

SERVICING THE LORAD MULTICARE PLATINUM™ TABLE

Hands-On Training Course

Course Length: 1 Weeks
CEUs Awarded: 4 CEUs

Introduction

Upon locating suspicious tissues during a mammographic study, it may become necessary to conduct exploratory studies for further diagnosis. In an effort to minimize trauma to the breast, minimally invasive techniques have been developed. Small and large core biopsy can provide samples of suspect tissues. To ensure proper diagnosis, needle placement must be precise. Proper alignment of the imaging system's geometric properties and the needle guidance system is of the highest importance. This course is designed to give the service professional the required information and the hands-on skills needed to make necessary alignments, diagnose service issues and make required repairs. Given the importance of this mammographic modality and the delicate nature of the procedure, the highest calibration standards must be maintained.

Objectives

- Describe the performance specifications of the Multicare table
- Describe the performance specifications of the needle guidance section
- Describe the performance specifications of the stereoguide system
- Describe the performance specifications of the digital imaging system
- Demonstrate an understanding of the various subsystems of the biopsy system
- Perform the necessary performance monitoring and quality assurance tests and performance
- Perform the necessary calibrations and adjustments to maintain the highest degree of accuracy for the biopsy system
- Evaluate circuit and system functions to facilitate troubleshooting

Prerequisites

To attend this course, the service professional must possess fundamental knowledge and understanding of the principles of X-ray (Phase I), mammography and basic electronics.

Course Outline

DAY 1

- I. System introduction
- II. Specifications
 - A. Table
 - B. Stereo guide
 - C. Needle guidance
 - D. Digital imaging system
- III. Knobology
- IV. Physical layout
- V. Using system documentation
- VI. System installation
- VII. Turn-on and power distribution

Lab Activities

- I. System operation
- II. Cover removal
- III. Component identification
- IV. System installation
- V. Power supply verifications

DAY 2

- I. X-ray production system
 - A. Data port
 - B. kV control
 - C. mA control
 - D. Rotor control

Lab Activities

- I. Verify and calibrate kV
- II. Verify and calibrate mA
- III. Rotor control verification
- IV. X-ray tube replacement procedure

DAY 3

- I. Table controls
 - A. Table motion
 - B. C-arm motion
 - C. Compression motion and force
 - D. Drive belt adjustments
- II. Lamp control
- III. Stage controls
 - A. X/Y/Z axis control interface
 - B. X/Y motor drive
- IV. Needle alignment

Lab Activities

- I. Table travel limits calibration
- II. Stage adjustment
 - A. Left/right/up/down/height
 - B. Z-azimuth
 - C. Breast platform
 - D. Needle gum holders
- III. X-ray field adjustments
- IV. Final needle guidance alignment and checks
 - A. Pivot point
 - B. Compression trays

DAY 4

- I. DSM system
 - A. CCD module
 - B. X486/NT/ Pentium computers
- II. Digital imaging theory

Lab Activities

- I. Creating white/black calibration maps
- II. Aligning CCD module to X-ray tube
- III. Calculating coordinates
- IV. Final alignment checks
- V. System troubleshooting

DAY 5

- I. Course review
- II. Course evaluation
- III. Final exam

Note: Due to copyright issues, students are required to purchase and bring to class a copy of the following manuals:

Ops : 9-500-0290 rev. 003

Service: 9-500-0291 rev. 003

Schematics: 9-500-0292 rev. 002