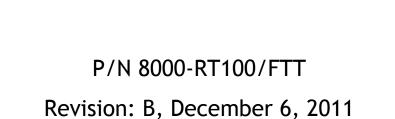
# DEL MEDICAL Universal

Float-Top Table Installation, Operation, & Service Manual



Operation

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#### Notes

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# **Safety Information**

## Introduction

The policy of Del Medical Inc. is to manufacture X-ray equipment that meet high standards of performance and reliability. We enforce strict quality control techniques to eliminate the potential for defects and hazards in our products.

The intended use of this equipment is to provide a platform for positioning of a patient with respect to an X-ray source for the purpose of acquiring X-ray images of the desired parts of a patient's anatomy. Use of this equipment in any other fashion may lead to serious personal injury.

The safety guidelines provided in this section of the manual are intended to educate the operator on all safety issues in order to operate and maintain the table in a safe manner.

## **Statement of Liability**

To prevent excess radiation exposure to patient and operator from either primary or secondary radiation, this table must be operated and serviced by trained personnel who are familiar with the safety precautions required. While this table has been designed for safe operation, improper operation or carelessness may result in serious injury or damage to equipment. The manufacturer or its agents and representatives assume no responsibility for the following:

- 1 Injury or danger to any person from X-ray exposure.
- **2** Problems or hazards resulting from failure to maintain the equipment as specified in the Installation chapter.
- **3** Equipment which has been tampered with or modified. Del Medical Inc. is not liable for any damage or injury arising from failure to follow the instructions and procedures provided within the manuals or associated informational material, or from user failure to use caution when installing, operating, adjusting, or servicing this equipment. Del Medical Inc. is not liable for damage or injury arising from the use of this product for any other use than that intended by the manufacturer.

## Definitions

The table below defines the meaning of various symbols found on the device labels.

$\triangle$	This warning symbol indicates a potential hazard to operators, service personnel, or equipment. It indicates a requirement to refer to the accompanying documentation for details.
4	This symbol indicates that there is accessible dangerous voltage.
	This symbol identifies a protective earth terminal or ground.
	This symbol states that this product is categorized as Type B. Type B is defined as:
Λ	Equipment providing a degree of protection against electric shock, particularly regarding allowable leakage currents and reliability of the protective earth connection (if present).
	This symbol indicates that you must dispose of the RT100 Table properly according to local laws and regulations. The RT100 contains electronic components, and must be disposed of separately from household waste. When the RT100 reaches its end of life,* contact local authorities to learn about disposal and recycling options.

Table 1-1: Definition of symbols found on device labels.

\*Note: The table has an estimated life of 10 years from point of purchase. This may vary depending on the (1) product use, (2) product maintenance and (3) environmental conditions.

## Safety Conventions Used in this Manual

Specific safety information is listed in this manual in the form of WARNING and CAUTION statements. Pay close attention to these statements as they contain important information on avoiding potential hazards to you or the equipment.

#### Warning Statements:

- Are used to indicate hazards or unsafe practices which COULD result in severe personal injury or death.
- Appear in **bold** type.
- Have a triangular symbol with an exclamation point above the text.
- Are preceded by the word **Warning**.
- Are always found before the step or piece of information to which they refer.
- Look like the following example:

### 🔨 Warning

This text will describe special safety precautions to follow in order to avoid unsafe practices that COULD result in severe personal injury or death.

#### **Caution Statements:**

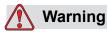
- Are used to indicate hazards or unsafe practices which could result in minor personal injury or product/property damage.
- Appear in **bold** type.
- Have a triangular symbol with an exclamation point above the text.
- Are preceded by the word **Caution**.
- Are always found before the step or piece of information to which they refer.
- Look like the following example:



This text will describe special safety precautions to follow in order to avoid unsafe practices that could result in personal injury or product/property damage.

## **Equipment Safety Guidelines**

The following warnings and cautions are specific to the RT100 Float-Top Table. Read them carefully; some of them **are not obvious** to typical equipment use.

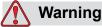


Turn off the electrical power to the table at the power source before servicing the table. Also, make sure that the power source is locked out and tagged "Table Being Serviced" before servicing the table; you could get seriously shocked or burned if you do not.



Make sure that the operator or the patient does not touch the table unlock pedal when the patient is getting on or off the table. This may cause the patient to fall off the table and cause serious injury. See figure below.





Do not operate the table in an explosive atmosphere (such as anesthetic gas). Doing so can cause an explosion or a fire hazard which can cause serious injury.



All of the movable assemblies and parts of this equipment should be operated with care and routinely inspected in accordance with the manufacturer's recommendations contained in this manual.

Only properly trained and qualified personnel should be permitted access to any internal parts. Live electrical terminals are deadly; be sure line disconnect switches are opened and other appropriate precautions are taken before opening access doors, removing enclosure panels, or attaching accessories.

For all components of the equipment, protective earthing means must be provided in compliance with the national regulations.



This table is intended to be used as part of a system for the intended generation of X-rays for medical diagnosis.

X-rays generate a potential risk for both patients and operators. For this reason, the application of X-rays for a given medical purpose must aim at the minimization of radiation exposition to any persons.

Those persons responsible for the application must have the specific knowledge according to legal requirements and regulations and must establish safe exposure procedures for this kind of systems.

Those persons responsible for the planning and installation of this equipment must observe the national regulations.

## **Identification Labels**

The RT100 Radiographic Table components have manufacturing and certification information affixed. The manufacturing label contains:

- The full name and address of the manufacturer of the component
- The place, month, and year of manufacture
- The model number and serial number of the component

The certification label also states that the component complies with either "21CFR, Subchapter J" or the applicable DHHS standards under the Radiation Control for Health and Safety Act of 1968 (or its equivalent).

A label may combine both manufacturing and certification information.

The underside of the removable float-top also has a label with matching serial number and date of manufacturing.

#### **RT100 Float-Top Table Labels**

The location of the RT100 Radiographic table identification labels are shown in Figure i-1.



Figure i-1. RT100 Float-Top Table Identification Labels

## **Grounding Information**

The figure below shows a typical interconnected X-ray system with a RT100 table system.

It is comprised of:

- 1 Overhead Tube Crane
- 2 Collimator
- 3 X-ray Tube
- 4 RT100 Float-Top Table Table
- 5 Wallstand
- 6 X-ray Generator
- 7 Collimator Power Supply

All of these components are grounded to a common bus according to national and local electrical codes. Also, all of the components comply with UL 60601 Standards.

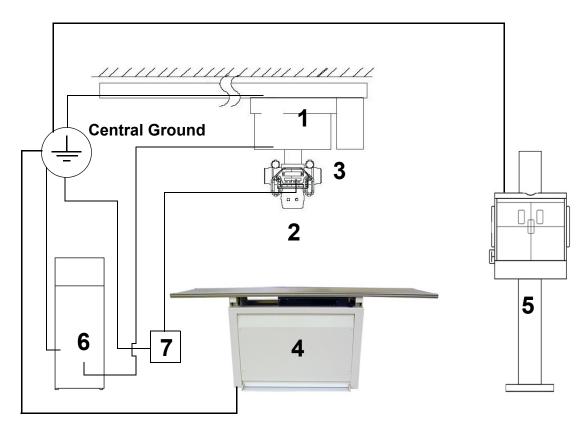


Figure i-2. System Grounding

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# **Record of Revisions**

## **Revision History**

REV	Date	Reason for Change	
А	10-31-2007	Original	
В	12-06-2011	Updated and placed in new format	

Table ii-1. Revision History

## **List of Affected Pages**

Page Number	Rev Level	Page Number	Rev Level	Page Number	Rev Level
All	А				

Table ii-2. List of Affected Pages

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# Introduction

## 1.1 Introduction

This manual provides installation, operation, and service information for the RT-100 Float-Top Table. This manual also includes a spare parts list for the table.

## **1.2 Description**

The RT100 Float-Top table is designed for general purpose radiography and is ideally suited for modern hospitals, urgent care centers, clinics, and private practices.

The RT100 features a four-way, floating table top which provides 55.38" (140 cm) of longitudinal travel and 9.75" (24 cm) of transverse travel.

Electromechanical locks maintain the desired position. The position of the table top can be oscillated, and the locks released by operating the foot treadle table brake. The table's bucky can also be repositioned by pressing a button on the bucky.

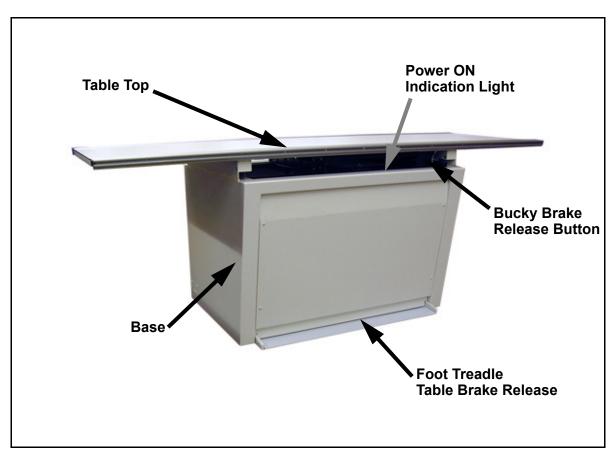


Figure 1-1. RT100 Float-Top Table

## 1.3 Dimensions

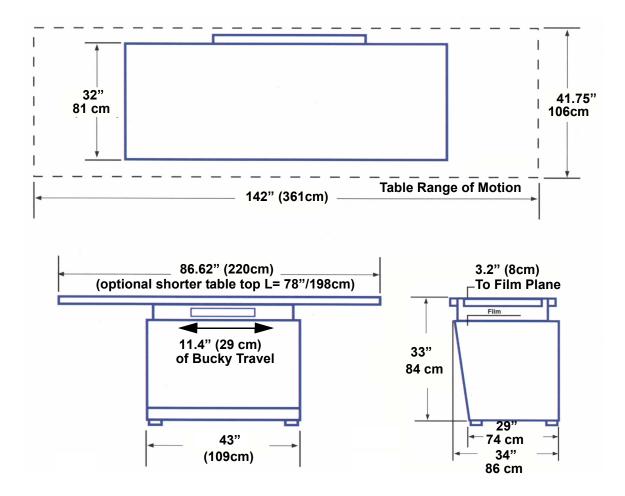


Figure 1-2. Dimensions

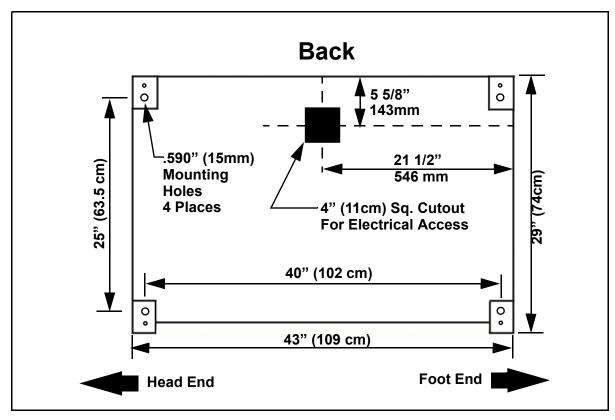
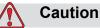


Figure 1-3. Table Foot Print



Do not drill equipment mounting holes in pre-tensioned or post tensioned concrete floors before determining the location of the tensioned wire ropes. Consult with the customer or responsible project engineer to locate and avoid drilling through the wire rope. Cutting through the tensioning cables can cause severe structural damage.

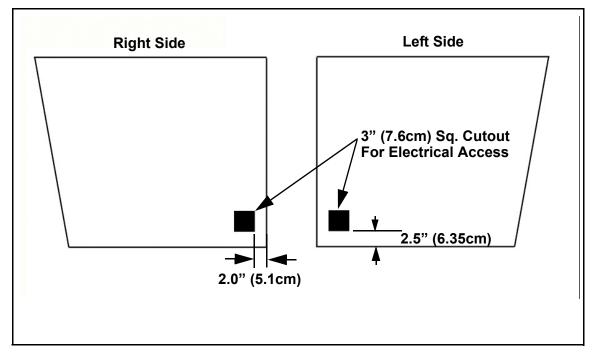


Figure 1-4. Side Electrical Access Panels

## **1.4 Minimum Space Requirements**

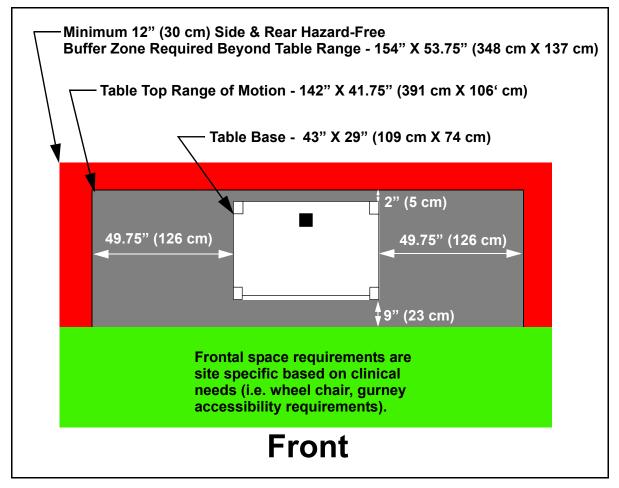


Figure 1-5. Plan View (Top View) of Minimum Space Requirements

## 1.5 Specifications

	Specifications			
Compatibility	The RT-100 Float-Top Table is compatible with a wide variety of generators, wallstands, and tubestands. It is intended to be used in a stationary diagnostic X-ray configuration.			
Voltage	120VAC or 230/240 VAC			
Current	0.5 A Cont. @ 120V or 0.25A Cont. @ 230/240V			
Frequency	50/60 Hz Single Phase			
Incoming Power Line	3 #16 AWG (1.5mm <sup>2</sup> ) for 50ft (15.25M) or Less			
External Heat Generation	123 Btu /hr (88 watts)			
Fuse Type	F1, F2, 0.25A @ 230/240 VAC or 0.5A @ 120 VAC			
Classification	Class 1 Type B 🖈			
Patient Limit	500 lbs (227 Kg)			
Duty	Continuous			
Mode of Operation	Momentary			
Aluminum Equivalent	Beam Attenuation of the Standard Table Top is .8 mm Alumi- num Equivalent or Less Beam Attenuation of the Optional Carbon Fiber Table Top is .4 mm Aluminum Equivalent or Less			
Temperature Limits	Transit/Storage         Operating           - 40° F to +158° F         +50° F to +95° F           - 40° C to +70° C         +10° C to +35° C			
Relative Humidity Limits	Transit/Storage 10% to 100% Operating 10%-80% Non-Condensing			
Atmospheric Limits	14.5 inHg to 30.74 inHg (Sea Level to 18,000 Ft) 500 hPa to 1060 hPA (Sea Level to 5,500 M)			
Weight	Table Base: 398 lbs (181 Kg)Table Top: 77 lbs (34Kg)			
Degree of protection against the ingress of water:	Ordinary			
Certifications:	C Survey S			
	Classified To UL 60601-1,IEC60601-1, EN60601-1, IEC 60601-2-32, EN60601-2-32, IEC60601-1-3, EN60601-1-3. Certified To CAN/CSA C22.2 NO. 601.1.			
Equipment not suitable for use in the prese oxide.	nce of flammable anesthetic mixtures with air, oxygen or nitrous			
No user serviceable parts				

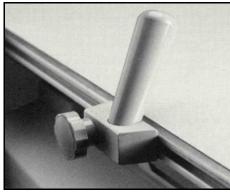
Table 1-1: Specifications

## **1.6 Abbreviations**

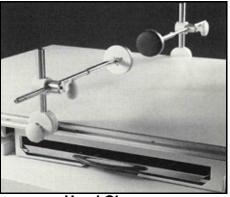
- % Percent
- AWG American Wire Gauge
- Btu British Thermal Unit
- ° C Degree Celsius
- CE Communautés Européennes
- cm Centimeter
- C.R.S. Cold Rolled Steel
- ° F Degree Fahrenheit
- ga Gauge
- hPa Hecto Pascal
- inHg Inches Mercury
- Kg Kilogram
- Lb Pound
- M Meter
- max. Maximum
- min. Minimum
- mm Millimeter
- PBL Positive Beam Limitation
- Sq/Ft Square Foot
- Sq/M Square Meter
- UL Underwriters Laboratories

## **1.7 Optional-Accessories**

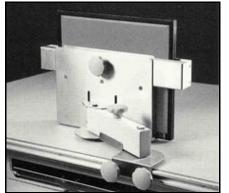
See page 9-20 for Part ID for accessories.



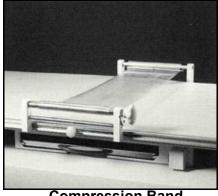
Hand Grips



Head Clamps



Lateral Cassette Holder



**Compression Band** 

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# Installation

# 2

## 2.1 Installation Instructions

#### **Tools Required:**

- Adjustable-end wrench
- Diagonal cutters (side cutters)
- Medium Phillips screwdriver
- Pallet hoist
- Power drill and masonry bit (size determined by installer)
- Set of nut drivers
- Small flat-tip screwdriver



Two people are required to perform this installation procedure.

Your shipment will arrive in two boxes as shown below. One box will contain the table top and the other box will contain the base. Save the boxes until the table is inspected for shipping damage and is up and operating.



Figure 2-1. Shipping Boxes

- 1 Move the base pallet to approximate position where the base will be installed.
- **2** Use diagonal cutters to cut the steel straps (1 in Figure 2-2). Remove straps and top cover (2).
- **3** Lift off outer box shell (3).



Figure 2-2. Steel Shipping Straps



**4** Remove the shrink wrapping (1 in Figure 2-3) from around the base.

Figure 2-3. Shrink Wrapping

- **5** Cut and remove the cable tie (1 in Figure 2-4).
- **6** Peel off the tape (2) on *both* ends of the base.

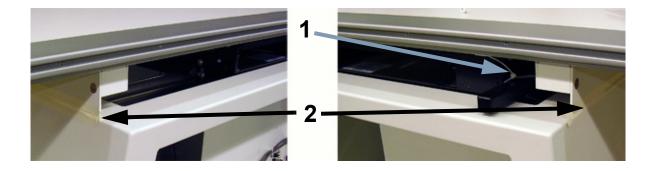


Figure 2-4. Removing Restraints

**7** Unscrew the four front panel screws (1 in Figure 2-5) and remove the front panel (2).

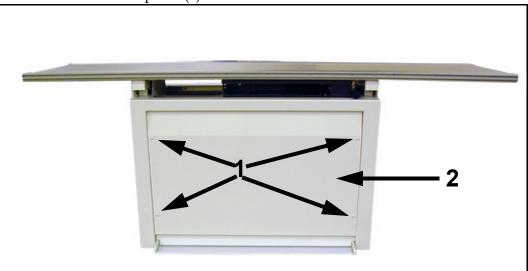


Figure 2-5. Front Panel Removal



You must use four  $1/2'-13 \times 3''$  (M12 X 75mm) bolts and appropriate anchors and washers to mount the table base to the floor. Use of any smaller size may cause the table base to break free from the floor under extreme load and leverage conditions. This condition could cause severe injury to the patient and/or user.



It is up to the installer and the customer to determine the best method for mounting the base to the floor. Before mounting the base, consult with the building's maintenance supervisor about drilling holes in the floor. Make sure that there are no hazards under the floor such as pipes, conduits, or structural cables which can be damaged by drilling holes in floor.



Do not mount the table base to the floor until the tubestand or overhead tube crane that accompanies it has been mounted and aligned correctly. You may have to reposition the table if you do.

8 Mount the base to the floor using the holes through the bottom of base. Make sure that the base is level after mounting. If necessary, adjust the leveling pads on the bottom of the base to level the base.



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

#### **PBL Option Installation**

- **9** If your table does not have a PBL (Positive Beam Limitation) option, go to step 24. If it does have a PBL option, do the following steps. The PBL option is used with automatic collimators (Typically Progeny Linear II or Linear IV) that sense the size of the film cassette.
- **10** Unscrew cover screws (1 in Figure 2-6) and remove both covers (2) on the bucky. Each cover is mounted with two screws one on each side.

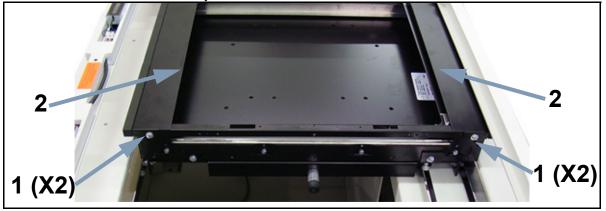
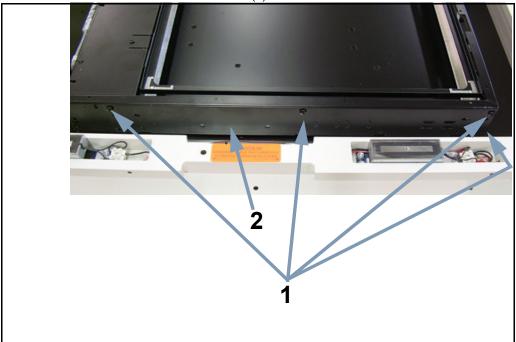


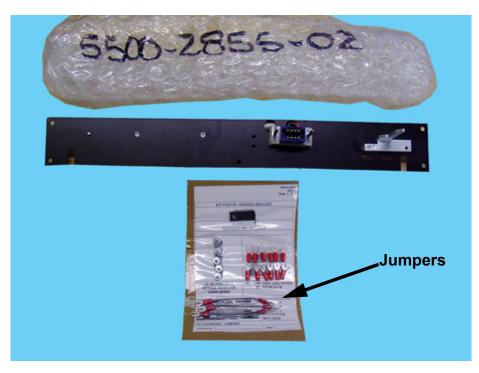
Figure 2-6. Bucky Covers



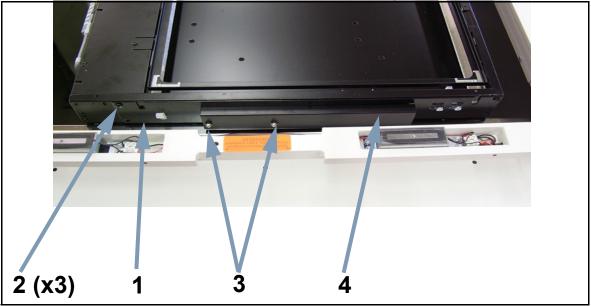
**11** Unscrew the four bucky rear cover screws (1 in Figure 2-7) and remove the rear cover (2).

Figure 2-7. Bucky Rear Cover

**12** Unpack the PBL kit.



*Figure 2-8. PBL Kit (Typical)* 



**13** Install the PBL plate assembly (1 in Figure 2-9) on the bucky and secure in place with the three mounting screws (2).

Figure 2-9. PBL Plate Assembly

**14** Mount the L-bracket (1 in Figure 2-10) using the fourth mounting screw to reach around the back left corner of the bucky.

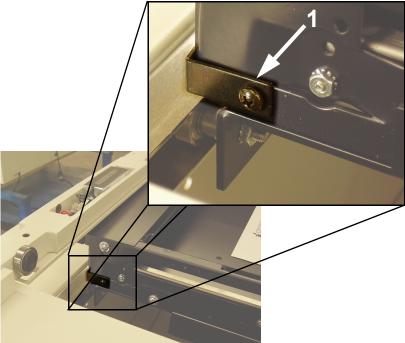


Figure 2-10. PBL Plate Assembly

- **15** Unscrew the two acorn nuts (3 in Figure 2-9) and remove the cover (4).
- **16** Remove the three wire jumpers from the PBL kit.



**17** Feed the PBL cable (supplied with the collimator) from the collimator power supply through the cable access port (1 in Figure 2-11).

Figure 2-11. Cable Access Port

- **18** Install the jumpers from kit across terminals 1 and 4 (1 in Figure 2-12); 2 and 3 (2); 3 and 6 (3).
- **19** Connect the PBL cable to the terminal block as follows: WHT 4, GRN 5, BLK -7, RED 8
- **20** Tape all unused wires with electrical tape.

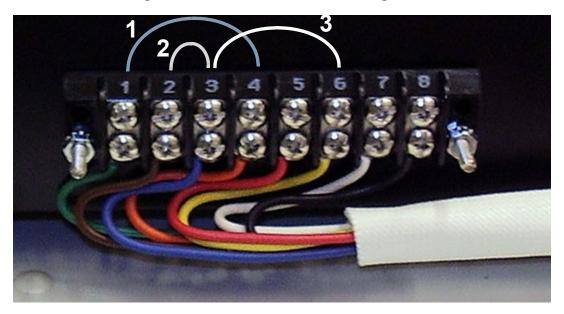


Figure 2-12. Terminal Block

**21** Secure the internal cable with a p-clamp & screw (1& 2 in Figure 2-13).

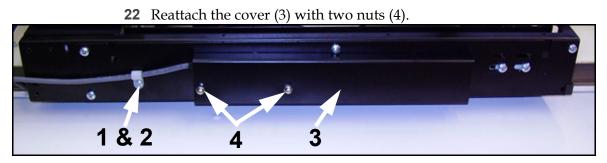


Figure 2-13. Clamp & Cover

**23** Feed the PBL (1 in Figure 2-14) through the port in the bottom of the table and out to the collimator power supply box.

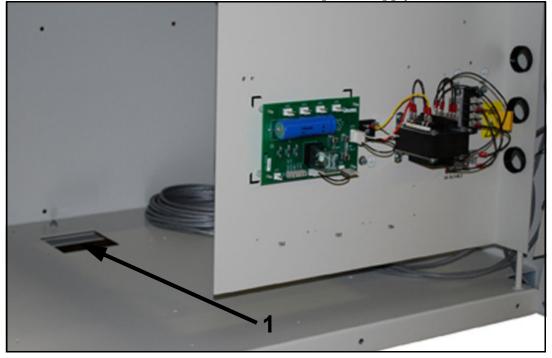
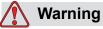


Figure 2-14. Bottom Cable Port



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**24** Connect the PBL cable to the collimator power supply according to the table below. The Linear II connections may have already been made by the vendor.

Progeny Bucky Wire Destinations			
PBL Cable		Collimator Model	
Origin	Color	Linear II Power Supply Box	Linear IV Power Supply Box
T4	White	TS3-15	TS4-12
T5	Green	TS3-16	TS4-14
Τ7	Black	TS3-14	TS4-15
Т8	Red	TS3-17	TS4-13

Table 2-1: PBL Cable Connections

#### Ion Chamber Option Installation



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

- **25** If your table does not have an ion chamber option, go to step 37. If it does have a ion chamber option, do the following steps.
- **26** Unpack the ion chamber kit.



Figure 2-15. Ion Chamber Kit Box (Typical)

**27** If not already completed, unscrew the cover screws (1 in Figure 2-16) and remove both covers (2) on the bucky. Each cover is mounted with two screws - one on each side.

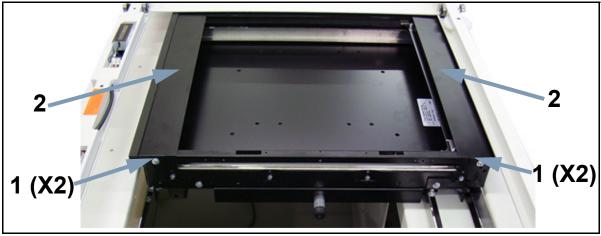


Figure 2-16. Bucky Covers

**28** Unscrew the four cover screws (1 in Figure 2-17) and remove the cover (2).

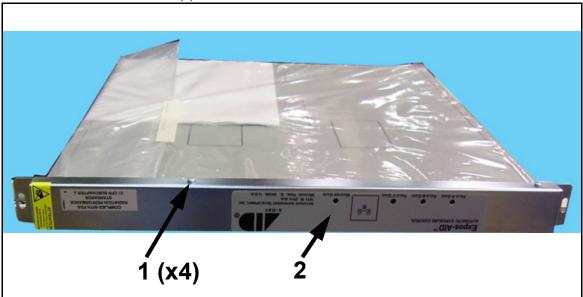
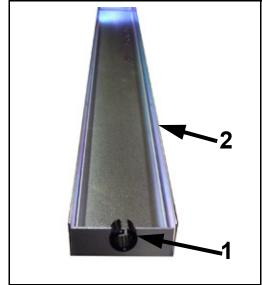


Figure 2-17. Ion Chamber Cover



**29** Remove the grommet (1 in Figure 2-18) from the cover (2).

Figure 2-18. Cover Grommet

- **30** Install the ion chamber assembly (1 in Figure 2-19) in the bucky and secure in place with two mounting screws (2) and nuts. Use a magnet to hold the nuts in place to ease installation.
- **31** Unscrew the two clamp nuts (3) and remove the clamp (4).

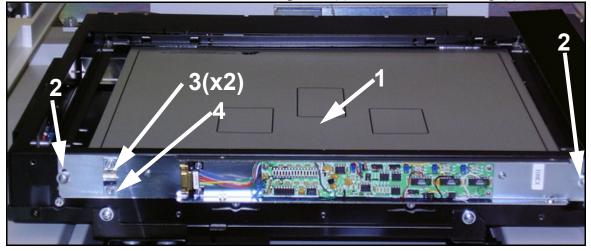


Figure 2-19. Installing Ion Chamber

- **32** Connect the ion chamber cable (1 in Figure 2-20) to the ion chamber and secure with two mounting screws (2).
- **33** Install the clamp (3) over the cable and secure with two nuts (4).
- **34** Insert the grommet (5) over the cable.

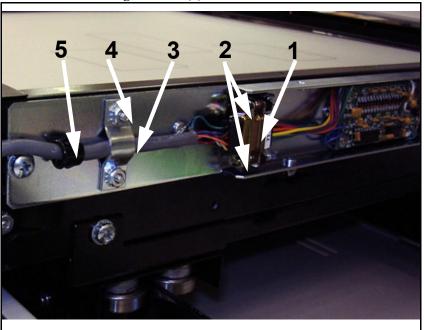


Figure 2-20. Ion Chamber Cable

- **35** Reinstall the cover (1 in Figure 2-21) and secure with four screws (2). Make sure that the chamber mates with the grommet installed in the previous step when reattaching the cover.
- **36** Connect the other end of the cable to the AEC board on the generator.

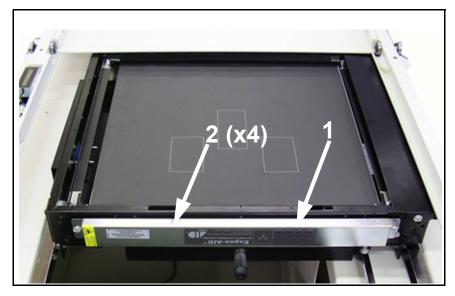


Figure 2-21. Ion Chamber Cover

#### Grid Installation



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**37** If not already done so, unscrew the cover screws (1 in Figure 2-22) and remove both covers (2) on the bucky. Each cover is mounted with two screws - one on each side.

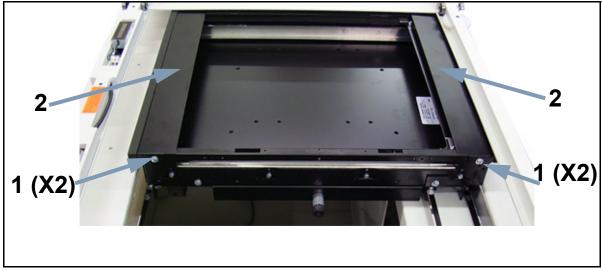
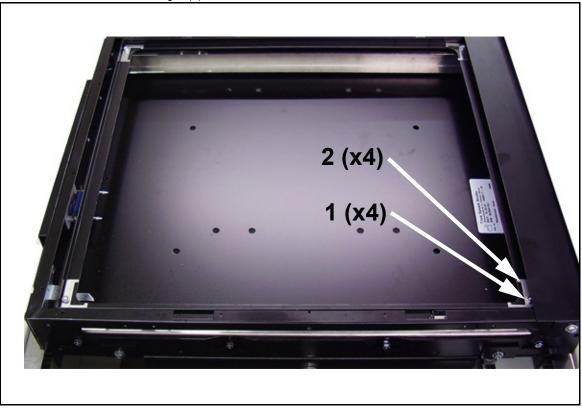


Figure 2-22. Bucky Covers



**38** Unscrew the four clamp screws (1 in Figure 2-23) and remove the clamps (2).

Figure 2-23. Grid Screws & Clamps



**39** Unpack the grid from its box.

Figure 2-24. Grid Box (Typical)



Be careful not to over-tighten the grid clamp screws in the following step or you may crack the grid.



**40** Install the grid as shown below and secure it in place with clamps and screws.

Figure 2-25. Grid Installation

**41** Reattach the bucky top covers (1 in Figure 2-26) and secure them in place with two screws (2) for each cover.

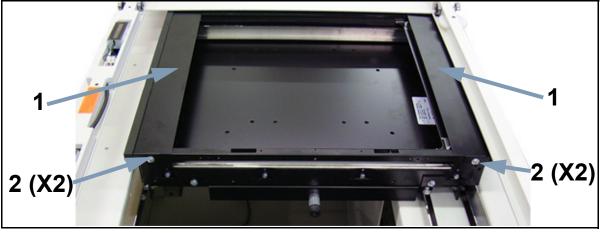
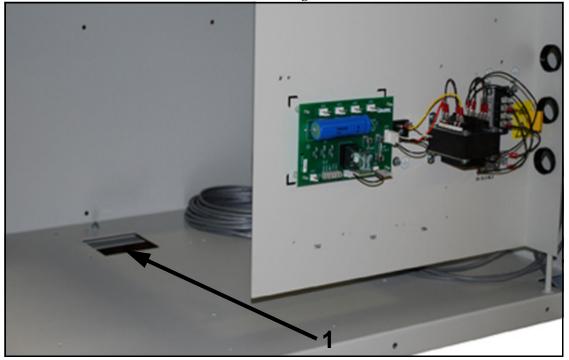


Figure 2-26. Bucky Top Covers (Grid not Shown)



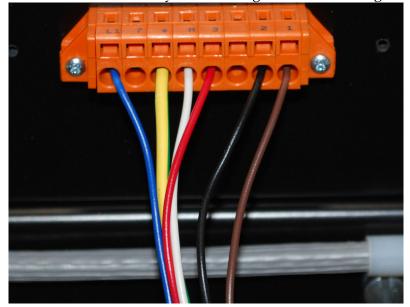
**42** Feed the bucky cable (1 in Figure 2-27) through the port in the bottom of the table and out to the generator.

Figure 2-27. Bottom Cable Port



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing table. Also, make sure that power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**43** Connect the bucky cable to the generator according to the table below.



Progeny Bucky Wire Destinations					
Bucky	Bucky Cable X		Ray Generator Model		
Origin	Color	Anthem	CM Series	IN Series	
1 (B1)	Brown	TB5-2	J4-6	TB2-5	
2 (B2)	Black	TB5-4	J4-5	TB2-4	
3 (B3)	Red	TB5-1	J4-1	TB3-12	
N (B4)	White	TB5-5	J4-4	TB7-1	
L (B5)	Blue	TB-3	J4-2	TB2-12	

*Table 2-2: Bucky Connections* 

Progeny Bucky Wire Destinations				
Bucky Cable		X-Ray Generator Model		
Origin	Color	Anthem	CM Series	IN Series
Ground (B6)	Yellow w/ Green Stripe (Conductors inside tube are Green & Orange)	Generator GND	Generator GND	Generator GND
L (B8)	Blue	TB5-3	J4-2	TB2-12

Table 2-2: Bucky Connections



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

- **44** If you are not setting the table up with a floor mounted tubestand, go to step 45. For connecting a floor mounted tubestand to the table, do the following steps:
  - a. Feed the interconnect cable from the tubestand through the cable access port on the bottom of the table base.
  - b. Connect J106 on adapter cable (part no. 126-0164) to the connector on the end of the tubestand's interconnect cable. The adapter cable comes with the tubestand. See figure below.

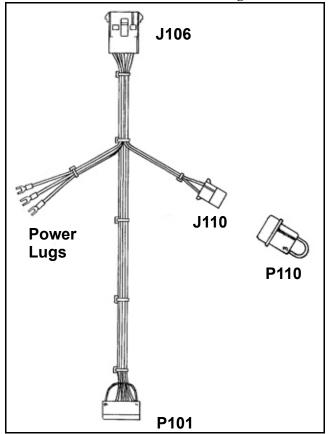


Figure 2-28. Adapter Cable (Floor Mounted Tubestands Only)

- c. Make sure that the jumper plug P110 is connected to the harness at J110.
- d. Connect the white power lug from the harness to TB1-1.
- e. Connect the black power lug from the harness to TB1-4.
- f. Connect the green power lug from the harness to the GND terminal.
- g. Disconnect the jumper wire from J101.
- h. Connect P101 on the harness to J101 on the power supply PCB.

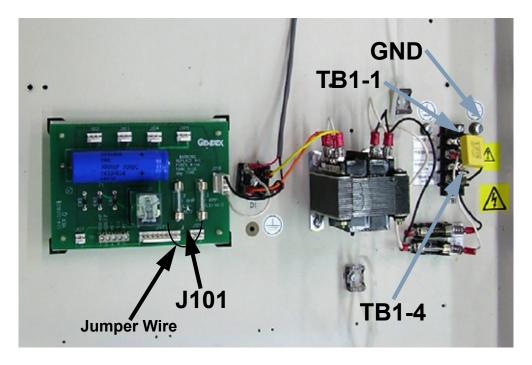


Figure 2-29. Harness Connections



Turn off all electrical the power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

#### Wiring Safety Information

- X-ray apparatus shall be grounded and powered in accordance with the National and Local Electrical Codes.
- During installation, make sure that all protective ground wire connections are completed before the equipment is turned on.
- It is required that a separate 10-amp (min.) line disconnect and current limiting device be provided for table power.
- Ensure the protective ground wires between system components are connected as shown in the wiring diagram in service manual.
- Regulations of professional associations concerning safety and accident prevention must be observed.
- When installation and maintenance is required, use only personnel trained in the mechanical and electrical operation of this equipment.

**45** Feed the dedicated power line through the cable access port on the bottom of the table base and connect to the TB1 as shown below. Refer to Section 1.5 "Specifications" for information on the power and wiring requirements.

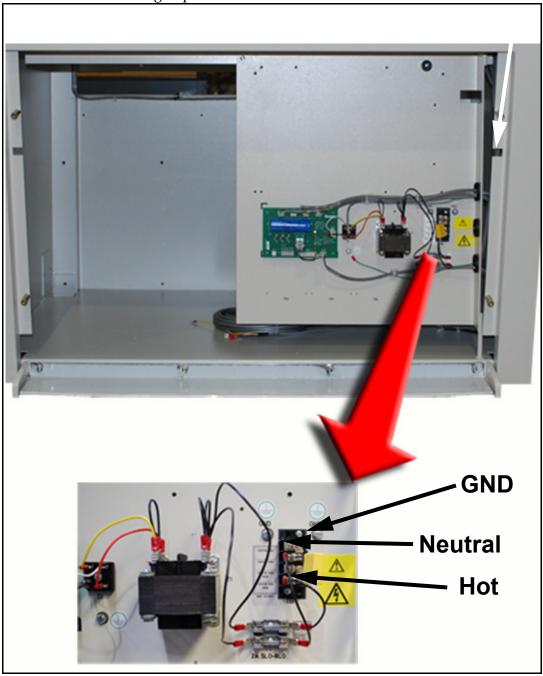
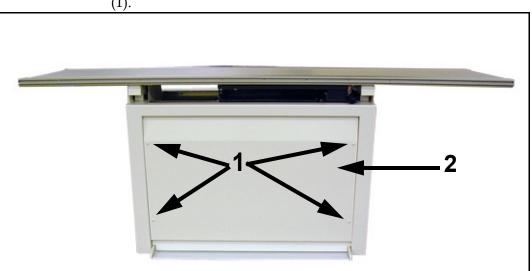


Figure 2-30. TB102 Main Power Terminal



**46** Reattach the front panel (2 in Figure 2-31) with four mounting screws (1).

Figure 2-31. Front Panel Reattachment

**47** Unpack the table top from its shipping box.



The tabletop is heavy (100 lbs, 45.4kg). Two people are required to remove it; you can be seriously injured if you try to remove it by yourself.



Be careful not to damage the brakes (1 in Figure 2-33) when installing the table.

**48** Slide the table top onto the base rollers as shown below. Make sure the table is installed so the label on the table is oriented towards the front of the base. If you do not have enough room to slide the table on the base, do steps 49-57. Otherwise, go to step 58.



Figure 2-32. Table Top Installation

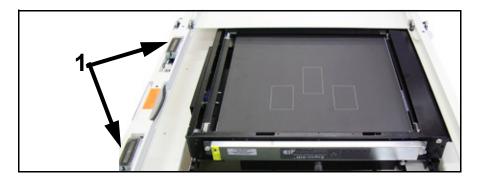


Figure 2-33. Brakes

Steps 49-57 are for rooms that are too small to allow the table top to be slid on from the end.

**49** Remove the guide rollers (1 in Figure 2-34) and bearings (2) from the

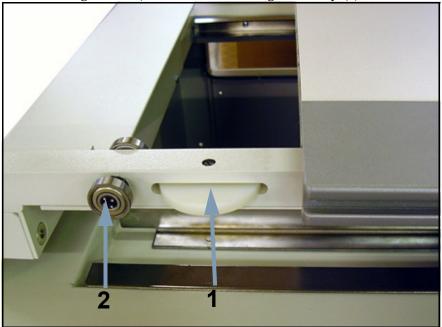
front of the table.

Figure 2-34. Guide Roller and Bearing Removal



Table is heavy (100 lbs, 45.4kg). Two people are required to install it; you can be seriously injured if you try to remove it by yourself.

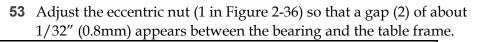
**50** Very carefully roll the top onto the back of the table base and down. Make sure the table is installed so the label on the table is oriented towards the front of the table base.



**51** Slide the table to the right and reinstall the left guide roller (1 in Figure 2-35) and the left bearing assembly (2).

Figure 2-35. Left Guide Roller and Bearing

**52** Slide the table over the left bearing assembly.



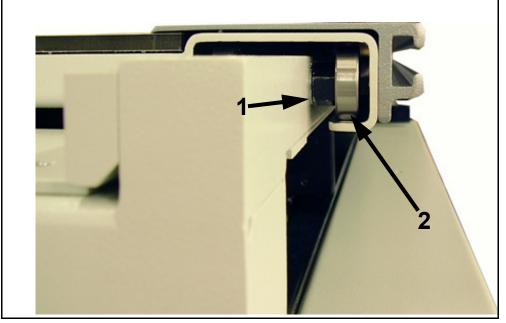
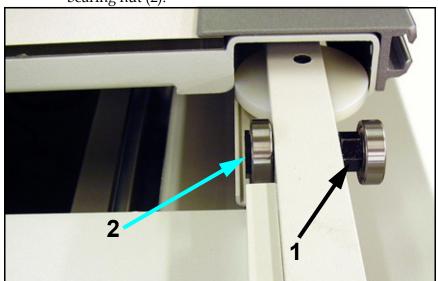


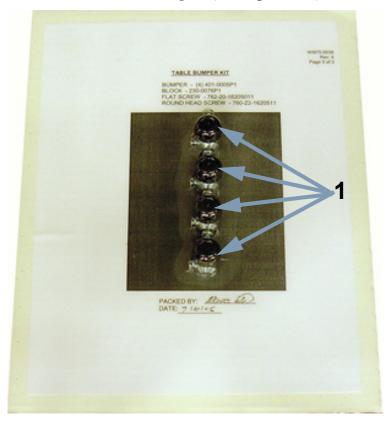
Figure 2-36. Eccentric Adjustment



**54** While holding the eccentric nut (1 in Figure 2-37) still, tighten the bearing nut (2).

Figure 2-37. Tightening Bearing Nut

- **55** Repeat steps 50-53 for the right side guide roller and bearing.
- **56** Slide the table top back and forth to ensure smoothness of motion. Readjust the bearing gap if required.
- **57** Center the table top on the table base and go to the next step.



**58** Remove the four bumpers (1 in Figure 2-38) from the accessory kit.

Figure 2-38. Bumpers



The bumpers must be installed. If they are not, the table top may slide off of its base during use and severely injure the patient or operator.

**59** Mount the bumper (1 in Figure 2-39) with two screws (2) in **all four corners** of table.

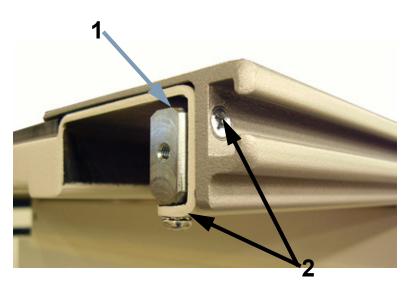


Figure 2-39. Bumper Mounting

#### **Cassette Tray Insertion**

**60** Remove the cassette tray from its shipping box.

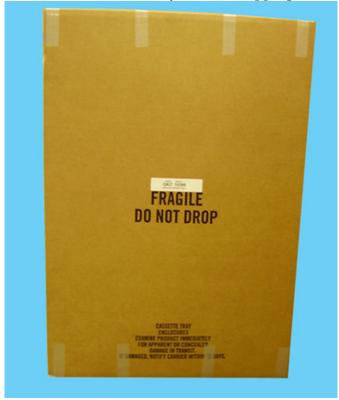


Figure 2-40. Cassette Tray Box (Typical)

- **61** Remove the shipping tape (1 in Figure 2-41) from the cassette tray.
- **62** Pull the pin (2) back and remove the guide (3).
- **63** Place the guide in the desired slots (4).

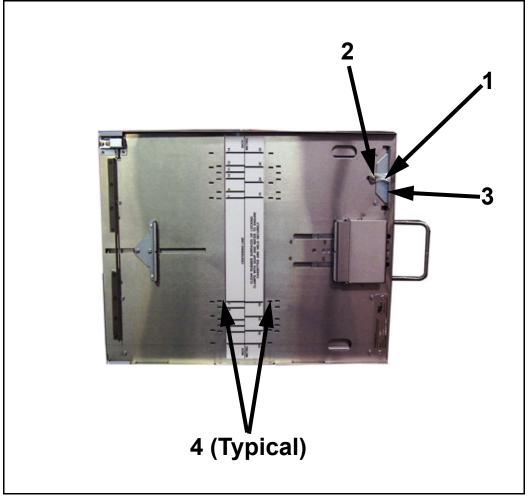


Figure 2-41. Cassette Tray Preparation



**64** Insert the cassette tray into the bucky as shown in the figure below.

Figure 2-42. Cassette Tray Insertion

Installation is complete.

## Operation

3

## 3.1 Safety Precautions

Before attempting to operate the table, familiarize yourself with the safety concerns listed in this section.



Make sure that the operator or the patient does not touch the table's unlock pedal when the patient is getting on or off the table. This may cause the patient to fall off the table and cause serious injury. See figure below.

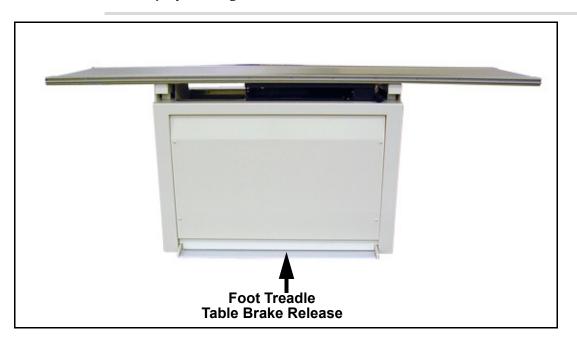


Figure 3-1. Unlock Pedal

## 🚺 Warning

No foreign objects which can attenuate or scatter the X-ray beam are allowed between the X-ray tube and the table top during exposure. Failure to follow this may result in serious injury.

## 🔨 Warning

This table is intended to be used as part of a system for the intended generation of X-rays for medical diagnosis.

X-rays generate a potential risk for both patients and operators. For this reason, the application of X-rays for a given medical purpose must aim at the minimization of radiation exposure to any persons.

Those persons responsible for the application must have the specific knowledge according to legal requirements and regulations and must establish safe exposure procedures for this kind of systems.

Those persons responsible for the planning and installation of this equipment must observe the national regulations.

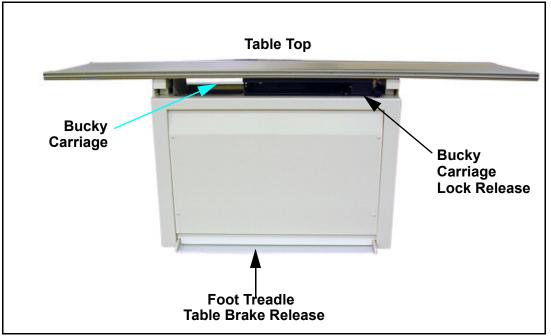
## 3.2 Operation Specifications

	Specifications
Compatibility	The RT100 Float-Top Table is compatible with a wide variety of generators, wallstands, and tubestands. It is intended to be used in a stationary diagnostic X-ray configuration.
Voltage	120VAC or 230/240 VAC
Current	0.5 A Cont. @ 120V or 0.25A Cont. @ 230/240V
Frequency	50/60 Hz Single Phase
External Heat Generation	123 Btu/hr (88 watts)
Fuse Type	F1, F2 0.25A @ 230/240 VAC or 0.5A @ 120VAC
Classification	Class 1 Type B
Patient Limit	500 lbs (227 Kg)
Duty	Continuous
Mode of Operation	Momentary
Aluminum Equivalent	Beam Attenuation of the Standard Table Top is .8 mm Alumi- num Equivalent or Less Beam Attenuation of the Optional Carbon Fiber Table Top is .4 mm Aluminum Equivalent or Less
Temperature Limits	Transit/Storage         Operating           - 40° F to +158° F         +50° F to +95° F           - 40° C to +70° C         +10° C to +35° C
Relative Humidity Limits	Transit/Storage 10% to 100% Operating 10%-80% Non-Condensing
Atmospheric Limits	14.5 inHg to 30.74 inHg (Sea Level to 18,000 Ft) 500 hPa to 1060 hPA (Sea Level to 5,500 M)
Weight	Table Base: 398 lbs (181 Kg)Table Top: 77 lbs (34Kg)
Degree of protection against the ingress of water:	Ordinary
Certifications:	
	Classified To UL 60601-1,IEC60601-1, EN60601-1, IEC 60601-2-32, EN60601-2-32, IEC60601-1-3, EN60601-1-3. Certified To CAN/CSA C22.2 NO. 601.1.
Equipment not suitable for use in the prese oxide.	ence of flammable anesthetic mixtures with air, oxygen or nitrous
No user serviceable parts	

Table 3-1: Operation Specifications

## 3.3 Controls

This section describes the controls of the table. Figure 3-2 below shows the controls of the table.



*Figure 3-2. Table Controls* 

#### **Unlock Pedals**

Pressing and holding the **Unlock Pedal** releases the magnetic locks and allows the table top to be manually moved in and out or side to side. The transverse range is 9.75" (24 cm). The side-to-side range is 55.38" (140 cm).

Releasing the **Unlock Pedal** locks the table in the newly selected position.

#### **Bucky Carriage Lock Release**

Pressing and holding the **Bucky Carriage Lock Release** button on the front of the bucky carriage releases the magnetic locks and allows the bucky to be moved left or right to the required position under the patient. The total travel range of the bucky is 11.4" (29 cm).

Releasing the switch secures the bucky in place.

## 3.4 Cassette Tray Removal

To completely remove the cassette tray, do the following:

- 1 Manually pull the cassette tray out as far as it will go.
- **2** While pressing on the limit button (1 in Figure 3-3), pull the cassette tray completely out of the bucky.

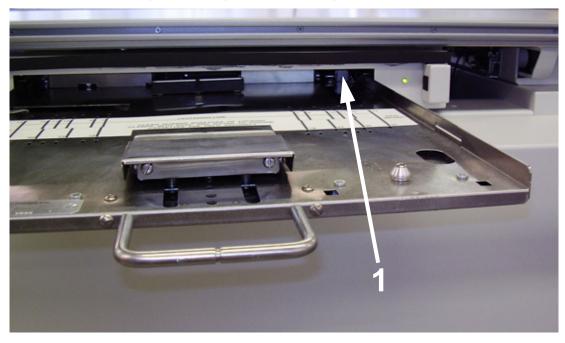


Figure 3-3. Cassette Tray Removal

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# **Periodic Maintenance**

# 4

## 4.1 Periodic Maintenance Schedule

Refer to the schedule below for information on when to perform periodic maintenance on the table.

Note: Due to varying operating conditions, the procedures listed below may have to be performed at greater or lesser intervals. You may have to adjust intervals according to your table's performance.

What to Do	When to Do It	Refer to Section
Clean External Surfaces	Every Week or as Required	"Cleaning External Surfaces" on page 4-2
Check Brake Function	Every 6 Months	"Checking Brake Perfor- mance" on page 4-4
Check Fasteners for Tight- ness	Every 6 Months	"Checking Fasteners for Tightness" on page 4-5

Table 4-1: Periodic Maintenance Schedule

## 4.2 Cleaning External Surfaces

#### **Tools Required:**

- Cleaning wipes
- Non-abrasive, hospital-grade cleaner

Use cleaning wipes and non-abrasive, hospital-grade cleaner to clean external surfaces of table and base.



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

#### 🚺 Warning

This equipment is NOT classified as anaesthetic-proof and may ignite inflammable anesthetics. Flammable agents used for skin cleaning or disinfecting may also produce an explosion hazard.

- Ensure the power has been disconnected and that the emergency switches have been activated before starting any cleaning operation.
- Ensure no liquid gets into the unit.
- Do not immerse the equipment, including any components or accessories in liquid.
- Do not autoclave the equipment, including any component or accessories.
- Do not use water. Water can short-circuit the electrical installation and cause corrosion to mechanical parts.
- Do not use acid or abrasive products.
- Use only a dry cloth to clean chrome-plated parts.

- Only the surface areas of unit parts, including accessories and connection cables, should be disinfected using a gaseous disinfectant. For safety reasons, do not spray disinfectants.
- Clean painted parts with a cloth and use products appropriate for cleaning plastic materials. After cleaning, wipe the surfaces with a clean, dry cloth.
- Do not spray cleaning or disinfection solution directly on the equipment. To disinfect, moisten a cloth with a 70% Isopropyl alcohol solution or equivalent and wipe the surface of the equipment.
- When disinfecting the examination room, ensure the unit is covered with plastic sheets.

## 4.3 Checking Brake Performance

#### **Tools Required:**

- None
- Repeatedly press and release the Foot Treadle Table Brake Release (1 in Figure 4-1) while moving table top through its full range of motion. If the foot treadle table brake release shows any sign of weakness, troubleshoot according to Chapter 7.

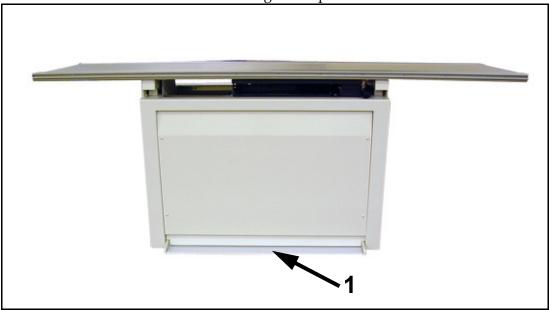
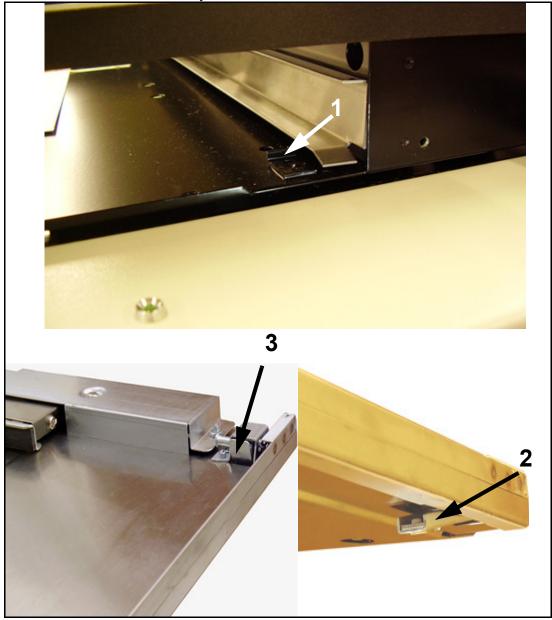


Figure 4-1. Foot Treadle Table Brake Release

### 4.4 Checking Fasteners for Tightness

#### **Tools Required:**

- Phillips screw driver
- 1 Check each exposed fastener for tightness and tighten accordingly. Be sure to check the bumper tightness at each corner of the table top.
- **2** Check the cassette stop in the front right of the bucky (1 in Figure 4-2), the cassette stopper tab (2), and limit button (3) for wear and functionality.



*Figure* 4-2*. Cassette stop details on bucky (top) and cassette tray (bottom left and right)* 

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## Maintenance

# 5

## 5.1 Introduction

This chapter provides maintenance and adjustment procedures for the float-top table.



All service and maintenance, including the procedures described within this chapter, are to be performed by qualified service personnel only.

## 5.2 Removing Front Panel

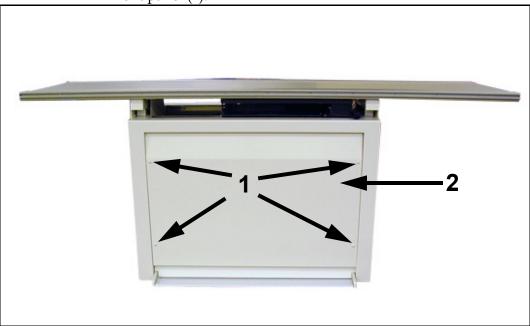
This is a common procedure that is referenced to in the replacement procedures that follow in this chapter.

#### **Tools Required:**

- Medium Phillips screwdriver
- 1 Run the table to its uppermost position.

#### Warning

- **2** Turn off all power to the table.
- **3** Unscrew the four front panel screws (1 in Figure 5-1) and remove the front panel (2).



*Figure 5-1. Front Panel Removal* 

### 5.3 Replacing Line Fuses F1 & F2

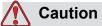
#### **Tools Required:**

- Medium Phillips screwdriver
- Small flat-tip screwdriver
- 1 Turn off all power to the table.



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**2** Remove front panel according to Section "Removing Front Panel" on page 5-2.



Replace the fuses only with the same type and rating of fuse or the machine may get damaged.

- **3** Gently pry each fuse out of its holder. Refer to label for value of F1 and F2 fuse.
- **4** Reverse the steps to reassemble.

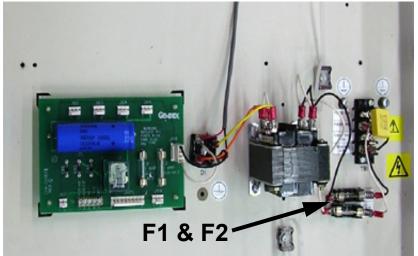


Figure 5-2. Fuse Location

## 5.4 Replacing Fuses F2 & F3 on Power Supply PCB

#### **Tools Required:**

- Medium Phillips screwdriver
- Small flat-tip screwdriver
- 1 Turn off all power to the table.

#### 🚺 Warning

Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**2** Remove front panel according to Section "Removing Front Panel" on page 5-2.

#### Caution

Replace fuses only with the same type and rating of fuse or the machine may get damaged.

- **3** Gently pry each fuse out of its holder.
- **4** Reverse the steps to reassemble.

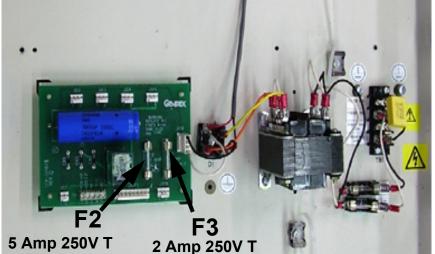


Figure 5-3. Fuse Location

## 5.5 Changing Input Line Voltage 120V-240V

The input line voltage can be changed from 120V to 240V and vice versa as follows:

**Tools Required:** 

- Medium Phillips screwdriver
- 1 Turn off all power to the table.



- **2** Remove the front panel according to Section "Removing Front Panel" on page 5-2.
- **3** Rewire the transformer T1 according to Figure 5-5 on page 5-6.
- **4** Reverse the steps to reassemble.

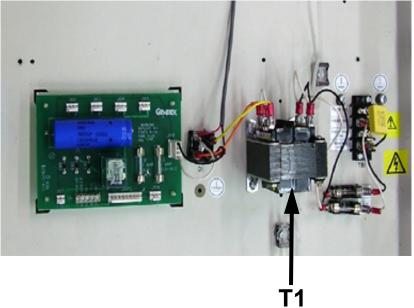


Figure 5-4. Transformer Location

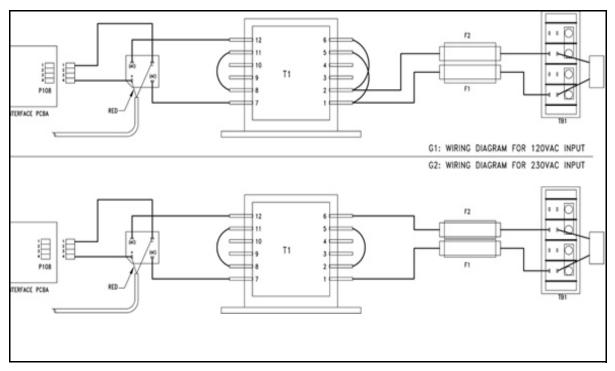


Figure 5-5. Rewiring Transformer

## 5.6 Adjusting Table Top Lock Coils

To adjust the lock coils proceed as follows:

#### **Tools Required:**

- Small Hex key
- 1 Turn off all power to the table.



- 2 Slide the table top off just enough to reveal one of the lock coils.
- **3** To raise the coil (turn on the lock pressure), turn the adjustment screw clockwise as shown in Figure 5-6.

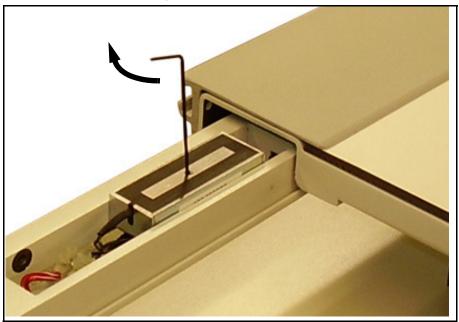
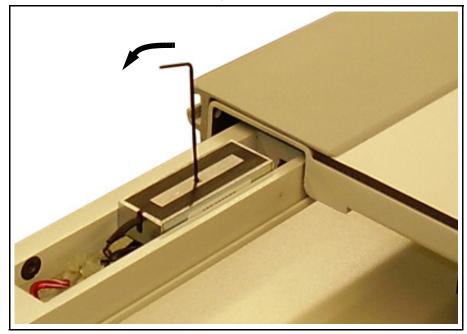


Figure 5-6. Rising the lock coil



**4** To lower the coil (release locks) turn the adjustment screw counterclockwise as shown in Figure 5-7.

Figure 5-7. Lowering the lock coil

5 Slide the table top to the other side just enough to reveal the other lock coil. Adjust the lock coil as described in 3 and 4 above.

# Component Replacement

# 6

## 6.1 Introduction

This chapter provides instructions for replacing most of the major assemblies on the float-top table.



All service and maintenance, including the procedures described within this chapter, are to be performed by qualified service personnel only.

## 6.2 Removing Front Panel

This is a common procedure that is referenced to in the replacement procedures that follow in this chapter.

#### **Tools Required:**

- Medium Phillips screwdriver
- 1 Turn off all power to the table.



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**2** Unscrew the four front panel screws (1 in Figure 6-1) and remove the front panel (2).

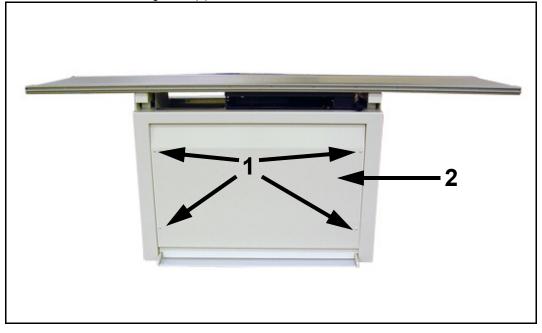


Figure 6-1. Front Panel Removal

#### 6.3 Replacing Table Top (Slide Off Method)

This procedure is for replacing table tops in rooms that are large enough to allow the table top to be slid off the end of the base. For smaller rooms, refer to Section "Replacing Table Top (Tilt Off Method)" on page 6-5.

Note: Two people are required to perform this procedure.

#### **Tools Required:**

- Medium Phillips screwdriver
- 1 Turn off all power to the table.



Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**2** Unscrew the bumper screws (1 in Figure 6-2) and remove the bumpers (2) on one end of the table.



Figure 6-2. Bumper Removal



The table top is heavy (80 lbs, 35kg) and two people are required to remove it; you can be seriously injured if you try to remove it by yourself.

- **3** Slide the table top off the base.
- **4** Reverse the steps to reassemble.



Figure 6-3. Table Top Removal

## 6.4 Replacing Table Top (Tilt Off Method)

This procedure is for replacing table tops in rooms that are too small to slide the table top off of the base. For large rooms, refer to Section "Replacing Table Top (Slide Off Method)" on page 6-3.

Note: Two people are required to perform this procedure.

#### **Tools Required:**

- 9/16" open-end wrench
- 11/16" open-end wrench
- Medium flat-tip screwdriver
- Medium Phillips screwdriver
- Set of feeler gages
- 1 Turn off all power to the table.

#### 🚺 Warning

Turn off all electrical power to the table and all its peripheral equipment (generator, tubestand, etc.) at the power sources before servicing the table. Also, make sure that the power sources are locked out and tagged "Equipment Being Serviced" before servicing the table. Some components inside of the table have power sources other than that of the table, which is why all peripheral equipment must be turned off; you could get seriously injured if you do not.

**2** Unscrew the bumper screws (1 in Figure 6-4) and remove the bumpers (2) on both ends of the table.

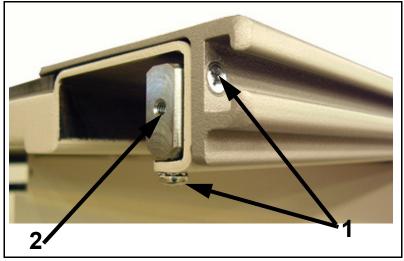


Figure 6-4. Bumper Removal



The table top is heavy (80 lbs, 35kg), and two people are required to install it; you can be seriously injured if you try to remove it by yourself.

- **3** Very carefully roll the top onto the back of the table base and down as shown below. Make sure the table is installed so the label on the table is oriented towards the front of the table base.
- **4** Slide the table to the right and remove the left guide roller (1 in Figure 6-5) and the left bearing assembly (2).

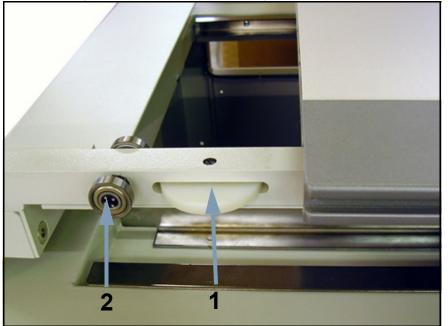
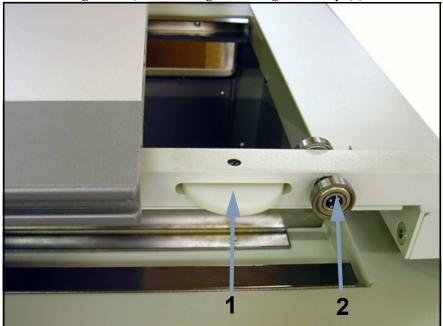


Figure 6-5. Left Guide Roller and Bearing

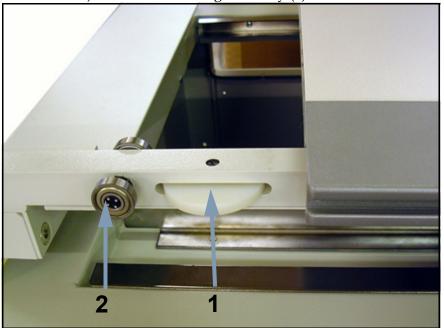


**5** Slide the table to the left and remove the right guide roller (1 in Figure 6-5) and the right bearing assembly (2).

Figure 6-6. Right Guide Roller and Bearing



The table top is heavy (80 lbs, 35kg) and two people are required to install it; you can be seriously injured if you try to remove it by yourself.



**6** Slide the table to the right and reinstall the left guide roller (1 in Figure 6-6) and the left bearing assembly (2).

Figure 6-7. Left Guide Roller and Bearing

- 7 The top can now be lifted off the table and replaced.
- 8 Slide the table over the left bearing assembly.
- **9** Adjust the eccentric nut (1 in Figure 6-8) so that a gap (2) of about 1/ 32" (0.8mm) appears between the bearing and the table frame.

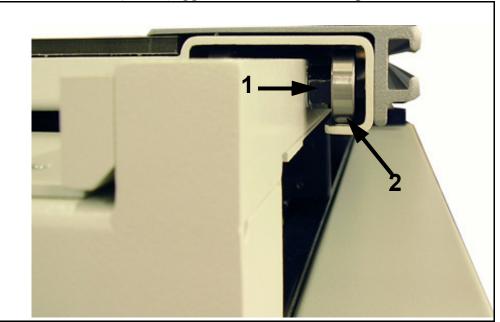
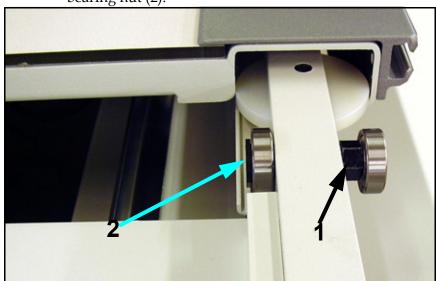


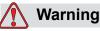
Figure 6-8. Eccentric Adjustment



**10** While holding the eccentric nut (1 in Figure 6-9) still, tighten the bearing nut (2).

Figure 6-9. Tightening Bearing Nut

- 11 Repeat steps 8-11 for the right side guide roller and the bearing.
- **12** Slide the table top back and forth to ensure smoothness of motion. Readjust the bearing gap if required.
- **13** Center the table top on the table base and go to the next step.



The bumpers must be installed. If they are not, the table top may slide off of its base during use and severely injure the patient or operator. **14** Mount the bumper (1 in Figure 6-10) with two screws (2) in **all four corners** of the table.

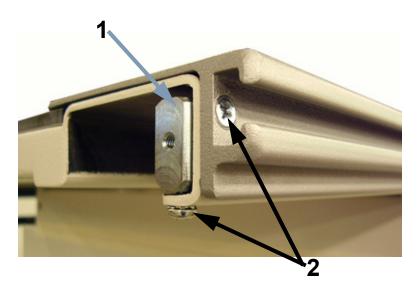


Figure 6-10. Bumper Mounting

## 6.5 Replacing Transformer

#### **Tools Required:**

- Medium flat-tip screwdriver
- Medium Phillips screwdriver
- 1 Turn off all power to the table.



- **2** Remove the front panel according to Section "Removing Front Panel" on page 6-2.
- **3** Disconnect the wires from the transformer (1 in Figure 6-11).
- **4** Unscrew the two mounting screws (2) and remove the transformer.
- **5** Mount the new rectifier with mounting screws.

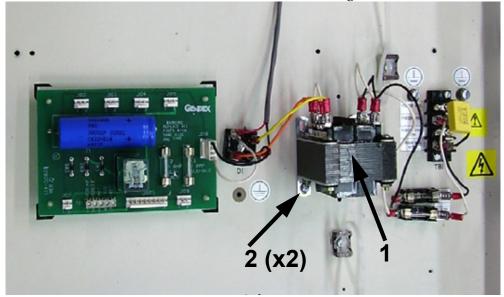
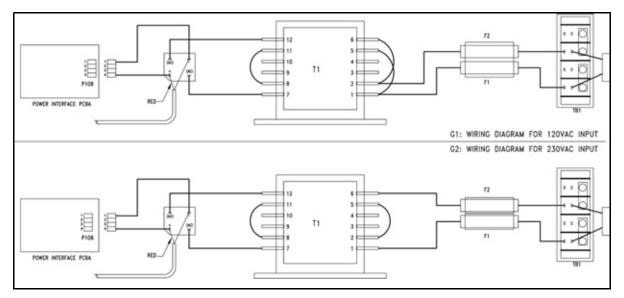


Figure 6-11. Transformer Location

**6** Rewire the transformer T1 according to Figure 6-12.



7 Reverse the steps to reassemble.

Figure 6-12. Wiring Transformer

## 6.6 Replacing Rectifier

#### **Tools Required:**

- Medium flat-tip screwdriver
- Medium Phillips screwdriver
- 1 Turn off all power to the table.



- **2** Remove the front panel according to Section "Removing Front Panel" on page 6-2.
- **3** Disconnect the wires from the rectifier (1 in Figure 6-13).
- 4 Unscrew the mounting screw (2) and remove the rectifier.
- **5** Mount the new transformer with the mounting screws.

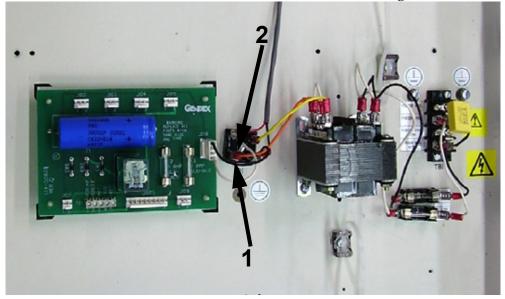


Figure 6-13. Rectifier Location

- **6** Rewire the rectifier according to Figure 6-14.
- **7** Reverse the steps to reassemble.

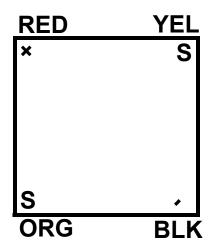


Figure 6-14. Wiring Rectifier

#### 6.7 Replacing Power Supply PCB

#### **Tools Required:**

- Medium Phillips screwdriver
- Needle-nose pliers
- 1 Turn off all power to the table.

#### 🔨 Warning

- **2** Remove the front panel according to Section "Removing Front Panel" on page 6-2.
- **3** Unplug all the connectors to the power supply PCB (1 in Figure 6-15).
- **4** Separate each of the board's four mounting pins (2) from the board. This can be done by pinching the tab on each pin and lifting the board over the tab as shown in Figure 6-16.
- **5** Reassemble by reversing the steps. Each connector for the PCB is labeled with the corresponding socket number on the PCB.

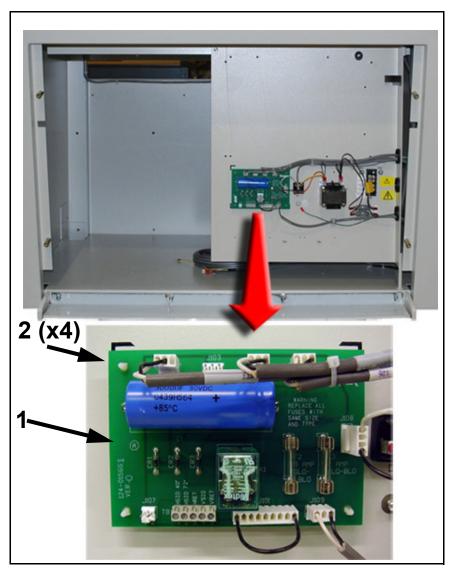


Figure 6-15. Power Supply PCB

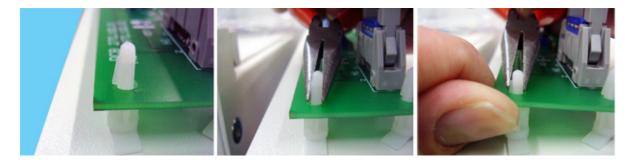


Figure 6-16. Removing PCB

## Troubleshooting

## 7.1 Introduction

This chapter is divided into two sections.

The first section is a group of troubleshooting charts that will guide you through most of the problems that may occur with the table.

The second section is made up of an overall schematic of the table and a group of illustrations showing the actual parts depicted on the schematic and their location on the table.



All service and maintenance, including the procedures described within this chapter, are to be performed by qualified service personnel only.

## 7.2 Troubleshooting Index & Charts

Use the following troubleshooting index and troubleshooting charts as an aid in solving your table's malfunction.

Problem	Refer to Page:
All of the table locks do not work.	7-2
Longitudinal table locks are weak - they do not hold table securely.	7-3
Front-to-back table locks are weak - they do not hold table securely.	7-4
Bucky locks are weak - they do not hold bucky securely.	7-5

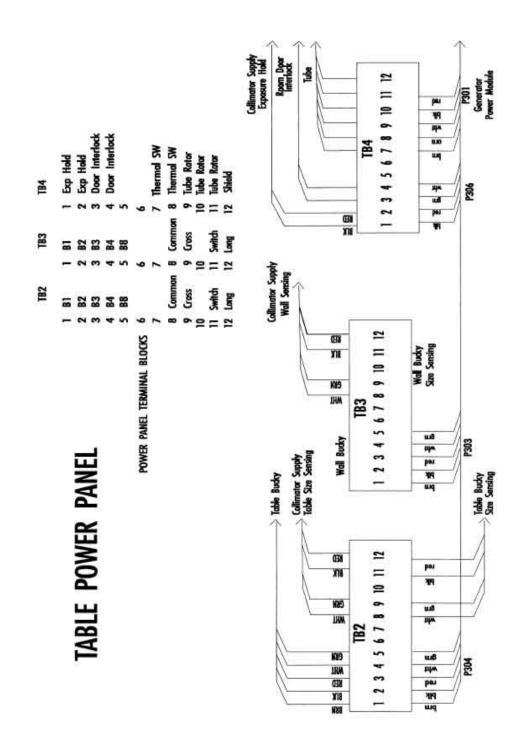
Problem	Possible Cause	Remedy
All of the table locks do not work. The power indicator light is not ON.	bt work. locks.	Make sure that the power source is turned on.
		Check fuses F1 & F2 according to "Replacing Line Fuses F1 & F2" on page 5-3.
		Check fuses F2 & F3 according to Section "Replacing Fuses F2 & F3 on Power Supply PCB" on page 5-4.
		Check for 24 VDC across terminals 1 and 4 at J108 on the table power supply board. If 24 VDC is NOT present, replace the board according to Section "Replacing Power Supply PCB" on page 6-16.
		If 24 VDC is not present, check the function of rectifier D1 or transformer T1.

Problem	Possible Cause	Remedy
The longitudinal table locks are weak - they do not hold table securely.	The locks are jammed or a solenoid coil is bad.	Remove the table top according to the first part of Section "Replacing Table Top (Tilt Off Method)" on page 6-5.
		Check for and remove any obstructions in the locks.
		With the table turned on, repeatedly press the unlock pedal and visually confirm the up-and-down motion of each lock.
		If the lock does not work, check for the 24VDC signal at the lock's terminal when the pedal is not pressed but the table is turned on. If the signal is present, replace the faulty lock.
		If the signal is not present, trace the wiring back to the table power supply board and check for loose terminal cut wires. Also check for continuity across the foot treadle. Replace the treadle if necessary.
		If the signal is not present, check for 24VDC at the power supply terminals 1 and 3 on J103. If the signal is still not present, replace the board according to "Replacing Power Supply PCB" on page 6-15.

Problem	Possible Cause	Remedy
The front-to-back table locks are weak - they do not hold the table securely.	The locks are jammed or a solenoid coil is bad.	Remove the table top according to the first part of Section "Replacing Table Top (Tilt Off Method)" on page 6-5.
		Check for and remove any obstructions in the locks.
		With the table turned on, repeatedly press the unlock pedal and visually confirm the up-and-down motion of each lock.
		If the lock does not work, check for the 24VDC signal at lock's terminal when the pedal is not pressed, but the table is turned on. If the signal is present, replace the faulty lock.
		If the signal is not present, trace the wiring back to the table power supply board and check for loose terminal cut wires. Also check for continuity across the foot treadle. Replace the treadle if necessary.
		If signal is not present, check for 24VDC at power supply terminals 1 and 3 on J105. If the signal is still not present, replace the board according to "Replacing Power Supply PCB" on page 6-15.

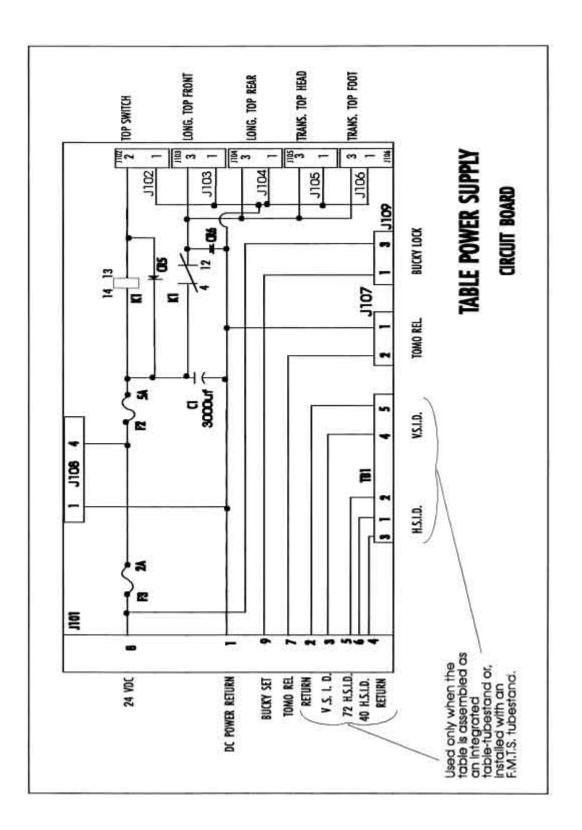
Problem	Possible Cause	Remedy
The bucky locks are weak - they do not hold the bucky securely.	The locks are jammed or a solenoid coil is bad.	Remove the table top according to the first part of Section "Replacing Table Top (Tilt Off Method)" on page 6-5.
		Check for and remove any obstructions in the locks.
		With the table turned on, repeatedly press the bucky lock switch and visually confirm the up- and-down motion of each lock.
		With the table turned on, repeatedly press the unlock bucky switch and visually confirm the up- and-down motion of each lock.
		If the lock does not work, check for the 24VDC signal at lock's terminal when the bucky switch is not pressed, but the table is turned on. If the signal is present, replace the faulty lock.
		If the signal is not present, trace the wiring back to the table power supply board and check for loose terminals cut wires. Also check for continuity at the bucky switch. Replace the switch if necessary.
		If the signal is not present, check for 24VDC at the power supply terminals 1 and 3 on J109. If the signal is still not present, replace the board according to "Replacing Power Supply PCB" on page 6-15.

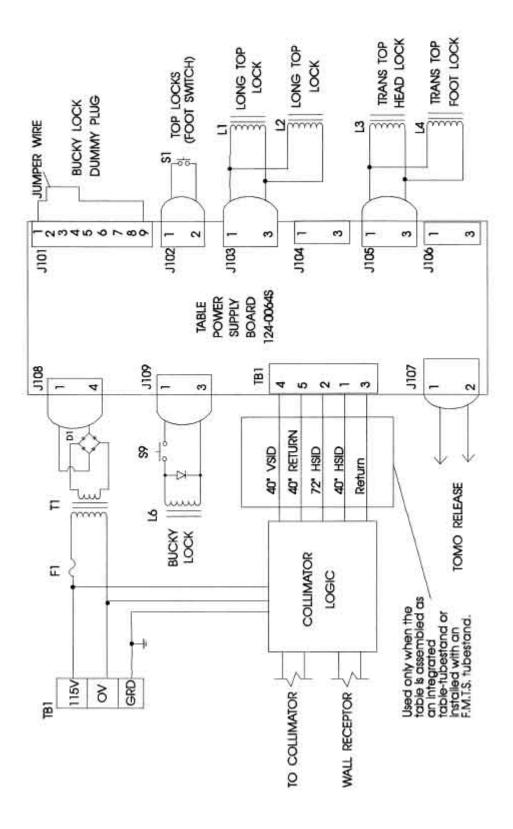
Problem	Possible Cause	Remedy
If the table holding lock force is under 40lbs.	ck Possible causes may include wear and tear, no power, locks not working, and/or foot switch not working.	Remove the table top according to the first part of Section "Replacing Table Top (Tilt Off Method)" on page 6-5.
		Check for and remove any obstructions in the locks.
		With the table turned on, repeatedly press the unlock pedal and visually confirm the up-and-down motion of each lock.
		If the lock does not work, check for the 24VDC signal at lock's terminal when the pedal is not pressed, but the table is turned on. If the signal is present, replace the faulty lock.
		If the signal is not present, trace the wiring back to the table power supply board and check for loose terminal cut wires. Also check for continuity across the foot treadle. Replace the treadle if necessary.
		If signal is not present, check for 24VDC at power supply terminals 1 and 3 on J105. If the signal is still not present, replace the board according to "Replacing Power Supply PCB" on page 6-15.



## 7.3 Schematic Troubleshooting

The following schematic diagrams can be used to troubleshoot electrical problems with the table.





# **Electrical Schematics**

#### 8.1 List of Electrical Schematics

Drawing Number	Drawing Description	# Sheets	Current rev.
034-5076 & 034-5077	Interconnect Diagrams for RT100 Table and Various Tube Stands (Refer to Table 8-2 on the next page to find out which drawing matches your configura- tion)	1&3	See Table 8-2 On Next Page
110-0068S	RT100 Table Schematic	1	0
122-5079	Power Panel Assembly	1	0
124-0156S	Table Power Supply	1	0

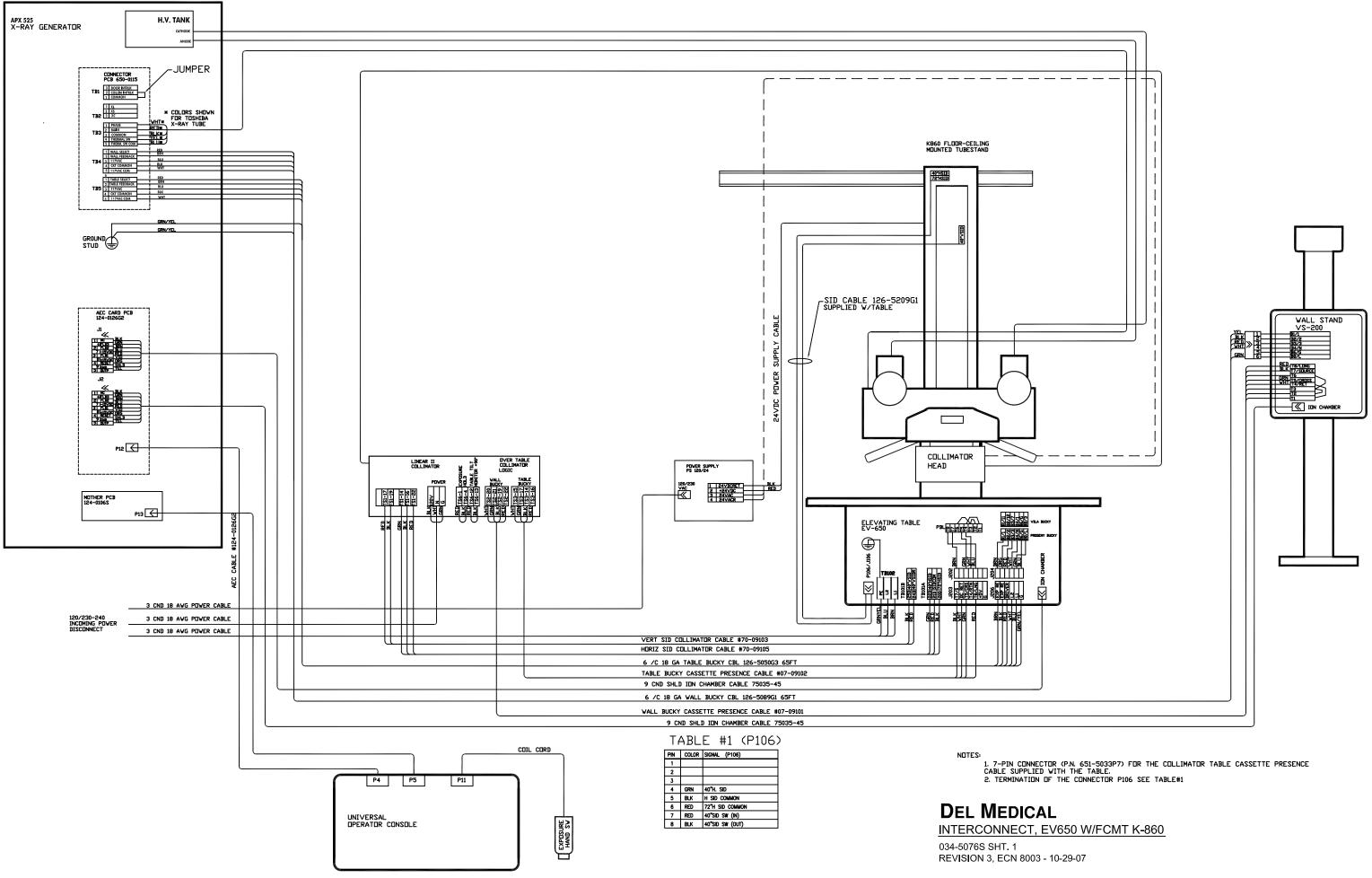
This chapter contains the electrical schematics for the table.

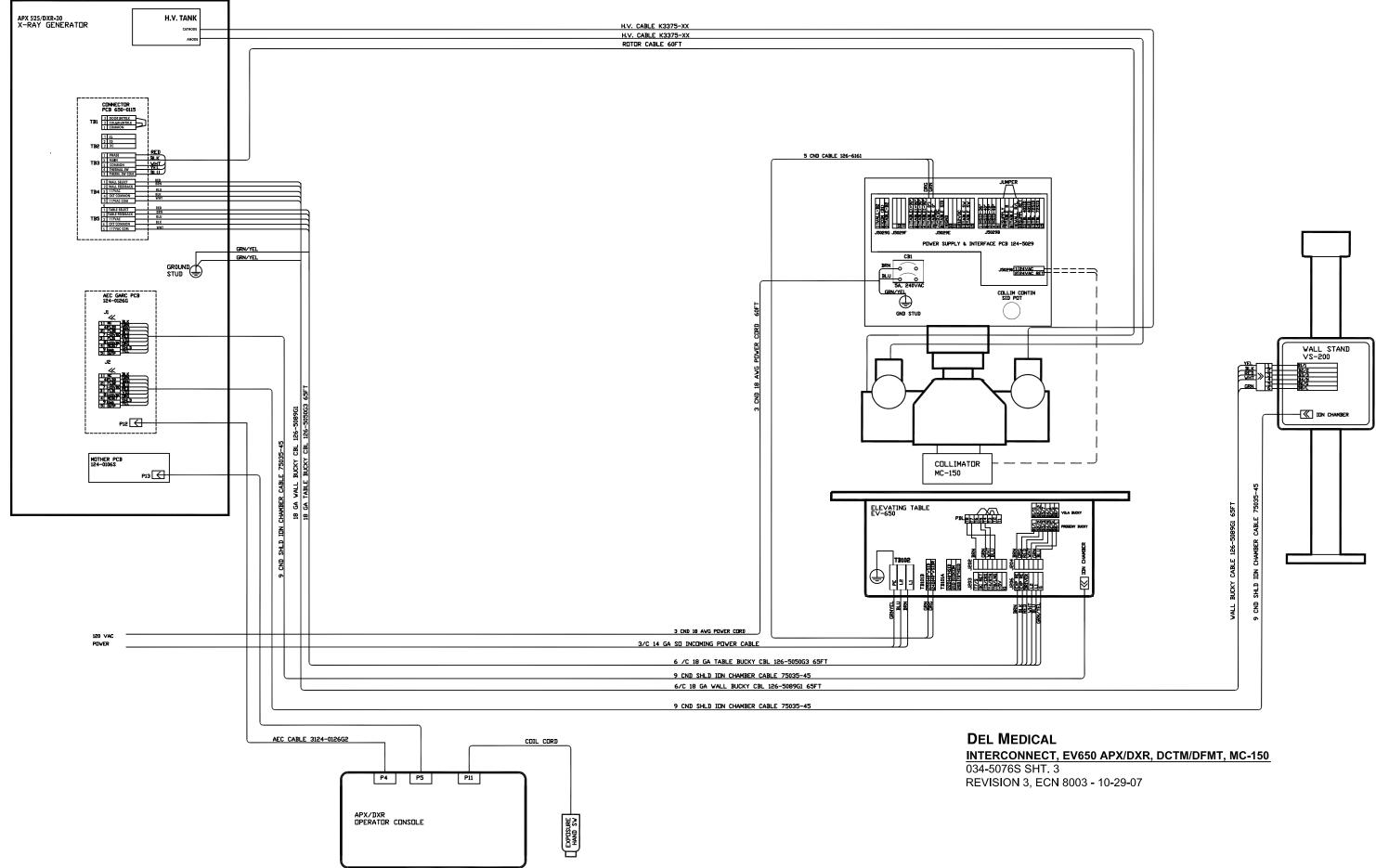
Table 8-1: List of Schematics

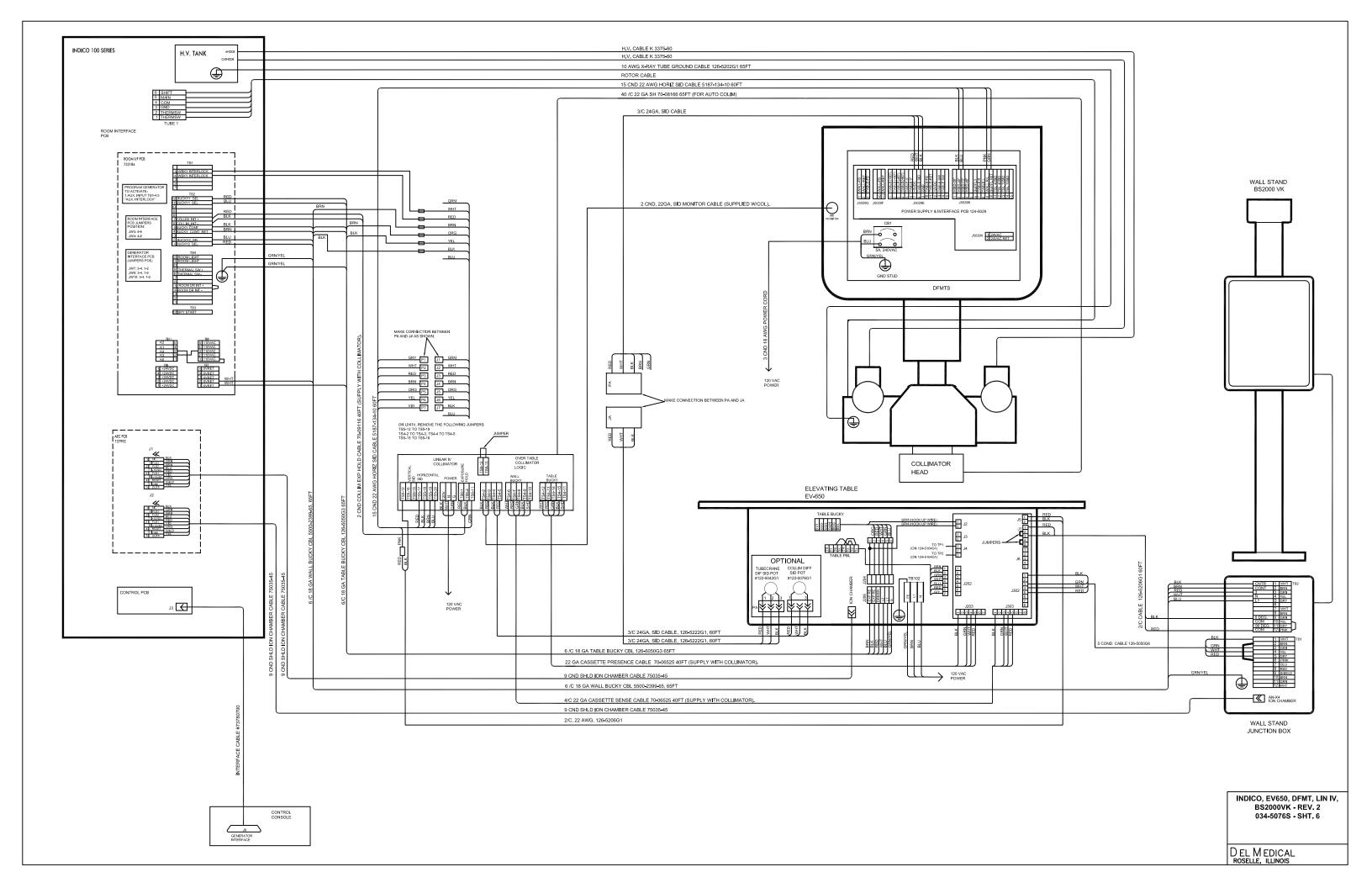
#### 8.2 Configuration - Schematic Match Table

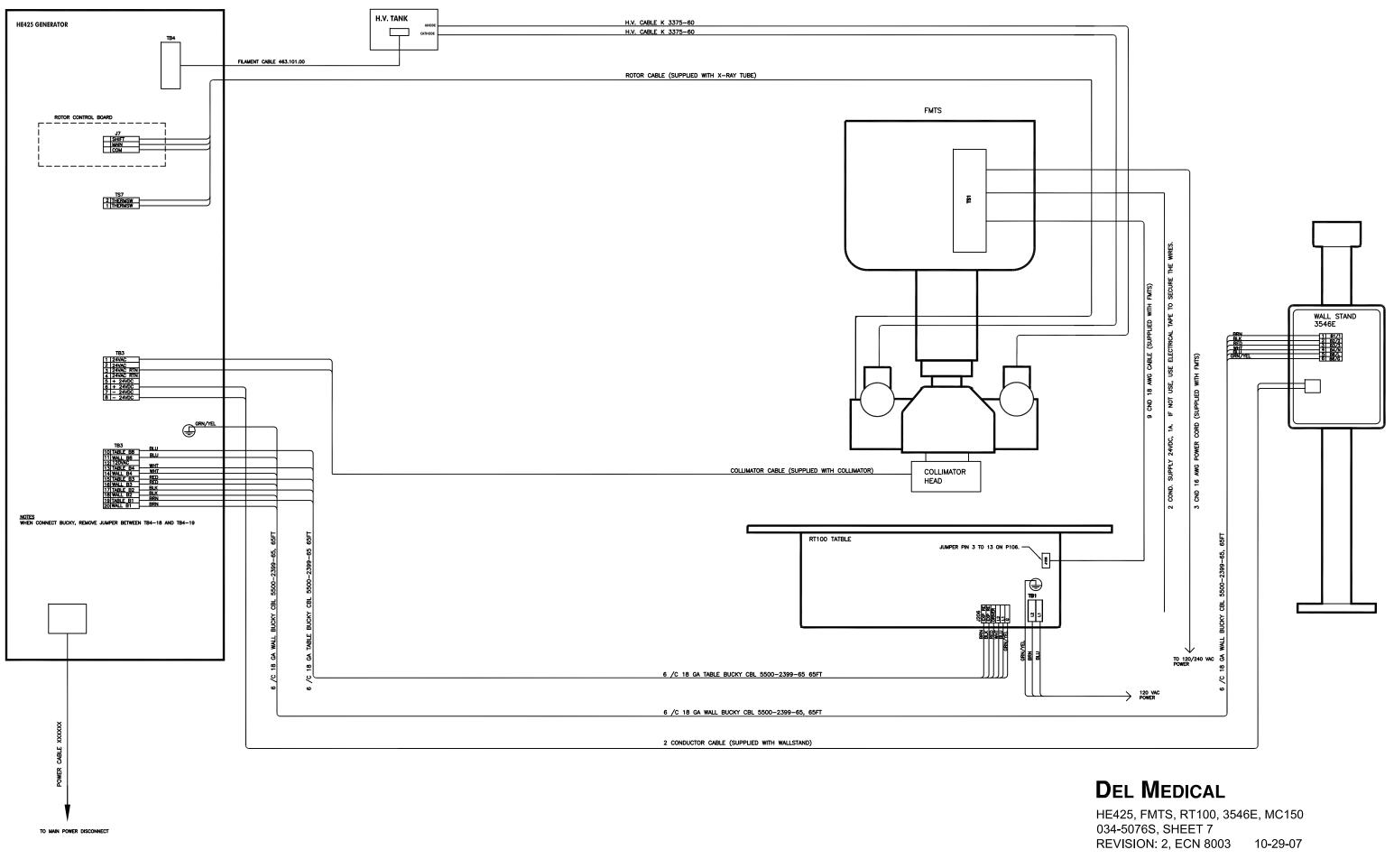
Generator Model	Tube Stand/ Crane Model	Collimator Model	Wall Stand Model	Refer to Draw- ing #	Current Rev. Level
HE425	FMTS Tubestand	MC series	RT100/ 3546E	034-5076S7	2
Anthem	OTC-12 Crane	Ralco	RT100	034-5077S6	4
IN Series	OTC-12 Crane	Ralco	RT100	034-5077S11	4
CM Series	OTC-12 Crane	Ralco	RT100/ VS200	034-5077S18	3

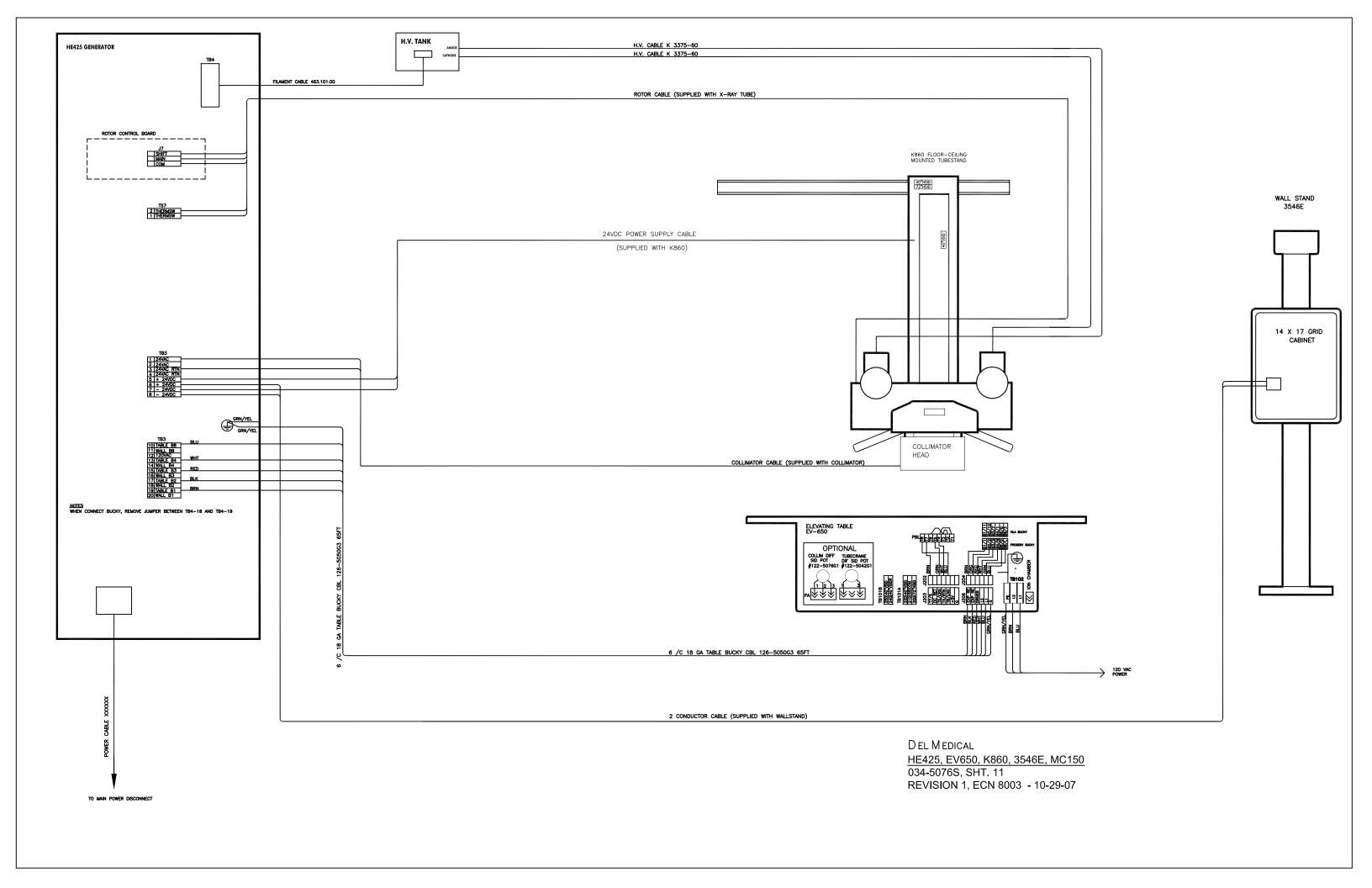
Table 8-2: Configuration - Schematic Match Table

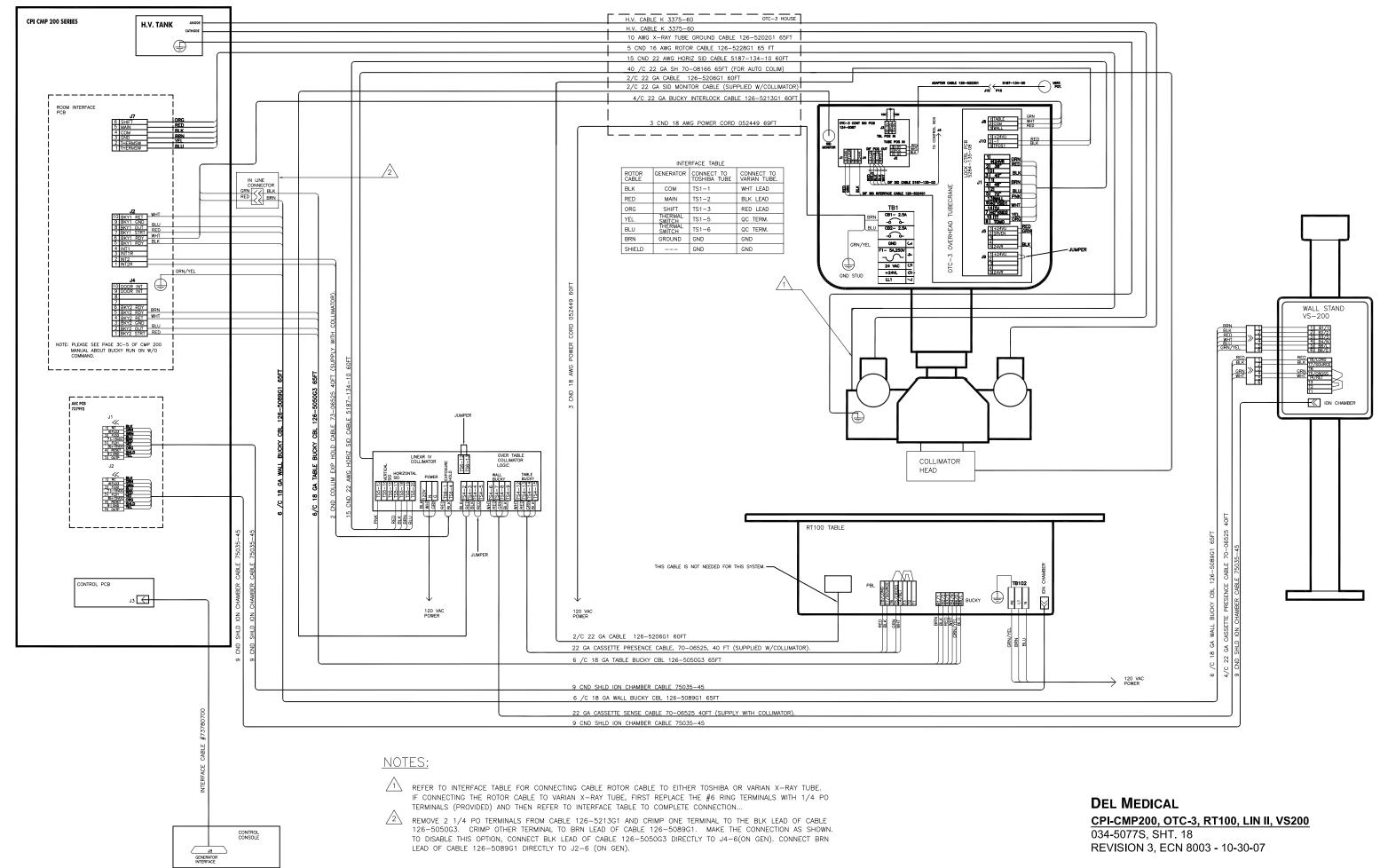


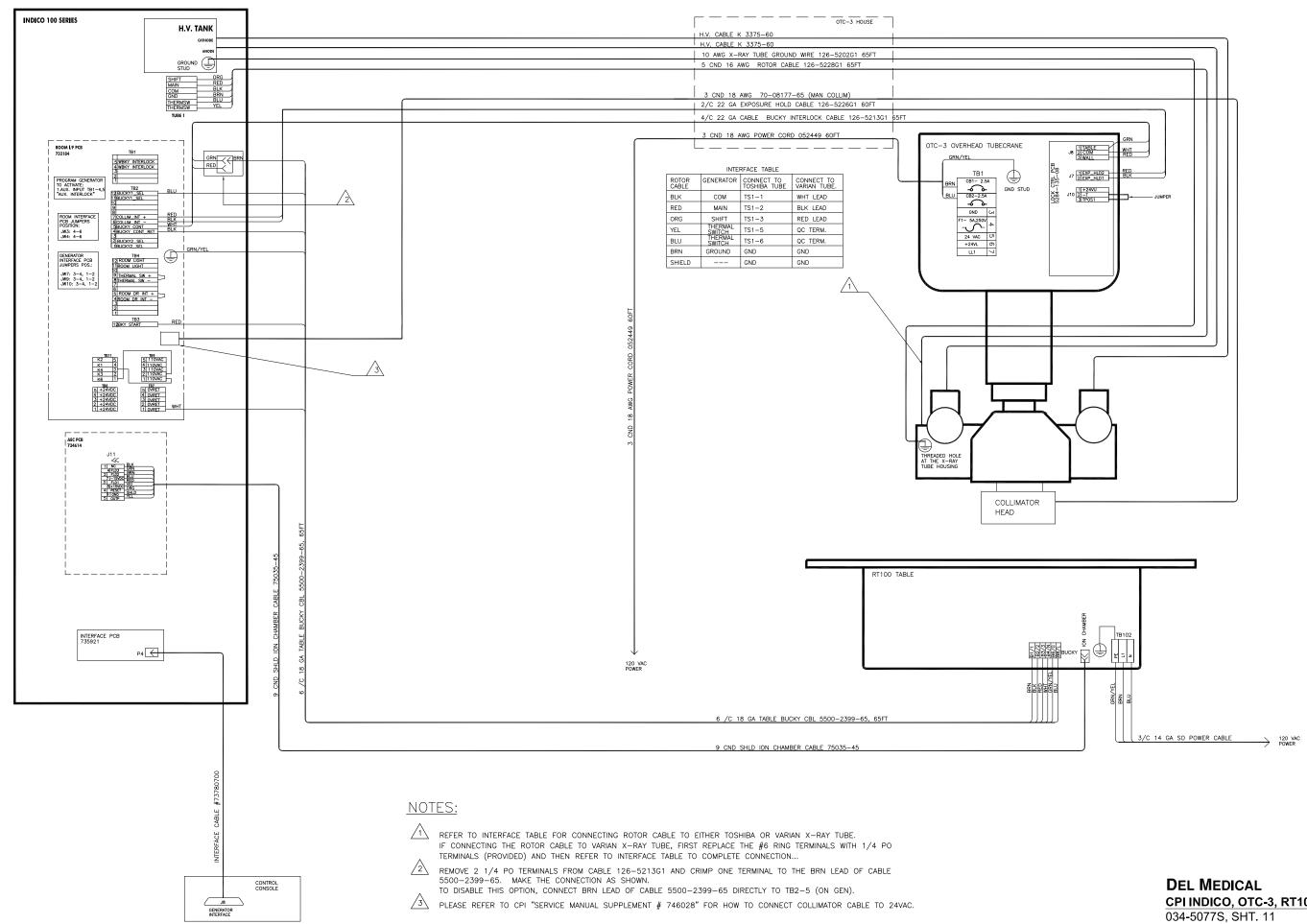




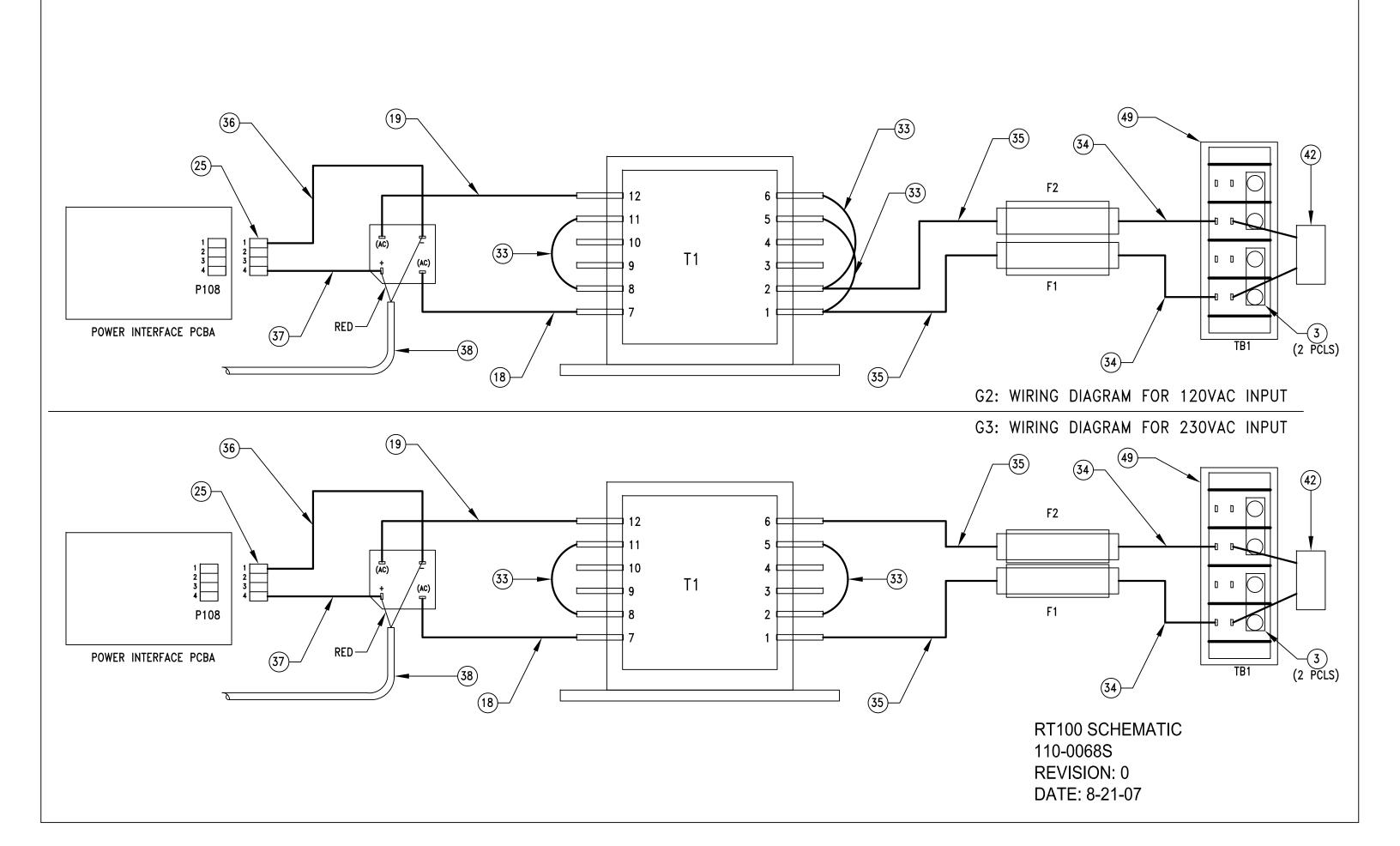


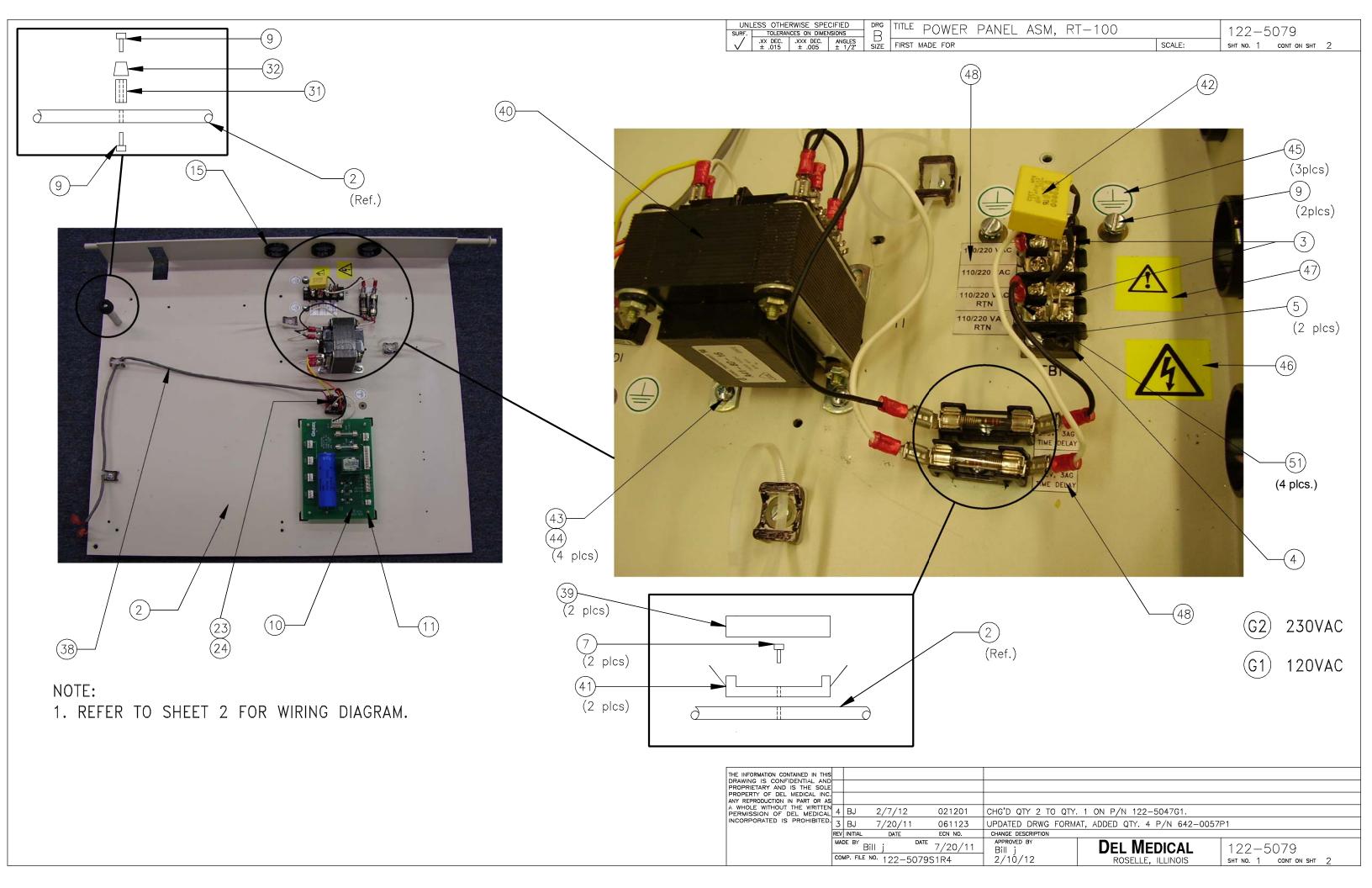




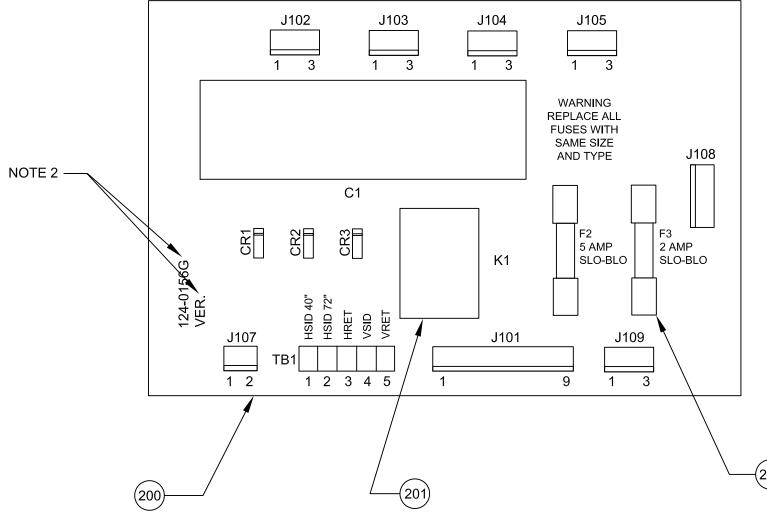


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# **Illustrated Parts List**

# 9

#### 9.1 Ordering Parts

For your convenience, replacement parts, fluids, and accessories can be ordered from Del Medical Inc. by telephone, by fax, or through our Internet ordering service. Please have the following information available to ensure quick, easy, and accurate service.

- Your name and telephone number
- Your P.O. (Purchase Order) number
- Your preferred method of delivery
- The part number and quantity of all items required

#### 9.1.1 To Order by Telephone

Call Del Medical Inc. at 1-800-800-6006 and speak to one our Customer Service Representatives. Telephone hours are 8:00 a.m. to 5:00 p.m., Monday through Friday (Central Standard or Daylight Time).

#### 9.1.2 To Order by Fax

Fax your order to Del Medical Inc. at 1-800-288-7011. Fax orders can be sent 24 hours a day, 7 days a week.

#### 9.1.3 To Order by Email

Email your order to Del Medical Inc. at orders@delmedical.com. Email orders can be sent 24 hours a day, 7 days a week.

#### 9.2 How to Use This Parts List

#### 9.2.1 General Part Numbers

This chapter contains all part numbers necessary to order RT100 Float-Top Table replacement parts and assemblies.

This illustrated parts breakdown is presented in disassembled order. Detail parts are shown below their respective upper level assemblies whenever possible.

The parts lists follow the illustration for a particular assembly and represent components of that assembly. The number listed in the quantity column is the number of the specific part required to complete the assembly and may not reflect the quantity needed for the entire system.

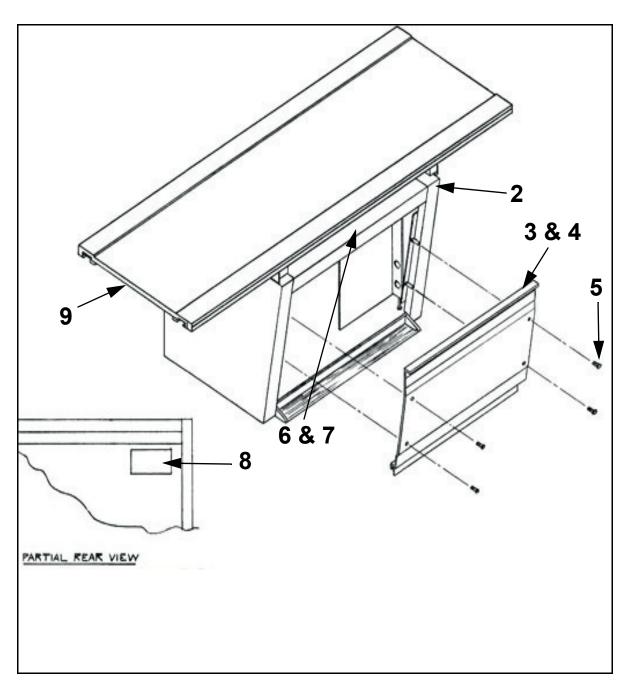
The lists are divided into four columns. The item/index numbers refer to the identification number located on the drawing. The part number is the Del Medical part number, used to identify the part for ordering. The part description column lists each part name, and the quantity column lists the quantity of that part used in that particular assembly.

Illustrations are shown before the parts list for each assembly. Some assembly illustrations require more than one page.

#### 9.3 Commonly Ordered Parts

Part Description	Part number
Fuse, .05 Amp T	46-170021P31
Fuse, 0.25 Amp T	46-170021P73
Electromagnetic Lock	122-0055G3
Power Supply Board	124-0156G1
Longitudinal Bearing	400-0021P1
Transverse Bearing	400-0024P1
Bucky Switch Assembly	122-0068G1
Bucky Switch	632-0016P2
Treadle Switch	632-0012P1
Table Top (86")[220cm]	112-0344G1
Table Top (78")[200cm]	112-0344G2
Table Top Material Only (86")[220cm]	306-0015P1
Table Top Material Only (78")[200cm]	306-0015P2
Rectifier	621-5014P1
T1 Transformer	636-5027P1
Side Extrusion	301-0013P1
Bucky Finger Guard	112-0016G1
Table Top Bumper	401-0005P1
Block-Stopper/Bumper	230-5013P1
Bumper	401-0005P1
Treadle Switch	632-0012P1

Table 9-1: Commonly Ordered Parts



#### 9.4 Overall Table Assembly (110-0070G12)

Figure 9-1. Overall Table Assembly

Fig ref.	Part number	Description	Qty
2	110-0068G3	Basic Table Assembly (See Section for breakdown of assembly)	1
3	203-0179P2	Panel, Front Table	1
4	408-5104P1 408-5108P1	Label, Del Medical Logo Label, Universal Medical Logo	1
5	100012P3	Screw, Trim, 10-32 X 3/8"	4
6	500-5037P1	Bucky, Progeny True Speed, AEC LH Tray	1
7	5500-2399	Bucky Cord Assembly	1
8	408-5173P1	Label, Serial/Rating	1
9	112-0344G1	86" Table Top Assembly	1
10	112-0344G2	78" Table Top Assembly	1

 Table 9-2: Overall Table Assembly

#### 9.5 Basic Table Assembly (110-0068G3) (part 1)

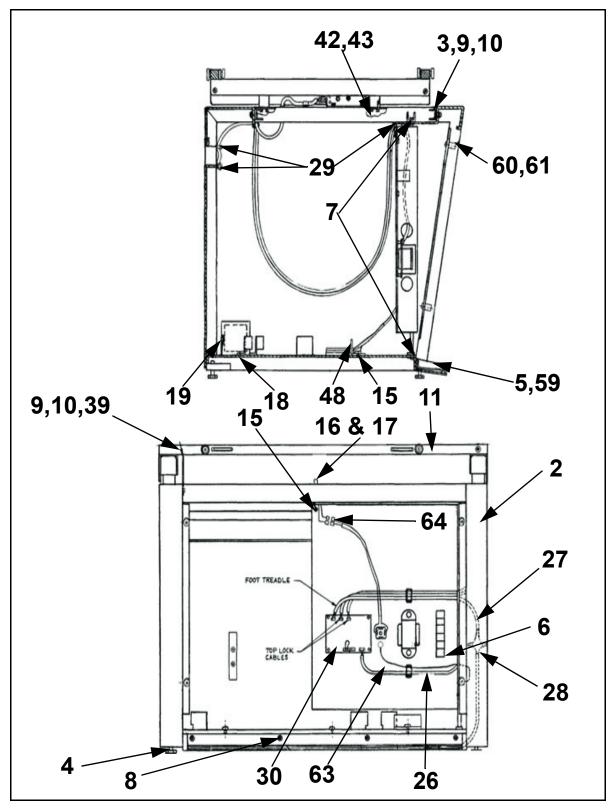


Figure 9-2. Basic Table Assembly (Sheet 1 of 2)

Fig ref.	Part number	Description	Qty
2	114-0237G2	Table Base	1
3	202-0142P1	Bucky Rail	1
4	407-0111P1	Foot, Leveling	4
5	112-0037G1	Treadle Assembly (See Section for breakdown of assembly)	1
6	122-5079G1 (120V) 122-5079G2 (240V)	Power Panel Assembly (See Sec- tion for breakdown of assembly)	1
7	400-0011P1	Bearing, Thompson 6L1FF	2
8	422-0013P13	Screw, HSBHCS 1/4"-20 X 1/2"	4
9	46-208560P45	Screw, SBHMS 10-032 X 3/8"	14
10	46-170012P39	Nut, Hex KEPS 10-32 X 5/32"	21
11	112-0340G1	Inner Frame Assembly (See Sec- tion for breakdown of assembly)	1
15	46-170015P16	Screw, BHMS SEMS 10-32 X 3/8"	10
16	623-5010P1	LED Indicator Panel Mount	1
18	114-0081G2	Insert	2
19	100012P5	Screw, Trim 6-32 X 3/16"	4
26	112-0471G1	Bucky Frame Assembly (See Sec- tion for breakdown of assembly)	1
27	126-0017G1	Cable, Foot Switch	1
28	511A590P95	Terminal, Amp 35115	2
29	46-208758P7	Cable Ties, .1" X 8"	10
30	122-0069G1	Plug - T.S. Dummy	1
39	203-0161P2	Cable Guide Plate	1
42	46-170498P22	Screw, SHCS 5/16" X 18 X 5/8"	8
43	46-220181P8	Washer, Split Lock 5/16"	8
48	430-0023P2	Guide Angle	1
59	215-0009P1	Treadle Cover	1
60	230-0115P2	Spacer, Front Cover	4
61	46-170015P23	Screw, HHMS 1/4" -20 X 1/2"	4
63	122-5080G1	Power Panel Wire Harness Assy	1
64	4455-0132	Terminal, 1/4" Female Red 22-19	2

Table 9-3: Basic Table Assembly Sheet (1 of 2)



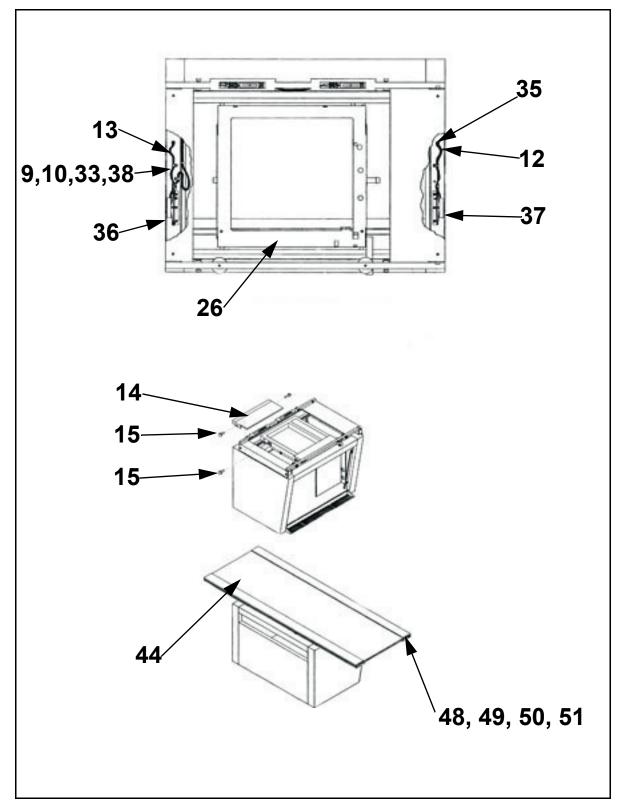


Figure 9-3. Basic Table Assembly (Sheet 2 of 2)

Fig ref.	Part number	Description	Qty
9	46-208560P45	Screw, SBHMS 10-32 X 3/8	14
10	46-170012P39	Nut, Hex 10-32 X 5/32	21
12	126-0085G1	Top Lock Cable	1
13	126-0085G2	Lock Cable Assembly (See Section for breakdown of assembly)	1
14	112-0016G1	Bucky Cover & Bumper	2
15	46-170015P16	Screw, BHMS 10-32 X 3/8"	10
31	46-170498P13	Screw, SHCS 10-32 X 1/2"	4
33	46-2203360P3	Cable Clamp, 1/4" Dia	6
35	46-208695P17	Snap Bushing Heyco #2053	2
36	112-0347G1	Trans Lock Assembly (See Section for breakdown of assembly)	1
37	112-0347G2	Trans Lock Assembly (See Section for breakdown of assembly)	1
38	421-0004P1	Washer, Flat #10	10
44A	112-0344G1	Table Top Assembly (86")[220cm]	1
44B	112-0344G2	Table Top Assembly (78")[200cm]	1
47	46-220181P5	Washer, Split Lock #10	7
48	230-5013P1	Block-Stopper/Bumper	4
49	401-0005P1	Bumper	4
50	762-20-16205011	Screw, PFHMS, 8-32 X 1/2"	4
51	762-20-16203011	Screw, PPNHMS, 8-32 X 1/2"	4

 Table 9-4: Basis Table Assembly Sheet (2 of 2)

### 9.7 Treadle Assembly (112-0037G1)

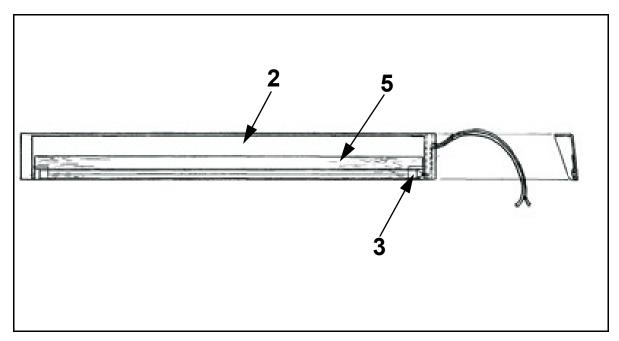


Figure 9-4. Treadle Assembly

Fig ref.	Part number	Description	Qty
2	114-0039G2	Treadle	1
3	632-0012P1	Ribbon Switch	1
5	412-0025P1	2" Wide Poly Tape	1

Table 9-5: Treadle Assembly

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#### 9.8 Power Panel Assembly (122-5079G1 & G2)

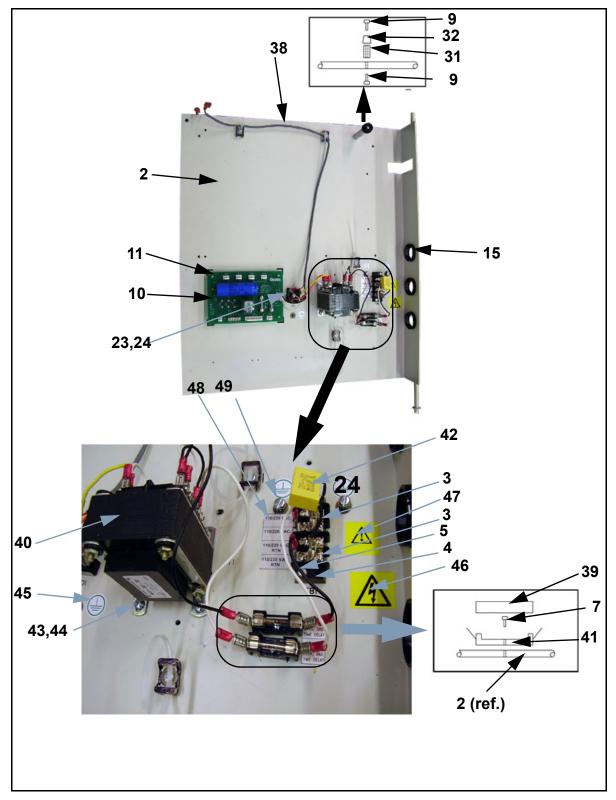
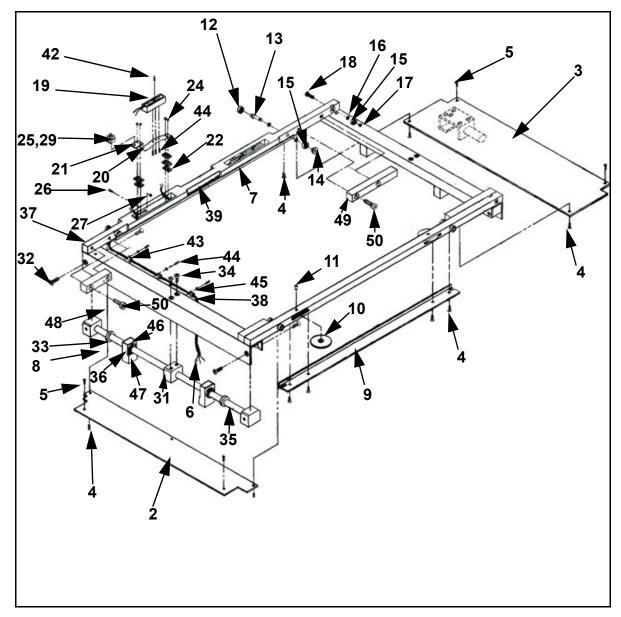


Figure 9-5. Power Panel Assembly

Fig ref.	Part number	Description	Qty
2	1140043G3	Power Panel	1
3	12220	Jumper, Beau-Vernitron	2
4	100111P3	Terminal Strip Curtis	1
5	46-170015P27	Screw, BHMS 6-32 X 1/2"	2
7	46-170015P10	Screw, BHMS 6-32 X 1/4"	2
9	46-170015P16	Screw, BHMS 10-32 X 3/8"	4
10	1240156G1	Table Power Supply PCB Assembly (See Section for breakdown of assembly)	1
11	642-0008P1	Nylon Standoff	4
15	46-208695P79	Bushing, Heyco, 1.5" Dia	3
23	621-5014P1	Bridge Rectifier	1
24	46-170015P24	Screw, BHMS 8-32 X 3/4"	1
31	18686	Bumper India #18	1
32	46-170015P14	Screw, BHMS 8-32 X 3/8"	1
38	122-5078G1	Power Indicator cable	1
39	46-170021P1	Fuse 1/2 Amp Slo-Blo	2
40	636-5027P1	Transformer, 80V, 16VCT	1
41	164.101.00	Fuse Block, 12 Position	1
42	122-5047G1	Snubber Capacitor Assembly	2
43	4450-0104	Screw, PBHMS 10-32 X 1/2"	4
44	46-170012P39	Nut, Hex 10-32 X 5/32"	4
45	408-5039P1	Label, Earth Ground	3
46	408-5039P2	Label, Dangerous Voltage	1
47	408-5039P3	Label, Attention	1
48	408-5174P1	Label, Fuse Rating	1
49	412-5008P1	Insulator	1

Table 9-6: Power Panel Assembly



#### 9.9 Inner Frame Assembly (112-0340G1)

Figure 9-6. Inner Frame Assembly

Fig ref.	Part number	Description	Qty
2	201-0171P2	Cover	1
3	201-0172P2	Inner Frame Cover	1
4	736-20-14203111	Screw, FHMS 6-32 X 5/16"	12
5	762-20-14202511	Screw, PFHMS 6-32 X 1/4"	4
6	511A590P12	Term on Reel	1
7	112-0341G2	Rail Cover	1
8	307-0016P1	Bumper	4
9	202-0140P2	Frame Cover Panel	1
10	251-0002P1	Wheel, Top Frame Guide	2
11	230-0075P1	Stud, Wheel Retainer	2
12	400-0025P1	Bearing, Ball	4
13	232-0016P1	Stud, Eccentric	4
14	232-0015P1	Nut, Bearing	4
15	400-0021P1	Bearing, Ball	6
16	421-0009P1	Washer, Flat 9/16"OD X 5/16" ID	6
17	230-0078P1	Nut-Bearing	2
18	46-208562P41	Screw, HSFHMS 5/16" X 1"	2
19	122-0055G3	Magnetic Lock Assembly	2
20	281-0046P1	Leaf Spring	4
21	202-0077P1	Plate, Lock	2
22	202-0058P1	Lock Plate	10
24	46-170012P37	Nut, Hex 8-32 X 5/32"	8
25	641-0035P2	Terminal Strip	2
26	46-208564P14	Screw, HHMS 10-32 X 1"	1
27	46-170012P39	Nut, Hex 10-32 X 5/32"	1
28	46-170498P72	Screw, SHCS 4-40 X 3/8"	2
30	46-208560P25	Screw, SBHMS 6-32 X 5/8"	2
31	242-0043P1	Block, Shaft Guide	2
32	422-0028P1	Screw, 5/16"-18 X 1/2"	8
33	242-0048P2	Block, Shaft Mounting	4
34	422-0029P1	Screw, FSHCS 1/4"-20 X 5/8"	4
35	230-0080P1	Shaft, Bearing	2
36	242-0057P2	Block, Bearing Guide	4
37	114-0381G2	Inner Frame	1
38	126-0080G1	Harness, Trans to Long	1
39	126-0084G1	Harness, Long Lock Top Lock	1
42	46-208563P33	Screw, SHSSCP 6-32 X 3/16"	2
43	46-220360P3	Cable Clamp, 1/4" Dia	3
44	760-22-14203811	Screw, PPNHM 6-32 X 3/8"	7
45	421-0004P1	Washer, Flat #10	3
46	4450-0902	Ret. Ring, Ext 1.25" Dia	8
47	400-0024P1	Linear Bearing	4
48	236-0202P2	Finger Guard	2
49	236-0203P2	Finger Guard, FT End	2
50	46-170498P32	Screw, SHCS 10-32 X 5/8"	8

Table 9-7: Inner Frame Assembly

## 9.10 Bucky Frame Assembly (112-0471G1)

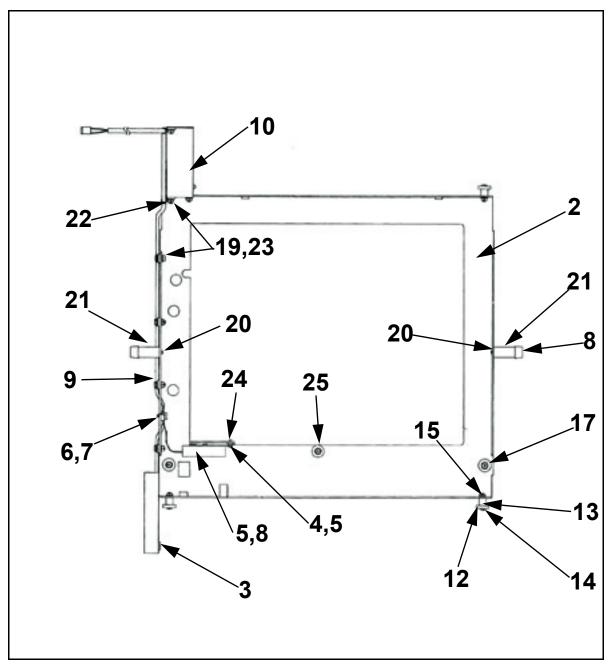
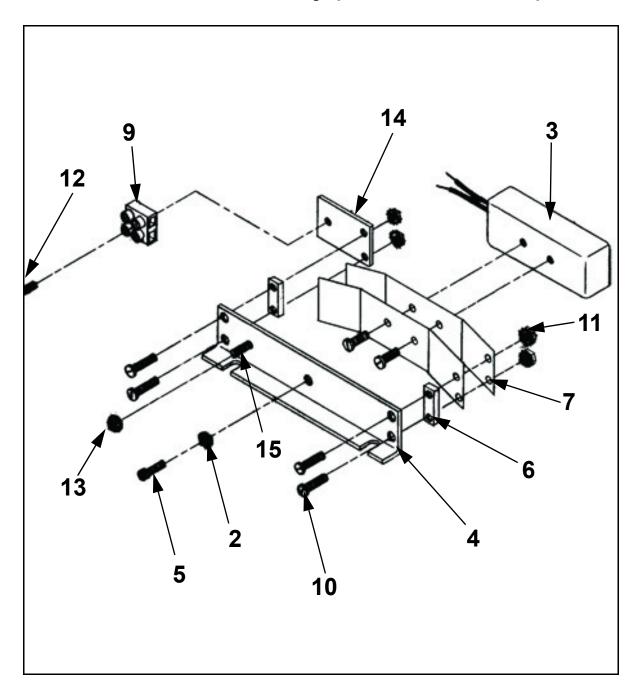


Figure 9-7. Bucky Frame Assembly

Fig ref.	Part number	Description	Qty
2	114-0288G2	Bucky Carriage	1
3	122-0068G1	Bucky Switch Assembly	1
4	281-0059P1	Lock Spring	1
5	46-170015P14	Screw, BHMS 8-32 X 3/8"	2
6	641-0035P4	Terminal Strip, 4 Pos.	1
7	46-170498P72	Screw, SHCS 4-40 X 3/8"	1
8	122-0055G2	Magnetic Lock Assembly	1
9	126-0085G3	Bucky Lock Cable	1
10	203-0162P1	Cable Bracket	1
12	400-0001P1	Ball Bearing	7
13	260-0015P1	Spacer, Bucky Bearing	6
14	422-0011P1	Screw, STHMS	4
15	46-170012P39	Nut, Hex 10-32 X 5/32"	13
17	46-208562P23	Screw, HSFHMS 10-32 X 1 1/4"	3
18	18686	Bumper India #8 w/Steel Washer	2
19	46-208560P30	Screw, SBHMS 10-32 X 1/2"	5
20	46-208560P57	Screw, SBHMS 10-32 X 1 1/2"	2
21	240-0045P2	Spacer, Bearing 1.06	2
22	46-220360P3	Cable Clamp, 1/4" Dia	6
23	421-0004P1	Washer, Flat #10	6
24	202-0058P1	Lock Plate	2
25	232-0035P1	Eccentric Spacer	1

Table 9-8: Bucky Frame Assembly



## 9.11 Trans Lock Assembly (112-0347G1 & G2)

Figure 9-8. Trans Lock Assembly

Fig ref.	Part number	Description	Qty
2	46-170012P36	Nut, Hex KEPS 6-32X7/64	1
3	122-0055G2	Magnetic Lock Assembly	1
4	202-0052P2	Lock Mounting Bracket	1
5	46-170498P80	Screw, SHCS 6-32X5/8	1
6	236-0089P1	Block-Spring Mounting	2
7	281-0045P1	Spring, Leaf	2
8	46-170015P19	Screw, BHMS SEMS 6-32X3/8	2
9	641-0035P2	Terminal Strip, 2-Pos	1
10	46-208560P42	Screw, SBHMS 8-32X5/8	4
11	46-170012P37	Nut, Hex KEPS 8-32X5/32	4
12	46-170498P73	Screw, SHCS 4-40X5/8	1
13	46-170012P39	Nut, Hex KEPS 10-32X5/32	1
14	202-0055P1	Plate - Lock	1
15	46-208560P30	Screw, SBHMS 10-32X1/2	1

Table 9-9: Trans Lock Assembly

#### 9.12 Float-Top Table Options & Accessories

Part number	Description	Qty
0920-0022B	Patient Head Clamps (Must be ordered with part #0920-0040)	Pair
0920-0018	Patient Hip Clamps (Must be ordered with part #0920-0040)	1
71 73 04 30 30 00	Patient Hand Grips	Pair
71 73 04 30 00 00	Patient Compression Band	1
0920-0040	Mounting Fixtures for Head and Hip Clamps	Pair
71 73 04 30 20 00	Lateral Cassette Holder	1
500-0008P2	Ion Chamber for Automatic Exposure Control	1
EV-650-D-PBL	PBL (Cassette Size Detector)	1
103101M18	10:1 103 Line Grid Replaces 8:1 103 Line Grid	1
103121M18	12:1 103 Line Grid Replaces 8:1 103 Line Grid	1
112-0344G2	78" (198 cm) Long, 4Way, Float Top	1
8000-RT100NM	RT100 Float-Top Table Installation, Operation, and Service Manual	1
112-5176G1	Table Shipping Kit (includes table bumpers, mounting shims, & emergency motor coupling)	1
B1051	Touch Up Paint -Bottle (Medical White)	1

Table 9-10: Table Accessories

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