Trios®

Radiolucent Imaging Top

Owner's Manual

Available Translations:

- English (en)
- Spanish (es)
- French (fr)
- German (de)
- Italian (it)
- Portuguese (ptbr)
- Danish (da)
- Japanese (ja)
- Chinese (zh)
- Polish (pl)
- Romanian (ro)
- Swedish (sv)
- Norwegian (no)
- Finnish (fi)
- Greek (el)
- Hungarian (hu)
- Korean (ko)
- Czech (cs)
- Multilingual (ml)

MIZUHO | OSI®

MIZUHO OSI
30031 Ahern Avenue
Union City, CA 94587-1234 USA
Inside USA: 1-800-777-4674
Outside USA: +1-510-429-1500
Fax: 1-510-429-8500

CE UKCA

WWW.MIZUHOSI.COM
NEWHIPNEWS.COM

REF 7927

NW0787 Rev R
MIZUHO OSI ©2015-2023

EC REP

Emergo Europe
Westervoortsedijk 60
6827 AT Arnhem
The Netherlands

UK Responsible Person

Emergo Consulting (UK) Limited
c/o Cr360 - UL International
Compass House, Vision Park Histon
Cambridge CB24 9BZ
United Kingdom

Table of Contents

1 Important Notices 1

1.1 Trademarks 6

1.2 Disposal of Electrical Components 6

2 Introduction 7

2.1 General Description 7

2.2 Intended Use 8

2.3 User Profile 8

2.4 Training Requirements 9

2.5 Conditions of Use 9

2.6 Product Lifetime 9

2.7 Specifications 10

2.8 Shipping and Storage 10

3 Component Identification 11

3.1 Trios® Radiolucent Imaging Top 11

3.2 Towers 12

3.3 Trios® Universal Side Rail Adapter 16

3.4 Model Number and Serial Number 16

4 Inspection 17

4.1 Acceptance and Transfer 17

4.2 Pre-Procedure/Post-Procedure 17

4.3 Preventative Maintenance 17

5 Trios® Radiolucent Imaging Top Components 18

5.1 Standard Components for REF 7927 18

6 Use of the Trios® Radiolucent Imaging Top on the Trios® Table Base 19

6.1 Preparing the Trios® Table Base for Table Top Installation 19

6.2 Installing the Trios® Radiolucent Imaging Top 20

6.3 Patient Transfer to Trios® Radiolucent Imaging Top 28

6.3.1 Table Positioning and Safety Check 28

6.3.2 Patient Transfer for Supine Positioning 28

6.3.3 Positioning for Anterior Spine Surgery Procedures 29

6.4 Lateral Patient Positioning 29
6.5 Removing the Trios® Radiolucent Imaging Top 30

7 Optional Accessories 33
7.1 Pivoting Arm Board 33
7.2 Cross Arm Support 34
7.3 Lateral Positioners 35
7.4 Lateral Arm Board 35
7.5 Cervical Management Base Unit 36
7.6 Anterior Extension Positioner 39
7.7 Head Halter 40
7.8 Wilson Plus™ Radiolucent Frame 41
7.9 Tempur-Pedic® Medical Pad Positioning Set 41
7.10 Equipment Cart and Cover 42
7.11 List of Optional Accessories 43

8 180 Degree Rotation 46
8.1 Preparing for the Rotation Sequence 46
8.2 Component Positioning 51
8.3 Compression Sequence and Safety Check 53
8.4 Rotation Sequence 55
8.5 Removing the Trios® Radiolucent Imaging Top 57
8.6 Final Patient Positioning Following Rotation 62
8.7 Components Used for 180 Degree Rotation 65

9 Cleaning, Storage, and Maintenance 67
9.1 Cleaning and Disinfecting 67
9.1.1 Trios® Table Top 67
9.1.2 Mizuho OSI Tempur-Pedic® Medical Pads 67
9.2 Storage 68
9.3 Maintenance 68

10 Technical Support 69

10.1 Contact for Parts and Service 69

10.2 Order Replacement Parts 69

10.3 Return Damaged Parts 69

10.4 Send a Part for Repair 69

10.5 Warranty 70

1 Important Notices

CAUTION: To ensure safe operation of the equipment, please READ THESE INSTRUCTIONS COMPLETELY and keep this manual readily available for future reference.

CAUTION: Trained personnel must also read the NW0785 Trios® Table Base Owner's Manual in its entirety to properly and safely operate the equipment.

Carefully observe and comply with all warnings, cautions and instructions placed on the equipment or described in this manual and in the NW0785 Trios® Table Base Owner's Manual.

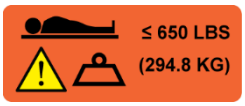
NOTE: *This device is intended for use by trained personnel only. To schedule an in-service, please contact your domestic Mizuho OSI sales representative, or call **1-800-777-4674** inside the USA or **+1-510-429-1500** outside the USA.*

NOTE: *The application techniques outlined in these instructions are the manufacturer's suggested techniques. The final disposition of each patient's care as related to the use of this equipment rests with the attending surgeon.*

The following symbols are used on this product and/or in this manual:

Symbol	Meaning
EC REP 5.1.2 Authorized representative in the European Community[1]	This symbol indicates an authorized representative in the European Community.
CH REP CH-REP Symbol[6]	This symbol indicates the authorized representative in Switzerland.
CE CE marking[7]	This symbol indicates the product is in conformity with European Community harmonization legislation.
UK CA UKCA marking[8]	This symbol indicates the product is in conformity with the requirements of the relevant Great Britain (UK) legislation.
MD 5.7.7 Medical Device[1]	This symbol indicates a medical device.
 3082 Manufacturer[2]	This symbol indicates the Manufacturer of the device.

 2497 Date of manufacture[2]	This symbol indicates the Date of manufacture.
NOTE:	This symbol indicates a comment or instruction of importance.
 0434B Caution[2]	This CAUTION symbol indicates a potentially hazardous situation, which if not avoided could result in minor or moderate injury.
 W001 General Warning sign[3]	This WARNING symbol indicates a potentially hazardous situation, which if not avoided could result in serious injury or death.
 WEEE symbol[5]	This symbol indicates proper disposal instructions. See Section 1.2 for more information.
 2493 Catalog number[2]	This symbol indicates a product number.
 2498 Serial number[2]	This symbol indicates a serial number.
 M002 Refer to instruction manual/booklet[3]	This symbol indicates that you must read the owner's manual before use.
 1641 Consult instructions for use[2]	This symbol indicates that you are advised to refer to the owner's manual before use.
 5021 Equipotentiality[4]	This symbol indicates an external ground stud that is required to be connected to earth ground (via equipotential connector/busbar) when the AC power cable is not connected to a protective earth ground hospital grade AC outlet in your operating room or facility.
 5840 Type B applied part[4]	This symbol indicates this equipment is an applied part TYPE B in accordance with IEC 60601-1 and is generally suitable for applications involving external or internal contact with the patient, excluding the heart. The patient circuit is connected to protective earth and this equipment should be connected only to hospital grade AC outlets with a protective earth ground.
 5009 Stand-by[4]	This symbol identifies a Power/Standby switch.
	This symbol indicates Up-Down movement.

	This symbol indicates patient weight limit.

[1] Standard symbol from "ANSI/AAMI/ISO 15223-1 Medical devices – Symbols to be used with information to be supplied by the manufacturer – Part 1: General requirements."

[2] Standard symbol from "ISO 7000 Graphical symbols for use on equipment."

[3] Standard symbol from "ISO 7010 Graphical symbols – Safety colours and safety signs – Registered safety signs."

[4] Standard symbol from "IEC 60417 Graphical Symbols for use with Equipment."

[5] Symbol from "Directive 2012/19/EU."

[6] Symbol from "Medical Device Ordinance of 1 July 2020: SR 812 213."

[7] Symbol from Regulation (EC) No 765/2008.

[8] Symbol from "The Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019, Schedule 33."

WARNING: Proper preoperative and intra-operative procedures must be followed to prevent venous stasis and pooling, pressure sore development, neuropathy, improper electro-surgical tissue grounding, hypertension/hypotension, and hypothermia.

WARNING: Use of the Trios® Radiolucent Imaging Top with patients weighing more than 650 lbs (295 kg) could result in damage to the table, possible injury to the patient, or harm to the healthcare professionals.

WARNING: The table tops will only support the specified patient weight when installed patient side up (Patient Weight Limit label and Fixed Table Top Handles are visible, and Mounting Hooks are facing down) to the Tower installed on the underside of the Crossbar, as described in Section 6. Placing a patient on a table top that is not installed as described could result in damage to the table, possible injury to the patient, or harm to the healthcare professionals.

WARNING: The Trios® Radiolucent Imaging Top is to be used by personnel that receive training from either Mizuho OSI or from someone qualified by the medical facility to provide this training. Failure to comply with this requirement may result in damage to the device, possible injury to the patient, or harm to the healthcare professionals.

WARNING:  **This symbol indicates an external ground stud that is required for use when the AC power cable is not connected to a protective earth ground hospital grade AC outlet in your operating room or facility. To protect the patient, hospital staff, and the table from possible electrical hazards, an external ground wire connection is required between the external ground stud and protective earth ground (via equipotential connector/busbar) when the table is in use under battery power.**

WARNING: Before and after each use, inspect the table top, components, and accessories for possible damage, excessive wear, or non-functioning parts. Carefully inspect all critical, accessible areas, joints, and all moving parts for possible damage or non-function. Damaged or defective parts should not be used or processed. Contact Mizuho OSI Service for repair or replacement (see Section 10).

WARNING: The Trios® Radiolucent Imaging Top in conjunction with the Trios® Table Base should not be operated in the presence of flammable anesthetics, volatile substances, or other explosive gases, liquids, or atmospheres.

WARNING: No modification of the Trios® Radiolucent Imaging Top, Trios® Table Base, or their components is allowed. Any modification to the equipment may result in damage to the table, possible injury to the patient, or harm to the healthcare professionals.

WARNING: Use of components not manufactured or recommended by Mizuho OSI may result in harm to the patient, the device, or the healthcare professionals.

WARNING: Do not perform any service or maintenance work on the device while it is in use with a patient. Servicing the device while in use may cause injury to the patient.

CAUTION: As outlined in the AORN Recommended Practices for Positioning a Patient in the Perioperative Setting, following the positioning of the patient, an assessment of the patient's alignment, tissue perfusion, and skin integrity should be completed. All contact points of the patient with the table pads should be monitored during the procedure.

NOTE: *If high-frequency surgical equipment, cardiac defibrillators, or cardiac defibrillator monitors are to be used with the Trios® Surgical Table System, refer to the instructions for use provided by the manufacturer of those devices. Potential hazards that must be considered include, but are not limited to patient burns, explosion hazards, or electric shock of the patient or operator.*

NOTE: *(European Union) Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.*

1.1 Trademarks

Trios® and GentleTouch® are registered trademarks of Mizuho OSI.

Wilson Plus™ is a trademark of Mizuho OSI.

ProneView® is a registered trademark of Dupaco, Inc.

Tempur-Pedic® and TEMPUR® are registered trademarks of Tempur-Pedic North America, Inc.

O-arm® is a registered trademark of Medtronic, Inc.

DORO® is a registered trademark of pro med instruments GmbH, part of Black Forest Medical Group.

Mayfield® is a registered trademark of Schaerer Mayfield USA, Inc.

Velcro® is a registered trademark of Velcro Industries.

Product Protected by:

US Patent Numbers: 10,149,793, 10,888,481, 9,713,562, 9,700,476

1.2 Disposal of Electrical Components



In accordance with the European Union Waste Electrical and Electronic Equipment (WEEE) Directive, all electrical components, batteries, and carbon composite components must be disposed of in accordance with local regulations or returned to Mizuho OSI for proper disposal. Please contact Mizuho OSI Service at **1-800-777-4674** inside the USA or **+1-510-429-1500** outside the USA for further information regarding this requirement.

2 Introduction

2.1 General Description

The Trios® Radiolucent Imaging Top is one of the interchangeable tops offered as part of the Trios® Surgical Table System. The Trios® Radiolucent Imaging Top may be used with the REF 7803 Trios® Table Base. When mounted on the Trios® Table Base, the Trios® Radiolucent Imaging Top is designed to support and position a patient undergoing various surgical and radiographic procedures.

The Trios® Radiolucent Imaging Top includes a 2-inch (5 cm) thick Mizuho OSI Tempur-Pedic® Medical Pad. The material used in the manufacture of the pads contains viscoelastic properties and is temperature sensitive, becoming softer where the patient's body makes the most contact with the surface and remaining firm in the areas where less body contact is made. Pressure is distributed evenly over the entire surface area. The pad is radiolucent and is not made with natural rubber latex. The benefits of using Mizuho OSI Tempur-Pedic® Medical Pads are improved pressure management, reduced shear forces, and enhanced patient comfort when used in ambient temperatures.

⚠ **CAUTION: In accordance with AORN recommendations, it is important to limit skin exposures to lower ambient temperatures, protect the patient by initiating passive warming interventions (e.g. applied forced-air warming systems, blankets, drapes, and reflective composites), and to maintain an ambient room temperature of 20° to 25°C.**

In addition to the standard components of the Trios® Radiolucent Imaging Top discussed in this manual, there are several optional accessories available, including Cervical Management Systems and the Wilson Plus™ Radiolucent Frame. To obtain a thorough understanding of these products and their applications to perform certain surgical procedures, refer to the Owner's Manual for each specific product.

NOTE: *This manual is intended to be used solely for the devices identified and is not a substitute or replacement for the Owner's Manuals of the other devices discussed in this manual.*



Figure 1: Trios® Radiolucent Imaging Top with Safety Strap Mounted on Trios® Table Base

2.2 Intended Use

The Trios® Radiolucent Imaging Top used in conjunction with the Trios® Table Base creates an electrically powered mobile operating table, designed for temporary (<24 hours) support and positioning of a patient in a prone, supine, or lateral position. The Trios® Radiolucent Imaging Top mounted on the Base is intended for use during surgical procedures, including radiographic imaging during such procedures. The Trios® Radiolucent Imaging Top mounted on the Base should not be used for patient transport.

The Trios® Radiolucent Imaging Top when mounted on the Trios® Table Base provides a platform designed to support and position adult and pediatric patients with a body weight up to 650 lbs (295 kg).

2.3 User Profile

The Trios® Radiolucent Imaging Top used in conjunction with the Trios® Table Base is suitable for use by health care professionals, including but not limited to surgeons, radiologists, anesthesiologists, circulating nurses, surgical technicians, biomedical technicians, and radiology technicians.

2.4 Training Requirements

Before using the Trios® Surgical Table System, the user must read the NW0785 Trios® Table Base Owner's Manual. Depending on the table top(s) used, the user must also read the corresponding Owner's manual listed below:

NW0787 Trios® Radiolucent Imaging Top Owner's Manual

NW0786 Trios® Spinal Surgery Top Owner's Manual

It is required that personnel using the Trios® Surgical Table System receive training by either Mizuho OSI or by someone qualified by the medical facility to provide this training.

WARNING: Failure to ensure training prior to use of this device may cause harm to the patient, healthcare professional, or the device.

2.5 Conditions of Use

The Trios® Radiolucent Imaging Top used in conjunction with the Trios® Table Base may be used several times throughout the day and night in medical facilities; e.g. hospitals, and outpatient surgery/imaging centers. The Trios® Radiolucent Imaging Top with the Trios® Table Base will be used in an operating room or other treatment room, and may be rolled between rooms. It shall not be used for patient transport.

2.6 Product Lifetime

The product design life is ten (10) years. At the time of delivery, your product fulfills existing regulations and standards. However, despite proper use, routine inspection, prescribed service, maintenance, and repairs, the product is subject to aging and wear. The product's functionality depends on many factors, including but not limited to frequency of use, maintenance and servicing, and how it's used. Therefore, Mizuho OSI recommends that the table undergo authorized preventative maintenance and repair throughout its lifetime. Contact Mizuho OSI Service for product end-of-life disposal instructions (see Section 10). For product warranty information, see Section 10.5.

NOTE: *Expected end-of-life for Tempur-Pedic® Medical Pads is three (3) years or sooner, based on use and care.*

2.7 Specifications

The Trios® Radiolucent Imaging Top has the following specifications:

- Maximum patient load of the table top is 650 lbs (295 kg)
- Table top width is 21.5 inches (54.6 cm)
- Table top length is 84 inches (213.4 cm), or 92 inches (233.5 cm) when including Mounting Hooks
- The carbon fiber table top has a radiolucent equivalency of less than one (1) millimeter of aluminum.
- Operating environment: 68 °F (20 °C), relative humidity 50%, atmospheric pressure 75 to 105 kPa
- Class 1 equipment
- This table top is not suitable for use with flammable anesthetic gas mixtures

2.8 Shipping and Storage

If required to be transported, the Trios® Radiolucent Imaging Top must be transported using the appropriate packaging.

When not in use, the Trios® Radiolucent Imaging Top, the standard components, and any optional accessories should be stored in a clean, dry environment.

The following conditions are required of the shipping and/or storage environment:

- Ambient temperature -4 °F (-20 °C) to 122 °F (50 °C)
- Relative humidity from 10% to 95%, non-condensing
- Atmospheric pressure from 75 to 105 kPa

If the table top is stored on the Trios® Table Base, the table cover provided serves as a dust cover and should be used.

3 Component Identification

3.1 Trios® Radiolucent Imaging Top



Figure 2: Trios® Radiolucent Imaging Top with Safety Strap

3.2 Towers

The Trios® Radiolucent Imaging Top is mounted onto the Table Base by means of two Towers, which attach to the Crossbars at the Head-End and Foot-End of the Table Base.

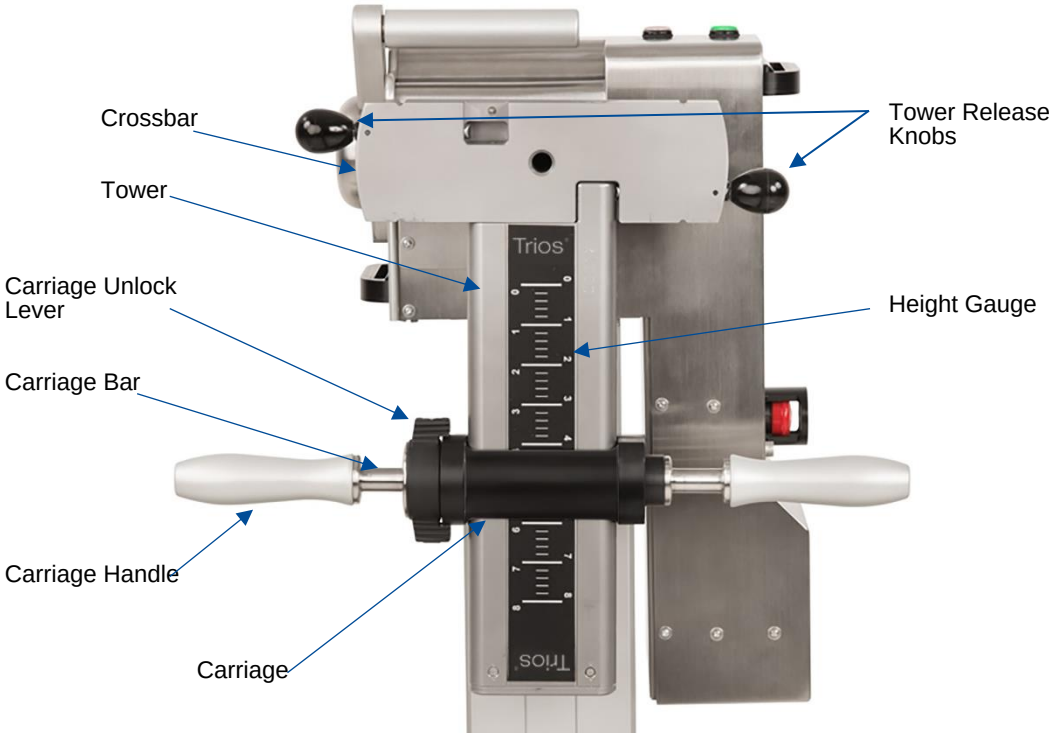


Figure 3: Tower Components

To secure the Tower to the Crossbar, hold the Tower by the Carriage Handles just underneath the Crossbar at an angle that aligns the round pin on the Tower with the slot on the underside of the Crossbar (Figure 4). Then, insert the pin into the slot. Rotate the side of the Tower that was not inserted toward the Crossbar until it snaps in place.

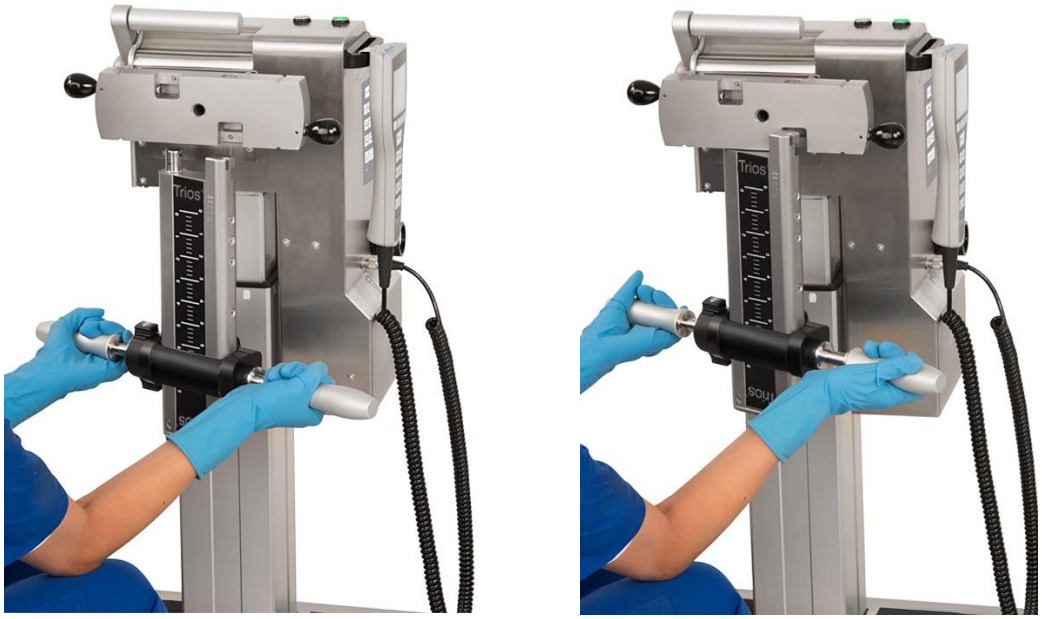


Figure 4: Aligning and Inserting Tower into Slot on Underside of Crossbar



Figure 5: Head-End Column with Tower Secured to Crossbar

The Carriage on each tower provides the mounting surface for the table top. The Carriage position can be adjusted so that the table top is at the appropriate height for the surgical procedure and the patient's size.

1. While lifting the Carriage Handles slightly, rotate the Carriage Unlock Lever in either direction to unlock the Carriage. When the red label is exposed, the Carriage is unlocked.



Figure 6: Unlocking the Carriage Unlock Lever

2. Raise or lower the Carriage to the desired height, and release the Carriage Unlock Lever. The lever should move back to its locked position with the red label no longer visible. A Height Gauge on each Tower makes it easy to set the Carriages at each end of the table to the same height.

NOTE: *If necessary, manually rotate the lever to the locked position prior to releasing the Carriage Handles.*



Figure 7: Carriage Unlock Lever in Locked Position

3. Verify that the Carriage is secure in its new position.

WARNING: Ensure both Carriage Unlock Levers are in the locked position prior to loading a patient on the table top or readjusting the table's height. Failure to do so may cause injury to the patient or healthcare professional.

The Carriage height may be manually adjusted at any time: before the table top is attached, after the table top is attached, and after a patient has been transferred to the table top. However, as the weight load increases on the Carriage, its resistance to movement increases. Whenever possible, make all necessary height adjustments before transferring the patient to the table.

CAUTION: As an added safety feature for both the patient and the healthcare workers, if the pressure/force exerted to adjust the height of the table top is insufficient for the increased resistance caused by the combined weight of the table top and patient, the table top will not move. In this instance, additional people will be required to adjust table top height at each end.

To remove the Towers from the Crossbar, hold the Tower by one of the Carriage Handles and with the other hand pull the knob on the Crossbar that is closest to the Tower to release the locking mechanism.

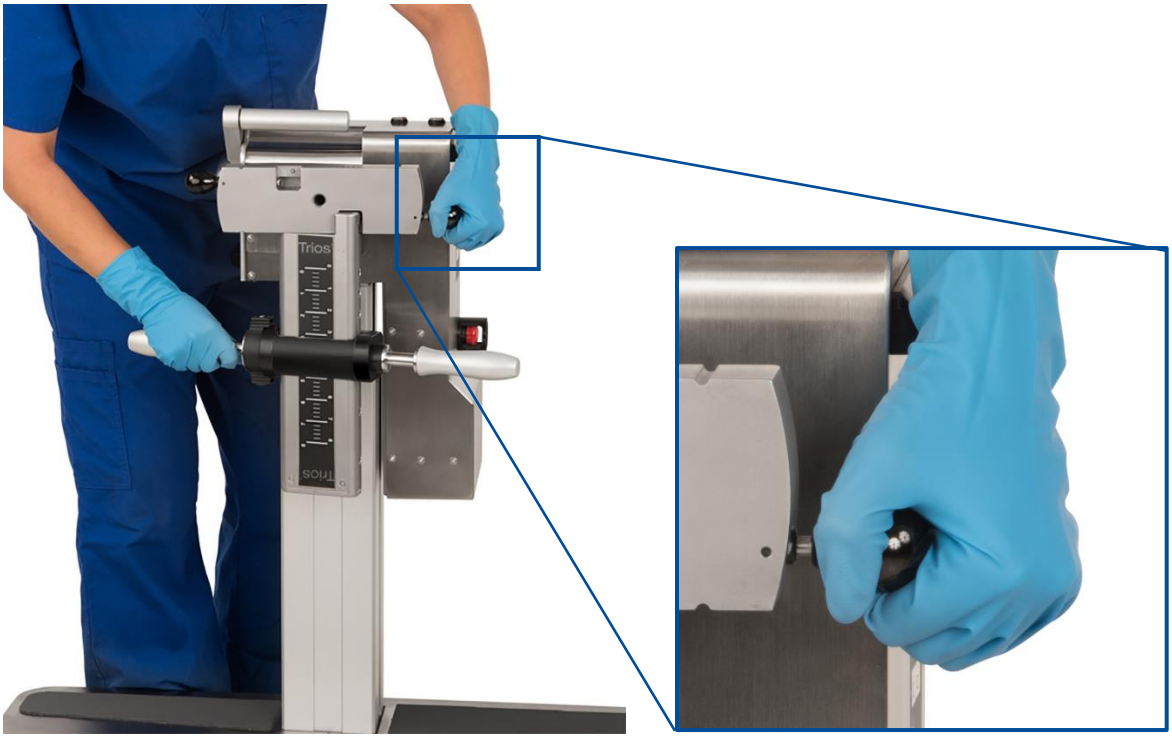


Figure 8: Knob that Releases Tower Attached to the Underside of Crossbar

NOTE: *If standing on the outside of the Head-End column, pull the Tower Release knob on the left side of the Crossbar to unlock the tower attached to the bottom of the Crossbar.*

Once the Tower is unlocked, rotate it clockwise slightly with one hand, and then hold it with both hands by the Carriage Handles. Continue to rotate it clockwise until the protrusion of the pin on the Tower aligns with the slot on the Crossbar. Lower the Tower out of the slot and store it on the Equipment Cart.

CAUTION: Be careful to hold the Tower securely with two hands before aligning the pin and slot. The Towers are heavy and may fall if not adequately supported during removal, causing potential damage to the device or injury to the healthcare professional.

3.3 Trios® Universal Side Rail Adapter

To protect the carbon fiber rail of the table from damage, standard side rail components will not fit on the side rails of the Trios® Radiolucent Imaging Top. Use the Trios® Universal Side Rail Adapter (REF 7927-959) when mounting accessories and components. The Adapter provides 6" (15.2 cm) of side rail for mounting various accessories such as Arm Boards, Retractors, Clark Sockets, and Lateral Positioners.

NOTE: *Use of other manufacturer's side rail adapters on the carbon fiber rail may cause damage to the table top and will void your warranty.*

WARNING: Failure to use the Trios® Universal Side Rail Adapter when mounting any accessory may result in damage to the table top, patient, or healthcare professional.

To install the Trios® Universal Side Rail Adapter:

1. Rotate the black knob counterclockwise to open the clamp.
2. Place the Adapter in the desired position, with the black knob facing down (Figure 9).
3. Turn the black knob clockwise to tighten the clamp.



Figure 9: Trios® Universal Side Rail Adapter Correctly Attached to Trios® Radiolucent Imaging Top

3.4 Model Number and Serial Number

The manufacturer's label is located on the outside edge near the Mounting Hooks on the table top. It contains the REF product number and SN serial number.

4 Inspection

4.1 Acceptance and Transfer

1. Upon receipt of your Trios® Radiolucent Imaging Top, remove it from the shipping packaging. Remove any protective wrapping or packaging. Visually inspect all surfaces for freight damage.

NOTE: *Any freight damage must be reported to the freight carrier immediately upon delivery. It is the responsibility of the recipient to make freight damage claims.*

2. Read the model number and serial number on the manufacturer's label, located on the outside edge near the Mounting Hooks on the table top.

4.2 Pre-Procedure/Post-Procedure

Before and after each use of the Trios® Radiolucent Imaging Top, visually inspect all accessible areas and all movable parts for possible damage that may adversely affect the proper operation of the Trios® Radiolucent Imaging Top. Examine the patient restraints for any sign of wear or damage. Examine the covers of all pads for tears or other damage that might cause the pads to trap fluids or other contaminants. Damaged or defective products should not be used or processed. Contact Mizuho OSI Service for repair or replacement (see Section 10).

4.3 Preventative Maintenance

A preventative maintenance (PM) check (see Section 9.3) on your Trios® Radiolucent Imaging Top is required at least once every year.

To obtain the PM checklist, call Mizuho OSI Service (see Section 10). PM checks may only be performed by trained service personnel. The PM checklist will only be provided to service personnel with proper training.

5 Trios® Radiolucent Imaging Top Components

The Trios® Radiolucent Imaging Top consists of the following standard components. Pictures of the individual components are provided in Section 3. Use proper lifting and carrying techniques when moving components and accessories due to their weight and size.

5.1 Standard Components for REF 7927

REF **7803-349** **Trios® Imaging Table Top Assembly**	The Trios® Imaging Table Top Assembly consists of the table top itself, complete with the 2 inch (5 cm) thick Tempur-Pedic® Medical Pad.
REF **7803-579** **Tower (2)**	The two (2) Towers attach to the Crossbars at the Head-End and Foot-End of the Trios® Table Base, and contain the mounting mechanism for the table top.
REF **5855-550** **Safety Strap**	The Safety Strap is used to secure the patient in place when positioned on the table.
REF **7927-959** **Trios® Universal Side Rail Adapter (2)**	The Trios® Universal Side Rail Adapter attaches to the carbon fiber rails of the Trios® Radiolucent Imaging Top, allowing various accessories and components to be mounted.
REF **7803-320** **Trios® Radiolucent Imaging Top Cover**	The Trios® Radiolucent Imaging Top Cover serves as a dust cover when the top is in storage.

6 Use of the Trios® Radiolucent Imaging Top on the Trios® Table Base

NOTE: *This device is intended for use by trained personnel only. Prior to installing a table top, ensure personnel have been trained. To schedule an in-service, please contact your domestic Mizuho OSI sales representative, or call 1-800-777-4674 inside the USA or +1-510-429-1500 outside the USA.*

NOTE: *Before using the Trios® Radiolucent Imaging Top, the user must have read the NW0785 Trios® Table Base Owner's Manual and have a thorough understanding of the Base's functionality.*

6.1 Preparing the Trios® Table Base for Table Top Installation

To prepare the Trios® Table Base for installation of the table top, complete the following steps:

1. With the assistance of two people, roll the Base to where it will be used, and orient the Head-End Column toward the anesthesiologist work station.
2. Plug the Power Cord of the Trios® Table Base into a properly grounded receptacle. Refer to the manufacturer's label at the Head-End of the Base for input voltage requirements. If the AC power cable is not connected to an outlet with a protective earth ground, then the external ground stud should be connected to a protective earth ground.
3. Connect the IntelliPendant® to the port on the Head-End Column.
4. Press the Power/Standby Switch to turn the table on. The ring on the Power/Standby Switch should be illuminated green.
5. If the Base has been in its retracted configuration, follow the step-by-step instructions provided by the IntelliPendant® on how to expand the Base. (Refer to the Trios® Table Base Owner's Manual for more information.)
    a. Loosen the Beam Lock by rotating the Retracting Knob counterclockwise.
    b. Continue to the next step, which allows the Base to configure Floor Locks such that those at the Head-End are unlocked while those at the Foot-End remain locked.
    c. Expand the table base.
    d. Tighten the Beam Lock by rotating the Retracting Knob clockwise.
6. Confirm the 180 Degree Rotation Lock indicator lights on the Head-End and Foot-End Columns are not illuminated (Figure 10).
7. Confirm the Level indicator light is illuminated green (Figure 10). If the indicator light is not lit, use the IntelliPendant® to bring the table to level.

NOTE: *The Level indicator light will not illuminate if the Floor Locks are not engaged or if the Trendelenburg angle is extreme (outside ±5°).*



Figure 10: Head-End Assembly with Level Indicator Light Illuminated

6.2 Installing the Trios® Radiolucent Imaging Top

NOTE: *Only Mizuho OSI base(s) and accessories have been tested and approved for use with the Trios® Radiolucent Imaging Top. Other manufacturers' products have not been tested for proper performance when used with the Trios® Radiolucent Imaging Top, and therefore are not endorsed for use by Mizuho OSI. Use of other manufacturers' products may void the warranty.*

WARNING: Use of components not manufactured by Mizuho OSI may result in harm to the patient, the table top, the device, or the healthcare professional.

To install the Trios® Radiolucent Imaging Top:

1. The Head-End Column has a Slide Assembly that adjusts to accommodate Trendelenburg and Reverse Trendelenburg. Fully retract the Slide Assembly to allow adequate space for a table top to be installed.

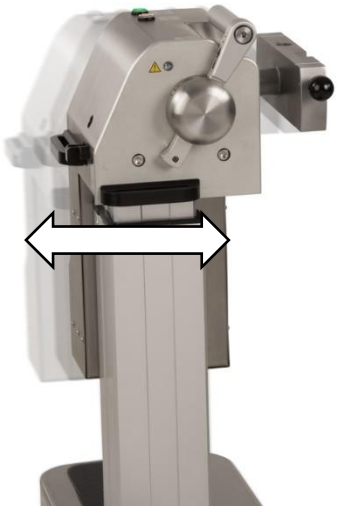


Figure 11: Movement of Slide Assembly

2. Attach the two Towers, one to the underside of the Head-End Crossbar and one to the underside of the Foot-End Crossbar.

   a. Using the Carriage Handles, hold the Tower just underneath the Crossbar at an angle that aligns the round pin on the Tower with the slot on the underside of the Crossbar. Insert the pin into the slot on the underside of the Crossbar.

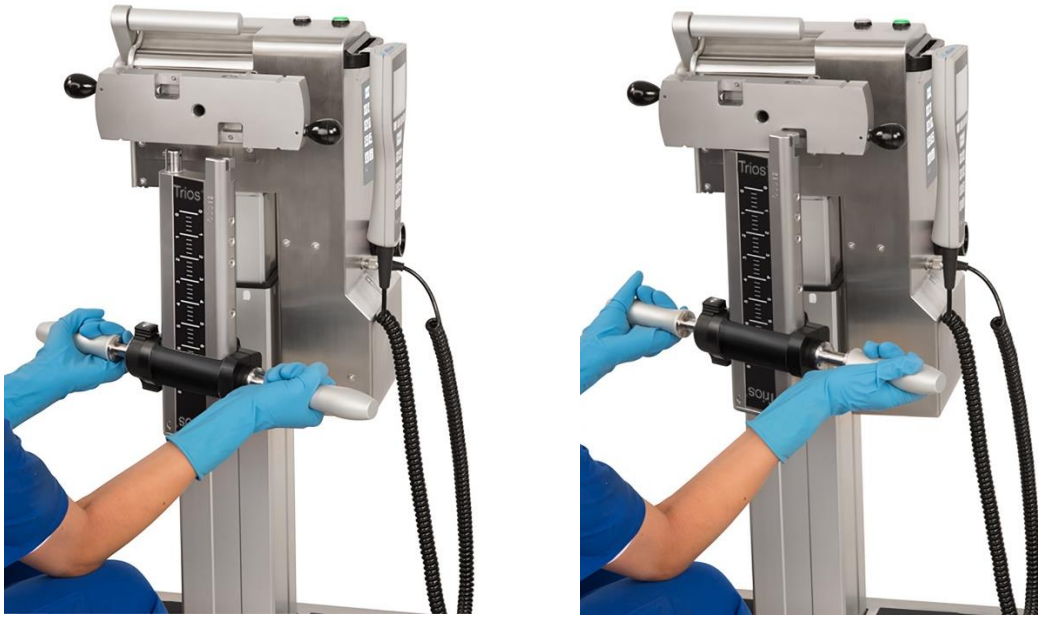


Figure 12: Aligning and Inserting Tower into Slot on Underside of Crossbar

b. Rotate the side of the Tower that was not inserted toward the Crossbar until it clicks into place.



Figure 13: Tower Secured to Underside of Crossbar

3. Once a Tower has been properly secured to the bottom of each of the Crossbars, a table top may now be mounted on the Carriage Bar on the Towers (Figure 14).

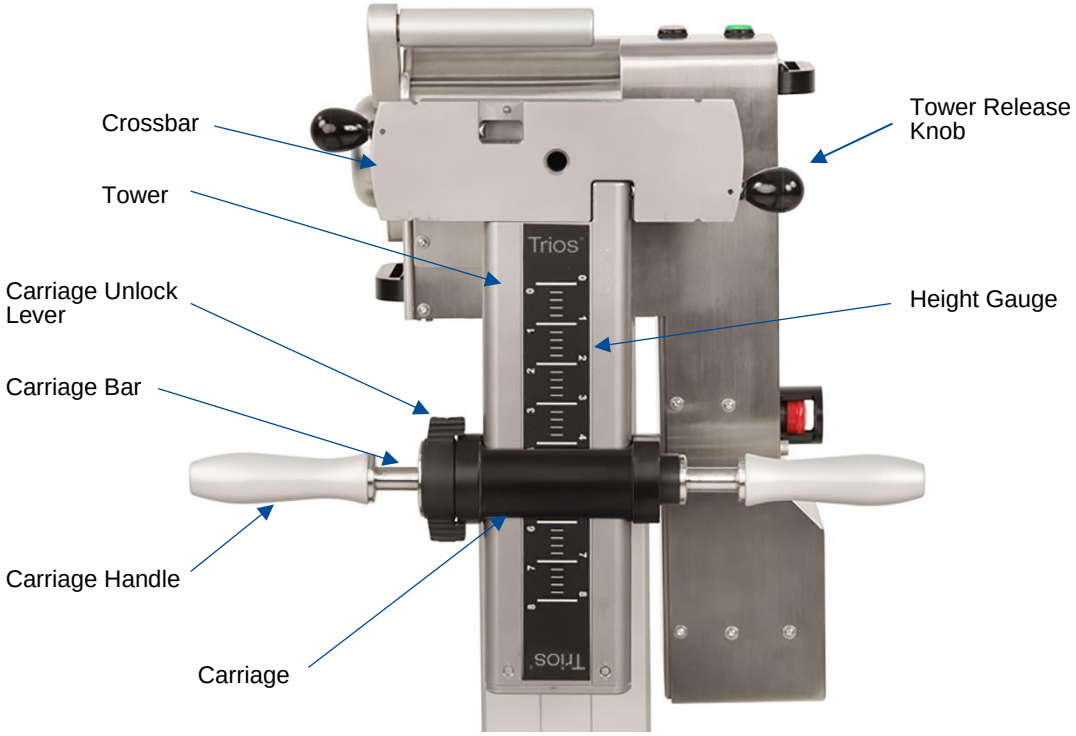


Figure 14: Head-End Column with Tower Secured to Crossbar

4. Selection of the appropriate height for the Carriage is determined by the patient's size such that his or her center of gravity is at or below the center of rotation of the Crossbar. The specific procedure to be performed and the surgeon's preference should also be considered when choosing the appropriate height for the Carriages.

    a. To adjust the height of the Carriages, lift the Carriage Handles slightly and rotate the Carriage Unlock Lever in either direction to unlock the Carriage. When the red label is exposed, the Carriage is unlocked.



Figure 15: Unlocking the Carriage Unlock Lever

b. Slide the Carriage up or down to the desired height and release the Carriage Unlock Lever while still supporting the table top weight. The lever should move back into its locked position with the red label no longer visible. If necessary, manually rotate the Carriage Unlock Lever to the locked positon prior to releasing the Carriage Handles.

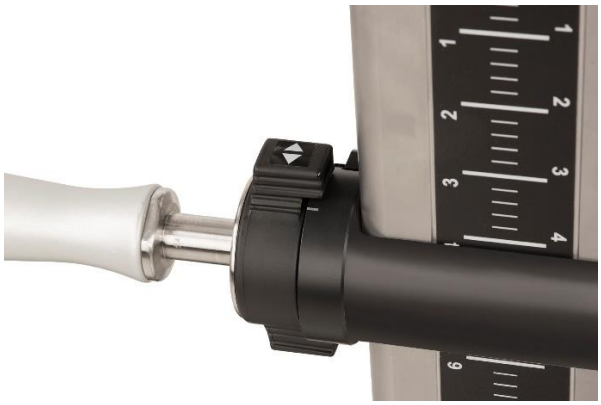


Figure 16: Carriage Unlock Lever in Locked Position

WARNING: Ensure that both Carriage Unlock Levers are in the locked position prior to loading a patient on the table top or readjusting the table's height. Failure to do so may cause injury to the patient or the healthcare professionals.

c. Verify that the Carriage is secure in its new position.

NOTE: *Align the upper edge of both Carriages to the same number mark on the height gauge on each Tower to ensure that the table top is level when installed.*

WARNING: The Trios® Radiolucent Imaging Top should be mounted to the Trios® Table Base such that the patient's center of gravity is at or below the center of rotation of the Crossbar when supine. Failure to do so may make the patient unstable during lateral rotation.

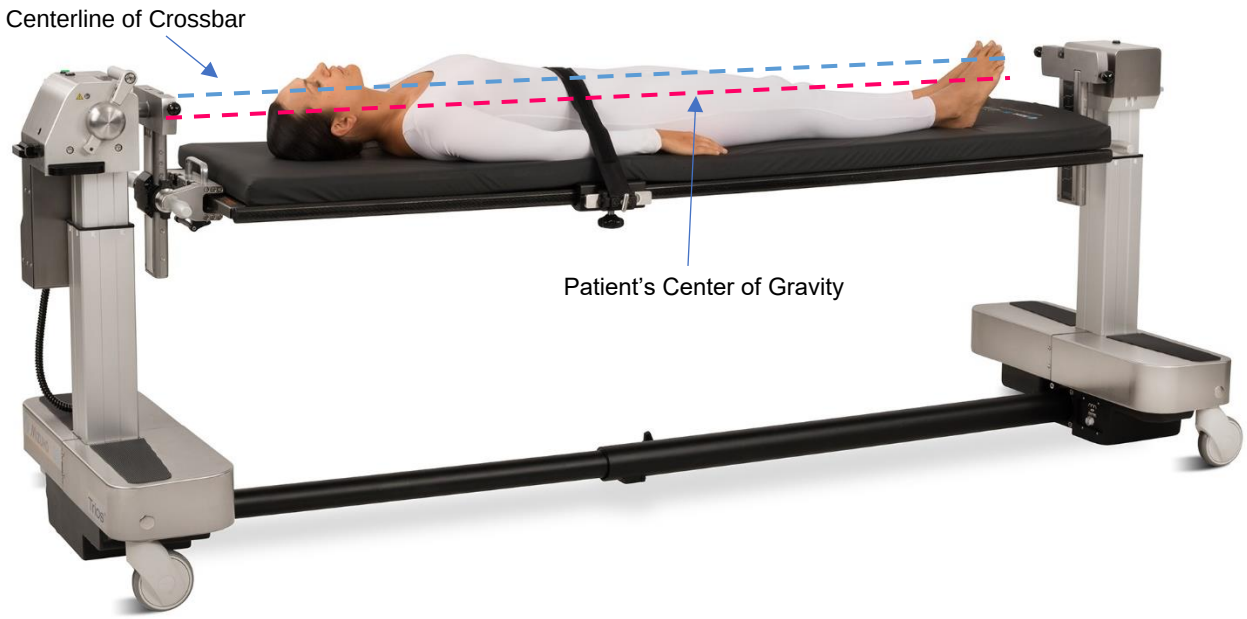


Figure 17: Patient's Center of Gravity Shown in Relation to Centerline of Crossbar

WARNING: The patient must be centered on the table top to within four (4) inches (10 cm) of the centerline. Placement of the patient too far to the left or right of the centerline could result in unintended rotation of the table.

5. With the assistance of two people, lift the table top just above the Carriages on the Towers. Ensure that the table top is oriented with the patient side up (Patient Weight Limit label and Fixed Table Top Handle are visible, and Mounting Hooks are facing down). One person should hold the table top by its fixed handle at the Head-End, while the second person holds the table top by its fixed handle at the Foot-End. Align the Mounting Hooks on both ends of the table top (Figure 18) with the Carriage Bars on both Towers. The open portion of the Mounting Hooks should be oriented just above the Carriage Bars when positioned correctly.

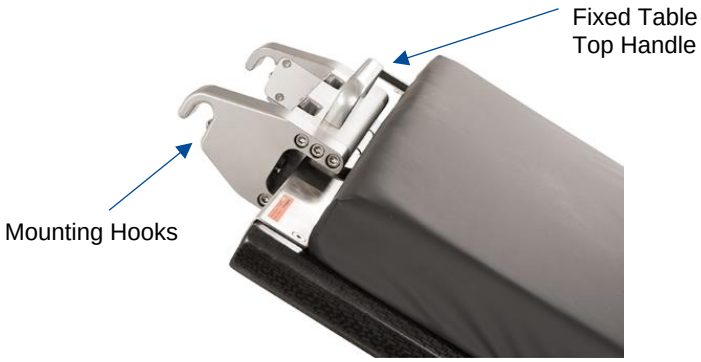


Figure 18: Mounting Hooks on Trios® Radiolucent Imaging Top



Figure 19: Proper Alignment of Mounting Hooks to Carriage Bars

6. Secure the table top to the Foot-End Carriage first by lowering the Foot-End of the table top and securing the Mounting Hooks on the Foot-End Carriage Bars.
7. To secure the table top to the Head-End Column confirm that the Slide Assembly is pulled away from the Foot-End as appropriate to accommodate the length of the table top. Carefully lower the Head-End of the table top and secure the Mounting Hooks on the Head-End Carriage Bars. Lift up sharply on both Fixed Table Top Handles to verify both ends are securely latched.

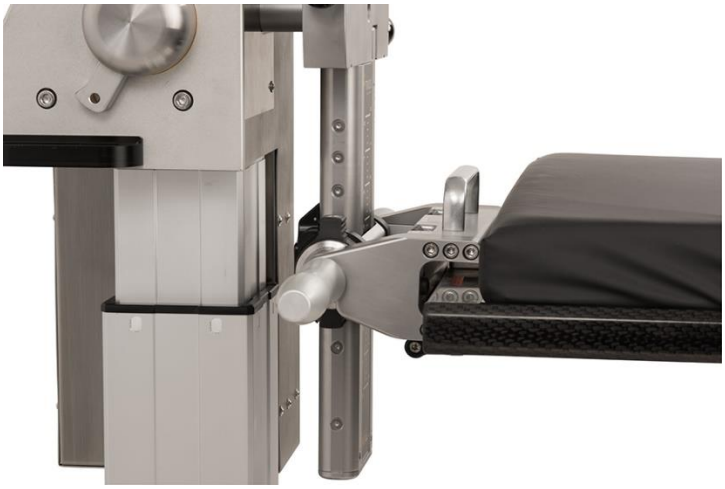


Figure 20: Mounting Hooks Secured to Carriage Bars

NOTE: *To align the Mounting Hooks on both the Head-End and Foot-End properly with the Carriage Bars prior to securing in place, it may be necessary to overshoot, or move one end of the table top further toward the Column beyond the edge of the Carriage (Figure 21).*



Figure 21: Overshooting the Mounting Hooks Beyond the Edge of the Carriage Bars

8. The table top is now properly mounted to the Trios® Table Base (Figure 22).



Figure 22: Trios® Radiolucent Imaging Top Properly Installed on the Trios® Table Base

NOTE: *If necessary, the table top height may be adjusted further by adjusting the height of the Carriages on the Towers at either end of the table.*

NOTE: *Perform all steps of the Function Check before every use of the Trios® Table Base (see the Trios® Table Base Owner's Manual).*

6.3 Patient Transfer to Trios® Radiolucent Imaging Top

6.3.1 Table Positioning and Safety Check

1. If imaging devices will be used, trial position the equipment as it will be used. If necessary, relocate the Trios® Table Base in the room. Use the IntelliPendant® to unlock the table casters and with the assistance of a second person move the Trios® Table Base. When the table is located where it will be used, lock the table casters.

NOTE: *The Trios® Surgical Table System is not for patient transport. The location of the table relative to any imaging equipment that may be used needs to be confirmed prior to the patient being transferred to the table.*

2. Conduct a safety check prior to transferring the patient to the table.
3. Confirm the Floor Locks are locked and table casters do not rotate.
4. Confirm the Towers are securely mounted to the Head-End and Foot-End Crossbars.
5. Confirm the Trios® Radiolucent Imaging Top is securely mounted to each Tower.
6. Confirm the 180 Degree Rotation Lock is engaged (the amber indicator lights at the Head-End and Foot-End are unlit) and the table top is level side to side. Verify that the Level indicator light on the Head-End Column is illuminated green and the 180 Degree Rotation Lock indicator lights on the Head-End and Foot-End Columns are not illuminated.

NOTE: *The Level indicator light must be illuminated and the 180 Degree Rotation Lock indicator lights must not be illuminated before a patient is transferred to the table. If the Level indicator is not the only light illuminated on the Head-End Column, do not transfer the patient.*

WARNING: Failure to ensure that the 180 Degree Rotation Lock indicator lights on the Head-End and Foot-End Columns are not illuminated prior to patient transfer may result in harm to the patient, device, or healthcare professional.

6.3.2 Patient Transfer for Supine Positioning

1. Position the patient's bed or stretcher such that the patient is aligned with the Trios® Radiolucent Imaging Top. The top of the bed or stretcher should be level with the top of the 2" (5 cm) Tempur-Pedic® Medical Pad on the table top.
2. Lock the bed or stretcher.
3. Confirm the Floor Locks on the Trios® Table Base are locked and table casters do not rotate.
4. Transfer the patient in a supine position to the Trios® Radiolucent Imaging Top using a standard drawsheet method. Center the patient on the pad.
5. Attach a Trios® Universal Side Rail Adapter onto the carbon fiber rail on left and right sides of the Trios® Radiolucent Imaging Top and tighten them in place where desired.
6. Attach the Safety Strap to the adapters. Secure the patient.

WARNING: Patient must be restrained at all time by a safety strap(s) when positioned on the table.

7. Tempur-Pedic® Medical pillows are an optional accessory, which may aid in final patient positioning.

6.3.3 Positioning for Anterior Spine Surgery Procedures

The Trios® Radiolucent Imaging Top may be used for anterior spine procedures when properly set up to support the patient.

1. Upon transferring the patient to the Trios® Radiolucent Imaging Top (Section 6.3.2) and securing with a Safety Strap, ensure that the arms are properly positioned. If arms are to be placed at the patient's side, tuck and support them with padding and a draw sheet.
2. Prep and drape the patient in the standard fashion. This position provides ideal access to the anterior cervical spine or lumbar spine through the abdominal approach, which gives exposure to the lumbar-sacral area.
3. For anterior lower lumbar spine procedures, an optional accessory, the REF 973 or REF 974 Inflatable Bladder, may be used under the lower back to provide controlled lumbar spine extension.

6.4 Lateral Patient Positioning

A variety of surgical procedures in the lateral decubitis position may be performed on the Trios® Radiolucent Imaging Top.

To set up the Table for a lateral procedure:

1. Ensure that the Trios® Radiolucent Imaging Top is lowered below the centerline of the Crossbar for lateral procedures such that the patient's center of gravity lies below the centerline of the Crossbar.

WARNING: The Trios® Radiolucent Imaging Top must be positioned such that the patient's center of gravity lies below the centerline of the Crossbars when the patient is positioned laterally. Failure to do so may make the patient unstable during lateral roll.

2. After the patient is transferred to the Trios® Radiolucent Imaging Top in a supine position (see Section 6.3), roll the patient to a lateral position and support the patient until final positioning is achieved.
3. Stabilize and maintain the patient in the lateral decubitus position by means of at least two (2) patient safety straps or a lateral positioning device (see Section 7.3).
4. When using the Lateral Positioner Set (REF 7300), mount the rectangular positioners such that one pad is between the scapula, the second at the sacrum, and the third over the pubis.
    a. Open the clamp on the Lateral Positioner Bracket by rotating the black knob counterclockwise.
    b. Slide the Lateral Positioner Bracket onto the side rail of the Trios® Radiolucent Imaging Top with the black knob facing down.

c. Rotate the black knob on each Lateral Positioner Bracket clockwise to lock in place. Rotate the black knob on each Lateral Positioner Bracket counterclockwise to unlock for repositioning.

5. Adjust each pad position until it rests against the patient, and secure by rotating the Drop Handles clockwise.
6. To attach the Lateral Arm Board (REF 5364), attach a Trios® Universal Side Rail Adapter on the rail of the Trios® Radiolucent Imaging Top and slide a Clark Socket onto it.
7. Insert the post of the Lateral Arm Board and tighten the Clark Socket to secure the post.
8. To adjust the position of the lower arm board so that it supports the lower arm at the same level as the Trios® Radiolucent Imaging Top, release the drop handle and pivot the arm board into place.
9. Translate the upper arm board toward or away from the patient so that the upper arm is adequately supported.
10. Standard positioning aids (pillows, Tempur-Pedic® Medical positioning pads, foam or gel padding) may be used to provide additional patient stability and comfort.



Figure 23: Lateral Arm Board Mounted on Trios® Radiolucent Imaging Top

11. The patient may be laterally rotated to a maximum of 25 degrees in each direction using the Lateral Roll function on the Hand Pendant of the Trios® Table Base.

WARNING: Do not attempt to rotate the patient in the lateral position more than 25 degrees. Lateral rotation of a patient in the lateral position of more than 25 degrees may result in the patient being dropped.

6.5 Removing the Trios® Radiolucent Imaging Top

To remove the Trios® Radiolucent Imaging Top from the Trios® Table Base:

1. One person should hold the Fixed Table Top Handle at the Head-End, while a second person holds the Fixed Table Top Handle at the Foot-End.
2. While pressing the Table Top Release Levers, the person at the Foot-End should carefully raise the Foot-End of the table top to disengage it from the Carriage Bar.

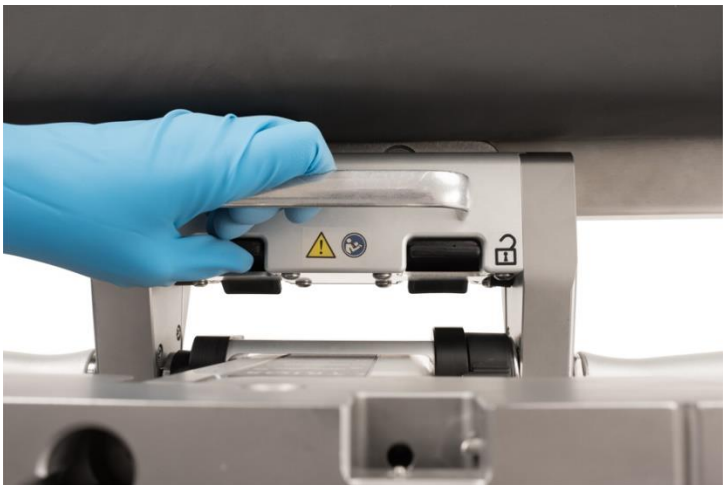


Figure 24: Pressing the Table Top Release Levers

NOTE: *As an added safety feature, the Folding Table Top Handles on the underside of the table top block activation of the release levers to prevent accidental release of the table top from the Tower during the 180 Degree Rotation Sequence (see Section 8).*

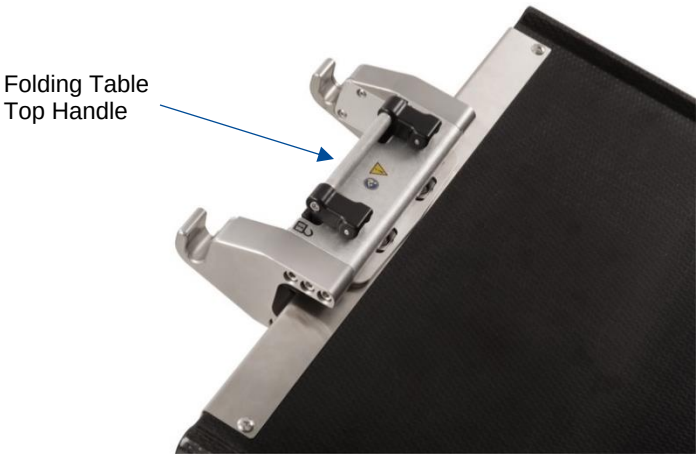


Figure 25: Folding Table Top Handle

3. Once the Foot-End of the Table Top has been released, the person at the Head-End should press the Table Top Release Levers and carefully raise the Head-End of the table top to disengage it from the Carriage Bar.
4. With both people holding the table top by its fixed handles, raise and remove the table top from the Table Base.
5. Remove both Towers from the Head-End and Foot-End Crossbars.
    a. Hold one of the Carriage Handles, and with the other hand pull the Tower Release knob on the Crossbar that is closest to the Tower to release the Tower locking mechanism.

b. Once the Tower is unlocked, rotate it clockwise slightly with one hand, and then hold it with both hands by the Carriage Handles. Continue to rotate it clockwise until the protrusion of the pin on the Tower aligns with the slot on the Crossbar.

⚠ CAUTION: Be careful to hold the Tower securely with two hands before aligning the pin and slot. The Towers are heavy and may fall if not adequately supported during removal, causing potential damage to the device or injury to the healthcare professionals.



Figure 26: Tower Unlocked and Rotated so that Tower Pin Aligns with Crossbar Slot

c. Lower the Tower out of the slot and store it on the Equipment Cart.

7 Optional Accessories

NOTE: *These devices are intended for use by trained personnel. Prior to setup and use of the Trios® Radiolucent Imaging Top, the Trios® Table Base, and any of the optional accessories available, ensure personnel have been trained. To schedule an in-service, please contact your domestic Mizuho OSI sales representative or call 1-800-777-4674 within the USA or +1-510-429-1500 outside the USA.*

NOTE: *Only Mizuho OSI table tops and accessories have been tested and approved for use with the Trios® Table Base. Other manufacturers' products have not been tested for proper performance when used with the Base and Trios® Radiolucent Imaging Top, and therefore are not endorsed for use by Mizuho OSI. Use or other manufacturer's products may void the warranty.*

WARNING: Use of components not manufactured by Mizuho OSI may result in harm to the patient, the table top, the device or the healthcare professional.

7.1 Pivoting Arm Board

The Pivoting Arm Board (REF 5356 or REF 5357) may be mounted onto the Trios® Radiolucent Imaging Top with the use of a Trios® Universal Side Rail Adapter to provide support for a patient's arm. The Pivoting Arm Board provides 0 to 180 degrees of adjustment and is available with a 2 inch (5.1 cm) or 3 inch (7.6 cm) Tempur-Pedic® Medical Pad.

To install the Pivoting Arm Board:

1. Install a Trios® Universal Side Rail Adapter as discussed in Section 3.3.
2. Hold the locking lever of the Pivoting Arm Board at the base of the bracket in the open position and over the edge of the Trios® Universal Side Rail Adapter.
3. Lower the Arm Board into place and release the locking lever (Figure 27).



Figure 27: Pivoting Arm Board Mounted with Trios® Universal Side Rail Adapter on Trios® Radiolucent Imaging Top

4. Pull the lever at the distal end of the Arm Board to release the latch, pivot the Arm Board to the desired position, and then release the lever to lock into position.



Figure 28: Pulling the Lever at the Distal End of the Pivoting Arm Board

7.2 Cross Arm Support

The Cross Arm Support (REF 5857) supports the patient's arm over his or her chest. This accessory comes standard with a one inch (2.5 cm) Tempur-Pedic® Medical Pad.

To install the Cross Arm Support:

1. Install a Trios® Universal Side Rail Adapter as discussed in Section 3.3.
2. Mount a Clark Socket on the Trios® Universal Side Rail Adapter.
3. Place the Cross Arm Support upright in the Clark Socket. Turn the Clark Socket handle clockwise to secure the Cross Arm Support upright.



Figure 29: Cross Arm Support

4. Position the Cross Arm Support over, but not in contact with, the patient's chest.
5. Pad and secure the patient's arm to the Cross Arm Support.

7.3 Lateral Positioners

A set of Lateral Positioners (REF 7300) is available for use on the Trios® Radiolucent Imaging Top. This set consists of three (3) Rectangular Pads that can be placed at the scapula, at the sacrum, and over the pubis to support the patient in the lateral position.

To install the Lateral Positioners:

1. Open the clamp on the Lateral Positioner Bracket by rotating the black knob counterclockwise.
2. Slide the Lateral Positioner Bracket onto the side rail of the Trios® Radiolucent Imaging Top with the black knob facing down.
3. When the bracket is in the desired position, rotate the black knob clockwise to tighten the clamp.
4. Insert the Lateral Positioner Assembly into the bracket and rotate the Drop Handle clockwise to tighten.

7.4 Lateral Arm Board

The Lateral Arm Board Set (REF 5364) consists of two arm board assemblies with 2 inch (5.1 cm) Tempur-Pedic® Medical Pads.

To install the Lateral Arm Board Set:

1. Place a Trios® Universal Side Rail Adapter on the rail of the Trios® Radiolucent Imaging Top (see Section 3.3) and slide a Clark Socket onto it.
2. Insert the post of the Lateral Arm Board Unit, and tighten the Clark Socket securing the post.
3. To adjust the position of the lower Arm Board, release the Drop Handle and pivot the Arm Board into place. Tighten the Drop Handle.
4. When positioned correctly, the Lateral Arm Board Unit should support the lower arm at the same level as the Trios® Radiolucent Imaging Top. The upper arm board can be translated toward or away from the patient so that the upper arm is adequately supported (Figure 30).



Figure 30: Proper Positioning of Lateral Arm Board

7.5 Cervical Management Base Unit

The Cervical Management Base Unit (REF 7803-457) is designed for use with the Trios® Radiolucent Imaging Top and Trios® Spinal Surgery Top to allow for both anterior and posterior cervical procedures.

NOTE: *A thorough understanding of the use of the Cervical Management Base Unit and Trios® Table Base is required prior to use and patient transfer. For complete instructions on preparing the Trios® Table Base and Cervical Management Base Unit, refer to the respective Owner's Manuals, which provide detailed information regarding set-up, cleaning, and maintenance.*

To mount the Cervical Management Base Unit on the Trios® Table Base for supine cervical procedures:

1. Place the Cervical Management Base Unit on a stable surface and separate the Table Adapter Assembly from the Cervical Management Base Unit Sub Assembly. Align the Stop Cap of the Horizontal Slide so it can pass through and out of the Table Adapter Assembly and remove the Cervical Management Base Unit Sub-Assembly from the Table Adapter Assembly (Figure 31).



Figure 31: Stop Cap Aligned to Allow for Removal of the Cervical Management Base Unit Sub-Assembly

2. Align the Adapter Assembly so that it is securely seated in the two grooves on the top of the Head-End Crossbar and secure it by tightening the two T-Handles.



Figure 32: Mounting the Adapter Assembly



Figure 33: Tightening the Adapter Assembly T-Handles

3. When mounted correctly, the Adapter Assembly should be securely seated and the Traction Pulley aligned with the center of the Crossbar.
4. Turn the Cervical Management Base Unit Sub-Assembly such that the Crank Handle faces the ceiling and the Black Knob faces the floor. Align the Stop Cap, and re-insert the Horizontal Slide into the Table Adapter Assembly. The Horizontal Slide should move freely back and forth within its range of travel.
5. Tighten the Horizontal Slide Locking Lever when the desired position of the Horizontal Slide is achieved.



Figure 34: Cervical Management Base Unit Sub-Assembly Rotated and Set Up for Supine Positioning

6. The Cervical Management Base Unit is set up for use with a patient positioned supine on the Trios® Radiolucent Imaging Top.
7. With the Cervical Management Base Unit mounted, adjustments can be made to the device.
    a. The Horizontal Slide can move freely or be locked in place using the Locking Lever.
    b. The height of the Yoke with Transitional Arms can be raised or lowered by turning the Black Knob at the bottom or the Crank Handle at the top of the assembly.
    c. The Transitional Arms can be articulated by loosening the knobs on the side of the arm and then moving the arms to their desired position.
8. Prior to use, ensure that all teeth of the starburst are aligned and the corresponding knobs are properly tightened.
9. The Cervical Management Base Unit is now prepared for an Aluminum DORO® or Mayfield® Skull Clamp to be attached. The Swivel Adapter can be positioned by releasing the Drop Handle and then moving the Ball Joint until the Swivel Adapter is in the desired location. Tighten the Drop Handle to secure the Swivel Adapter in place. A radiolucent Skull Clamp may also be attached using the appropriate adapter.

NOTE: *Skull Clamps and Horseshoe Headrests and may be used with the Cervical Management Base Unit. Refer to the specific manufacturers' instructions for use of the Skull Clamp to be attached to the Cervical Management Base Unit.*

NOTE: *If the patient is fitted with a cervical halo, it is possible to attach some halos directly to the Cervical Management Base Unit. Consult with the halo manufacturer for the availability and use of halo adapters.*



WARNING: The Horizontal Slide lever must be loosened prior to moving the table in Trendelenburg or Reverse Trendelenburg. Failure to do so may cause injury to the patient.

7.6 Anterior Extension Positioner

The Anterior Extension Positioner (REF 5879-2) with inflatable bladder can be used on the Trios® Radiolucent Imaging Top to achieve hyperextension of the patient's neck (Figure 35).

The pad is oriented such that the inflatable bladder is at the Head-End of the table top. The Tubing with the Bulb Inflator and Air Control Valve extends from the pad and can be accessed from either the Head-End or the Foot-End of the table.

1. Remove the 2-inch (5 cm) standard table pad from the Trios® Radiolucent Imaging Top, and then place the 5-inch (12.7 cm) pad directly on the Trios® Radiolucent Imaging Top and secure it in place with the straps provided.
2. Open the Air Control Valve by turning it counter clockwise.
3. Confirm that the bladder is deflated.
4. Transfer patient to the table.
5. To inflate the bladder of the Anterior Extension Positioner, close the Air Control Valve and compress the Bulb Inflator until the desired degree of neck extension is achieved.
6. To deflate the bladder, open the Air Control Valve. The patient's weight will help expel the air from the bladder.



Figure 35: REF 5879-2 Anterior Extension Positioner set up on the Trios® Radiolucent Imaging Top

7.7 Head Halter

Use of a Head Halter or Gardner Wells Tongs as a cervical management option is also available when using the Trios® Radiolucent Imaging Top.

To use:

1. Attach the traction rope to the desired traction weight to be used.
2. Pass the traction rope over the Traction Pulley Assembly and thread through the Pivot Shaft of the Head-End Crossbar.
3. Connect the traction rope to the Head Halter or Gardner Wells Tongs (Figure 36).

NOTE: *The amount of weight or the traction load applied to the patient is at the discretion of the surgeon.*

NOTE: *Refer to the specific manufacturer's instructions for use of the Head Halter or Gardner Wells Tongs device to be attached.*

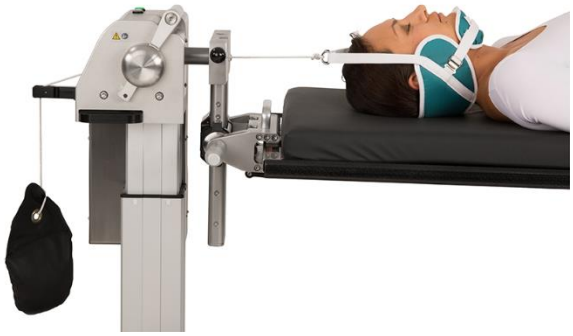


Figure 36: Head Halter Traction

⚠ WARNING: Adjusting the table top in Trendelenburg or Reverse Trendelenburg may alter the traction forces applied to the patient due to friction in the rope. Lifting the weight to relieve traction during the adjustment is advised.

7.8 Wilson Plus™ Radiolucent Frame

⚠ CAUTION: A thorough understanding of the use of the Trios® Table Base and Wilson Plus™ Radiolucent Frame are required prior to use and patient transfer. For complete instructions on preparing the Trios® Table Base and Wilson Plus™ Radiolucent Frame, refer to the respective Owner's Manuals, which provide detailed information regarding set-up, cleaning, and maintenance.

The Wilson Plus™ Radiolucent Frame (REF 5319G) may be used for positioning on the Trios® Radiolucent Imaging Top or on a General Surgery Table (Figure 37). The Wilson Plus™ provides a convenient and stable method of maintaining patients in a flexed position for lumbar procedures. The spinal flexion frame is made of carbon fiber construction, which allows for unrestricted radiolucency and C-arm integration. The Wilson Plus™ may be used for laminectomy, decompression, or microdiscectomy surgeries.



Figure 37: REF 5319G Wilson Plus™ Radiolucent Frame on the Trios® Radiolucent Imaging Top

7.9 Tempur-Pedic® Medical Pad Positioning Set

The Tempur-Pedic® Medical Pad Positioning Set (REF 6950) consists of six pads made of TEMPUR® construction that can be used to assist in positioning patients. All pads have closed seams and no zippers and are made with antimicrobial 4-way stretch cover fabric so they can be used in virtually any position.

7.10 Equipment Cart and Cover

The Equipment Cart (REF 7803-500) may be used to store the Trios® Radiolucent Imaging Top, components, and any accessories when not in use. The Equipment Cart Cover provided with the Cart serves as a dust cover and should be used while the products are in storage.



Figure 38: REF 7803-500 Equipment Cart

7.11 List of Optional Accessories

Optional Accessory  REF **5356** **Pivoting Arm Board with 2" Tempur Pedic® Medical Pad** REF **5357** **Pivoting Arm Board with 3" Tempur Pedic® Medical Pad**	Optional Accessory  REF **5857** **Cross-Arm Support**	Optional Accessory  REF **5364** **Lateral Arm Board Set with 2" Tempur Pedic® Medical Pads**
Optional Accessory  REF **5393** **Clark Socket**	Optional Accessory  REF **5394** **Aluminum Side Rail Socket**	Optional Accessory  REF **7803-457** **Cervical Management Base Unit**
Optional Accessory  REF **7803-456** **Adapter for Cervical Management Base Unit**	Optional Accessory  REF **5979-200** **Radiolucent Mayfield® Adapter for Cervical Management Base Unit**	Optional Accessory  REF **5979-300** **Radiolucent DORO® Adapter for Cervical Management Base Unit**

Optional Accessory REF **5879-2** **Anterior Extension Positioner**	Optional Accessory REF **6910-3034** **DORO® Skull Clamp, Radiolucent** REF **6910-3003** **DORO® Skull Clamp, Aluminum**	Optional Accessory REF **5319G** **Wilson Plus™ Radiolucent Frame for Trios® Radiolucent Imaging Top and General Surgery Tables**
Optional Accessory REF **7803-500** **Equipment Cart and Cover**	Optional Accessory REF **6946 Standard** REF **6947 Queen** **Mizuho OSI Tempur-Pedic® Medical Positioning Pillows**	Optional Accessory REF **6950** **Mizuho OSI Tempur-Pedic® Medical 6 pc. Positioning Pad Set**
Optional Accessory REF **6900-51** **Universal Foot Board with Tempur-Pedic® Medical Pad**	Optional Accessory REF **973** and REF **974** **Inflatable Bladder**	Optional Accessory REF **7803-514** **Trios® Side Rail Adapter, 18"**

Optional Accessory  REF **7300** **Trios® Lateral Positioner Set**		

8 180 Degree Rotation

The Trios® Surgical Table System is designed to allow for 180 Degree Rotation of a patient through the use of the Trios® Radiolucent Imaging Top in conjunction with the Trios® Spinal Surgery Top and Trios® Table Base. The ability to rotate a patient 180 degrees provides a safe alternative to log rolling when positioning an anesthetized patient prone from a supine position. This feature may also be used intra-operatively during anterior-posterior spinal procedures to re-position the patient from supine to prone without transferring the patient off the table.

NOTE: *A thorough understanding of the REF 7927 Trios® Radiolucent Imaging Top, the REF 7943 Trios® Spinal Surgery Top, and the REF 7803 Trios® Table Base is required prior to use and patient transfer.*

⚠ CAUTION: Failure to follow the instructions detailed in this manual, the NW0786 Trios® Spinal Surgery Top Owner's Manual, and the NW0785 Trios® Table Base Owner's Manual may cause harm to the patient, healthcare professional, or device.

8.1 Preparing for the Rotation Sequence

1. Set up the Trios® Spinal Surgery Top with the desired components and pads to support the patient in the prone position. Place the Patient Kit Covers on the Chest Pads, Hip Pads, and Thigh Pads. Store the Trios® Spinal Surgery Top on the Equipment Cart until needed (Figure 39).

NOTE: *If mounting pads and accessories while the Trios® Spinal Surgery Top is off the Base, ensure that the table top is facing patient side up, with Patient Weight Limit label visible and Mounting Hooks facing down.*



Figure 39: Trios® Spinal Surgery Top Prepared and Stored on Equipment Cart

2. Open the individually packaged ProneView® Cushion 60 minutes prior to use. Place the cushion in the Helmet. If using the GentleTouch® Pillow, open the package 20 minutes prior to use. Open the Arm Cradles at least 20 minutes prior to use and set them aside for use during final positioning following the rotation.
3. Set up the Trios® Table Base (see Section 6.1) and conduct the necessary safety check.
4. Confirm that the Floor Locks are locked and table casters do not rotate.
5. Confirm that the Towers are securely mounted to the Head-End and Foot-End Crossbars.
6. Confirm the 180 Degree Rotation Lock is engaged and the table top is level side to side. Verify that the Level indicator light on the Head-End Column is illuminated green and the 180 Degree Rotation Lock indicator lights on the Head-End and Foot-End Columns are not illuminated.

NOTE: *The Level indicator light must be illuminated and the 180 Degree Rotation Lock indicator light must not be illuminated before a patient is transferred to the table. If the Level indicator light is not the only light illuminated on the Head-End Column, do not transfer the patient.*

WARNING: Failure to ensure that the 180 Degree Rotation Lock indicator lights on the Head-End and Foot-End Columns are not illuminated prior to patient transfer may result in harm to the patient, device, or healthcare professional.

7. Mount the Trios® Radiolucent Imaging Top on the Trios® Table Base.
8. Transfer the patient to the Trios® Radiolucent Imaging Top using the standard drawsheet method (Figure 40).



Figure 40: Patient Positioned Supine on the Trios® Radiolucent Imaging Top

9. With the patient positioned supine on the Trios® Radiolucent Imaging Top, install the two Upper Towers, one on top of the Head-End Crossbar and one on top of the Foot-End Crossbar. Confirm the Upper Towers are securely mounted.

   a. Using the Carriage Handles, hold the Upper Tower just above the Crossbar at an angle that aligns the round pin on the Tower with the slot on the upper side of the Crossbar. Insert the pin into the slot on the top of the Crossbar.

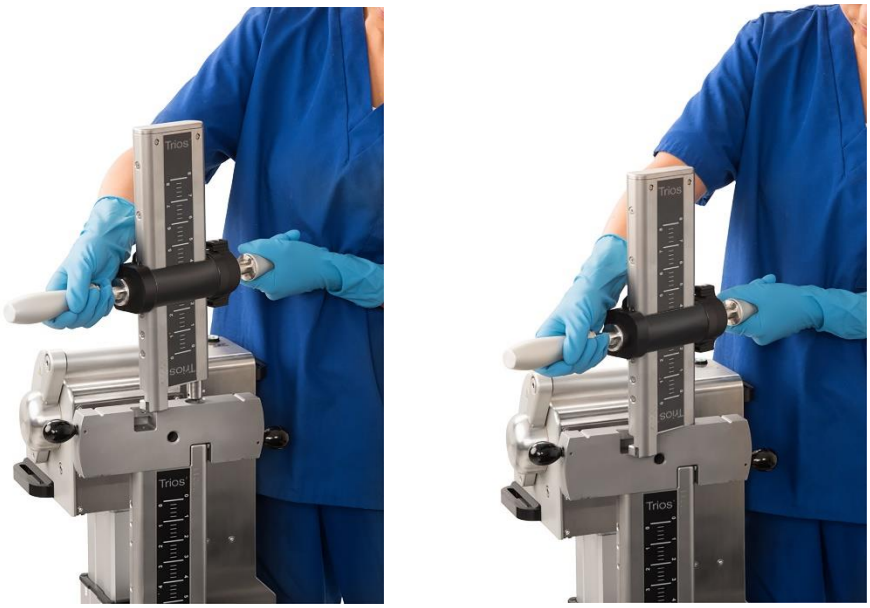


Figure 41: Aligning and Inserting Tower into slot on top of Crossbar

   b. Rotate the side of the Tower that was not inserted toward the Crossbar until it clicks into place.



Figure 42: Upper Tower installed on Head-End Crossbar

10. Ensure that the Carriages are at their highest position on the Upper Towers.

    a. To adjust the height of the Carriages, lift the Carriage Handles slightly and rotate the Carriage Unlock Lever in either direction to unlock the Carriage. When the red label is exposed, the carriage is unlocked.



Figure 43: Unlocking the Carriage Unlock Lever

    b. Slide the Carriage up to the desired height, release the Carriage Unlock Lever, and then pull up on the Carriage Handles. The lever should move back to its locked position with the red label no longer visible.



Figure 44: Carriage Unlock Lever in Locked Position

    c. Verify that the Carriage is secure in its new position.

11. Carefully place the ProneView® Helmet with the Cushion in place over the patient's face. If using the Face Plate, place the GentleTouch® Pillow over the patient's face.

NOTE: *The patient's head must be supported at all times: before, during, and after the 180 Degree Rotation.*

12. Remove the Trios® Spinal Surgery Top from the Cart. With the assistance of at least two people, lift the Trios® Spinal Surgery Top over the patient just below the Carriages on the Upper Towers at both the Head-End and the Foot-End. Ensure that the table top is oriented with the patient side down (Patient Weight Limit label is not visible, Folding Table Top Handles are visible, and Mounting Hooks are facing up). One person should hold the table top by its folding handle at the Head-End, while the second person holds the table top by its folding handle at the Foot-End. Align the Mounting Hooks on the table top with the Carriage Bars on both Towers (Figure 45). The open portion of the Mounting Hooks should be oriented just below the Carriage Bars when positioned correctly.



Figure 45: Proper Alignment of Mounting Hooks to Carriage Bars on Upper Tower

13. Secure the table top to the Foot-End Carriage first by raising the Foot-End of the table top until the Mounting Hooks are secured on the Foot-End Carriage Bars.
14. Carefully raise the Head-End of the table top and secure the Mounting Hooks on the Head-End Carriage Bars. Jiggle the table top handles on both the Head-End and Foot-End to ensure that the table top is securely attached.

⚠ CAUTION: As an added safety feature, the Folding Table Top Handles block activation of the release levers to prevent accidental release of the table top during the 180 Degree Rotation Sequence.



Figure 46: Trios® Spinal Surgery Top Secured to Upper Tower at Head-End

⚠ WARNING: Ensure that the Trios® Spinal Surgery Top is securely attached to the Carriages on the Upper Towers. Because the table top is attached from underneath the Carriage Bars, if not secured, the table top could fall, which may result in harm to the patient, device, or healthcare professional.



Figure 47: Trios® Spinal Surgery Top Mounted in Preparation for Compression Series

15. Confirm that each component and pad is aligned with the corresponding anatomical landmarks on the supine patient.

8.2 Component Positioning

1. Confirm the placement of the ProneView® Mirror Platform, which should be directly above the patient Helmet, with the adjustable posts aligned. The posts will be fully seated in the Helmet during the compression sequence prior to rotation. If the Face Plate will be used, ensure that the GentleTouch® Pillow is aligned with the Face Plate.
2. If Arm Boards will be used when the patient is positioned prone, confirm that the Arm Board Brackets are secure and ready to accept the Arm Board Assemblies after the rotation.
3. Confirm that the top edge of the Chest Pad is aligned with the bottom of the patient's anatomical landmark, the supra-sternal notch. Breasts should be down, lying flat and the nipples oriented towards the Foot-End of the table. Ensure the Patient Care Kit Cover is smooth.
4. Confirm that the Hip Pads are oriented so the patient's anatomical landmarks, the iliac crests, will rest centered on each pad. Confirm that the Thigh Pads are abutting the Hip Pads. Ensure that all Patient Care Kit Covers are smooth.
5. Confirm that the Leg Boards will support the patient's knees and legs, and the patient's feet will not be compressed by the Leg Boards.
6. Adjust the position of the components as necessary to ensure proper placement and support of the patient when rotated. Should the Hip or Thigh Pads need adjusting, unlock

the Locking Lever on the Bracket, re-position the Pad, confirm the new position checking the anatomical landmark, and close the Locking Lever to lock in place. When moving the Hip Pad, the Thigh Pad must also be moved to a position abutting the Hip Pad. Ensure that the Patient Care Kit Covers are smooth.

7. If the patient's arms are positioned on Arm Boards while lying on the Trios® Radiolucent Imaging Top, remove the patient's arms from the Arm Boards and tuck them to their sides with the draw sheet. Remove the Pivoting Arm Boards mounted on the Trios® Radiolucent Imaging Top and remove the Trios® Universal Side Rail Adapters.

⚠ **CAUTION: Failure to ensure that all table accessories and components are removed from the Trios® Radiolucent Imaging Top before proceeding with the rotation may result in harm to the patient.**

8. Apply the four (4) 90-inch (228.6 cm) Safety Straps around both the Trios® Spinal Surgery Top and the Trios® Radiolucent Imaging Top. Buckle the Straps loosely in place around the tops, with all buckles oriented on the same side for ease of access (Figure 48). Patient anatomical landmarks for positioning of the Straps are as follows:
   - The landmark for the Chest Pad is mid-humerus.
   - The landmark for the Hip and Thigh Pads is mid-forearm.
   - The landmark for the upper Leg Board or Sling is mid-femur.
   - The landmark for the lower Leg Board or Sling is mid-tibia.

9. To fill the void between the patient's legs and the Trios® Spinal Surgery Top, place pillows over the patient's legs (Figure 48).



Figure 48: Four (4) 90-inch (228.6 cm) Safety Straps Applied with Pillows Placed over Patient's Legs

NOTE: *A Leg Sling may be used when performing a 180 Degree Rotation to accommodate taller patients or individuals who may require additional hip flexion while in the prone position following rotation.*

10. If rotating using a Leg Sling, place three (3) pillows under the patient's knees and two (2) to three (3) pillows on top of the patient's knees and tibia to fill the void.

8.3 Compression Sequence and Safety Check

NOTE: *The following sequence is intended to be performed rapidly to prevent extended compression of the patient. When properly executed, the compression, rotation, and release sequence should take less than thirty (30) seconds. This is desirable to avoid undue extended compression of the patient.*

During the compression and rotation sequence, the anesthesiologist manages and monitors the patient's lines and tubes. Consideration should be given to how the patient's lines and tubes will be managed when determining the direction of rotation.

WARNING: Do not use the Hand Pendant Rails as anchor points for tubing or lines. Lines and tubes must be free during table rotation. If tied to the table, the intubabion tube will be forcibly removed from the patient's mouth during the rotation sequence.

1. Press down on the Carriage Handles on the Head-End Upper Tower. Rotate the Carriage Unlock Lever on the Carriage in either direction to unlock the Carriage. When the red label is exposed, the Carriage is unlocked.
2. While continuing to hold the Carriage Handles, lower the Head-End of the Trios® Spinal Surgery Top until the Chest Pad rests on the patient's sternum. If using the ProneView® Helmet System, ensure that the feet of the ProneView® Helmet and the mirror are aligned when lowering the Head-End of the table top. There is no compression at the Head-End. Once positioned, release the Carriage Unlock Lever while still supporting the table top weight. The lever should move back to its locked position with the red label no longer visible. If necessary, manually rotate the lever to the locked position prior to releasing the Carriage Handles.
3. Verify that the Carriage is secure in its new position.
4. Press down on the Carriage Handles on the Foot-End Upper Tower. Rotate the Carriage Unlock Lever on the Carriage in either direction to unlock the Carriage. When the red label is exposed, the Carriage is unlocked.
5. While continuing to hold the Carriage Handles, lower the Foot-End of the Trios® Spinal Surgery Top until the Hip Pads rest on the patient's iliac crests. This action compresses the legs, so check the position of the pillows and ensure that there is no pressure on the feet. Once positioned, release the Carriage Unlock Lever. The lever should move back to its locked position with the red label no longer visible, locking the Foot-End Carriage in its new position on the Foot-End Upper Tower. If necessary, rotate the lever to the locked position prior to releasing the Carriage Handles.

WARNING: Ensure that both Carriage Unlock Levers are in the locked position after adjusting the table's height. Failure to do so may cause injury to the patient or healthcare professionals.

NOTE: *Assess the compression of the patient at the chest and iliac crests. Ensure that the Chest Pad rests on the sternum and the Hips Pads are tight against the iliac crests such that compression occurs at this point of contact.*

6. Verify that the Carriage is secure in its new position.
7. Tighten the four (4) Safety Straps as tightly as possible by hand (Figure 49).



Figure 49: Compression Taking Place at the Foot-End

8. Conduct a count of the six (6) critical items to confirm their status prior to rotation. Physically confirm the following six (6) items:
    - Four (4) Safety Straps are tight and in place.
    - Table casters on the Trios® Table Base are locked, as indicated on the IntelliPendant®.
    - Verify that the green Level indicator light is on.

WARNING: Failure to complete all three steps, which detail how to conduct a count of the six (6) critical items to confirm their status prior to rotation, ensuring all table casters are in the locked position, the Safety Straps are tight and in place, and the Level indicator light is lit, may result in harm to the patient, healthcare professional, or devices.

8.4 Rotation Sequence

Three people are required to complete a 180 Degree Rotation, with one person positioned at the Head-End, one person at the Foot-End, and one person mid-Table. After completing the 6-point safety check, the person mid-Table will complete the actual rotation of the table tops by placing one hand on the far side of the Trios® Spinal Surgery Top and the other hand on the Trios® Radiolucent Imaging Top. He or she will also be responsible for directing the timing of the rotation.

NOTE: *The anesthesiologist may choose to disconnect the patient's intravenous infusions, monitoring devices, and anesthesia prior to the 180 Degree Rotation. If this is not the case, care must be taken to observe and control all lines during the rotation.*

WARNING: Do not use the Hand Pendant Rails as anchor points for tubing or lines. Lines and tubes must be free during table rotation. If tied to the table, the intubabion tube will be forcibly removed from the patient's mouth during the rotation sequence.

1. At the direction of the person mid-Table, the person at the Head-End of the Table releases the 180 Degree Rotation Lock by first raising the 180 Degree Rotation Lock handle such that the amber 180 Degree Rotation Lock indicator light is illuminated, and then rotating it away from the table top until the amber indicator light starts flashing. He or she then announces "180 Degree Rotation Lock Off".

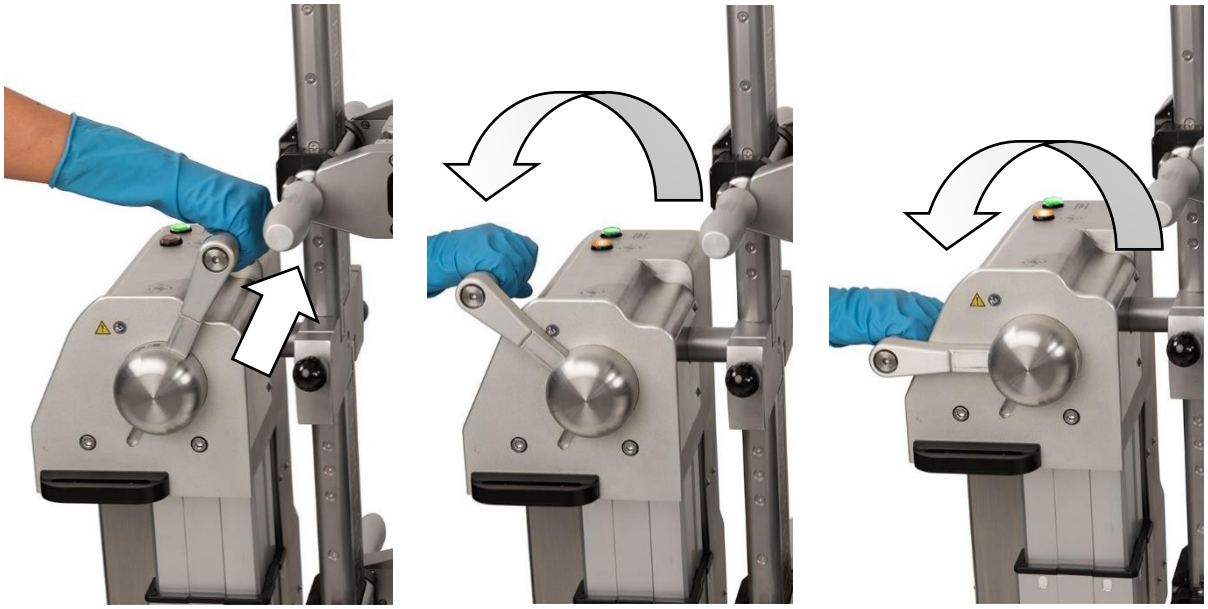


Figure 50: Unlocking the 180 Degree Rotation Lock

NOTE: *The amber 180 Degree Rotation Lock indicator light will continuously flash until the lock is re-engaged.*

2. The anesthesiologist should confirm control of the tubes and lines attached to the patient.

3. To control the rotation, the person mid-table always rotates the table tops towards himself or herself. After the rotation is complete, the person mid-table and the person at the Foot-End hold the table tops level and in place (the Level indicator on the Head-End Column is illuminated green) until the 180 Degree Rotation Lock is locked (the amber 180 Degree Rotation Lock indicator light is no longer illuminated on the Head-End Column).

NOTE: *The person mid-Table must rotate the table tops and the patient 180 degrees towards himself or herself without stopping until the complete 180 degree rotation is achieved.*

WARNING: Failure for the person mid-Table to rotate the table tops and the patient 180 degrees towards him or herself without stopping until the 180 degree rotation is achieved may result in harm to the patient, healthcare professional, or these devices.

4. The person at the Head-End locks the 180 Degree Rotation Lock by turning the 180 Degree Rotation Lock handle toward the table top until the amber indicator light no longer illuminates. He or she announces, "180 Degree Rotation Lock On." The Level indicator also illuminates, indicating that the table top is level side to side.
5. The Foot-End and mid-table people should not release their hold on the table tops until the Head-End person provides verbal confirmation of the engagement of the 180 Degree Rotation Lock.

CAUTION: Failure for the people at the Foot-End and mid-Table to maintain their hold on the table tops until the Head-End person has provided verbal confirmation of the engagement of the 180 Degree Rotation Lock may result in harm to the patient, healthcare professional, or these devices.

6. Once the 180 Degree Rotation Lock is locked and the amber 180 Degree Rotation Lock indicator lights are no longer illuminated on the Head-End and Foot-End Columns, the anesthesiologist immediately manages the patient's lines and tubes.
7. The surgeon confirms the patient's face is correctly supported by the ProneView® cushion, ensuring that the patient's eyes are visible in the mirror and the neck is in a neutral position. If the neck is not neutral, turn the posts on the platform to adjust the height of the Helmet to achieve the proper position. If using the GentleTouch® Pillow, ensure that the patient's face is properly seated in the pillow, with the eyes, nose, and mouth visible.



Figure 51: Compression Following 180 Degree Rotation

8.5 Removing the Trios® Radiolucent Imaging Top

Three people are required to remove the Trios® Radiolucent Imaging Top, with one person positioned at the Head-End, one person at the Foot-End, and a third person standing mid-Table to assist in supporting the table top during removal.

1. Remove the four (4) Safety Straps from around the table tops.



Figure 52: Safety Straps Removed

2. Mount the Arm Boards in the Arm Board Brackets.
3. Position the patient's arms and support the arms in the Arm Cradles. The V of the cradle rests against the inside of the elbow. Translate, raise, lower, or articulate the Arm Boards as appropriate and secure them in place. Confirm that all the T-Handles and the Drop Handles are tight.
4. Confirm the patient's orientation on the Chest Pads, Hip Pads, and Thigh Pads, and then complete final positioning of the patient's arms.
5. Raise the Trios® Radiolucent Imaging Top to its highest position before removing the table top. This will relieve the compression on the patient.
    a. Press down on the Carriage Handles and rotate the Carriage Unlock Lever on the Foot-End Carriage on the Upper Tower in either direction to unlock the Carriage. When the red label is exposed, the Carriage is unlocked.



Figure 53: Unlocking the Carriage Unlock Lever

    b. Slide the Foot-End Carriage up to its highest position on the Upper Tower to raise the Foot-End of the table top, release the Carriage Unlock Lever, and then pull up on the Carriage Handles. The lever should move back to its locked position with the red label no longer visible.



Figure 54: Carriage Unlock Lever in Locked Position

    c. Verify that the Carriage is secure in its new position.

d. Press down on the Carriage Handles and rotate the Carriage Unlock Lever on the Head-End Carriage on the Upper Tower in either direction to unlock the Carriage. When the red label is exposed, the Carriage is unlocked.

e. Slide the Head-End Carriage up to its highest position on the Upper Tower to raise the Head-End of the table top, release the Carriage Unlock Lever, and then pull up on the Carriage Handles. The lever should move back to its locked position with the red label no longer visible.

f. Verify that the Carriage is secure in its new position.

NOTE: *Both the Head-End and Foot-End Carriages can be unlocked and repositioned concurrently.*



Figure 55: Trios® Radiolucent Imaging Top Raised to its Highest Position

NOTE: *After raising the Trios® Radiolucent Imaging Top to its highest position, if there is not enough clearance to remove the table top without causing harm to the patient, lower the Trios® Spinal Surgery Top to achieve sufficient clearance. Making height adjustments with the patient on the table top may require at least two people at each end of the table top.*

⚠ **CAUTION: As an added safety feature for both the patient and the healthcare workers, if the pressure/force exerted to adjust the height of the table top is insufficient for the increased resistance caused by the combined weight of the table top and patient, the table top will not move. In this instance, additional people will be required to adjust table top height at each end.**

6. Use the following steps to remove the Trios® Radiolucent Imaging Top from the Base.

a. During the entire process, ensure that the person at the Head-End and the person at the Foot-End are supporting the Trios® Radiolucent Imaging Top by holding the Folding Table Top Handle at their end of the table top with both hands. The person

standing at mid-Table should hold the table top in preparation for supporting the weight of the table top during removal.

b. While pressing the Table Top Release Levers, the person at the Foot-End should carefully lower the Foot-End of the table top to disengage the Mounting Hooks from the Carriage Bars.

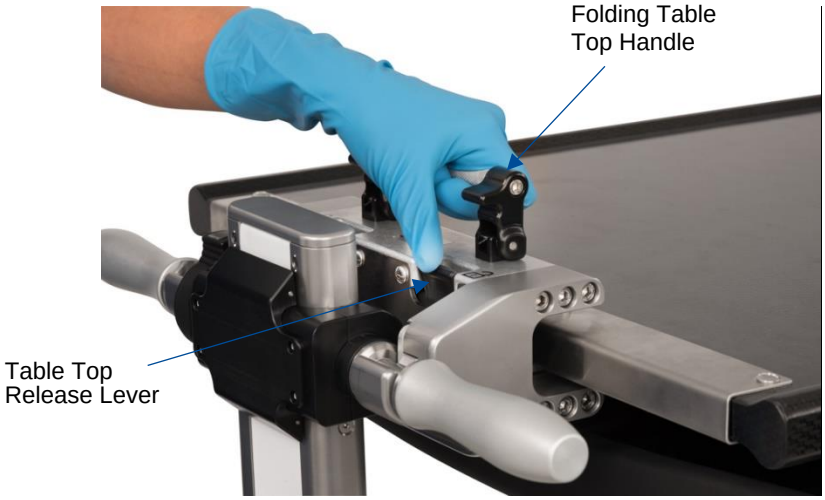


Figure 56: Release Levers on Trios® Radiolucent Imaging Top

c. Once the Foot-End of the table top has been released, the person at the Head-End should press the Table Top Release Levers and carefully lower the Head-End of the table top to disengage the Mounting Hooks from the Carriage Bars.

d. All three people holding the table top should then move the Trios® Radiolucent Imaging Top sideways to remove it from the Base. When not in use, store the Trios® Radiolucent Imaging Top on the Equipment Cart.



Figure 57: Initial Prone Position Following Removal of Trios® Radiolucent Imaging Top

7. Do not leave the patient unattended on the table without Safety Straps in place (Figure 57). At least one person must stay with the patient until the Safety Straps are securely in place.
8. Remove the Upper Towers attached to the Head-End and the Foot-End Crossbars.
   a. Hold the Upper Tower by the Carriage Handles.
   b. Pull the Tower Release knob on the Crossbar that is closest to the Upper Tower to release the locking mechanism.

NOTE: *If standing on the outside of the column, pull the Tower Release knob on the right.*

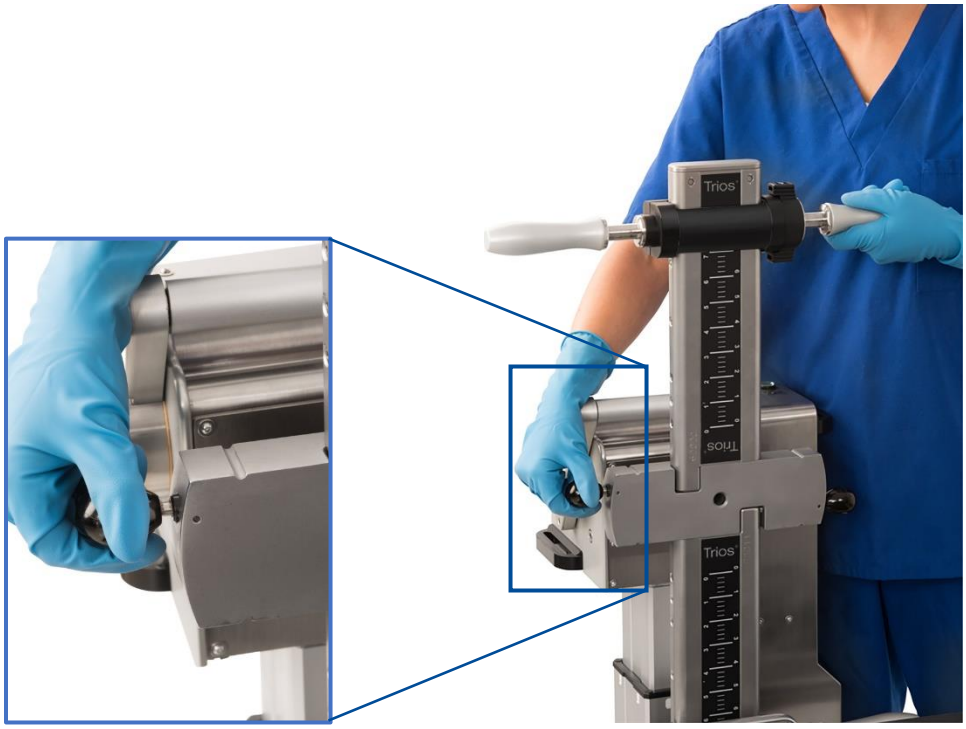


Figure 58: Release Knob for Upper Tower

   c. Rotate the Upper Tower counterclockwise so that it is at an angle that aligns the round pin on the Tower with the slot on the Crossbar, and then with both hands on the Carriage Handles, lift the Upper Tower out of the slot and store it on the Equipment Cart.



Figure 59: Upper Tower Rotated to Align Pin with Slot, and Held with Both Hands for Removal

8.6 Final Patient Positioning Following Rotation

1. Visually confirm the placement of the Chest Pad. When positioned correctly, the edge of the Chest Pad should rest at the patient's anatomical landmark, the supra-sternal notch. Breasts should be down, lying flat with the nipples oriented towards the Foot-End of the table. Ensure that the Patient Care Kit Cover is smooth against the patient.
2. To re-position the Chest Pad, lift and support the patient, move the pad, smooth the Chest Pad Cover, and lower the patient onto the Chest Pad. Confirm correct placement of the Chest Pad, which ideally should contact the patient such that the load is borne predominantly by the sternum.

WARNING: Positioning the Chest Pad above the supra-sternal notch may apply pressure to the patient's throat or airway. Failure to ensure that the patient is positioned properly on the Chest Pad may result in harm to the patient.

3. Visually confirm the placement of each Hip Pad. When positioned correctly, the patient's anatomical landmark, the iliac crest, is centered on the Hip Pad. Ensure that the Patient Care Kit Covers are smooth against the patient.
4. Should the Hip Pad need to be re-positioned, lift and support the patient, unlock the Pad, and move it to the desired location, lock the Pad, smooth the Patient Care Kit Cover, and lower the patient onto the Pad. Confirm correct placement of the Pad.
5. Visually confirm that the Thigh Pads are abutting the Hip Pads. Re-position the Pads if necessary. Ensure that the Patient Care Kit Covers are smooth against the patient.

CAUTION: Failure to ensure that the patient is positioned properly on the Hip and Thigh Pads may result in harm to the patient.

6. Place a pillow under the patient's tibias to ensure that the ankles are not hyper-extended and there is no pressure on the patient's feet.
7. Apply the Buttocks Strap, which should rest low on the patient's gluteal area, surround both hips, and secure around the buttocks. Use a blanket under the Buttocks Strap to protect the patient from direct contact with the Strap.
8. Ensure that the patient does not directly contact the rail of the top by using gel or foam as needed to pad the area between the patient and the rail.
9. Apply the 60-inch (152 cm) Safety Strap over the patient's lower legs and around the table top and secure in place with the buckle. The strap should be tight enough to secure the legs against the pillows if the table is tilted laterally. Apply and secure a 90-inch (228.6 cm) Safety Strap around the patient's torso, chest pad, and table, if desired, and secure in place with the buckle.

NOTE: *Placement and location of the Safety Straps is at the discretion of the surgeon and may vary by procedure.*

10. Confirm that the patient's arms are supported in the Arm Cradles with the V of the cradle resting against the inside elbow. Ensure that there is no more than 90 degrees flexion at the shoulder and no more than 90 degrees flexion at the elbow. Translate, raise, lower, or articulate the Arm Boards as necessary to achieve the proper positioning. Confirm that all T-Handles and Drop Handles are tight. Use the Arm Board Straps provided to secure the arms in place.



Figure 60: Proper Prone Positioning Following 180 Degree Rotation

WARNING: Failure to ensure proper arm positioning may result in harm to the patient. Hyperextension of the shoulder may cause compression of the brachial plexus resulting in a potential nerve or vascular injury.

11. Following the rotation of the patient from supine to prone, the patient may be in a slight Trendelenburg position. Should a flat position be desired, depress the **Reverse Trendelenburg** button on the IntelliPendant® until the desired position is achieved.



Figure 61: Final Prone Patient Positioning Following 180 Degree Rotation

12. The patient is now correctly positioned prone and secured in place with Safety Straps.

NOTE: *Due to the open nature of the Trios® Spinal Surgery Top and the long duration of many spinal procedures, the use of forced air warmers, fluid warmers, and blankets should be considered to help prevent hypothermia. Blankets may be placed over the feet up to the gluteal area and across the shoulders and arms out of the surgical field to aid in maintaining the patient's body temperature. These devices should be used according to the manufacturer's directions and at the discretion of the surgeon.*

WARNING: Proper pre-operative and intra-operative procedures must be followed to prevent venous stasis and pooling, pressure sore development, neuropathy, improper electrosurgical tissue grounding, hypotension, and hypothermia.

CAUTION: Use care and monitor the patient when changing the position of the Trios® Spinal Surgery Top using the Height Up/Down, Trendelenburg/Reverse Trendelenburg, and Lateral Roll functions to ensure that the patient or table do not interfere with other equipment. Failure to do so may cause harm to the patient or device.

8.7 Components Used for 180 Degree Rotation

Trios® Spinal Surgery Top  REF **7803-574**	Trios® Radiolucent Imaging Top  REF **7803-349**	Towers (4)  REF **7803-579**
Trios® Universal Side Rail Adapter  REF **7927-959**	Patient Safety Strap  REF **5855-550**	ProneView® Helmet and Mirror System: *Option 1*  REF **D28705CE**
Face Plate: *Option 2*  REF **5840-277** **Patient Head Support**	Chest Support Plate with Chest Pad  REF **5840-580 Single Chest Pad Mounting Bracket** REF **5840-7569 Tempur-Pedic® Medical Single Chest Pad**	Tempur-Pedic® Comfort 8-Piece Pad Set*: *Option 1*  REF **6956** **Use two Small, Regular, or Large Hip Pads, and two Thigh Pads*
Combination Hip/Thigh Pads: *Option 2*  REF **5939**	Articulating Arm Board with 1-inch (2.5 cm) Tempur-Pedic® Medical Pad and Bracket (2)  REF **5579**	Leg Board with Pad (2): *Option 1*  REF **5840-24**

Leg Sling: *Option 2*  REF **5840-450**	Buttocks Strap  REF **5840-45**	60-inch (152 cm) Safety Strap  REF **5840-43**
90-inch (228.6 cm) Safety Strap (4)  REF **5840-44**	Equipment Cart  REF **7803-500**	Optional Accessory  REF **6946 Standard** REF **6947 Queen** **Mizuho OSI Tempur-Pedic® Medical Positioning Pillows**
Trios® Spinal Surgery Top ProneView® Patient Care Kit: *Option 1*  REF **5808PV**	Trios® Spinal Surgery Top GentleTouch® Patient Care Kit: *Option 2*  REF **5808**	Optional Accessory  REF **5888** **Retractor Adapter**
Trios® Spinal Surgery Top Table Cover  REF **7803-320**		

9 Cleaning, Storage, and Maintenance

9.1 Cleaning and Disinfecting

NOTE: *Clean and disinfect the Trios® Radiolucent Imaging Top after each use.*

9.1.1 Trios® Table Top

The Trios® Radiolucent Imaging Top should be regularly wiped clean with a mild detergent solution with a damp cloth that has been squeezed of liquid, and wiped dry with a soft lint-free cloth.

Care should be taken to avoid exposing the table to excessive moisture. Flooding, fogging, or steam cleaning is not recommended.

⚠ CAUTION: Never pour any liquid directly onto the Trios® Radiolucent Imaging Top. Never subject the Trios® Radiolucent Imaging Top to an equipment washing machine.

Blood or other fluids, etc., if allowed to remain on the Trios® Radiolucent Imaging Top for a long period of time, will require special cleaning to remove.

NOTE: *Use of iodophors will cause staining.*

To remove staining or discoloration of plated or stainless steel surfaces, clean with a commercial cleaning compound labeled for stainless steel and then buff the surface by hand.

To disinfectant exterior surfaces, use a quaternary ammonium disinfectant compound according to manufacturer's directions for use. Wipe dry with a soft lint-free cloth.

NOTE: *Failure to dry the surface thoroughly after cleaning and disinfecting may result in rust or damage to the surface of the device.*

9.1.2 Mizuho OSI Tempur-Pedic® Medical Pads

NOTE: *The Mizuho OSI Tempur-Pedic® Medical Pads should always be stored in a flat position. The pads can become stiff in cold temperatures and can crack and break if in a rolled position. It is important that you allow the pads to warm to room temperature before attempting to use or handle. In accordance with AORN recommendations, it is important to limit skin exposures to lower ambient temperatures, protect the patient by initiating passive warming interventions (e.g. applied forced-air warming systems, blankets, drapes and reflective composites), and to maintain an ambient room temperature of 20° to 25°C.*

When handling a Tempur-Pedic® Medical Pad, always grasp by the entire thickness of the pad.

⚠ CAUTION: DO NOT lift, slide, or carry Mizuho OSI Tempur-Pedic® Medical Pads by grabbing the fabric cover. The cover may tear or rip.

The pads are intended to be cleaned in place. They do not need to be rotated or removed.

Clean with standard hospital disinfectants labeled for use on table pads. Always dilute and rinse per manufacturer's label instructions. Wipe dry with a lint free cloth. DO NOT soak or autoclave the pads.

NOTE: *The use of bleach or highly concentrated chemicals may discolor the cover and will void the warranty on the pad.*

When cleaning the bottom of the pad or the table top, simply lift one end of the pad, and fold it over onto the other end. Clean the pad or the table top, wipe dry with a lint free cloth then reposition the pad to flat on the table top.

9.2 Storage

When not in use, the Trios® Radiolucent Imaging Top should be stored in a clean, dry environment.

The following conditions are required of the shipping and/or storage environment:

- Ambient temperature -4°F (-20°C) to + 122°F (50°C).
- Relative humidity from 10% to 95%, non-condensing.
- Atmospheric pressure from 75 to 105 kPa.

When in storage, the table cover provided serves as a dust cover and should be used.

9.3 Maintenance

Cleaning the table surfaces and table pad after each use will assure many years of trouble-free service. All components are lubricated for life at the factory and no other lubrication of the table top is required.

Preventative Maintenance:
Contact Mizuho OSI Service for a complete preventative maintenance checklist.

For detailed repair information or to order replacement parts, call, or contact via the web, Mizuho OSI Service:

1-800-777-4674, Option 2 (for calls within the USA)

+1-510-429-1500, Option 2 (for calls outside the USA)

+1-510-429-8324 (Fax)

service@mizuhosi.com

www.mizuhosi.com

Mizuho OSI Service is available from 5 AM to 5 PM Pacific Time, Monday through Friday. Please leave a message at extension 2 after normal business hours.

10 Technical Support

10.1 Contact for Parts and Service

For detailed repair information or to order replacement parts, call Mizuho OSI Service at **1-800-777-4674** for calls within the USA or **+1-510-429-1500** for calls outside the USA. At the prompt, select Option 2.

A Service line is available from 5 AM to 5 PM Pacific Time, Monday through Friday. After business hours, please leave a message.

Please state slowly your name, phone number, your facility name and city, affected equipment model number, and serial number.

An email message may be left anytime at **service@mizuhosi.com** or through the web site: **www.mizuhosi.com.**

10.2 Order Replacement Parts

If unable to identify a part, please telephone, fax, or e-mail Mizuho OSI Service before placing an order. Once the part number is obtained, follow the instructions below to order the replacement part.

If part is known, please telephone, fax, or e-mail Mizuho OSI Service with the part number and description for price and availability.

10.3 Return Damaged Parts

Identify part or part number to be returned.

Telephone, fax, or e-mail Mizuho OSI Service with the part number and description of the part for return to obtain a Return Goods Authorization (RGA) number.

Complete the Certificate of Decontamination provided by Mizuho OSI Service.

Return the part with RGA number clearly marked on the outside of the package, and include the Certification of Decontamination with the shipment.

10.4 Send a Part for Repair

If unable to identify a part, please telephone, fax, or e-mail Mizuho OSI Service for assistance.

If part number is known, please call, fax, or e-mail Mizuho OSI Service with the part number and description of the problem to obtain a Repair Authorization (RA) number.

Clean/disinfect parts prior to shipping and complete the Certificate of Decontamination provided by Mizuho OSI Service.

Ship the part with the RA number clearly marked on the outside of the package, and include the Certificate of Decontamination with the shipment.

The part will be evaluated and the customer will be contacted with the cost of repair, if not covered under table warranty.

After customer approval of repair cost, the part will be repaired and returned to the customer.

10.5 Warranty

Mizuho OSI products come with a one (1) year warranty against manufacturer defect. All expenses for parts and labor for product service calls are covered free of charge for the warranty period, except those products that are misused, altered, or damaged. All Tempur-Pedic® Medical Pads come with a two (2) year warranty against manufacturer defect. Defective merchandise will be credited or replaced.