glove with the other hand as to put the confined air under pressure (gently, as not to pop the glove)
5.	If any puncture exists, you will detect it by the air escaping or the hole will be visible.
6.	If there is a hole, don't use the glove, and get another pair.

Introduction

Poisoning can happen to you in many ways in the work area, but some of the most frequent causes are from ingesting (eating, swallowing) and inhalation (breathing) of the poisoning.

Ingestion

One of the most over looked and yet common forms of poisoning is ingestion poisoning. The chemicals that you are using can be splashed into your mouth while washing airplanes, cleaning components, having dirty hands, or by the most frequent method, eating around a work area. Ingesting caustic or poisonous chemicals can burn or damage your mouth, esophagus, lungs, liver, or stomach.

How to Avoid Ingestion Poisoning

By taking a few common sense precautions you will be able to avoid ingestion poisoning. Such as:

- Do not eat around a work area
 - Ensure that your hands and arms are cleaned with soap and water and dry
 - Clean you face from oils, chemicals, dust and particles
 - Also ensure that you remove your coveralls or any other protective clothing that you are wearing before entering your eating area
-

Inhalation

Every time you breathe, you inhale some type of chemical, and in a shop situation this can be dangerous. Solvents, paints, chromate's, dust, and fumes can cause a variety of health problems. Your best protection from this is using the proper respiratory protection. Look in the MSDS for the required type of protection.

Introduction

The use of respirators in the Coast Guard is mandatory for any work that might affect the respiratory system. Respirators are used in operations ranging from gluing, cleaning, to painting. Each type of respirator has a specific filtering function. Filters are not universal in their filtering capabilities. Each type of filter is designed for certain types of chemicals and environmental conditions.

Guidelines For Selecting

For selection of the proper filter read the MSDS for the chemical or the technical order/ACMS MPC for the job at hand. When in doubt, ask your supervisor or the Respiratory Program Coordinator at your unit for guidance.

Respiratory Program Coordinator (RPC)

The Respiratory Program Coordinator (RPC) is responsible for the following actions:

- The correct respirators are used IAW NIOSH/MSHA standards.
 - Self contained and supplied air systems deliver air which meets breathing air standards.
 - Periodically observes and evaluates the actual use of respirators by unit personnel.
-

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5.D.01c Coast Guard Policy On Respiratory Protection (Continued)

Responsibility of The Supervisor

It is the supervisor's responsibility to assure the proper use of respirators during operations or activities and that the respirators are:

- Available
 - Cleaned
 - Maintained properly
 - Stowed properly after use
-

Responsibilities of The Technician

It is the responsibility of the technician to use the provided protection IAW the instructions and training received and to do the following:

- Inspect the respirator before and after each use.
 - Report to the supervisor situations which may require respirator use and those in which respirators are not being used as required.
 - Clean and maintain respirators as directed
 - Stow properly after use
-

Introduction

There are various types of respirators used in aviation today. Choosing the proper respirator for the task at hand is extremely important

Categories of Atmospheric Supply Respirator

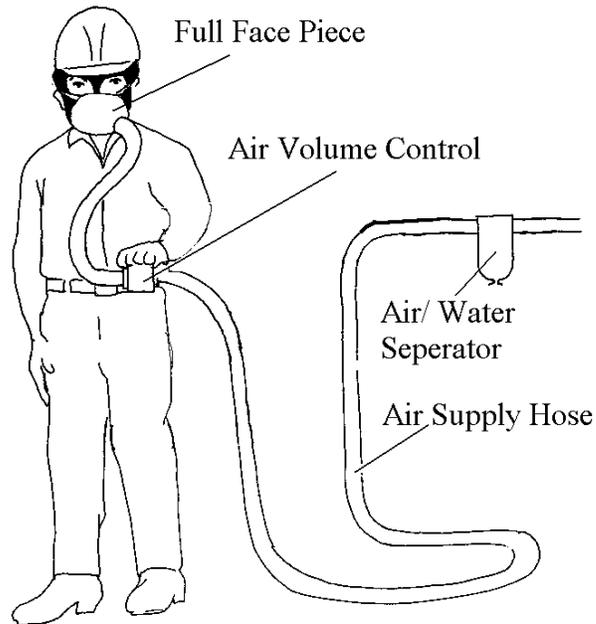
Atmospheric supply respirators have their own air source or supply of air into the respirator face piece. These types of respirators are used in spaces that have little or no clean, breathable air in the compartment (like fuel cells and paint booths). There are two categories:

- Self-contained breathing apparatus (SCBAs) which supply air from a source (typically a cylinder) carried by the user.
 - Supplied-air respirators (SARs) which supply air from a source (usually an air compressor) located some distance away and connected to the user by an air supply hose.
-

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Illustration of a Supplied Air-Respirator

Below is an illustration of a typical supplied-air respirator.

**Parts Function Table**

Below is a parts function table for the atmospheric supply respirator.

Parts	Functions
Full Face Piece	Covers the whole face of the wearer and offers limited eye protection
Air Volume Control	Regulates air-flow to the mask
Air Supply Hose	Provides clean filtered air to the user from the supply source
Air/Water Separator	Separates the water from the air to provide the user with dry air

Introduction

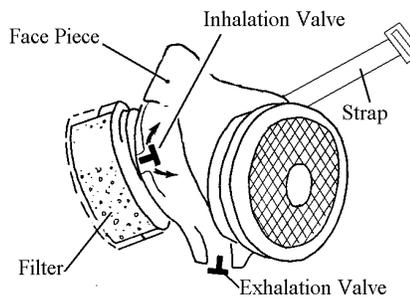
Air-purifying respirators do not have a separate air source. The respirators draw ambient air across a filter or purifying cartridge before the air enters the face piece.

WARNING

Air-purification filters will be used only where the oxygen level concentration is 19.5% or higher

Diagram of an Air-Purifying Respirator

Below is a view of a typical air-purifying respirator used within the Coast Guard today.



Parts Function Table

Below is a parts function table for the above air-purifying respirator.

Part	Function
Filter	Filters out contaminants
Face piece	Provides sealing surface between the face and the filter
Strap	Holds the face piece snugly in position
Exhalation Valve	Exhaled air escapes without letting contaminated air in
Inhalation Valve	Located behind the filter, this one way check valve allows filtered fresh air in and closes while the user exhales

Introduction

Respirators do not work properly unless they fit the wearer. The quality of the respirator fit is determined by the seal where the respirator meets the wearer's face.

Approved Types of Respirators

Approval ratings required for all respirators used in the Coast Guard are provided by the following organizations:

- Mine Safety and Health Administration (MSHA)
 - National Institute for Occupational Safety and Health (NIOSH)
-

Definition of Fit Testing

The fit test is performed by using a small smoke irritant such as isoamyl acetate, or saccharin solution and gently waving it around the mask. The user should not be able smell the offending chemical if the respirator is properly fitted.

Policy For Fit Test

All personnel who use air-purifying respirators shall undergo a respirator fit test.

How to Conduct A Respirator Negative Pressure Fit Check 5.D.01c

Negative Pressure Check

The negative pressure check is used to see if the wearer has a properly fitted respirator. This shall be done every time the respirator is placed on the face prior to being exposed to the hazard.

Negative Pressure Check Procedures

To properly accomplish a negative pressure check use the following procedures:

Step	Action
1.	Properly place respirator on your face.
2.	Tighten the face piece straps snugly.
3.	Cover the filtering cartridge inlet with the palm of your hands (air-purifying) or pinch the hose (air-supplied).
4.	Gently inhale and hold your breath for about 10 seconds. The mask should squeeze against your face and hold a vacuum (if not start over at step 1).

5.D.01c How to Conduct A Respirator Positive Pressure Fit Check

Positive Pressure Check

This check is used on respirators equipped with tight fitting face pieces which contain both inhalation and exhaust valves such as the self-contained breathing apparatus.

Positive Pressure Check Procedures

To properly accomplish a positive pressure check use the following procedures:

Step	Action
1.	Secure the source of air
2.	Properly don the face piece
3.	Tighten the face piece straps snugly
4.	Cover up the exhaust valve with the palm of your hand or pinch the tube closed
5.	Exhale gently for at least 10 seconds. The mask should bulge out slightly with no escape of air (if not start over at step 1.

Purpose

The purpose of the daily fit check or pre-use check is to ensure that the respirator is in good working order prior to doing any work.

Pre-use Checks Procedure

These checks shall be performed before putting on the respirator each time that it is worn. Examine the face piece for:

Step	Action
1.	Excessive dirt (clean if required)
2.	Cracks, tears, holes or physical distortion
3.	Inflexibility of rubber face piece
4.	Cracked or torn check valves
5.	Straps in good repair
6.	Filter cartridge holder('s) not damaged, gaskets in place
7.	Choose correct filter for the task at hand (see MSDS)
8.	Filter is installed correctly
9.	Pressure test the face piece (negative or positive testing)

Introduction

Respirator care is an essential part of this program. Without the proper care and cleaning of respirators, they will be rendered useless.

Maintenance and Repair

Maintenance and repair of respirators must be done by thoroughly trained personnel.

WARNING

Do not interchange replacement parts between different brands or manufacturers. Such substitutions of parts or modifications will invalidate the MSHA/NIOSH approval of the respirator.

Reason for Cleaning

Use of the respirator results in the exterior surface becoming dirty and/or contaminated. The interior surface is exposed to sweat and other body secretions which can, over a period of time, cause dermatitis. In addition, the use of the same respirator by different people may lead to the transmission of skin conditions between wearers and/or dermatitis.

Cleaning Guidelines

Follow the manufactures recommendations for disassembly and cleaning. If they are not available use the cleaning guidelines published in the Technical Guide: Practices For Respiratory Protection, COMDTINST M6260.2 (series).

Storage Policy for Respirators

After the respirators are cleaned they must be stored properly. Store respirators:

- In a clean, dry location
 - Away from direct sunlight
 - Separated from chemical contaminates
 - Placed in clean plastic bags until re-issue
 - In a single layer with the face piece and the exhalation valve in an undistorted position to prevent rubber or plastic from distorting
-

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Introduction	The Coast Guard’s living and working environment contains many high intensity noise sources. Exposure of personnel to such noise, damages hearing and creates major health and fiscal impacts on the Coast Guards resources, resulting in reduced mission capability.
Definition of Hearing Loss	The ear responds to excessively loud noise over time, with the high pitch of hearing affected first. Therefore, early hearing loss is not noticeable and may go undetected by the individual for many years.
Consequences of Loud Noise	If the noise level to the ear is not decreased, a person will eventually loose the ability to hear speech. This damage is permanent.
Personal Responsibility	Ensuring that the hearing conservation program is successful is shared by the individual and the various levels in the Coast Guard organization. Ultimately the success of the hearing conservation program is your responsibility. You are always responsible for the following: <ul style="list-style-type: none">• Always practice good hearing conservation both at work and at home.• Notify your supervisor of any unhealthy or unsafe working conditions or noise hazards.
Definition of Noise	Noise is “sound without value.” It is the phenomenon of sound waves moving through air in much the same way ripples travel on an undisturbed pond.
Definition of Decibel	Intensity of sound is commonly known as loudness and is measured in units called decibels dB(A). A zero on the decibel scale represents the lowest limit of human audible perception; the level of normal conversation is approximately 60 dB(A).

Introduction

Noise is a part of everyday life and comes from a myriad of sources. The most thought of noise sources are often associated with that of an industrial source.

Examples of Common Noise Sources

An example of common noise sources are hanger decks, flight lines, or in an aircraft. In reality you have the same risk, if not more, in a home environment. Noise from you lawn mower, chain saw, weed eater, and yes, even your stereo CD player with head phones.

Psychological Effects of Over Exposure to Noise

Noise can cause a lot of physical problems with you and your health. The severity of the problems depends on the level and the duration of exposure. Without proper hearing protection, the following symptoms can be caused by noise.

- Light headedness
 - Dizziness
 - Headaches
 - Fatigue
 - Dilation of blood vessels
 - Rise in blood pressure
 - Change in heart rate
 - Nauseous
 - Rise in the blood cholesterol level
-

First Aid for Over Exposure to Noise

If you notice anyone showing signs of over exposure to noise immediately remove them from the noise and get medical help ASAP.

Continued next page

**Long term Effects
of Noise**

Long term exposure can cause permanent and often non-reparable damage to your ear. This can not only affect your health, but your career.

**Hearing
Conservation
Program**

This program is used to continually monitor a member who shows signs of hearing loss. When placed on this program, and there is no substantial improvement in your hearing within a prescribed time you can be grounded indefinitely. For further information and details see your medical department. Do not take chances. Wear the prescribed hearing protection.

Introduction

Hearing protection devices come in a wide variety of shapes and designs but they have the same goal, to lower the input of noise to your ear.

Types of Hearing Protection

Each type of hearing protection is rated at different NRR, so it might be necessary to wear two sets of different types of protection. Ear protection comes in the following forms:

- Foam ear plugs
 - Rubber (double, triple) flanged plugs (must be fitted by medical department)
 - Formed plastic ear plugs (see the medical department)
 - Head sets (commonly called Mickey Mouse ears)
-

Ear Protection Charts

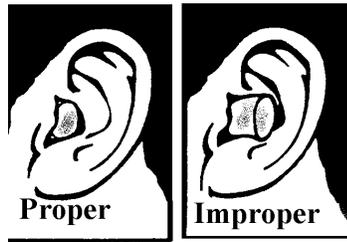
Ear protection is required whenever you know you will encounter noises ≥ 84 dB(A). The higher and longer the duration that you encounter, the more protection you will need. Follow the below chart for your hearing protection needs.

dB(A)	No Protection	Protection Time
≥ 84	0 Seconds	Unlimited
≥ 100	0 Seconds	Unlimited
≥ 104	0 Seconds	Double hearing protection required after ≥ 104
≥ 110	0 Seconds	Unlimited
≥ 120	0 Seconds	4 Hours MAX
≥ 130	0 Seconds	1 Hour MAX
≥ 140	0 Seconds	5 Minutes Max

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Correct Ear Plug Placement

The proper insertion and placement of ear plugs is important for them to offer optimal protection. Read the manufacturers instructions prior to using the ear plugs.



Double Hearing Protection

It is always a sure bet to error on the side of safety and wear double hearing protection. The wearing of ear plugs and head sets will offer the best first line of protection. Do not take a chance with your hearing.

Introduction

The purpose of hearing protection is to lower the input of noise into your ear. To accomplish this, the protection device is made of material which absorbs sound waves. The various materials used, absorb sound waves at different rates.

Definition of Noise Reduction Rating (NRR)

The noise reduction rating (NRR) is what determines the effectiveness of the hearing protection. The NRR is shown on the package that the hearing protection comes in. This number will help you to determine if the hearing protection that you have chosen is adequate or if you need to augment the protection. The higher the NRR the better hearing, the protection offered.

NRR Example

The noise reduction rating (NRR) of hearing protection is simply figured out by finding out the decibel rating (or reading) and subtracting the NRR of the hearing protection that you have chosen. For instance, the decibel rating for a paint booth was calculated at 95dB(A) by the an industrial hygienist. The ear plugs that your shop normally uses have a NRR of 30 dB(A).

$$\begin{array}{r} 100 \text{ dB(A)} \quad \text{Salvage Pump noise rating} \\ - \underline{30 \text{ dB(A)}} \quad \text{NRR Ear plugs} \\ \hline 70 \text{ dB(A)} \quad \text{Hearing exposure level to you} \end{array}$$

This is well below the $\geq 84\text{dB(A)}$ rating, which means you have good hearing protection for the task at hand.

Purpose

First Aid consists of emergency treatment of an injured or wounded person. The purposes of first aid are to:

- Save the victim's life,
- Prevent further injury or unfavorable progression, and
- Preserve the vitality and resistance to infection.

Basic First Aid Procedures

The Coast Guard has trained you in basic first aid IAW the Syllabus of First Aid and Lesson Plan, COMDTINST M6000.3 (series) and you as a member of the Coast Guard and as a shop supervisor should know these procedures. There are three basic steps in first aid that you should remember. If you find a victim in need of first aid perform the following steps:

Step	Action
1.	Call or send for help
2.	Remove the cause or the victim from the cause.
3.	Perform the ABC'S: <ul style="list-style-type: none"> • Airway: ensure that the airway is clear • Breathing: verify whether the victim is breathing • Circulation: check for pulse and stop major bleeding, perform CPR if required • Shock: check for and treat for shock as required
4.	Seek medical treatment immediately, and/or report the injury to the unit Safety Officer.

First Aid Treatment Rationale

Never hesitate to get medical care as soon as possible or call for assistance. You are not a doctor. No one has ever gotten in trouble for playing it safe, let the doctors make the judgment call.

Introduction

The eye can be injured in many ways. Eye injuries range from impact to intrusion of a chemical or an object. With any eye injury seek medical help as soon as possible.

Intrusion

This is the most common type of an eye injury in an industrial area. The eye is injured from a particle or an object that punctures the eye or creates a deep scratch.

WARNING

Never attempt to remove an object embedded into the eyeball or has penetrated through the eyeball. Seek medical help immediately.

Splash

This eye injury is caused by a chemical being splashed into the eye. This often occurs while washing aircraft or while using solvents in a parts cleaning tank. Read the MSDS or the label on the container for further instructions on how to flush the eye. When taking someone to medical, if at all possible, take the container with you.

WARNING

Flush the eye out immediately for at least 15 minutes with fresh clean water away from the nose to prevent flushing the chemicals into the unaffected eye. Seek medical help immediately.

Continued next page

Introduction

As an AST you will have to work with or around electrical equipment, therefore it is essential that you have an understanding of basic electrical safety. All electrical or electronic equipment should be considered dangerous with the potential to kill. It is impossible to cover every safety situation that you may encounter on the job.

Personal Responsibilities

It is your responsibility to familiarize yourself with the electrical safety guidelines and practices located in the Electronics Manual, COMDTINST M10550.25 (series).

Intentional Electrical Shock

Never intentionally give yourself an electrical shock from a battery, capacitor, or a megger (a low voltage output power supply).

Definition of Electrical Shock

An electrical shock is the result of a person coming into contact with an energized electrical wire or circuit and resulting in a flow of electrical current through the body. The severity of the shock is based on many factors which add to or subtract from its intensity.

Example of Electrical Shock

The following is an example of a victim who received an electrical shock. A technician working on a sewing machine motor who did not disconnect the power cord, soon found out that bridging the gap of the motors positive cable by accidentally grounding it to the metal frame of the machine makes for a painful reminder.

Conditions For an Electrical Shock to Occur

There are two conditions that must be present in order for current to flow through an individual's body resulting in an electrical shock. They are as follows:

- First, some part of the body, must form part of a closed circuit.
- Second, there must be a difference in potential to cause current to flow through the circuit.

Current flow depends on the electrical resistance of the circuit path through the victim's body. Human skin resistance can range from a few hundred ohms when wet, to well over 500,000 ohms when dry.

Continued next page

Introduction

In order for your body to register an electrical shock, there must be some current flow.

Electrical Shock and Current Relationship

The table below shows the general effects of current flow through the human body.

Current in milliamperes	Effects on the body
0	None
3	Mild tingling
10	Painful (gets your attention)
25	Very painful (you can't let go)
60	Severe (breathing difficulty)
140	Usually fatal (heart twitches)
200	Burning odor (heart clamps)

Introduction

Electrical shock is an ever present yet avoidable aspect of working on aircraft. Unfortunately, the occasional accident happens, and you need to be prepared.

Signs and Symptoms of a Serious Electrical Shock

The victim of a serious electrical shock may have any or all of the following signs or symptoms:

- Burns where the current flow entered and/or exited the body
 - Nerve damage (paralysis)
 - Muscle tenderness and or twitching
 - Breathing difficulty (the tongue may swell and obstruct the airway)
 - Irregular heartbeat or cardiac arrest
 - Blood pressure may be elevated or lowered
 - Restlessness/irritability or loss of consciousness
 - Visual difficulties
 - Seizures
 - Secondary injuries (cuts, bruises, broken bones, etc.)
-

Secondary Electrical Injuries

Often, secondary injuries are sustained from an electrical shock as a result of surprise, and are sometimes in themselves fatal. Such as:

- Burns
 - Falling off work stands
 - Thrown into another live circuit
-

Continued next page

Purpose

Personnel suffering from electrical shock must be removed from the hazard as soon as possible. Depending on the amperage or the duration of the electrical shock, the chances of the victim's survival is in your hands. Acting quickly and ensuring your safety is essential to you and the victim.

Guidelines for Rescuing Electrical shock Victims

Secure the source of power to the electrocution victim. If this is impossible, do the following when rescuing electrical shock victims:

WARNING

High amperage can cause the victim to hold on to the source of power. Do not touch the victim without securing the source of power or without using *DRY* rescue equipment

Step	Action
1.	Call, or send for help
2.	Remove the cause or the victim from the cause by securing the power or using a suitable dry non-conductive object (wooden cane or dry blanket).
3.	Check for ABC' S <ul style="list-style-type: none"> • Airway • Breathing • Circulation • Shock (treat if necessary)
4.	Seek medical treatment immediately, and/or report the injury to the unit Safety Officer.

Introduction Electromagnetic radiation(RF) from radar, and communication transmitters are hazardous and cause undesirable effects under certain conditions.

Categories of Radiation Hazards Generally, these radiation hazards fall into one of the following categories:

- Induced Voltage Effects
- Personal Biological Injury

Personal Biological Injury When electromagnetic energy is absorbed by human tissues, heat is produced. The body cannot dissipate this heat as fast as it is produced, therefore the internal temperature of the body will increase causing damage to tissue and internal organs.

Example of Biological Injury Microwave ovens demonstrate perfectly how energy is absorbed by biological tissue. Though there is no heat transferred from the electronics source to the tissue, the tissue absorbs the energy and heats up internally. This is fine for ground round, but not so good for living human tissue.

RF Sources RF sources come from various aircraft and hanger equipment. They are:

- High Frequency antennas (HF)
- Radar dishes
- Side Looking Airborne Radar (SLAR)

Continued next page

Signs of RF Exposure

While working on the hanger or out on the ramp you could be inadvertently exposed to RF radiation. Some of the most common signs of RF exposure are:

- Your eyes have the sensation of having sand in them
- Skin starts tingling (cooking)
- Skin starts feeling warm
- Electrical shock (if you touch the antenna)

NOTE

If you have been exposed to, or think you have been exposed to RF radiation, seek medical help at once.

Body Organs Most Sensitive to RF Radiation

Exposure to RF radiation can have damaging, long lasting, and even permanent damage to your body. The most RF sensitive organs of the human body are the:

- Eyes
 - Testicles
-

Questions

Answer the following questions on General Shop Safety.

1. State the manual used to establish safety standards and procedures for all Coast Guard aviation maintenance facilities

2. State the policy on instructing, the subject of safety in the Coast Guard.

3. Match the name in column A with the appropriate statement in column B. Use each letter only once.

Column A

- _____ 1. Acute
- _____ 2. Chronic

Column B

- a. Repeated exposure for prolong periods of time.
- b. Exposure limits are no factor
- c. Exposure over a short time period

Continued next page

**Questions
(continued)**

4. Describe the effects of dermatitis on your skin.

5. State the responsibility of the technician in the Coast Guard respiratory protection program.

6. When wearing an air-purification respirator you must ensure that they are being used in areas where the oxygen concentration is _____ percent.

- A. 5
- B. 9
- C. 19.5
- D. 29.92

7. All respirators used in the Coast Guard must meet the requirements of what organization(s).

- a.) _____
- b.) _____

8. State the warning associated with the maintenance and repair of respirators.

Continued next page

**Questions
(continued)**

9. Who is ultimately responsible for the success of the hearing conservation program?

10. List the symptoms of a person who has been exposed to excessive noise?

a.) _____

b.) _____

c.) _____

d.) _____

e.) _____

f.) _____

g.) _____

h.) _____

i.) _____

11. If a person is showing signs of being over exposed to noise what should your first aid response be?

12. At what decibel level is hearing protection required?

Continued next page

Questions
(continued)

13. Define: Noise reduction rating (NRR).

14. What two conditions must be present to result in electrical shock?

a) _____

b) _____

15. What current flow is usually considered fatal?

16. What is a secondary electrical injury?

Feedback

Compare your answers to the feedback provided below. If you had trouble with the Self-Quiz, please review the appropriate section of this reading assignment.

Questions	Answers	Reference
1.	Coast Guard Aeronautical Engineering Maintenance Management Manual COMDTINST M13020.1 (series)	5
2.	When instructing, only teach safety procedures and techniques that are 100% safe and IAW Coast Guard regulations	6
3.	1. c 2. a	14
4.	Your hands feel dry and chapped due to the loss of natural oils in your hands.	15
5.	It is the responsibility of the technician to use the provided protection IAW the instructions and training received	20
6.	C	23
7.	a) Mine Safety and Health Administration (MSHA) b) National Institute for Occupational Safety and Health (NIOSH)	24

Continued next page

**Feedback
(continued)**

This is a continuation of the feedback table on the preceding page.

Question	Answer	Reference
8.	Do not interchange replacement parts between different brands or manufactures. Such substitutions of parts or modifications will invalidate the MSHA/NIOSH approval of the respirator	28
9	Ultimately the success of the hearing conservation program is your responsibility.	29
10.	<ul style="list-style-type: none"> • Light headedness • Dizziness • Headaches • Fatigue • Dilation of blood vessels • Rise in blood pressure • Change in heart rate • Nauseous • Rise in blood cholesterol 	30
11.	Immediately remove them from the noise and get medical attention ASAP	31
12.	≥84 dB(A)	33
13.	Determines the effectiveness of hearing protection.	34

Continued next page

**Feedback
(continued)**

This is a continuation of the feedback table on the preceding page.

Question	Answer	References
14.	a) Some part of the body must form part of a closed circuit. b) There must be a difference in potential to cause current to flow through the circuit.	37
15	140 milliamperes	38
16.	Injuries that are sustained from electrical shock as a result of surprise, and are sometimes in themselves fatal	39

Performance

INSTRUCT personnel in shop safety procedures.

Performance Objective 1

Given the applicable publications, **PREPARE** a lesson plan on shop safety IAW:

- Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)
 - Safety and Environmental Health Manual, COMDTINST M5100.47 (series)
 - Technical Guide: Practices For Respiratory Protection COMDTINST M6260.2 (series)
 - Hazardous Waste Management Manual, COMDTINST M16478.1 (series)
 - First Aid and Health Lesson Plans COMDTINST M6000.3(series)
 - Military Requirements For Becoming a Senior Petty Officer MRNSPO 0458 (series)
-

Performance Objective 2

Given the applicable publications, **PRESENT** training on general shop safety IAW the Military Requirements For Becoming a Senior Petty Officer MRNSPO 0458 (series)



Continued next page

General Troubleshooting Guidelines**5.D.GTG****Objectives**

To successfully complete this assignment, you must study the text and master the following objectives:

- **LIST** the six general troubleshooting guidelines in the proper order.
 - **STATE** in writing the purpose of performing a visual inspection during the troubleshooting process.
 - **STATE** in writing what you should do if unrelated discrepancies are found while troubleshooting.
 - **STATE** in writing the purpose of performing an operational check during the troubleshooting process.
 - **STATE** in writing the purpose of classifying the malfunction during the troubleshooting process.
 - **STATE** in writing what troubleshooting step includes verifying the suspect component.
 - **LIST** a minimum of six of the common methods used to verify the condition of suspect components.
 - **LIST** four of the more common types of corrective actions used to correct a malfunction.
 - **STATE** in writing the purpose of conducting a final operational check during the troubleshooting process.
-

Introduction

This assignment is an introduction to the General Troubleshooting Guidelines that will assist you during the actual performance of the repair qualifications. Knowledge of these guidelines is essential to becoming a competent troubleshooter.

In This Assignment

This assignment contains the following:

Subject	Page
Six General Troubleshooting Steps	3
Step 1 - Visual Inspection	4
Step 2 - Operational Check.....	5
Step 3 - Classify the Malfunction.....	6
Step 4 - Isolate and Locate the Malfunction.....	7
Step 5 - Correct the Malfunction	9
Step 6 - Conduct Final Operational Check.....	10
General Troubleshooting Guidelines Self-Quiz.....	11
General Troubleshooting Guidelines Self-Quiz Feedback.....	14

Introduction

Troubleshooting is one of the most valued skills in the aviation workforce. There are standard time-proven steps used for troubleshooting survival/rescue equipment. These steps are essential and apply to both mechanical and electrical systems.

Six General Troubleshooting Steps

The following table lists the six general troubleshooting steps that are used, in sequence, when troubleshooting survival/rescue equipment.

Step	Action
1	Conduct a visual inspection of the malfunctioning equipment.
2	Perform an operational check of the malfunctioning equipment.
3	Classify the malfunction.
4	Isolate and Locate the malfunctioning part/wire.
5	Correct the malfunction.
6	Conduct a final operational check of the repaired system.

Each of the six troubleshooting steps are listed in more detail on the following pages.

Description

A visual inspection is performed to identify any obvious discrepancies that could be the actual cause of a malfunction, or to identify discrepancies that could possibly cause further damage to equipment or injury to personnel.

Visual Inspection Guidelines

The table below lists some of the more common guidelines that you should follow when performing a visual inspection:

If visually inspecting...	Then check for...
control switches	position, security, cleanliness (corrosion), mechanical condition.
equipment	security, cleanliness (corrosion), overheating, burnt odor, mechanical condition, missing parts (hardware).
mechanical linkages	binding, interference, distortion, excessive play, missing hardware, incorrect assembly.
wires	signs of overheating, security, chafing, cleanliness (corrosion), proper routing.
lines/connections	leaking (fluids, air, gases), security, routing.
reservoirs	proper fluid levels, correct fluid type, overheated fluid, leaks, security of caps/plugs.

Unrelated Discrepancies

Unrelated discrepancies that are found during your visual inspection should be entered on the Mandatory Special Requirement (MSR) card, or Aircraft Computer Maintenance System (ACMS) card.

Description

An operational check of the malfunctioning equipment should be performed IAW applicable ACMS or MSR cards to gather as much additional information as possible about the current state of the equipment. This information will assist you in making logical decisions as you move through the General Troubleshooting steps.

Examples of Malfunction Indications

Listed below are some of the more common examples of malfunction indications that should be monitored and/or noted:

If the indication involves...	Then check for...
speed, temperature, or pressure	fluctuations, lack of indication, excessive or disproportional indications, etc.
sequence	number of cycles, completion, duration, etc.
arcing/sparking	flashes, sounds of welding, burning odor, etc.
unusual noises	grinding, whining, scraping, rubbing, etc.
vibrations	vibrating controls (throttle), equipment, lines, etc.

Unrelated Discrepancies

Unrelated discrepancies that are found during the operational check should be entered on a MSR card or in the aircraft's logbook (when applicable) as a separate discrepancy.

Description

Classifying the malfunction is the process of identifying the malfunction as either electrical or mechanical in reference to any findings in the previous steps.

Classification Examples

Listed below are examples of malfunction classifications:

If classified as...	Then it includes...
mechanical	pumps, linkages, actuators, drives, valves, etc.
electrical	plug, armature, wires, etc.

Referencing Publications

Classifying the malfunction enables you to reference the appropriate section of the applicable publication.

Isolate the Malfunction Description

Isolating the malfunction is the process of narrowing down from a list of possible components to a list of suspect components. This is done by eliminating all of the part/wires that are determined to be functioning normally during the Operational Check, (Step 2).

Locate the Malfunction Description

Locating the malfunction is done by physically locating the suspected malfunctioning part/wire and then performing a visual inspection on it, (Step 1).

Examples of Locating Methods

Listed below are examples of the different types of publications used to locate a part or wire, depending on equipment/aircraft type:

- General System (GS)
 - Illustrated Parts Breakdown or Catalog (IPB) or (IPC)
 - Maintenance Manuals (MM)
 - Maintenance Procedure Cards (ACMS and MSR)
 - Maintenance Procedures Manual
 - Overhaul Manual
 - Principals Of Operation Manual
 - Aviation Life Support Systems Manual
-

Continued next page

Verifying Suspect Components

After you have compiled your list of suspect parts and performed a visual inspection on each, verify their condition as either faulty or serviceable IAW the applicable publication.

Examples of Verifying Methods

Listed below are examples of some common methods used to verify the condition of components:

- Calibration checks
 - Comparison checks (dual equipment)
 - Continuity checks
 - Dimensional checks
 - Elapsed time checks
 - Pressure/Compression checks
 - Spring scale checks
 - Temperature checks
 - Tension checks
 - Voltage checks
-

Description After the malfunctioning part/wire has been identified and verified as faulty, the malfunction should be corrected IAW the applicable publications.

Corrective Action The applicable publication will guide you to the appropriate corrective action for the given malfunction, depending on your findings from Isolate and Locate, (Step 4).

Examples of Corrective Actions Listed below are examples of some of the more common types of corrective actions used to correct a malfunction:

- Adjust
 - Calibrate
 - Repair
 - Replace
-

Description

The repaired equipment must be powered-up and operated to verify that the malfunction has been corrected IAW the applicable publications.

**Final Operational
Check Decision
Table**

The following table will help you decide whether you were successful at troubleshooting the applicable system:

If...	Then...
the repaired system is functioning normally IAW the applicable publication.	ensure ALL paperwork and aircraft logbook entries are complete.
the malfunction has NOT been corrected or a new discrepancy has been identified.	refer to Step 1 of the General Troubleshooting Guidelines.

Questions

1. List in order, the six general troubleshooting guidelines.

Step 1; _____

Step 2; _____

Step 3; _____

Step 4; _____

Step 5; _____

Step 6; _____

2. The purpose of performing a visual inspection during troubleshooting is to _____, or to _____.

3. If unrelated discrepancies are found while troubleshooting you should _____.

4. The purpose for performing an operational check during the troubleshooting process is to _____.

5. When you classify the malfunction, you are making the distinction between an _____ or _____ malfunction.

6. What troubleshooting step includes verifying the suspect components?

Continued next page

5.D.GTG General Troubleshooting Guidelines Self-Quiz (Continued)

**Questions
(Continued)**

7. List a minimum of six of the common methods used to verify the condition of suspect components.

8. List four of the more common types of corrective actions used to correct a malfunction.

9. The purpose of conducting a final operational check during the troubleshooting process is to _____

5.D.GTG General Troubleshooting Guidelines Self-Quiz Feedback

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Question	Answer	Reference
1.	Step 1; Conduct a visual inspection Step 2; Perform an operational check Step 3; Classify the malfunction Step 4; Isolate the malfunctioning component/wire Step 5; Correct the malfunction Step 6; Conduct a final operational check	3
2.	identify any obvious discrepancies that could be the actual cause, or to identify discrepancies that could possibly cause further damage to equipment or injury to personnel.	4
3.	enter the discrepancy in the aircraft's logbook.	4 or 5
4.	gather as much additional information as possible about the current state of the equipment	5
5.	electrical or mechanical	6
6.	Isolate and Locate the malfunction.	8

Continued next page

General Troubleshooting Guidelines Self-Quiz Feedback (Continued)

Feedback (Continued)

The following is a continuation of the self-quiz feedback:

Question	Answer	Reference
7.	Any six of the following are acceptable: Calibration checks Comparison checks (dual equipment) Continuity checks Dimensional checks Pressure/Compression checks Spring scale checks Temperature checks Tension checks Voltage checks	8
8.	Adjust Calibrate Repair Replace	9
9.	verify that the malfunction has been corrected IAW the applicable publications.	10

For More Information

More detailed information about specific troubleshooting procedures may be found in the “Troubleshooting” section of the applicable aircraft/equipment maintenance publications. However, not all maintenance publications contain a troubleshooting section.

Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **STATE** in writing who may authorize realignment-type repairs to the Folding Stokes Litter.
- **LIST** at least four parts that can be replaced on the Folding Stokes Litter.
- **STATE** in writing the Folding Stokes Litter hoisting sling cables “broken wire” limitations.
- **STATE** in writing the Folding Stokes Litter hoisting sling cable compression sleeve limitations.
- **IDENTIFY** steps for replacing the Folding Stokes Litter hoisting sling cables.
- **LIST** at least four parts that can be replaced on the M/J Rescue Basket.
- **STATE** in writing the M/J Rescue Basket cable “broken wire” limitations.
- **STATE** in writing the M/J Rescue Basket cable bitter ends to compression sleeve limitations.
- **IDENTIFY** the M/J Rescue Basket cable compression sleeve and compression stop, compression thickness tolerances.
- **IDENTIFY** steps for replacing the M/J Rescue Basket cable.
- **IDENTIFY** the disposition of a M/J Rescue Basket and Folding Stokes Litter with suspected cracks to welds.
- **IDENTIFY** the reference manual for repairing M/J Rescue Basket and Folding Stokes Litter cracked welds.
- **LIST** the three repairs that are authorized to the Quick Strop.
- **STATE** the only repair that is authorized to the Survivor Strop.
- **IDENTIFY** which type of thread is used for re-stitching Quick Strop and Survivor Strop covers.

Continued next page

References

The information in this assignment can be found in the following references.

Aviation Life Support Systems Manual, COMDTINST M13520.1 (series)

Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Introduction

As an AST2 you will be required to identify discrepancies, determine reparability, and perform repairs to all Coast Guard aviation rescue equipment. This assignment is designed to guide you to the information that will assist you during the actual performance of the repair qualifications.

How to Proceed

To complete the objectives of this assignment, reading assignments have been provided. After finishing all of the reading assignments, complete the Repair Rescue Equipment Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
Folding Stokes Litter Repair	4
Multi-Jointed (M/J) Rescue Basket Repair	5
Quick Strop Repair.....	6
Survivor's Strop Repair.....	7
Rescue Equipment Repair Self-Quiz.....	9
Rescue Equipment Repair Self-Quiz Feedback.....	12
Syllabus	15

Introduction

Using the information in the following reading assignments and the previously covered Troubleshooting Guidelines, you should be able to perform repairs to the Folding Stokes Litter.

Folding Stokes Litter Reading Assignment

- Read the following information in the Aviation Life Support Systems Manual, COMDTINST M13520.1 (series):

CHAPTER: 6. (Rescue Equipment)
SECTION: C. **Folding Rescue Litter**
PARAGRAPH: Repairs and Modifications

- Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256028.0:

SECTION: **2 (INSPECT FOLDING STOKES LITTER/POST USAGE)**
SUBSECTION: **A INSPECTION**

SECTION: **4 HOISTING SLING REPLACEMENT**
SUBSECTION: **A REPLACEMENT**

Introduction

Using the information in the following reading assignments and the previously covered Troubleshooting Guidelines, you should be able to perform repairs to the Multi-Jointed (M/J) Rescue Basket.

M/J Rescue Basket Reading Assignment

- Read the following information in the Aviation Life Support Systems Manual, COMDTINST M13520.1 (series):

CHAPTER: Rescue Equipment

SECTION: **Multi-Jointed (M/J) Rescue Basket**

PARAGRAPH: Repairs and Modifications

- Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256022.0:

SECTION: **2 INSPECT M/J RESCUE BASKET/POST USAGE**

SUBSECTION: **A INSPECTION**

SECTION: **4 CABLE OR RESCUE BASKET PART REPLACEMENT**

SUBSECTION: **A REPLACEMENT**

Introduction

Using the information in the following reading assignments and the previously covered Troubleshooting Guidelines, you should be able to perform repairs to the Quick Strop.

Quick Strop Reading Assignment

- Read the following information in the Aviation Life Support Systems Manual, COMDTINST M13520.1 (series):

CHAPTER: Rescue Equipment

SECTION: **214 Quick Strop**

PARAGRAPH: Repairs

- Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256001.0:

SECTION: **3 INSPECT QUICK STROP/POST USAGE**

SUBSECTION: **A INSPECT**

Introduction

Using the information in the following reading assignments and the previously covered Troubleshooting Guidelines, you should be able to perform repairs to the Survivor's Strop.

Survivor's Strop Reading Assignment

- Read the following information in the Aviation Life Support Systems Manual, COMDTINST M13520.1 (series):

CHAPTER: Rescue Equipment
SECTION: **Survivor's Strop**
PARAGRAPH: Repairs

- Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256006.0:

SECTION: **3 INSPECT SURVIVOR'S STROP/POST USAGE |**
SUBSECTION: **A INSPECTION**

Questions

1. Who may authorize realignment-type repairs to the Folding Stokes Litter? _____.

2. List four parts that can be replaced on the Folding Stokes Litter.
 - (1) _____
 - (2) _____
 - (3) _____
 - (4) _____

3. What are the Folding Stokes Litters hoisting sling cables “broken wire” limitations? _____

_____.

4. What is the Folding Stokes Litters hoisting sling cables bitter end to compression sleeve limitations? _____

_____.

5. How are the Folding Stokes Litters hoisting sling cables gated snap hooks locking screws tightened?
 - a. With a wrench
 - b. With a wrench until the cotter pin holes align
 - c. Hand tight
 - d. Hand tight until the cotter pin holes align

6. What is used to cover the Folding Stokes Litters hoisting sling cables gated hook openings, screw, and cotter pin?
 - a. Electrical Tape
 - b. 100 MPH Tape
 - c. Heat Shrink tubing
 - d. Nothing

7. List four parts that can be replaced on the M/J Rescue Basket.
 - (1) _____
 - (2) _____
 - (3) _____
 - (4) _____

Continued next page

**Questions
(Continued)**

8. What are the M/J Rescue Baskets cable “broken wire” limitations? _____

_____.

9. What may be done if a broken M/J Rescue Baskets cable strand is within limits, but presents a physical hazard? _____
_____.

10. What is the M/J Rescue Baskets cable bitter ends to compression sleeve limitations? _____
_____.

11. The M/J Rescue Basket compression sleeves and compression stops compression thickness tolerances are _____.

- a. .562 to .602
- b. .572 to .602
- c. .582 to .612
- d. .592 to .612

12. Who shall be assigned to replace M/J Rescue Basket cable?

- a. Qualified AST shop supervisor
- b. Qualified AMT
- c. Must be returned to AR&SC
- d. Commercial contractor

13. What is the disposition of a M/J Rescue Basket or Folding Stokes Litter with suspected cracks to welds?

- a. Immediate condemnation
- b. Returned to AR&SC
- c. Returned to Life Systems Company
- d. Perform a florescent dye penetrant inspection.

Continued next page

**Questions
(Continued)**

14. What reference manual is used to repair cracked welds for the M/J Rescue Basket and Folding Stokes Litter?

- a. NAVAIR 01-1A-1
- b. NAVAIR 01-2B-2
- c. NAVAIR 13-52-1
- d. NAVSEA 01-1A-1

15. List the authorized repairs to the Quick Strop.

- (1) _____
- (2) _____
- (3) _____

16. What is the only authorized repair to the Survivors Strop? _____

17. What type of thread is used for re-stitching Quick Strop and Survivor Strop covers?

- a. AA
 - b. E
 - c. F
 - d. M
-

5.D.01 Rescue Equipment Repair Self-Quiz Self-Quiz Feedback

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) Aviation Life Support Systems Manual, COMDTINST M13520.1 (series)
- (2) Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Question	Answer	Reference
1.	Realignment type repairs are to only be performed at the discretion of the AST shop supervisor.	(2)
2.	Any four of the following may be replaced: (1) Hoist cables (2) Flotation devices and covers (3) Plastic insert (4) Litter shield and associated parts (5) Wool blankets (6) Ballast bars (7) Straps	(1) & (2)
3.	Any single strand in the cable having 2 or less broken wires may be trimmed as needed. Any hoist sling having 3 or more broken wires requires a hoist sling change.	(2)
4.	Must be flush or slightly extending from the respective compression sleeve.	(2)
5.	d	(2)
6.	c	(2)
7.	(1) Cables (2) Flotation devices and covers (3) Plastic insert (4) Bail restrain cables	(1) & (2)

Continued next page

**Feedback
(Continued)**

The following is a continuation of the self-quiz feedback:

Question	Answer	Reference
8.	Any cable with 10 broken wires showing requires a cable change.	(2)
9.	It should be trimmed only enough to remove the hazard.	(2)
10.	Must have a minimum extension of 1/16 inch.	(2)
11.	b	(2)
12.	b	(2)
13.	d	(2)
14.	a	(2)
15.	(1) Replacement of pile tape (2) Replacement of red indicator webbing (3) patching of holes or restitching seams on cushion fabric.	(1) & (2)
16.	Restitching of fabric coverings.	(2)
17.	b	(1) & (2)

Performance

REPAIR aviation rescue equipment.

Performance
Objective 1

Given an aviation rescue equipment discrepancy to one of the following rescue equipment items, and the necessary equipment, **PERFORM** a visual inspection IAW the applicable MSR MPC card and General Troubleshooting Guidelines (section 5.B.GTG).

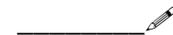
- Folding Stokes Litter
- M/J Rescue Basket
- Quick Strop
- Survivors Strop



Performance
Objective 2

Given an aviation rescue equipment discrepancy to one of the following rescue equipment items, and the results from the previous visual inspection, **LOCATE** the IAW the applicable MSR MPC card and General Troubleshooting Guidelines (section 5.B.GTG).

- Folding Stokes Litter
- M/J Rescue Basket
- Quick Strop
- Survivors Strop

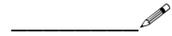


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**Performance
Objective 3**

Given an aviation rescue equipment discrepancy to one of the following rescue equipment items, and the necessary equipment, **CORRECT** the discrepancy IAW the MSR MPC card and Aviation Life Support Manual, COMDTINST M13520.1.1 (series).

- Folding Stokes Litter
- M/J Rescue Basket
- Quick Strop
- Survivors Strop



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **STATE** in writing the primary concern in repairing an ADS assembly.
- **STATE** in writing who is responsible for determining if repairs may be performed to an ADS assembly.
- **LIST** a minimum of three discrepancies that require condemnation of the ADS canopy.
- **IDENTIFY** hole and tear size limitations for darning repairs to a ADS canopy.
- **LIST** steps for darning repairs on an ADS canopy.
- **IDENTIFY** hole, cut, or tear size limitations for single patch repairs to a ADS canopy.
- **IDENTIFY** ADS canopy single patch repair procedures.
- **IDENTIFY** hole, cut, or tear size limitations for double patch repairs to a ADS canopy.
- **IDENTIFY** ADS canopy double patch repair procedures.
- **IDENTIFY** ADS canopy suspension line repair procedures.
- **IDENTIFY** 28-foot ADS Connector Link replacement procedures.
- **IDENTIFY** ADS Harness/Riser assembly repair procedures.
- **LIST** discrepancies that require condemnation of the ADS canopy and trail line deployment bag and trail line bib.
- **IDENTIFY** ADS canopy and trail line deployment bag and trail line bib repair procedures.

References

The information in this assignment can be found in the following reference.

Aviation Life Support Systems Manual, COMDTINST M13520.1 (series)

Introduction

As an AST2 you will be required to identify discrepancies, determine reparability, and perform repairs to all Coast Guard Aerial Delivery Systems (ADS). This assignment is designed to guide you to the information that will assist you during the actual performance of the repair qualifications.

How to Proceed

To complete the objectives of this assignment, reading assignments have been provided. After finishing all of the reading assignments, complete the Repair ADS Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
ADS Repair	3
ADS Repair Self-Quiz.....	5
ADS Repair Self-Quiz Feedback.....	9
Syllabus	11

Introduction

Using the information in the following reading assignments and the previously covered Troubleshooting Guidelines, you should be able to perform repairs to the 12 foot ADS assembly.

**ADS Repair
Reading
Assignment**

Read the following information in the Aviation Life Support Systems Manual, COMDTINST M13520.1 (series):

CHAPTER: CARGO PARACHUTE ASSEMBLIES

SECTION: **Cargo Parachute Assembly Repair**

PARAGRAPH: General

Criteria

Repairs Procedures

Canopy Repairs

Connector Link Replacement

Harness/Riser Assembly Repair

Deployment Bag and Trail line bib Repair

Questions

1. The primary concern in repairing an ADS assembly is _____
_____.
2. Who is responsible for determining if repairs may be performed to an ADS assembly. _____
3. List a minimum of three discrepancies that require condemnation of the ADS canopy.
 - (1) _____

 - (2) _____

 - (3) _____

4. On an ADS canopy, what is the maximum size circular hole you may darn?
 - a. 1/8 inch
 - b. 3/16 inch
 - c. 1/4 inch
 - d. 5/16 inch
5. List steps for darning repairs on an ADS canopy.
 - (1) _____

 - (2) _____

6. On an ADS canopy, what is the maximum size tear you may repair with a single patch?
 - a. Less than 1 square inch
 - b. Less than 1 1/2 square inches
 - c. Less than 1 3/4 square inches
 - d. Less than 2 square inches
7. What is the first step for repairing 3/4-inch cut in an ADS canopy?
 - a. Zig-zag sew it
 - b. Cut a filler patch and zig-zag sew it
 - c. Baseball stitch it
 - d. Cut a filler patch and baseball stitch it

Continued next page

**Questions
(Continued)**

8. The raw edge of single patches sewn to an ADS canopy should be turned under _____ inch.
- 3/8
 - 1/2
 - 3/4
 - 1
9. On an ADS canopy, what is the maximum size cut you may repair with a double patch?
- Less than 5 inches Square
 - Less than 6 inches Square
 - Less than 7 inches Square
 - Less than 8 inches Square
10. A 1 to 3 inch hole requires a outline minimum margin of _____ inch(s).
- 1/2 inch
 - 1 inch
 - 1 1/2 inches
 - 2 inches
11. When patching an ADS canopy what should you always try to anchor the patch to at least _____.
- one hem or seam.
 - two hems or seams.
 - one suspension line.
 - two suspension lines.
12. What is not used to cut core yarns that are protruding through a suspension line sleeve?
- Pocket Knife
 - Razor Blade
 - Hot Knife
 - Scissors

Continued next page

**Questions
(Continued)**

13. A 28-foot ADS canopy Connector Links yoke and plate assembly are torqued to _____.

- a. 10 - 15 inch-pounds
- b. 20 - 25 inch-pounds
- c. 10 - 15 foot-pounds
- d. 10 - 15 foot-pounds

14. Stitch spacing on a ADS harness/riser assembly shall be _____ per inch.

- a. 4 - 6
- b. 8 - 10
- c. 12 - 14
- d. 16 - 18

15. List discrepancies that require condemnation of the ADS canopy and/or trail line deployment bag.

- (1) _____

- (2) _____

16. Holes smaller than 1 inch on an ADS deployment bag are patched with _____ nylon webbing.

- a. IV
 - b. VI
 - c. VIII
 - d. IX
-

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) Aviation Life Support Systems Manual, COMDTINST M13520.1 (series)
- (2) Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Question	Answer	Reference
1.	to ensure that the basic structural integrity designed into the assembly is maintained.	(1)
2.	Supervisory personnel	(1)
3.	Condemn for any of the following reasons: (1) One or more complete gores are torn. (2) Holes larger than 8 inches long in four or more gores. (3) No more than 50 darned areas in any adjacent eight gores. (4) No more that 200 darned areas in any canopy. (5) No more than 1 burn spot or hard spot per suspension line, provided the length is less than 1 inch and it remains flexible at that point.	(1)
4.	d	(1)
5.	(1) Mark a circle or square around area to be darned with marking pencil, clearing the damaged area by at least 1/4 inch. (2) Sew back and forth with the fill of fabric within marked area. Do the same with the warp of fabric.	(1)

Continued next page

**Feedback
(Continued)**

The following is a continuation of the self-quiz feedback:

Question	Answer	Reference
6.	a	(1)
7.	c	(2)
8.	b	(1)
9.	d	(1)
10.	b	(1)
11.	a	(1)
12.	c	(1)
13.	b	(1)
14.	b	(1)
15.	(1) Deployment bags and trail line bibs that have tears longer than 3 inches or holes larger than 1 inch. (2) Deployment bags with any wear, fraying or damage to the webbing loop.	(1)
16.	c	(1)

**For More
Information**

More detailed information about specific repair procedures may be found in the Poynter “The Parachute Manual”.

Performance	REPAIR 12-foot and 28-foot Aerial Delivery Systems (ADS).
--------------------	---

Introduction	Personnel assigned to units with no fixed-wing aircraft, shall refer to the Enlisted Qualification Manual, COMDTINST M1414.8 (series) for waiver instructions. All Survival Shops have the listed references. Therefore you will be responsible for the information covered in these references on the End-of-Course Test.
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Performance Objective 1	<p>Given an Aerial Delivery Systems (ADS) discrepancy to one of the following ADS, and the necessary equipment, PERFORM a 180-day visual inspection IAW the applicable MSR MPC card and General Troubleshooting Guidelines (section 5.B.GTG).</p> <ul style="list-style-type: none">• 12-Foot ADS• 28-Foot ADS <p style="text-align: right;">_____ </p>
--------------------------------	--

Performance Objective 2	<p>Given an Aerial Delivery Systems (ADS) discrepancy to one of the following ADS, and the results from the previous visual inspection, LOCATE the discrepancy IAW the applicable MSR MPC card and General Troubleshooting Guidelines (section 5.B.GTG).</p> <ul style="list-style-type: none">• 12-Foot ADS• 28-Foot ADS <p style="text-align: right;">_____ </p>
--------------------------------	---

Performance Objective 3	<p>Given an Aerial Delivery Systems (ADS) discrepancy to one of the following ADS, and the necessary equipment, CORRECT the discrepancy IAW the MSR MPC card and Aviation Life Support Manual, COMDTINST M13520.1.1 (series).</p> <ul style="list-style-type: none">• 12-Foot ADS• 28-Foot ADS <p style="text-align: right;">_____ </p>
--------------------------------	--

Continued next page

**Performance
Objective 4**

Given one of the following Aerial Delivery Systems (ADS), and the necessary equipment, **PERFORM** a final visual inspection IAW the applicable MSR MPC card

- 12-Foot ADS
- 28-Foot ADS



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **IDENTIFY** ADS parachute and trail line deployment bag modification procedures.
 - **IDENTIFY** ADS apex connector strap fabrication procedures.
 - **IDENTIFY** ADS trail line bib fabrication procedures.
 - **IDENTIFY** ADS static line fabrication procedures.
 - **IDENTIFY** ADS riser fabrication procedures.
 - **IDENTIFY** ADS trail line bib to deployment bag attachment procedures.
 - **IDENTIFY** ADS static line to deployment bag attachment procedures.
 - **IDENTIFY** ADS pilot parachute modification procedures.
 - **IDENTIFY** ADS trail line fabrication procedures.
 - **IDENTIFY** ADS float strobe assembly procedures.
 - **IDENTIFY** 28' ADS reefing line cutter to riser assembly installation procedures.
 - **IDENTIFY** 12' ADS reefing line cutter to riser assembly installation procedures.
-

References

The information in this assignment can be found in the following reference.

Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Introduction

As an AST2 you will be required to perform the build-up of all Coast Guard Aerial Delivery Systems (ADS). This assignment is designed to guide you to the information that will assist you during the actual performance of the repair qualifications.

How to Proceed

To complete the objectives of this assignment, reading assignments have been provided. After finishing all of the reading assignments, complete the ADS Build-Up Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
12' Aerial Delivery System (ADS) Build-Up	3
28' Aerial Delivery System (ADS) Build-Up	4
Aerial Delivery System (ADS) Build-Up Self-Quiz	6
Aerial Delivery System (ADS) Build-Up Self-Quiz Feedback.....	10
Syllabus	11

Introduction

Using the information in the following reading assignments, you should be able to perform the build-up of a 12' ADS.

12' ADS Build-Up Reading Assignment

Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 259001.0:

SECTION: 1 12' AERIAL DELIVERY SYSTEM BUILD-UP
SUBSECTION: A BUILD-UP PROCEDURE

Introduction

Using the information in the following reading assignments, you should be able to perform the build-up of a 28' ADS.

**28' ADS Build-Up
Reading
Assignment**

- Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 259005.0:

SECTION: **1 28' AERIAL DELIVERY SYSTEM BUILD-UP**

SUBSECTION: **A BUILD-UP PROCEDURE**

Questions

1. When modifying a new ADS deployment bag, what is done with the static line?
 - a. Measure it to insure correct length.
 - b. Remove snap and discard static line.
 - c. Remove static line for future reattachment.
 - d. Nothing has to be done.

2. What is done with the webbing tongue inside of an ADS deployment bag?
 - a. Hand sew to the inside of the bag.
 - b. Machine sew it to the inside of the bag.
 - c. Remove and discard.
 - d. Nothing

3. A completed apex connector strap will have a _____ inch loop in each end?
 - a. 4
 - b. 5
 - c. 6
 - d. 7

4. How is an apex connector strap attached to the parachute apex?
 - a. Tacked with waxed 3 nylon cord
 - b. Tacked with waxed 6 nylon cord
 - c. With an over-hand knot
 - d. With a larks head knot

5. What are the dimensions of the trail line bib?
 - a. 14 x 18 inches
 - b. 14 x 20 inches
 - c. 16 x 18 inches
 - d. 16 x 20 inches

Continued next page

**Questions
(Continued)**

6. When sewing center webbing onto the trail line bib, what size loop should be left on the end?

- a. 5 inches
- b. 6 inches
- c. 7 inches
- d. 8 inches

7. What length and type webbing is used for fabricating a ADS static line?

- a. 18 foot 1 inch , type VII webbing
- b. 18 foot 1 inch , type VIII webbing
- c. 18 foot 8 inch , 1 inch tubular webbing
- d. 18 foot 8 inch , 2 inch tubular webbing

8. When fabricating a ADS riser a 5 1/2 inch piece of type VIII webbing is sewn around the folded 62 inch piece of webbing _____ inch down from the base of the D-ring.

- a. 1/2
- b. 5/8
- c. 3/4
- d. 1

9. What type of stitching is used when modifying the ADS pilot parachute drogue?

- a. B-thread 8 - 10 stitches per inch
- b. E-thread 8 - 10 stitches per inch
- c. F-thread 8 - 10 stitches per inch
- d. FF-thread 8 - 10 stitches per inch

10. What is the minimum tucks required when making the trail line eye splice?

- a. 4
- b. 6
- c. 8
- d. 10

Continued next page

5.D.03 Aerial Delivery System (ADS) Build-Up Self-Quiz (Continued)

Questions (Continued)

11. How is the float strobe light attached to the drogue chute?
 - a. Square Knot
 - b. Square Knot, followed by a surgeons knot
 - c. Square Knot, followed by overhand knots
 - d. Square Knot, followed by a bowline

 12. What color is the ADS reefing line cutters "REMOVE BEFORE DROP" streamer?
 - a. White
 - b. Orange
 - c. Red
 - d. Yellow

 13. Where is the ADS reefing line cutters cable routing hole placed in relation to the riser assembly D-ring?
 - a. Center of the D-ring hole
 - b. Center of the D-ring webbing slot
 - c. Even with the bottom of the D-ring
 - d. 1/2 below the bottom D-ring

 14. What size stainless steel cable is routed through the 12 parachute connector link and riser assemble D-ring?
 - a. 1/8 inch
 - b. 1/4 inch
 - c. 3/8 inch
 - d. 1/2 inch

 15. The reefing line cutters stainless steel cable compression sleeves are crimped (compressed) _____ time(s) each?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
-

5.D.03 Aerial Delivery System (ADS) Build-Up Self-Quiz Feedback

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) MSR MPC # 259001.0 (A **BUILD-UP PROCEDURE**)
- (2) MSR MPC # 259005.0 (A **BUILD-UP PROCEDURE**)

Question	Answer	Reference
1.	b	(1) & (2)
2.	c	(1) & (2)
3.	a	(1) & (2)
4.	d	(1) & (2)
5.	a	(1) & (2)
6.	a	(1) & (2)
7.	c	(1) & (2)
8.	d	(1) & (2)
9.	b	(1) & (2)
10.	b	(1) & (2)
11.	c	(1) & (2)
12.	d	(1) & (2)
13.	a	(1) & (2)
14.	a	(1)
15.	c	(1)

Performance	BUILD-UP 12 foot and 28 foot Aerial Delivery Systems (ADS).
Introduction	Personnel assigned to units with no fixed-wing aircraft, shall refer to the Enlisted Qualification Manual, COMDTINST M1414.8 (series) for waiver instructions. All Survival Shops have the listed references. Therefore you will be responsible for the information covered in these references on the End-of-Course Test.
Performance Objective 1	Given the necessary equipment, BUILD-UP the parachute for a 12-foot aerial delivery system IAW the applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC). 
Performance Objective 2	Given the necessary equipment, BUILD-UP the trail line for a 12-foot aerial delivery system IAW the applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC). 
Performance Objective 3	Given the necessary equipment, BUILD-UP the parachute assembly for a 28-foot aerial delivery system IAW the applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC). 
Performance Objective 4	Given the necessary equipment, BUILD-UP the trail line assembly for a 28 foot aerial delivery system IAW the applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC). 

Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **IDENTIFY** basic CG-P1B engine basic model number.
- **IDENTIFY** safety precautions to be observed when working on the pump.
- **IDENTIFY** the correct fuel and oil grades used in the pump.
- **IDENTIFY** specific steps for changing the pump fuel.
- **IDENTIFY** specific steps for changing the pump oil.
- **LIST** the two common causes of pump excessive vibration.
- **IDENTIFY** the common cause of excessive pump noise.
- **LIST** at least three causes of pump ignition failure.
- **STATE** in writing items to check prior to performing a Check Ignition inspection.
- **STATE** in writing the steps for the Check for Spark Miss inspection.
- **STATE** in writing the correct gap measurement for the spark plug.
- **IDENTIFY** specific steps for disassembling and assembling the flywheel.
- **IDENTIFY** specific steps for disassembling and assembling the armature.
- **STATE** in writing the type of carburetor used on the CG-P1B pump.
- **IDENTIFY** steps to perform before making a Check Carburetion inspection.
- **LIST** at least three items to check for during the Check Carburetion if plug is wet troubleshooting.
- **LIST** at least three items to check for during the Check Carburetion if plug is dry troubleshooting.

Continued next page

**Objectives
(Continued)**

- **IDENTIFY** the correct gap measurement that indicates carburetor upper body warpage.
 - **IDENTIFY** the wear limitation between the throttle shaft and the bushings.
 - **IDENTIFY** specific steps for disassembling the carburetor.
 - **IDENTIFY** specific steps for checking the carburetor float level.
 - **IDENTIFY** specific steps for assembling the carburetor.
 - **IDENTIFY** specific steps for adjusting the carburetor.
 - **LIST** at least five causes of poor compression.
 - **IDENTIFY** specific steps for checking the pump for satisfactory compression.
 - **IDENTIFY** specific steps for removal and installation of the pump cylinder head.
 - **DESCRIBE** in writing the corrective action for scenarios where the prime pump assembly will not prime.
 - **DESCRIBE** in writing the corrective action for pump loses suction scenarios.
 - **DESCRIBE** in writing corrective action for pump has little or no discharge scenarios.
 - **IDENTIFY** specific steps for removal and installation of the Prime Pump/Impeller Assemblies.
-

References

The information in this assignment can be found in the following references.

Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Briggs & Stratton Repair Manual For Single Cylinder 4-Cycle Engines ISBN 24847-70962

SCOT Technical Manual 61.000.262, Operations-Parts List-Maintenance

Introduction

As an AST2 you will be required to identify discrepancies, determine reparability, and perform repairs to Air Deliverable Salvage Pumps. This assignment is designed to guide you to the information that will assist you during the actual performance of the repair qualifications.

How to Proceed

To complete the objectives of this assignment, reading assignments have been provided. After finishing all of the reading assignments, complete the Repair Air Deliverable Salvage Pump Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
CG-P1B Air Deliverable Salvage Pump	4
How to Use the Briggs & Stratton Repair Manual.....	5
General Engine Repair Safety	6
CG-P1B Pump Recommended Servicing.....	7
Common Engine Problems	8
CG-P1B Engine Ignition Repairs.....	9
CG-P1B Engine Carburetion Repairs.....	10
CG-P1B Engine Governor Adjustments.....	13
CG-P1B Engine Compression Repairs.....	15
CG-P1B “Scot” Pump/Prime Assemblies Troubleshooting.....	17
Repairing the CG-P1B “Scot” Pump Assembly.....	19
Air Deliverable Salvage Pump Repair Self-Quiz.....	22
Air Deliverable Salvage Pump Repair Self-Quiz Feedback.....	29
Syllabus	33

Introduction

The air deliverable salvage pump used by Coast Guard aviation is the Coast Guard De-watering Pump Model Scot CG-P1B. Using the information provided in the lesson assignments, Briggs & Stratton Repair Manual reading assignments, Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC), and the previously covered Troubleshooting Guidelines, you should be able to perform repairs to the pump.

Inspection and Maintenance Procedures Precedence

As you go through this assignment, you will see inspection time contradictions between the Briggs & Stratton Repair Manual, and the MSR MPC's. Always keep in mind, MSR inspection or maintenance procedures will always take precedence unless otherwise directed. During the development of the MPC's the intended use of the pump (SAR) was taken into consideration when inspections and maintenance would be required. If no maintenance procedures are provided for a specific engine discrepancy the Briggs & Stratton Repair Manual shall take precedence until the procedure you are performing falls back into the scope of the MPC.

CG-P1B Pump Assembly Configuration

The following are the two major components that make up the CG-P1B pump configuration:

- 3-HP "Briggs & Stratton" single cylinder, 4-cycle engine
 - "Scot" Pump/Prime Assemblies
-

Introduction

To successfully use the Briggs & Stratton Repair Manual and work on an engine you need to know how the manual is structured and what model, type, and code numbers mean.

CG-P1B Engine Model, Type, and Code Numbers

The most important number that will help you use the Repair Manual is the Model number. The CG-P1B engine model, type, and code numbers are listed in the table below.

Model	Type	Code
80331	1641-01	93110103

How to Read Engine Numbers Reading Assignment

Read the following information on how to read engine numbers in the Briggs & Stratton Repair Manual:

SECTION #: 1

PAGE: 15

SUBSECTION TITLE: **HOW TO READ BRIGGS & STRATTON MODEL, TYPE, AND CODE NUMBERS**

CG-P1B Basic Model Series Code Number

The Basic model series code to use for the CG-P1B pump when using the Briggs & Stratton Repair Manual is 80000

Introduction

As in all work you do, the number one concern is safety. If the job can not be performed safely, STOP immediately.

Safety Reading Assignment

Read the following safety information in the Briggs & Stratton Repair Manual:

SECTION #: **1**

PAGE: **2**

SUBSECTION TITLE: **IN THE INTEREST OF SAFETY**

Introduction

For proper and reliable operation, the CG-P1B pump shall be serviced only in accordance with the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC).

CG-P1B Pump Servicing Reading Assignment

Read the following servicing information in the Briggs & Stratton Repair Manual:

SECTION #: **1**

PAGE: **3**

SUBSECTION TITLE: **FUEL AND OIL RECOMMENDATIONS**

SECTION #: **1**

PAGE: **6**

SUBSECTION TITLE: **CLEAN COOLING SYSTEM**

Read the fuel and oil servicing information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256038.0:

SECTION: **4 PORTABLE SALVAGE PUMP INSPECTION AND TEST RUN**

SUBSECTION: **A INSPECTION AND ENGINE TEST**

RUN: (Replace fuel)

SECTION: **6 PORTABLE SALVAGE PUMP SERVICING:**

SUBSECTION: **A INSPECTION:** (Replace oil)

Introduction

This reading assignment covers the most common engine problems you may encounter with the CG-P1B engine.

Common Engine Problems Reading Assignment

Read the following information in the Briggs & Stratton Repair Manual:

NOTE

Compression, ignition, and carburetion common problems are covered in their respective sections in this assignment.

SECTION #: 1

PAGE: 13-14

SUBSECTION TITLE: **CHECK-UP**

Equipment-Affecting Engine

Operation: Problems with the “Scot” pump/prime assemblies will be covered later in this assignment.

Vibration: Items 2 and 4 apply to the CG-P1B.

Power Loss: Item 3 applies to the CG-P1B.

Noise: Item 2 applies to the CG-P1B (if item 2 is not the problem try replacing the muffler).

Introduction This reading assignment covers the CG-P1B engine ignition testing, servicing , and component repair.

CG-P1B Type of Ignition System The type of ignition system used on the CG-P1B engine is a Magnetron® ignition, which is a self-contained transistor module, ignition armature and flywheel (magneto is part of the flywheel). Standard procedure in the Coast Guard is to replace not repair the armature if it is identified as the problem.

Common Ignition Problems Reading Assignment Read the following common ignition problems information in the Briggs & Stratton Repair Manual:

SECTION #: 1

PAGE: 13

SUBSECTION TITLE: **CHECK-UP**

Check Ignition: Items 1,5,7 and 8 apply to the CG-P1B.

Check Ignition Reading Assignment Read the following Check Ignition information in the Briggs & Stratton Repair Manual:

SECTION #: 2

PAGE: 2 - 3

SUBSECTION TITLE: **CHECK IGNITION**

Check For Spark Miss

Ignition Maintenance Reading Assignment Read the ignition component disassemble and reassemble information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256038.0:

SECTION: **5 PORTABLE SALVAGE PUMP SERVICING:**

SUBSECTION: **A INSPECTION:** (Spark plug removal, gap check, and reinstallation)

SECTION: **6 PORTABLE SALVAGE PUMP POST USAGE INSPECTION:**

SUBSECTION: **A INSPECTION:** (Disassembly and reassemble of the Flywheel and Armature)

Introduction

This reading assignment covers the CG-P1B engine carburetor problem and repairs.

**CG-P1B
Carburetor Type**

The type of carburetor used on the CG-P1B engine is a two-piece Flo-Jet carburetor.

**Common
Carburetion
Problems
Reading
Assignment**

Read the following common carburetion problems information in the Briggs & Stratton Repair Manual:

SECTION #: **1**

PAGE: **13 -14**

SUBSECTION TITLE: **CHECK-UP:**

Check Carburetion: (All items in If plug is wet list, and items 1,3,5 and if the fuel tank is not connected applies on the If Plug is Dry list apply to the CG-P1B.)

Continued next page

**Carburetion
Maintenance
Reading
Assignment**

Read the following carburetion maintenance information in the Briggs & Stratton Repair Manual:

SECTION #: 3

PAGE: 62 - 66

SUBSECTION TITLE: **TWO-PIECE FLO-JET CARBURETION, SMALL, MEDIUM, AND LARGE:** (The CG-P1B has the small carburetor)
**Check Upper Carburetion Body for Warpage Check Throttle Shaft and Bushing for Wear
 Disassemble Carburetor**

**REPAIR CARBURETOR:
 Check Float Lever
 Assemble Carburetor**

**Carburetor
Adjustment**

Use the following steps to adjust the carburetor on the CG-P1B pump while under a load (pumping water).

CAUTION

Failure to pump water through the impeller during carburetor adjustments will cause catastrophic failure of the impeller seals.

Step	Action
1.	Ensure the high speed needle valve and idle valve are adjusted IAW steps 8 and 9 of the Assemble carburetor instructions on page 3-65 of the Briggs & Stratton Repair Manual.
2.	Start pump IAW Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256038.0
3.	Allow the engine to run full speed to warm up (approximately 5 minutes).

Continued next page

**Carburetor
Adjustment
(Continued)**

The following is a continuation of the adjust the carburetor on the CG-P1B pump while under a load (pumping water).

Step	Action
4.	Place Tachometer on top of the engine near the spark plug.
5.	Adjust engine speed to be around the 3100 RPM range using the governor control (clockwise to increase speed, counter clockwise to decrease speed).
6.	Fine tune engine speed to 3100 RPM using the high speed needle valve.
7.	Remove the Tachometer.
8.	Continue test run IAW Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256038.0

Introduction

This reading assignment covers the CG-P1B engine governor adjustments you may have to perform.

CG-P1B Governor Type

The type of governor used on the CG-P1B engine is a air vane (pneumatic) type governor.

Governor Maintenance Reading Assignment

Read the following governor maintenance information in the Briggs & Stratton Repair Manual:

SECTION #: 5

PAGE: 3 - 4

SUBSECTION TITLE: **TOP NO LOAD SPEED LIMITS:**

Read the first three paragraphs of this section (use MSR PC # 256038.0 for CG-P1B engine operating speeds)

CAUTION

Failure to pump water through the impeller during governor adjustments will cause catastrophic failure of the impeller seals.

Continued next page

**Governor
Maintenance
Reading
Assignment
(Continued)**

This is a continuation of the CG-P1B engine governor adjustments reading assignment.

SECTION #: 5

PAGE: 3 - 4

SUBSECTION TITLE: **CHECK GOVERNOR - ALL**

Introduction

This reading assignment covers the CG-P1B engine compression testing and repairs up to the point of replacing a cylinder head gasket.

**Common Engine
Compression
Problems
Reading
Assignment**

Read the following common engine compression problems information in the Briggs & Stratton Repair Manual:

SECTION #: 1

PAGE: 13

SUBSECTION TITLE: **CHECK-UP:
Check Compression**

**Common Engine
Compression
Problems
Reading
Assignment**

Read the following common engine compression information in the Briggs & Stratton Repair Manual:

SECTION #: 6

PAGE: 3

SUBSECTION TITLE: **COMPRESSION:
Remove Cylinder Head and Shield:
CYLINDER HEAD TORQUE
PROCEDURES**

**CG-P1B Engine
Course
Knowledge
Limitations**

Repair to valves, piston etc. will not be covered in this course, and no questions will be asked of these types of repairs on the End-Of-Course Test. Information pertaining to these repairs may be found in the Briggs & Stratton Repair Manual For Single Cylinder 4-Cycle Engines.

Introduction

This reading assignment covers troubleshooting the CG-P1B “Scot” pump/prime assemblies.

Prime Pump Assemblies Troubleshooting Guide

The table below provides a troubleshooting guide for possible causes and corrective action if the prime pump assembly will not prime.

Possible Causes	Corrective Action
1. Leaking discharge check valve	Repair discharge check valve or replace discharge hose assembly
2. Hole in diaphragm	Replace prime pump assembly
3. Air leak in suction hose or connections	Repair leak or replace suction hose
4. Air leak in primer inlet hose of connections	Repair leak or replace primer inlet hose
5. Suction hose rubber gasket missing or worn	Install or Replace gasket

Loss of Suction Troubleshooting Guide

The table below provides a troubleshooting guide for possible causes and corrective action if the pump loses suction.

Possible Causes	Corrective Action
1. Air leak in suction hose	Repair or replace suction hose assembly
2. Suction hose rubber gasket missing or worn	Install or Replace gasket
3. Discharge hose check valve sleeve damaged or not fully covering the check valve	Replace discharge hose check valve sleeve or adjust sleeve to fully cover the check valve

Continued next page

5.D.04

CG-P1B “Scot” Pump/Prime Assemblies Troubleshooting (Continued)

Little or No Discharge Troubleshooting Guide

The table below provides a troubleshooting guide for possible causes and corrective action if the pump has little or no discharge.

Possible Causes	Corrective Action
1. Casing not filled with water	Actuate hand primer
2. Impeller plugged	Disassemble pump and clean impeller
3. Hole or leak in suction line	Repair or replace suction line
4. Impeller worn or damaged	Replace impeller
5. Strainer or suction line not submerged deep enough in water	Submerge lower in water
6. Discharge hose kinked	Straighten out discharge hose

Introduction

This reading assignment covers the CG-P1B “Scot” Pump Assembly repairs you may have to perform.

Prime Pump Assembly Removal and Installation

The table below provides removal and installation instructions for the prime pump assembly.

Step	Action
1	Remove the primer inlet hose from the elbow.
2	Disconnect the fuel line from the prime pump bracket.
3	Remove the two hex screws holding the bracket and pump case to the engine adapter.
4	Remove the prime pump and bracket as an assembly.
5	Reinstall by reversing the removal steps.

Impeller Removal, Servicing, and Installation

The table below provides instructions for the impeller removal, servicing, and installation.

Step	Action
1	Remove the prime pump using the steps previous provided.
2	Remove the two hex screws holding the case to the engine adapter and remove the pump case.
3	Place a piece of wood against the outer end of one of the impeller vanes.
4	Hit the wood with a hammer so as to turn the impeller in a clockwise direction (same as the rotation of the engine), until the impeller is loosened until it can be screwed off the engine crankshaft.

Continued next page

5.D.04 Repairing the CG-P1B “Scot” Pump Assembly (Continued)

Impeller Removal, Servicing, and Installation (Continued)

The table below is a continuation of the impeller removal, servicing, and installation instructions.

Step	Action
5	Inspect impeller, replace if worn.
6	Insert shim between the crankshaft sleeve and impeller to obtain approximately 1/64 inch clearance between the impeller and pump case faces.
7	Reinstall by reversing the removal steps.

“Scot” Pump Assembly Course Knowledge Limitations

Replacement of the rotary seal parts and stationary seal ring will not be covered in this course, and no questions will be asked of these types of repairs on the End-Of-Course Test. Information pertaining to these repairs may be found in the SCOT Technical Manual 61.000.262.

Questions

1. What is the basic model number of the CG-P1B pump?
 - a. 60000
 - b. 70000
 - c. 80000
 - d. 90000

2. The CG-P1B shall not be operated without a _____ installed.
 - a. flame detector
 - b. carbon dioxide detector
 - c. back flow valve
 - d. muffler

3. What grade of fuel may be used in the CG-P1B?
 - a. Regular
 - b. Unleaded
 - c. Diesel
 - d. JP-5

4. The minimum fuel octane that may be used in the CG-P1B is _____.
 - a. 65
 - b. 77
 - c. 85
 - d. 95

5. Depending on outside air temperatures, the CG-P1B may use only _____, _____, and _____ oil.
 - a. SAE 20, SAE 5W20, SAE 10W30
 - b. SAE 30, SAE 5W20, SAE 5W30
 - c. SAE 30, SAE 10W30, SAE 10W40
 - d. SAE 40, SAE 5W30, SAE 5W40

6. CG-P1B fuel cans are to be filled to the _____ line.
 - a. 3.8-liter
 - b. 4.8-liter
 - c. 3.8-gallon
 - d. 4.8-gallon

Continued next page

**Questions
(Continued)**

7. Prior to refilling the pump with oil, inspect the crankcase for evidence of _____.

- a. fuel
- b. water
- c. rubber particles
- d. metal particles

8. List the two common causes of pump excessive vibration.

(1) _____

(2) _____

9. The common cause of excessive pump noise is _____.

- a. no lubricant in the gear box
- b. too much lubricant in the gear box
- c. rubber bumpers missing
- d. loose flywheel

10. List three causes of pump ignition failure.

(1) _____

(2) _____

(3) _____

11. List in writing the steps used for the Check Ignition Inspection.

Step 1. _____

Step 2. _____

Step 3. _____

12. List in writing the steps for the Check for Spark Miss Inspection.

Step 1. . _____

Step 2. _____

Step 3. _____

Continued next page

5.D.04 Air Deliverable Salvage Pump Repair Self-Quiz (Continued)

Questions

13. The spark plug gap is set at _____.
14. To break the flywheel free, strike it with a _____.
a. pipe wrench
b. rawhide mallet
c. ball-pin hammer
d. block of wood
15. What is done with the flywheel key after removing the flywheel?
a. Perform a visual inspection
b. Perform a dye penetrant inspection
c. Discard the key
d. Nothing is required
16. When reassembling the flywheel, the starter pulley nut is torqued to _____-pounds?
a. 55 inch
b. 65 inch
c. 55 foot
d. 65 foot
17. The gap between the armature and the flywheel is _____ inches?
a. 0.0010
b. 0.010
c. 0.110
d. 0.10
18. What type of carburetor is installed on the CG-P1B pump?
a. One-piece Flo-Jet (small)
b. Two-piece Flo-Jet (small)
c. Two-piece Flo-Jet (medium)
d. Two-piece Flo-Jet (large)
19. Before performing a carburetor check, inspect and adjust the _____.
a. mixture needle
b. idle valve
c. governor
d. armature gap

Continued next page

**Questions
(Continued)**

20. List three items to look for during the check carburetion if plug is wet inspection.

(1) _____

(2) _____

(3) _____

21. List three items to look for during the check carburetion if plug is dry inspection.

(1) _____

(2) _____

(3) _____

22. The feeler gauge is used to check for upper carburetor body warpage or gasket damage is _____-inches.

- a. .002
- b. .004
- c. .006
- d. .008

23. Wear between the throttle shaft and bushings should not exceed _____ inches.

- a. .004
- b. .006
- c. .008
- d. .010

24. The first step in disassembling the carburetor is to remove the _____.

- a. screws holding the upper and lower bodies together
- b. nylon choke shaft
- c. idle circuit needle valve
- d. high speed needle valve

Continued next page

5.D.04 Air Deliverable Salvage Pump Repair Self-Quiz (Continued)

Questions

25. How is the float level adjusted to be parallel to the carburetor body?

- a. Tighten the adjustment screw
- b. Loosen the adjustment screw
- c. Bend the tang on the float
- d. Press the float level down

26. What is used to make the fine tune adjustment to the carburetor?

- a. Idle valve
- b. Governor
- c. High speed needle valve
- d. Low speed needle valve

27. List five causes of poor compression.

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

28. During the compression check, good compression is indicated by a _____.

- a. slight rebound of the flywheel
- b. sharp rebound of the flywheel
- c. compression indicator light
- d. reading of 300 lbs. PSIG

Continued next page

Questions

29. The cylinder head bolts are torqued to _____ inch-pounds.

- a. 80
- b. 110
- c. 140
- d. 170

30. If the prime pump will not prime and there is a leaking discharge check valve, what would the corrective action be? _____

31. If the pump loses suction and there is a sound of sucking air coming from the suction hose connection, what would the corrective action be? _____

32. If the pump has little or no discharge and you notice the strainer is missing from the suction hose, what would the corrective action be?

33. What is used to cushion hammer blows when removing the impeller?

- a. Cloth rag
 - b. Rubber pad
 - c. Foam cushion
 - d. Wooden block
-

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) MSR MPC # 256038.0 (A **CG-P1 PUMP BUILD-UP**)
- (2) Briggs & Stratton Repair Manual: 1; 2 means Section 1 Page 2

Question	Answer	Reference
1.	c	Pg. 5
2.	d	(2) 1; 2
3.	b	(1)
4.	b	(2) 1;3
5.	b	(1)
6.	a	(1)
7.	d	(1)
8.	(1) Crankshaft bent (2) Mounting bolts loose	(2) 1; 14
9.	a	(2) 1; 14
10.	Any three of the items listed below: (1) Incorrect armature air gap (2) Worn bearings and/or shaft on flywheel side only (3) Sheared flywheel key (4) Shorted ground wire (5) Armature failure	(2) 1; 13

Continued next page

5.D.04

Air Deliverable Salvage Pump Repair Self-Quiz Feedback (Continued)

Feedback (Continued)

The following is a continuation of the self-quiz feedback:

Question	Answer	Reference
11.	STEP 1. Connect spark plug wire to Spark Tester, and ground tester to engine with alligator clip. STEP 2. Operate starter (pull starter cord) and observe spark gap in tester. STEP 3. If spark jumps tester gap, you can assume ignition is good.	(2) 2; 2
12.	STEP 1. Place Spark Tester, in series with engine's spark plug and spark plug wire. STEP 2. An ignition miss will be readily apparent when the engine is started, and run. STEP 3. If there is no ignition miss, check compression and fuel system.	(2) 2; 3
13.	.030 inch	(1)
14.	b	(1)
15.	c	(1)
16.	a	(1)
17.	b	(1)
18.	b	(2) 3; 62
19.	a	(2) 1; 13
20.	Any three of the items listed below: (1) Overchoking (2) Excessively rich fuel mixture (3) Water in fuel (4) Inlet valve stuck open	(2) 1; 13

Continued next page

Air Deliverable Salvage Pump Repair Self-Quiz Feedback (Continued)

Feedback (Continued)

The following is a continuation of the self-quiz feedback:

Question	Answer	Reference
21.	Any three of the items listed below: (1) Leaking carburetor mounting gasket (2) Inlet needle valve stuck shut (3) Plugged fuel filter (4) Fuel tank not attached	(2) 1; 14
22.	a	(2) 3; 62
23.	d	(2) 3; 62
24.	c	(2) 3; 63
25.	c	(2) 3; 64
26.	c	Pg. 12
27.	Any five of the items listed below: (1) Loose spark plug (2) Loose cylinder head bolts (3) Blown head gasket (4) Burnt valves, valve seats (5) Insufficient tappet clearance (6) Warped cylinder head (7) Warped valve stems (8) Worn bore and /or rings (9) Broken connecting rods	(2) 1; 13
28.	b	(2) 6; 2
29.	c	(2) 6; 10

Continued next page

5.D.04

Air Deliverable Salvage Pump Repair Self-Quiz Feedback (Continued)

Feedback (Continued)

The following is a continuation of the self-quiz feedback:

Question	Answer	Reference
30.	Repair discharge check valve or replace discharge hose.	Pg. 17
31.	Install or replace the worn suction hose gasket	Pg. 17
32.	Disassemble the pump and clean the impeller	Pg. 18
33.	d	Pg. 19

Performance

REPAIR Air Deliverable Salvage Pumps.

Performance Objective 1

Given an aerial deliverable salvage pump discrepancy, and the necessary equipment, **PERFORM** a visual inspection of the salvage pump IAW the applicable MSR MPC.

**Performance Objective 2**

Given an aerial deliverable salvage pump discrepancy, and the necessary equipment, **PERFORM** an operational check of the salvage pump IAW the applicable MSR MPC.

**Performance Objective 3**

Given an aerial deliverable salvage pump discrepancy, and the necessary equipment, **ISOLATE** and **LOCATE** the malfunction to the most probable component IAW the applicable MSR MPC and/or applicable manufactures maintenance manuals.

**Performance Objective 4**

Given an aerial deliverable salvage pump discrepancy, and the necessary equipment, **CORRECT** the malfunction IAW the applicable MSR MPC and/or the applicable manufactures maintenance manuals.

**Performance Objective 5**

Given an aerial deliverable salvage pump, and the necessary equipment, **PERFORM** a final operational check of the salvage pump to verify the discrepancy has been corrected IAW the applicable MSR MPC.



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **IDENTIFY** steps taken during the Inspect Pump for Required Equipment portion of a salvage pump build-up.
 - **SELECT** the correct grade oil to use for a given outside air temperature.
 - **STATE** in writing the correct amount of oil used in the salvage pump crankcase.
 - **STATE** in writing the correct gap measurement for the spark plug.
 - **IDENTIFY** procedures for modifying the explosive-proof flashlight and instruction card.
 - **IDENTIFY** procedures for attachment of the extra suction hose gasket.
 - **LIST** the procedures for securing the Primer Handle retaining nut.
 - **STATE** in writing the location and method of attaching the extra Starter Rope.
 - **IDENTIFY** procedures for modifying a plastic pump container.
 - **IDENTIFY** procedures for modifying a metal (C-130 only) pump container.
-

References

The information in this assignment can be found in the following reference.

Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Introduction

As an AST2 you will be required to perform the build-up of Coast Guard Air Deliverable Salvage Pumps. This assignment is designed to guide you to the information that will assist you during the actual performance of the repair qualifications.

How to Proceed

To complete the objectives of this assignment, reading assignments have been provided. After finishing all of the reading assignments, complete the Air Deliverable Salvage Pump Build-Up Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
Air Deliverable Salvage Pump Build-Up	3
Air Deliverable Salvage Pump Build-Up Self-Quiz.....	4
Air Deliverable Salvage Pump Build-Up Self-Quiz Feedback.....	7
Syllabus	8

Introduction

Using the information in the following reading assignments, you should be able to perform the build-up of a Air Deliverable Salvage Pump.

Salvage pump Build-Up Reading Assignment

Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256038.0:

SECTION: 1 PORTABLE SALVAGE PUMP CG-P1 BUILD-UP

SUBSECTION: A CG-P1 PUMP BUILD-UP

Questions

1. You have been tasked with building-up an air deliverable CG-P1B pump. During the inspect pump for accompanying equipment portion of the MPC, you note the items listed in column A are present. Select from column B the item that should have been present with the listed items in column A.

Column AColumn B

- | | |
|-------------------------------|------------------------------|
| 1. Discharge hose | a. Engine oil |
| 2. Explosive-proof flashlight | b. Extra starter rope |
| 3. Gasoline can | c. Extra suction hose gasket |
| 4. Instruction card | d. Suction hose |
| 5. Maintenance manual | |
| 6. Pump | |

2. What grade of oil would you use in a CG-P1B pump if the air temperature is not going to go below 40 degrees Fahrenheit.

- SAE 5W30
- SAE 5W40
- SAE 30
- SAE 40

3. Fill the crankcase with oil to the _____.

4. The spark plug gap is set at _____.

5. What is the length and type of cord used to secure the instruction card to the explosive-proof flashlight?

- 24 inch, Type I nylon cord
- 36 inch, Type I nylon cord
- 24 inch, Type III nylon cord
- 36 inch, Type III nylon cord

6. Where and how is the extra suction hose gasket secured?

- To the gasoline can handle with Type I nylon cord.
- To the pump frame with Type III nylon cord.
- To the side of the container interior with electrical tape.
- To the underside of the container lid with electrical tape.

Continued next page

**Questions
(Continued)**

7. List the steps for securing the Primer Handle retaining nut.

Step 1 _____.

Step 2 _____.

Step 3 _____.

8. Where and how is the extra starter rope secured. _____
_____.

9. How many pieces of reflective tape are used on the plastic pump container?

a. 3

b. 6

c. 9

d. 12

9. What size stencils are used for the unit address?

A. 1 inches

b. 1 1/2 inches

c. 2 inches

d. 2 1/2 inches

11. What size are the pieces of reflective tape used on the metal pump container?

a. 1 x 4 inch

b. 1 x 6 inches

c. 2 x 4 inches

d. 2 x 6 inches

12. What size safety wire is used to secure the metal pump container harness shackle bolts?

a. .032"

b. .040"

c. .132"

d. .148"

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) MSR MPC # 256038.0 (A **CG-P1 PUMP BUILD-UP**)

Question	Answer	Reference
1.	d	(1)
2.	c	(1)
3.	base of the fill port.	(1)
4.	.030"	(1)
5.	b	(1)
6.	d	(1)
7.	Step 1; Remove retaining nut. Step 2; Apply thread locker, high-strength to retaining nut. Step 3; Reinstall retaining nut and tighten.	(1)
8.	On the gasoline can handle with a larkshead knot.	(1)
9.	a	(1)
10.	a	(1)
11.	c	(1)
12.	a	(1)

Performance

BUILD-UP air deliverable salvage pumps.

**Performance
Objective 1**

Given an aerial deliverable salvage pump container w/harness and the necessary equipment, **BUILD-UP** the container assembly IAW the applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC).

**Performance
Objective 2**

Given an aerial deliverable salvage pump and the necessary equipment, **BUILD-UP** the salvage pump IAW the applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC).:



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **IDENTIFY** steps taken during the removal of the LRU-20/A from the original container.
 - **IDENTIFY** LRU-20/A reflective tape installation procedures.
 - **IDENTIFY** stencil markings on the LRU-20/A life raft and ADR-6 container.
 - **IDENTIFY** ADR-6 container modification procedures.
 - **IDENTIFY** ADR-6 inflation lanyard fabrication procedures.
 - **IDENTIFY** ADR-6 retaining line fabrication procedures.
 - **IDENTIFY** procedures for installing new Topping Off Valve Inserts.
 - **IDENTIFY** ADR-6 post build-up steps.
-

References

The information in this assignment can be found in the following reference.

Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Introduction

As an AST2 you will be required to perform the build-up of all Coast Guard Air Drop Rafts (ADR). This assignment is designed to guide you to the information that will assist you during the actual performance of the build-up qualifications.

How to Proceed

To complete the objectives of this assignment, reading assignments have been provided. After finishing all of the reading assignments, complete the Build-Up Air Drop Rafts (ADR) Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
ADR-6 Air Drop Raft (ADR) Build-Up.....	3
ADR-20 Air Drop Raft (ADR) Build-Up.....	4
Air Drop Rafts (ADR) Build-Up Self-Quiz.....	6
Air Drop Rafts (ADR) Build-Up Self-Quiz Feedback.....	9
Syllabus	10

Introduction

Using the information in the following reading assignments, you should be able to perform the build-up of an ADR-6.

ADR-6 Build-Up Reading Assignment

Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256093.0:

SECTION: 1 ADR-6 AIR DROP RAFT BUILD-UP
SUBSECTION: A BUILD-UP PROCEDURE

Introduction

As an AST, you may be tasked with building-up an ADR-20. If you are, you may use that performance for performance objectives' sign-off. Since very few AST's will ever have to perform a ADR-20 build-up, there will be no additional training on this equipment in this course. There will be no questions asked on the End-of-Course test, though you may have questions about this piece of equipment on the Service-Wide Exam. Using the information in the following reading assignments, you should be able to perform the build-up of an ADR-20.

**ADR-20 Build-Up
Information
Source**

Information concerning the build-up of an ADR-20 is located in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256098.0:

SECTION: 1 ADR-20 AIR DROP RAFT BUILD-UP
SUBSECTION: A BUILD-UP PROCEDURE

Questions

1. How is the discharge cap installed to the discharge port of the inflation assembly?
 - a. With a wrench, torque to 10 - 15 inch lb.
 - b. With a wrench, torque to 30 - 45 inch lb.
 - c. With a wrench, 1/2 passed tight
 - d. Hand tight

2. How many pieces of reflective tape are used on the LRU-20/A raft?
 - a. 14
 - b. 24
 - c. 34
 - d. 44

3. Glue the reflective tape to the life raft using 3M adhesive _____.
 - a. 1241
 - b. 1421
 - c. 2141
 - d. 2412

4. After gluing reflective tape, the raft shall remain undisturbed for a minimum of _____ hours.
 - a. 6
 - b. 12
 - c. 18
 - d. 24

5. What size stencils are used for the "CANOPY" stencil?
 - a. 1/2 inch
 - b. 1 inch
 - c. 1 1/2 inch
 - d. 2 inch

Continued next page

**Questions
(Continued)**

6. All sewing during the ADR-6 container modification shall be done with a _____.
- a. medium duty machine and E nylon thread
 - b. medium duty machine and 3 cord nylon thread
 - c. class 7 machine and 3 cord nylon thread
 - d. class 7 machine and 6 cord nylon thread
7. What is the length of Type III nylon cord needed to fabricate an ADR-6 inflation lanyard?
- a. 15 feet
 - b. 18 feet
 - c. 20 feet
 - d. 25 feet
8. What color is the ADR-6 inflation lanyard snap hook painted?
- a. Green
 - b. Blue
 - c. Yellow
 - d. Red
9. The ADR-6 life raft retaining line is attached to the _____ of its container with a bowline?
- a. D-ring outside
 - b. V-ring outside
 - c. D-ring inside
 - d. V-ring inside
10. How are the LRU-20/A topping off valve inserts held in place?
- a. Bolts
 - b. Set screws
 - c. Adhesive
 - d. Snap rings
11. After removing the hose plug and discharge cap during the post build-up, torque the inflation hose to the inflation coupler to _____.
- a. 80 inch lbs.
 - b. 100 inch lbs.
 - c. 120 inch lbs.
 - d. 140 inch lbs.
-

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) MSR MPC # 256093.0 (A **BUILD-UP PROCEDURE**)

Question	Answer	Reference
1.	d	(1)
2.	c	(1)
3.	c	(1)
4.	b	(1)
5.	b	(1)
6.	d	(1)
7.	a	(1)
8.	c	(1)
9.	d	(1)
10.	b	(1)
11.	d	(1)

Performance

BUILD-UP Air Drop Rafts (ADRs).

Performance Objective 1

Given the materials and the necessary equipment, **BUILD-UP** a container for an air drop raft IAW the applicable MSR MPC.

**Performance Objective 2**

Given a life raft and the necessary equipment, **BUILD-UP** and **CONFIGURE** a life raft for an air droppable assembly IAW the Aviation Life Support Manual, COMDTINST M13520.1.1 (series) and applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC).



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **STATE** in writing what type of garment(s) should be worn while sizing aircrewmember for an ADC.
- **STATE** in writing what measurements shall be taken when sizing an aircrewmember for an ADC.
- **LIST** what should be used as a sizing guide when fitting the anti-exposure socks.
- **STATE** in writing where you should measure for wrist seals.
- **STATE** in writing the measurement points that determine ADC sleeve length.
- **LIST** what criteria must be met to obtain the correct “sitting inseam” when measuring for the ADC.

References

The information in this assignment can be found in the following reference.

Mandatory Special Requirements (MSR) Maintenance Procedure Card (MPC)

Introduction

As an AST2 you will be required to measure and fit aircrewmembers needing an Aircrew Dry Coverall, flightsuit, flight, gloves, boots, etc. Your knowledge of each article of clothing and its proper fit to each individual is paramount to the comfort, and protection of that crewmember. Long flights seem even longer while wearing ill fitting protective clothing.

How to Proceed

To complete the objectives, reading assignments have been provided. After finishing all of the reading assignments, complete the Personal Protective Equipment Fitting Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
Gender Sizing Protocol.....	3
Aircrew Dry Coverall Fitting	4
Facts About Fitting Personal Protective Equipment.....	5
Personal Protective Equipment Fitting Self-Quiz	6
Personal Protective Equipment Fitting Self-Quiz Feedback	8
Syllabus	9

Gender Sizing Protocol

When you are sizing members of the opposite sex it is important to use discretion, and common sense. These guidelines should be followed to avoid any misunderstandings.

- When an inseam measurement (crotch to ankle) is necessary, have the member place a file folder between their legs and up against their crotch. Take the inseam measurement from the top of the file folder (corner of the folder furthest away from the body). It is a good practice to do this with both men and women.
 - When a woman's chest measurement is required, demonstrate on yourself how the measurement is needed to be taken. Have her repeat the same procedure on herself and you read the measurements.
 - When practical, have another female in the room, and possibly have her take the measurements for the member needing the flight gear.
-

Introduction

Using the information in the following reading assignment you should be able to perform the fitting of an Aircrew Dry Coverall.

**Aircrew Dry
Coverall Fitting
Reading
Assignment**

Read the following information in the Mandatory Special Requirements (MSR) Maintenance Procedure Card (MPC) 256118.0.

**SECTION: 1 AIRCREW DRY COVERALL (ADC)
FITTING
SUBSECTION: A FITTING PROCEDURE**

Introduction

Using the information in the following reading assignment you should be able to perform the fitting of an aircrew member with personal protective equipment.

Comments About Personal Protective Equipment Fitting

There are no hard, fast rules when it comes to fitting people for clothing. There are some “Tricks of the Trade” that have been passed down through the years to help guide you when sizing someone for their first or subsequent issue of flight clothing. The information discussed in this section of the pamphlet will not be tested in this lesson or your Service Wide Examinations.

Flight Jacket

The flight jacket will normally be the same size as the members service dress coat. The size number corresponds with the person’s chest size.

Flight Suit

The flight suit will be the same number size as the flight jacket. Their height will determine the length of the suit.

Flight Boots

The flight boots will generally be the same size as the members dress shoe or ½ size larger.

Flight Gloves

Believe it or not, a flight glove is the same size as the individual’s flight boot size. Just ask them what size boot they wear, they will give you a funny look and the answer, normally the gloves you pick will fit ...like a glove.

Questions

1. What garment(s) should be worn when sizing for the ADC?

 2. What measurements need to be taken to get the right size ADC?
 - a. _____
 - b. _____
 - c. _____
 3. When fitting someone for the anti-exposure sock, what article of clothing is used as a sizing guide? _____

 4. When determining the length of the ADC sleeves, you measure from the _____ of the DSUG sleeve along the bottom of the crew members arm to the _____.
 5. When measuring for the wrist seals, you should take the measurement from the crewmembers _____ (_____).
 6. In order to obtain the correct sitting inseam, the crewmember should be sitting in a chair that is _____ inches in height from the top of the seat cushion to the floor.
 7. What two measurements must be taken to get the correct length for the ADC legs?
 - a. _____

 - b. _____

-

5.D.07 Personal Protective Equipment Fitting Self-Quiz Feedback

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) Mandatory Special Requirements (MSR) Maintenance Procedure Card (MPC) 256118.0 (A **FITTING PROCEDURE**)

Question	Answer	Reference
1.	Dry Suit Undergarment (DSUG) and wool socks.	(1)
2.	a. Chest Circumference b. Height c. Weight	(1)
3.	aircrewmembers normal shoe size	(1)
4.	proximal end wrist	(1)
5.	wrist (carpals)	(1)
6.	18 +/- 2	(1)
7.	a. The distance from the bottom edge of the DSUG pants to the floor. b. The distance from the cross seam at the apex of the DSUG pants inseam to the bottom edge of the pants leg.	(1)

Performance

FIT aircrewmembers with all applicable personal protective flight equipment.

Performance Objective 1

Given an assignment to fit an aviation flight helmet to an aircrew member, and the necessary equipment, **PERFORM** the fitting procedures IAW the Aviation Life Support Manual, COMDTINST M13520.1.1 (series).

**Performance Objective 2**

Given an assignment to fit an Aircrew Dry Coverall, to an aircrew member, and the necessary equipment, **PERFORM** the fitting procedures IAW the applicable Mandatory Special Requirements (MSR) Maintenance Procedure Cards (MPC).

**Performance Objective 3**

Given an assignment to issue an aircrew member for the following personal protective flight equipment, **PERFORM** a proper fitting using the fitting guidelines for each piece of equipment listed below IAW the Aviation Life Support Manual, COMDTINST M13520.1 (series).

- Flight Coveralls
 - Flight Gloves
 - Flight Boots
 - Flight Jackets
-
- 

Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **STATE** in writing the safety precautions that shall be followed while inspecting helicopter flotation bags.
 - **STATE** in writing what the test pressures should be when inspecting the flotation bags.
 - **STATE** in writing what type of pressurized air shall be used to inflate float bags.
 - **STATE** in writing the maximum psi. allowed when inflating the flotation bags.
-

References

The information in this assignment can be found in the following references:

HH65 ACMS card #25011.0

HH-60 ACMS card # 25600.7

Aviation Life Supports Systems Manual, COMDTINST 13520.1 (series)

Introduction

As an AST2 you will be required to inspect and repair helicopter flotation bags. Due to the inherent danger when inspecting this gear, it is imperative that ALL safety precautions be followed. The force generated from an exploding inflatable flotation bag is sufficient to cause serious injury, and in some cases even death. Your attention to safety details will reduce the chance of personnel injury and /or damage to shop equipment.

How to Proceed

To complete the objectives, reading assignments have been provided. After finishing all of the reading assignments, complete the Inspect Emergency Flotation Bags Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
Flotation Bag Safety Precautions	3
Flotation Bag Safety Precautions Self-Quiz.....	4
Flotation Bag Safety Precautions Self-Quiz Feedback.....	6
Syllabus	7

Introduction

Using the information in the following reading assignment you should be able to safely inspect Helicopter Emergency Flotation Bag Assemblies.

Flotation Bag Inflation Safety Precautions

The following safety precautions are actual WARNINGS that appear on the Helicopter Emergency Flotation Bag inspection cards.

- Always wear hearing and eye protection while in the inspection area. The flotation bags may unexpectedly explode.
 - Do not pressurize flotation bags above 3.48 psig (HH-65) or 3.75 (HH-60).
 - Do not move inflated bags during test.
 - Avoid eye or skin contact with leak test compound, MIL-L-25567C.
-

13x13 Canvas Cover

To reduce the chance of injury or damage to personnel and equipment, in the event of a flotation bag explosive separation, locally fabricate a 13ft x 13ft canvas cover for EACH flotation bag inflated in the shop (one set of 4 covers).

Serial Numbers

This equipment is computer tracked and it is important that the information being processed is correct and located on the proper aircraft. Therefore prior to final packing, you must record the serial number of each flotation bag. Failure to do so will require the bag(s) to be unpacked and the serial number recorded.

Reading Assignment

Read the following information in the Aviation Life Support Systems Manual, COMDTINST M13520.1 (series):

CHAPTER: INFLATABLE EQUIPMENT
SECTION: **Inflatable Maintenance Areas**
PARAGRAPH: Shop Air Requirements

Questions

1. The HH-65 float bag shall not exceed _____ psig during shop inflation.
 2. The HH-60 float bag shall not exceed _____ psig during shop inflation.
 3. What protective gear shall be worn while in the inspection area?
 - a. _____
 - b. _____
 4. At what point are you to cover the float bags with the 13 x 13 canvas? _____

 5. What type of compressed air shall be used to inflate the float bags for inspection? _____

 6. Before packing the bags, what should be recorded? _____
 7. What two areas should leak detection NOT be applied?
 - a. _____
 - b. _____
-

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) HH-65 ACMS card #25011.0
- (2) HH-60 ACMS card # 25600.7
- (3) Aviation Life Supports Systems Manual, COMDTINST 13520.1 (series)

Question	Answer	Reference
1.	3.48	(1)
2.	3.75	(2)
3.	a. Hearing b. Eye protection	(1,2)
4.	During the 30 minute stabilization and 3 hour leak test (HH-65) or during the 1 hour leak test (HH-60).	(1,2)
5.	Regulated, 40psi or below from a source that is filtered to ensure no oil or moisture are present.	(3)
6.	Serial number	(2)
7.	a. Eyes b. Skin	(1,2)

Performance

INSPECT helicopter flotation bags.

Introduction

Personnel assigned to units with no helicopters shall refer to the Enlisted Qualification Manual, COMDTINST M1414.8 (series), for waiver instructions. Questions that may appear in the End-of-Course Test will only cover information provided in this pamphlet, although for Service-Wide Exams, you may be responsible for additional information.

Performance Objective 1

Given a helicopter emergency flotation bag assembly, and the necessary equipment, **PERFORM** a leak test inspection of the flotation bag assembly IAW the following references:

HH-65A



- MPC Index, Chapter 25

HH-60J



- MPC Index, Chapter 25
-

Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **LIST** a minimum of four components that can be replaced on the MBU-10P or MBU-12/P oxygen mask.
 - **STATE** in writing discrepancies that require AR&SC repair of the EROS oxygen mask.
 - **LIST** a minimum of four components that can be replaced on the Full-Face Oxygen and Smoke mask.
-

References

The information in this assignment can be found in the following references.

Aviation Life Support Systems Manual, COMDTINST M13520.1 (series)

Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Introduction

As an AST2 you will be required to identify discrepancies, determine reparability, and perform repairs to Coast Guard aviation oxygen masks. This assignment is designed to guide you to the information that will assist you during the actual performance of the repair procedures.

How to Proceed

To complete the objectives of this assignment, reading assignments have been provided. After finishing all of the reading assignments, complete the Oxygen Mask Repair Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
MBU-10/P and MBU-12/P Oxygen Mask Repair	3
Policy on MF10- 03-1 Oxygen Mask (EROS) Repairs.....	4
Full-Face Oxygen and Smoke Mask Repair.....	5
Oxygen Mask Repair Self Quiz.....	7
Oxygen Mask Repair Self-Quiz Feedback.....	9
Syllabus	10

Introduction

Using the information in the following reading assignments, you should be able to perform repairs on the MBU-10/P and MBU-12/P Oxygen Masks.

Oxygen Mask Repair

Do not attempt to repair components. Replace all damaged or malfunctioning components.

Oxygen Mask Replaceable Components

The following components of the MBU-10/P and MBU-12/P oxygen masks may be replaced (Mask components may be identified using MSR MPC 351001.0 Illustrated Parts Breakdown):

- MBU-10/P Hard-shell
 - Oxygen Facepiece
 - Oxygen Delivery Hose
 - Oxygen Valve
 - Microphone
 - Microphone Wiring
 - Microphone On/Off Microswitch
 - Suspension Mechanism
-

Oxygen Mask Component Replacement Guidelines

When a component requires replacement on a MBU-10/P or MBU-12/P oxygen mask, use the following MSR MPC for disassembly and reassembly of the mask. Complete an operational test of the oxygen mask prior to returning it to service.

CARD NUMBER: 351001.0
SECTION: 2 MBU-10/P,-12/P
SUBSECTION: A INSPECTION

**EROS Oxygen
Mask Repair
Policy**

No shop level repairs authorized on the EROS Oxygen mask, any damage beyond routine cleaning is to be documented on a 265 Repairable tag and shipped to AR&SC for repair.

Introduction

Using the information in the following reading assignments, you should be able to perform repairs on the Full-Face Oxygen and Smoke Mask.

Full-Face Oxygen and Smoke Mask Repair

Do not attempt to repair components. Replace all damaged or malfunctioning components.

Full-Face Oxygen and Smoke Mask Replaceable Components

The following components of the Full-Face Oxygen and Smoke Mask may be replaced:

- Facepiece
 - Nose Cup Assembly
 - Oxygen Delivery Hose
 - Anti-Fog Inhalation Valve Assembly
 - Inhalation Valve Assembly
 - Exhalation Valve Assembly
 - Compensating Tube, Exhalation Valve Assembly
 - Lens
 - Ear Cup Assembly
 - Microphone and Earphone Receiver Cable
 - Headstrap
-

Full-Face Oxygen and Smoke Mask Component Replacement Guidelines

When a component requires replacement on a Full-Face Oxygen and Smoke Mask, use the following MSR MPC for disassembly and reassembly of the mask. Complete an operational test of the mask prior to returning it to service.

CARD NUMBER: **351001.0**
SECTION: **2 MBU-10/P,-12/P**
SUBSECTION: **A INSPECTION**

Questions

1. List at least four components that can be replaced on the MBU-10/P and MBU-12/P?
 - a. _____
 - b. _____
 - c. _____
 - d. _____

 2. What is to be done with an EROS oxygen mask that is in need of repairs, beyond routine cleaning?
 - a. _____
 - b. _____
 - c. _____
 - d. _____

 3. List at least four components that can be replaced on the Full-Face Oxygen and Smoke Mask?
 - a. _____
 - b. _____
 - c. _____
 - d. _____
-

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

Listed references are as follows:

- (1) MSR MPC # 351001.0 (**INSPECTION**)

Question	Answer	Reference
1.	Any four of the following are correct: MBU-10/P Hardshell Oxygen Facepiece Oxygen Delivery Hose Oxygen Valve Microphone Microphone Wiring Microphone On/Off Microswitch Suspension Mechanism	(3)
2.	No shop level repairs authorized to the EROS Oxygen mask, any damage beyond routine cleaning is to be documented on a 265 Repairable tag and shipped to AR&SC for repair.	(4)
3.	Any four of the following are correct: Facepiece Nose Cup Assembly Oxygen Delivery Hose Anti-Fog Inhalation Valve Assembly Inhalation Valve Assembly Exhalation Valve Assembly Compensating Tube, Exhalation Valve Assembly Lens Ear Cup Assembly Microphone and Earphone Receiver Cable Headstrap	(5)

Performance REPAIR aircraft oxygen masks.

Introduction Personnel assigned to units with no fixed-wing aircraft, shall refer to the Enlisted Qualification Manual, COMDTINST M1414.8 (series) for waiver instructions. All Survival Shops have some of the listed references. Therefore you will be responsible only for the information covered in these references for the End-of-Course Test. However, for Service-Wide Exams, you may be responsible for additional information.

Performance Objective 1 Given an aviation oxygen mask discrepancy, one of the following oxygen masks, and the necessary equipment, **PERFORM** a visual inspection IAW the applicable MSR MPC card and ATTC General Troubleshooting Guidelines (section 5.B.GTG).

- Full-Face Oxygen and Smoke Mask
- MF10-03-01 Oxygen Mask (EROS)
- MBU-10/P,-12/P Oxygen Mask



Performance Objective 2 Given an aviation oxygen mask discrepancy, one of the following oxygen masks, and the necessary equipment, **PERFORM** an operational test IAW the MSR MPC card.

- Full-Face Oxygen and Smoke Mask
- MF10-03-01 Oxygen Mask (EROS)
- MBU-10/P,-12/P Oxygen Mask



Continued next page

**Performance
Objective 3**

Given an aviation oxygen mask discrepancy, one of the following oxygen masks, and the results from the previous operational check, **ISOLATE** and **LOCATE** the malfunction to the most probable component/wire IAW the applicable MSR MPC card and ATTC General Troubleshooting Guidelines (section 5.B.GTG).

- Full-Face Oxygen and Smoke Mask
- MF10-03-01 Oxygen Mask (EROS)
- MBU-12/P Oxygen Mask

**Performance
Objective 4**

Given an aviation oxygen mask discrepancy, one of the following oxygen masks, and the necessary equipment, **CORRECT** the malfunction IAW the MSR MPC card and Aviation Life Support Manual, COMDTINST M13520.1.1 (series).

- Full-Face Oxygen and Smoke Mask
- MF10-03-01 Oxygen Mask (EROS)
- MBU-10/P,-12/P Oxygen Mask

**Performance
Objective 5**

Given a one of the following aviation oxygen masks, and the necessary equipment, **PERFORM** a final operational test IAW the MSR MPC card.

- Full-Face Oxygen and Smoke Mask
- MF10-03-01 Oxygen Mask (EROS)
- MBU-10/P,-12/P Oxygen Mask



Objectives

To successfully complete this assignment, you must study the text and master the following objectives:

- **STATE** in writing who is responsible for performing the duty day EMT equipment inspection.
 - **LIST** when EMT equipment inspections shall be performed.
 - **STATE** in writing who is authorized to inspect and maintain EMT equipment.
 - **IDENTIFY** steps for inspecting each piece of authorized EMT equipment.
 - **IDENTIFY** steps for maintaining each piece of authorized EMT equipment.
-

References

The information in this assignment can be found in the following references:

Rescue and Survival Systems Manual, COMDTINST M10470.10 (series)

Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC)

Introduction

As an AST2 you will be required to inspect and maintain all authorized Coast Guard Emergency Medical Technician (EMT) equipment. This assignment is designed to guide you to the information that will assist you during the actual performance of the repair qualifications.

How to Proceed

To complete the objectives of this assignment, read the information provided and complete the reading assignments. After finishing all of the reading assignments, complete the Inspection and Maintenance of EMT Equipment Self Quiz.

In This Assignment

This assignment contains the following:

Subject	Page
Duty Day EMT Equipment Inspection Requirements.....	5
Thomas Aeromedical Pack TT-890 Inspections and Maintenance	6
Inspecting the Thomas Pack.....	7
Compartments of the Thomas Pack.....	8
Parts of the Airway Oxygen Kit.....	13
How to Inspect/Maintain the Airway Oxygen Kit.....	14
Pneumatic Anti-Shock Garment Inspections and Maintenance	18
Traction Splints Inspections and Maintenance.....	19
How to Inspection/Maintain the Sager Traction Splint.....	20
How to Inspection/Maintain the Hare Traction Splint	22
How to Inspection/Maintain the Reel Traction Splint.....	24
Full-Body Litter/Splint Inspections and Maintenance.....	25
How to Inspection/Maintain the Full-Body Litter/Splint	26
Half-Back Extraction/Lifting Harness Inspections and Maintenance.....	27

Continued next page

In This Assignment (Continued)	Subject	Page
	How to Inspection/Maintain the Half-Back Extraction/Lifting Harness	28
	Inspection and Maintenance of EMT Equipment Self-Quiz.....	30
	Inspection and Maintenance of EMT Equipment Self-Quiz Feedback	32
	Syllabus	33

Introduction

The information in the following assignment will provide you with the duty day B-0 (ready alert) EMT equipment inspection requirements.

EMT Equipment Inspection Responsibility

As a EMT you are ultimately responsible for the condition of your equipment. Nothing can be more gut wrenching than to find out after being set down on a boat or having a patient brought into the aircraft, that your missing something, equipment is broken, or the oxygen cylinder is empty. To prevent this from happening, you must spend as much time checking the B-0 EMT equipment as you do checking your Rescue Swimmer equipment. Failure to do so may lead to the prolonged suffering or death of a patient that has been entrusted to you.

EMT Equipment Inspection Requirements

When assuming the Rescue Swimmer duty you are required to perform the following inspections to the B-0 EMT equipment.

- Thomas Aeromedical Pack TT-890: **Visual Inspection**
- Airway Oxygen Kit: **Visual/Pressure Inspection**
- Pneumatic Anti-Shock Garment: **Visual Inspection**
- Traction Splint: **Visual Inspection**
- Full-Body Litter/Splint: **Visual Inspection**
- Half Back Extraction/Lifting Harness: **Visual Inspection**

Any additional B-0 EMT equipment shall also be visually inspected.

Introduction

Using the information in the following assignment you should be able to perform inspections and maintenance on the Thomas Aeromedical Pack TT-890 (commonly called a “Thomas Pack”).

**Illustration of a
Thomas Pack**

The following is an illustration of a Thomas Pack.

**Thomas Pack
Inspection
Requirements**

Inspection and maintenance requirements of a Thomas Pack shall be as follows:

- **Visual Inspection:** When assuming the Rescue Swimmer duty
- **Monthly Inspection:**
 - On acceptance (placing into service)
 - After each use
 - Once a month

NOTE

A qualified EMT if available should inspect the Thomas Pack. If an EMT is not available, medical personnel should inspect the equipment.

Introduction

When performing the visual or monthly inspections on a Thomas Pack, all discrepancies shall be taken care of at that time.

Visual Inspection Procedures

The table below lists the steps to follow when performing a visual inspection of a Thomas Pack:

Step	Action
1.	Check for cuts, tears, and frayed material. Inspect pack for contamination by oil, fuel, hydraulic fluid, or grease.
2.	Visually inventory contents of pack to make sure all items are clean, dry, and serviceable. Replace items with damage.
3.	Check flashlight for proper operation.

Monthly Inspection Procedures

The table below lists the steps to follow when performing a monthly inspection of a Thomas Pack:

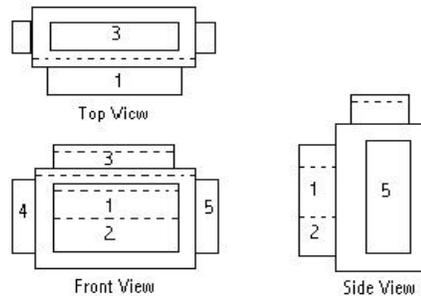
Step	Action
1.	Inspect general condition of pack. Check for cuts, tears, and frayed material. Inspect pack for contamination by oil, fuel, hydraulic fluid, or grease.
2.	Wash pack (if necessary) using mild soapy water. Rinse pack in fresh water and allow to thoroughly air dry before repacking.
3.	Inspect all metal parts for corrosion.
4.	Inventory contents of pack to make sure all items are clean, dry, and serviceable. Replace items with damage.
5.	Inspect Stethoscope, flashlight, thermometers, and Aneroid Sphygmomanometer for proper operation.
6.	Stow contents in pack. Be sure to store contents in designated pockets or locations.

Introduction

There are 12 pockets for equipment storage in the Thomas Pack. A standard storage configuration has been implemented to allow any Coast Guard EMT to quickly find the equipment they may need during a medical emergency. Using the information in the following assignment you will be able to identify the location and quantity of all required equipment.

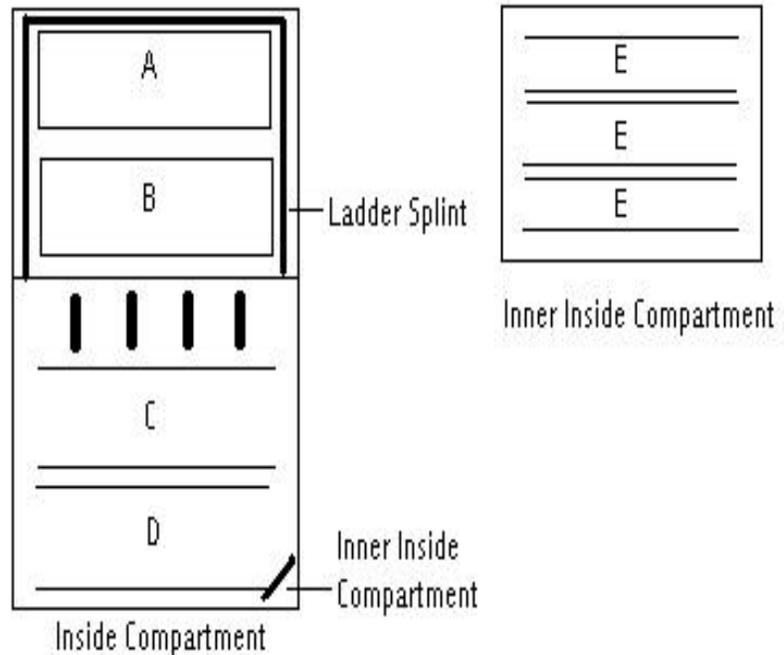
Thomas Pack Content Outside Compartments Illustration

The following illustration is used in identifying the location of the contents outside compartments of the Thomas Pack.



Thomas Pack Content Inside and Inner Inside Compartments Illustration

The following illustration is used in identifying the location of the contents inside and inner inside compartments of the Thomas Pack.



**Thomas Pack
Compartment #1
Outside Contents**

The following table is a list of the contents located in Compartment #1 Outside (see illustration on page 6).

Equipment	Quantity
Sphygmomanometer, Aneroid	1
Gloves, Latex	1 Medium 1 Large
Flashlight	1
Scissors, Bandage, Angular	1
Stethoscope	1

**Thomas Pack
Compartment #2
Outside Contents**

The following table is a list of the contents located in Compartment #2 Outside (see illustration on page 6).

Equipment	Quantity
Splint, Universal (SAM splint)	2

**Thomas Pack
Compartment #3
Outside Contents**

The following table is a list of the contents located in Compartment #3 Outside (see illustration on page 6).

Equipment	Quantity
Oropharyngeal, Airway	1 kit
Gloves, Latex	1 Medium 1 Large
Mask, Pocket (with one-way valve)	1

Continued next page

**Thomas Pack
Compartment #4
Outside Contents**

The following table is a list of the contents located in Compartment #4 Outside (see illustration on page 6).

Equipment	Quantity
Ace Wrap 4"	2
Band-Aid 3/4" x 3"	6 Package
Charcoal, Activated USP	1 Bottle
Glucose Gel 80 gr	1 Bottle
Syrup of Ipecac USP	1 Bottle

**Thomas Pack
Compartment #5
Outside Contents**

The following table is a list of the contents located in Compartment #5 Outside (see illustration on page 6).

Equipment	Quantity
Syringe, Irrigating (bulb)	1
Clamp, Umbilical Cord, Plastic Disposable	1 Package
ligature, Umbilical (tape)	1 Package

Continued next page

**Thomas Pack
Compartment #B
Outside Contents**

The following table is a list of the contents located in Compartment #B Inside (see illustration on page 6).

Equipment	Quantity
Sponges, Gauze 4" x 4"	6 Packages
Petrolatum Gauze	4
Bandage, Gauze (Kurlex)	4

**Thomas Pack
Compartment #C
Outside Contents**

The following table is a list of the contents located in Compartment #C Inside (see illustration on page 6).

Equipment	Quantity
Bandage, Muslin Compressed (Cravat)"	6

**Thomas Pack
Compartment #D
Outside Contents**

The following table is a list of the contents located in Compartment #D Inside (see illustration on page 6).

Equipment	Quantity
Plastic Bag 12" x 12" (zip-lock)	2
Plastic Bag 8" x 8" (zip-lock)	2
Adhesive Tape, Surgical	1 Roll
Plastic Wrap 11 1/2" x 100"	1 Roll
Burn Dressing, Waterjel (Coast Guard Kit)	1

Continued next page

**Thomas Pack
Inner Inside
Compartment
Contents**

The following table is a list of the contents located in the Inner Compartment Inside (see illustration on page 6).

Equipment	Quantity
Cervical Collar, No Neck	1
Cervical Collar, Short	1
Cervical Collar, Regular	1
Cervical Collar, Tall	1

**Thomas Pack
Inner Inside
Compartments E
Contents**

The following table is a list of the contents located in the Inner Compartments E Inside (see illustration on page 6).

Equipment	Quantity
Medevac Form (CG-5214)	10
Ball Point Pen	2
Thermometer, Clinical 94 - 108 Degree Fahrenheit	1
Thermometer, Sub-normal 70 - 100 Degree Fahrenheit	1
Band-Aid 3/4" x 3"	6 Package

Introduction

This assignment identifies the basic parts to an Airway Oxygen Kit.

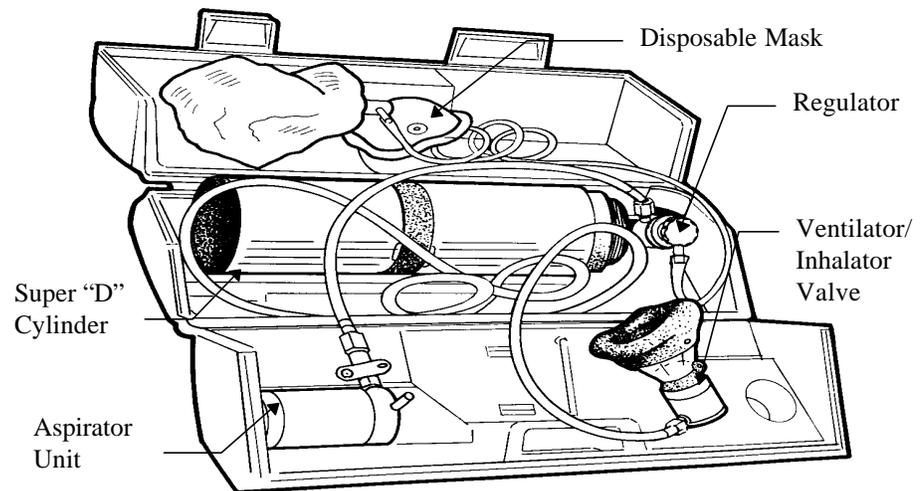
Configuration of an Airway and Oxygen Kit

The Coast Guard authorized Airway and Oxygen Kit consists of the following items:

Equipment	Quantity
Ventilator/Inhalator Valve	1
Aspirator Unit	1
Super "D" Aluminum Cylinder	1
Rigid plastic Carrying Case	1
Nasal Canula (optional)	2
Disposable Masks	1

Illustration of an Airway Oxygen Kit

The following is an illustration of an Airway Oxygen Kit.



Introduction

Using the information in this assignment you should be able to perform inspections and maintenance on the Airway Oxygen Kit.

Airway and Oxygen Kit Inspection Requirements

Inspection and maintenance requirements of an Air Stations Airway Oxygen Kits shall be as follows:

- **Visual/Pressure Inspection:** When assuming the Rescue Swimmer duty
- **Functional Inspection:** - On acceptance (placing into service)
 - After each use
 - Once a month

NOTE

A qualified EMT, if available should inspect the Airway Oxygen Kit. If an EMT is not available, medical personnel should inspect the equipment

Visual/Pressure Inspection Procedures

The table below lists the steps to follow when performing a visual/pressure inspection of an Airway Oxygen Kit:

Step	Action
1.	Inspect the general condition and quantity of all components of the kit, including the container, cylinder, tubing, fittings, and accessories.
2.	Fit the handwheel to the cylinder post valve and turn counterclockwise at least one full turn to the "ON" position.
3.	Replace or refill cylinders when pressure on the gauge for the regulator reads less than 1500 psi or three quarters full. CAUTION <i>Use a new O-ring when you refill a cylinder. Attach a spare O-ring to the kit.</i>
4.	Turn the handwheel on the cylinder post valve clockwise to the "OFF" position, and ensure all valves are properly positioned

Continued next page

Functional Inspection Procedures

The table below lists the steps to follow when performing a functional inspection of an Airway Oxygen Kit:

Step	Action						
1.	Inspect the general condition of all components of the kit, including the container, cylinder, tubing, fittings, and accessories.						
2.	Fit the handwheel to the cylinder post valve and turn counterclockwise at least one full turn to the “ON” position.						
3.	Replace or refill cylinders when pressure on the gauge for the regulator reads less than 1500 psi or three quarters full. <p style="text-align: center;">CAUTION <i>Use a new O-ring when you refill a cylinder. Attach a spare O-ring to the kit.</i></p>						
4.	Perform a leak test on all fittings using leak test compound <table border="1" data-bbox="740 995 1349 1241"> <thead> <tr> <th data-bbox="740 995 1040 1064">If a leak...</th> <th data-bbox="1040 995 1349 1064">then...</th> </tr> </thead> <tbody> <tr> <td data-bbox="740 1064 1040 1171">is detected</td> <td data-bbox="1040 1064 1349 1171">tighten the suspect fitting</td> </tr> <tr> <td data-bbox="740 1171 1040 1241">continues</td> <td data-bbox="1040 1171 1349 1241">use anti-seizing tape</td> </tr> </tbody> </table> <p style="text-align: center;">NOTE</p> Do not over-tighten fittings because permanent damage may result. If leakage persists, the fitting or cylinder may require repair or replacement.	If a leak...	then...	is detected	tighten the suspect fitting	continues	use anti-seizing tape
If a leak...	then...						
is detected	tighten the suspect fitting						
continues	use anti-seizing tape						

Continued next page

5.D.10 How to Inspect/Maintain the Airway Oxygen Kit (Continued)

Functional Inspection Procedures (Continued)

The table below is a continuation of the steps to follow when performing a functional inspection of an Airway Oxygen Kit:

Step	Action
5.	Test the ventilator by performing the following steps: <ol style="list-style-type: none">Press the green ventilator button outlet on top of the valve.Ensure oxygen flows freely into the non-disposable mask.Block the 15/22 mm mask connector outlet with tip of finger.Press the green ventilator button.Ensure oxygen flows freely out of bottom of the ventilator.
6.	Test the flow control mounted on the regulator by performing the following steps: <ol style="list-style-type: none">Turn the flow control knob counterclockwise.Check that oxygen flows out of the barbed tubing connector.Repeat at higher settings, making sure the flow of oxygen increases at each setting.
7.	Check the aspirator by performing the following steps: <ol style="list-style-type: none">Ensure all connections between the regulator and the aspirator are tight.Install suction catheter for testing.Turn the aspirator on/off switch or slide switch on.Place finger over the end of the plastic suction catheter and make sure suction is being produced.
8.	Secure the cylinder
9.	Check all valves are proper position

Continued next page

Functional Inspection Procedures (Continued)

The table below is a continuation of the steps to follow when performing a functional inspection of an Airway Oxygen Kit:

Step	Action
10.	Clean and sterilize equipment (if required), following the manufacture's instructions.
11.	Stow equipment in the container.
12.	Check cylinder for a minimum pressure of 1500 psi or three quarters full prior to closing the handwheel to the cylinder post valve.

5.D.10 Pneumatic Anti-Shock Garment Inspections and Maintenance

Introduction

Using the information in the following reading assignment, you should be able to perform repairs to the Pneumatic Anti-Shock Garment (commonly called “M.A.S.T. Pants”).

Pneumatic Anti-Shock Garment Reading Assignment

Read the following information in the Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256120.0:

SECTION: 3 P. A. S. G. MONTHLY INSPECT
SUBSECTION: A INSPECTION

SECTION: 3 P. A. S. G. REPAIR
SUBSECTION: A REPAIR

Introduction

This assignment covers the inspections and maintenance requirements for the traction splints used in the Coast Guard.

Types of Traction Splints

There are three types of traction splints authorized for use by the Coast Guard EMT's:

- Sager S-204 Traction Splint
- Hare Traction Splint
- Reel Traction Splint

The Coast Guard has selected the Sager Traction Splint to be the standard traction splint, though the Hare Traction Splint and the Reel Traction Splint may still be used as long as they are still serviceable.

Sager Traction Splint Inspection Requirements

Inspection and maintenance requirements of all Traction Splints shall be as follows:

- **Visual Inspection:** When assuming the Rescue Swimmer duty
- **Monthly Inspection:** - On acceptance (placing into service)
 - After each use
 - Once a month

NOTE

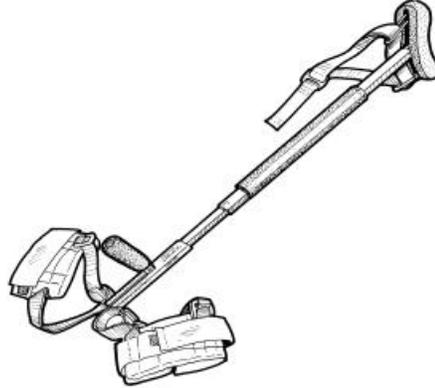
A qualified EMT if available should inspect the Traction Splints. If an EMT is not available, medical personnel should inspect the equipment.

Introduction

Using the information in the following assignment you should be able to perform inspections and maintenance on the Sager Traction Splint.

Illustration of a Sager Traction Splint

The following is an illustration of a Sager Traction Splint.

**Sager Traction Splint Visual Inspection Procedures**

The table below lists the steps to follow when performing a visual inspection of a Sager Traction Splint:

Step	Action
1.	Inspect the overall condition of the traction splint..
2	Check for cracks, dents, bends, and corrosion paying particular attention to the dynamic spring
3.	Inspect all straps, hook and pile fasteners, fittings, and attachment hardware for condition.
4.	Stow all traction splint accessories.

Continued next page

How to Inspection/Maintain the Sager Traction Splint (Continued)5.D.10

Sager Traction Splint Monthly Inspection Procedures

The table below lists the steps to follow when performing a monthly inspection of a Sager Traction Splint:

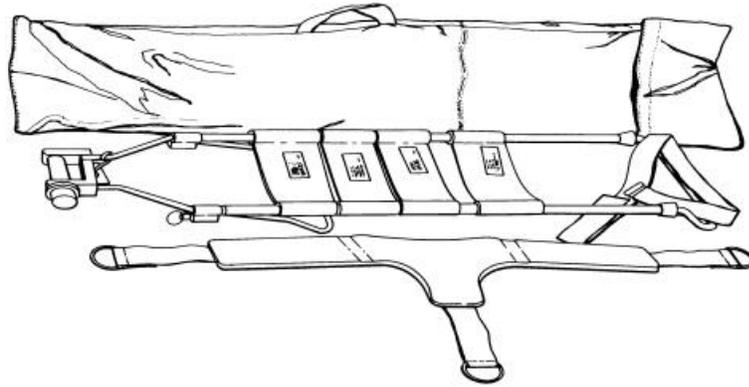
Step	Action
1.	Inspect the overall condition of the traction splint.
2.	Check for cracks, dents, bends, and corrosion paying particular attention to the dynamic spring.
3.	Inspect all straps, hook and pile fasteners, fittings, and attachment hardware for condition.
4.	Operate all mechanical parts to ensure parts move freely and can be secured in position to prevent accidental slippage.
5.	Lubricate with silicone spray or WD-40 if needed.
6.	Clean splint after each use, and when required, with mild soap and water. Allow to dry and lubricate if needed. NOTE Do not clean with an organic compound such as acetone or MEK.
7.	Stow all traction splint accessories.

Introduction

Using the information in the following assignment you should be able to perform inspections and maintenance on the Hare Traction Splint.

Illustration of a Hare Traction Splint

The following is an illustration of a Hare Traction Splint.

**Hare Traction Splint Visual Inspection Procedures**

The table below lists the steps to follow when performing a visual inspection of a Hare Traction Splint:

Step	Action
1.	Inspect the overall condition of the traction splint, checking for cracks, dents, bends, and corrosion.
2.	Inspect all straps, hook and pile fasteners, fittings, and attachment hardware for condition.
3.	Stow all traction splint accessories.

Continued next page

How to Inspection/Maintain the Hare Traction Splint (Continued) 5.D.10

Hare Traction Splint Monthly Inspection Procedures

The table below lists the steps to follow when performing a monthly inspection of a Hare Traction Splint:

Step	Action
1.	Inspect the overall condition of the traction splint, checking for cracks, dents, bends, and corrosion
2.	Inspect all straps, hook and pile fasteners, fittings, and attachment hardware for condition.
3.	Operate all mechanical parts to ensure parts move freely and can be secured in position to prevent accidental slippage, and forms a tight fit.
4.	Clean splint after each use, and when required, with mild soap and water. Allow to dry thoroughly.
5.	Lubricate with a fine film of petroleum as required.
5.	Stow all traction splint accessories.

Reel Traction Splint Visual Inspection Procedures

The table below lists the steps to follow when performing a visual inspection of a Reel Traction Splint:

Step	Action
1.	Inspect the overall condition of the traction splint, checking for cracks, dents, bends, and corrosion.
2.	Inspect all straps, hook and pile fasteners, fittings, and attachment hardware for condition.
3.	Stow all traction splint accessories.

Reel Traction Splint Monthly Inspection Procedures

The table below lists the steps to follow when performing a monthly inspection of a Reel Traction Splint:

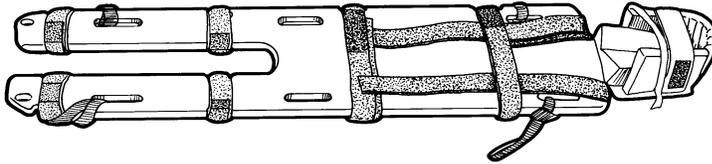
Step	Action
1.	Inspect the overall condition of the traction splint, checking for cracks, dents, bends, and corrosion
2.	Inspect all straps, hook and pile fasteners, fittings, and attachment hardware for condition.
3.	Operate all mechanical parts to ensure parts move freely and can be secured in position to prevent accidental slippage, and forms a tight fit.
4.	Clean splint after each use, and when required, with mild soap and water. Allow to dry thoroughly.
5.	Lubricate all moving parts with a fine film of petroleum as required.
6.	Stow all traction splint accessories.

Introduction

This assignment covers the inspections and maintenance requirements for the Full-Body Litter/Splint (commonly called the “Miller Board”). The Miller Board is replacing the Neil Roberts Stretcher.

Illustration of a Miller Board

The following is an illustration of a Miller Board.

**Miller Board Inspection Requirements**

Inspection and maintenance requirements of a Miller Board shall be as follows:

- **Visual Inspection:** When assuming the Rescue Swimmer duty
- **Monthly Inspection:**
 - On acceptance (placing into service)
 - After each use
 - Once a month

NOTE

A qualified EMT, if available, should inspect the Miller Board. If an EMT is not available, medical personnel should inspect the equipment.

Introduction

Using the information in the following assignment you should be able to perform inspections and maintenance on the Miller Board.

**Miller Board
Visual Inspection
Procedures**

The table below lists the steps to follow when performing a visual inspection of a Miller Board:

Step	Action
1.	Inspect the overall condition of the device and for the presence of mold or mildew.
2.	Inspect all straps for secure attachment, cuts, tears, frayed fabric, and hook and pile fastener tape.
3.	Stow Miller Board in accordance with unit procedures.

**Miller Board
Monthly
Inspection
Procedures**

The table below lists the steps to follow when performing a monthly inspection of a Miller Board:

Step	Action
1.	Inspect the overall condition of the device and for the presence of mold or mildew.
2.	Inspect all straps for secure attachment, cuts, tears, frayed fabric, and hook and pile fastener tape.
3.	Clean splint after each use, and when required, with mild soap and water. Allow to dry thoroughly.
4.	Stow Miller Board in accordance with unit procedures.

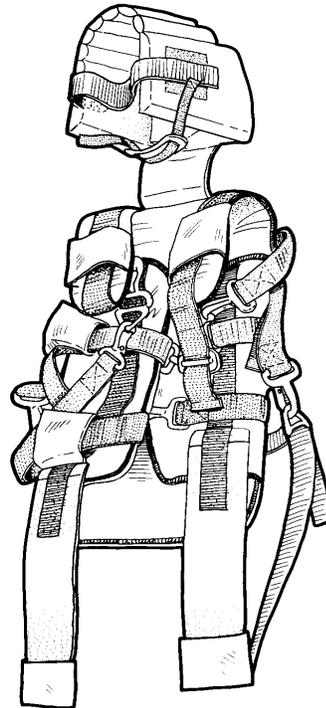
Half-Back Extraction/Lifting Harness Inspections and Maintenance

Introduction

Using the information in the following assignment you should be able to perform inspections and maintenance on the Half Back Extraction Lifting Harness.

Illustration of a Half Back Extraction Lifting Harness

The following is an illustration of a Half Back Extraction Lifting Harness.



Half Back Extraction Lifting Harness Inspection Requirements

Inspection and maintenance requirements of a Half Back Extraction Lifting Harness shall be as follows:

- **Visual Inspection:** When assuming the Rescue Swimmer duty
- **Monthly Inspection:**
 - On acceptance (placing into service)
 - After each use
 - Once a month

NOTE

A qualified EMT, if available, should inspect the Half Back Extraction Lifting Harness. If an EMT is not available, medical personnel should inspect the equipment.

5.D.10

How to Inspection/Maintain the Half Back Extraction/Lifting Harness

Half Back Extraction Lifting Harness Visual Inspection Procedures

The table below lists the steps to follow when performing a visual inspection of a Half Back Extraction Lifting Harness:

Step	Action
1.	Inspect the overall condition of the device and for the presence of mold or mildew.
2.	Inspect all straps for secure attachment, cuts, tears, frayed fabric, and hook and pile fastener tape.
3.	Stow Half Back Extraction Lifting Harness in accordance with unit procedures.

Half Back Extraction Lifting Harness Monthly Inspection Procedures

The table below lists the steps to follow when performing a monthly inspection of a Half Back Extraction Lifting Harness:

Step	Action
1.	Inspect the overall condition of the device and for the presence of mold or mildew.
2.	Inspect all straps for secure attachment, cuts, tears, frayed fabric, and hook and pile fastener tape.
3.	Clean splint after each use, and when required, with mild soap and water. Allow to dry thoroughly.
4.	Stow Half Back Extraction Lifting Harness in accordance with unit procedures.

5.D.10 Inspection and Maintenance of EMT Equipment Self-Quiz

Questions

1. Who is responsible for performing the Duty Day EMT Equipment inspection? _____
2. List when the EMT equipment is required to be inspected.
 - a. _____
 - b. _____
 - c. _____
 - d. _____
3. Who is authorized to perform EMT equipment inspections?

4. What item is operationally checked when performing a Visual Inspection on the Thomas Pack?
 - a. Pneumatic Splint
 - b. Sphygmometer
 - c. Flashlight
 - d. Ladder Splint
5. How is the Thomas Pack cleaned?
 - a. Dry cleaned
 - b. Spot clean with MEK, then wash in mild soapy water, fresh water rinse, and dry
 - c. Simple Green and water, and dry
 - d. Wash in mild soapy water, fresh water rinse, and dry
6. When turning on the Airway Oxygen Kit, turn the handwheel counterclockwise at least _____ turn(s)?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
7. Always use a new _____ when refilling a Airway Oxygen Kit cylinder?
 - a. Post Valve
 - b. Anti-seizing pad
 - c. O-ring
 - d. Snap-ring

Continued next page

**Questions
(Continued)**

8. Store Pneumatic Anti-Shock pants with all valves ____?
 - a. closed
 - b. Open
 - c. Pinned closed
 - d. Pinned open

 9. Repairs to the Pneumatic Anti-Shock pants are limited to ____.
 - a. replacing Velcro
 - b. replacing valves
 - c. patching the bladder
 - d. replacing the bladder

 10. When inspecting the Sager Traction Splint, pay particular attention to the ____.
 - a. Crotch Pad
 - b. Ankle Strap attachment point
 - c. Compression Snap
 - d. Dynamic Spring

 11. All mechanical parts of the Sager Traction Splint are lubricated with silicone spray or ____ if needed.
 - a. petroleum jelly
 - b. Breakfree
 - c. WD-40
 - d. MIL-L-7870
-

5.D.10

Inspection and Maintenance of EMT Equipment Self-Quiz Feedback

Feedback

Compare your answers to the feedback provided below. If you had trouble with this self-quiz, please review the appropriate section of this assignment.

(1) Mandatory Special Requirement (MSR) Maintenance Procedure Card (MPC) 256120.0

Question	Answer	Reference
1.	The person assuming the Rescue Swimmer duty.	3
2.	a. When assuming the Rescue Swimmer duty b. On acceptance (placing in service) c. After each use d. Once a month	
3.	A qualified EMT, if available. If an EMT is not available, medical personnel should inspect the equipment.	4
4.	c	5
5.	d	5
6.	a	12
7.	c	13
8.	b	(1)
9.	d	(1)
10.	d	18
11.	c	18

Performance	INSPECT and MAINTAIN Coast Guard Emergency Medical Technician (EMT) equipment.
Performance Objective 1	Given an Aviation EMT Medical Kit Bag and the necessary equipment, PERFORM an inspection and replace equipment as necessary IAW the Coast Guard Rescue & Survival Systems Manual, COMDTINST M10470.10 (series). 
Performance Objective 2	Given an EMT Airway Oxygen Kit and the necessary equipment, PERFORM inspections and servicing IAW the Coast Guard Rescue & Survival Systems Manual, COMDTINST M10470.10 (series). 
Performance Objective 3	Given a pair of Pneumatic Anti-Shock Garment and the necessary equipment, PERFORM visual and leak inspections IAW the applicable MSR MPC. 
Performance Objective 4	Given a Traction Splint and the necessary equipment, PERFORM a visual inspection IAW the Coast Guard Rescue & Survival Systems Manual, COMDTINST M10470.10 (series). 
Performance Objective 5	Given a Miller Body Board and the necessary equipment, PERFORM a visual inspection IAW the Coast Guard Rescue & Survival Systems Manual, COMDTINST M10470.10 (series). 

Introduction

As an AST, you will be tasked with design and fabrication of special bags and covers for survival equipment and aviation ground support equipment. Having previously received training in this subject in AST “A” School, no additional training other than the performance objectives sign-off, will be included in this course. Additional information about this subject may be found in the Federal Standard 751A, Stitches, Seams, and Stitching Manual. There will be no questions asked on this End-of-Course Test in regard to this qualification, although you may have questions on this qualification on the Service-Wide Exam.

Performance

DESIGN and FABRICATE special bags and covers.

**Performance
Objective 1**

Given a project requiring the design and fabrication of a special bag and/or cover for survival equipment, **COMPLETE** the project using appropriate design and fabrication procedures.

**Performance
Objective 2**

Given a project requiring the design and fabrication of a special bag and/or cover for aviation ground support equipment, **COMPLETE** the project using appropriate design and fabrication procedures.



APPENDIX A, PAMPHLET REVIEW QUIZ

1. The technical librarian should issue an audit report to each shop every _____ months.
 - A. two
 - B. three
 - C. four
 - D. six

2. The shop technical publications audit should be completed within _____ working days.
 - A. 5
 - B. 10
 - C. 15
 - D. 20

3. Which form would be used to request a correction to the CGTO 1H-65A-1 flight manual?
 - A. AFTO Form 103
 - B. CG-22
 - C. CG-4377
 - D. AF Form 847

4. Specific inspection requirements for each aircraft type can be found in which of the following Commandant Instructions?
 - A. M3710.1 (series)
 - B. M3710.2 (series)
 - C. M13020.1 (series)
 - D. M130550.1 (series)

5. Which of the following inspections is categorized as a routine inspection?
 - A. Hourly/Weekly
 - B. TCTO
 - C. Bird Strike
 - D. Hard Landing

6. Special inspections are maintenance checks that _____.
 - A. are accomplished on a regular or scheduled basis and appear on the Maintenance Due List
 - B. are conditional upon operational environment, specific incidents, or other circumstances requiring inspections
 - C. provide servicing and verification of satisfactory functioning of critical systems at frequent intervals
 - D. determine if the aircraft is suitable for continued flight at the end of each flight and are tracked through ACMS

7. If a maintenance procedure requires a follow-up special inspection, it is scheduled on which form?
 - A. CG-4377, Part II
 - B. CG-4377B
 - C. CG-4377A
 - D. CG-5181

APPENDIX A, PAMPHLET REVIEW QUIZ

8. Applicability of a TCTO is determined by the ____.
- A. Commandant (G-SEA)
 - B. Engineering officer at each unit
 - C. Aircraft type Prime Unit
 - D. Aircraft Standardization Team
9. To track compliance, a TCTO will appear on which ACMS report?
- A. How Gozit Report
 - B. Maintenance Due List (MDL)
 - C. Configuration Report
 - D. Maintenance Requirements List (MRL)
10. Which feature of an Air Force Interim TCTO serves as direction for compliance?
- A. Solid black border
 - B. Black and white diagonal border
 - C. Double heading
 - D. Heading in red ink
11. Select the group below that has the correct sequence of general Troubleshooting steps.
- A. 1. Perform an operational check
2. Isolate and locate the malfunction
3. Conduct a visual inspection
4. Classify the malfunction
5. Correct the malfunction
 Conduct a final operational check
 - B. 1. Classify the malfunction
2. Conduct a visual inspection
3. Isolate and locate the malfunction
4. Correct the malfunction
5. Perform an operational check
 Conduct a final operational check
 - C. 1. Conduct a visual inspection
2. Perform an operational check
3. Classify the malfunction
4. Isolate and locate the malfunction
5. Correct the malfunction
 Conduct a final operational check
 - D. 1. Isolate and locate the malfunction
2. Conduct a visual inspection
3. Perform an operational check
4. Classify the malfunction
5. Correct the malfunction
6. Conduct a final operational check

APPENDIX A, PAMPHLET REVIEW QUIZ

12. Using the troubleshooting scenario below, select from the list of general troubleshooting steps the next step that should be performed.
- You are the technician working on a LRU-20/A life raft. You have filled the raft to the required test pressure, you return, after one hour, and notice the canopy support is drooping.
- In reference to the general troubleshooting guidelines, what should be your next step?
- A. Perform an operational check
 - B. Isolate and locate the malfunction
 - C. Classify the malfunction
 - D. Conduct a visual inspection
13. Select the general troubleshooting step that involves this general troubleshooting guideline characteristic: “verifying the suspect component”.
- A. Isolate and locate the malfunction
 - B. Classify the malfunction
 - C. Perform an operational check
 - D. Conduct a visual check
14. Repeated daily use of a chemical is best defined as _____ exposure.
- A. acute
 - B. chronic
 - C. chronograph
 - D. dielectric
15. Who is responsible for ensuring that the guidelines of the Respiratory Protection Program are being followed?
- A. The individual and the individual’s supervisor
 - B. Safety officer
 - C. Hazmat officer
 - D. Quality assurance
16. When wearing an air-purification respirator, you must ensure that it is used in areas where the oxygen concentration is _____ percent.
- A. 7.5
 - B. 10.0
 - C. 14.9
 - D. 19.5
17. Which effect on the body is not caused by high noise levels?
- A. Light headedness
 - B. Shortness of breath
 - C. Nausea
 - D. Rise in blood cholesterol level
18. The noise reduction rating (NRR) for a set of hearing protection is best defined as the _____.
- A. effectiveness of protection offered
 - B. thickness of protection
 - C. tensile strength of the protection device
 - D. EPA requirement for noise abatement

APPENDIX A, PAMPHLET REVIEW QUIZ

19. The current value that is usually fatal as a result of an electrical shock is _____ milliamperes.
- A. 1
 - B. 4
 - C. 14
 - D. 140
20. Which body organs are most sensitive to RF radiation?
- A. Brain and heart
 - B. Heart and lungs
 - C. Eyes and liver
 - D. Eyes and testicles
21. Who may authorize realignment-type repairs to the folding stokes litter?
- A. AST shop supervisor
 - B. Commanding Officer
 - C. Local district
 - D. G-SEA
22. The M/J basket can have four parts replaced. Three are listed, but what is the fourth, plastic insert, cable, bail restraint cables?
- A. Bail
 - B. Flotation Devices and Covers
 - C. Steel Tubing
 - D. Wood Slats
23. When repair welding of the M/J Rescue Basket or the Folding Stokes Litter is required, what manual is used for guidance.
- A. NAVAIR 01-01-1A
 - B. NAVAIR 1-1-1A
 - C. NAVAIR 1-01-1
 - D. NAVAIR 01-1A-1
24. What is the only authorized repair for the Survivors Strop?
- A. Replacement of flotation
 - B. Restitching of fabric covering
 - C. Restitching of webbing
 - D. Replacement of hardware
25. What is the minimum extension of cable from the compression sleeves of the M/J Rescue Basket?
- A. 1/16 in.
 - B. 1/8 in.
 - C. 1/4 in.
 - D. 1/2 in.
26. What is the tolerance for the Hoisting Sling compression sleeves?
- A. .275 - .375 in.
 - B. .300 - .400 in.
 - C. .372 - .405 in.
 - D. 375 - .405 in.

APPENDIX A, PAMPHLET REVIEW QUIZ

27. What type stitch is used when double patching a parachute canopy?
- A. 301
 - B. 325
 - C. 501
 - D. 525
28. What should never be used to cut core lines protruding through the sleeve of a suspension line?
- A. Scissors
 - B. Razor
 - C. Hot knife
 - D. Pocket knife
29. What is recommended to be used for holding suspension lines when a connector links need replacement?
- A. Another connector link
 - B. A pencil
 - C. A Ball point pen
 - D. A retractable ball point pen
30. The nylon webbing used to fabricate the ADS riser assembly is type _____.
- A. Type IV
 - B. Type V
 - C. Type VI
 - D. Type VIII
31. When the butterfly snaps are sewn in place, how are they positioned?
- A. Snap portions facing away from each other
 - B. Snap portions facing back-to-back
 - C. Snap portions facing each other
 - D. It doesn't matter how they face
32. Before attaching the ADS trail line bib to the ADS deployment bag, what must be done to the bag?
- A. Wash it in a mild soap and allowed to dry
 - B. Turn it inside out
 - C. Measure the length of the rubber bands
 - D. Nothing
33. How many compression sleeves are used on the ADS assembly?
- A. 1
 - B. 2
 - C. 3
 - D. 4
34. What tool is used to compress the compression sleeves on the ADS assembly?
- A. Vise grips
 - B. Full court press
 - C. Nicopress
 - D. Pliers

APPENDIX A, PAMPHLET REVIEW QUIZ

35. What two pieces of hardware are used to route the cable that connects the riser assembly to the 28-foot ADS assembly?
- A. D-ring to connector link
 - B. D-ring to V ring
 - C. D-ring to D ring
 - D. V-ring to connector link
36. After you have replaced the carburetor and the CG-P1B Salvage pump has warmed up, in what position do you place the governor speed control for fine tuning the carburetor.
- A. Fast
 - B. Slow
 - C. Idle
 - D. Start
37. What could cause poor compression while operating the CG-P1B salvage pump?
- A. Cylinder head gasket blown or leaking
 - B. Valves sticking or not seating properly
 - C. Outlet hose has hole in gasket
 - D. Both A and B
38. When removing the cylinder head from the CG-P1B salvage pump, what is the most important thing to remember?
- A. Use a torque wrench when tightening the screws.
 - B. Remember the location the screws were removed from.
 - C. Disassemble only after the pump has cooled.
 - D. Use the same screws as were removed.
39. You have started the CG-P1B salvage pump but it will not prime. You notice there is a hole in the diaphragm. What needs to be replaced?
- A. Diaphragm
 - B. Pump primer assembly
 - C. Discharge hose
 - D. Inlet hose
40. You have started the CG-P1B salvage pump but it will not hold prime. You notice the discharge hose rubber sleeve is not covering the check valve completely. What needs to be replaced?
- A. Check valve
 - B. Rubber sleeve
 - C. Discharge hose
 - D. Nothing, just ensure the rubber sleeve covers the check valve

APPENDIX A, PAMPHLET REVIEW QUIZ

41. You have the CG-P1B Salvage pump running but there seems to be very little water coming from the discharge hose. What could be the problem?
- A. Impeller plugged
 - B. Hole in suction line
 - C. Discharge hose kinked
 - D. Any of the above
42. The temperature is 50 degrees outside. What weight oil should be used in the CG-P1 salvage pump?
- A. 5W30
 - B. 10W40
 - C. 20W50
 - D. SAE30
42. How much oil should be used to fill the CG-P1 salvage pump crankcase?
- A. 1 pint
 - B. 1 ½ pint
 - C. 1 quart
 - D. Enough to fill the crankcase to the base of the fill port
43. What is the correct CG-P1 salvage pump spark plug gap measurement?
- A. .025 in.
 - B. .030 in.
 - C. .035 in.
 - D. .036 in.
44. What is used to attach the CG-P1 salvage pump instruction card to the flashlight?
- A. Rubber band
 - B. Type I nylon cord
 - C. Guttered Type III nylon cord
 - D. # 6 cord
45. Where do you attach the extra CG-P1 salvage pump suction hose gasket?
- A. To the suction hose
 - B. To the discharge hose
 - C. Underneath the pump container lid
 - D. To the pump primer handle
46. What is used to secure the CG-P1 salvage pump primer handle retaining nut?
- A. MIL-E-8802 epoxy
 - B. MIL-A-8606 glue
 - C. Thread locker-high strength
 - D. MIL-L-2912
47. Where do you attach the extra CG-P1 salvage pump starter rope?
- A. Primer handle
 - B. Container handle
 - C. Gas can handle
 - D. Pump handle

APPENDIX A, PAMPHLET REVIEW QUIZ

48. What is done with the original ADR life raft container V-rings?
- A. Remain in place
 - B. Sear cut off the container
 - C. Remove two only
 - D. Remove one only
49. What is done with the rope pocket on the bottom of the ADR container?
- A. Remove and discarded
 - B. Nothing
 - C. Sewn closed
 - D. Speedy rivet shut
50. What color is the snap hook painted on the ADR-6 inflation lanyard?
- A. Chartreuse
 - B. Mauve
 - C. Green
 - D. Yellow
51. What is done with the topping-off valves that have been removed from a new LRU-20/A?
- A. They are kept for later use
 - B. They are discarded
 - C. They are reinstalled prior to inflating life raft
 - D. They are placed in the survival equipment pouch
52. After build-up procedures are completed and before attaching the inflation hose to the life raft, what should be done.
- A. Insure the 24-hour leak check is finished
 - B. Check shop temperature and humidity
 - C. Deflate the life raft
 - D. Inventory the survival items
53. When fitting an aircrew member for an ADC, how high shall the chair seat be for taking the “sitting inseam” measurement?
- A. 17+/-1 inches
 - B. 17+/-2 inches
 - C. 18+/-2 inches
 - D. 19+/-2 inches
54. What is used as a sizing guide for fitting the anti-exposure socks?
- A. Flight boot
 - B. Wool socks
 - C. Bare foot
 - D. Normal shoe size

APPENDIX A, PAMPHLET REVIEW QUIZ

55. While working on inflated float bags in the shop, what protection should you wear?
- A. Snorkel and mask
 - B. Flack jacket
 - C. Hearing and eye
 - D. Wet suit and booties
56. What type of pressurized air shall be used to test the float bags?
- A. Class A type II
 - B. Regulated 40 psi
 - C. Regulated 40 psi, filtered and free of moisture and oil
 - D. Regulated 60 psi, filtered and free of moisture and oil
57. Other than cleaning, what other shop level maintenance can be done to keep the EROS oxygen mask operational?
- A. Replace the delivery hose
 - B. Replace the clear face shield
 - C. Replace the regulator
 - D. Nothing
58. Which aircraft is the full face smoke mask used in?
- A. HU-25
 - B. RG-8
 - C. HH-60
 - D. C-130
59. What repairs are authorized to the contents of the Thomas Pack?
- A. Repair damaged items
 - B. Sew cuts in B/P cuff cover
 - C. Replace any damaged items
 - D. Reseal open packages
60. What is done with a Thomas Pack that is contaminated with hydraulic fluid?
- A. Replace the entire pack with a new pack
 - B. Wash the pack with a high-pressure hose
 - C. Wash the pack using mild soapy water
 - D. Spray the pack with MIL-PD680

APPENDIX A, PAMPHLET REVIEW QUIZ

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APPENDIX B, PAMPHLET REVIEW QUIZ ANSWER KEY

QUESTION	ANSWER	REFERENCE
1.	C	5.A.03c Pg. 4
2.	A	5.A.03c Pg. 10
3.	D	5.A.04c Pg. 13
4.	C	5.B.01c Pg. 3
5.	A	5.B.01c Pg. 4
6.	B	5.B.01c Pg. 6
7.	D	5.B.01c Pg. 8
8.	A	M13020.1(series)
9.	B	M13020.1(series)
10.	C	M13020.1(series)
11.	C	5.D.GTG Pg. 3
12.	A	5.D.GTG Pg. 5
13.	A	5.D.GTG Pg. 8
14.	B	5.D.01c Pg. 14
15.	A	5.D.01c Pg. 20
16.	D	5.D.01c Pg. 23
17.	B	5.D.01c Pg. 30
18.	A	5.D.01c Pg. 34
19.	D	5.D.01c Pg. 38
20.	D	5.D.01c Pg. 42
21.	A	ACMS 256028.0
22.	B	ACMS 256022.0
23.	D	ACMS 256028.0
24.	B	ACMS 256006.0
25.	B	ACMS 256022.0
26.	D	ACMS 256028.0
27.	A	M13520.0(series)
28.	C	M13520.1(series)

APPENDIX B, PAMPHLET REVIEW QUIZ ANSWER KEY

QUESTION	ANSWER	REFERENCE
29.	D	M13520.1(series)
30.	D	ACMS 259001.0
31.	C	ACMS 259001.0
32.	B	ACMS 259001.0
33.	C	ACMS 259001.0
34.	C	ACMS 259001.0
35.	C	ACMS 259005.0
36.	A	Briggs & Stratton
37.	D	Briggs & Stratton
38.	B	Briggs & Stratton
39.	B	Briggs & Stratton
40.	D	Briggs & Stratton
41.	D	Briggs & Stratton
42.	D	Briggs & Stratton
43.	B	Briggs & Stratton
44.	B	ACMS 256038.0
45.	C	ACMS 256038.0
46.	C	ACMS 256038.0
47.	C	ACMS 256038.0
48.	B	ACMS 256098.0
49.	A	ACMS 256098.0
50.	D	ACMS 256098.0
51.	B	ACMS 256098.0
52.	C	ACMS 256098.0
53.	C	ACMS 256118.0
54.	D	ACSM 256118.0
55.	C	ACMS 25600.7

APPENDIX B, PAMPHLET REVIEW QUIZ ANSWER KEY

QUESTION	ANSWER	REFERENCE
56	C	M13520.1(series)
57.	D	ACMS 351010.0
58.	D	ACMS 351001.0
59.	C	5.D.10 Pg. 7
60.	C	5.D.10 Pg. 7

APPENDIX C REFERENCES

<u>Publication Number</u>	<u>Publication Name</u>
ACMS Index HH-60J	Maintenance Procedure Cards
ACMS Index HH-65A	Maintenance Procedures Cards
MSR Index ALSE	Maintenance Procedure Cards
CGTO PG-85-00-50	Technical Information Management and Ordering Systems (TIMOS)
CGTO PG-85-00-40	Aeronautical Engineering TCTO Process Guide
CGTO PG85-00-20	CG-22 Process Guide
COMDTINST M3710.1 (series)	Air Operations Manual
COMDTINST M10550.25 (series)	Electronics Manual
COMDTINST M11000.11 (series)	Civil Engineering Manual
COMDTINST M13020.1 (series)	Aeronautical Engineering Maintenance Management Manual
COMDTINST M13520.1 (series)	Aviation Life Support Systems Manual
COMDTINST M1414.8 (series)	Enlisted Qualifications Manual
COMDTINST M16478.1 (series)	Hazardous Waste Management Manual
COMDTINST M4200.13	Small Purchase Handbook
COMDTINST M4500.5	Personal, Property Management Manual
COMDTINST M5100.47 (series)	Safety and Environmental Health Manual
COMDTINST M6000.3 (series)	First Aid and Health Lesson Plans
COMDTINST M6260.2 (series)	Technical Guide: Practices For Respiratory Protection
Current Edition	The Coast Guardsman's Manual
SW050-AB-MMA-010	Pyrotechnic Screening, Marking and Countermeasure Devices Manual
COMDTINST M10470.10 (series)	Coast Guard Rescue & Survival Systems Manual

APPENDIX C REFERENCES

<u>Publication Number</u>	<u>Publication Name</u>
Federal Standards 751A	Stitches, Seams, and Stitching
MRNSPO 0458 (series)	Military Requirements For Becoming a Senior Petty Officer
N/A	Briggs & Stratton Repair Manual
61.000.262	Scot CG-P1 Operations - Parts List - Maintenance, Technical Manual
Current Edition	The Parachute Manual (Poynter)

APPENDIX C REFERENCES

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APPENDIX D, STUDENT FEEDBACK FORM

Instructions

Please use this form for any feedback you may have concerning this course. Submit your recommendations IAW instructions on page D-2. Note: Use the reverse side of this page if more space is needed.

How?

Note your suggestions, corrections, and comments below:

Page	Location on Page	Recommendations

Your Comments

If you were writing this pamphlet, what improvements would you make? What was good about it? What didn't you understand? Please be specific in your comments/suggestions.

To Contact You

Please provide the following information so that we can contact you if needed.

Name	Unit	Phone
		()

APPENDIX D, STUDENT FEEDBACK FORM

**Submit
Suggestions**

After completing this form please mail, FAX, or phone your
information to:

Commanding Officer
U.S. Coast Guard Aviation
Technical Training Center
Attn: AST Subject Matter Specialist (NRT)
Elizabeth City, NC 27909-5003

PHONE: (252) 335-6418
FAX:(252) 335-6103

RECORD OF PERFORMANCE QUALIFICATIONS

DEPARTMENT OF
TRANSPORTATION
U.S. COAST GUARD

AST

INSTRUCTIONS

Record of Performance Qualifications shall be completed for enlisted personnel of the Coast Guard and the Coast Guard Reserve as outlined in the Enlisted Qualifications Manual (COMDTINST M1414.8, series). As proficiency in each performance qualification is demonstrated, the DATE and INITIALS column shall be completed. Personnel are required to demonstrate proficiency in all new qualifications assigned to their rating. Qualifications previously demonstrated, dated and initialed off will not be recertified.

Prior to commencement of ADT, the member's Reserve Unit shall indicate, by circling in red, those qualifications which cannot be completed during inactive duty and should be completed on ADT.

Rating		Abbreviation
AVIATION SURVIVAL TECHNICIAN		AST
Date completed all performance qualifications for Rate Level.		
E-4	E-5	E-6
E-7	E-8	E-9
NAME (Last, First, Middle Initial)		Social Security Number

PREVIOUS EDITION IS OBSOLETE
LOCAL REPRO AUTH

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
Major Duty: A. Administrative Duty			
Task:			
4.A.01c	COMPLETE the Coast Guard Aviation Airman Syllabus.		
4.A.01	DEVELOP and DELIVER performance based rate related instruction IAW approved training methods.		
5.A.01c	COMPLETE assigned aircraft Aircrewmember Syllabus.		
5.A.02c	ORDER aircraft parts IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and local station instructions.		
5.A.03c	AUDIT technical publications and directives IAW the Technical Information, Management and Ordering System (TIMOS) User Process Guide, CGTO PG-85-00-50.		
5.A.04c	SUBMIT aircraft publication change requests IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and local station instructions.		
5.A.01	INSTRUCT aircrew members in the proper care, handling, and safe use of the following IAW Aviation Life Support Systems Manual, COMDTINST M13520.1 (series); Pyrotechnic Screening, Marking, and Countermeasure Devices Manual, NAVAIR 11-15-7; and applicable publications: <ol style="list-style-type: none"> 1. Aviation flight clothing 2. Aerial Delivery Systems (ADS) 3. Air Drop Rafts (ADR) 4. Survival equipment 5. Rescue equipment 6. Emergency equipment 7. Aviation pyrotechnics 8. 		
5.A.02	BRIEF passengers in the safe use of aviation flight clothing and survival equipment IAW Aviation Life Support Systems Manual, COMDTINST M13520.1 (series) and the Coast Guard Air Operations Manual, COMDTINST M3710.1 (series)		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
5.A.03	INSTRUCT aircrew members in the proper procedures for aircraft emergency egress and survival IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series).		
6.A.01c	REVIEW discrepancy information from aircraft records and DETERMINE appropriate action IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and local station instructions.		
6.A.02c	PROCURE parts, tools, and other materials IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and the Small Purchase Handbook, COMDTINST M4200.13 (series).		
6.A.03c	PREPARE shop and aircrew training schedules IAW the Air Operations Manual, COMDTINST M3710.1 (series) and the Training and Education Manual, COMDTINST M1550.10 (series).		
6.A.04c	DIRECT personnel in the safe handling and disposal of hazardous material IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series); the Safety and Environmental Health Manual, COMDTINST 5100.47 (series); applicable Material Safety Data Sheets (MSDS); and state and local regulations.		
6.A.05c	ANALYZE Aviation Computerized Maintenance System (ACMS) component history data to identify trends and problem areas IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series).		
6.A.06c	ORDER technical publications, directives, and manuals applicable to rating IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series); the Directives, Publications, and Reports Index, COMDTNOTE 5600.0; and the Technical Information, Management and Ordering System (TIMOS) User Process Guide, CGTO PG-85-00-50.		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
6.A.01	PREPARE a plan to prevent deterioration of pyrotechnics IAW the Small Arms Manual, COMDTINST M8370.11 (series) and the Pyrotechnic Screening, Marking and Countermeasure Devices Manual, SW050-AB-MMA-010.		
6.A.02	ORGANIZE and IMPLEMENT local Rescue Swimmer training program IAW the Coast Guard Helicopter Rescue Swimmer Manual, COMDTINST M3710.4 (series).		
6.A.03	PREPARE pyrotechnic requisitions IAW the Small Arms Manual, COMDTINST M8370.11 (series) and the Conventional Ammunition Integrated Management System (CAIMS) SPCCINST 8010.12.		
6.A.04	PREPARE ammunition transaction reports IAW the Small Arms Manual, COMDTINST M8370.11 (series) and the Conventional Ammunition Integrated Management System (CAIMS) SPCCINST 8010.12.		
7.A.01c	ESTABLISH local safety procedures and standards for unit Aviation Engineering Department IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and applicable publications.		
7.A.02c	MANAGE rate-related Aviation Computerized Maintenance IAW the ACMS User's Guide, CGTO PG 85-00-10 and the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series).		
7.A.03c	PREPARE aircraft reports IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series).		
7.A.06c	MANAGE shop inventory processes IAW applicable publications.		
7.A.01	MANAGE unit Rescue Swimmer flight requirements IAW the Coast Guard Air Operations Manual, COMDTINST M3710.1 (series) and the Coast Guard Helicopter Rescue Swimmer Manual, COMDTINST M3710.4 (series).		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
8.A.01c	REVIEW applicable rating qualification codes and SUBMIT written recommendations to the Program Managers (G-SEA) IAW the Coast Guard Qualification Codes Manual, COMDTINST M1414.9 (series).		
8.A.02c	REVIEW unit aircrew flight requirements IAW the Air Operations Manual, COMDTINST M3710.1 (series) and the Coast Guard Pay Manual, COMDTINST M7220.29 (series).		
8.A.03c	REVIEW unit personnel qualification codes and UPDATE the Personnel Management Information System (PMIS) data base IAW the Qualifications Codes Manual COMDTINST M1414.9 (series).		
8.A.04c	MANAGE unit Aviation Engineering personnel duty assignments IAW station instructions and standing orders.		
8.A.05c	MANAGE unit Aviation Enlisted Assignment Process IAW the Personnel Manual, COMDTINST M1000.6 (series).		
8.A.06c	PREPARE budget requests IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and the Manual of Budgetary Administration, COMDTINST M7100.3 (series).		
8.A.07c	REVIEW unit Personnel Allowance List (PAL) to ensure it reflects unit staffing needs IAW the Enlisted Qualifications Code Manual, COMDTINST M1414.9 (series) and the Coast Guard Staffing Standards Manual, COMDTINST M5312.11 (series).		
9.A.01c	REVIEW rate-related performance qualifications and SUBMIT written recommendations to the Coast Guard Training Managers (G-WTT) and Program Managers (G-SEA) IAW the Enlisted Qualifications Manual, COMDTINST M1414.8 (series).		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
Major Duty: B. Aircraft Maintenance			
Task:			
4.B.01	INSPECT aircraft safety belts, shoulder harnesses, and inertia reels IAW applicable publications.		
5.B.01c	PERFORM special inspections of aircraft and aviation equipment IAW the Aviation Computerized Maintenance System (ACMS).		
5.B.02c	PERFORM authorized modifications of aircraft and aviation equipment IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and the Aviation Computerized Maintenance System (ACMS).		
6.B.01c	DIRECT line crew operations IAW the Aviation Computerized Maintenance System (ACMS) and local station instructions		
Major Duty: C. General Aviation			
Task:			
7.C.01c	REVIEW the unit aircraft salvage plan IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series); Shipboard-Helicopter Operational Procedures Manual, COMDTINST M3710.2 (series); applicable aircraft manuals; and local station instructions.		
7.C.02c	DIRECT Quality Assurance (QA) inspections IAW the Aviation Computerized Maintenance System (ACMS); the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series); and applicable publications.		
7.C.03c	PREPARE the following types of local maintenance instructions IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series). <ul style="list-style-type: none"> 1. Continuing Action Maintenance Instruction (CAMI) 2. Single Action Maintenance Instruction (SAMI) 3. Technical Information Maintenance Instruction (TIMI) 		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION TECHNICIAN (AST)		Date	Initials
Major Duty: D. Shop Maintenance			
Task:			
4.D.01	INSPECT aviation rescue equipment IAW applicable publications.		
4.D.02	INSPECT aerial delivery equipment kits IAW applicable publications.		
4.D.03	INSPECT all personal issue protective flight equipment IAW the Aviation Life Support Manual, COMDTINST M13520.1 (series) and applicable publications.		
4.D.04	REPAIR all personal issue protective flight equipment IAW the Aviation Life Support Manual, COMDTINST M13520.1 (series) and applicable publications.		
4.D.05	INSPECT inflatable equipment IAW the Aviation Life Support Manual, COMDTINST M13520.1 (series) and applicable publications.		
4.D.06	REPAIR inflatable equipment IAW the Aviation Life Support Manual, COMDTINST M13520.1 (series) and applicable publications.		
4.D.07	INSPECT 12 and 28 foot Aerial Delivery Systems (ADS) IAW applicable publications.		
4.D.08	STORE and HANDLE pyrotechnics and cartridge-activated devices IAW Small Arms Manual, COMDTINST M8370.11 (series) and NAVSEA OP-5 volume 1.		
4.D.09	INSPECT and MAINTAIN personal issue Rescue Swimmer equipment IAW the Aviation Life Support Manual, COMDTINST M13520.1 (series) and applicable publications.		
4.D.10	FABRICATE utility webbing assemblies IAW applicable publications.		
4.D.11	INSPECT aircraft oxygen masks IAW applicable publications.		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
4.D.12	INSPECT magazines, ready service lockers, and storage facilities IAW Small Arms Manual, COMDTINST M8370.11 (series).		
4.D.13	ADJUST the timing on medium-duty industrial sewing machines IAW the applicable sewing machine service manual or Sewing Machine Manual, AFTO 34Y7-1-101.		
4.D.14	LUBRICATE medium and heavy-duty industrial sewing machines IAW the applicable sewing machine service manual or Sewing Machine Manual, AFTO 34Y7-1-101.		
5.D.01c	INSTRUCT personnel in shop safety procedures IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1(series); the Safety and Environmental Health Manual, COMDTINST M5100.47 (series); and other applicable publications.		
5.D.01	REPAIR aviation rescue equipment IAW applicable publications.		
5.D.02	REPAIR 12 foot and 28 foot Aerial Delivery Systems (ADS) IAW applicable publications.		
5.D.03	BUILD UP 12 foot and 28 foot Aerial Delivery Systems (ADS) IAW applicable publications.		
5.D.04	REPAIR air deliverable salvage pumps IAW applicable publications.		
5.D.05	BUILD UP air deliverable salvage pumps IAW applicable publications.		
5.D.06	BUILD UP Air Drop Rafts (ADR) IAW applicable publications.		
5.D.07	FIT aircrew members with all applicable personal protective flight equipment IAW the Aviation Life Support Manual, COMDTINST M13520.1 (series) and the Air Operations Manual, COMDTINST M3710.1 (series).		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
5.D.08	INSPECT helicopter flotation bags IAW applicable publications.		
5.D.09	REPAIR aircraft oxygen masks IAW applicable publications.		
5.D.10	INSPECT and MAINTAIN Coast Guard Emergency Medical Technician (EMT) equipment IAW applicable publications.		
5.D.12	DESIGN and FABRICATE special bags and covers IAW applicable publications.		
6.D.01c	DIRECT shop maintenance IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and applicable publications.		
6.D.02c	INSTRUCT personnel in the proper disposition of defective aircraft components IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and applicable publications.		
6.D.03c	INSPECT work areas, tools and aviation equipment for safety compliance IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and the Safety and Environmental Health Manual, COMDTINST M5100.47 (series).		
6.D.04c	COORDINATE calibration and repair of special tools and measuring equipment IAW the Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) and local station instructions.		
6.D.01	DIRECT security, storage, and handling of ordnance equipment IAW applicable publications provided in the Small Arms Manual, COMDTINST M8370.11 (series) and the Coast Guard Physical Security Program, COMDTINST M5530.1 (series).		
7.D.01	SUPERVISE the shipment and disposal of pyrotechnics IAW the Small Arms Manual, COMDTINST M8370.11 (series) and applicable publications.		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)		Date	Initials
7.D.02	MANAGE unit Rescue Swimmer training program IAW local standing orders and the Coast Guard Helicopter Rescue Swimmer Manual, COMDTINST M3410.4 (series).		
NAME (Last, First, Middle Initial)		SSN	

RATING: AVIATION SURVIVAL TECHNICIAN (AST)

TERMINOLOGY

ANALYZE: To separate into fundamental parts or basic principles so as to determine the nature of the whole.

APPLICABLE PUBLICATIONS: The appropriate aircraft system, component or general aviation instruction.

AUDIT: An official examination of publications and directives.

FABRICATE / BUILD-UP: To construct by combining or assembling.

HANDLE: To direct, execute or dispose of.

REVIEW: To examine for the purpose of correcting possible errors.