

# T-MAX TENET MAXIMUM EXPOSURE SHOULDER POSITIONER

ENGLISH COMPANION



**TENET**  
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29-99-06 R4 T-MAX English Companion

Rx CE 0473



## CONTENTS

FOREWORD	1
COMPONENTS	2
SET UP INSTRUCTIONS	3-5
POSITIONING THE PATIENT	6-7
INTUBATION	8-9
ADJUSTMENTS	10-11
DISPOSABLE FACE MASK FOR POSITIONING	12
CLEANING AND STORAGE	13
WARRANTY	

## FOREWORD

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The TENET MAXimum Exposure Shoulder Positioner (T-MAX) has been designed to provide ideal positioning for operative procedures of the shoulder. This device provides neutral positioning for patients while providing maximum exposure to the entire shoulder.

The T-MAX will accommodate patients up to 350 pounds (159 KG) and is adaptable to most OR tables.

For surgical table assessment please call 1-866-571-0750 within North America. International facilities call 1-403-571-0750.

**WARNING: THE MAXIMUM WEIGHT LIMIT FOR THE OR TABLE MUST NOT BE EXCEEDED. \*\*MOST OLDER TABLES HAVE 300LB (136 KG) WEIGHT LIMITS**

**WARNING: PLEASE REVIEW YOUR OR TABLE MANUAL TO ENSURE THE OPERATIONAL PARAMETERS OF THE TABLE ARE NOT EXCEEDED**

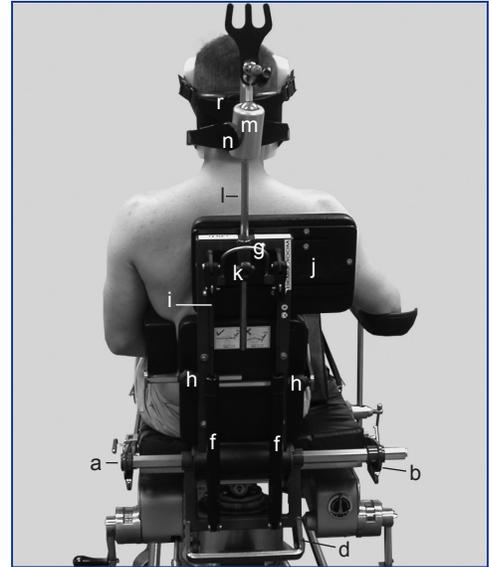
This guide provides a brief description of the manufacturer's suggested positioning and operation. The use of this product during surgery should be determined by the attending surgeon.

**PRECAUTION: TO ENSURE THE UNDERSTANDING OF THE SAFE USE OF THE T-MAX PLEASE READ THIS INSTRUCTION MANUAL**

# COMPONENTS

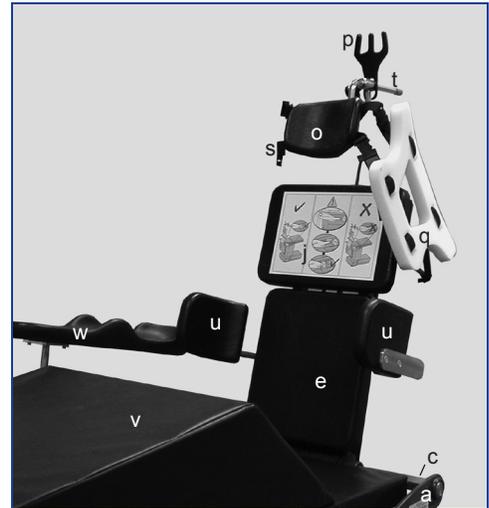
## 1. Main Frame

- (a) Fixed Leg
- (b) Sliding Leg
- (c) Hex Shaft
- (d) Lower Frame
- (e) Lower Back Pad
- (f) Gas Struts
- (g) Lift System Release Handle
- (h) Lateral Support Knobs
- (i) Upper Frame
- (j) Slide Pad
- (k) Headset Vertical Adjustment Knob



## 2. Surgical Headset

- (l) Headset Slide Hex Bar
- (m) Double Ball and Socket
- (n) Ball and Socket Knob
- (o) Headset Pad
- (p) Intubation Tree
- (q) Disposable Face Mask for Positioning
- (r) Headset Strap Support
- (s) Headset Straps
- (t) Headset Forward Slide Collar & Knob



## 3. Lateral Supports

- (u) Lateral Supports

## 4. Lower Leg Support

- (v) Knee Bolster

## 5. Non Operative Arm Support

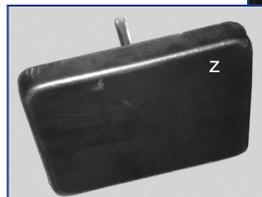
- (w) Adjustable Arm Board (optional)

## 6. T-MAX Cart

T-MAX Cart (not shown-see page 13)  
(optional)

## 7. Other

- (x) SPIDER Attachment Bar
- (y) Square Rail Clamps (required)
- (z) Intubation Pad (optional)

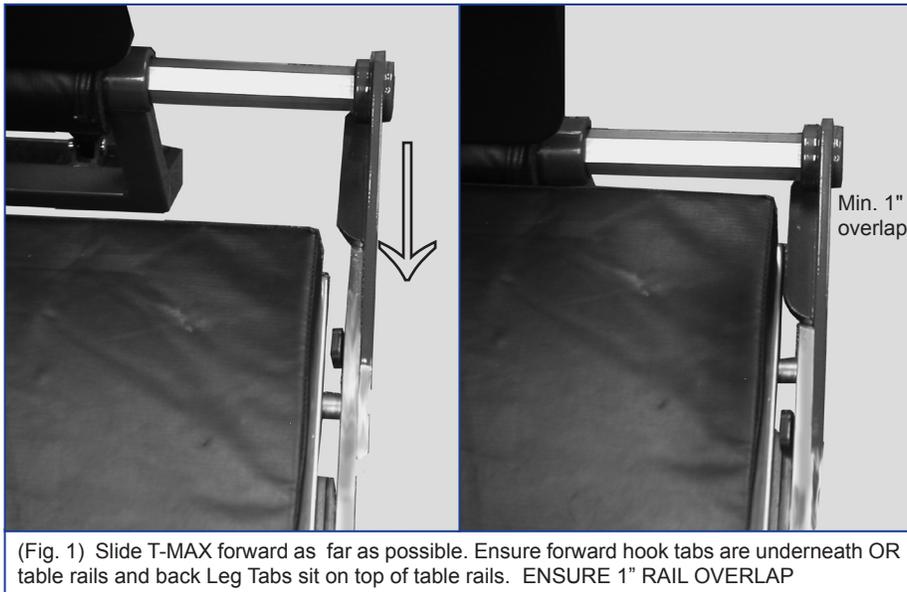


## SETUP INSTRUCTIONS FOR THE T-MAX

The T-MAX is designed to fit over the rails of most OR tables at either the head or foot end of the table. Please contact TENET Medical Engineering for an OR Table Fit Guide to determine the appropriate site for attaching the T-MAX. If the OR table being used is not listed, please call Technical Assistance at 1-866-571-0750 within North America, or 1-403-571-0750 if you are calling from outside the U.S. or Canada.

### RECOMMENDED POSITIONING OF T-MAX ON STANDARD OR TABLES

1. Position the OR table to allow access of the anesthesia equipment.
2. Either lower the leg section or remove the head rest of the OR Table. (Fig. 1).  
(Based on 29-99-09 OR Table Fit Guide)



**WARNING: ENSURE THE OR TABLE IS LOCKED TO THE FLOOR. IN MOST CASES THIS REQUIRES THE CASTORS TO BE COMPLETELY OFF THE FLOOR**

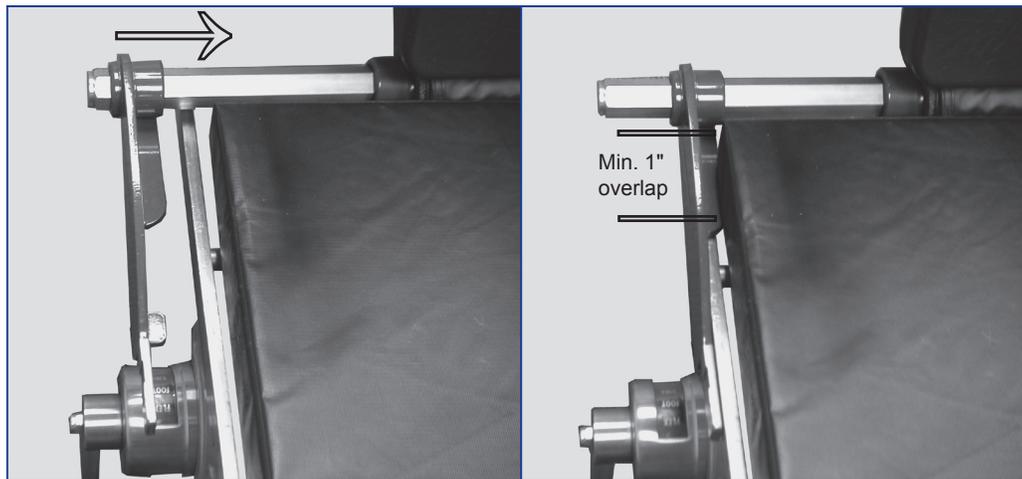
**PRECAUTION: FOR A FULL LIST OF T-MAX COMPATIBLE OR TABLES PLEASE CONTACT TENET MEDICAL ENGINEERING**

**PRECAUTION: IT IS RECOMMENDED THAT TWO PEOPLE POSITION AND SECURE THE T-MAX ON THE OR TABLE**

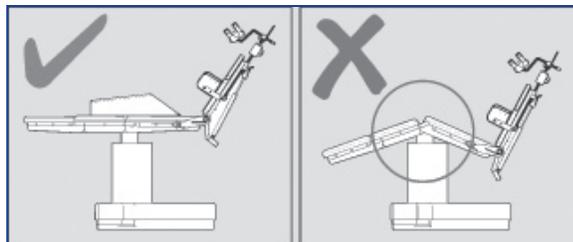
## SETUP INSTRUCTIONS FOR THE T-MAX continued

### RECOMMENDED STEPS FOR SECURELY ATTACHING THE T-MAX TO THE OR TABLE

1. Place Rail Clamps onto OR table rails 18 inches from the end of the rails.
2. Hook the left Fixed Leg of the T-MAX under the left rail of the table. Slide the right Sliding Leg under the right rail (Fig. 2). The legs should be flush against the OR rails.
3. Slide the T-MAX forward onto the OR table rails as far as possible.



(Fig. 2) T-MAX is tilted forward and the forward leg hook slides under the OR Table Rail



**WARNING: DO NOT TILT OR FLEX THE OR TABLE WHEN BEING USED WITH THE T-MAX. ENSURE TABLE TOP IS PARALLEL TO THE FLOOR**

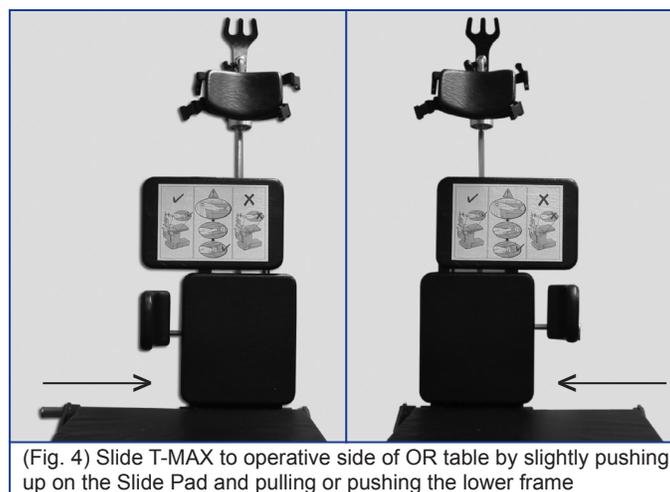
**WARNING: NEVER PLACE THE T-MAX ON THE EXTENDED HEAD OR FOOT SECTION OF THE OR TABLE**

**PRECAUTION: ENSURE THE LONG TABS ON THE T-MAX LEGS OVERLAP THE OR TABLE RAIL BY A MINIMUM OF 1 INCH**

## SETUP INSTRUCTIONS FOR THE T-MAX continued

### RECOMMENDED STEPS FOR SECURELY ATTACHING THE T-MAX TO OR TABLES cont'd

- Slide Rail Clamps over the T-MAX legs and tighten in place (Fig. 3). The Rail Clamps do not support weight. They simply prevent the legs from moving laterally off the OR table rail.
- Slide the main frame assembly to the operative side of the table (Fig. 4). Preference seems to be 1-2 inches space from the frame to the side of the table.
- Ensure the OR table pad is securely on the OR table. If the table is reversed, reverse the pad so that it covers the cut out in the OR table.
- Push the Slide Pad away from the operative side for maximum exposure to the operative site.
- Remove the Lateral Support from the side of the T-MAX that the patient will load from.
- If using the Intubation Pad, remove the Surgical Headset and replace it with the Intubation Pad.



**WARNING: DO NOT USE THE T-MAX WITHOUT THE RAIL CLAMPS SECURELY TIGHTENED IN PLACE**

**PRECAUTION: USE ONLY TENET MEDICAL ENGINEERING RAIL CLAMPS WITH THE T-MAX. THEY HAVE BEEN SPECIFICALLY DESIGNED FOR USE WITH THE T-MAX**

## POSITIONING THE PATIENT

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The patient must be seated on the OR table with the T-MAX in the upright position at approximately 80 degrees of flexion. The patient is assisted onto the table and sits in this position. TENET Medical Engineering recommends this sitting position to ensure the patient's buttocks are snug against the Lower Back Pad. The Slide Pad is maneuvered away from the operative shoulder so access to the shoulder can be assessed prior to patient intubation. Adjustments made while the patient is conscious are much easier on the staff and patient than those made while the patient is anaesthetized.

### HOW TO POSITION THE PATIENT

1. Position the patient with his/her buttocks as close to the base of the T-MAX Lower Back Pad as possible. This prevents the patient from sliding down the T-MAX during surgery.
2. Insert the Lateral Support(s) and tighten in place (Fig. 5).
3. Place the Knee Bolster under the knees and slide it proximally to support the patient against the Lower Back Pad (Fig. 6). The pad should sit directly on the table pad, not on a linen sheet.
4. Attach the Body Strap over the legs, Bolster and table. This strap prevents the legs from spreading apart and secures the Knee Bolster to the table during surgery.
5. Place a Clark socket on the non-operative side rail of the table distal to the T-MAX legs.
6. Place the Adjustable Arm Board into the Clark socket. Position the Arm Board parallel to the table. This is used to support the non-operative arm during surgery (Fig. 7).



(Fig. 5) Lateral Supports are tightened around the sides of the patient



(Fig. 6) Knee Bolster wedges patient against the back slide pad of the T-MAX. The Body Strap goes around table, pad and legs

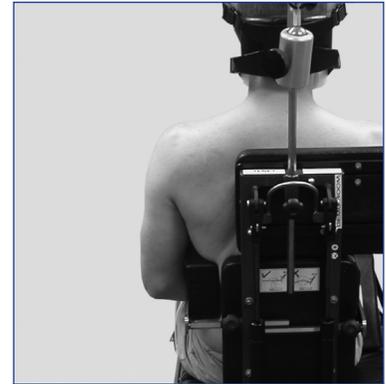


(Fig. 7) Adjustable Arm Board is attached to OR table rail with a Clark Socket for the non-operative arm

**PRECAUTION: THE NON-OPERATIVE ARM CAN BE LOOSELY SECURED TO THE ARM BOARD TO ENSURE THE ARM REMAINS IN PLACE DURING THE PROCEDURE**

## POSITIONING THE PATIENT continued

7. Ensure the medial border of the scapula is fully accessible over the edge of the Slide Pad. This allows easier access to the anterior portal for arthroscopic procedures (Fig. 8).
8. Position the Surgical Headset to ensure the patient's head rests in the middle of the pad.



(Fig. 8) Medial border of the scapula should be exposed past the edge of the Slide Pad

**PRECAUTION: AT THIS POINT THE SURGICAL SITE ACCESS SHOULD BE CHECKED BY THE SURGEON PRIOR TO ADMINISTERING ANESTHESIA**

## PROCEDURE AFTER INITIAL PATIENT POSITIONING

1. Slowly lower the patient to supine by activating the Lift System Release Handle (Fig. 9).
2. During intubation the patient's arms can be secured by pulling the Lateral Supports wider and placing the arms along side the body (Fig. 10). For wider patients Extended Lateral Supports are an optional accessory (order # 7210557).



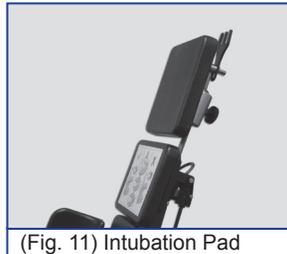
(Fig. 9) The Lift System Release Handle



(Fig. 10) The arms are secured by pulling Lateral Supports wider

## INTUBATION

TENET Medical Engineering has developed a dual head set system for the separate tasks of intubating and surgical positioning. Intubation procedures depend on whether the surgeon prefers to use the Intubation Pad (optional accessory - order # 7210555) (Fig. 11) or the Surgical Headset (Fig. 12) for intubation.



(Fig. 11) Intubation Pad



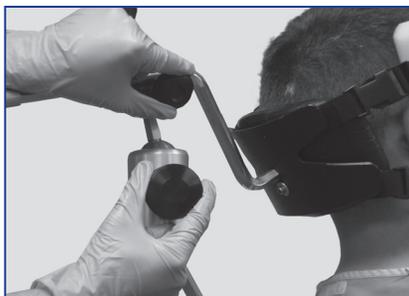
(Fig. 12) Surgical Headset

### INTUBATION USING SURGICAL HEADSET

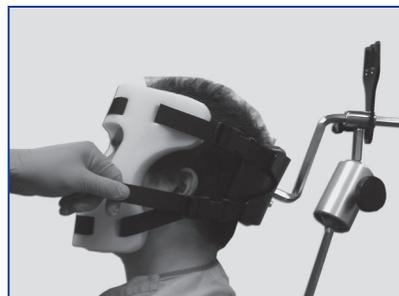
1. Position the Surgical Headset so the pad is behind the patient's neck. Loosen the Headset Forward Slide Knob and slide the Surgical Headset back as far as possible.
2. Slowly lower the patient using the Lift System Release Handle (mentioned on the previous page.) The patient's head will slide down the Surgical Headset Pad. When the patient is supine the head will be in the middle of the Surgical Headset Pad (Fig. 13).
3. The patient is now supine and ready for intubation. The Ball and Socket can be loosened to allow the anesthetist to manipulate the Surgical Headset for better positioning. The anesthetist is also free to use any of his/her usual techniques for intubation including the use of pillows under the head and shoulders.
4. Before raising the patient to the sitting position remove the patient's arms from the Lateral Supports and tighten the Lateral Supports against the patient's body.
5. When the patient is anesthetized the anesthetist will control the patient's head as the patient is raised to the sitting position.
6. Adjust the Surgical Headset, which attains ideal head positioning by adjusting height (Headset Vertical Adjustment Knob), head angle (Ball and Socket Knob) and forward translation (Headset Forward Slide Knob) (Fig. 14).
7. Place the Disposable Face Mask over the patient's face and tighten the straps in place (Fig. 15).
8. Raise and tilt the Adjustable Arm Board to fit snugly under the non-operative forearm.



(Fig. 13) The head rests in the middle of the Surgical Headset Pad



(Fig. 14) The Surgical Headset is adjusted



(Fig. 15) The Disposable Face Mask is tightened into place

## INTUBATION continued

### INTUBATION USING INTUBATION PAD

1. The Intubation Pad is inserted into the Headset Forward Slide Collar.
2. Patient is intubated as on a regular OR table. Pillows can be used if the surgeon desires. The Intubation Pad can be tipped by loosening the Ball and Socket Knob (Fig. 16).
3. Once patient is anesthetized, the anesthetist will control the head as the patient is raised to the sitting position.
4. The Intubation Pad is removed (Fig. 17) and the Surgical Headset is inserted into the Headset Forward Slide Collar.
5. The Disposable Face Mask is placed over the patient's face and the straps are tightened.



(Fig. 16) The headset can be tipped by loosening the Ball and Socket Knob.



(Fig. 17) Intubation Pad removed from Headset Forward Slide Collar.

**PRECAUTION: THE DISPOSABLE FACE MASK SHOULD ONLY BE TIGHTENED WHEN THE PATIENT IS IN THE FINAL SITTING POSITION**

**WARNING: ENSURE THE FACE MASK IS NOT APPLYING PRESSURE ON THE PATIENT'S EYES AND PRESSURE ON THE FACE IS EVENLY DISTRIBUTED**

**WARNING: DO NOT OVER TIGHTEN STRAPS THAT HOLD THE CHIN IN PLACE ENSURE THERE IS NO PRESSURE ON STRUCTURES UNDER THE CHIN**

**WARNING: IF THE PATIENT IS LOWERED THE HEAD WILL SLIDE DOWN THE SURGICAL HEADSET PAD. ENSURE THE DISPOSABLE FACE MASK IS RELEASED IF THE PATIENT IS RAISED OR LOWERED**

# ADJUSTMENTS

## ADJUSTING THE SLIDE PAD

Push the Slide Pad away from the operative side. This allows excellent access to the shoulder and stabilizes the upper torso. This should be done before the patient is placed on the table.

## DRAPING THE PATIENT

Ensure the head mask straps, arm straps and leg strap are in place and secure. Draping follows positioning of the patient. The low profile of the Disposable Face Mask and Surgical Headset allow the drapes to be placed very close to the patient's head and provide maximum exposure and access to the shoulder.

## DRAPE BAR

The Drape Bar is an optional accessory (order # 7210563) that keeps the drape off the patient's face, used when an anesthetic block is performed (Fig. 18).



(Fig. 18) The Drape Bar

## INTUBATION TREE

The Intubation Tree is used to hold the intubation tubing during surgery. The Intubation Tree can also be rotated out of the way when not in use (Fig. 19).



(Fig. 19) Intubation Tree upright and rotated out of the way

## LATERAL SUPPORTS

The Lateral Supports are used on both sides of the patient. The pads are offset from the metal bar so they can be positioned for tall (Fig. 20) or short (Fig. 21) patients.



(Fig. 20) Lateral Support positioned for taller patient



(Fig. 21) Lateral Support positioned for shorter patient

## ADJUSTMENTS continued

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### ADJUSTMENTS DURING SURGERY

- Positioning is not generally adjusted during the surgery.
- If required, positioning can be adjusted under the drape. However, extra care must be taken to ensure that pressure is not created on the patient's head or face during adjustments.

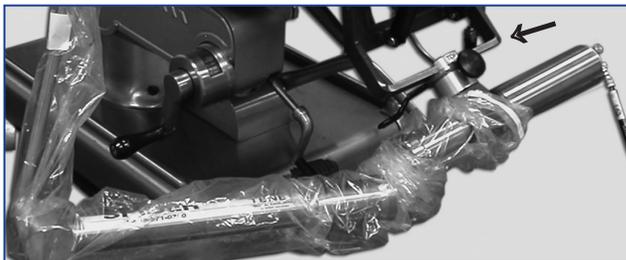
### POST-SURGICAL ADJUSTMENTS

1. Remove the draping after the operation.
2. Release the Disposable Face Mask and lower the Surgical Headset so the pad rests behind the patient's neck.
3. Use the Lift System Release Handle and slowly lower the patient to a supine position.
4. Remove the Lateral Support from the transfer side before transferring the patient from the OR table to a stretcher.

**WARNING: TO LOWER PATIENT IN AN EMERGENCY, LOOSEN HEADSET VERTICAL ADJUSTMENT KNOB (UP AND DOWN MOVEMENT) AND RELEASE THE DISPOSABLE FACE MASK. THE PATIENT CAN THEN BE QUICKLY AND SAFELY LOWERED TO A SUPINE POSITION.**

### SPIDER ATTACHMENT RAIL

TENET Medical Engineering's SPIDER Limb Positioner can be used to intra-operatively position the operative arm during surgery. When using the T-MAX for shoulder surgeries, the SPIDER Limb Positioner is attached to the SPIDER Attachment Rail on the back of the T-MAX Beach Chair (Fig. 22). See the SPIDER English Companion for instructions and information.



(Fig. 22) SPIDER Attachment Rail on the T-MAX

## DISPOSABLE FACE MASK FOR POSITIONING

### T-MAX HEAD POSITIONING

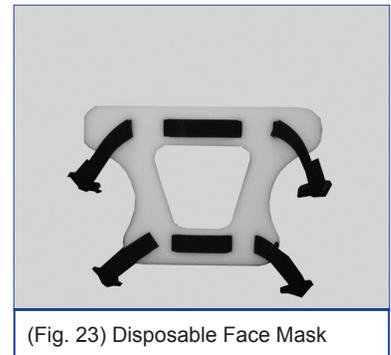
The T-MAX has an adjustable head positioning system that positions patients comfortably and safely. The Disposable Face Mask controls both the chin and forehead during surgery.

The patient's head must be positioned on the Surgical Headset with both the parietal and occipital bones contacting the pad. The Ball and Socket Knob and the Headset Vertical Adjustment Knob are loosened to adjust the position of the head. The head is positioned as neutral as possible.

The patient's head is secured in place using TENET's Disposable Face Mask (order # 7210559) (Fig. 23).

The Disposable Face Mask provides pressure to the forehead and chin to secure the head in place during surgery. This head positioning ensures that the head and airways will be immobile throughout the surgery regardless of the amount of operative arm manipulation.

The Disposable Face Mask attaches to the permanent straps connected to the back of the Surgical Headset's Strap Support. Each side of the Disposable Face Mask has two strap tightening clips.



**PRECAUTION: THE STRAPS ON THE BACK OF THE SURGICAL HEADSET ARE NOT DISPOSABLE - DO NOT THROW THEM AWAY**

**WARNING: IT IS THE RESPONSIBILITY OF THE ANAESTHETIST TO ENSURE THAT THE PATIENT'S AIRWAY, EYES AND NECK ARE FREE FROM ANY PRESSURE AND THAT THE POSITIONING WILL NOT CREATE ANY SURGICAL OR POST SURGICAL COMPLICATIONS**

**WARNING: ENSURE THE FACE MASK IS NOT APPLYING PRESSURE ON THE PATIENT'S EYES AND PRESSURE ON THE FACE IS EVENLY DISTRIBUTED**

**WARNING: ENSURE THE CHIN PORTION OF THE FACE MASK IS NOT BELOW THE PATIENT'S CHIN AND DOES NOT CONTACT THE PATIENT'S NECK AREA**

## CLEANING

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- Wipe all T-MAX pads with a mild detergent/disinfectant following each case
- Avoid moisture contact on the Hex Shaft of the T-MAX during cleaning
- Dry off the Hex Shaft after use
- Disposable Face Masks should be discarded after each surgery

## STORAGE

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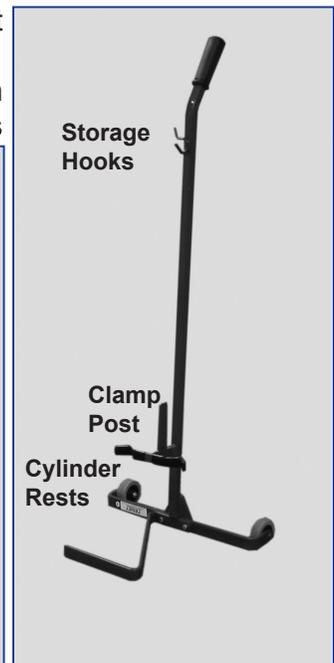
The T-MAX is stored on the T-MAX Cart for easy transportation and storage. The T-MAX Cart is currently an optional accessory (order # 7210553).

### TO PLACE THE T-MAX ON THE CART (Fig. 24) & (Fig. 25)

1. Loosen the Headset Vertical Adjustment Knob and slide headset forward.
2. Lift the T-MAX by the Lift System Release Handle and place Lift System Release Handle over the front hook. Rest the bottom of the cylinders against the cylinder rests.
3. Place the Intubation Pad between the Slide Pad and Knee Bolster.
4. Place the Arm Board post onto the side storage hook.
5. Place the two Rail Clamps over the clamp post.
6. Knee Bolster is wedged between the Lateral Supports.



(Fig. 24) T-MAX on Cart



(Fig. 25) T-MAX Cart Empty

**Questions or concerns? Please call TENET Medical Engineering for Technical Assistance at 1-866-571-0750 (Canada & U.S. only) International Inquiries call 1-403-571-0750**

## **WARRANTY**

ALL TENET MEDICAL ENGINEERING PRODUCTS HAVE A STANDARD 12 MONTH PARTS AND LABOUR WARRANTY AGAINST MANUFACTURING DEFECTS.

## **WARRANTY REGISTRATION**

THIS TENET MEDICAL ENGINEERING PRODUCT IS PACKAGED WITH A WARRANTY REGISTRATION CARD. PLEASE TAKE THE TIME TO COMPLETE THIS CARD AND RETURN IT TO TENET MEDICAL ENGINEERING TO ENSURE ANY WARRANTY MATTERS CAN BE HANDLED EFFECTIVELY AND EFFICIENTLY.

## **SERVICE**

TENET MEDICAL ENGINEERING IS COMMITTED TO PROVIDING THE HIGHEST LEVEL OF SERVICE ON OUR PRODUCTS. IF THERE ARE ANY PROBLEMS, CONTACT US IMMEDIATELY AND WE WILL WORK TO FIND THE BEST SOLUTION POSSIBLE.



Within North America Call 1.866.571.0750  
Tel 403.571.0750 • Fax 403.571.0752  
[www.tenetmedical.com](http://www.tenetmedical.com)