Trios®

Spinal Surgery Top

Owner's Manual

Available Translations:

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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.

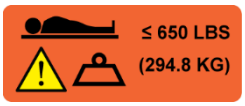
NOTE: *This device is intended for use by trained personnel only. To schedule an in-service, please contact your domestic Mizuho OSI sales representative, or call **1-800-777-4674** inside the USA or **+1-510-429-1500** outside the USA.*

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.
 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 the 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® Spinal Surgery 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® Table Base 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 12).

WARNING: The Trios® Spinal Surgery 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: 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.

CAUTION: No modification of the Trios® Spinal Surgery Top, the 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.

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®, GentleTouch®, Orange Aid®, and IntelliPendant® 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.

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® Spinal Surgery Top is one of the interchangeable tops offered as part of the Trios® Surgical Table System. The REF 7943 Trios® Spinal Surgery Top may be used with the REF 7803 Trios® Table Base. When mounted on the Trios® Table Base, the Trios® Spinal Surgery Top is designed to support and position a patient undergoing surgical spinal procedures.

The Trios® Spinal Surgery Top includes Mizuho OSI Tempur-Pedic® Medical Pads. The material used in the manufacture of the Mizuho OSI pads has 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 pads are radiolucent and are 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® Spinal Surgery 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® Spinal Surgery Top with Standard Components Mounted on the Trios® Table Base

2.2 Intended Use

The Trios® Spinal Surgery 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 position. The Trios® Spinal Surgery Top mounted on the Base is intended for use during surgical procedures, including radiographic imaging during such procedures. The Trios® Spinal Surgery Top mounted on the Base should not be used for patient transport.

The Trios® Spinal Surgery Top when mounted on the Trios® Table Base provide a platform designed to support and position adult and pediatric patients with body weight less than 650 lbs (295 kg).

2.3 User Profile

The Trios® Spinal Surgery Top 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:

NW0786 Trios® Spinal Surgery Top Owner's Manual

NW0787 Trios® Radiolucent Imaging 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® Spinal Surgery Top 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® Spinal Surgery 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 the 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 12). For product warranty information, see Section 12.5.

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® Spinal Surgery Top has the following specifications:

- Maximum patient load of the table top is 650 lbs (295 kg)
- Table top width is 17 inches (43.2 cm).
- Table top length is 84 inches (213.4 cm), or 92 inches (233.5 cm) when including Mounting Hooks.
- Operating environment – 68 °F (20 °C), relative humidity 50%
- Class 1 Equipment
- This table top mounted on the Base is not suitable for use with flammable anesthetic gas mixtures.
- The Cervical Traction Vector Adjuster can support a load of up to 60 lbs.

2.8 Shipping and Storage

If required to be transported, the Trios® Spinal Surgery Top must be transported using the appropriate packaging. Unpacking instructions were included with the original packaging and should be included on the outside of the packaging if the table top or components must be transported.

When not in use, the Trios® Spinal Surgery 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. If the table top is stored on the Equipment Cart, the Equipment Cart Cover provided should be used to protect the table top and all components and accessories stored on the Equipment Cart.

3 Component Identification

3.1 Trios® Spinal Surgery Top

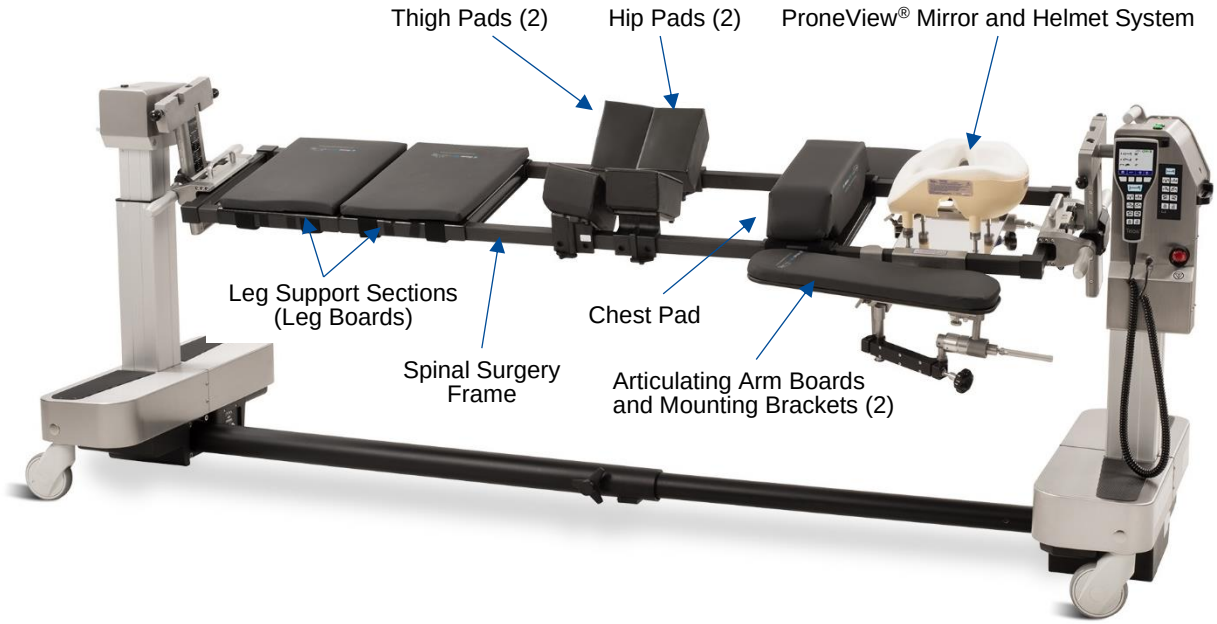


Figure 2: Trios® Spinal Surgery Top with Components Mounted

3.2 Towers

The Trios® Spinal Surgery 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.

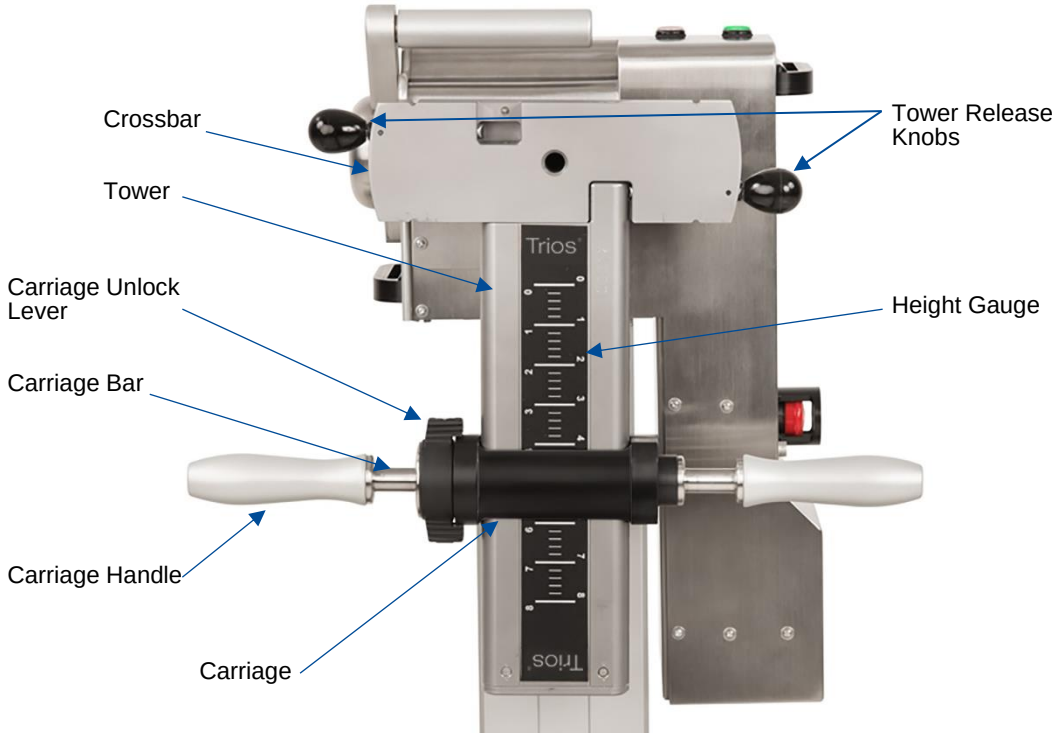


Figure 3: Tower Components

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.

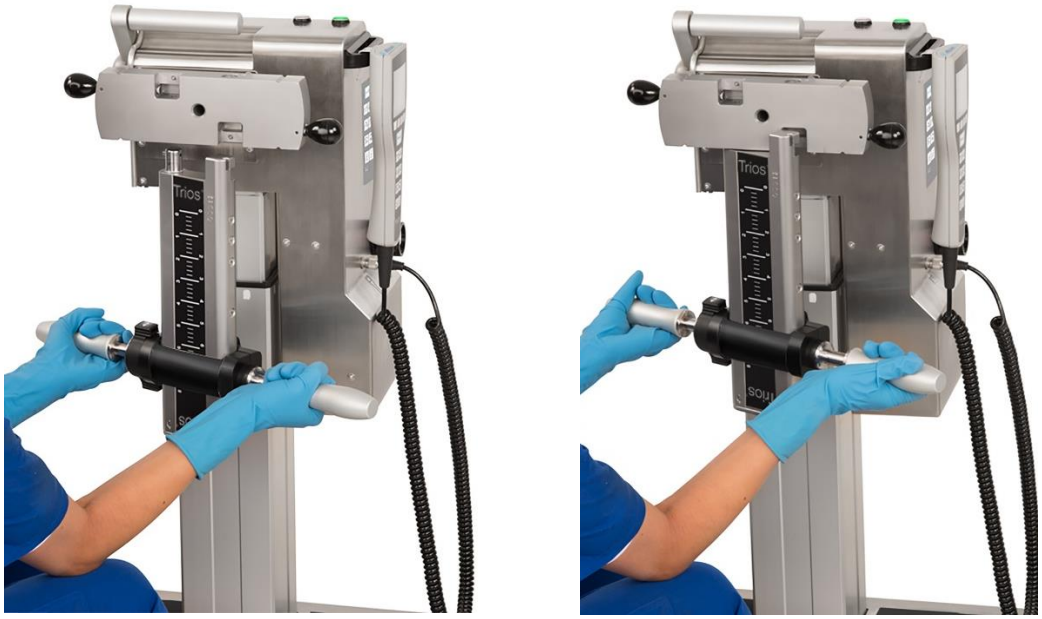


Figure 4: Aligning and Inserting Tower into Slot on Underside of Crossbar



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.



Figure 7: Carriage Unlock Lever in Locked Position

3. Verify that the Carriage is secure in its new 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 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 Tower Release knob on the Crossbar that is closest to the Tower to release the locking mechanism.

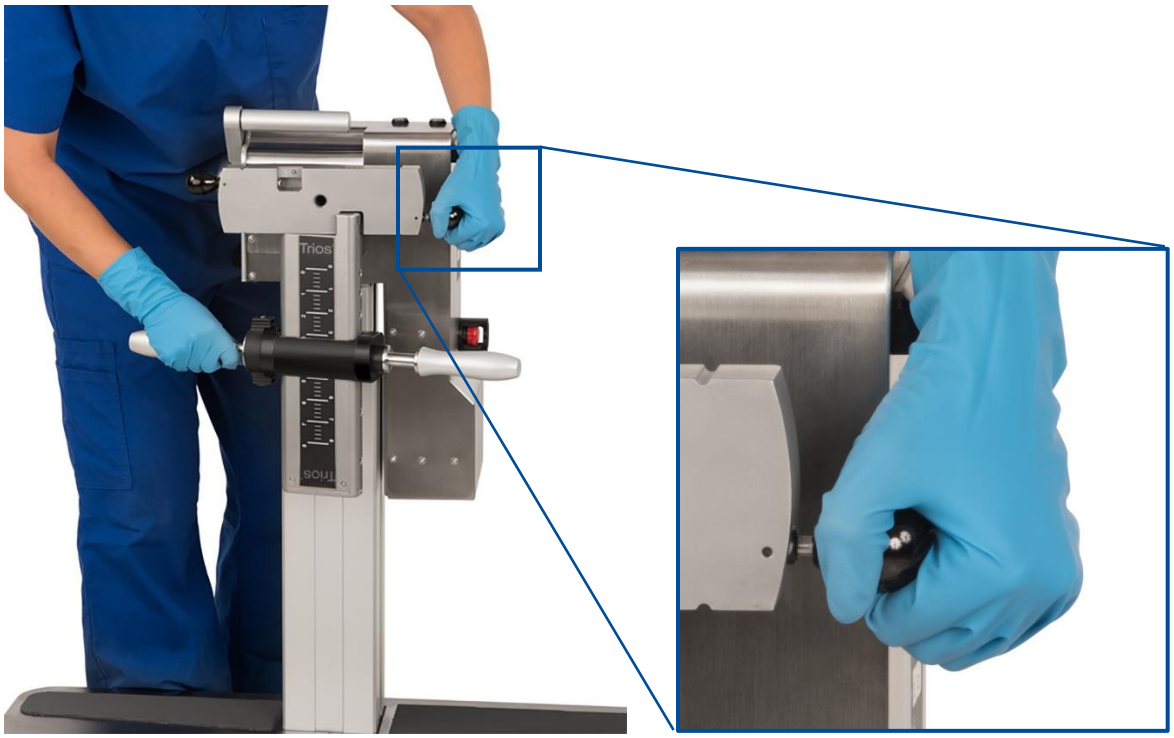


Figure 8: Knob that releases Tower Attached to the Underside of Crossbar

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 Additional Standard Components

3.3.1 Face Plate

The Face Plate, which provides a platform for using the GentleTouch® Pillow, may be used to support the head when the patient is prone.

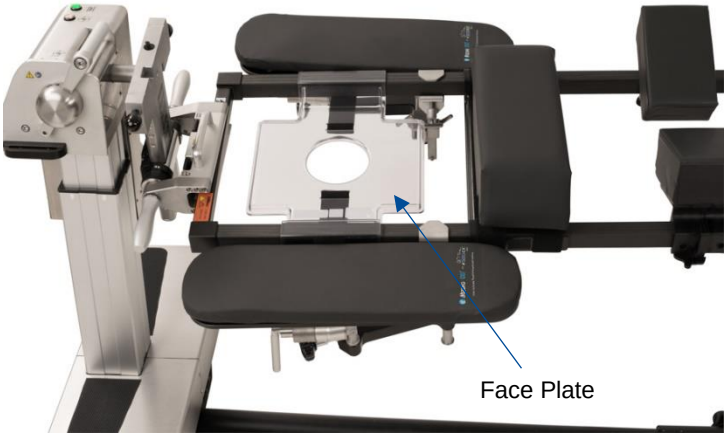


Figure 9: Face Plate Mounted on the Trios® Spinal Surgery Top

3.3.2 Leg Sling

NOTE: *Using either the Leg Sling or the Leg Boards is at the discretion of the surgeon.*

The Leg Sling may be used in place of the two (2) Leg Boards to support the patient's legs when positioned prone on the open frame. The Leg Sling may be used to accommodate taller patients or in cases where more flexion is desired as it allows the patient's knees to be lowered below the Trios® Spinal Frame. It is recommended that the Thigh Pads not be used with the Sling as the increased hip flexion may increase pressure on the anterior aspects of the thighs (Figure 10).

⚠ **CAUTION: Failure to ensure that there is no pressure on the patient's anterior thighs when using the Leg Sling may result in harm to the patient.**

The four (4) straps of the sling consist of a double-sided hook closure that allows for infinite adjustment along the length of the strap.

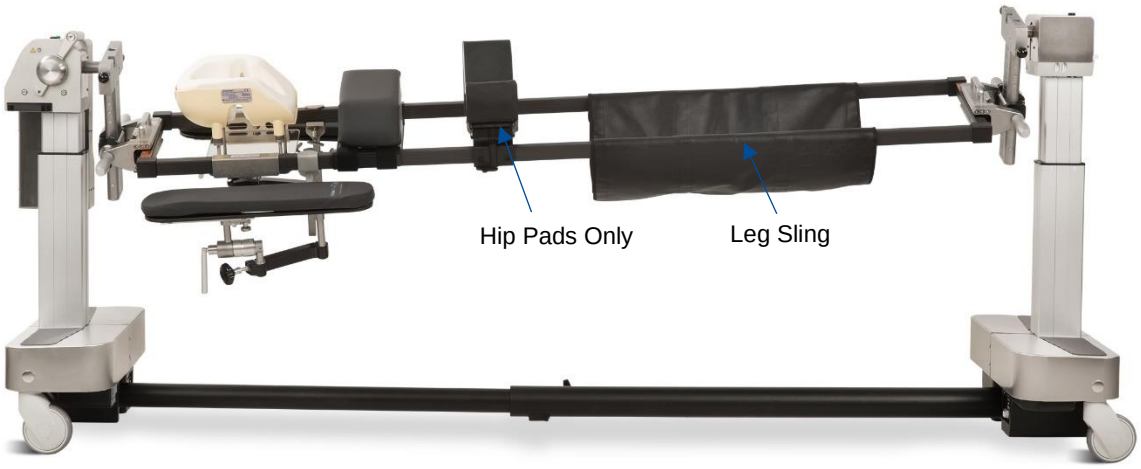


Figure 10: Use of Leg Sling with Hip Pads on the Trios® Spinal Surgery Table

3.3.3 Safety Straps

Safety straps are provided to secure the patient safely to the table and during the 180 Degree Rotation sequence as discussed in this manual. The following Safety Straps are provided as standard components to the table top (Figure 11):

- One (1) Buttocks Strap
- One (1) 60-inch Safety Strap
- Four (4) 90-inch Safety Straps



Figure 11: Buttocks Strap and Safety Straps

3.3.4 Cervical Traction Vector Adjuster

The Cervical Traction Vector Adjuster is designed to provide adjustability of the angle of pull of cervical traction as well as to maintain alignment of the traction rope when skull tongs or a head halter is used. It helps guide the cervical traction line (rope) to the Pulley System on the Trios® Table Base (Figure 12). See Section 9 for more information.



Figure 12: Cervical Traction Vector Adjuster

3.4 Hip and Thigh Pad Options

For the Trios® Spinal Surgery Top, there are two options of hip and thigh pads from which to choose:

- Tempur-Pedic® 8-Piece Set
- Tempur-Pedic® Combination Hip/Thigh Pad Set

3.4.1 Tempur-Pedic® 8-Piece Sets

These sets include Small, Medium/Regular, and Large Hip Pads (Figure 13), and Left and Right Thigh Pads. The appropriately sized Hip Pads should be chosen such that they support the patient while allowing abdominal fallout.

For individuals weighing 350 pounds (159 kg) or less, take into consideration the patient's girth and weight when selecting the Pad size.

For individuals weighing more than 350 pounds (159 kg), it may be necessary to purchase an additional set of Large Hip Pads so that two sets can be used together to support the patient properly.

⚠ **CAUTION: The choice of the proper pads used for any particular patient is the responsibility of the surgeon.**

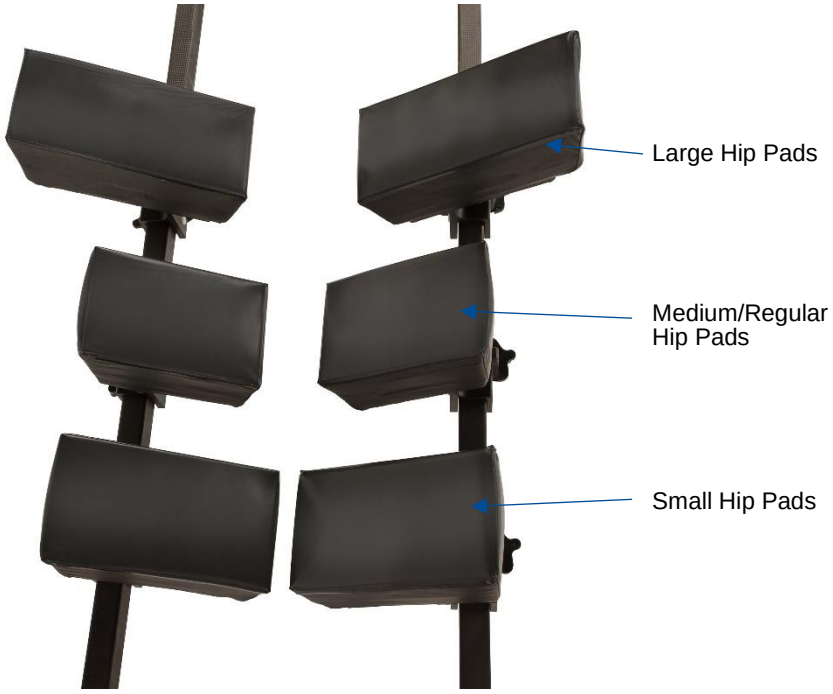


Figure 13: Small, Medium, and Large Hip Pads shown on Trios® Spinal Surgery Top for Comparison

3.4.2 Combination Hip/Thigh Pads

The footprint of each Combination Hip/Thigh Pad is similar to a Medium/Regular Hip Pad and a Thigh Pad (Figure 14).

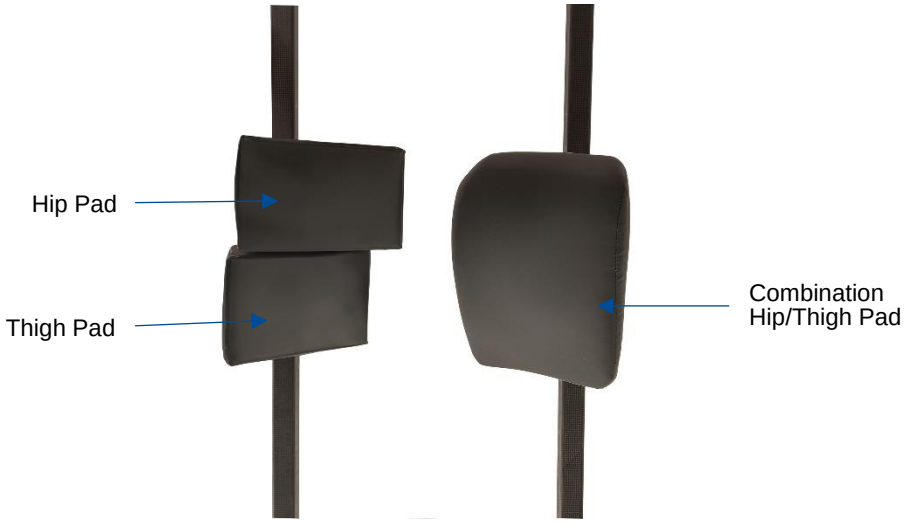


Figure 14: Comparison of Combination Hip/Thigh Pad to Medium/Regular Hip Pad and Thigh Pad



Figure 15: Combination Hip/Thigh Pads Installed with Other Standard Components

3.5 Arm Board Options

For the Trios® Spinal Surgery Top, there are two options of arm boards from which to choose:

- Articulating Arm Boards
- Translating Arm Boards

3.5.1 Articulating Arm Boards

To install the Articulating Arm Boards:

1. Slide the Arm Board Bracket onto the Trios® Spinal Surgery Top at the desired position and tighten the T-Handle. The Arm Board Brackets may be placed in front of or behind the ProneView® Mirror System or the Face Plate as needed to accommodate correct position of the patient's arms.
2. Repeat this process with the second Arm Board Bracket.
3. Place the Arm Board Assembly into the Bracket and tighten the T-Handle to secure the Arm Board Assembly in place (Figure 16).

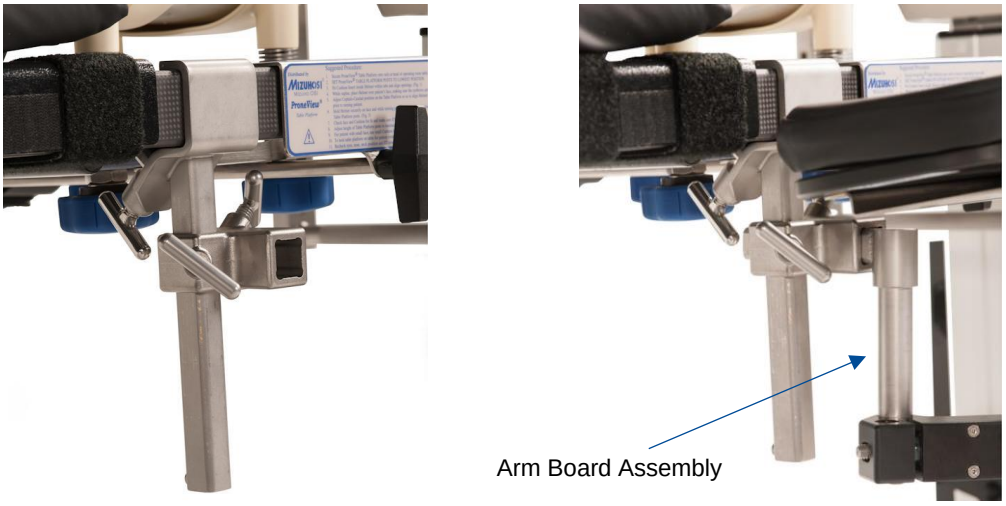


Figure 16: Arm Board Bracket Mounted and Arm Board Assembly Attached

4. Adjust the Articulating Arm Boards as needed. Using the handles, knobs, and pulls shown in Figure 17, they may be translated, raised, lowered, pivoted or angled to properly support the patient's arms.

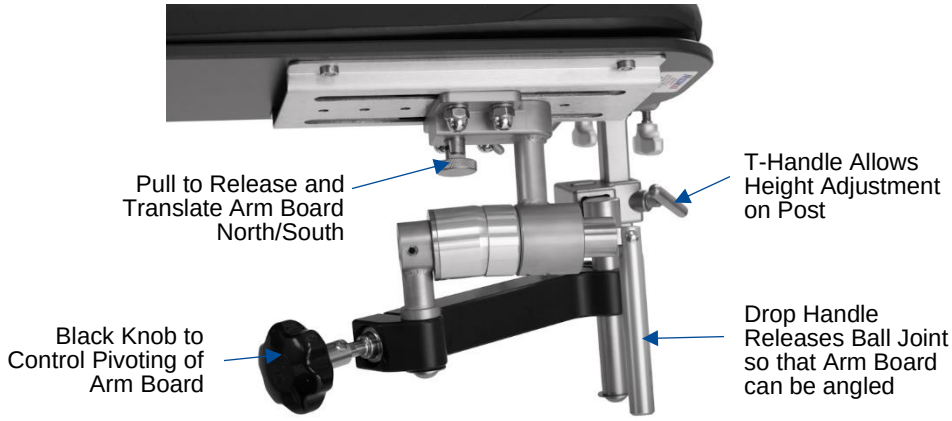


Figure 17: Articulating Arm Board Functionality

3.5.2 Translating Arm Boards

To install the Translating Arm Boards:

1. Slide the Arm Board Bracket onto the Trios® Spinal Surgery Top at the desired position and rotate the T-Handle clockwise to secure in place. The Arm Board Brackets may be placed in front of or behind the ProneView® Mirror System or the Face Plate as needed to accommodate correct position of the patient's arms.
2. Repeat the process with the second Arm Board Bracket.
3. Place the Translating Arm Board Assembly into the Bracket and rotate the T-Handle clockwise to secure the Arm Board Assembly in place.

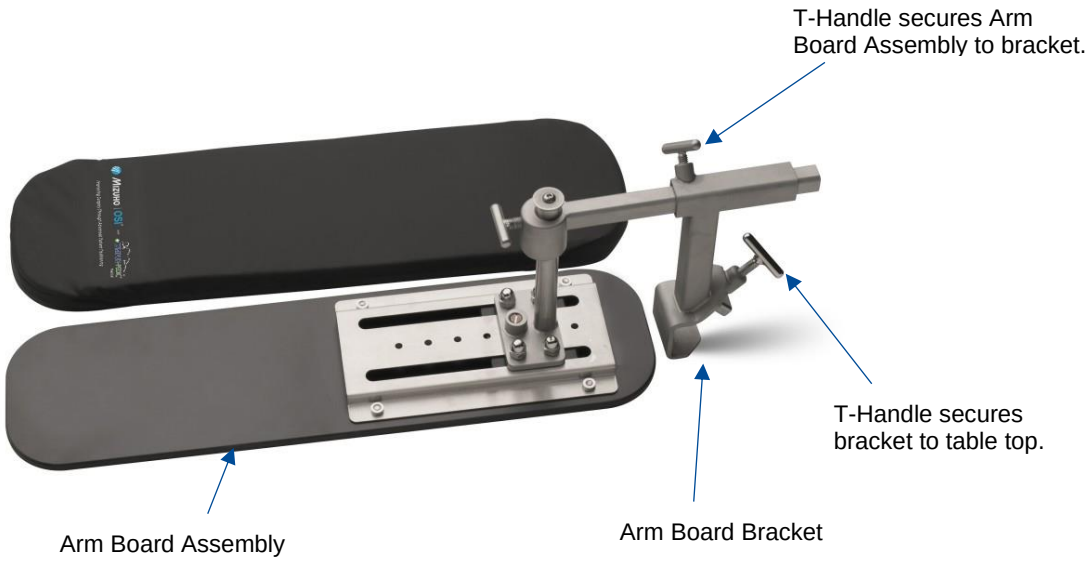


Figure 18: Translating Arm Board

3.6 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® Spinal Surgery Top, remove it from the shipping crate. Remove any protective 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® Spinal Surgery Top, visually inspect all accessible areas and all movable parts for possible damage that may adversely affect the proper operation of the Trios® Spinal Surgery 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 12).

WARNING: Failure to inspect the device before and after each use and failure to replace damaged components may cause harm to the patient, healthcare professional, and/or the device.

4.3 Preventative Maintenance

A Preventative Maintenance (PM) check (see Section 11.3) on your Trios® Spinal Surgery Top is required at least once every year.

To obtain the PM checklist, call Mizuho OSI Service (see Section 12). 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® Spinal Surgery Top Components

5.1 Standard Components

Component	Description
REF **7803-574** **Trios® Spinal Frame**	The Trios® Spinal Frame is an open frame platform on which the standard components may be mounted.
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 **D28705CE** **Reusable ProneView® Adjustable Mirror Platform and Helmet for the Trios® Spinal Surgery Top**	The Mirror Platform provides support for the ProneView® Helmet and allows for the patient's eyes to be viewed from three (3) sides when positioned prone. The Reusable ProneView® Helmet is part of the ProneView® System and is mounted on the adjustable posts of the mirror, supporting the disposable cushion insert provided in the Patient Care Kit. The posts have 2.5-inches (6.4 cm) of adjustment to allow for positioning the patient's head with a neutral neck position.
REF **5840-277** **Face Plate (Patient Head Support)**	The Face Plate provides the platform for use with the GentleTouch® Pillow, an option used to support the head when the patient is positioned prone.
REF **5840-7569** **Tempur-Pedic® Medical Single Chest Pad**	The Single Chest Pad is made of TEMPUR® construction, and when properly positioned, the top edge of the pad should rest at the bottom of the patient's supra-sternal notch.
REF **5840-24** **Leg Board with Pad (2)**	The two (2) Leg Boards, when used together, provide support for the patient's legs when positioned prone on the open frame. The 1-inch (2.5 cm) pad is made of TEMPUR® construction.
REF **5840-450** **Leg Sling**	The Leg Sling may be used in place of the two Leg Boards to support the patient's legs when positioned prone on the open frame. The Leg Sling may be used to accommodate taller patients or in cases where more flexion is desired.
REF **5840-45** **Buttocks Strap**	The Buttocks Strap rests across the patient's lower gluteal area when positioned prone to secure him/her in place on the Hip and Thigh Pads and open frame.
REF **5840-43** **60-inch Safety Strap**	The 60-inch Safety Strap is used to secure the patient in place when positioned on the table.
REF **5840-44** **90-inch Safety Strap (4)**	The four (4) 90-inch Safety Straps are primarily used to secure the patient during the 180 Degree Rotation sequence. They may also be used to secure the patient in place when positioned on the table if additional safety straps are desired.

Component	Description
REF **7803-790 Cervical Traction Vector Adjuster**	The Cervical Traction Vector Adjuster helps guide the cervical traction line (rope) to the Pulley System on the Trios® Table Base.
REF **7803-320 Trios® Spinal Surgery Top Cover**	The Trios® Spinal Surgery Top Cover serves as a dust cover when it is in storage.
REF **5808PV-2 Trios® Spinal Surgery Top ProneView® Patient Care Kit**	The Patient Care Kits are single-use pad covers intended to prevent cross-contamination and protect the equipment. Three (3) ProneView® Patient Care Kits are included with the Trios® Spinal Surgery Top.

5.2 Hip and Thigh Pad Options

The following hip and thigh pad options are available for use with the Trios® Spinal Surgery Top. Hip/thigh pads are required for use with the Trios® Spinal Surgery Top, but the choice of a specific pad set option is at customer's preference.

Pad Option	Description
REF **6956 Tempur-Pedic® Comfort 8-Piece Pad Set**	This pad set is comprised of two Small Hip Pads, two Regular Hip Pads, two Large Hip Pads, and Left and Right Thigh Pads. The Pads are made of TEMPUR® material. This pad set is one of two options meant for use with the Trios® Spinal Surgery Top.
REF **6956-5 Tempur-Pedic® Comfort Hip Pad, Small (2)**	The Small Hip Pads are intended for use on smaller patients as the size allows them to fit closer together, providing additional support. The Pads are made of TEMPUR® material.
REF **6956-4 Tempur-Pedic® Comfort Hip Pad, Regular (2)**	The Regular (or Medium) Hip Pads are intended for use on average-sized patients, providing appropriate support to the pelvic area. Overall stature should be assessed when choosing the Pad size as weight limits may be misleading given variations in individual's height and frame. The Pads are made of TEMPUR® material.
REF **6956-3 Tempur-Pedic® Comfort Hip Pad, Large (2)**	The Large Hip Pads are intended for use on larger patients, designed to fit further apart to allow for appropriate abdominal fallout. Two sets of large pads may be necessary for patients over 350 lbs (159 kg). The Pads are made of TEMPUR® material.
REF **6956-7 Tempur-Pedic® Comfort Thigh Pad, Left**	The Left Thigh Pad is intended for use on the patient's left side when lying prone. It is used in conjunction with the Hip Pad to provide additional support on the open frame. The Thigh Pad should abut the Hip Pad when positioned on the Trios® Spinal Frame. It is recommended that the Thigh Pad be removed when using the Leg Sling.

Pad Option	Description
REF **6956-6 Tempur-Pedic® Comfort Thigh Pad, Right**	The Right Thigh Pad is intended for use on the patient's right side when lying prone. It is used in conjunction with the Hip Pad to provide additional support on the open frame. The Thigh Pad should abut the Hip Pad when positioned on the Trios® Spinal Frame. It is recommended that the Thigh Pad be removed when using the Leg Sling.
REF **5939 Tempur-Pedic® Combination Hip/Thigh Pad Set**	The Combination Hip/Thigh Pads may be used in place of the Regular/Medium Hip Pads and Thigh Pads and are made of TEMPUR® construction. This pad set is one of two options meant for use with the Trios® Spinal Surgery Top.

5.3 Arm Board Options

The following arm board options are available for use with the Trios® Spinal Surgery Top. Arm boards are required for use with the Trios® Spinal Surgery Top, but the choice of a specific arm board option is at customer's preference.

Arm Board Option	Description
REF **5579 Articulating Arm Board with Pad and Arm Board Mounting Bracket (2 required)**	The Articulating Arm Boards provide support for the patient's arm when positioned prone on the Trios® Spinal Surgery Top. When in place, the Arm Board can be translated, articulated, raised, lowered, and laterally adjusted depending on the positioning needs of the patient. The Ball Joint controls the articulation of the Arm Board, which may be required for positioning a patient with decreased shoulder or arm range of motion. The 1-inch (2.5 cm) pad is made of TEMPUR® construction.
REF **5376 Translating Arm Boards (2 required)**	The Translating Arm Boards provide support for the patient's arm when positioned prone on the Trios® Spinal Surgery Top. When in place, the Arm Board can be translated, raised, or lowered, depending on the positioning needs of the patient. The 1-inch (2.5 cm) pad is made of TEMPUR® construction.

5.4 Trios® Spinal Surgery Top Patient Care Kits

Each individual Trios® Spinal Surgery Top ProneView® Patient Care Kit includes the following:

- ProneView® Cushion Insert
- Chest Pad Cover
- Pair of Hip Pad Covers
- Pair of Thigh Pad Covers
- Pair of Foam Arm Cradles

WARNING: Patient Care Kits are single use-only. Discard after use. Re-use of any component in the Patient Care Kit may result in cross contamination.

The components should be used as described in the Patient Care Kit instructions for use, which are included in each packaged kit. The Trios® Spinal Surgery Top ships with three (3) individual Trios® Spinal Surgery Top ProneView® Patient Care Kits. A case of six (6) individual kits is provided when ordering REF 5808PV.

The ProneView® Patient Care Kit works with the provided ProneView® Helmet and Mirror System. The system is designed by the manufacturer to support the patient's head while in a prone position. Additionally, the position of the patient's facial alignment with the ProneView® Helmet can be readily viewed while he/she is in the prone position.

NOTE: *Remove the Patient Care Kit components from the packaging and visually inspect the components. The ProneView® Cushion Insert should be opened 60 minutes prior to use and the Arm Cradles should be opened 20 minutes prior to use for complete expansion of the foam.*

NOTE: *The Trios® Spinal Surgery Top Adjustable Mirror Platform is a rectangular shaped device with a square-shaped mounting post pattern. The Trios® Spinal Surgery Top Adjustable Mirror Platform is mounted directly onto the rails of the Trios® Spinal Surgery Top, and secured in place with a rod.*

6 Installing and Removing the Trios® Spinal Surgery Top

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: *Before using the Trios® Spinal Surgery 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 additional 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 19).
7. Confirm the Level indicator light is illuminated green (Figure 19). 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 19: Head-End Assembly with Level Indicator Light Illuminated

6.2 Installing the Trios® Spinal Surgery Top

NOTE: *Only Mizuho OSI Bases and accessories have been tested an approved for use with the Trios® Spinal Surgery Top. Other manufacturers' products have not been tested for proper performance when used with the Trios® Spinal Surgery 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® Spinal Surgery 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.

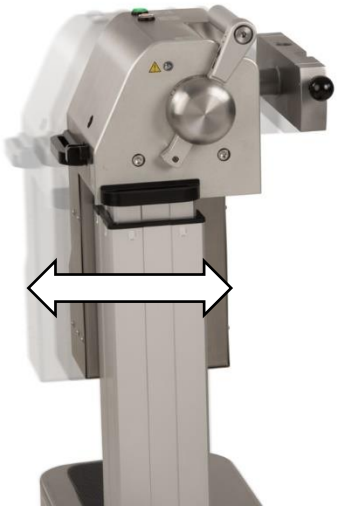


Figure 20: Movement of Slide Assembly

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.

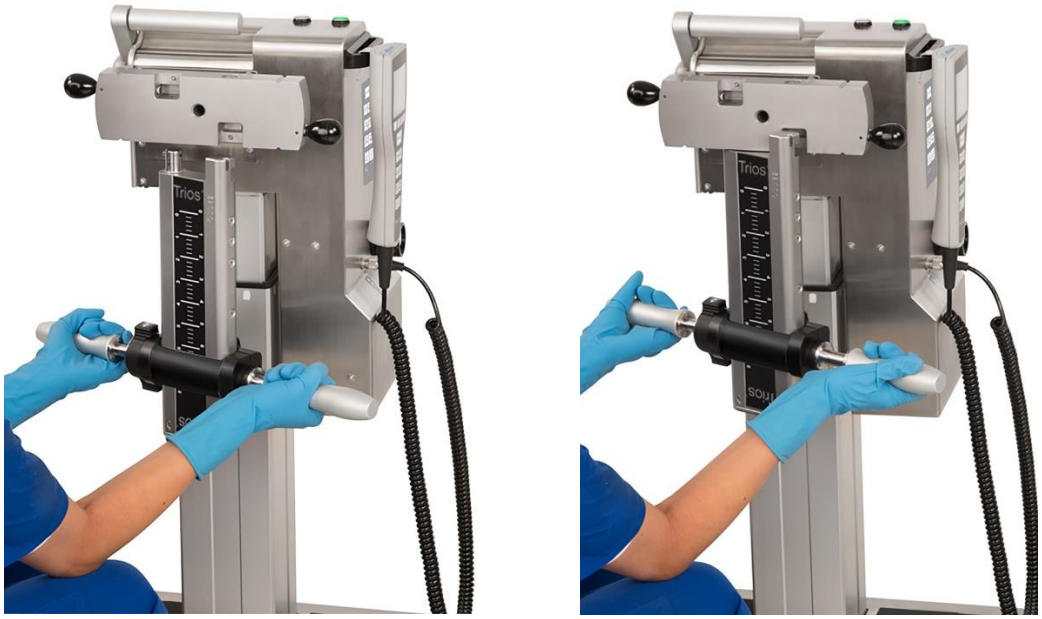


Figure 21: Aligning and Inserting Tower in to Slot on Underside of Crossbar

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



Figure 22: Tower Secured to Underside of Crossbar

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

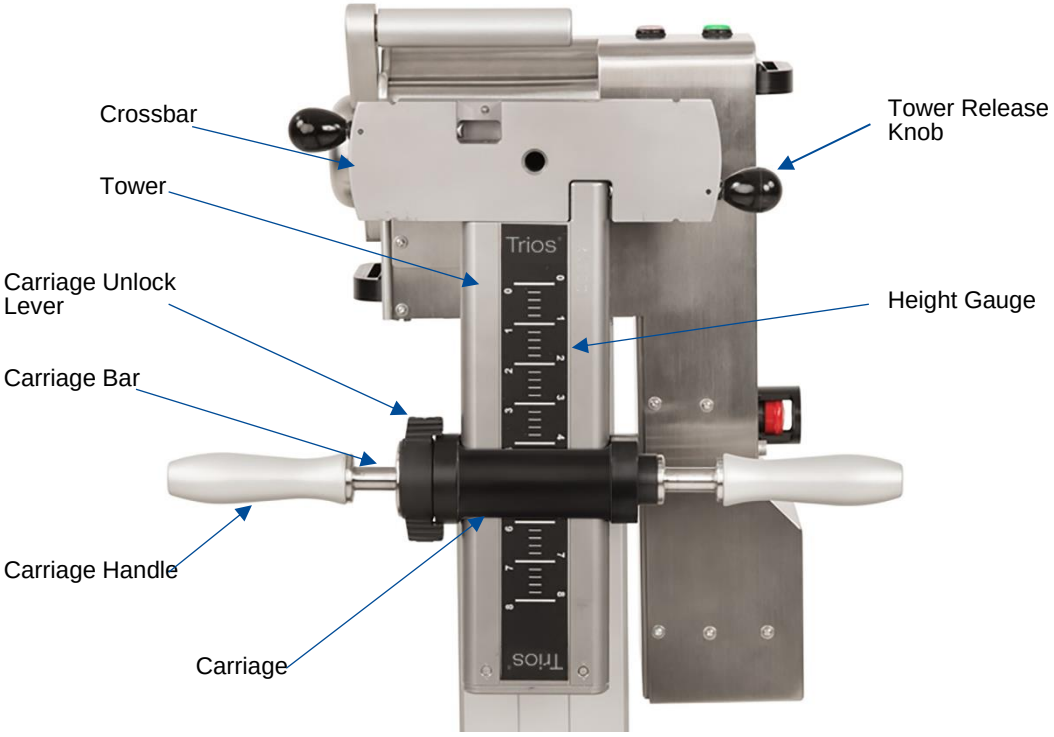


Figure 23: Tower Components

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 24: 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 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.

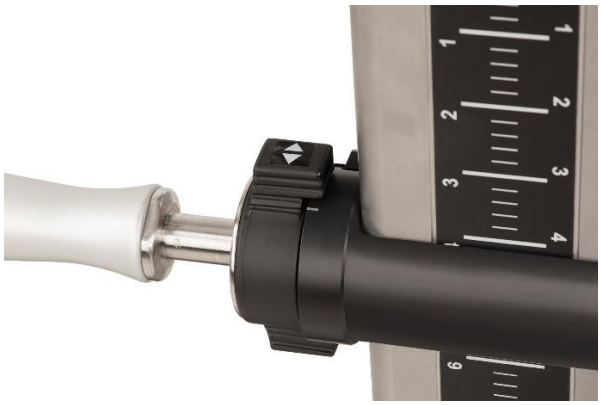


Figure 25: Carriage Unlock Lever in Locked Position

c. Verify that the Carriage is secure in its new 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 healthcare professional.

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® Spinal Surgery 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. Failure to do so may make the patient unstable during lateral rotation.

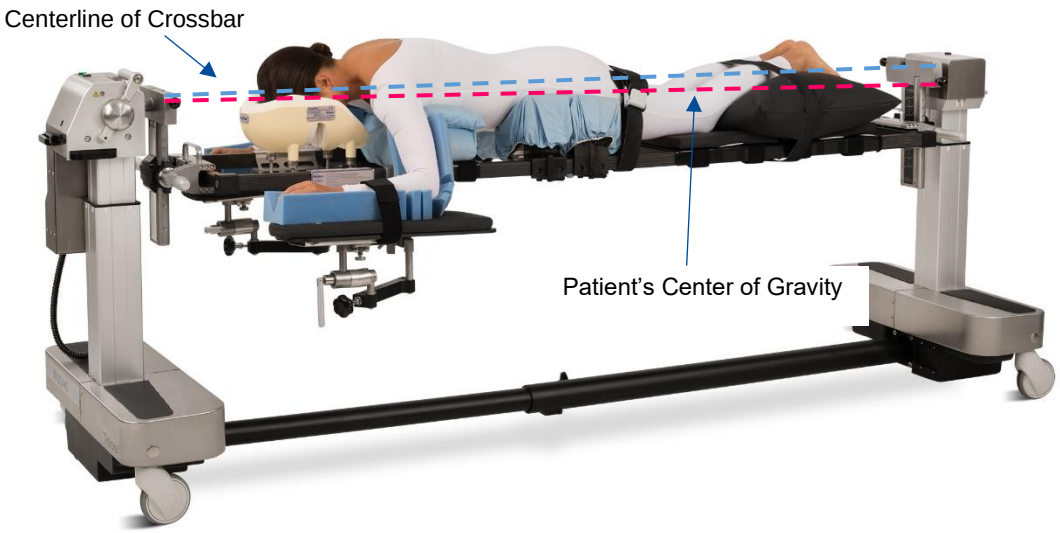


Figure 26: Patient's Center of Gravity Shown in Relation to the Centerline of Crossbar

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 27) 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 27: Mounting Hooks on Trios® Spinal Surgery Top



Figure 28: 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 (Figure 20). Carefully lower the Head-End of the table top and secure the Mounting Hooks on the Head-End Carriage Bars (Figure 29). Lift sharply on both Fixed Table Top Handles.

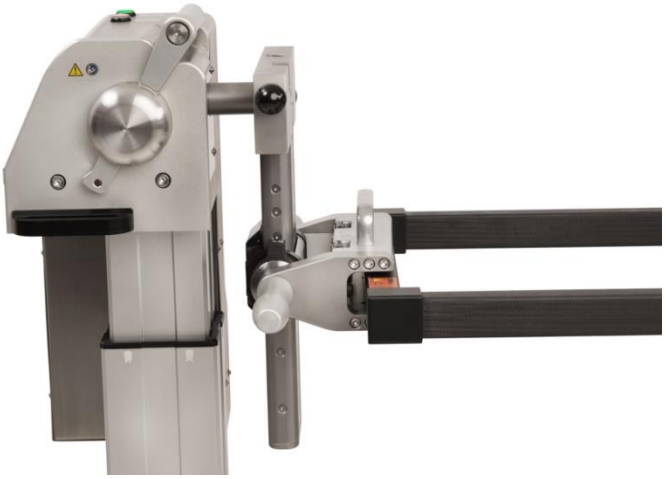


Figure 29: Mounting Hooks Secured to Carriage Bars

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.*

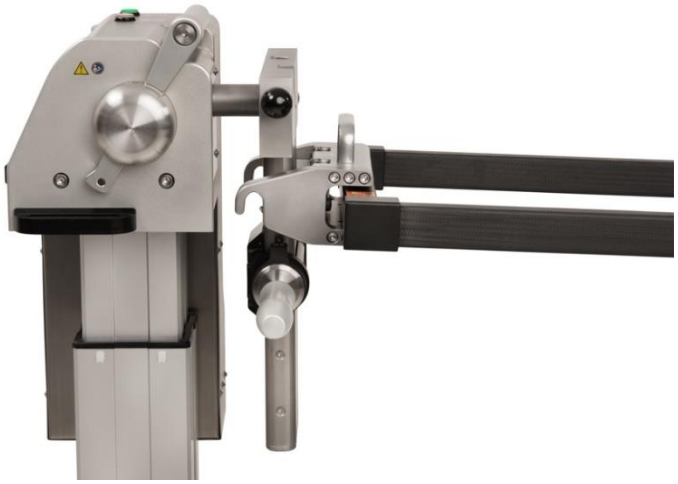


Figure 30: Overshooting the Mounting Hooks Beyond the Edge of the Carriage Bars

8. The table top is now properly mounted to the Trios® Table Base (Figure 31).



Figure 31: Trios® Spinal Surgery 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 Removing the Trios® Spinal Surgery Top

To remove the Trios® Spinal Surgery Top from the Trios® Table Base:

1. One person should hold the Table Top Handle at the Head-End, while a second person holds the 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 32: 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 Table Top Release Levers to prevent accidental release of the table top from the Tower during the 180 Degree Rotation Sequence. (See Section 8 for more information.)*

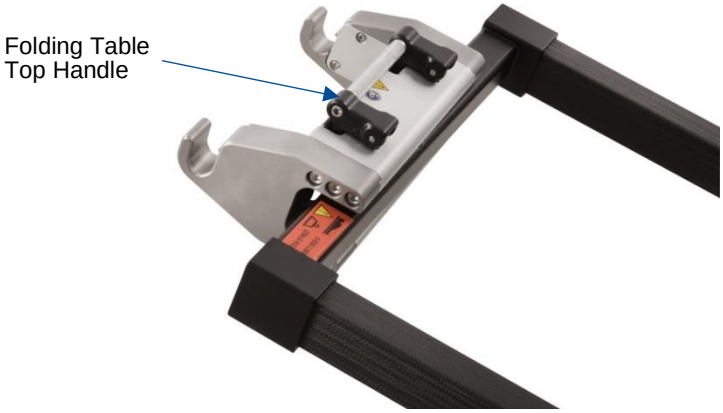


Figure 33: Folding Table Top Handle

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 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 34: Tower Unlocked and Rotated Slightly

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

7 Trios® Spinal Surgery Table Prone Patient Positioning

NOTE: *This device is intended for use by trained personnel only. Prior to setup and use of the Trios® Spinal Surgery Top and Trios® Table Base, ensure that 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: *Upon installing the Trios® Spinal Surgery Top on the Trios® Table Base, the Table is ready for installation of the components required for prone positioning prior to patient transfer. Components have been designed specifically to mount on the carbon-fiber frame, while safely supporting the patient and not damaging the frame.*

NOTE: *Only Mizuho OSI Bases and accessories have been tested and approved for use with the Trios® Spinal Surgery Top. Other manufacturers' products have not been tested for proper performance when used with the Trios® Spinal Surgery 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.



Figure 35: Trios® Spinal Surgery Top with Components Mounted

The following instructions provide the recommended steps for setup. Final determination of patient positioning and setup is at the discretion of the surgeon and surgical team.

1. Confirm the Trios® Spinal Surgery Top and Trios® Table Base are prepared for setup (see Section 6). When the patient is positioned prone, his/her head is oriented toward the Head-End of the table.
2. Confirm the Floor Locks are locked and table casters do not rotate.
3. Open the following: the Patient Care Kit, the ProneView® Cushion Insert or GentleTouch® Face Pillow, and the package of Arm Cradles, and set aside.

NOTE: *The ProneView® Cushion Insert should be opened 60 minutes prior to use, while the GentleTouch® Face Pillow and Arm Cradles should be opened 20 minutes prior to use for complete expansion of the foam.*

4. To install the ProneView® Mirrored Platform, place the adjustable platform over the rails of the Trios® Spinal Surgery Top and secure it in place with the rod (Figure 36). Ensure that the adjustable posts are in the lowest position in preparation for patient transfer to the Trios® Spinal Surgery Top.



Figure 36: Installation of the ProneView® Mirror Platform

5. Place the ProneView® Cushion Insert into the ProneView® Helmet and within the tabs provided at the chin end of the ProneView® Helmet. Adjust the Cushion Insert openings to be centered relative to the ProneView® Helmet openings (Figure 37).



Figure 37: ProneView® Helmet with Cushion Insert

6. If using the Face Plate, release the Velcro® straps on both sides, and orient the Face Plate over the Trios® Spinal Frame in the desired location. Slide the Face Plate over the Frame until it sits on the Frame, and secure with the Velcro® straps (Figure 38).
7. Place the GentleTouch® Pillow on the Face Plate (Figure 38).

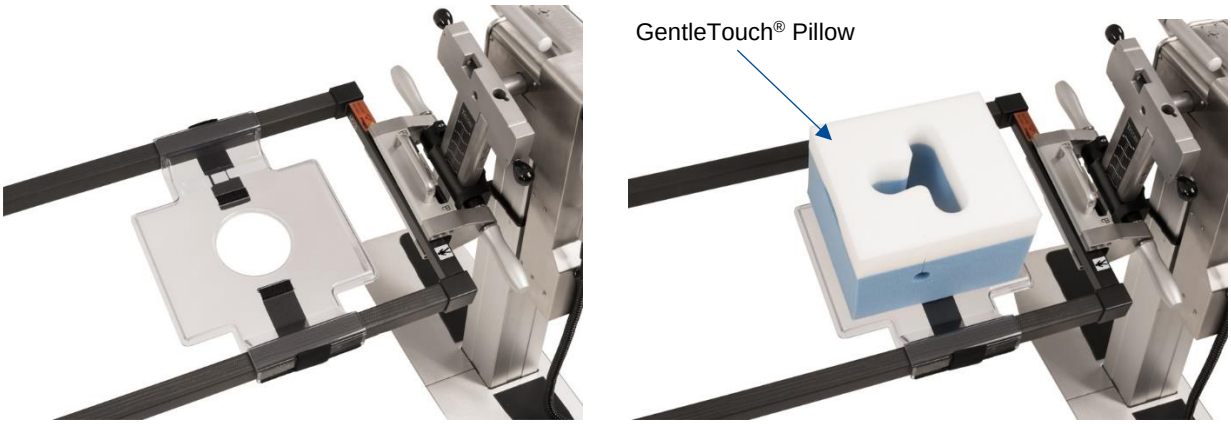


Figure 38: Face Plate Alone and with GentleTouch® Pillow

8. Install the Arm Board Brackets and Arm Board Assembly as follows:
   a. Slide the Arm Board Bracket onto the Trios® Spinal Surgery Top at the desired position and tighten the T-Handle. The Arm Board Brackets may be placed in front of or behind the ProneView® Mirror System or the Face Plate as needed to accommodate correct position of the patient's arms.
   b. Repeat this process with the second Arm Board Bracket.
   c. Place the Arm Board Assembly into the Bracket and tighten the T-Handle to secure the Arm Board Assembly in place (Figure 39).

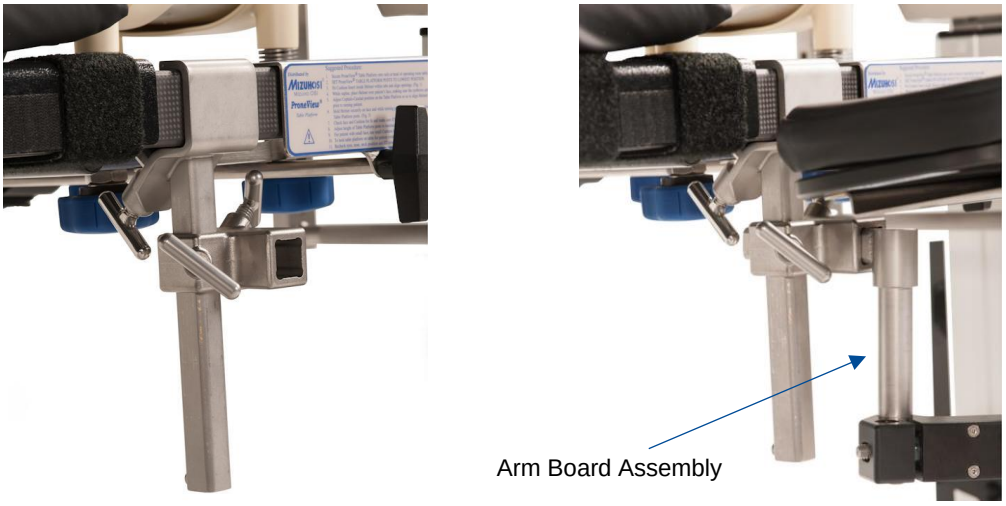


Figure 39: Arm Board Bracket Mounted and Arm Board Assembly Attached

9. Attach the Chest Support Plate by releasing the Velcro® straps on both sides and orienting the Chest Support Plate above the rails of the Trios® Spinal Frame in the desired location. Slide the Chest Support Plate over the Frame until it sits on the Frame, and secure with the Velcro® straps.
10. Attach the Mizuho OSI Tempur-Pedic® Medical Chest Pad to the Support Plate by aligning the Velcro® on the bottom of the Chest Pad with the Velcro® on the Support Plate (Figure 40). With ideal positioning the Chest Pad should support the patient such that the load is borne predominantly by the sternum. When the patient is positioned correctly, the top edge of the pad should rest below the patient's anatomical landmark, the supra-sternal notch.

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



Figure 40: Chest Pad Correctly Mounted to Trios® Spinal Frame

11. To install the Hip and Thigh Pads:

    a. Assess which of the three sizes – Small, Medium/Regular, or Large – is appropriate for the patient. The Hip Pads should support the patient and allow for abdominal fallout.

    b. For individuals weighing 350 pounds (159 kg) or less, take into consideration the patient's girth and weight when selecting the Pad size.

    c. For individuals weighing more than 350 pounds (159 kg), it may be necessary to purchase an additional set of Large Hip Pads so that two sets can be used together to support the patient properly.

⚠ **CAUTION: The choice of the proper pads used for any particular patient is the responsibility of the surgeon.**

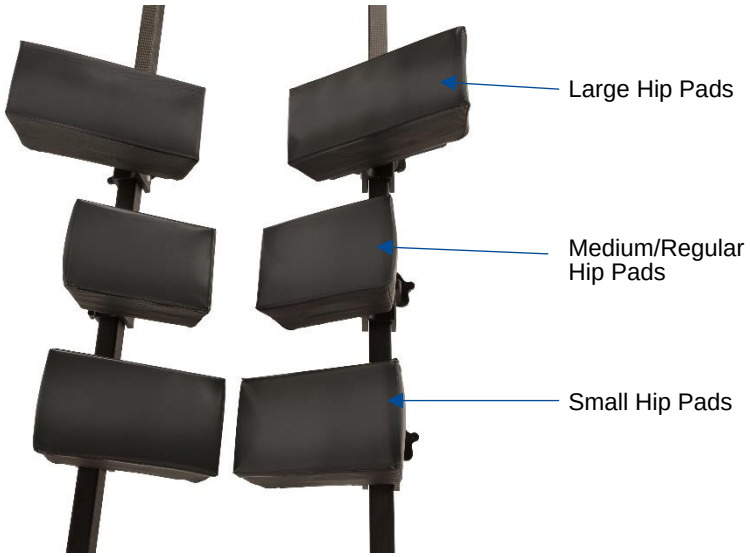


Figure 41: Comparison of Small, Medium/Regular, and Large Hip Pads

    d. Once the appropriate Hip Pads are selected, attach each Pad by opening the Locking Lever on the bottom of the Bracket, placing it directly over the Trios® Spinal Surgery Top, and sliding it into place (Figure 42). The Hip Pads are not side-specific. Lock the Locking Lever to secure it to the frame (Figure 42).



Figure 42: Pad with Locking Lever Open



Figure 43: Pad with Locking Lever Locked

NOTE: *When positioned correctly, the patient's anatomical landmark, the iliac crest, is centered on the Hip Pad.*

CAUTION: Failure to ensure that the patient is positioned correctly on the Hip Pad may result in harm to the patient or the device.

e. Attach the Thigh Pads. The Thigh Pads are labeled right and left specific to be oriented to the patient's right and left side when lying prone on the Trios® Spinal Surgery Top. When installed correctly, the arrow on the bottom of the Thigh Pad Bracket will point toward the Foot-End of the Base. Similar to the Hip Pad, open the Locking Lever on the bottom of the Bracket, orient the Thigh Pad and Bracket over the rail of the Trios® Spinal Surgery Top, lower into place and close the Locking Bracket. The Thigh Pads should be mounted on the Top such that they abut the Hip Pads (Figure 44).



Figure 44: Hip and Thigh Pads Correctly Installed

12. To install the Combination Hip/Thigh Pads (Figure 45):

a. Open the Locking Lever on the Pad Bracket, orient the Bracket over the rail of the Trios® Spinal Surgery Top, slide it into place and lock the lever.

b. When installed correctly, the arrow label should point towards the Foot-End of the Trios® Spinal Table System.



Figure 45: Set of Combination Hip/Thigh Pads

c. Ensure that the patient's anatomical landmark, the iliac crest, lies in the top third of the Pad to ensure proper support.

13. Attach the Leg Boards with the 1-inch (2.5 cm) Tempur-Pedic® Medical Pad. Release the Velcro® straps on the sides of the Leg Board. Place the Leg Board over the rails of the open frame and slide into place (Figure 46). Secure with the Velcro® straps. Repeat this process with the second Leg Board. Ensure that the two Leg Boards abut each other (Figure 47).



Figure 46: Leg Boards Placed over Rails



Figure 47: Leg Boards Properly Installed

14. The Leg Sling may be used in place of the Leg Boards to support the legs on the Trios® Spinal Surgery Top. Use of the leg sling allows for a greater degree of hip and knee flexion by allowing the patient's knees to be lowered below the spinal frame. When the sling is used, it is recommended that the thigh pads not be used.

15. To install the Leg Sling:

    a. Place the Sling over the frame at the Foot-End of the Trios® Spinal Surgery Top.

    b. Feed the four (4) straps through their respective buckles on the opposite side of the sling and secure. The hook end of the strap may be folded over onto the loop portion of the strap to allow for greater adjustability. The strap may also be folded over itself again to shorten it, thereby raising the sling and decreasing the hip flexion angle of the patient if desired.



Figure 48: Leg Sling Installed on Trios® Spinal Surgery Top

16. Place two (2) to three (3) REF 6946 or REF 6947 Tempur-Pedic® Medical pillows in the Leg Sling approximately where the patient's lower legs will rest to achieve the desired amount of flexion (Figure 49). Pillows may also be used with the Leg Boards.



Figure 49: Leg Sling with Hip Pads Only and Pillows

NOTE: *When the patient is positioned with the pillows and the Leg Sling, ensure that there is no pressure on the patient's anterior thighs. To achieve the desired position, you may need to reposition the patient's legs or adjust the pillows.*

⚠ **CAUTION: Failure to ensure that there is no pressure on the patient's anterior thighs when using the Leg Sling may result in harm to the patient.**

17. Place the Patient Kit Covers on the Chest, Hip, and Thigh Pads. Smooth the surfaces (Figure 50).



Figure 50: Trios® Spinal Surgery Top with Patient Care Kit

18. Trial position the imaging equipment if it will be used. If necessary, re-locate the Trios® Spinal Surgery Table in the room. Press the **Unlock Floor Locks** button on the IntelliPendant® to allow the table casters to freely rotate. With the assistance of a second person, move the Trios® Spinal Surgery Table. When the table is located where it will be used, lock the table casters by pressing the **Lock Floor Locks** button on the IntelliPendant®.

NOTE: *The Trios® Spinal Surgery Table 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.*

19. Conduct a safety check prior to transferring the patient to the table.
    a. Confirm the Floor Locks are locked and table casters do not rotate.
    b. Confirm the Towers are securely mounted to the Head-End and Foot-End Crossbars.
    c. 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 light is 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 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 light on the Head-End Column is not illuminated prior to patient transfer may result in harm to the patient, device, or healthcare professional.

20. Remove the Arm Board Assembly from the Arm Board Bracket on the patient transfer side of the table top. Alternatively, if using the Articulating Arm Board, you may articulate the Assembly below the table and out of the way such that it does not interfere with the patient transfer.
21. Position the patient bed or stretcher so the patient's anatomical landmarks are aligned with the support Pads on the Trios® Spinal Surgery Top. It may be necessary to re-position a pad or component on the frame to align with the patient's anatomical landmarks.
22. The height of the patient bed or stretcher should be level with the top of the Hip Pads. To assist the patient transfer process, you may choose to use the IntelliPendant® and tilt the table toward the patient bed or stretcher by pressing **Lateral Tilt, Left or Right**.
23. Lock the patient stretcher or bed. Confirm that the Floor Locks on the Trios® Table Base are locked and table casters do not rotate.
24. Place the ProneView® Helmet with Cushion Insert on the patient's face. Ensure that the patient's eyes are visible. With the assistance of others, log-roll the patient onto the Trios® Spinal Surgery Table, supporting the patient's head, torso, and legs.
25. After log-rolling the patient to a prone position and onto the adjustable Mirror Platform on the Face Plate, verify there is adequate clearance between the patient's nose and the mirror, and verify the endotracheal tube is not kinked.

CAUTION: Failure to confirm the positioning of the patient and patient tubes may cause harm to the patient.

26. Continue to support the patient on the table until the safety straps are in place. DO NOT leave the patient unattended on the table.

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

27. Remove the patient bed or stretcher while supporting the patient on the Table.
28. Using the IntelliPendant®, press the appropriate **Lateral Tilt** button until the Table is level side to side and the Level indicator is illuminated green.
29. Install the Arm Board on the patient transfer side of the table (Figure 39). Position the patient's arms in the Arm Cradles and on the Arm Boards. Final positioning of the patient's arms should be completed after confirming the patient's orientation on the Chest and Hip and Thigh Pads.
30. Confirm that the patient's face is seated in the Cushion (Figure 51). The eyes should be visible in the mirror, and the neck should be in a neutral position. Raise the height of the ProneView® Helmet until a neutral neck position is achieved by turning the posts on the mirror platform. There is 2.5-inch (6.4 cm) range of height adjustment available.

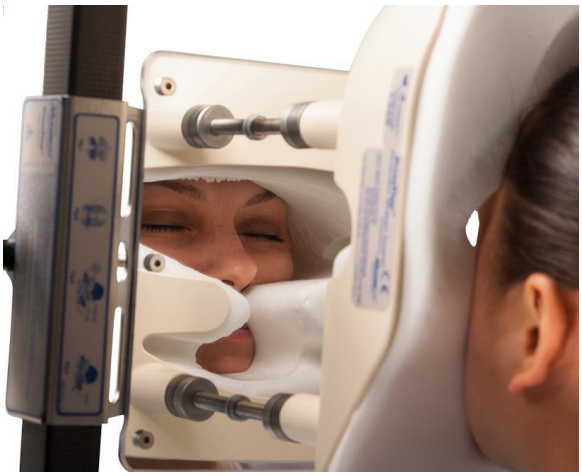


Figure 51: Patient Positioned Properly in ProneView® Helmet

31. Visually confirm the placement of the Chest Pad. When positioned correctly, the edge of the Pad should rest at the patient's anatomical landmark, the supra-sternal notch (Figure 52). Breasts should be down and lying flat, with the nipples oriented towards the Foot-End of the table. The Patient Kit Chest Pad Cover should be smooth against the patient's skin. Ensure that the patient's skin is smooth and positioned flat against the cover. If necessary, re-position the Chest Pad. While lifting and supporting the patient, release the Velcro® straps of the Chest Pad, move to desired location, secure the Velcro® straps, and smooth the Chest Pad Cover. The patient should then be lowered back onto the Chest Pad (Figure 53).

NOTE: *With ideal positioning, the Chest Pad should contact the patient such that the load is borne predominantly by the sternum.*

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



Figure 52: Example of Patient's Supra-Sternal Notch



Figure 53: Proper Upper Body Patient Positioning

32. Visually confirm the placement of each Hip Pad. When positioned correctly, the patient's anatomical landmark, the iliac crest, should be centered on the Pad. The Patient Kit Hip Pad Cover should be smooth against the patient's skin. Ensure that the patient's skin is smooth and flat against the Patient Kit Hip Pad Cover. If necessary, re-position the Pad. To re-position, the patient should be lifted and supported, the Locking Bracket of the Pad opened, and the Pad moved. Lock the Bracket, smooth the Hip Pad Cover, and then lower the patient back onto the Pad. Confirm correct placement of the Pads such that the each of the patient's iliac crests is centered on the respective Hip Pad (Figure 41).
33. Visually confirm the Thigh Pads are abutting the Hip Pads. Re-position the Thigh Pads if necessary. Visually check and ensure that the Patient Kit Cover is smooth against the patient. Ensure that the patient's skin is smooth and flat against the Patient Kit Thigh Pad Covers.

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

34. Visually confirm that the position of the Leg Boards provides support to the patient's legs such that they are extended and the knees are supported in the middle of the upper Leg Board. 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. Re-position the Leg Boards if necessary (Figure 54).

⚠ CAUTION: Failure to ensure that the patient is positioned correctly on the Leg Board may result in harm to the patient or the device.

35. If using the Leg Sling, ensure that there is no pressure on the patient's anterior thighs. Reposition the patient's legs or adjust the pillows to achieve the desired position.

36. Place the Buttocks Strap across the lower gluteal area of the patient such that it surrounds both hips and the buttocks. A blanket may be used under the Buttocks Strap to protect the patient from direct contact with the Strap. Confirm that the Buttocks Strap is positioned low on the gluteal area and is secured snugly around the buttocks. Ensure that the patient does not directly contact the frame of the table. Use foam or gel padding as needed to pad the area between the patient and the rails of the frame.

37. Apply the 60-inch Safety Strap over the patient's lower legs and around the table top. Secure the Safety Strap in place with use of the buckle. A 90-inch Safety Strap may be secured around the patient's torso, Chest Pad, and table top if desired. Secure the Safety Strap in place with use of the buckle.

NOTE: *The placement and location of the Straps are at the discretion of the surgeon and vary by procedure.*



Figure 54: Proper Lower Body Patient Positioning 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.*

38. Position the patient's arms and adjust the Arm Boards as needed. Support the arms in the foam Arm Cradles. The V of the Cradle should rest against the inside of the patient's elbow. Translate, raise, lower or articulate the Arm Board as needed and then secure in place (Figure 55).

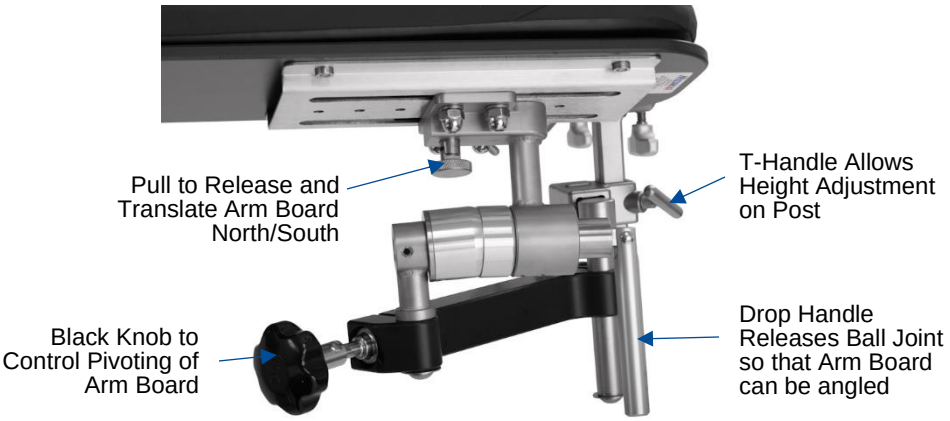


Figure 55: Articulating Arm Board Functionality

39. Confirm that all the T-Handles and the Drop Handle are tightened. Confirm that the patient's arms are positioned so there is no more than 90 degrees flexion at the shoulder and no more than 90 degrees flexion at the elbow. Use the Velcro® Arm Board Straps provided to secure the arms (Figure 56).

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



Figure 56: Final Prone Patient Positioning

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 Spinal Surgery Table using the Height Up/Down, Trendelenburg/Reverse Trendelenburg, and Lateral Roll functions to ensure that neither the patient nor the table interferes with other equipment. Failure to do so may cause harm to the patient or device.

40. Confirm that the patient is in their final position. An optional accessory, the Retractor Adapter, provides 6 inches (15.2 cm) of side rail and is required for mounting ancillary equipment onto the carbon fiber frame (see Section 10). To install it, place the Bracket over the rail of the Trios® Spinal Surgery Top at the desired location, slide it into place, and tighten the T-Handle. Adjust the positioning of the side rail as needed and tighten the T-Handle to secure it in place. Ensure that the patient does not come in contact with the Retractor Adapter at its designated location. Use foam or gel padding as needed to pad the area between the patient and the adapter.

7.1 Components Used for Prone Patient Positioning

Trios® Spinal Surgery Top  REF **7803-574**	Towers (2)  REF **7803-579**	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 required): *Option 1*  REF **5579**	Translating Arm Board (2 required): *Option 2*  REF **5376**
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**	Trios® Spinal Surgery Top ProneView® Patient Care Kit  REF **5808PV**
Trios® Spinal Surgery Top Table Cover  REF **7803-320**	Equipment Cart  REF **7803-500**	Optional Accessory  REF **5808** **Trios® Spinal Surgery Top GentleTouch® Patient Care Kit**
Optional Accessory	Optional Accessory	

 REF **5888** **Retractor Adapter**	 REF **6946 Standard** REF **6947 Queen** **Mizuho OSI Tempur-Pedic® Medical Positioning Pillows**	

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® Spinal Surgery Top in conjunction with the Trios® Radiolucent Imaging 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 7943 Trios® Spinal Surgery Top, the REF 7927 Trios® Radiolucent Imaging 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 NW0787 Trios® Radiolucent Imaging 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 57).

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 57: 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 lights 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 58).



Figure 58: 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.

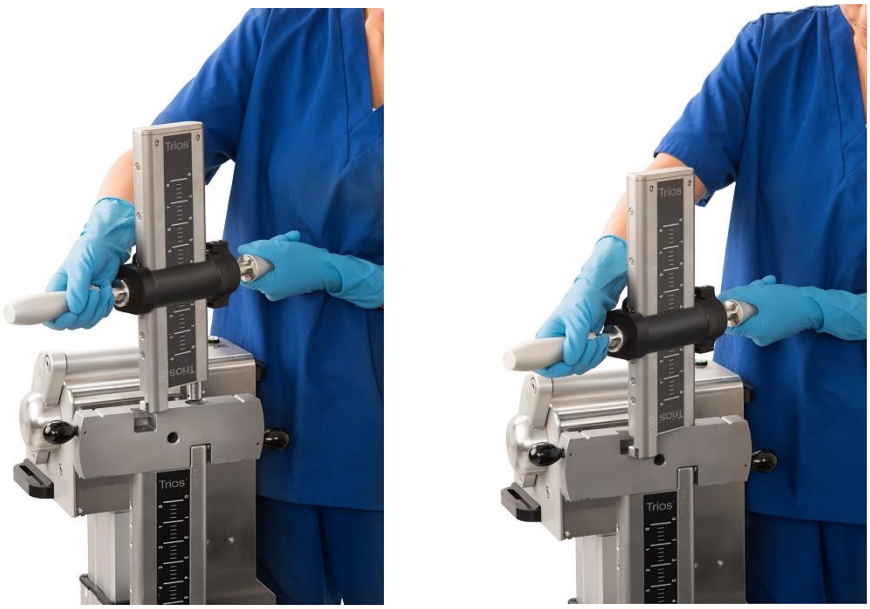


Figure 59: Aligning and Inserting Tower into Slot on Top of Crossbar

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



Figure 60: 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 61: 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 62: 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 63). The open portion of the Mounting Hooks should be oriented just below the Carriage Bars when positioned correctly.



Figure 63: Proper Alignment of Mounting Hooks to Carriage Bars

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 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 64: 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 65: 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 that 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 66). 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 66).



Figure 66: 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 intubation 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 (Figure 67). 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 67).



Figure 67: 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 intubation 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."

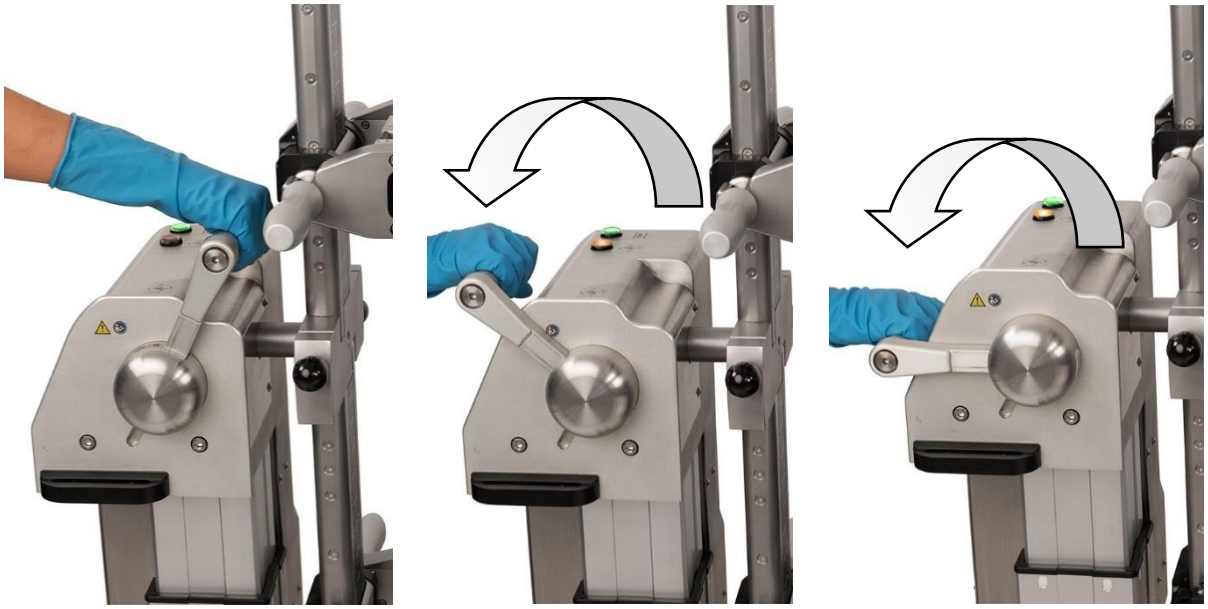


Figure 68: Unlocking the 180 Degree Rotation Lock

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 (the Level indicator on the Head-End Column is illuminated green) and in place 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.

WARNING: 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 69: 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 70: 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 71: 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 72: 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 73: 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 74: 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 up and sideways to remove it from the Base. When not in use, store the Trios® Radiolucent Imaging Top on the Equipment Cart.



Figure 75: 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 75). 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.*

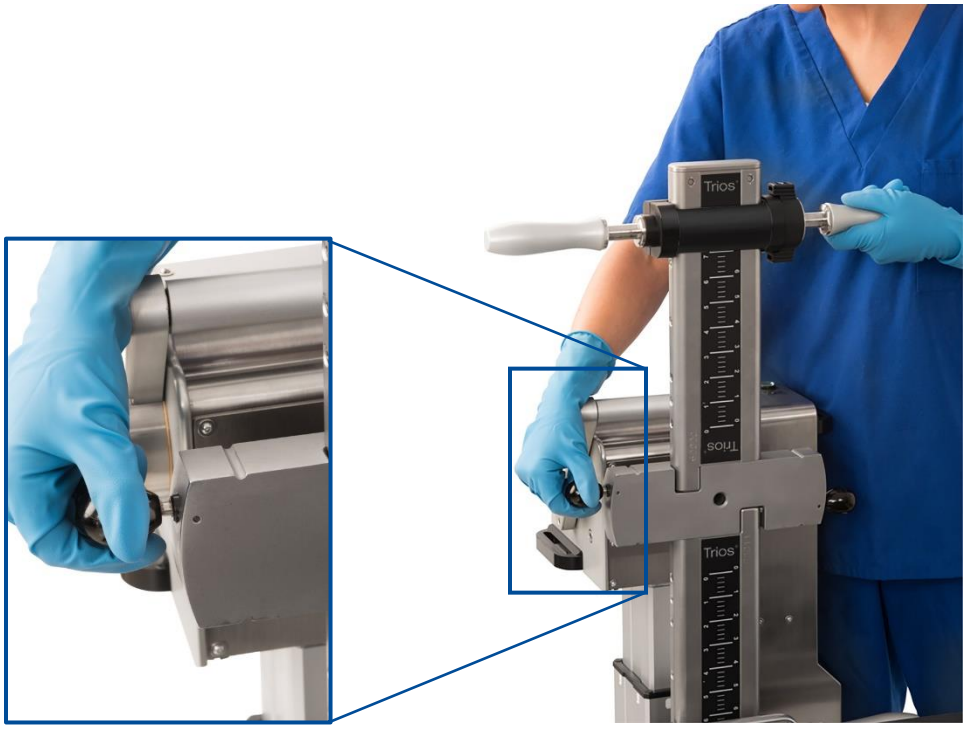


Figure 76: Release Knob for Upper Tower

   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 77: 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 78: 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 79: 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 neither the patient nor the table 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 Cervical Management with the Trios® Spinal Surgery Top

Several cervical management options exist for use with the Trios® Spinal Surgery Top. The Cervical Traction Vector Adjuster is a standard component provided with the Trios® Spinal Surgery Top, while the REF 5979-1 Cervical Management Base Unit and REF 7803-471 Coupler II are optional accessories.

9.1 Cervical Traction Vector Adjuster

The Cervical Traction Vector Adjuster is designed to provide adjustability of the angle and pull of cervical traction as well as to maintain alignment of the traction rope when skull tongs or a head halter is used. It can support a load of up to 60 lbs.



Figure 80: Cervical Traction Vector Adjuster

To use the Cervical Traction Vector Adjuster:

1. Place the Cervical Traction Vector Adjuster on the Head-End Tower at the desired height, and press the latch to secure the clamps to the Tower.

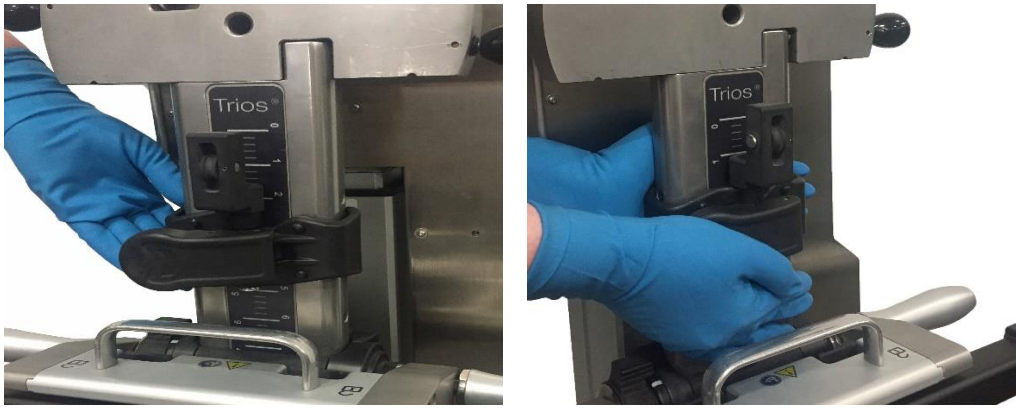


Figure 81: Attaching the Cervical Traction Vector Adjuster to the Head-End Tower

NOTE: *The mounting height chosen depends on the surgeon's preference, based on the angle at which he or she chooses to orient the traction rope.*

2. Attach the traction rope to the desired traction weight to be used.
3. Press the Traction Release Button to release the Traction Pulley on the Pivot Assembly of the Head-End Column (Figure 82).



Figure 82: Releasing the Traction Pulley

4. Pass the traction rope over the Traction Pulley Assembly and thread through the Pivot Shaft of the Head-End Crossbar (Figure 83).

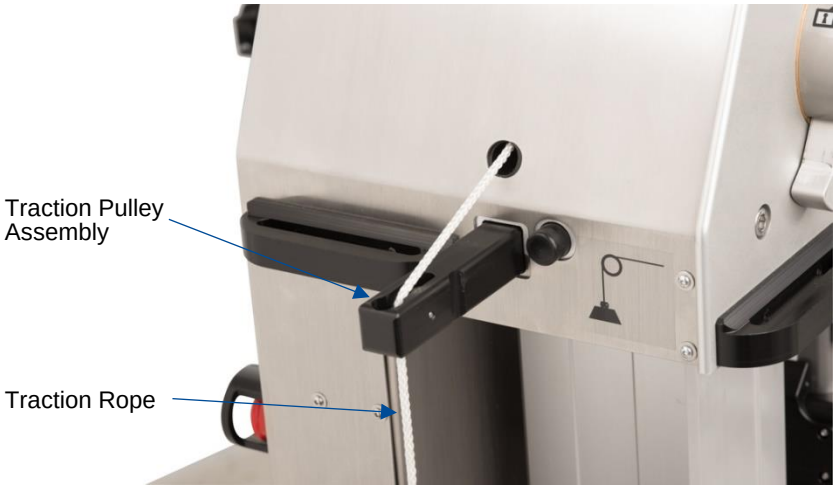


Figure 83: Traction Rope Threaded over the Traction Pulley Assembly

5. Run the rope behind and under the Cervical Traction Vector Adjuster and connect it to the patient traction device (Figure 84).

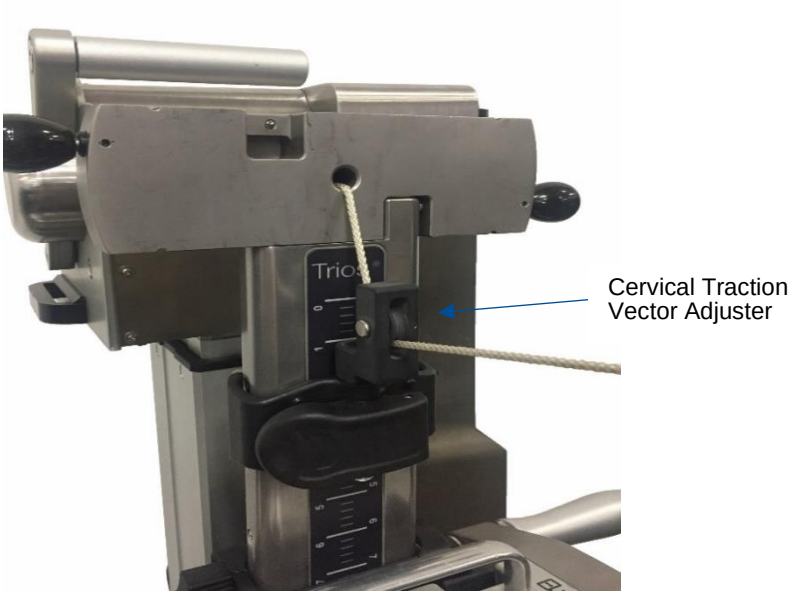


Figure 84: Proper Setup of Rope with Cervical Traction Vector Adjuster with Rope and Weight

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

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.

To remove the Cervical Traction Vector Adjuster:

1. Pull the latch on the Cervical Traction Vector Adjuster to unlock it from the Head-End Tower and remove.
2. Ensure that the Cervical Traction Vector Adjuster is cleaned properly (see Section 11.1) and return it to its storage location on the Equipment Cart.

9.2 Coupler II

The Coupler II used on the Trios® Spinal Surgery Top is designed to support the use of a skull clamp in posterior cervical cases. A pair of Spinal Top Adapter Brackets is also required to use the Coupler II on the Trios® Spinal Surgery Top.

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

The following instructions provide the recommended steps for set-up. Final determination of patient positioning and set-up is at the discretion of the surgeon and the surgical team.

To prepare the Coupler II for mounting on the Trios® Spinal Surgery Top:

1. Ensure that the knob that will secure the Coupler Crossbar in place is loosened prior to advancing the Crossbar so that the Crossbar advances freely. Align the Crossbar with the opening in the Main Assembly and slide the Crossbar through the Yoke until it is centered. Tighten the knob securing the Crossbar in the Yoke. Refer to the Mizuho OSI Owner's Manual provided with the Coupler II for detailed information on the Coupler II Main Assembly.
2. Attach a Spinal Top Adapter Bracket to each end of the Crossbar. Orient the C-shaped openings of the Brackets so that they face the same direction. This will allow the Coupler II to be more easily mounted on the Trios® Spinal Surgery Top. Tighten the oversized T-Handles to secure the Brackets on the Crossbar (Figure 85).



Figure 85: Tightening Oversized T-Handles

To mount the Coupler II on the Trios® Spinal Surgery Top:

1. Ensure that the T-Handles adjusting the C-shaped openings of the Brackets are completely unscrewed. Support the Coupler II and approach the Trios® Spinal Surgery Top from below. Raise the Assembly until the Spinal Top Adapters can slide into place on the rails of the Top (Figure 86).



Figure 86: Attaching Coupler II to the Trios® Spinal Surgery Top

2. Tighten the T-Handles on each Bracket, securing each Bracket to the Trios® Spinal Surgery Top.

3. With the Coupler II Assembly mounted on the Trios® Spinal Surgery Top, adjustments can be made to the location of the Assembly on the Top and to the position of the adapter to which the skull clamp or horseshoe headrest is connected.
4. To re-locate the Coupler II Assembly along the Top, loosen the T handles securing the Brackets and slide the Assembly on the frame toward the Head-End or the Foot-End of the Trios® Table Base until the desired location is reached. Tighten the T handles.
5. Confirm that the Trios® Table Base with the Trios® Spinal Surgery Top installed is prepared for setup (see Section 6).
6. Prior to use, ensure that the Coupler II is assembled properly and correctly mounted on the Trios® Spinal Surgery Top by confirming the following:
   a. All T-Handles securing the Adapter Brackets are tightened.
   b. The teeth of all the starbursts are aligned and fully engaged, and the corresponding knobs can be turned to loosen or tighten as required.
7. The Coupler II is now prepared for an Aluminum DORO® or Mayfield® Skull Clamp to be attached (Figure 87). A radiolucent Skull Clamp may also be used with use of the appropriate adapter.

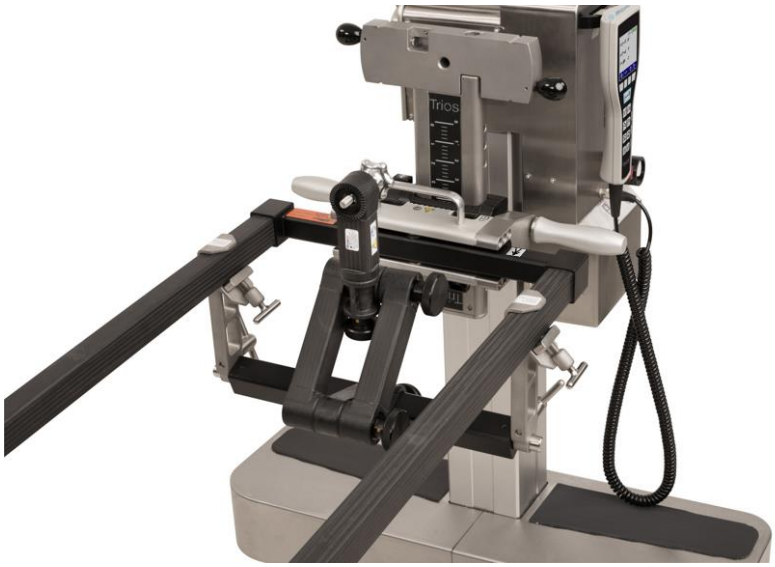


Figure 87: Coupler II Installed on Trios® Spinal Surgery Top

9.3 Cervical Management Base Unit

The Cervical Management Base Unit is designed for use with the Trios® Spinal Surgery Top and Trios® Radiolucent Imaging 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. Lift the Cervical Management Base Unit, and place the top of the Table Adapter Assembly over the top of the Head-End Crossbar and lower it into place (Figure 88).



Figure 88: Mounting the Cervical Management Base Unit on the Crossbar of the Trios® Table Base

2. Align the Base Unit so that it is seated in the two notches on the top of the Head-End Crossbar and secure it by tightening the two T-Handles.
3. When mounted correctly, the Adapter Assembly should be securely seated and the Traction Pulley aligned with the center of the Crossbar (Figure 89).

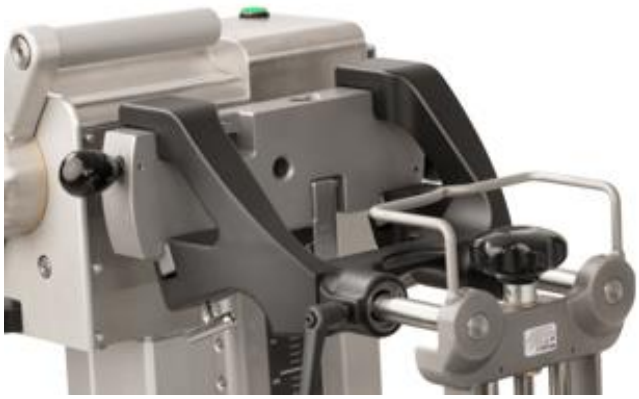


Figure 89: Orienting Table Adapter Assembly, with Traction Pulley Central to the Crossbar

4. 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 top or the Crank Handle at the base 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.

5. Confirm that the Trios® Table Base with the Trios® Spinal Surgery Top already installed is properly prepared for set-up (see Section 6).
6. Prior to use, ensure that all teeth of the starburst are aligned and the corresponding knobs are properly tightened.
7. 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 (Figure 90). Tighten the Drop Handle to secure the Swivel Adapter in place. A radiolucent Skull Clamp may also be used with the appropriate adapter.



Figure 90: Cervical Management Base Unit Mounted on Crossbar

NOTE: *Skull Clamps and Horseshoe Headrests 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.

9.4 180 Degree Rotation with Cervical Management Base Unit

NOTE: *The surgeon decides if the patient is to be rotated from supine to prone while positioned with a Skull Clamp mounted to the Cervical Management Base Unit.*

NOTE: *A thorough understanding of the use of the Trios® Spinal Surgery Top, the Trios® Radiolucent Imaging Top, the Trios® Table Base, and the 180 Degree Patient Rotation Procedure as well as the Cervical Management Base Unit is required prior to use and patient transfer. For complete instructions on preparing the Trios® Surgical Table System for a 180 Degree Patient Rotation, refer to Section 8 of this Owner's Manual.*

⚠ **CAUTION: Failure to follow the instructions detailed in Section 8 may cause harm to the patient, healthcare professional, or device.**

1. Mount the Cervical Management Base Unit on the Trios® Table Base and position it to support a patient positioned supine on the Trios® Radiolucent Imaging Top. (Refer to the Cervical Management Base Unit Owner's Manual for details on setup.)
2. Transfer the patient to the Trios® Radiolucent Imaging Top.
3. Attach the Skull Clamp to the patient and to the Cervical Management Base Unit.
4. Set up the Trios® Spinal Surgery Top with the pads and components to support the patient in the prone position as outlined in Section 8.1. Store the Trios® Spinal Surgery Top on the Equipment Cart until needed.
5. At the time the rotation will be performed, install two Upper Towers, one on top of the Head-End Crossbar and one on top of the Foot-End Crossbar.
   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.

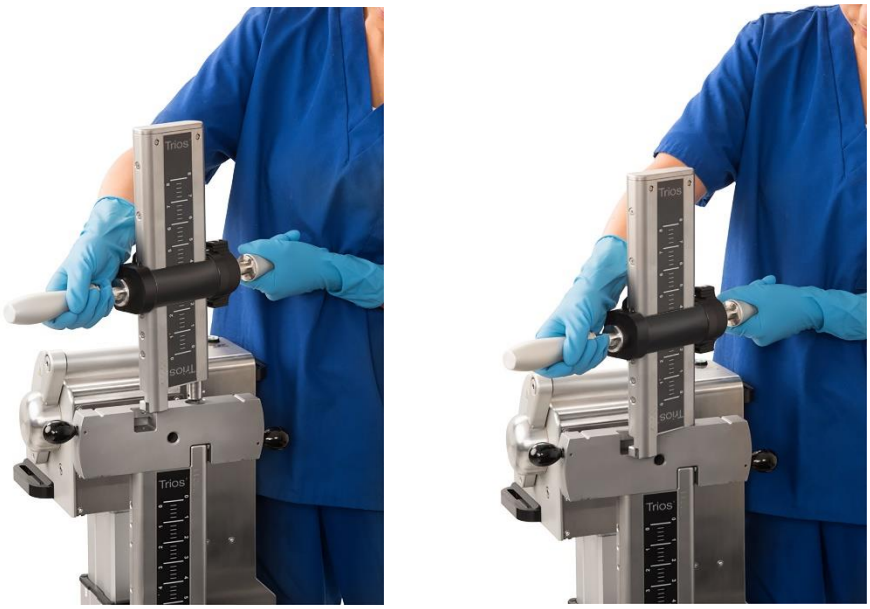


Figure 91: Aligning and Inserting Tower into Slot on Top of Crossbar

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



Figure 92: Upper Tower Installed on Head-End Crossbar

6. 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 93: Unlocking the Carriage Unlock Lever

   b. Slide the Carriage up 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. If necessary, manually rotate the lever to the locked position prior to releasing the Carriage Handles.



Figure 94: Carriage Unlocked Lever in Locked Position

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

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

d. 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, the Folding Table Top Handles are visible, and the 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 63). The open portion of the Mounting Hooks should be oriented just below the Carriage Bars when positioned correctly.

e. 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.

f. 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 Head-End and Foot-End to ensure that the table top is securely attached.

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.

7. Confirm that each component and pad is aligned with the corresponding anatomical landmarks on the supine patient as outlined in Section 8. Adjust the position of the components or Pads as necessary to ensure proper placement and support of the patient when rotated.
8. If Arm Boards will be used when the patient is positioned prone, then confirm that the Arm Board Brackets are secure and ready to accept the Arm Board Assemblies after the rotation.
9. Remove the Pivoting Arm Boards mounted on the Trios® Radiolucent Imaging Top and remove the Trios® Universal Side Rail Adapters prior to beginning the rotation sequence.

10. The surgeon confirms orientation of the Cervical Management Base Unit by ensuring the T-Handles of the Table Adapter Assembly, Knobs of the Transitional Arms, Drop Handle of the Swivel Adapter, and Locking Lever of the Horizontal Slide are secure and the patient is positioned properly for the 180 Degree Rotation.
11. Complete the 180 Degree Rotation as instructed in Section 8.
12. Immediately following the completion of the 180 Degree Rotation, the surgeon should support the patient's head and Skull Clamp as needed until final patient positioning on the pads and components is achieved.

NOTE: *Height adjustment of the Yoke Assembly Slide may be required to maintain the desired position when using the Trendelenburg or Reverse Trendelenburg function of the Trios® Table Base.*

⚠ CAUTION: Failure to adjust the height of the Yoke Assembly Slide to maintain the desired position when using the Trendelenburg or Reverse Trendelenburg function of the Trios® Table Base may cause harm to the patient, healthcare professional, or device.

13. The surgeon verifies that the T-Handles of the Table Adapter Assembly, Knobs of the Transitional Arms, Drop Handle of the Swivel Adapter, and Locking Lever of the Horizontal Slide are secure following the rotation and the patient is positioned for the procedure.
14. Complete final positioning of the patient per the instructions in Section 8.6.
15. If the patient's arms are to remain at his/her sides, ensure that the arms are safely positioned and secured in place.

⚠ CAUTION: Failure to ensure that the patient is supported and positioned properly as outlined in Section 7 of this Owner's Manual may result in harm to the patient, healthcare professional, or device.

16. The patient has been rotated from supine on the Trios® Radiolucent Imaging Top to prone on the Trios® Spinal Surgery Top with a skull clamp in place utilizing the Cervical Management Base Unit.

9.5 Cervical Management – Components and Optional Accessories

Cervical Traction Vector Adjuster	Optional Accessory
	 
REF **7803-790**	REF **7803-471** **Coupler II Assembly, Full (includes 1 pair of Spinal Top Adapter Brackets)**

Optional Accessory  REF **5873-300** **Radiolucent DORO® Adapter for Coupler II**	Optional Accessory  REF **7803-457** **Complete 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 **5880-09** **Supine Operating Top, Short**
Optional Accessory  REF **6910-1001** **DORO® QR3 Aluminum Skull Clamp** REF **6910-4004** **DORO® Skull Clamp, Radiolucent, Spinal Frame**		

10 Trios® Spinal Surgery Top Optional Accessories

Many optional accessories are available for use on the Trios® Spinal Surgery Top.

To place an order for standard components or optional accessories, contact Mizuho OSI Sales Operations at 1-800-777-4674 within the USA or +1-510-429-1500 outside the USA. At the prompt, select Option 1.

NOTE: *If a part needs repair, contact Mizuho OSI Service (see Section 12).*

10.1 Optional Accessories

Accessory	Description
REF **5888** **Retractor Adapter**	The Retractor Adapter provides six (6) inches (15.2 cm) of side rail and is required for mounting ancillary equipment onto the carbon fiber spinal frame.
REF **5840-620** **Dual Chest Pads (1 pair)**	The Dual Chest Pads may be used in place of the standard single Chest Pad. They are right and left specific, provide increased lateral support and provide a larger surface area for contact with the patient. They may also provide a better option for a patient with breast implants.
REF **5321G** **Wilson Plus™ Radiolucent Frame for SST**	The Wilson Plus™ provides a convenient and stable method of maintaining patients in a flexed position for lumbar procedures. See Section 10.3.2 for more information.
Levó™ Head Positioning System	The Levó™ Head Positioning System is a modular accessory that provides head support and positioning when the patient is prone for cervical and other spinal procedures. See Section 0 for more information.
REF **7887-100 Prone**	Includes Levó™ Arm, Levó™ Lateral Base, and Levó™ Prone Platform.
REF **7887-200 Cervical**	Includes Levó™ Arm, Levó™ Dual Motion Base, Levó™ Control Handles, Tempur-Pedic® Contoured Chest Pad, Raised Chest Support Plate, and QuickConnect Skull Clamp Adapter (compatible with Aluminum Mayfield® or DORO® Skull Clamp).
REF **7887-300 Standard**	Includes Levó™ Arm, Levó™ Dual Motion Base, Levó™ Prone Platform, Levó™ Control Handles, Tempur-Pedic® Contoured Chest Pad, Raised Chest Support Plate, and QuickConnect Skull Clamp Adapter (compatible with Aluminum Mayfield® or DORO® Skull Clamp).
REF **7887-400 Premium**	Includes Levó™ Arm, Levó™ Dual Motion Base, Levó™ Prone Platform, Levó™ Control Handles, Levó™ Z Tower, Tempur-Pedic® Contoured Chest Pad, Raised Chest Support Plate, and QuickConnect Skull Clamp Adapter (compatible with Aluminum Mayfield® or DORO® Skull Clamp).

Accessory	Description
REF **7803-457 Cervical Management Base Unit**	The Cervical Management Base Unit is designed for use specifically with the Trios® Surgical Table System and mounts on the Head-End Crossbar of the Trios® Table Base. The Cervical Management Base Unit allows positioning of a patient on the Trios® Spinal Surgery Top or the Trios® Radiolucent Imaging Top in both anterior and posterior cervical procedures as appropriate and uses a Skull Clamp for cranial stabilization or support. An aluminum Skull Clamp Adapter comes standard with this accessory.
REF **7803-456 Adapter for Cervical Management Base Unit**	The Adapter is designed to mount the Cervical Management Base Unit on the Crossbar of the Trios® Table Base.
REF **5880-09 Supine Operating Top, Short**	The Supine Operating Top is designed to mount directly on the Trios® Spinal Surgery Top and allows for supine patient positioning. This accessory increases the flexibility in patient positioning for supine cervical procedures on the open spinal frame.
REF **5979-300 Radiolucent DORO® Adapter for Cervical Management Base Unit**	The Radiolucent DORO® Adapter for Cervical Management Base Unit is required to attach a radiolucent DORO® Skull Clamp to this device.
REF **5979-200 Radiolucent Mayfield® Adapter for Cervical Management Base Unit**	The Radiolucent Mayfield® Adapter for Cervical Management Base Unit is required to attach a radiolucent Mayfield® Skull Clamp to this device.
REF **7803-471 Coupler II Assembly, Full**	The Coupler II is designed for use specifically with the Trios® Spinal Surgery Top and mounts to the frame using the Spinal Top Adapter Brackets, which are included in the full assembly. The Coupler II provides another Cervical Management option to allow for positioning of a patient on the spinal frame, utilizing either a skull clamp or horseshoe headrest for cranial stabilization or support.
REF **5873-300 Radiolucent DORO® Adapter for Coupler II**	The Radiolucent DORO® Adapter for Coupler II is required to attach a radiolucent DORO® Skull Clamp to this device.
REF **6910-1001 DORO® QR3 Aluminum Skull Clamp**	The Aluminum Skull Clamp provides rigid cranial stabilization when required for cervical spine surgery. This skull clamp can be used with the Levó™ Head Positioning System, the Cervical Management Base Unit, or the Coupler II using the respective aluminum skull clamp adapter that comes standard with each system.
REF **6910-4004 DORO® Skull Clamp, Radiolucent, Spine Frame**	The Radiolucent Spine Frame model of the DORO® Skull Clamp provides a radiolucent option for rigid cranial fixation when required for cervical spine surgery. This clamp is designed with a slimmer profile, allowing for a better fit within the Trios® Spinal Frame. This Skull Clamp can be used with the Levó™ Head Positioning System, the Cervical Management Base Unit, or the Coupler II using the appropriate radiolucent skull clamp adapter.
REF **6910-3006-2 Titanium Adult Skull Pins for DORO®**	These Skull Pins are compatible with the Radiolucent DORO® Skull Clamp.

Accessory	Description
REF **6910-3006-00 Stainless Adult Skull Pins for DORO®**	These Skull Pins are compatible with the Aluminum DORO® Skull Clamp.
REF **7803-500 Trios® Equipment Cart with Cover**	The Trios® Equipment Cart is used to store the Trios® Spinal Surgery Top along with all components and optional accessories. The Cover serves as a dust cover when the equipment is in storage. See Section 0 for more information.
REF **6946 Mizuho OSI Tempur-Pedic® Medical Positioning Pillow, Standard size**	**The standard size Tempur-Pedic® pillow may be used to provide additional support while maintaining proper positioning of the patient's legs while on the Trios® Spinal Surgery Top.**
REF **6947 Mizuho OSI Tempur-Pedic® Medical Positioning Pillow, Queen size**	**The queen size Tempur-Pedic® pillow may be used to provide additional support while maintaining proper positioning of the patient's legs while on the Trios® Spinal Surgery Top.**

10.2 Optional Patient Care Kits

Each optional Trios® Spinal Surgery Top GentleTouch® Patient Care Kit includes the following:

- 7-inch (17.8 cm) GentleTouch® Face Pillow
- Chest Pad Cover
- Pair of Hip Pad Covers
- Pair of Thigh Pad Covers
- Pair of Foam Arm Cradles

The components should be used as described in the Patient Care Kit instructions for use, which are included in each packaged kit. A case of six (6) individual kits is provided when ordering REF 5808.

NOTE: *Remove the Patient Care Kit components from the packaging and visually inspect the components. The GentleTouch® Face Pillow and the Arm Cradles should be opened 20 minutes prior to use for complete expansion of the foam.*

10.3 Use and Installation

10.3.1 Dual Chest Pads

To install the Dual Chest Pads:

1. Open the Locking Lever on the Pad Bracket, orient the Bracket over the rail of the Trios® Spinal Surgery Top, slide it into place and lock the lever.

NOTE: *The Dual Chest Pads are right- and left-specific pads that are labeled accordingly. The Pads must be oriented toward the patient when the patient is positioned prone. Confirm the Pads are applied to the appropriate side of the Trios® Spinal Surgery Top.*



Figure 95: Dual Chest Pad Set

2. When positioned correctly, the Dual Chest Pads will contact the patient so that the top edges of the Pads are parallel to the patient's landmark, the supra-sternal notch.
3. Ensure that the lateral support section encompasses the patient's chest wall and is inferior to the brachial plexus.

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

10.3.2 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 5321G) may be used in place of the chest, hip, and thigh pads for positioning on the Trios® Spinal Surgery Top (Figure 96). 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 96: 5321G Wilson Plus™ Radiolucent Frame Mounted on the Trios® Spinal Surgery Top

10.3.3 Levó™ Head Positioning System

The Levó™ Head Positioning System is a modular accessory, designed to mount on the Trios® Spinal Surgery Top, that provides head support and positioning when the patient is prone for posterior cervical procedures, as well as other spinal procedures not requiring a skull clamp for head stabilization. The Levó™ System is designed to provide enhanced support and control while reducing setup time. It includes an Arm that uses an electromechanical lock and release mechanism, allowing for simultaneous adjustment of all arm joints. The unique features provided by this system allow for controlled pre-operative and intra-operative head positioning adjustment.

There are four pre-configured bundles to choose from:

- Package 1: Prone (REF 7887-100)

  The Prone Package provides a system that easily positions the patient's head for non-cervical prone spine cases using the enhanced range of motion provided by the Levó™ Arm. This package includes the Arm and Prone Platform for head support, compatible with either ProneView® Helmet or GentleTouch® face pillow.

- Package 2: Cervical (REF 7887-200)

  The Cervical Package provides the primary components needed to effectively use the system for prone cervical cases. This package includes the Arm, QuickConnect adapter, and Control Handles, and allows for efficient patient positioning and intra-operative adjustments.

- Package 3: Standard (REF 7887-300)

  The Standard Package provides a system that supports both cervical cases where a skull clamp is needed, as well as other prone spine procedures that only require the Prone Platform to support the head.

- Package 4: Premium (REF 7887-400)

  The Premium Package includes all positioning modules, including the Z Tower, which provides fine controlled vertical motion. This configuration offers ultimate versatility by providing all platforms and adjustment interface options.

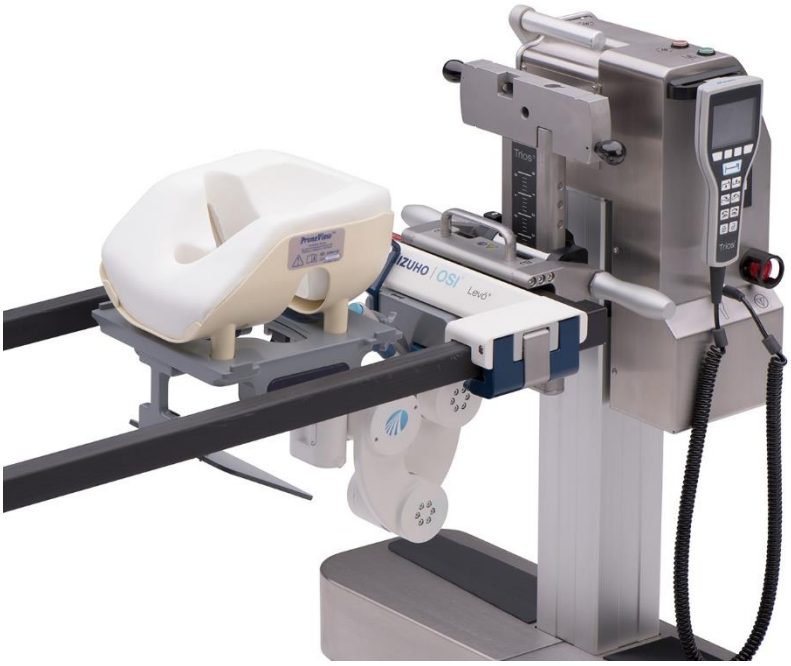


Figure 97: Levó™ Head Positioning System (Prone Package Components) on Trios® Spinal Surgery Top (ProneView® Helmet not Included)



Figure 98: Levó™ Head Positioning System on Trios® Spinal Surgery Top (Cervical Package Components)

10.3.4 Equipment Cart and Cover

The equipment cart provides a convenient storage method for all components of the Trios® Spinal Surgery Top. It is designed to allow easy access to all components and prevent damage while stored. It also has the capacity to store the Trios® Radiolucent Imaging Top, which also mounts on the Trios® Table Base (Figure 99). The Equipment Cart also comes with a cover to further protect the table top and components while in storage.



Figure 99: Equipment Cart with Components and with Cover

11 Cleaning, Storage, and Maintenance

11.1 Cleaning and Disinfecting

NOTE: *Clean and disinfect the Trios® Spinal Surgery Top after each use.*

11.1.1 Table Top

The exterior surface 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. This includes the table pad and table top.

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® Spinal Surgery Top. Never subject the Trios® Spinal Surgery Top to an equipment washing machine.

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

NOTE: *Use of iodophors will cause staining.*

To disinfectant exterior surfaces, including the casters, 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.*

11.1.2 ProneView® Helmet and Mirror System

Clean the ProneView® Helmet and Mirror after each use by spraying and wiping with germicidal cleaner then wipe dry, or wash with anti-bacterial soap and water, rinse, then wipe dry.

NOTE: *Do not autoclave the ProneView® Helmet or Mirror Platform.*

11.1.3 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.

11.2 Storage

When not in use, the Trios® Spinal Surgery 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.

11.3 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 after normal business hours.

12 Technical Support

12.1 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.**

12.2 Order Replacement Parts

If unable to identify a part, please call, 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.

12.3 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.

12.4 Send a Part for Repair

If unable to identify a part, please call, 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 for 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.

12.5 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.