

STP 8-91A15-SM-TG

SOLDIER'S MANUAL AND TRAINER'S GUIDE

MOS 91A

**MEDICAL
EQUIPMENT
REPAIRER**

SKILL LEVELS 1/2/3/4/5

APRIL 2003



HEADQUARTERS, DEPARTMENT OF THE ARMY

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AND
TRAINER'S GUIDE
MOS 91A
MEDICAL EQUIPMENT REPAIRER
SKILL LEVELS 1, 2, 3, 4 AND 5**

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PREFACE

This publication is for skill level 1, 2, 3, 4, and 5 soldiers holding military occupational specialty (MOS) 91A and for trainers and first-line supervisors. It contains standardized training objectives, in the form of task summaries, to train and evaluate soldiers on critical tasks that support unit missions during wartime. Trainers and first-line supervisors should ensure soldiers holding MOS/SL 91A1/2/3/4/5 have access to this publication. This STP is available for download from the Reimer Digital Library (RDL).

This manual applies to both Active and Reserve Component soldiers.

The proponent of this publication is HQ, TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Academy of Health Sciences, ATTN: MCCS-HTI, 1750 Greeley Rd, STE 135, Fort Sam Houston, TX 78234-5078.

CHAPTER 1

Introduction

1-1. General

This manual identifies the individual MOS training requirements for soldiers in MOS 91A. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. This manual is the primary MOS reference to support the self-development and training of every soldier.

Use this manual with Soldier's Manuals of Common Tasks (STP 21-1-SMCT and STP 21-24-SMCT), Army Training and Evaluation Programs (ARTEPs), and FM 25-101, Battle Focused Training, to establish effective training plans and programs that integrate soldier, leader, and collective tasks.

1-2. Battle Focused Training

As described in FM 7-0, Training the Force, and FM 25-101, Battle Focused Training, the commander must first define the mission essential task list (METL) as the basis for unit training. Unit leaders use the METL to identify the collective, leader, and soldier tasks which support accomplishment of the METL. Unit leaders then assess the status of training and lay out the training objectives and the plan for accomplishing needed training. After preparing the long- and short-range plans, leaders then execute and evaluate training. Finally, the unit's training preparedness is reassessed, and the training management cycle begins again. This process ensures that the unit has identified what is important for the wartime mission, that the training focus is applied to the necessary training, and that training meets established objectives and standards.

Additionally, the AMEDD is developing training products that will enhance medical preparedness in the case of a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) event. To assist commanders and leaders in training their units, CBRNE-related information is being included in AMEDD Mission Training Plans (MTPs). Even though most collective tasks within an MTP may directly affect or support a CBRNE event, the ones that will most directly be impacted are clearly indicated with a statement in the CONDITION that reads: "THIS TASK MAY BE USED TO SUPPORT A CBRNE EVENT." These collective tasks and any supporting individual tasks in this soldier's manual should be considered for training emphasis. Also included in the MTP is a CBRNE Appendix. The purpose of the appendix is to give a general overview of the Federal Response Plan, the AMEDD support role, and the command structure for those agencies and elements involved or participating in a CBRNE event. It is understood that military resources temporarily support and augment, but do not replace local, state, and federal civilian agencies having primary authority and responsibility for domestic disaster assistance.

1-3. Relationship of Soldier Training Publications (STPs) to Battle Focused Training

The two key components of enlisted STPs are the Trainer's Guide (TG) and Soldier's Manual (SM). The TG and SM give leaders important information to help in the battle focused training process. The TG relates soldier and leader tasks in the MOS and SL to duty positions and equipment. It provides information on where the task is trained, how often training should occur

to sustain proficiency, and who in the unit should be trained. As leaders go through the assessment and planning stages, they should use the TG as an important tool in identifying what needs to be trained.

The execution and evaluation of soldier and leader training should rely on the Armywide training objectives and standards in the SM task summaries. The task summaries ensure that soldiers in any unit or location have the same definition of task performance and that trainers evaluate the soldiers to the same standard.

1-4. Task Summaries

Task summaries contain information necessary to conduct training and evaluate soldier proficiency on tasks critical to the MOS. A separate task summary is provided for each critical task. These task summaries are, in effect, standardized training objectives which ensure that soldiers do not have to relearn a task on reassignment to a new unit. The format for the task summaries included in this manual is as follows:

- **Task Title.** The task title identifies the action to be performed.
- **Task Number.** A 10-digit number identifies each task or skill. Include this task number, along with task title, in any correspondence relating to the task.
- **Conditions.** The task conditions identify all the equipment, tools, references, job aids, and supporting personnel that the soldier needs to perform the task in wartime. This section identifies any environmental conditions that can alter task performance, such as visibility, temperature, and wind. This section also identifies any specific cues or events that trigger task performance.
- **Standards.** The task standards describe how well and to what level you must perform a task under wartime conditions. Standards are typically described in terms of accuracy, completeness, and/or speed.
- **Performance Steps.** This section includes a detailed outline of information on how to perform the task.
- **Evaluation Preparation (when used).** This subsection indicates necessary modifications to task performance in order to train and evaluate a task that cannot be trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instruction that should be given to the soldier before evaluation.
- **Performance Measures.** This evaluation guide identifies the specific actions that the soldier must do to successfully complete the task. These actions are listed in a GO/NO-GO format for easy evaluation. Each evaluation guide contains a feedback statement that indicates the requirements for receiving a GO on the evaluation.
- **References.** This section identifies references that provide more detailed and thorough explanations of task performance requirements than that given in the task summary description.

Additionally, some task summaries include safety statements and notes. Safety statements (danger, warning, and caution) alert users to the possibility of immediate death, personal injury, or damage to equipment. Notes provide a small, extra supportive explanation or hint relative to the performance measures.

1-5. Soldier's Responsibilities

Each soldier is responsible for performing individual tasks which the first-line supervisor identifies based on the unit's METL. The soldier must perform the tasks to the standards listed in the SM. If a soldier has a question about how to do a task or which tasks in this manual he or she must perform, it is the soldier's responsibility to ask the first-line supervisor for clarification. The first-line supervisor knows how to perform each task or can direct the soldier to the appropriate training materials.

1-6. NCO Self-Development and the Soldier's Manual

Self-development is one of the key components of the leader development program. It is a planned progressive and sequential program followed by leaders to enhance and sustain their military competencies. It consists of individual study, research, professional reading, practice, and self-assessment. Under the self-development concept, the NCO, as an Army professional, has the responsibility to remain current in all phases of the MOS. The SM is the primary source for the NCO to use in maintaining MOS proficiency.

Another important resource for NCO self-development is the Army Correspondence Course Program (ACCP). Refer to DA Pamphlet 350-59 for information on enrolling in this program and for a list of courses, or write to: AMEDDC&S, ATTN: MCCS-HSN, 2105 11TH STREET SUITE 4191, FORT SAM HOUSTON TX 78234-5064.

Unit learning centers are valuable resources for planning self-development programs. They can help access enlisted career maps, training support products, and extension training materials. A life cycle management diagram for MOS 91A soldiers is on page 1-4. You can find more information and check for updates to this diagram at <http://das.cs.amedd.army.mil/ooc.htm> (scroll down to LIFE CYCLE MANAGEMENT, select ENLISTED, and find the appropriate tab along the bottom.) This information, combined with the MOS Training Plan in Chapter 2, forms the career development model for the MOS.

1-7. Trainer's Responsibilities

Training soldier and leader tasks to standard and relating this training to collective mission-essential tasks is the NCO trainer's responsibility. Trainers use the steps below to plan and evaluate training.

- Identify soldier and leader training requirements. The NCO determines which tasks soldiers need to train on using the commander's training strategy. The unit's METL and ARTEP and the MOS Training Plan (MTP) in the TG are sources for helping the trainer define the individual training needed.
- Plan the training. Training for specific tasks can usually be integrated or conducted concurrently with other training or during "slack periods." The unit's ARTEP can assist in identifying soldier and leader tasks which can be trained and evaluated concurrently with collective task training and evaluation.
- Gather the training references and materials. The SM task summary lists all references which can assist the trainer in preparing for the training of that task.

MOS 91A
MEDICAL EQUIPMENT REPAIRER
CAREER/TRAINING LIFE CYCLE

RANK	AMEDD Course NR	TRAINING	LENGTH	LOCATION	ATTENDANCE REQUIREMENT	Self-Development Course NR	SELF-DEVELOPMENT	LENGTH	LOCATION	ATTENDANCE REQUIREMENT
* E1 - E5		Basic Combat Training Course	9 wks	Ft. LW/Ft. Sill Ft. Jackson Ft. Benning	IET		Army Correspondence Course Program (ACCP)			
	4B-F2/198-91A10	DoD Biomedical Equip Maintenance Technician	41 wks	Sheppard AFB, TX	IET	081-CBRNE-W	<i>Introduction to CBRNE</i>		On-Line	Just in Time
	300-F11	COMPUTER BASED MEDICAL SYSTEMS MAIN COURSE	4 wks	Sheppard AFB, TX	Just in Time	081-MD0006	Basic Human Anatomy		Correspondence	Sustainment
	300-F12	ADV MEDICAL LAB SYSTEMS MAINTENANCE COURSE	4 wks	Sheppard AFB, TX	Just in Time	081-MD0010	Basic Medical Terminology		Correspondence	Sustainment
	300-F13	ADV MEDICAL SYSTEMS MAINTENANCE COURSE	4 wks	Sheppard AFB, TX	Just in Time	081-MD0351	Radiographic X-Ray		Correspondence	Sustainment
	300-F14	ADV DIAG IMAGING SYSTEMS MAINTENANCE COURSE	6 wks	Sheppard AFB, TX	JIT/Functional	081-MD0353	Anesthesia Apparatus		Correspondence	Sustainment
	300-F15	IMAGING PROCUREMENT/ACCEPTANCE PROC COURSE	3 wks	Sheppard AFB, TX	Just in Time	081-MD0354	Surgical Dressing Sterilizer		Correspondence	Sustainment
	300-F16	TELEMEDICINE EQUIPMENT MAINTENANCE COURSE	3 wks	Sheppard AFB, TX	Just in Time	081-MD0355	Portable Ventilator		Correspondence	Sustainment
	300-F17	Biomedical Equip Maint Mgmt	3 wks	Sheppard AFB, TX	Just in Time	081-MD0356	Electrical Safety		Correspondence	Sustainment
		PLDC	4 wks	Multiple sites	Leadership	081-MD0367	Refrigerator & Field Sink		Correspondence	Sustainment
	6-8-C40(91A30)	AMEDD NCO BASIC (NCOES)	4 Wks 4 Days	FSH, TX	Leadership	081-MD0368	Laboratory Centrifuge		Correspondence	Sustainment
		BASELINE	REQUIRED	RECOMMENDED	PROFIS	081-MD0370	Operating Room Table		Correspondence	Sustainment
		Field Management of Chemical & Biological Casualties (FMCBC)		X	X/TOE	081-MD0371	Dental Chair, Stool & Dental Operating		Correspondence	Sustainment
	081-MD0357	Basic Supply Procedures		Correspondence	Sustainment	081-MD0373	Dental Chair (JSA-R)		Correspondence	Sustainment
	081-MD0358	Med Maintenance & Supply		Correspondence	Sustainment	081-MD0381	Single-Phase X-Ray Systems		Correspondence	Sustainment
	081-MD0359	X-Ray Film Processors		Correspondence	Sustainment	081-MD0383	Electrosurgery Units		Correspondence	Sustainment
	081-MD0361	Dental X-Ray Units		Correspondence	Sustainment	081-MD0387	Diagnostic Ultrasound system		Correspondence	Sustainment
	081-MD0362	Defibrillator & Monitor		Correspondence	Sustainment	081-MD0388	Dry chemical Analyzer		Correspondence	Sustainment
	081-MD0363	Electrosurgical Apparatus		Correspondence	Sustainment	081-MD1130	ASMAART		Correspondence	Sustainment
	081-MD0365	Suction & Pressure Apparatus		Correspondence	Sustainment	081-ENHANC	Combat Life Saver (CLS)		Unit Training	Just in Time
	081-MD0366	Compressor		Correspondence	Sustainment		PPSCP			
E4 - E7	300-F11	COMPUTER BASED MEDICAL SYSTEMS MAIN COURSE	4 wks	Sheppard AFB, TX	Just in Time					
	300-F12	ADV MEDICAL LAB SYSTEMS MAINTENANCE COURSE	4 wks	Sheppard AFB, TX	Just in Time	300-A0710	Medical Logistics Enlisted Supervisor Short Course	4 days	SA, TX	Just in time
	300-F13	ADV MEDICAL SYSTEMS MAINTENANCE COURSE	4 wks	Sheppard AFB, TX	Just in Time	340-A0715	MEDCOM CSM/SGM SR NCO	4 Days	SA, TX	Optional
	300-F14	ADV DIAG IMAGING SYSTEMS MAINTENANCE COURSE	6 wks	Sheppard AFB, TX	JIT/Functional	340-A0743	CSM/SGM SR NCO Course	4 days	Landstuhl, Germany	Leadership
	300-F15	IMAGING PROCUREMENT /ACCEPTANCE PROC COURSE	3 wks	Sheppard AFB, TX	Just in Time					
	300-F16	TELEMEDICINE EQUIPMENT MAINTENANCE COURSE	3 wks	Sheppard AFB, TX	Just in Time		USAMMA Internship Program	6 Mo	Ft Detrick	Just in time
	300-F17	Biomedical Equip Maint Mgmt	3 wks	Sheppard AFB, TX	Just in Time	J3AZR4A271 012	Medical Facilities Management	21 days	Sheppard AFB, TX	Just in time
E6 - E9	250-ASI2S	Battle Staff NCO	4 Wks, 1 Day	USASMA (Ft. Bliss)	Optional		Specialty Courses			
	5K-F3/520-F3	Instructor Training Course	2 weeks	AHS	JIT/SI (5K)	5K-F13/520-F10	<i>CBRNE TRAINER EVALUATOR</i>	2 Days	Fort Sam Houston, TX	Just in Time
	5K-F6/520-F6	Sm Grp Ldr Crse	2 weeks	AHS	JIT	5K-F7/520-F7	ADVANCED INSTRUCTOR TRAINING COURSE (Ph 1&2)	1 Wk, 3 Days	FSH, TX	
		Master Fitness Trainer	2 wks	Multiple Sites	Just in time ASI P5	5K-F8/520-F8	EDUCATION AND TRAINING FOR THE 21ST CENTURY	4 wks	FSH, TX	
		Recruiter	6 wks	USAREC	Just in time					
	6-8-C42	AMEDD NCO Advanced (NCOES)	2 Wks, 3 Days	FSH, TX	Leadership					
	1-250-C5	U.S. ARMY SERGEANTS MAJOR	38 Wks, 2 Days	USASMA (Ft. Bliss)	Just in time MEL-A					
	521-F1	Command Sergeant Major Course	1 wk	USASMA	Leadership					
	521-SQIM	First Sergeant Course	8 wks	USASMA	Just in time SQI-M					
		Drill Sgt School	9 wks	Multiple Sites	Just in Time SQI-X					

Note: 91A personnel may apply for a conversion/position as MOS 670A, Warrant Officer, Health Services Maintenance Technician; Expert Field Medical Badge and DEPMEDES if assigned PROFIS

- Determine risk assessment and identify safety concerns. Analyze the risk involved in training a specific task under the current conditions at the time of scheduled training. Ensure that your training preparation takes into account those cautions, warnings, and dangers associated with each task.
- Train each soldier. Show the soldier how the task is done to standard, and explain step-by-step how to do the task. Give each soldier one chance to do the task step-by-step.
- Emphasize training in mission-oriented protective posture (MOPP) level 4 clothing. Soldiers have difficulty performing even the very simple tasks in an NBC environment. The combat effectiveness of the soldier and the unit can degrade quickly when trying to perform in MOPP 4. Practice is the best way to improve performance. The trainer is responsible for training and evaluating soldiers in MOPP 4 so that they are able to perform critical wartime tasks to standards under NBC environment conditions.
- Check each soldier. Evaluate how well each soldier performs the tasks in this manual. Conduct these evaluations during individual training sessions or while evaluating soldier proficiency during the conduct of unit collective tasks. This manual provides an evaluation guide for each task to enhance the trainer's ability to conduct year-round, hands-on evaluations of tasks critical to the unit's mission. Use the information in the MTP as a guide to determine how often to train the soldier on each task to ensure that soldiers sustain proficiency.
- Record the results. The leader book referred to in FM 25-101, appendix B, is used to record task performance and gives the leader total flexibility on the method of recording training. The trainer may use DA Forms 5164-R (Hands-On Evaluation) and 5165-R (Field Expedient Squad Book) as part of the leader book. The forms are optional and locally reproducible. STP 21-24-SMCT contains a copy of the forms and instructions for their use.
- Retrain and evaluate. Work with each soldier until he or she can perform the task to specific SM standards.

1-8. Training Tips for the Trainer

Prepare yourself.

- Get training guidance from your chain of command on when to train, which soldiers to train, availability of resources, and a training site.
- Get the training objective (task, conditions, and standards) from the task summary in this manual.
- Ensure you can do the task. Review the task summary and the references in the reference section. Practice doing the task or, if necessary, have someone train you on the task.
- Choose a training method.
- Prepare a training outline consisting of informal notes on what you want to cover during your training session.
- Practice your training presentation.

Prepare the resources.

- Obtain the required resources identified in the conditions statement for each task.
- Gather equipment and ensure it is operational.
- Coordinate for use of training aids and devices.
- Prepare the training site according to the conditions statement and evaluation preparation section of the task summary, as appropriate.

Prepare the soldiers.

- Tell the soldier what task to do and how well it must be done. Refer to the standards statement and evaluation preparation section for each task as appropriate.
- Caution soldiers about safety, environment, and security.
- Provide any necessary training on basic skills that soldiers must have before they can be trained on the task.
- Pretest each soldier to determine who needs training in what areas by having the soldier perform the task. Use DA Form 5164-R and the evaluation guide in each task summary to make this determination.

NOTE: Deficiencies noted in soldiers' ability to perform critical tasks taught in schools or by extension training materials should be reported to the proponent school.

Train the soldiers who failed the pretest.

- Demonstrate how to do the task or the specific performance steps to those soldiers who could not perform to SM standards. Have soldiers study the appropriate materials.
- Have soldiers practice the task until they can perform it to SM standards.
- Evaluate each soldier using the evaluation guide.
- Provide feedback to those soldiers who fail to perform to SM standards and have them continue to practice until they can perform to SM standards.

Record results in the leader book.

1-9. Training Support

This manual includes the following information which provides additional training support information.

- Appendix A, DA Form 5165-R (Field Expedient Squad Book). This appendix provides an overprinted copy of DA Form 5165-R for the tasks in this MOS. The NCO trainer can use this form to set up the leader book described in FM 25-101, appendix B. The use of this form may help preclude writing the soldier tasks associated with the unit's mission essential task list, and can become a part of the leader book.
- Glossary. The glossary, which follows the last appendix, is a single comprehensive list of acronyms, abbreviations, definitions, and letter symbols.
- References. This section contains two lists of references, required and related, which support training of all tasks in this SM. Required references are listed in the conditions statement and are required for the soldier to do the task. Related references are materials which provide more detailed information and a more thorough explanation of task performance.

CHAPTER 2

Trainer's Guide

2-1. General. The MOS Training Plan (MTP) identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion, and similar factors. Therefore, the MTP should be used as a guide for conducting unit training and not a rigid standard. The MTP consists of two parts. Each part is designed to assist the commander in preparing a unit training plan which satisfies integration, cross training, training up, and sustainment training requirements for soldiers in this MOS.

Part One of the MTP shows the relationship of an MOS skill level between duty position and critical tasks. These critical tasks are grouped by task commonality into subject areas.

Section I lists subject area numbers and titles used throughout the MTP. These subject areas are used to define the training requirements for each duty position within an MOS.

Section II identifies the total training requirement for each duty position within an MOS and provides a recommendation for cross training and train-up/merger training.

- **Duty Position column.** This column lists the duty positions of the MOS, by skill level, which have different training requirements.
- **Subject Area column.** This column lists, by numerical key (see Section I), the subject areas a soldier must be proficient in to perform in that duty position.
- **Cross Train column.** This column lists the recommended duty position for which soldiers should be cross trained.
- **Train-up/Merger column.** This column lists the corresponding duty position for the next higher skill level or MOSC the soldier will merge into on promotion.

Part Two lists, by general subject areas, the critical tasks to be trained in an MOS and the type of training required (resident, integration, or sustainment).

- **Subject Area column.** This column lists the subject area number and title in the same order as Section I, Part One of the MTP.
- **Task Number column.** This column lists the task numbers for all tasks included in the subject area.
- **Title column.** This column lists the task title for each task in the subject area.
- **Training Location column.** This column identifies the training location where the task is first trained to soldier training publications standards. If the task is first trained to standard in the unit, the word "Unit" will be in this column. If the task is first trained to standard in the training base, it will identify, by brevity code (ANCOC, BNCOC, etc.), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

SOJT	Supervised On-The-Job Training
AIT	Advanced Individual Training

Figure 2-1. Training Locations

- **Sustainment Training Frequency column.** This column indicates the recommended frequency at which the tasks should be trained to ensure soldiers maintain task proficiency. Figure 2-2 identifies the frequency codes used in this column.

BA	- Biannually
AN	- Annually
SA	- Semiannually
QT	- Quarterly
MO	- Monthly
BW	- Bi-weekly
WK	- Weekly

Figure 2-2. Sustainment Training Frequency Codes

- **Sustainment Training Skill Level column.** This column lists the skill levels of the MOS for which soldiers must receive sustainment training to ensure they maintain proficiency to soldier's manual standards.

2-2. Part One, Section I. Subject Area Codes.

Skill Level 1

- 1 Performing General Maintenance Activities
- 2 Maintaining Diagnostic Equipment
- 3 Maintaining Diagnostic Support Equipment
- 4 Maintaining Therapeutic or Treatment Support Equipment
- 5 Performing Fleet, Field, or Medical Readiness Activities

2-3. Part One, Section II. Duty Position Training Requirements.

	DUTY POSITION	SUBJECT AREAS	CROSS TRAIN	TRAIN-UP/MERGER
SL 1	Medical Equipment Repairer	1-5	NA	NA
SL 2	Medical Equipment Repair Sergeant	1-5	NA	NA
SL 3	Medical Equipment Repair Sergeant	1-5	NA	NA
SL 4	Medical Equipment Maintenance NCO	1-5	NA	NA
SL 5	Senior Medical Maintenance NCO	1-5	NA	NA

2-4. Part Two. Critical Tasks List.**MOS TRAINING PLAN
91A15****CRITICAL TASKS**

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Skill Level 1					
1. Performing General Maintenance Activities	081-874-0001	PERFORM ELECTRICAL SAFETY CHECKS ON MEDICAL EQUIPMENT	AIT	AN	1-5
	081-874-0059	PERFORM TECHNICAL INSPECTION ON MEDICAL EQUIPMENT	AIT	AN	1-5
	081-874-0060	PERFORM PMCS ON LINE ISOLATION MONITORING SYSTEMS	SOJT	AN	1-5
	081-874-0062	PERFORM SOLDERING TECHNIQUES ON MEDICAL EQUIPMENT	AIT	AN	1-5
	081-874-0063	SWEAT PLUMBING CONNECTIONS	SOJT	AN	1-5
	081-874-0365	PERFORM ELECTRICAL OUTLET LINE VOLTAGE TEST, POLARITY TESTS, OR TENSION TESTS	SOJT	AN	1-5
	081-874-0371	COMPLETE MEDICAL MAINTENANCE WORK ORDERS	AIT	AN	1-5
2. Maintaining Diagnostic Equipment	081-874-0082	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON AUTOMATIC BLOOD PRESSURE CUFFS	SOJT	AN	1-5
	081-874-0083	REPAIR AUTOMATIC BLOOD PRESSURE CUFFS	SOJT	AN	1-5
	081-874-0084	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON AUTOMATIC BLOOD PRESSURE CUFFS	SOJT	AN	1-5
	081-874-0085	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON BLOOD PRESSURE MONITORS	SOJT	AN	1-5
	081-874-0086	REPAIR BLOOD PRESSURE MONITORS	AIT	AN	1-5
	081-874-0087	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON BLOOD PRESSURE MONITORS	AIT	AN	1-5

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-874-0097	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON ELECTRONIC THERMOMETERS	SOJT	AN	1-5
	081-874-0098	REPAIR ELECTRONIC THERMOMETERS	SOJT	AN	1-5
	081-874-0099	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ELECTRONIC THERMOMETERS	SOJT	AN	1-5
	081-874-0103	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON FETAL HEART MONITORS	SOJT	AN	1-5
	081-874-0104	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FETAL HEART MONITORS	AIT	AN	1-5
	081-874-0105	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON NEONATAL MONITORS	SOJT	AN	1-5
	081-874-0106	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON NEONATAL MONITORS	SOJT	AN	1-5
	081-874-0107	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON OXYGEN ANALYZERS	SOJT	AN	1-5
	081-874-0108	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON OXYGEN ANALYZERS	SOJT	AN	1-5
	081-874-0114	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON TRANSCUTANEOUS SPO ₂ MONITORS	SOJT	AN	1-5
	081-874-0115	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON TRANSCUTANEOUS SPO ₂ MONITORS	SOJT	AN	1-5
	081-874-0116	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON VITAL SIGN MONITORS	SOJT	AN	1-5
	081-874-0117	REPAIR VITAL SIGN MONITORS	SOJT	AN	1-5
	081-874-0118	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON VITAL SIGN MONITORS	SOJT	AN	1-5
	081-874-0119	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON DIAGNOSTIC ULTRASOUND SYSTEMS	SOJT	AN	1-5
	081-874-0120	REPAIR DIAGNOSTIC ULTRASOUND SYSTEMS	SOJT	AN	1-5

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-874-0121	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DIAGNOSTIC ULTRASOUND SYSTEMS	SOJT	AN	1-5
	081-874-0128	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FLUOROSCOPIC IMAGING SYSTEMS	AIT	AN	1-5
	081-874-0129	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON MAMMOGRAPHY SYSTEMS	SOJT	AN	1-5
	081-874-0130	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON MAMMOGRAPHY SYSTEM	SOJT	AN	1-5
	081-874-0131	PERFORM CALIBRATION VERIFICATION ON MOBILE RADIOGRAPHIC X-RAY SYSTEMS	SOJT	AN	1-5
	081-874-0132	REPAIR MOBILE RADIOGRAPHIC X-RAY SYSTEMS	AIT	AN	1-5
	081-874-0133	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON MOBILE RADIOGRAPHIC X-RAY SYSTEMS	AIT	AN	1-5
	081-874-0134	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON PANORAMIC DENTAL X-RAY SYSTEMS	SOJT	AN	1-5
	081-874-0135	REPAIR PANORAMIC DENTAL X-RAY SYSTEMS	AIT	AN	1-5
	081-874-0136	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON PANORAMIC DENTAL X-RAY SYSTEMS	AIT	AN	1-5
	081-874-0137	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON FIXED DENTAL X-RAY SYSTEMS, OTHER THAN PANORAMIC	AIT	AN	1-5
	081-874-0138	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FIXED DENTAL X-RAY SYSTEMS, OTHER THAN PANORAMIC	AIT	AN	1-5
	081-874-0140	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON THERMOMETERS	SOJT	AN	1-5
3. Maintaining Diagnostic Support Equipment	081-874-0150	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON AUTOMATED CHEMISTRY ANALYZERS	SOJT	AN	1-5

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-874-0151	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON CELL WASHERS	SOJT	AN	1-5
	081-874-0152	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON CELL WASHERS	SOJT	AN	1-5
	081-874-0153	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON CENTRIFUGES, OTHER THAN REFRIGERATED	SOJT	AN	1-5
	081-874-0154	REPAIR CENTRIFUGES, OTHER THAN REFRIGERATED	SOJT	AN	1-5
	081-874-0155	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON CENTRIFUGES, OTHER THAN REFRIGERATED	SOJT	AN	1-5
	081-874-0159	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON REFRIGERATED CENTRIFUGES	AIT	AN	1-5
	081-874-0160	REPAIR REFRIGERATED CENTRIFUGES	AIT	AN	1-5
	081-874-0182	REPAIR MICROSCOPES	SOJT	AN	1-5
	081-874-0183	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON MICROSCOPES	AIT	AN	1-5
	081-874-0193	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON AUTOMATIC DENTAL X-RAY FILM PROCESSORS	SOJT	AN	1-5
	081-874-0194	REPAIR AUTOMATIC DENTAL X-RAY FILM PROCESSORS	SOJT	AN	1-5
	081-874-0195	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON AUTOMATIC DENTAL X-RAY FILM PROCESSORS	SOJT	AN	1-5
	081-874-0198	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON FILM PROCESSORS	SOJT	AN	1-5
	081-874-0199	REPAIR FILM PROCESSORS	AIT	AN	1-5
	081-874-0200	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FILM PROCESSORS	AIT	AN	1-5
	081-874-0208	REPAIR DENTAL OPERATING SYSTEMS	AIT	AN	1-5
	081-874-0209	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL OPERATING SYSTEMS	AIT	AN	1-5

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-874-0213	REPAIR DENTAL ULTRASONIC PROPHYLAXIS UNITS	SOJT	AN	1-5
	081-874-0214	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL ULTRASONIC PROPHYLAXIS UNITS	AIT	AN	1-5
	081-874-0228	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ULTRASONIC THERAPY UNITS	AIT	AN	1-5
	081-874-0229	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON ELECTROSURGICAL EQUIPMENT	SOJT	AN	1-5
	081-874-0230	REPAIR ELECTROSURGICAL EQUIPMENT	AIT	AN	1-5
	081-874-0054	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON AN ELECTROSURGICAL APPARATUS (FORCE 2)	AIT	AN	1-5
	081-874-0233	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON HYPO/HYPER THERMIA UNITS	SOJT	AN	1-5
	081-874-0234	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON HYPO/HYPER THERMIA UNITS	AIT	AN	1-5
	081-874-0235	REPAIR INFUSION PUMPS	AIT	AN	1-5
	081-874-0236	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON INFUSION PUMPS	AIT	AN	1-5
	081-874-0237	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON DEFIBRILLATORS	AIT	AN	1-5
	081-874-0238	REPAIR DEFIBRILLATORS	AIT	AN	1-5
	081-874-0239	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DEFIBRILLATORS	AIT	AN	1-5
	081-874-0242	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON INFANT INCUBATORS	SOJT	AN	1-5
	081-874-0243	REPAIR INFANT INCUBATORS	AIT	AN	1-5
	081-874-0244	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON INFANT INCUBATORS	AIT	AN	1-5

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-874-0246	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON VENTILATORS, OTHER THAN HIGH-FREQUENCY	SOJT	AN	1-5
4. Maintaining Therapeutic or Treatment Support Equipment	081-874-0252	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL CENTRAL VACUUM SYSTEMS	SOJT	AN	1-5
	081-874-0256	REPAIR DENTAL AIR COMPRESSORS	SOJT	AN	1-5
	081-874-0257	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL AIR COMPRESSORS	SOJT	AN	1-5
	081-874-0297	REPAIR WHEELED LITTERS	SOJT	AN	1-5
	081-874-0298	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON WHEELED LITTERS	SOJT	AN	1-5
	081-874-0305	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON REFRIGERATED BLOOD BANKS	SOJT	AN	1-5
	081-874-0306	REPAIR REFRIGERATED BLOOD BANKS	SOJT	AN	1-5
	081-874-0307	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON REFRIGERATED BLOOD BANKS	SOJT	AN	1-5
	081-874-0311	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON WARMING CABINETS	SOJT	AN	1-5
	081-874-0312	REPAIR WARMING CABINETS	SOJT	AN	1-5
	081-874-0313	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON WARMING CABINETS	SOJT	AN	1-5
	081-874-0315	REPAIR STEAM STERILIZERS	SOJT	AN	1-5
	081-874-0316	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON STEAM STERILIZERS	SOJT	AN	1-5
	081-874-0319	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON SUCTION/PRESSURE UNITS	SOJT	AN	1-5
	081-874-0320	REPAIR SUCTION/PRESSURE UNITS	AIT	AN	1-5

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-874-0321	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON SUCTION/PRESSURE UNITS	AIT	AN	1-5
	081-874-0326	REPAIR SURGICAL TABLES	SOJT	AN	1-5
	081-874-0327	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON SURGICAL TABLES	SOJT	AN	1-5
	081-874-0329	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON SURGICAL MICROSCOPES	SOJT	AN	1-5
	081-874-0331	REPAIR ULTRASONIC CLEANERS	AIT	AN	1-5
	081-874-0332	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ULTRASONIC CLEANERS	AIT	AN	1-5
	081-874-0335	REPAIR GRAVITY STERILIZERS	AIT	AN	1-5
	081-874-0336	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON GRAVITY STERILIZERS	AIT	AN	1-5
	081-874-0337	REPAIR VACUUM STERILIZERS	SOJT	AN	1-5
	081-874-0338	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON VACUUM STERILIZERS	SOJT	AN	1-5
	081-874-0339	REPAIR WATER STERILIZERS	AIT	AN	1-5
	081-874-0340	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON WASHER STERILIZERS	AIT	AN	1-5
	081-874-0341	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON ANESTHESIA SYSTEMS	AIT	AN	1-5
	081-874-0342	REPAIR ANESTHESIA SYSTEMS	AIT	AN	1-5
	081-874-0343	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ANESTHESIA SYSTEMS	AIT	AN	1-5
	081-874-0345	REPAIR PNEUMATIC TOURNIQUETS	SOJT	AN	1-5
	081-874-0346	PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON PNEUMATIC TOURNIQUETS	SOJT	AN	1-5

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
5. Performing Fleet, Field, or Medical Readiness Activities	081-874-0351	PERFORM CALIBRATION VERIFICATION ON TABLE OF ORGANIZATION AND EQUIPMENT ANESTHESIA SYSTEMS	AIT	AN	1-5
	081-874-0352	REPAIR TABLE OF ORGANIZATION AND EQUIPMENT ANESTHESIA SYSTEM	AIT	AN	1-5
	081-874-0353	SET UP TABLE OF ORGANIZATION AND EQUIPMENT ANESTHESIA SYSTEMS	AIT	AN	1-5
	081-874-0355	REPAIR TABLE OF ORGANIZATION AND EQUIPMENT STERILIZERS	AIT	AN	1-5
	081-874-0356	SET UP TABLE OF ORGANIZATION AND EQUIPMENT STERILIZERS	AIT	AN	1-5
	081-874-0358	REPAIR TABLE OF ORGANIZATION AND EQUIPMENT DENTAL OPERATING SYSTEMS	AIT	AN	1-5
	081-874-0359	SET UP TABLE OF ORGANIZATION AND EQUIPMENT DENTAL OPERATING SYSTEMS (INTERNATIONAL STANDARDS OF ORGANIZATION-ISO)	AIT	AN	1-5
	081-874-0360	PERFORM PREVENTIVE CHECKS AND SERVICES TO TABLE OF ORGANIZATION AND EQUIPMENT TACTICAL SHELTERS	AIT	AN	1-5
	081-874-0361	PERFORM CALIBRATION VERIFICATION CERTIFICATION ON TABLE OF ORGANIZATION AND EQUIPMENT MOBILE X-RAY SYSTEMS	AIT	AN	1-5
	081-874-0362	REPAIR TABLE OF ORGANIZATION AND EQUIPMENT MOBILE X-RAY SYSTEMS	AIT	AN	1-5
	081-874-0363	SET UP TABLE OF ORGANIZATION AND EQUIPMENT MOBILE X-RAY SYSTEMS	AIT	AN	1-5

CHAPTER 3

MOS/Skill Level Tasks

Skill Level 1

Subject Area 1: Performing General Maintenance Activities

PERFORM ELECTRICAL SAFETY CHECKS ON MEDICAL EQUIPMENT

081-874-0001

Conditions: You have received DD Form 314 requiring an electrical safety check on a specified piece of equipment. You will need a 232M safety analyzer, appropriate maintenance forms, and the technical manual or manufacturer's service literature.

Standards: Performed all required leakage current and resistance tests. Recorded the results and verified compliance IAW NFPA 99.

Performance Steps

1. Review the TM or the manufacturer's service literature.
2. Inspect the power cord of the safety analyzer for cracked or cut insulation and the electrical plug for bent or broken blades.
3. Conduct a function check of the safety analyzer.
 - a. Plug safety analyzer into a power outlet.

NOTE: Ensure that no equipment is plugged into the TEST RECEPTACLE and that the TEST RECEPTACLE POLARITY SWITCH is in the OFF (center) position.

- b. Turn the POWER SWITCH to ON.
- c. Set the MODE SWITCH to SELF TEST and ensure--
 - (1) The digital display reads 1000 ± 20 .
 - (2) The CURRENT SOURCE ACTIVE lamp is on.
- d. Set the MODE SWITCH to L1-L2.

NOTE: The display should read the line voltage $\pm 10\%$.

- e. Set the MODE SWITCH to L1-GND.

NOTE: The display should read no more than 5% of the L1-L2 reading.

- f. Set the MODE SWITCH to L2-GND.

NOTE: The display should read approximately the same as the L1-L2 reading.

4. Conduct the power cord ground wire resistance, General & ECG Test VI.
 - a. Set the MODE switch to POWER CORD RESISTANCE.
 - b. Set the TEST RECEPTACLE POLARITY switch to OFF.
 - c. Plug the unit under test into the TEST RECEPTACLE on the top of the safety analyzer.
 - d. Connect the dual banana plug of a Kelvin cable to the two red rear panel jacks.
 - e. Connect the alligator clip to a grounded point on the case of the unit being tested.
 - f. Set the POWER SWITCH to ON and ensure--
 - (1) The CURRENT SOURCE ACTIVE lamp lights up.
 - (2) The display indicates the resistance.
 - g. Set the POWER switch to OFF.

Performance Steps

5. Conduct the case to ground leakage, test general.
 - a. Set the MODE switch to CASE LEAKAGE.
 - b. Set the TEST RECEPTACLE POLARITY switch to NORMAL.
 - c. Plug the unit to be tested into the TEST RECEPTACLE on the top of the safety analyzer.
 - d. Connect a test lead between the rear "external meter" red panel jack of the safety analyzer and the grounded point on the case of the unit under test.
 - e. Turn the POWER switch of the safety analyzer to ON. The reading displayed is the current Grounded-Polarity Normal.
 - f. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Normal.
 - g. Release the GROUND toggle switch.
 - h. Set the TEST RECEPTACLE POLARITY switch to REVERSED POLARITY, momentarily stopping in the OFF position and ensure the reading displayed is the current Grounded-Polarity, Reversed.
 - i. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Reversed.
 - j. Release the GROUND toggle switch.
 - k. Set the POWER switch to OFF.
 - l. Turn the unit under test ON, and then repeat steps 5b and 5e through 5k.

NOTE: If the unit under test has a motor, the unit should be turned off and the motor should be allowed to come to a complete stop before proceeding with the Reversed Polarity test.

- m. Set the POWER switch to OFF.
 - (1) Proceed to step 6 if checking ECG equipment.
 - (2) Proceed to step 11 if performing general tests.
6. Conduct the case to ground leakage, ECG equipment (TEST I).
 - a. Set the MODE SWITCH to CASE LEAKAGE.
 - b. Set the TEST RECEPTACLE POLARITY switch to NORMAL.
 - c. Plug the ECG unit to be tested into the TEST RECEPTACLE on the top of the safety analyzer.
 - d. Connect a test lead between the rear "external meter" red panel jack of the safety analyzer and the grounded point on the case of the ECG unit under test.
 - e. Turn the POWER switch of the safety analyzer to ON and ensure the reading displayed is the current Grounded-Polarity, Normal.
 - f. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Normal.
 - g. Release the GROUND toggle switch.
 - h. Set the TEST RECEPTACLE POLARITY switch to REVERSED POLARITY, momentarily stopping in the OFF position and ensure the reading displayed is the current Grounded-Polarity, Reversed.
 - i. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Reversed.
 - j. Release the GROUND toggle switch.
 - k. Set the POWER switch to OFF.
 - l. Turn the ECG unit under test ON, and then repeat steps 6b and 6e through 6k.

NOTE: If the unit has a pen recorder, place the pen control in STANDBY to avoid excessive deflection of the pen due to stray signal pickup.

- m. Set the POWER switch to OFF.

Performance Steps

7. Conduct the combined lead leakage test (TEST II).
 - a. Connect the patient leads from the ECG unit to the corresponding connector on the top of the safety analyzer.
 - b. Ensure that the patient cable is also connected to the ECG unit.
 - c. Set the MODE SWITCH to ECG.
 - d. Set the ECG SELECTOR SWITCH to ALL.
 - e. Plug the ECG unit into the TEST RECEPTACLE on the top of the safety analyzer.
 - f. Set the TEST RECEPTACLE POLARITY switch to NORMAL.
 - g. Turn the ECG unit under test ON.
 - h. Set the POWER SWITCH to ON and ensure the reading displayed is the current Grounded, Normal.
 - i. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Normal.
 - j. Release the GROUND toggle switch.
 - k. Set the TEST RECEPTACLE POLARITY switch to REVERSED POLARITY, momentarily stopping in the OFF position and ensure the reading displayed is the current Grounded, Polarity Reversed.
 - l. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Reversed.
 - m. Release the GROUND toggle switch.
 - n. Set the TEST RECEPTACLE POLARITY switch to NORMAL, momentarily stopping in the OFF position.
 - o. Set the POWER switch to OFF.
8. Conduct the individual lead leakage test (TEST III).
 - a. Set the ECG SELECTOR switch to RL.
 - b. Set the TEST RECEPTACLE POLARITY switch to NORMAL.
 - c. Turn the ECG unit under test ON.
 - d. Set the POWER switch to ON and ensure the reading displayed is the current Grounded-Normal.
 - e. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Normal.
 - f. Release the GROUND toggle switch.
 - g. Set the TEST RECEPTACLE POLARITY switch to REVERSED POLARITY, momentarily stopping in the OFF position and ensure the reading displayed is the current Grounded, Polarity Reversed.
 - h. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Reversed.
 - i. Release the GROUND toggle switch.
 - j. Set the TEST RECEPTACLE POLARITY switch to NORMAL, momentarily stopping in the OFF position.
 - k. Set the ECG SELECTOR switch to RA.
 - l. Repeat steps 8c through 8i.
 - m. Set the ECG SELECTOR switch to LA.
 - n. Repeat steps 8c through 8i.
 - o. Set the ECG SELECTOR switch to LL.
 - p. Repeat steps 8c through 8i.
 - q. Set the ECG SELECTOR switch to V1.
 - r. Repeat steps 8c through 8i.

Performance Steps

- s. Set the POWER switch to OFF.
- 9. Conduct the paired lead leakage test (TEST IV).
 - a. Set the ECG SELECTOR switch to RA-LA.
 - b. Set the TEST RECEPTACLE POLARITY switch to NORMAL.
 - c. Set the POWER switch to ON and ensure the reading displayed is the current Grounded-Normal.
 - d. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Normal.
 - e. Release the GROUND toggle switch.
 - f. Set the TEST RECEPTACLE POLARITY switch to REVERSED POLARITY, momentarily stopping in the OFF position and ensure the reading displayed is the current Grounded-Polarity, Reversed.
 - g. Depress and hold the GROUND toggle switch in the OPEN position and ensure the reading displayed is the current Ground Lifted-Polarity, Reversed.
 - h. Release the GROUND toggle switch.
 - i. Set the TEST RECEPTACLE POLARITY switch to NORMAL, momentarily stopping in the OFF position.
 - j. Set the ECG SELECTOR switch to RA-RL.
 - k. Repeat steps 9c through 9i.
 - l. Set the ECG SELECTOR switch to LA-RL.
 - m. Repeat steps 9c through 9i.
 - n. Set the POWER switch to OFF.
- 10. Conduct the isolation test (TEST V).
 - a. Set the ECG SELECTOR switch to ISO TEST.
 - b. Set the TEST RECEPTACLE switch to NORMAL.
 - c. Set the POWER SWITCH to ON.
 - d. Depress the red ISO TEST push button and note the leakage.

NOTE: The reading displayed is the leakage that would be present if line voltage is applied to the ECG terminals.
- 11. Record the results and verify compliance/noncompliance.
 - a. Record results for general equipment ONLY if the unit fails the test.
 - b. Record results for all ECG equipment and defibrillators.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed appropriate TM and/or manufacturer's service literature.	—	—
2. Inspected the power cord and electrical plug of the safety analyzer.	—	—
3. Conducted a function check of the safety analyzer.	—	—
4. Conducted power cord wire resistance test.	—	—
5. Conducted case to ground leakage test.	—	—
6. Conducted case to ground leakage test, ECG equipment.	—	—
7. Conducted the combined ground to lead leakage test, ECG equipment.	—	—
8. Conducted individual lead leakage test, ECG equipment.	—	—

Performance Measures

GO **NO**
GO

- 9. Conducted paired lead leakage test, ECG equipment. _____ _____
- 10. Conducted isolation test. _____ _____
- 11. Recorded the results as necessary. _____ _____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
AR 40-61
NFPA 99

PERFORM TECHNICAL INSPECTION ON MEDICAL EQUIPMENT
081-874-0059

Conditions: You receive a maintenance work request form to perform a technical inspection (TI) on a piece of hospital equipment. You will need internal maintenance management system (example: TAMMIS, AMEDDPAS), manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: The technical inspection on the piece of hospital equipment is conducted prior to it being issued to the using activity. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Results of inspection are recorded on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Inspect unit for damage caused by shipping.
2. Ensure compliance with provisions of the contract under which the item was purchased.
 - a. Does equipment require vendor installation or setup?
 - b. Did all accessories come with the equipment?
 - c. Were the appropriate quantities of maintenance and operators literature supplied with the equipment?
3. Report all contract discrepancies to the installation medical supply activity (IMSA).
4. List all additional TMDE required to maintain the equipment that is not already in the shop inventory and pass on to supervisor.
5. Perform preventive maintenance checks and services as illustrated in manufacturer's service literature.
6. Perform calibration verification certification as illustrated in manufacturer's service literature.
7. Perform safety test to ensure unit is within compliance with manufacturer's service literature and NFPA 99.
8. Collect property book information about the medical equipment that will later be given to the property book officer (PBO).
 - a. Generic nomenclature.
 - b. Serial number.
 - c. Manufacturer.
 - d. Model.
 - e. National stock number.
 - f. IDC (SB 8-75-MEDCASE).
 - g. Subsystem code.
 - h. Emergency Care Research Institute (ECRI) code.
 - i. Life expectancy.
9. Collect maintenance data about the medical equipment that will later be inputted in to the internal maintenance management system IAW internal SOP.

Performance Steps

- a. Date manufactured.
 - b. Scheduled maintenance area code (SMAC).
 - c. Work center code.
 - d. Equipment type.
 - e. PM/ST/CL category.
 - f. PM/ST/CL interval.
 - g. PM/ST/CL time.
 - h. PM/ST/CL base date.
 - i. Technical reference.
10. Complete all additional paperwork and attach compliance stickers as required after verification of calibration, IAW TB 38-750-2.
 11. Once TI is complete and no deficiencies are noted, notify IMSA that equipment is ready for issue to the PBO.
 12. Ensure maintenance data is inputted in to the internal maintenance management system IAW internal SOP.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Inspected unit for damage caused by shipping.	—	—
2. Ensured compliance with provisions of the contract under which the item was purchased.	—	—
3. Reported all contract discrepancies to the installation medical supply activity (IMSA).	—	—
4. Listed all additional TMDE required to maintain the equipment that is not already in the shop inventory and passed on to supervisor.	—	—
5. Performed preventive maintenance checks and services as illustrated in manufacturer's service literature.	—	—
6. Performed calibration verification certification as illustrated in manufacturer's service literature.	—	—
7. Performed safety test to ensure unit is within compliance with manufacturer's service literature and NFPA 99.	—	—
8. Collected property book information about the medical equipment that will later be given to the property book officer (PBO).	—	—
9. Collected maintenance data about the medical equipment that will later be inputted in to the internal maintenance management system IAW internal SOP.	—	—
10. Completed all additional paperwork and attached compliance stickers, as required, after verification of calibration, IAW TB 38-750-2.	—	—
11. Once TI was completed and no deficiencies were noted, notified IMSA that equipment is ready for issue to the PBO.	—	—

Performance Measures

GO NO
GO

12. Ensured maintenance data was inputted in to the internal maintenance management system IAW internal SOP. _____ _____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
AR 40-61
AR 710-2
NFPA 99
TB 38-750-2

**PERFORM PMCS ON LINE ISOLATION MONITORING SYSTEMS
081-874-0060**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a line isolation monitoring system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM SOLDERING TECHNIQUES ON MEDICAL EQUIPMENT

081-874-0062

Conditions: You receive a piece of hospital equipment that requires some type of internal soldering. You will need eye protection, fine abrasive cloth (400 grit), isopropyl alcohol, wire brush, wet sponge, noncorrosive flux, solder, and soldering iron.

Standards: The solder joint displayed a smooth, bright and shiny appearance and was free of excess flux and pits. The joint was not "overheated", "cold" nor did it display a "disturbed" look. The solder joint was able to withstand the amount of current to which the circuit was rated without causing damage to the circuit board or any of its components.

Performance Steps

1. Put on eye protection.
2. Disable unit to be soldered and unplug from all forms of power.
3. Select a tip for the iron with relation to the size of the joint to be soldered.
 - a. A small tip may not provide sufficient heat for a large work mass.
 - b. A tip too large may cause damage to the printed circuit board.
4. Prepare the soldering iron tip.
 - a. Check for full insertion into the heating element.
 - b. Clean with a fine abrasive cloth (400 grit) until the surface is bright.
5. Heat the soldering iron to the desired temperature.
 - a. Fixed irons require no temperature selection.
 - b. Variable temperature soldering irons allow you to heat the iron to a specific temperature.
6. Clean the joint to be soldered with isopropyl alcohol.
7. Clean the tip of the hot soldering iron of impurities and debris.
 - a. Wipe the tip on a noncontaminated brush.
 - b. Touch the tip lightly and quickly on a wet sponge.
 - c. Touch the tip briefly with solder to achieve proper "tinning" affect.
8. Apply a small amount of flux to the joint.
9. Place the tip of the hot soldering iron on to the maximum mass point of the joint to be soldered.
10. Apply a small amount of solder to the point of contact between the tip and the joint, creating a "bridge".
11. Place the tip of the unmelted solder to the opposite side of the joint, away from the iron.
NOTE: Never melt the solder against the iron and allow it to flow onto a surface cooler than the solder melting temperature.
12. When melting point has been reached, apply melted solder to the joint.
13. After iron has been removed, do NOT move any of the portion of the newly created joint until molten solder has solidified.

Performance Steps

14. Remove all flux and clean the newly created solder joint.
15. Inspect the work.
 - a. Enough solder should be applied to create a concave fillet.
 - b. Solder joint feathers out to a thin edge at the end of the solder pad.
 - c. Displays a smooth, bright and shiny appearance.
 - d. Surface is free of pits.
 - e. No evidence of any remaining pockets of flux.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Put on eye protection.	_____	_____
2. Disabled unit to be soldered and unplugged from all forms of power.	_____	_____
3. Selected a tip for the iron with relation to the size of the joint to be soldered.	_____	_____
4. Prepared the soldering iron tip.	_____	_____
5. Heated the soldering iron to the desired temperature.	_____	_____
6. Cleaned the joint to be soldered with isopropyl alcohol.	_____	_____
7. Cleaned the tip of the hot soldering iron of impurities and debris.	_____	_____
8. Applied a small amount of flux to the joint.	_____	_____
9. Placed the tip of the hot soldering iron on to the maximum mass point of the joint to be soldered.	_____	_____
10. Applied a small amount of solder to the point of contact between the tip and the joint, creating a "bridge".	_____	_____
11. Placed the tip of the unmelted solder to the opposite side of the joint, away from the iron.	_____	_____
12. When melting point was reached, applied melted solder to the joint.	_____	_____
13. After iron was removed, did not move any of the portion of the newly created joint until molten solder had solidified.	_____	_____
14. Removed all flux and cleaned the newly created solder joint.	_____	_____
15. Inspected the work.	_____	_____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

SWEAT PLUMBING CONNECTIONS

081-874-0063

Conditions: You receive a pipe and fitting that must be sweated together. You will need eye protection, pipe cutter with reamer, torch, wire brush, emery cloth, noncorrosive flux or paste, and solder.

Standards: The final product is free of excess flux and excess solder. The sweated joint withstands water pressure and does not leak

Performance Steps

1. Put on eye protection.
2. Cut pipe to proper length.
3. Remove burrs from pipe.
4. Clean inside of pipe and fitting with wire tubing/pipe brush.
5. Clean outside surfaces with emery cloth.
6. Apply a thin coat of noncorrosive flux or paste to the end of the pipe.
7. Apply a thin coat of noncorrosive flux or paste to the inside of the fitting.
8. Place the fitting over the pipe.
 - a. Fitting must be all the way to the hub.
 - b. Rotate it a few times to spread the flux evenly.
9. Remove excess flux around the fitting.
10. Heat the fitting with the flame of a propane torch.
 - a. Apply heat to the joint moving the flame back and forth.
 - b. Apply the solder to the joint on the other side of the flame.
 - c. Do not heat the solder directly with the torch.
 - d. The metal is ready when solder begins to melt.
 - e. Do not overheat.
11. Remove the torch and apply solder to the joint to be sealed.
 - a. Feed solder around the edge of the joint.
 - b. When a continuous ring of solder appears at the end of the fitting, the joint is complete.
12. Do not move the pipe or fitting while the solder is cooling.
13. Clean the cooled joint with wire brush, scraper, or emery cloth.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Put on eye protection.	_____	_____
2. Cut pipe to proper length.	_____	_____
3. Removed burrs from pipe.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Cleaned inside of pipe and fitting with wire tubing/pipe brush.	—	—
5. Cleaned outside surfaces with emery cloth.	—	—
6. Applied a thin coat of noncorrosive flux or paste to the end of the pipe.	—	—
7. Applied a thin coat of noncorrosive flux or paste to the inside of the fitting.	—	—
8. Placed the fitting over the pipe.	—	—
9. Removed any excess flux around the fitting.	—	—
10. Heated the fitting with the flame of a propane torch.	—	—
11. Removed the torch and applied solder to the joint to be sealed.	—	—
12. Did not move the pipe or fitting while the solder is cooling.	—	—
13. Cleaned the cooled joint with wire brush, scraper, or emery cloth.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**PERFORM ELECTRICAL OUTLET LINE VOLTAGE TEST, POLARITY TESTS,
OR TENSION TESTS
081-874-0365**

Conditions: You have received a maintenance work request form for electrical outlet line voltage test, polarity test, and tension test. You have a receptacle polarity tester (6625-00-489-3700), multimeter (6625-01-265-6000), receptacle tension tester which maintains compliance with NFPA 99 testing standards, tool kit (medical equipment organizational maintenance), and individual tool box.

Standards: Tested electrical outlet and line voltage and ensured that it conformed to regulations as governed by Standard for Health Care Facilities (NFPA 99), National Electrical Code (NFPA 70), and ANSI C84.1. Recorded results IAW internal SOP.

Performance Steps

1. Confirm, by visual inspection, the physical integrity of the receptacle IAW Standard for Health Care Facilities (NFPA 99).
 2. Confirm the outlet line voltage.
 - a. Using a multimeter, check the AC voltage from the neutral contact to the hot contact.
 - b. Ensure that voltage remains a constant 120 VAC \pm 5% IAW American National Standards Institute ANSI C84.1.
 3. Confirm the polarity of the hot and neutral connections of the receptacle.
 - a. Place receptacle tester into outlet and observe lights.
 - b. Depending on the model of receptacle tester used, the display sequence for correct polarity readings may vary.
 - c. Compare display readings on receptacle tester to information provided by the manufacturer to determine polarity of the hot and neutral connections.
 4. Verify continuity of the grounding circuit.
 - a. Using an ohm-meter, check continuity between neutral and ground contacts.
 - b. Continuity must be less than 1 ohm IAW National Electrical Code (NFPA 70).
 5. Verify the retention force of the grounding blade.
 - a. Insert the ground blade of the of the tension tester into the ground contact of the receptacle.
 - b. Remove slowly to determine the tension of the contact.
 - c. Contact tension must be 4 oz (115 g) or greater IAW Standard for Health Care Facilities (NFPA 99).
- NOTE:* NFPA 99 does not issue guidance for retention force testing of the current carrying contacts, hot and neutral. Therefore, testing is not required.
6. Report all deficiencies to immediate supervisor and facilities management IAW internal SOP.
 7. Complete and file organizational maintenance work request form IAW internal SOP.

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Confirmed, by visual inspection, the physical integrity of the receptacle IAW Standards for Health Care Facilities (NFPA 99).	—	—
2. Confirmed the outlet line voltage.	—	—
3. Confirmed the polarity of the hot and neutral connections of the receptacle.	—	—
4. Verified continuity of the grounding circuit.	—	—
5. Verified the retention force of the grounding blade.	—	—
6. Reported all deficiencies to immediate supervisor and facilities management IAW internal SOP.	—	—
7. Completed and filed organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
ANSI C84.1
NFPA 70
NFPA 99

**COMPLETE MEDICAL MAINTENANCE WORK ORDERS
081-874-0371**

Conditions: You have corrected all reported deficiencies on a piece of hospital equipment and are now responsible for completing the accompanied maintenance work request form. You have internal maintenance management system (example: TAMMIS).

Standards: Completed maintenance work request form IAW organizational maintenance management system's guidance as well as internal SOP.

Performance Steps

1. Ensure WORK STARTED BY block is annotated IAW organizational maintenance management system's guidance.
2. Record all tasks performed during the assessment, repair and final inspection of the unit IAW organizational maintenance management system's guidance.
3. Record Tech-Code next to all tasks performed during the assessment, repair and final inspection of the unit IAW internal SOP.
4. Record man-hours expended to accomplish each task performed IAW organizational maintenance management system's guidance.
5. Record national stock numbers, manufacturer's part numbers or any other numbers used to identify parts replaced on unit IAW organizational maintenance management system's guidance.
6. Record the quantity of each individual part replaced on unit IAW organizational maintenance management system's guidance.
7. Record the cost of each item replaced on the unit IAW organizational maintenance management system's guidance.
8. Record the total man-hours expended on the unit IAW organizational maintenance management system's guidance.
9. Record the cost for the total man-hours expended on the unit IAW organizational maintenance management system's guidance.
10. Record the total cost for all parts replaced on the unit IAW organizational maintenance management system's guidance.
11. Forward the maintenance work request form to the appropriate INSPECTED BY authority IAW internal SOP.
12. After INSPECTED BY block is filled out and dated, forward the completed maintenance work request form to the appropriate authorities for input in to the internal maintenance management system IAW internal SOP.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Ensured WORK STARTED BY block was annotated IAW organizational maintenance management system's guidance.	_____	_____

Performance Measures	<u>GO</u>	<u>NO GO</u>
2. Recorded all tasks performed during the assessment, repair and final inspection of the unit IAW organizational maintenance management system's guidance.	—	—
3. Recorded Tech-Code next to all tasks performed during the assessment, repair and final inspection of the unit IAW internal SOP.	—	—
4. Recorded man-hours expended to accomplish each task performed IAW organizational maintenance management system's guidance.	—	—
5. Recorded national stock numbers, manufacturer's part numbers or any other numbers used to identify parts replaced on unit IAW organizational maintenance management system's guidance.	—	—
6. Recorded the quantity of each individual part replaced on unit IAW organizational maintenance management system's guidance.	—	—
7. Recorded the cost of each item replaced on the unit IAW organizational maintenance management system's guidance.	—	—
8. Recorded the total man-hours expended on the unit IAW organizational maintenance management system's guidance.	—	—
9. Recorded the cost for the total man-hours expended on the unit IAW organizational maintenance management system's guidance.	—	—
10. Recorded the total cost for all parts replaced on the unit IAW organizational maintenance management system's guidance.	—	—
11. Forwarded the maintenance work request form to the appropriate INSPECTED BY authority IAW internal SOP.	—	—
12. After INSPECTED BY block was filled out and dated, the completed maintenance work request form was forwarded to the appropriate authorities for input in to the internal maintenance management system IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 2: Maintaining Diagnostic Equipment

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON AUTOMATIC BLOOD PRESSURE CUFFS

081-874-0082

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on an automatic blood pressure cuff scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO NO
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR AUTOMATIC BLOOD PRESSURE CUFFS

081-874-0083

Conditions: You have received a maintenance work request form for repair of an automatic blood pressure cuff. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged, or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator, or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON AUTOMATIC BLOOD PRESSURE CUFFS

081-874-0084

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on an automatic blood pressure cuff. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON BLOOD PRESSURE MONITORS
081-874-0085

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a blood pressure monitor scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR BLOOD PRESSURE MONITORS

081-874-0086

Conditions: You have received a maintenance work request form for repair of a blood pressure monitor. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON BLOOD PRESSURE MONITORS

081-874-0087

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a blood pressure monitor. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON ELECTRONIC
THERMOMETERS
081-874-0097**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on an electronic thermometer scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO NO
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

None

Related

AR 11-34
NFPA 99

REPAIR ELECTRONIC THERMOMETERS

081-874-0098

Conditions: You have received a maintenance work request form for repair of an electronic thermometer. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request Form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator, or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ELECTRONIC THERMOMETERS

081-874-0099

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on an electric thermometer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON FETAL HEART MONITORS
081-874-0103**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a fetal heart monitor scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	___	___
2. Performed CVC as listed in the manufacturer's service literature.	___	___
3. Corrected minor deficiencies.	___	___
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	___	___
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	___	___

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FETAL HEART MONITORS
081-874-0104

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a fetal heart monitor. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON NEONATAL MONITORS
081-874-0105**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a neonatal monitor scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON NEONATAL MONITORS

081-874-0106

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a neonatal monitor. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON OXYGEN ANALYZERS
081-874-0107**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on an oxygen analyzer scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON OXYGEN ANALYZERS
081-874-0108

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on an oxygen analyzer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON TRANSCUTANEOUS SPO₂ MONITORS
081-874-0114

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a transcutaneous SPO₂ monitor scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON
TRANSCUTANEOUS SPO₂ MONITORS**

081-874-0115

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a transcutaneous SPO₂ monitor. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON VITAL SIGN MONITORS
081-874-0116**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a vital sign monitor scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	___	___
2. Performed CVC as listed in the manufacturer's service literature.	___	___
3. Corrected minor deficiencies.	___	___
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	___	___
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	___	___

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR VITAL SIGN MONITORS

081-874-0117

Conditions: You have received a maintenance work request form for repair of vital sign monitors. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON VITAL SIGN MONITORS

081-874-0118

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a vital sign monitor. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON DIAGNOSTIC
ULTRASOUND SYSTEMS**

081-874-0119

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a diagnostic ultrasound system scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR DIAGNOSTIC ULTRASOUND SYSTEMS

081-874-0120

Conditions: You have received a maintenance work request form for repair of a diagnostic ultrasound system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DIAGNOSTIC
ULTRASOUND SYSTEMS**

081-874-0121

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a diagnostic ultrasound system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FLUOROSCOPIC IMAGING SYSTEMS

081-874-0128

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a fluoroscopic imaging system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON MAMMOGRAPHY SYSTEMS

081-874-0129

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a mammography system scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO NO
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

21 CFR

AR 40-61

NFPA 99

TB MED 521

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON MAMMOGRAPHY SYSTEM

081-874-0130

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a mammography system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
21 CFR
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION ON MOBILE RADIOGRAPHIC X-RAY SYSTEMS
081-874-0131**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a mobile radiographic x-ray system scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

21 CFR

AR 40-61

NFPA 99

TB MED 521

REPAIR MOBILE RADIOGRAPHIC X-RAY SYSTEMS

081-874-0132

Conditions: You have received a maintenance work request form for repair of a mobile radiographic x-ray system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator, or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 21 CFR
 AR 40-61
 AR 710-2
 NFPA 99
 TB MED 521

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON MOBILE RADIOGRAPHIC X-RAY SYSTEMS

081-874-0133

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a mobile radiographic x-ray system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON PANORAMIC DENTAL
X-RAY SYSTEMS
081-874-0134**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a panoramic dental x-ray system scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO NO
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

21 CFR

AR 40-61

NFPA 99

TB MED 521

REPAIR PANORAMIC DENTAL X-RAY SYSTEMS

081-874-0135

Conditions: You have received a maintenance work request form for repair of a panoramic dental x-ray system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 21 CFR
 AR 40-61
 AR 710-2
 NFPA 99
 TB MED 521

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON PANORAMIC DENTAL X-RAY SYSTEMS

081-874-0136

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a panoramic dental x-ray system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON FIXED DENTAL X-RAY SYSTEMS, OTHER THAN PANORAMIC

081-874-0137

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a fixed dental x-ray system (other than panoramic) scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

21 CFR
AR 40-61
NFPA 99
TB MED 521

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FIXED DENTAL
X-RAY SYSTEMS, OTHER THAN PANORAMIC
081-874-0138**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a fixed dental x-ray system (other than panoramic). You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON THERMOMETERS
081-874-0140**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a thermometer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

Subject Area 3: Maintaining Diagnostic Support Equipment

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON AUTOMATED CHEMISTRY ANALYZERS
081-874-0150**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on an automated chemistry analyzer scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO NO
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON CELL WASHERS
081-874-0151**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a cell washer scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON CELL WASHERS
081-874-0152**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a cell washer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON CENTRIFUGES, OTHER THAN REFRIGERATED

081-874-0153

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a centrifuge (other than refrigerated) scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR CENTRIFUGES, OTHER THAN REFRIGERATED

081-874-0154

Conditions: You have received a maintenance work request form for repair of a centrifuge (other than refrigerated). You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON CENTRIFUGES,
OTHER THAN REFRIGERATED**

081-874-0155

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a centrifuge (other than refrigerated). You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON REFRIGERATED
CENTRIFUGES
081-874-0159**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a refrigerated centrifuge scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	_____	_____
2. Performed CVC as listed in the manufacturer's service literature.	_____	_____
3. Corrected minor deficiencies.	_____	_____
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	_____	_____
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	_____	_____

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR REFRIGERATED CENTRIFUGES

081-874-0160

Conditions: You have received a maintenance work request form for repair of a refrigerated centrifuge. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

REPAIR MICROSCOPES

081-874-0182

Conditions: You have received a maintenance work request form for repair of a microscope. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON MICROSCOPES
081-874-0183**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a microscope. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON AUTOMATIC DENTAL
X-RAY FILM PROCESSORS**

081-874-0193

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on an automatic dental x-ray film processor scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	_____	_____
2. Performed CVC as listed in the manufacturer's service literature.	_____	_____
3. Corrected minor deficiencies.	_____	_____
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	_____	_____
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	_____	_____

Performance Measures

GO NO
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

None

Related

AR 11-34
NFPA 99

REPAIR AUTOMATIC DENTAL X-RAY FILM PROCESSORS

081-874-0194

Conditions: You have received a maintenance work request form for repair of an automatic dental x-ray processor. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON AUTOMATIC DENTAL X-RAY FILM PROCESSORS

081-874-0195

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on an automatic dental x-ray film processor. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON FILM PROCESSORS
081-874-0198**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a film processor scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR FILM PROCESSORS

081-874-0199

Conditions: You have received a maintenance work request form for repair of a film processor. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON FILM PROCESSORS
081-874-0200

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on film processors. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR DENTAL OPERATING SYSTEMS

081-874-0208

Conditions: You have received a maintenance work request form for repair of a dental operating system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.
5. If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)
6. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
7. Determine if the repair cost exceeds the MEL.

Performance Steps

8. Repair or replace the malfunctioning item.
9. Perform a function check IAW the manufacturer's literature.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Determine disposition of the unit.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.
11. Complete and file the organizational maintenance work request form IAW internal SOP.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL OPERATING SYSTEMS

081-874-0209

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a dental operating system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR DENTAL ULTRASONIC PROPHYLAXIS UNITS

081-874-0213

Conditions: You have received a maintenance work request form for repair of a dental ultrasonic prophylaxis unit. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL
ULTRASONIC PROPHYLAXIS UNITS**

081-874-0214

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a dental ultrasonic prophylaxis unit. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ULTRASONIC THERAPY UNITS

081-874-0228

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on ultrasonic therapy units. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON ELECTROSURGICAL EQUIPMENT
081-874-0229**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on electrosurgical equipment scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—
6. When CVC was completed and no deficiencies were present:	—	—

Performance Measures

GO

NO
GO

- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
- b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR ELECTROSURGICAL EQUIPMENT

081-874-0230

Conditions: You have received a maintenance work request form for repair of an electrosurgical unit. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged, or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON AN
ELECTROSURGICAL APPARATUS (FORCE 2)**

081-874-0054

Conditions: You have received a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on an electrosurgical apparatus. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: The scheduled PMCS is performed and all uncorrected, unsafe conditions are recorded on an organizational maintenance work request form IAW internal SOP. Minor deficiencies are recorded and corrected during the PMCS. The PMCS is recorded on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in manufacturer's service literature.
4. Perform "Quarterly" (Q) PMCS as listed in manufacturer's service literature.
5. Perform "Semiannual" (S) PMCS as listed in manufacturer's service literature.
6. Perform operational checkout procedures IAW manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies present any danger to patients or operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed before (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed during (D) operation PMCS as listed in manufacturer's service literature.	_____	_____
3. Performed after (A) operation PMCS as listed in manufacturer's service literature.	_____	_____
4. Performed quarterly (Q) PMCS as listed in manufacturer's service literature.	_____	_____
5. Performed semiannual (S) PMCS as listed in manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Performed operational checkout procedures IAW manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies presented any danger to patients or operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

TM 8-6515-003-24&P

Related

AR 40-61

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON HYPO/HYPEROTHERMIA UNITS

081-874-0233

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a hypo/hyperthermia unit scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON
HYPO/HYPER THERMIA UNITS**

081-874-0234

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on hypo/hyperthermia units. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR INFUSION PUMPS

081-874-0235

Conditions: You have received a maintenance work request form for repair of an infusion pump. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged, or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON INFUSION PUMPS
081-874-0236**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on infusion pumps. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON DEFIBRILLATORS
081-874-0237**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a defibrillator scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	_____	_____
2. Performed CVC as listed in the manufacturer's service literature.	_____	_____
3. Corrected minor deficiencies.	_____	_____
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	_____	_____
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	_____	_____

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR DEFIBRILLATORS

081-874-0238

Conditions: You have received a maintenance work request form for repair of a defibrillator. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DEFIBRILLATORS
081-874-0239**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on defibrillators. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON INFANT INCUBATORS
081-874-0242**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on an infant incubator scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR INFANT INCUBATORS

081-874-0243

Conditions: You have received a maintenance work request form for repair of an infant incubator. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON INFANT
INCUBATORS
081-874-0244**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on infant incubators. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON VENTILATORS, OTHER THAN HIGH-FREQUENCY

081-874-0246

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a ventilator (other than high-frequency) scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

Subject Area 4: Maintaining Therapeutic or Treatment Support Equipment

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL
CENTRAL VACUUM SYSTEMS**

081-874-0252

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a dental central vacuum system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR DENTAL AIR COMPRESSORS

081-874-0256

Conditions: You have received a maintenance work request form for repair of a dental compressor. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON DENTAL AIR COMPRESSORS

081-874-0257

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a dental air compressor. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR WHEELED LITTERS

081-874-0297

Conditions: You have received a maintenance work request form for repair of a wheeled litter. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON WHEELED LITTERS

081-874-0298

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a wheeled litter. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON REFRIGERATED BLOOD BANKS

081-874-0305

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a refrigerated blood bank scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR REFRIGERATED BLOOD BANKS

081-874-0306

Conditions: You have received a maintenance work request form for repair of a refrigerated blood bank. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON REFRIGERATED BLOOD BANKS

081-874-0307

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a refrigerated blood bank. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON WARMING CABINETS
081-874-0311**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a warming cabinet scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	_____	_____
2. Performed CVC as listed in the manufacturer's service literature.	_____	_____
3. Corrected minor deficiencies.	_____	_____
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	_____	_____
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	_____	_____

Performance Measures

GO **NO**
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR WARMING CABINETS

081-874-0312

Conditions: You have received a maintenance work request form for repair of a warming cabinet. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON WARMING CABINETS

081-874-0313

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a warming cabinet. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR STEAM STERILIZERS

081-874-0315

Conditions: You have received a maintenance work request form for repair of a steam sterilizer. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON STEAM
STERILIZERS
081-874-0316**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a steam sterilizer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM CALIBRATION VERIFICATION CERTIFICATION ON SUCTION/PRESSURE UNITS

081-874-0319

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a suction/pressure unit scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW manufacturer's service literature.
2. Perform CVC as listed in manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present any danger to patients or operator or if the machine could be damaged due to continued use.
6. When CVC is completed, and no deficiencies are present, record completion on organizational preventive maintenance schedule and record, IAW internal SOP.
7. When CVC is completed, and no deficiencies are present, complete and attach (if needed) DD Form 2163.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW manufacturer's service literature.	—	—
2. Performed CVC as listed in manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

	<u>GO</u>	<u>NO GO</u>
6. When CVC was completed, and no deficiencies were present, recorded completion on organizational preventive maintenance schedule and record, IAW internal SOP.	—	—
7. When CVC was completed, and no deficiencies were present, completed and attached (if needed) DD Form 2163.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR SUCTION/PRESSURE UNITS

081-874-0320

Conditions: You have received a maintenance work request form for repair of a suction/pressure unit. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON SUCTION/PRESSURE UNITS

081-874-0321

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a suction/pressure unit. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR SURGICAL TABLES

081-874-0326

Conditions: You have received a maintenance work request form for repair of a surgical table. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON SURGICAL TABLES

081-874-0327

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a surgical table. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON SURGICAL MICROSCOPES

081-874-0329

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a surgical microscope. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR ULTRASONIC CLEANERS

081-874-0331

Conditions: You have received a maintenance work request form for repair of an ultrasonic cleaner. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ULTRASONIC CLEANERS

081-874-0332

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on an ultrasonic cleaner. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR GRAVITY STERILIZERS

081-874-0335

Conditions: You have received a maintenance work request form for repair of a gravity sterilizer. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON GRAVITY
STERILIZERS
081-874-0336**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a gravity sterilizer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in manufacturer's service literature.
2. Perform "During" (D) operation PMCS as listed in manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in manufacturer's service literature.
4. Perform "Quarterly" (Q) PMCS as listed in manufacturer's service literature.
5. Perform "Semiannual" (S) PMCS as listed in manufacturer's service literature.
6. Perform operational checkout procedures IAW manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies present any danger to patients or operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in manufacturer's service literature.	_____	_____
5. Performed "Semiannual" (S) PMCS as listed in manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Performed operational checkout procedures IAW manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies presented any danger to patients or operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR VACUUM STERILIZERS

081-874-0337

Conditions: You have received a maintenance work request form for repair of a vacuum sterilizer. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON VACUUM
STERILIZERS
081-874-0338**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a vacuum sterilizer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR WATER STERILIZERS

081-874-0339

Conditions: You have received a maintenance work request form for repair of a water sterilizer. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON WASHER
STERILIZERS
081-874-0340**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a washer sterilizer. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON ANESTHESIA SYSTEMS
081-874-0341**

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on an anesthesia system scheduled for CVC. You will need internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Perform operational checkout procedures IAW the manufacturer's service literature.
2. Perform CVC as listed in the manufacturer's service literature.
3. Correct minor deficiencies.
4. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
5. Take the unit out of service if uncorrected deficiencies present a danger to patients or the operator, or if continued use would damage the machine.
6. When CVC is complete and no deficiencies are present:
 - a. Record completion on the organizational preventive maintenance schedule IAW internal SOP.
 - b. Complete and attach DD Form 2163 to the unit (if needed).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
2. Performed CVC as listed in the manufacturer's service literature.	—	—
3. Corrected minor deficiencies.	—	—
4. Recorded uncorrected deficiencies on an organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
5. Took the unit out of service if uncorrected deficiencies presented any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Performance Measures

GO NO
GO

6. When CVC was completed and no deficiencies were present:
- a. Recorded completion on the organizational preventive maintenance schedule and record IAW internal SOP.
 - b. Completed and attached DD Form 2163 (if needed).

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

Related

AR 40-61

NFPA 99

REPAIR ANESTHESIA SYSTEMS

081-874-0342

Conditions: You have received a maintenance work request form for repair of an anesthesia system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON ANESTHESIA SYSTEMS

081-874-0343

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on an anesthesia system. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	—	—
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	—	—
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	—	—
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR PNEUMATIC TOURNIQUETS

081-874-0345

Conditions: You have a maintenance work request form for repair of a pneumatic tourniquet. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review the maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Locate the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph (Figure 5-1) located in Chapter 5 of TB MED 7 to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection of:
 - a. Bare or exposed cables or wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on the maintenance work request form.

NOTE: If unit operates normally and no malfunctions are detected, complete the organizational maintenance work request form and return the unit to the user. (See step 10.)

5. Troubleshoot and isolate the malfunction to the lowest maintenance level (component/module/board) IAW with SOP. (Refer to the manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW the manufacturer's literature.
9. Determine disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients, or the operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file the organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of the maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the MEL for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on the maintenance work request form.	—	—
5. Isolated the malfunction to the lowest maintenance level.	—	—
6. Determined if the repair cost exceeded the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW the manufacturer's literature.	—	—
9. Determined disposition of the unit.	—	—
10. Completed and filed the organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON PNEUMATIC
TOURNIQUETS
081-874-0346**

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a pneumatic tourniquet. You will need manufacturer's service literature, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request for IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Perform "Before" (B) operation PMCS as listed in the manufacturer's service literature.
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.
3. Perform "After" (A) operation PMCS as listed in the manufacturer's service literature.
4. Perform "Quarterly" (Q) operation PMCS as listed in the manufacturer's service literature.
5. Perform "Semiannual" (S) operation PMCS as listed in the manufacturer's service literature.
6. Perform operational checkout procedures IAW the manufacturer's service literature.
7. Correct minor deficiencies.
8. Record uncorrected deficiencies on the organizational maintenance work request form and complete the appropriate reports and forms IAW internal SOP.
9. Take the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed "Before" (B) operation PMCS as listed in manufacturer's service literature.	_____	_____
2. Performed "During" (D) operation PMCS as listed in the manufacturer's service literature.	_____	_____
3. Performed "After" (A) operation PMCS as listed in the manufacturer's service literature.	_____	_____
4. Performed "Quarterly" (Q) PMCS as listed in the manufacturer's service literature.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Performed "Semiannual" (S) PMCS as listed in the manufacturer's service literature.	—	—
6. Performed operational checkout procedures IAW the manufacturer's service literature.	—	—
7. Corrected minor deficiencies.	—	—
8. Recorded uncorrected deficiencies on the organizational maintenance work request form and completed the appropriate reports and forms IAW internal SOP.	—	—
9. Took the unit out of service if uncorrected deficiencies could present any danger to patients or the operator or if the machine could be damaged due to continued use.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

Subject Area 5: Performing Fleet, Field, or Medical Readiness Activities

PERFORM CALIBRATION VERIFICATION ON TABLE OF ORGANIZATION AND EQUIPMENT ANESTHESIA SYSTEMS**081-874-0351**

Conditions: You have an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a TO&E anesthesia system scheduled for CVC. You will need manufacturer's service literature, test pressure gauge (PIN 4114807), calibrated oxygen monitor, tool kit (medical equipment organizational maintenance), and individual toolbox.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Verify cylinder pressure regulator.
 - a. Disconnect all pipeline hoses and turn the system power switch to ON.
 - b. Open the oxygen cylinder valve.
 - c. Set the oxygen flow to 4 liters per min.
 - d. Open the other gas flow control valves to drain pressure from the system.
 - e. Close the O₂ cylinder valve, and close the flow control valves.
 - f. Press the O₂ flush valve to drain oxygen pressure from the system.
 - g. Turn the system power switch to STANDBY.
 - h. Remove the flowmeter housing back cover.
 - i. Connect test pressure gauge (PIN 4114807) between machine's oxygen pipeline inlet connector and the oxygen pipeline supply hose. (Refer to Fig. 5-1, pg. 5-3, in the manufacturer's service literature.)
 - j. Open the oxygen cylinder valve and turn the system power switch to ON.
 - k. Set the oxygen flow to 4 liters per min.
 - l. Depress the push button on the test device.
 - m. Release the push button.
 - n. After the pressure decay stabilizes, verify that the gauge indicates 46 psi.
 - o. Close the cylinder valve and allow pressure to drain from the system.
 - p. Close all of the flow control valves and set the system power switch to STANDBY.
 - q. Disconnect the test gauge.
 - r. Reinstall the flowmeter housing back cover.
 - s. Connect the pipeline hoses.
2. Verify oxygen supply pressure alarm switch.
 - a. Disconnect all pipeline hoses and turn the system power switch to ON.
 - b. Open the oxygen cylinder valve.
 - c. Set the oxygen flow to 5 liters per min.
 - d. Open the other gas flow control valves to drain pressure from the system.
 - e. Close the O₂ cylinder valve, and close the flow control valves.
 - f. Press the O₂ flush valve to drain oxygen pressure from the system.
 - g. Turn the system power switch to STANDBY.

Performance Steps

- h. Remove the rear cover from the flowmeter housing.
- i. Connect test pressure gauge (P/N 4114807) between machine's oxygen pipeline inlet connector and the oxygen pipeline supply hose. (Refer to Fig. 5-2, pg. 5-5, in the manufacturer's service literature.)
- j. Open the O₂ cylinder valve and turn the system power switch to ON.
- k. Set the oxygen flow to 200 ml per min.
- l. Close the oxygen cylinder valve.
- m. As the pressure drops, verify the O₂ SUPPLY alarm activates when the pressure is between 40 and 34 psi as shown on the test gauge.
- n. Turn the system power switch to STANDBY.
- o. Disconnect the test gauge.
- p. Reinstall the rear cover and its retaining screws.
- q. Connect the pipeline hoses.

3. Verify oxygen ratio controller (ORC).

- a. Remove the rear cover of the flowmeter housing.
- b. Connect a calibrated oxygen monitor to the fresh gas outlet.
- c. Connect the pipeline hoses.
- d. Turn the system power switch to ON.
- e. Set the O₂ flow to 8 L/min.
- f. Set the N₂O flow to 8 L/min.
- g. Set the O₂ flow to 800 ml/min for 1 minute.
- h. Verify that the O₂ concentration is between 21% and 29% (N₂O flow of 2.7 to 3.0 L/min.)
- i. Adjust the oxygen flow to a point where the nitrous oxide flowmeter indicates 8 L/min.
- j. Verify that the O₂ concentration is between 21% and 29% (O₂ flow of 2.1 to 3.3 L/min.)
- k. Slowly decrease the oxygen flow to 800 L/min.
- l. The nitrous oxide flow should decrease proportionally and the O₂ concentration should remain between 21% and 29%.
- m. Close the O₂ flow control valve, and fully open the N₂O flow control valve.
- n. Verify that the O₂ concentration is between 22% and 31%.
- o. Close the N₂O flow control valve and turn the system power switch to STANDBY.
- p. Replace the flowmeter housing rear cover.

4. Verify oxygen sensor.

- a. Turn the system power switch to ON.
- b. Enter the Main Service Screen and select the Service Mode (ref. Section 2 of manufacturer's service literature).
- c. Enter the Oxygen Monitor Service Screen.
- d. Zero calibration.
 - (1) Remove the oxygen sensor capsule from its housing and allow several minutes for the displayed offset readings to stabilize.

NOTE: The difference between the displayed CELL A and CELL B readings should be no greater than 8.

- (2) Press the key next to ZERO to store the current values as the new zero calibration.
- (3) Reinstall the sensor capsule in its housing.
- e. 21% calibration.
 - (1) Expose the sensor to ambient air only (away from any open part of the breathing system) and allow it to stabilize for several minutes.

Performance Steps

- (2) Press the key next to EXIT to return to the Main Service Screen. Press the key next to EXIT again to return the display to normal operation.
- (3) Press the CAL key to initiate the 21% O₂ calibration.

NOTE: During calibration, the LED next to the CAL key lights, and the label CAL appears in the oxygen monitor window. Following successful calibration, the currently sensed oxygen concentration appears in the oxygen monitor window.

- (4) When calibration is complete, reinstall the sensor assembly in the inspiratory valve dome.

NOTE: If the O₂ sensor will not calibrate properly refer to the Oxygen Monitoring section of the Narkomed M operator's instruction manual for further information.

- 5. Verify breathing pressure monitor.
 - a. Turn the system power switch to ON.
 - b. Enter the Main Service Screen and select the Service Mode (ref. Section 2 of manufacturer's service literature).
 - c. Proceed to the Pressure Monitor Service Screen.
 - d. Zero calibration.
 - (1) Disconnect the breathing pressure hose from the interface panel on the monitor housing, and let the current pressure value stabilize.
 - (2) Press the key next to ZERO to store the current value as the new zero.
 - e. Span calibration.
 - (1) Refer to manufacturer's service literature, pg. 5-11, and assemble test fixture assembly as illustrated in Fig. 5-5.
 - (2) Apply a pressure of 50 cm H₂O to the breathing pressure interface panel.
 - (3) When the displayed current value is stabilized, press the key next to SPAN to store the current value as the new span calibration.
 - f. Disconnect the test fixture and reconnect the breathing pressure hose to the interface panel.
 - g. Press the key next to EXIT to return to the Main Service Screen.
- 6. Fill out and attach (if needed) DD Form 2163.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Verified cylinder pressure regulator.	_____	_____
2. Verified oxygen supply pressure alarm switch.	_____	_____
3. Verified oxygen ratio controller (ORC).	_____	_____
4. Verified oxygen sensor.	_____	_____
5. Verified breathing pressure monitor.	_____	_____
6. Filled out and attached (if needed) DD Form 2163.	_____	_____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB 38-750-2

Related
AR 40-61
NFPA 99

REPAIR TABLE OF ORGANIZATION AND EQUIPMENT ANESTHESIA SYSTEM 081-874-0352

Conditions: You have received a maintenance work request form for repair of a table of organization and equipment (TOE) anesthesia system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit was functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Obtain the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph, (Figure 5-1) located in Chapter 5 of TB MED 7, to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection.
 - a. Bare exposed cables/wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Burned light bulbs/LEDs.
 - d. Corrosion, rust, damaged or deteriorated materials and parts.
 - e. Damage to protective coatings.
4. Perform a function check to confirm symptoms listed on maintenance work request form.

NOTE: If the unit operates normally and no malfunctions are detected, complete organizational maintenance work request form and return the unit to the user. (See step 10.)
5. Troubleshoot and isolate the malfunction to the lowest maintenance level, (i.e. component, module, board), IAW internal SOP. (Refer to manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

NOTE: If the repair cost exceeds the MEL, notify the supervisor.

Performance Steps

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW manufacturer's literature.
9. Determine the disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the maintenance expenditure limits (MEL) for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on maintenance work request form.	—	—
5. Troubleshoot and isolated the malfunction to the lowest maintenance level, IAW internal SOP.	—	—
6. Determined if the repair cost exceeds the MEL.	—	—
7. Repaired or replaced the malfunctioning item	—	—
8. Performed a function check IAW manufacturer's literature	—	—
9. Determined the disposition of the unit.	—	—
10. Completed and filed organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 TB 38-750-2
 TB MED 7

Related
 AR 40-61
 AR 710-2
 NFPA 99

SET UP TABLE OF ORGANIZATION AND EQUIPMENT ANESTHESIA SYSTEMS

081-874-0353

Conditions: You are tasked to setup a table of organization and equipment (TOE) anesthesia system. You will need manufacturer's service literature, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Assembled the unit in accordance with standards specified in the manufacturer's literature.

Performance Steps

1. Set up the support frame (refer to Fig. 4-3 of the manufacturer's service literature).
 - a. Press the pressure relief button located on the side of Container 1.
 - b. Open the lid by releasing the latches ($\frac{1}{2}$ turn counterclockwise).
 - c. Unpack the support frame.
 - d. Swing the rear caster extensions outward and allow them to lock into position.
 - e. Place the support frame with its casters on the floor.
 - f. Ensure each of the front casters is locked by stepping on the outboard end of each locking tab.
2. Attach the anesthesia machine to the support frame (refer to Fig. 4-4 of the manufacturer's service literature).
 - a. Press the pressure relief button located on the side of Container 2.
 - b. Open the lid by releasing the latches ($\frac{1}{2}$ turn counterclockwise).
 - c. Carefully remove the anesthesia machine from its container by lifting it with the handles.
 - d. Position the machine with the absorber pole at the left front corner and the locking casters at the front of the machine.
 - e. Carefully set the machine on the support frame.
 - f. Tighten the wing screws at the underside of each corner to lock the machine to the support frame.
3. Install the vaporizer (refer to Fig. 5-3 of the manufacturer's service literature).
 - a. Verify that the vaporizer handwheel is locked in the T (transport) position.
 - b. Verify that the locking lever is locked on the handwheel.
 - c. Place the vaporizer on the ports in the vaporizer mounting block.
 - d. Turn the locking lever clockwise until the vaporizer is locked securely.
4. Install the absorber system assembly (refer to Fig. 5-4 of the manufacturer's service literature).
 - a. Place the absorber mounting stud on the absorber pole.
 - b. Loosely tighten the upper wing screw to lock the assembly to the absorber pole.
 - c. Loosen the lower wing screw to raise the absorber system to the preferred height.
 - d. Tighten the wing screw to hold the absorber at that height.
 - e. Loosen the upper wing screw and rotate the absorber system to the preferred position.
 - f. Tighten the upper wing screw to hold the absorber in position.

WARNING: Do not pinch or kink the fresh gas hose leading from the fresh gas outlet to the absorber.

- g. Connect the fresh gas hose to the fresh gas outlet on the machine.

Performance Steps

5. Install the expiratory valve/respiratory volume sensor/PEEP valve assembly (refer to Fig. 5-5 of the manufacturer's service literature).
 - a. Verify that the silicone gasket is properly seated on the threads of the lower absorber pipe.
 - b. Attach the assembly to the lower absorber pipe by screwing the sensor retaining nut on the threads of the lower absorber pipe. (Hand-tighten only.)
 - c. Verify that the PEEP valve and expiratory valve connections are secure. (Hand-tighten only.)
 - d. Connect the sensor cord to the VOLUME SENSOR receptacle on the side of the monitor housing.
6. Install the display assembly (refer to Fig. 5-6 of the manufacturer's service literature).
 - a. Slide the display and monitor support arm assembly into the rail on the left side of the monitor housing.
 - b. Hold the assembly at the preferred height and tighten its locking screw to hold it in position.
 - c. Connect the cable from the display panel to the remote display port on the side of the machine.
 - d. Tighten the retaining screws on the connector shell.
7. Install the mesh storage basket (refer to Fig. 5-7 of the manufacturer's service literature).
 - a. Empty the accessories out of the mesh storage basket.
 - b. Wrap the Velcro straps around the side frame rails at the top of the support frame.
8. Install the scavenger (refer to Fig. 5-8 of the manufacturer's service literature).
 - a. Remove the scavenger from its box.
 - b. Slide the bracket on the scavenger over the slide mount located on the top back bar of the support frame.
9. Install the oxygen cylinder (refer to Fig. 5-10 of the manufacturer's service literature).
 - a. Loosen the hinged cylinder yoke with the cylinder wrench, remove the yoke plug, and swing the yoke down.
 - b. Place a new sealing washer on the seat of the yoke gas inlet connection.

WARNING: Use only one cylinder washer. Using more than one washer could cause leakage of the cylinder gas and compromise the pin indexing system.

 - c. Verify the presence and integrity of the two index pins below the gas inlet.

WARNING: Check the cylinder yoke for the presence of two index pins each time a cylinder is attached to the machine.

 - d. Insert the head of the cylinder into the yoke from below, so that the gas outlet and indexing holes on the cylinder head are facing the gas inlet and indexing pins on the yoke.
 - e. Engage the indexing holes with the index pins.
 - f. Screw the yoke bolt clockwise against the cylinder head, so that the point of the bolt is aligned with the countersunk recess on the back of the cylinder head.
 - g. Verify that the sealing washer is in place, that the index pins are engaged, and that the cylinder hangs vertically.
 - h. Tighten the bolt securely with the cylinder wrench, and fasten the strap at the lower frame rail around the cylinder.
10. Connect the gas pipeline supply hoses (refer to Fig. 5-11 of the manufacturer's service literature).

Performance Steps

- a. Verify that the hoses have the correct DISS fittings.
- b. Connect the gas fitting on each supply hose to the corresponding gas fitting on the side of the flowmeter housing.

WARNING: Both ends of each gas supply hose must be indexed for the same gas. Pipeline delivery hoses used between wall outlets and anesthesia machines have caused accidents when, during assembly, an oxygen fitting has been placed on one end of the hose and a nitrous oxide fitting on the other end.

- c. Connect the other end of each supply hose to the appropriate functioning hospital pipeline outlet.
 - d. Check the pipeline pressure gauge on the front of the Narkomed M for sufficient pipeline pressure (50-55 psi).
11. Connect the power cord (refer to Fig. 5-12 of the manufacturer's service literature).
 - a. Set the system power switch to STANDBY.
 - b. Enable all circuit breakers by placing them in the "set" (pushed in) position.
 - c. Connect the female end of the power cord to the power inlet connector on the bottom of the anesthesia machine.
 - d. Plug the power cord into an active AC hospital grade outlet.
 12. Install and connect the pressure sensor adapter (refer to Fig. 5-13 of the manufacturer's service literature).
 - a. Pull the inspiratory valve dome plug from the inspiratory valve dome.
 - b. Insert the pressure sensor adapter into the inspiratory valve dome by pressing it into place.
 - c. Verify that there is a line connected to each hose barb on the adapter and that each line is secured with a press-on clamp.
 - d. Join the long end of the hose assembly to the breathing pressure monitor connector on the side of the monitor housing.
 - e. Join the short end of the hose assembly to the connector at the breathing pressure gauge.
 13. Install and connect the oxygen sensor (refer to Fig. 5-14 of the manufacturer's service literature).
 - a. Connect the sensor cord to the O₂ SENSOR receptacle on the side of the monitor housing.
 - b. Remove the cap from the sensor housing.
 - c. Perform an oxygen sensor calibration as described in "Calibrating the Oxygen Sensor" in Section 9 of the manual.
 - d. Press the sensor housing into the pressure sensor adapter.
 14. Connect the breathing circuit (refer to Fig. 5-15 of the manufacturer's service literature).
 - a. Attach a 22 mm breathing hose between the ventilator bellows 22 mm terminal marked VENTILATOR HOSE, and the 22 mm terminal on the rear of the manual/automatic selector valve marked VENTILATOR HOSE.
 - b. Attach a 22 mm breathing hose between the 22 mm hose terminal on the inspiratory valve marked INSPIRATION, and one side of the Y-piece.

WARNING: To ensure proper direction of gas flow during inspiratory and expiratory phases, the disks in the inspiratory and expiratory valves must move freely, without sticking.

 - c. Attach a 22 mm breathing hose between the other side of the Y-piece and the 22 mm hose terminal on the expiratory valve marked EXPIRATION.

15. Connect the breathing bag (refer to Fig. 5-15 of the manufacturer's service literature).

Performance Steps

- a. Attach a breathing bag, with a 22 mm coupling and a 22 mm extension hose to the terminal on the bottom of the manual/automatic selector valve.
- b. Place the breathing bag hanger loop on the hook below the selector.

16. Connect the scavenger system (refer to Fig. 5-17 and 5-18 of the manufacturer's service literature).

NOTE: The scavenger interface can be connected to a "suction" or "passive" waste gas removal system. Before installing the scavenger, determine which system will be used.

- a. Connect a 19 mm hose between the 19 mm terminal labeled SCAVENGER HOSE on the ventilator relief valve and the 19 mm terminal labeled SCAVENGER HOSE on the left side of the scavenger.

WARNING: The 19 mm scavenger hose leading from the ventilator relief valve must not be pinched, kinked, or blocked in any manner.

- b. Connect a 19 mm hose between the 19 mm terminal labeled SCAVENGER HOSE on the back of the APL valve and the 19 mm terminal labeled SCAVENGER HOSE on the right side of the scavenger.

WARNING: The 19 mm scavenger hoses leading from the absorber system must not be pinched, kinked, or blocked in any manner.

- c. If a "passive" system is used, connect the exhaust hose to the waste gas exhaust port at the bottom of the scavenger.
- d. Make sure the needle valve is turned off.
- e. If a "suction" system is used, connect the vacuum hose to the vacuum hose terminal on the scavenger and attach the 3 liter bag with the magenta coupling to the waste gas exhaust port at the bottom of the scavenger.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Set up the support frame.	_____	_____
2. Attached the anesthesia machine to the support frame.	_____	_____
3. Installed the vaporizer.	_____	_____
4. Installed the absorber system assembly.	_____	_____
5. Installed the expiratory valve/respiratory volume sensor/PEEP valve assembly.	_____	_____
6. Installed the display assembly.	_____	_____
7. Installed the mesh storage basket.	_____	_____
8. Installed the scavenger.	_____	_____
9. Installed the oxygen cylinder.	_____	_____
10. Connected the gas pipeline supply hoses.	_____	_____
11. Connected the power cord.	_____	_____
12. Installed and connected the pressure sensor adapter.	_____	_____
13. Installed and connected the oxygen sensor.	_____	_____

Performance Measures

GO NO
GO

- 14. Connected the breathing circuit. _____ _____
- 15. Connected the breathing bag. _____ _____
- 16. Connected the scavenger system. _____ _____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

REPAIR TABLE OF ORGANIZATION AND EQUIPMENT STERILIZERS 081-874-0355

Conditions: You have received a maintenance work request form for repair of a table of organization and equipment (TOE) anesthesia system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, TM 8-6530-004-24&P, TM 10-7360-204-13&P, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Isolated the malfunction to the lowest maintenance level (IAW internal SOP) and corrected it. The unit was functional in accordance with operational standards specified in TM 8-6530-004-24&P and TM 10-7360-204-13&P. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Obtain the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph, (Figure 5-1) located in Chapter 5 of TB MED 7, to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection:
 - a. Bare exposed cables/wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Burned light bulbs/LEDs.
 - d. Corrosion, rust, damaged or deteriorated materials and parts.
 - e. Damage to protective coatings.
4. Perform a function check to confirm symptoms listed on maintenance work request form.

NOTE: If the unit operates normally and no malfunctions are detected, complete organizational maintenance work request form and return the unit to the user. (See step 10.)
5. Troubleshoot and isolate the malfunction to the lowest maintenance level, (e.g., component, module, board), IAW internal SOP. (Refer to manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

NOTE: If the repair cost exceeds the MEL, notify the supervisor.

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW TM 8-6530-004-24&P and TM 10-7360-204-13&P.
9. Determine the disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the maintenance expenditure limits (MEL) for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on maintenance work request form.	—	—
5. Troubleshoot and isolated the malfunction to the lowest maintenance level, IAW internal SOP.	—	—
6. Determined if the repair cost exceeds the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW TM 8-6530-004-24&P and TM 10-7360-204-13&P.	—	—
9. Determined the disposition of the unit.	—	—
10. Completed and filed organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

TB MED 7

TM 8-6530-004-24&P

Related

AR 40-61

AR 710-2

NFPA 99

TM 10-7360-204-13&P

SET UP TABLE OF ORGANIZATION AND EQUIPMENT STERILIZERS

081-874-0356

Conditions: You are tasked to set up a table of organization and equipment (TOE) sterilizer. You will need TM 8-6530-004-24&P, TM 10-7360-204-13&P, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Assembled the unit in accordance with standards specified in the TM 8-6530-004-24&P.

Performance Steps

1. Remove gasoline burner.
 - a. Open either firebox door.
 - b. Remove the gasoline burner.
 - c. Close the firebox door.
2. Assemble front stand.
 - a. Tilt up the front of the sterilizer.
 - b. Unlatch the door.
 - c. Swing it down into place.
 - d. Tighten the two thumb screws into the sterilizer case.
3. Assemble rear stand.
 - a. Raise the rear of the sterilizer.
 - b. Unlatch the door.
 - c. Swing it down into place.
 - d. Tighten the two thumb screws into the sterilizer case.
4. Remove all packing materials from the sterilizer.
5. Level the sterilizer.
 - a. Pour a small amount of water into the chamber.
 - b. The water should gently flow to the drain in the front of the chamber.
 - c. Adjust the leveling or use blocking as required.
6. Arrange the shelves.
7. Prepare unit for steam generation.

NOTE: Water can be heated to create steam two different ways - electrical heat and gasoline burner. Before continuing, determine which method will be used

- a. Assemble for electrical heating method.
 - (1) Determine the available voltage(s), frequency, and phase(s).

NOTE: Three voltage and phase configurations increase heating and operating timeframes.

- (2) Select the optimum voltage and phase configuration.
- (3) Remove the cover of the electrical control box to access the electrical terminal strip.
- (4) Using Fig. 2-1 through 2-6 of TM 8-6530-004-24&P as references, connect an electrical supply cable that supports the voltage and phase configuration you have selected.

CAUTION: Some electrical voltage and phase configurations require additional electrical connections.

Performance Steps

- (5) Replace the cover of the electrical control box.
- b. Prepare for gasoline burner method (refer to TM 10-7360-204-13&P, pg. 2-14 to 2-18).
 - (1) Take burner unit to the fueling area not less than 50 feet away from the sterilizer.
 - (2) Place unit on back end in vertical position.
 - (3) Release air pressure by turning fuel filler cap slowly counterclockwise.
 - (4) After air pressure is released, remove filler cap.
 - (5) Fill the fuel tank with 8 quarts or until fuel can be seen at the bottom of the fuel filler tube.
 - (6) Replace filler cap and hand tighten.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Removed gasoline burner.	_____	_____
2. Assembled front stand.	_____	_____
3. Assembled rear stand.	_____	_____
4. Removed all packing materials from the sterilizer.	_____	_____
5. Leveled the sterilizer.	_____	_____
6. Arranged the shelves.	_____	_____
7. Prepared unit for steam generation.	_____	_____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
TM 10-7360-204-13&P	None
TM 8-6530-004-24&P	

REPAIR TABLE OF ORGANIZATION AND EQUIPMENT DENTAL OPERATING SYSTEMS 081-874-0358

Conditions: You have received a maintenance work request form for repair of a table of organization and equipment (TOE) dental operating system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, TM 8-6520-002-24&P, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Isolated the malfunction to lowest maintenance level and corrected IAW internal SOP. The unit is functional in accordance with operational standards specified in TM 8-6520-002-24&P. Results are recorded on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Obtain the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph, (Figure 5-1) located in Chapter 5 of TB MED 7, to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection:
 - a. Bare, exposed cable/wires/disconnected hoses.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Corrosion, rust, damaged or deteriorated materials and parts.
 - d. Damage to protective coatings.
 - e. Burned out light bulbs/LEDs.
4. Perform a function check to confirm symptoms listed on maintenance work request form.

NOTE: If the unit operates normally and no malfunctions are detected, complete organizational maintenance work request form and return the unit to the user. (See step 10.)
5. Troubleshoot and isolate the malfunction to the lowest maintenance level, (e.g., component, module, board), IAW internal SOP. (Refer to manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

NOTE: If the repair cost exceeds the MEL, notify the supervisor.

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW TM 8-6520-002-24&P.
9. Determine the disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance, if necessary.
10. Complete and file organizational maintenance work request form IAW internal SOP.
 - a. Obtain the hand receipt copy of maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit, as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the maintenance expenditure limits (MEL) for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on maintenance work request form.	—	—
5. Troubleshoot and isolated the malfunction to the lowest maintenance level, IAW internal SOP.	—	—
6. Determined if the repair cost exceeds the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW TM 8-6520-002-24&P.	—	—
9. Determined the disposition of the unit.	—	—
10. Completed and filed organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

TB MED 7

TM 8-6520-002-24&P

Related

AR 40-61

AR 710-2

NFPA 99

**SET UP TABLE OF ORGANIZATION AND EQUIPMENT DENTAL OPERATING SYSTEMS
(INTERNATIONAL STANDARDS OF ORGANIZATION-ISO)**

081-874-0359

Conditions: You are tasked to set up a table of organization and equipment (TOE) dental operating system. You will need TM 8-6520-002-24&P, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Assembled the unit in accordance with standards specified in TM 8-6520-002-24&P.

Performance Steps

1. Unpack the unit.
 - a. Remove the shipping container if not previously removed.
 - b. Loosen the air relief valve which is located on the end of the case.
 - c. Unlatch the case, remove the lid, and remove the protective foam pad.
 - d. Lift the unit from the case.
 - e. Remove the waste container, accessory kit, and post assembly.
 - f. Set the case aside.
2. Assemble the frame base.
 - a. Open the accessory kit and remove the $\frac{3}{4}$ inch open-end wrench.
 - b. Remove the cap screw that secures the frame base to the underside of the unit.
 - c. Fasten the post assembly to the frame base.
 - d. Stand the frame base upright.
3. Install the dental unit.
 - a. Place unit on top of frame base assembly.
 - b. Tighten the thumbscrews.
4. Assemble the foot control.
 - a. Remove the foot control secured on the underside of the unit with an elastic cord.
 - b. Carefully draw out the foot control tubing from inside the unit.
5. Install the hanger bar assemblies.
 - a. Set the dental unit upright, if not previously done.
 - b. Lift off the top of the unit.
 - c. Loosen the thumbscrews that secure the instrument hanger bar assemblies upside down in the unit.
 - d. Locate and install the hanger bar assemblies to the outside of the unit
6. Insert the handpieces.
 - a. Uncoil the AVS handpiece and ASE tubing and feed them out through the bottom of the unit.
 - b. Place the ASE tip and the AVS handpiece in their hangers.
 - c. Feed the handpiece tubing and syringe out through the bottom of the unit.
 - d. Place them in their hangers.
 - e. Locate the handpieces in the accessory kit.
 - f. Assemble the handpieces onto their tubing.
7. Screw the AVS waste container onto the bottom of the AVS assembly.

Performance Steps

8. Install air supply tubing.
 - a. Locate the 10-foot air supply tubing.
 - b. Locate the quick-disconnect on the short supply tubing under the unit.
 - c. Connect the 10-foot air supply tubing to the quick-disconnect.
9. Secure the accessory kit and case.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Unpacked the unit.	_____	_____
2. Assembled the frame base.	_____	_____
3. Installed the dental unit.	_____	_____
4. Assembled the foot control.	_____	_____
5. Installed the hanger bar assemblies.	_____	_____
6. Inserted the handpieces.	_____	_____
7. Screwed the AVS waste container onto the bottom of the AVS assembly.	_____	_____
8. Installed air supply tubing.	_____	_____
9. Secured the accessory kit and case.	_____	_____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TM 8-6520-002-24&P

Related
None

PERFORM PREVENTIVE CHECKS AND SERVICES TO TABLE OF ORGANIZATION AND EQUIPMENT TACTICAL SHELTERS

081-874-0360

Conditions: You receive a preventive maintenance schedule and record form and an organizational maintenance work request form to perform a PMCS on a table of organization and equipment tactical shelter. You will need TM 10-5411-201-14, TM 10-5411-201-24P, internal maintenance management system (example: TAMMIS), TB 38-750-2, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance), individual toolbox, and any additional tools recommended by the manufacturer.

Standards: Performed a scheduled PMCS. Identified all uncorrected, unsafe conditions and recorded them on an organizational maintenance work request form IAW internal SOP. Corrected and recorded minor deficiencies during the PMCS. Recorded the PMCS on an organizational preventive maintenance schedule and record form IAW internal SOP.

Performance Steps

1. Inspect electrical system.
 - a. Circuit breaker panel assembly for damage to door and panel.
 - b. Panel wiring for damage or disconnection.
 - c. Light switches for operation.
 - d. Circuit breakers for operation, condition, and security.
 - e. Power entry panel assembly for damage to panel
 - f. Receptacles for operation, condition, and security
 - g. Terminals/connectors for operation, condition, and security.
 - h. Area light assembly for operation.
 - i. Incandescent light assembly for operation.
 - j. Hinged roof area ceiling lights for operation.
 - k. Fixed roof area ceiling lights for operation.
 - l. Receptacle outlets for operation.
 - m. Wall switches for operation.
2. Inspect door assemblies.
 - a. Personnel and right cargo door for operation, condition, and security.
 - b. Door vent for operation, condition, and security.
 - c. Door lock assembly for operation, condition, and security.
 - d. Door stop assembly for operation, condition, and security.
 - e. Left cargo door for operation, condition, and security.
 - f. Foot bolt assembly for operation, condition, and security.
 - g. Chain bolt assembly for operation, condition, and security.
3. Inspect hinged panel leveling jack assembly for--
 - a. Sinking into the ground if shelter not level (check frequently during rainy conditions).
 - b. Operation, condition, and security.
4. Inspect hinged panel assemblies.
 - a. Hinged roof panel for paint damage, corrosion, cracks, or punctures.
 - b. Support strut assemblies for operation and condition.
 - c. Hinged endwall for paint damage, corrosion, cracks, or punctures.
 - d. Endwall close-out panel for paint damage, corrosion, cracks, or punctures.
 - e. Latches for operation and condition.

Performance Steps

- f. Hinged sidewall for paint damage, corrosion, cracks, or punctures.
 - g. Sidewall close-out panels for paint damage, corrosion, cracks, or punctures.
 - h. ECU intake panel for paint damage, corrosion, cracks, or punctures.
 - i. ECU return panel for paint damage, corrosion, cracks, or punctures.
 - j. Hinged floor panel for paint damage, corrosion, cracks, or punctures.
5. Inspect fixed panel assemblies.
 - a. Personnel door endwall panel for paint damage, corrosion, cracks, or punctures.
 - b. Personnel door endwall panel for security of upper mobilizer fitting.
 - c. Level assembly for condition and security.
 - d. Folding step for security and condition.
 - e. Cargo door endwall for panel paint damage, corrosion, cracks, or punctures.
 - f. Cargo door endwall panel for security of upper mobilizer fittings.
 - g. Sidewall panel for panel paint damage, corrosion, cracks, or punctures.
 - h. Roof panel for panel for paint damage, corrosion, cracks, or punctures.
 - i. Roof panel hand hold for security and condition.
 - j. Load balancer and cable assembly for operation, condition, and security.
 - k. Stowage brackets for security and condition.
 - l. Solar bar assembly for operation, condition, and security.
 - m. Floor panel for paint damage, corrosion, cracks, or punctures.
 6. Inspect frame assembly.
 - a. Corner post and ISO fitting assembly for security and condition.
 - b. Camlock and latch cam handle for operation, condition, and security.
 7. Inspect miscellaneous components.
 - a. Equipment container for condition and completeness.
 - b. Storm configuration components for condition and completeness.
 - c. Support braces for condition.
 - d. Leveling jack extensions for condition.
 8. Correct minor deficiencies.
 9. Record noncorrected deficiencies on equipment inspection and maintenance worksheet and complete appropriate reports and forms, IAW internal SOP.
 10. Take the shelter out of service if uncorrected deficiencies present any danger to patients or operator or if the shelter could be further damaged due to continued use.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Inspected electrical system.	_____	_____
2. Inspected door assemblies.	_____	_____
3. Inspected hinged panel leveling jack assembly.	_____	_____
4. Inspected hinged panel assemblies.	_____	_____
5. Inspected fixed panel assemblies.	_____	_____
6. Inspected frame assembly.	_____	_____
7. Inspected miscellaneous components.	_____	_____

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
8. Corrected minor deficiencies.	_____	_____
9. Recorded noncorrected deficiencies on equipment inspection and maintenance worksheet and completed appropriate reports and forms, IAW internal SOP.	_____	_____
10. Took the shelter out of service if uncorrected deficiencies could present any danger to patients or the operator or if the shelter could be further damaged due to continued use.	_____	_____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

TB MED 7

TM 10-5411-201-14

TM 10-5411-201-24P

Related

AR 40-61

**PERFORM CALIBRATION VERIFICATION CERTIFICATION ON TABLE OF
ORGANIZATION AND EQUIPMENT MOBILE X-RAY SYSTEMS**

081-874-0361

Conditions: You have received an organizational preventive maintenance schedule and record and an organizational equipment inspection and maintenance worksheet on a TOE mobile X-ray system scheduled for CVC. You will need manufacturer's literature, Calibration Checklist for Model 1200 (manufacturer's literature, pg. 5-8 through 5-10), TB MED 7, TB 38-750-2, multimeter (6625-01-265-6000), AC ammeter with clamp, digital oscilloscope (6625-01-258-0022), PMX-III Radiographic Multimeter (6525-01-387-0212), densitometer (6525-01-161-1975), X-ray Test Cassette (6525-01-039-4019), tool kit (medical equipment organizational maintenance), and individual toolbox.

Standards: Performed CVC and recorded all uncorrected, unsafe conditions on the organizational equipment inspection and maintenance worksheet, IAW internal SOP. Corrected minor deficiencies and then recorded them on the organizational preventive maintenance schedule and record, IAW internal SOP. Completed DD Form 2163 and attached it to the unit.

Performance Steps

1. Verify line voltage.
 - a. Using a digital voltmeter, measure the incoming AC line voltage.
 - b. Voltage must remain a constant 120 VAC \pm 5% IAW American National Standards Institute ANSI C84.1.
 - c. Record the results on the Calibration Checklist.
2. Verify line set.
 - a. Using a digital voltmeter, connect the positive lead to test point TP3 and the negative lead to TP4 of the Line Set Board (P/N 500504).
 - b. Set the digital voltmeter to the 2 VDC scale position.
 - c. Adjust LINE SET knob until a voltage of .88 VDC is achieved.
 - d. Annotate the meter readings on the Calibration Checklist.
 - e. Move the positive meter lead to TP2.
 - f. Adjust R2 to 1.05 VDC.
 - g. Annotate the meter readings on the Calibration Checklist.
 - h. Move the positive meter lead to TP1.
 - i. Adjust R1 to .83 VDC.
 - j. Annotate the meter readings on the Calibration Checklist.
3. Assemble test equipment.
 - a. Connect the mAs meter to the phone plug (J4) located in the Control Assembly (500507).
 - b. Set the following technique factors:
 - (1) 60 kVp.
 - (2) 40 mA.
 - (3) 1/10 seconds.
 - c. Load the kVp Divider with the 0 = 42 kVp cassette (Filter Pack P/N 32867C) and place in the X-ray field.
 - d. Set Function Switch to RUN.
 - e. Connect the kVp divider cable to the oscilloscope and set up as follows:
 - (1) Volts/Div: .1.

Performance Steps

- (2) Time/Div: 20 mS.
 - (3) Ground Input/trace: lower line.
 - (4) Mode: Channel 1.
 - (5) Pre-trigger: 2 divisions.
 - (6) Display: set to Storage.
 - (7) Source: Channel 1.
 - (8) Input: DC.
 - (9) Trigger Mode: Single.
 - (10) Push "Ready".
4. Verify mA/kVp.
 - a. Make an exposure and note the obtained kVp and mA.
 - b. Compute the kVp by counting the 0-Volt Line on the oscilloscope as 42 kVp and each division as 10 kVp.
 - c. Annotate the results on the Calibration Checklist.
 - d. Switch the technique factor to 70 kVp/30 mA and repeat steps 4a through 4c.
 - e. Switch the technique factor to 80 kVp/30 mA and repeat steps 4a through 4c.
 - f. Replace the divider cassette with 0 = 55 kVp (Filter Pack P/N 32865C).
 - g. Switch the technique factor to 90 kVp/25 mA and repeat steps 4a through 4c.
 - h. Switch the technique factor to 100 kVp/25 mA and repeat steps 4a through 4c.
 5. Verify timer test.
 - a. Connect output of the kVp Divider (using the 3 Volt Filter Pack, P/N 32659B) to the Pulse Counter.
 - b. Verify each time base as indicated on the Calibration Checklist.
 6. Verify exposure indication.
 - a. Confirm audible and visual indication of exposure at all timer settings from 0.008 seconds through 4 seconds.
 - b. Annotate results on Calibration Checklist.
 7. Verify line current.
 - a. Set the following technique factors:
 - (1) 100 kVp.
 - (2) 25 mA.
 - (3) 1.0 second.
 - b. Attach the ammeter clamp over the black wire of the line cord and connect leads to AC ammeter.
 - c. Set the AC ammeter to the 200 mA scale.
 - d. Make an exposure.
 - e. Annotate meter readings on Calibration Checklist.
 8. Verify operation of mAs meter.
 - a. Set the following technique factors:
 - (1) 100 kVp.
 - (2) 25 mA.
 - (3) Refer to Calibration Checklist for time settings.
 - b. Observe the control assembly front panel mAs display during all timer settings as indicated on the Calibration Checklist.
 - c. For each timer setting, multiply the mA (25.mA) times the time as indicated on the control assembly panel.
 - d. Annotate the results for each setting on the Calibration Checklist.

Performance Steps

- e. Repeat steps 8a through 8d until all timer settings listed on Calibration Checklist have been completed.
9. Perform reproducibility test.
 - a. Set the X-ray field SID to 40 inches.
 - b. Connect the dosimeter to the ion chamber.
 - c. Connect DC voltmeter (set to the 2 VDC scale) to binding posts.
 - d. Set mode switch to DOSE and turn dosimeter ON.
 - e. Press zero momentarily to set meter to $0\text{ V} \pm .003$ volts.
 - f. Set the following technique factors:
 - (1) 100 kVp.
 - (2) 25 mA.
 - (3) 1/10 second.
 - g. Make an exposure and read the resulting DC voltage from the dosimeter.
 - h. Multiply this figure by 100 (move decimal point two places right) and annotate on Calibration Checklist as mR.
 - i. Repeat for a total of ten exposures.
 - j. Using a statistics program calculator, compute mean (\bar{X}) and standard deviation (S).
 - k. Compute coefficient of variation by dividing standard deviation by the mean.
 - l. Annotate results on Calibration Checklist.
 10. Perform half value layer test.
 - a. Set the following technique factors:
 - (1) 100 kVp.
 - (2) 25 mA.
 - (3) 1/2 second.
 - b. Place the Half Value Layer Test Fixture in the test chamber without the filter in place.
 - c. Adjust the Collimator, Dosimeter Chamber, and Test Fixture such that the X-ray will expose a small circle in the center of the chamber.
 - d. Make an exposure, multiply DC volts by 100 (for mR), and enter on Calibration Checklist as the Unfiltered Reading.
 - e. Place the 2.7 mm filter over the opening in the Test Fixture, make an exposure, and record mR on Calibration Checklist as Filtered Reading.
 - f. Divide the Filtered Reading by the Unfiltered Reading and enter on Calibration Checklist.
 11. Perform leakage test.
 - a. Close both collimator shutters completely.
 - b. Set the following technique factors:
 - (1) 100 kVp.
 - (2) 25 mA.
 - (3) 1.0 second.
 - c. Place the ion chamber of the dosimeter on the bottom shelf (40" SID).
 - d. Make an exposure.
 - e. Record the mR reading for future reference.
 - f. Rotate the unit so an exposure is made from all six sides.
 - g. Record each mR reading position 1 through position 6 on Calibration Checklist.
 - h. Multiply all mR readings by 60 and verify that no reading exceeds 50 mR.
 12. Verify light luminance.
 - a. Open collimator doors and press button to activate lamp.

Performance Steps

- b. Check to ensure that the light stays on for a minimum of 15 seconds.
 - c. Use the light meter with probe placed at 40 inches to measure light intensity.
 - d. Set the meter switch to A x 10 and probe switch to x1.
 - e. Measure the light intensity in center of each quadrant by pressing meter button, reading the A scale, and multiplying by 10.
 - f. Enter the lowest reading on Calibration Checklist.
13. Verify beam alignment.
- a. Rotate collimator so that knobs are facing front and tighten to lock.
 - b. Place Alignment Tool (RMI 161A) in beam at 40" and collimator field just to the outside edge of the silver border.
 - c. Place Beam Alignment Tool (RMI 162A) in center of field (center dot at intersection of center lines) and adjust beam so that the shadow of the upper dot covers lower dot.
 - d. Readjust borders if necessary.
 - e. Insert loaded cassette.
 - f. Place identifying numbers (stock or serial) on upper right corner, and take an exposure at 60 kVp, 2 mAs.
 - g. Develop film and inspect image.
 - h. Place the exposed film on top of the alignment tool making sure that the exposed border of the film coincides with the silver border of the alignment tool.
 - i. Inspect the center of the X-ray field on the exposed film.
 - j. The field must coincide with the center of the light field within $\pm 1\%$ of the SID (0.4").
 - k. Remove alignment tools.
 - l. Place a loaded cassette in the field at 40 inches, set the collimator shutters so scales read 5.0" x 7.0" on the 40" SID scale, and make an exposure.
 - m. Develop the film and verify that the actual size is within tolerance.
 - n. Record measurements on Calibration Checklist and attach test films.
14. Sign, date, and file the Calibration Checklist IAW internal SOP.
15. Fill out and attach (if needed) DD Form 2163.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Verified line voltage.	_____	_____
2. Verified line set.	_____	_____
3. Assembled test equipment.	_____	_____
4. Verified mA/kVp.	_____	_____
5. Verified timer test.	_____	_____
6. Verified exposure indication.	_____	_____
7. Verified line current.	_____	_____
8. Verified operation of mAs meter.	_____	_____
9. Performed reproducibility test.	_____	_____
10. Performed half value layer test.	_____	_____

REPAIR TABLE OF ORGANIZATION AND EQUIPMENT MOBILE X-RAY SYSTEMS 081-874-0362

Conditions: You have received a maintenance work request form for repair of a table of organization and equipment (TOE) mobile X-ray system. You will need internal maintenance management system (example: TAMMIS), TB MED 7, TB 38-750-2, multimeter (6625-01-265-6000), oscilloscope (6625-01-258-0022), manufacturer's service literature, manufacturer's recommended test equipment, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Isolated the malfunction to component level and corrected. The unit is functional in accordance with operational standards specified in the manufacturer's literature. Recorded results on an organizational maintenance work request form IAW internal SOP.

Performance Steps

1. Review maintenance work request form for the operator's description of the equipment's malfunction.
2. Determine the maintenance expenditure limits (MEL) for definite life equipment.
 - a. Obtain the current replacement cost.
 - b. Calculate the percentage of useful life remaining for the item by dividing the life remaining in months by the life expectancy in months.
 - c. Use the MEL Factor Graph, (Figure 5-1) located in Chapter 5 of TB MED 7, to determine the MEL factor. Read up vertically from the percent of useful life remaining to a point of intersection with the baseline.
 - d. Project a horizontal line to the MEL factor.
 - e. Multiply the MEL factor by the current replacement cost to determine maximum allowable repair costs.

NOTE: Under certain conditions the MEL may be waived. (See TB MED 7.)

NOTE: The MEL for definite life equipment, which has reached or exceeded its life expectancy, is 10 percent. This MEL remains constant for as long as the equipment is in use, regardless of age.

3. Perform a visual inspection:
 - a. Bare exposed cables/wires.
 - b. Missing or broken parts and accessories (e.g., knobs, switches, gauges).
 - c. Burned light bulbs/LEDs.
 - d. Corrosion, rust, damaged or deteriorated materials and parts.
 - e. Damage to protective coatings.
4. Perform a function check to confirm symptoms listed on maintenance work request form.

NOTE: If the unit operates normally and no malfunctions are detected, complete organizational maintenance work request form and return the unit to the user. (See step 10.)
5. Troubleshoot and isolate the malfunction to the lowest maintenance level, (e.g., component, module, board), IAW internal SOP. (Refer to manufacturer's literature for schematics.)
6. Determine if the repair cost exceeds the MEL.

Performance Steps

NOTE: If the repair cost exceeds the MEL, notify the supervisor.

7. Repair or replace the malfunctioning item.
8. Perform a function check IAW manufacturer's literature.
9. Determine the disposition of the unit.
 - a. Prepare to release the unit to the user if the function check is satisfactory.
 - b. Take the unit out of service if uncorrected deficiencies are present and they present a danger to patients or operator or if the machine could be damaged due to continued use.
 - c. Refer to the next higher echelon of maintenance if necessary.
10. Complete and file organizational maintenance work request form IAW internal SOP
 - a. Obtain the hand receipt copy of maintenance work request form from the user if the equipment was repaired in the shop.
 - b. Obtain the user's signature for receipt of the unit as appropriate.
 - c. Release the unit to the user.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed maintenance work request form for the operator's description of the equipment's malfunction.	—	—
2. Determined the maintenance expenditure limits (MEL) for definite life equipment.	—	—
3. Performed a visual inspection.	—	—
4. Performed a function check to confirm symptoms listed on maintenance work request form.	—	—
5. Troubleshoot and isolated the malfunction to the lowest maintenance level, IAW internal SOP.	—	—
6. Determined if the repair cost exceeds the MEL.	—	—
7. Repaired or replaced the malfunctioning item.	—	—
8. Performed a function check IAW manufacturer's literature.	—	—
9. Determined the disposition of the unit.	—	—
10. Completed and filed organizational maintenance work request form IAW internal SOP.	—	—

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

TB 38-750-2

TB MED 7

Related

21 CFR

AR 40-61

AR 710-2

NFPA 99

TB MED 521

SET UP TABLE OF ORGANIZATION AND EQUIPMENT MOBILE X-RAY SYSTEMS

081-874-0363

Conditions: You are tasked to set up a table of organization and equipment (TOE) mobile X-ray system. You will need manufacturer's service literature, tool kit (medical equipment organizational maintenance) and individual toolbox, and any additional tools recommended by manufacturer not included in individual tool kit.

Standards: Assembled the unit in accordance with standards specified in the manufacturer's literature.

Performance Steps

1. Perform assembly/setup procedures.
 - a. Remove reusable storage container from the wooden shipping crate, release leg clips.
 - b. Open the reusable container.
 - c. Remove the stand frame assembly, position on floor, engage rear wheel brakes, fold out legs, and insert locking pins to frame/leg holes to lock legs.
 - d. Remove the pipe assembly, lower section (with gear box assembly) and position locking handles down (to the horizontal unlocked position).
 - e. Position the pipe assembly, lower section, with the gear rack toward the rear of the stand. Align the four "T" head bolts on the bottom of the pipe assembly, lower section with the four key slots on the stand frame assembly. Lower into place, being sure the "T" bolts fit into the key slots.
 - f. Slide the pipe assembly, lower section, forward (approximately 1 inch) and lift the two locking handles up (to the vertical locked position). Ensure that both locking clips fit into locking clip slots.
 - g. Remove pipe assembly, upper section, from the reusable container.
 - h. Position pipe assembly, upper section, locking handle to the up (unlocked) position.
 - i. Position the pipe assembly, upper section, on top of the pipe assembly, lower section, with the rack gear facing the rear of the stand.
 - j. Pull locking handle down (from the unlocked position) to the perpendicular position and rotate 90° to the locked position. Secure locking handle with spring clip.
 - k. Crank gear box assembly up to a comfortable working height.
 - l. Remove cross arm assembly from side of stand frame assembly.
 - m. Press cross arm horizontal travel release brake and slide cross arm into gear box assembly.

NOTE: The X-ray generator assembly is very heavy (78 lbs); exercise care when lifting

- n. Lift X-ray generator assembly out of reusable container, remove safety pin, position X-ray generator yoke assembly into end of cross arm assembly, and secure safety pin.
- o. Lift control assembly out of reusable container.
- p. Position the control arm assembly on the stand brackets (see manufacturer's literature, Figure 1-1), pull out on the end clips, and snap into place.
- q. Attach line cord to control assembly LINE IN connector, attach exposure switch cable to control assembly, HAND SWITCH connector, and connect one end of the interconnect cable to the control assembly LINE OUT connector and the remaining end to the X-ray generator assembly connector.

2. Perform assembly checkout procedures.

NOTE: The assembly checkout procedure will be performed whenever the X-ray system is assembled.

Performance Steps

- a. Verify that the pipe assembly lower section locking handles are in the up (locked) position, that the handle locking clips are engaged, and that the stand foldout leg lock pins are installed.
- b. Verify that pipe assembly upper section locking handle is in the locked position and the spring clip is engaged.
- c. Verify that the X-ray generator safety pin is installed and locked.
- d. Verify that the line cord, the exposure switch, and the interconnect cable are properly installed.

Performance Measures

GO NO
GO

- 1. Performed assembly/setup procedures. _____ _____
- 2. Performed assembly checkout procedures. _____ _____

Evaluation Guidance: All nonapplicable performance measures will be scored as a GO. Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

APPENDIX A

FIELD EXPEDIENT SQUAD BOOK

FIELD EXPEDIENT SQUAD BOOK

For use of this form, see AR 350-57; the proponent agency is DCSOPS

SHEET

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USER APPLICATION	SOLDIER'S NAME					

TASK NUMBER AND SHORT TITLE	STATUS												
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-874-0097 Perform Calibration Verification Certification on Electronic Thermometers													
081-874-0098 Repair Electronic Thermometers													
081-874-0099 Perform Preventive Maintenance Checks and Services on Electronic Thermometers													
081-874-0103 Perform Calibration Verification Certification on Fetal Heart Monitors													
081-874-0104 Perform Preventive Maintenance Checks and Services on Fetal Heart Monitors													
081-874-0105 Perform Calibration Verification Certification on Neonatal Monitors													
081-874-0106 Perform Preventive Maintenance Checks and Services on Neonatal Monitors													
081-874-0107 Perform Calibration Verification Certification on Oxygen Analyzers													
081-874-0108 Perform Preventive Maintenance Checks and Services on Oxygen Analyzers													
081-874-0114 Perform Calibration Verification Certification on Transcutaneous SPO2 Monitors													
081-874-0115 Perform Preventive Maintenance Checks and Services on Transcutaneous SPO2 Monitors													
081-874-0116 Perform Calibration Verification Certification on Vital Sign Monitors													
081-874-0117 Repair Vital Sign Monitors													

DA FORM 5165-R, SEP 85 EDITION OF DEC 82 IS OBSOLETE

FIELD EXPEDIENT SQUAD BOOK

For use of this form, see AR 350-57; the proponent agency is DCSOPS

SHEET

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USER APPLICATION

SOLDIER'S NAME

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STATUS

TASK NUMBER AND SHORT TITLE	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-874-0118 Perform Preventive Maintenance Checks and Services on Vital Sign Monitors																					
081-874-0119 Perform Calibration Verification Certification on Diagnostic Ultrasound Systems																					
081-874-0120 Repair Diagnostic Ultrasound Systems																					
081-874-0121 Perform Preventive Maintenance Checks and Services on Diagnostic Ultrasound Systems																					
081-874-0128 Perform Preventive Maintenance Checks and Services on Fluoroscopic Imaging Systems																					
081-874-0129 Perform Calibration Verification Certification on Mammography Systems																					
081-874-0130 Perform Preventive Maintenance Checks and Services on Mammography System																					
081-874-0131 Perform Calibration Verification on Mobile Radiographic X-Ray Systems																					
081-874-0132 Repair Mobile Radiographic X-Ray Systems																					
081-874-0133 Perform Preventive Maintenance Checks and Services on Mobile Radiographic X-Ray Systems																					
081-874-0134 Perform Calibration Verification Certification on Panoramic Dental X-Ray Systems																					
081-874-0135 Repair Panoramic Dental X-Ray Systems																					
081-874-0136 Perform Preventive Maintenance Checks and Services on Panoramic Dental X-Ray Systems																					

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USER APPLICATION	SOLDIER'S NAME					

TASK NUMBER AND SHORT TITLE	STATUS													
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
081-874-0137 Perform Calibration Verification Certification on Fixed Dental X-Ray Systems, Other Than Panoramic														
081-874-0138 Perform Preventive Maintenance Checks and Services on Fixed Dental X-Ray Systems, Other Than Panoramic														
081-874-0140 Perform Preventive Maintenance Checks and Services on Thermometers														
081-874-0150 Perform Calibration Verification Certification on Automated Chemistry Analyzers														
081-874-0151 Perform Calibration Verification Certification on Cell Washers														
081-874-0152 Perform Preventive Maintenance Checks and Services on Cell Washers														
081-874-0153 Perform Calibration Verification Certification on Centrifuges, Other Than Refrigerated														
081-874-0154 Repair Centrifuges, Other Than Refrigerated														
081-874-0155 Perform Preventive Maintenance Checks and Services on Centrifuges, Other Than Refrigerated														
081-874-0159 Perform Calibration Verification Certification on Refrigerated Centrifuges														
081-874-0160 Repair Refrigerated Centrifuges														
081-874-0182 Repair Microscopes														
081-874-0183 Perform Preventive Maintenance Checks and Services on Microscopes														

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USER APPLICATION

SOLDIER'S NAME

TASK NUMBER AND SHORT TITLE	STATUS									
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
081-874-0193 Perform Calibration Verification Certification on Automatic Dental X-Ray Film Processors										
081-874-0194 Repair Automatic Dental X-Ray Film Processors										
081-874-0195 Perform Preventive Maintenance Checks and Services on Automatic Dental X-Ray Film Processors										
081-874-0198 Perform Calibration Verification Certification on Film Processors										
081-874-0199 Repair Film Processors										
081-874-0200 Perform Preventive Maintenance Checks and Services on Film Processors										
081-874-0208 Repair Dental Operating Systems										
081-874-0209 Perform Preventive Maintenance Checks and Services on Dental Operating Systems										
081-874-0213 Repair Dental Ultrasonic Prophylaxis Units										
081-874-0214 Perform Preventive Maintenance Checks and Services on Dental Ultrasonic Prophylaxis Units										
081-874-0228 Perform Preventive Maintenance Checks and Services on Ultrasonic Therapy Units										
081-874-0229 Perform Calibration Verification Certification on Electrosurgical Equipment										
081-874-0230 Repair Electrosurgical Equipment										

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USER APPLICATION	SOLDIER'S NAME					

TASK NUMBER AND SHORT TITLE	STATUS												
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-874-0054 Perform Preventive Maintenance Checks and Services on an Electrosurgical Apparatus (Force 2)													
081-874-0233 Perform Calibration Verification Certification on Hypo/Hyperthermia Units													
081-874-0234 Perform Preventive Maintenance Checks and Services on Hypo/Hyperthermia Units													
081-874-0235 Repair Infusion Pumps													
081-874-0236 Perform Preventive Maintenance Checks and Services on Infusion Pumps													
081-874-0237 Perform Calibration Verification Certification on Defibrillators													
081-874-0238 Repair Defibrillators													
081-874-0239 Perform Preventive Maintenance Checks and Services on Defibrillators													
081-874-0242 Perform Calibration Verification Certification on Infant Incubators													
081-874-0243 Repair Infant Incubators													
081-874-0244 Perform Preventive Maintenance Checks and Services on Infant Incubators													
081-874-0246 Perform Calibration Verification Certification on Ventilators, Other Than High-Frequency													
081-874-0252 Perform Preventive Maintenance Checks and Services on Dental Central Vacuum Systems													

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USER APPLICATION

SOLDIER'S NAME

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STATUS

TASK NUMBER AND SHORT TITLE	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-874-0256 Repair Dental Air Compressors																					
081-874-0257 Perform Preventive Maintenance Checks and Services on Dental Air Compressors																					
081-874-0297 Repair Wheeled Litters																					
081-874-0298 Perform Preventive Maintenance Checks and Services on Wheeled Litters																					
081-874-0305 Perform Calibration Verification Certification on Refrigerated Blood Banks																					
081-874-0306 Repair Refrigerated Blood Banks																					
081-874-0307 Perform Preventive Maintenance Checks and Services on Refrigerated Blood Banks																					
081-874-0311 Perform Calibration Verification Certification on Warming Cabinets																					
081-874-0312 Repair Warming Cabinets																					
081-874-0313 Perform Preventive Maintenance Checks and Services on Warming Cabinets																					
081-874-0315 Repair Steam Sterilizers																					
081-874-0316 Perform Preventive Maintenance Checks and Services on Steam Sterilizers																					
081-874-0319 Perform Calibration Verification Certification on Suction/Pressure Units																					

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USER APPLICATION

SOLDIER'S NAME

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TASK NUMBER AND SHORT TITLE	STATUS																				
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO											
081-874-0320 Repair Suction/Pressure Units																					
081-874-0321 Perform Preventive Maintenance Checks and Services on Suction/Pressure Units																					
081-874-0326 Repair Surgical Tables																					
081-874-0327 Perform Preventive Maintenance Checks and Services on Surgical Tables																					
081-874-0329 Perform Preventive Maintenance Checks and Services on Surgical Microscopes																					
081-874-0331 Repair Ultrasonic Cleaners																					
081-874-0332 Perform Preventive Maintenance Checks and Services on Ultrasonic Cleaners																					
081-874-0335 Repair Gravity Sterilizers																					
081-874-0336 Perform Preventive Maintenance Checks and Services on Gravity Sterilizers																					
081-874-0337 Repair Vacuum Sterilizers																					
081-874-0338 Perform Preventive Maintenance Checks and Services on Vacuum Sterilizers																					
081-874-0339 Repair Water Sterilizers																					
081-874-0340 Perform Preventive Maintenance Checks and Services on Washer Sterilizers																					

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GLOSSARY

1SG

first sergeant

AAR

after action review

ACCP

The Army Correspondence Course Program

AMEDDPAS

Army Medical Department Property Accounting System

Army Training and Evaluation Program (ARTEP).

The Army's collective training program that establishes unit training objectives critical to unit survival and performance in combat. They combine the training and the evaluation process into one integrated function. The ARTEP is a training program and not a test. The sole purpose of external evaluation under this program is to diagnose unit requirements for future training.

ARTEP

Army Training and Evaluation Program

ASI

additional skill identifier

Battle focus

A process to guide the planning, execution, and assessment of the organization's training program to ensure they train as they are going to fight.

CBRNE

chemical, biological, radiological, nuclear, and high-yield explosive

cm H₂O

centimeters of water

Collective training.

Training, either in institutions or units, that prepares cohesive teams and units to accomplish their combined arms and service missions on the battlefield.

Common task.

A critical task that is performed by every soldier in a specific skill level regardless of MOS.

Cross training.

The systematic training of a soldier on tasks related to another duty position within the same military occupational specialty or tasks related to a secondary military occupational specialty at the same skill level.

CSM

command sergeant major

CTC

combat training center or combined training center

CVC

calibration verification certification

ECG

electrocardiogram

ECRI

Emergency Care Research Institute

IAW

in accordance with

IMSA

installation medical supply activity

Individual training.

Training which prepares the soldier to perform specified duties or tasks related to the assigned duty position or subsequent duty positions and skill levels.

Integration training.

The completion of initial entry training in skill level 1 tasks for an individual newly arrived in a unit, but limited specifically to tasks associated with the mission, organization, and equipment of the unit to which the individual is assigned. It may be conducted by the unit using training materials supplied by the school, by troop schools, or by inservice or contract mobile training teams. In all cases, this training is supported by the school proponent.

kVp

kilovoltage peak

L/min

liters per minute

LED

light emitting diode

mA

milliamperage

MACOM

major Army command

mAs

milliamperage second(s)

MEL

maintenance expenditure limit(s)

Merger training.

Training that prepares noncommissioned officers to supervise one or more different military occupational specialties at lower skill levels when they advance to a higher level in their career management field.

METL

mission essential task list

Mission essential task list.

A compilation of collective mission essential tasks which must be successfully performed if an organization is to accomplish its wartime mission(s).

ml

milliliter

MOOTW

military operations other than war (joint only)

MOS

military occupational specialty

MOSC

military occupational specialty code

NBC

nuclear, biological, and chemical

NCO

noncommissioned officer

oz

ounce

PBO

property book officer

PMCS

preventive maintenance checks and services

psi

pounds per square inch

RC

Reserve Component

Self-development.

Self-development is a planned, progressive, and sequential program followed by leaders to enhance and sustain their military competencies. Self-development consists of individual study, research, professional reading, practice, and self-assessment.

SID

source to image receptor distance

SL

squad leader; skill level

SM

soldier's manual

SMAC

scheduled maintenance area code

SMCT

soldier's manual of common tasks

SOP

standing operating procedures

STP

soldier training publication

Sustainment training.

The provision of training to maintain the minimum acceptable level of proficiency required to accomplish a critical task.

TADSS

training aids, devices, simulators, and simulations

TAMMIS

Theater Army Medical Management Information System

TG

trainer's guide

TI

technical inspection

TM

technical manual / team (depends on use)

TMDE

test measurement and diagnostic equipment

TOE

table of organization and equipment

Train-up.

The process of increasing the skills and knowledge of an individual to a higher skill level in the appropriate MOS. It may involve certification.

TTP

Tactics, Techniques, and Procedures

Unit training.

Training (individual, collective, and joint or combined) conducted in a unit.

VAC

voltage alternating current

VDC

voltage direct current

REFERENCES

New reference material is being published all the time. Present references, as listed below may become obsolete. To keep up-to-date, see DA Pam 25-30. Many of these publications and forms are available in electronic format from the sites listed below:

[U.S. Army Publishing Agency](#)

Administrative Departmental Publications and Forms
(ARs, Cirs, Pams, OFs, SFs, DD & DA Forms)

[General Dennis J. Reimer Training and Doctrine Digital Library \(RDL\)](#)

Army Doctrinal and Training Publications
(FMs, PBs, TCs, STPs)

[USACHPPM](#)

Technical Bulletins – Medical (TB MEDs)

Required Publications

Required publications are sources that are listed in task conditions statements and are required for the soldier to perform the task.

Other Product Types

DD FORM 2163	Medical Equipment Verification/Certification
DD FORM 314	Preventive Maintenance Schedule and Record

Technical Bulletins

TB 38-750-2	Maintenance Management Procedures for Medical Equipment 12 April 1987
TB MED 7	Maintenance Expenditure Limits for Medical Materiel 22 June 1992

Technical Manuals

TM 10-5411-201-14	Operator, Organizational, Direct Support, and General Support Maintenance Manual for Shelter, Tactical, Expandable, One-Sided (NSN 5411-01-124-1377) (60 AMP Model); (5411-01-295-3433) (100 AMP Model) 1 April 1986
TM 10-5411-201-24P	Organizational, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Shelter, Tactical, Expandable, One-Sided 60 AMP (NSN 5411-01-124-1377) 100 AMP (5411-01-295-3433) 15 December 1993
TM 10-7360-204-13&P	Operator's, Organizational and Direct Support Maintenance Manual Including Repair Parts & Special Tool List for Range Outfit (M59, M2, M2A) 8 July 1983
TM 8-6515-003-24&P	Unit, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List), for Electrosurgical Apparatus, Model Force 2 1 September 1993

TM 8-6520-002-24&P	Unit, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List), for Dental Operating and Treatment Unit, Field, Portable 5 August 1991
TM 8-6530-004-24&P	Unit, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List), for Sterilizer 8 October 1990

Related Publications

Related publications are sources of additional information. They are not required in order to perform the tasks in this manual.

Army Regulations

AR 11-34	The Army Respiratory Protection Program 15 February 1990
AR 40-61	Medical Logistics Policies and Procedures 25 January 1995
AR 710-2	Inventory Management Supply Policy Below the Wholesale Level 31 October 1997

Department of Army Forms

DA FORM 2028	Recommended Changes to Publications and Blank Forms
DA FORM 2404	Equipment Inspection and Maintenance Worksheet
DA FORM 2407	Maintenance Request
DA FORM 2409	Equipment Maintenance Log (Consolidated)
DA FORM 5164-R	Hands-On Evaluation
DA FORM 5165-R	Field Expedient Squad Book

Department of Army Pamphlets

DA PAM 25-30	Consolidated Index of Army Publications and Blank Forms 1 January 2003
DA PAM 350-59	Army Correspondence Course Program Catalog 1 October 2002

Field Manuals

FM 25-101	Battle Focused Training 30 September 1990
FM 7-0	Training the Force 22 October 2002

Other Product Types

21 CFR	Food and Drugs
ANSI C84.1	Electrical Power Systems and Equipment - Voltage Ratings (60 Hz), American National Standards Institute, 1995.
NFPA 70	National Electrical Code, National Fire Protection Association, 2002.
NFPA 99	Standard for Healthcare Facilities, National Fire Protection Association, 2002.

Soldier Training Publications

STP 21-1-SMCT Soldier's Manual of Common Tasks Skill Level 1 1 October 2001
STP 21-24-SMCT Soldier's Manual of Common Tasks (SMCT) Skill Levels 2-4
1 October 2001

Technical Bulletins

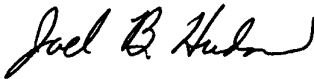
TB MED 521 Occupational Environmental Health: Management and Control of
Diagnostic, Therapeutic, and Medical Research X-Ray Systems &
Facilities 26 February 2002

STP 8-91A15-SM-TG
25 April 2003

By Order of the Secretary of the Army:

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General, United States Army
Chief of Staff

Official:



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