



# Surgistar

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# User's Manual

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## INTRODUCTION

### About this User Manual

This User Manual contains instructions for the proper and safe use of Operation Table, and for patient & user safety and comfort, which has to be strictly followed.

This User Manual has to be read and followed by every person using or handling this Operation Table. In case of any query, kindly contact Midmark India Pvt. Ltd.

## ABOUT THIS PRODUCT

- The Operation Table is a non-invasive medical device used for surgical operations of the patients by the surgeon to help and support the patient's operation.
- This Operation Table supports patients and helps the surgeon in carrying out different surgical procedures/operations comfortably minimizing their risk while surgery is going on.
- Operation Table is manufactured and supplied in non-sterile condition for use in the normal hospital environment.
- This Operation Table is electrically operated for certain profiling movements to provide surgical positions with the help of a user-friendly handset. This Operation Table is supported with a battery backup.
- This Operation Table is not diagnostic, measuring, monitoring, or a therapeutic device or we say that it can prevent or alleviate disease.
- This Operation Table is used in the operation theatre of hospitals and nursing homes.

### **Surgistar – Operation Table Features**



Please refer Surgistar catalogue for salient features of this product.

### **Surgistar – Operation Table Technical Data**



Please refer Surgistar catalogue for technical data of this product.

### **Add-On Accessories**



Please refer Surgistar catalogue for various accessories available and compatible with this product



## Caution

- Power supply should be 220V–50Hz A.C. and connected with well-grounding socket. **The area with unstable voltage should connect 500 VA Voltage Stabilizer with surge and spike protection.**
- Don't run the equipment on generator set as it may damage the electronic circuit and may cause failure.
- The table being electric equipment so should be kept away from heat and moisture.
- Don't operate two positions at one time. It will overload the electronic circuit and may cause failure.
- Don't operate the table continuously for more than 2 minutes. Give a break of 2 minutes before operating again.
- During operating table top positions, please give your attention to the body position of the patient to avoid any injury.
- When operating trendelenburg and anti-trendelenburg, be sure to use Body Support and Body Restraint Strap to prevent patient from sliding.
- Before raising the Back Section, lower the Kidney Bridge to the lowest position to prevent any damage to the Kidney Bridge.
- While Kidney Bridge is raised to its full extent, don't shake it violently.
- In Operating Table with orthopaedic attachment or provision, when operating trendelenburg and anti-trendelenburg, be sure to keep the head/leg section in straight position otherwise it may get stuck into ortho attachment and damage the actuator.
- All the accessories, such as Arm Board, Body Support and Knee Crutches etc. should be fixed on the table during operation.
- During C-Arm X-ray examination, pay attention to avoid C-Arm's cue hitting the operating table or accessories.
- After every use, the table should be placed horizontally and at lowest height. **Be sure to cut off the power supply.**

## DEFINITIONS

### Operator

The operator is the person appointed by the owner (i.e. clinic, hospital management, etc.) who will be responsible for the safe operation of this Operation Table.

### User

A user is a person who is capable of assessing the clinical condition of patient e.g. specialist medical personnel, doctors, nursing staff, attendants etc. On the basis of their training experience or through the instructions, they are entitled to use this Operation Table on their own responsibility or to carry out work on it and are able to recognize and control possible risks to the patient as well as the Operation Table.

### Patient

The patient is a person who is ill, infirm, disabled or in need of medical assistance, who needs to be operated.

## SAFETY



In this User Manual the following safety symbols are used

**Danger:** This symbol will appear wherever safety instructions are designed to protect people from physical harm. The symbol stands for imminent danger of death or serious injury.



**Caution:** This symbol will appear where situations are described, which might be dangerous, and which might inflict slight injuries.



**Advice:** This symbol will appear in front of additional helpful pieces of advice.



A dot in front of the text implies the action that is required to be taken.

## Safety Instructions

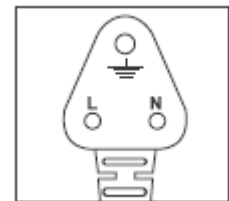
- Always use original accessories that have been designed and approved for use with the Operation Table.
- Ensure that the Operation Table is assembled and installed following the instructions given in this user manual.
- Restrict child visitors without proper attendants. Supervision is necessary to avoid any mishap due to unintended movement of the Operation Table.
- Persons with reduced physical or mental abilities & children must not be allowed to use & handle the Operation Table without proper supervision.
- To prevent the patient from falling, slipping, rolling off from the Operation Table, or any unintended entrapment, periodically check patients for safe positioning in accordance with facility protocols.
- Ensure that the Operation Table is moved on a smooth step-less floor without any obstructions in its path, to prevent any inconvenience to User and damage to the Operation Table.
- Do not allow any visitor to sit on the Operation Table, as it may cause overloading (Refer section operation).
- Accessories or any devices used along with the Operation Table should be as per its intended use specified and approved by Midmark.
- The Operation Table should always be kept and used in normal indoor hospital environment.
- Always use a mattress of the correct size and type. Before operating the Operation Table, make sure that the patient is safely positioned to avoid entrapment or imbalance.
- Do not keep any articles on the Base Frame Cover of the Operation Table. It can damage the linkages and electrical components.
- Keep some gap between walls and Operation Table while in a stationary position and also while moving from one place to another.
- Keep the user manual handy with the operator/user for ready reference.

## Electrical Safety Points



When the Operation Table is connected to 230V / 15A (or as per country specific) main supply - Connecting more than one plug to the three pin mains socket can cause electrical Overload and damage the control system of the Operation Table.

- AC power supply exceeding 230V or sudden spikes or lack of proper earthing can be hazardous to User / Patient, as well as can cause damage to the Bed and property.
- Ensure stabilized and properly earthed input power supply for the equipment. Also, ensure polarity of the mains socket is as per Standard and matches with the mains plug.
- Inspect all the wires and cables for any cuts, cracks, damages at regular intervals.



## ELECTRICAL SPECIFICATIONS

Mains power supply	Nominal 220 VAC 90 VAC to 300 VAC Operating Range with Battery 45Hz to 50 Hz
Electrical Shock Protection	Class 1
Degree of shock Protection	Type B
Liquid Ingress Protection	IPX6
Battery Backup	Available
Rechargeable Batteries	2 x 12 Volt Sealed Lead Acid
Duty Cycle	10% (Two minutes for every eighteen minutes)

## ▪ GENERAL CARE AND LUBRICATION

### SERVICE THE HEAD, BACK AND LEG SECTION

- Apply a smear of light machine oil to the guide pins and pivot pins on the head, back and leg section.
- Examine all sections for sign of damage, particularly for scoring or bending of the attachment guide pins. On the head and alternative leg section, examine the release handle for signs of damage.
- Check the guide pin retaining screw for tightness.
- Apply a smear of light machine oil to all moving parts.

## HEAD AND LEG SECTION, LOCKING MECHNISM

Remove the head and leg section from the table and clean out any collected fluff or other debris from the guide pin socket in the ends of the sections. Spray a little aerosol lubricant into each socket and attachment hole. Check the operation of the locking mechanisms when re-attaching the sections.

## RADIOGRAPHIC TOPS

Examine the radiographic tops for cracks, chips and scoring. Significant damage will necessitate replacement of the damaged section. Make sure that the radiographic tops are securely attached.





## INSTALLATION




1. Unpack all the components carefully.
2. If the packing is drenched by rain, water or other liquids, inform this matter to the operator.

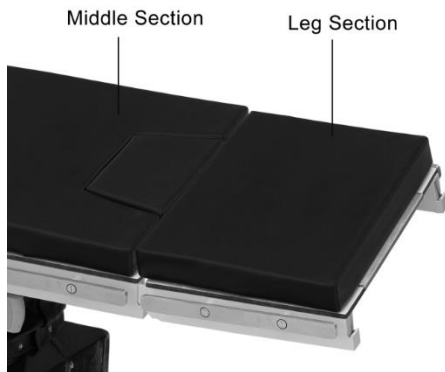
**OPERATION** Connect Operating Table's Main Cord to an electric socket and switch on the power supply. The Remote Control is to control the table positions, which is easy to operate and smart sharp. There are twelve function keys on the Remote Control with easy to recognise figures. Press the corresponding function key to obtain the desired position.

 Installation of the Operation Table should be done only by Midmark India trained technicians.

 Packing materials have to be disposed of according to the local regulations for waste disposal.

 With due consideration to environmental limitation, materials used to make the device are not affected by contact with any biochemicals or biowaste when used as per its intended purpose, all materials used in the product and accessories do not facilitate breeding or growth of bio-contaminants on their own.

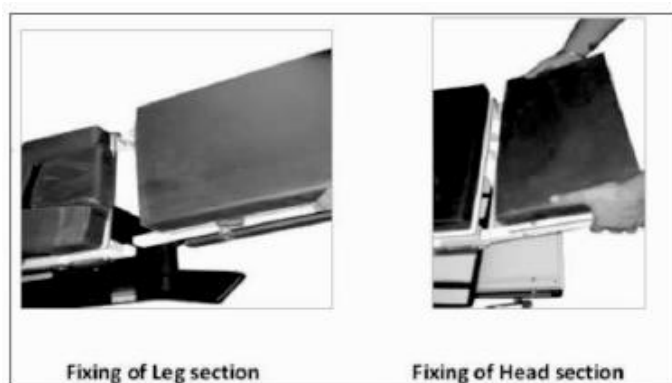
## ADJUSTING POSITION



**LEG SECTION** The leg section, controlled by heavy duty ratchet system, is detachable and can be regulated within its adjustable range.

**a)** To turn the leg section downwards, just pull the locking bar and turn it downwards until it reaches a desired position. After the turning process, just release the locking bar and the leg section is locked at the desired position. To turn the leg section upwards, simply push it upward until it reaches the desired position.

**b)** The leg section can be easily removed from the table. To remove the section, rotate both locking handles and pull the leg section straight out. Reverse the procedure to install the leg section. Please make sure that the leg section has been firmly fixed after installing it..



The head section, controlled by heavy duty ratchet system, is detachable and can be regulated within its adjustable range

**a)** To turn the head section downwards, just pull the locking bar and turn it downwards until it reaches a desired position. After the turning process, just release the locking bar and the head section is locked at the desired position. To turn the head section upwards, simply push it upward until it reaches the desired position.

**b)** The head section can be easily removed from the table. To remove the section, rotate both locking handles and pull the head section straight out. Reverse the procedure to install the head section. Please make sure that the head section has been firmly fixed after installing it,

- **ELEVATION AND LOWERING OF TABLE TOP** To change the table top height, press the relative button on the remote controller.
- **TRENDELENBURG AND ANTI TRENDELENBURG** Press the relative button on the remote controller for forward and backward tilt of the tabletop
- **TRENDELENBURG AND ANTI TRENDELENBURG** Press the relative button on the remote controller for forward and backward tilt of the table top
- **BACK SECTION** Press the relative button on the remote controller for upward and downward movement of back section.
- **FLEX/RE-FLEX** Press the relative button on the remote controller for upward and downward movement of back section and Trendelenburg simultaneously.
- **LOCK/UNLOCK** Press the relative button on the remote controller to Lock and Unlock the operating positions.
- **ZERO** Press the relative button on the remote controller to bring the operating table to a flat horizontal position.

## **ADD – ON ACCESSORIES/ATTACHMENTS –**

### **Dual joint Headrest with mattress:-**

This is a special kind of Headrest design which is helpful for the elevation of the Neck region for surgical applications like ENT (Ear, Nose, and Throat) and Onco (cancer) surgery

### **Shoulder supports with pad:-**

This is an optional accessory used to stop the patient from sliding down when Trendelenburg (Head Low) position is given to the patient while operating.

### **Lateral supports**

This is an optional accessory used to lock the patient when he is positioned laterally on the table.

### **Pelvic extension**

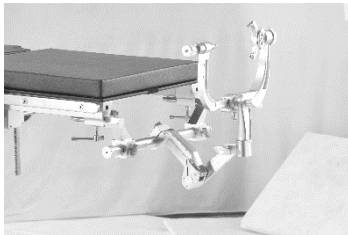
This is used to extend the lower length of the table for Urology pelvic procedures.

### **TUR drainage set**

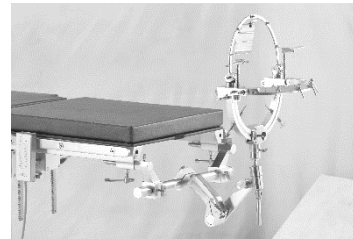
Used along with the pelvic extension for facilitating the collection of fluids while operating in the pelvic region.

**ADD – ON ACCESSORIES/ATTACHMENTS –**

**NEUROSURGERY**



Mayfield 3 Pin Skull Clamp Imported



Sugita Head Clamp with folding type Leyla Ring

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**ORTHOPAEDICS, TRAUMATOLOGY, AND SPINAL SURGERY**



Arthroscopy Positioning Device (Arthroscopy Clamp)



Goepel Knee Crutch (Lithotomy Crutch) - Pair



Hip Nailing Support (Inner Thigh Rest with pad)



Horseshoe Headrest - two-piece type with traction Pulley attachment



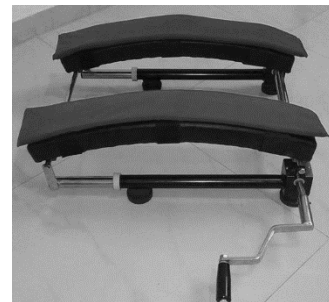
Horseshoe Headrest Indigenus



Orthopaedic Leg Traction Device  
- Hanging type



Pivoted Counter traction



Radiolucent Spinal



Radio-translucent Hand

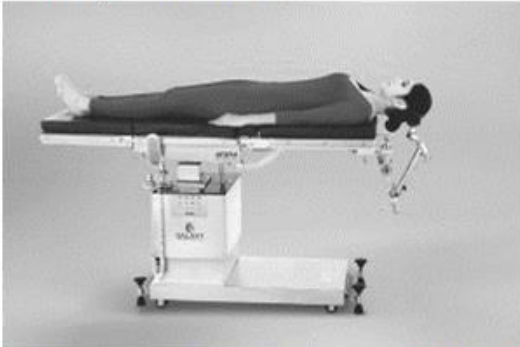


Shoulder Surgery Attachment



Upper Arm Posturing Plate (Lateral Position)

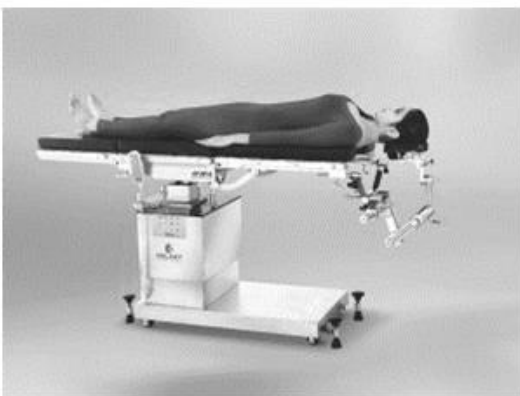
- 1) Neurosurgical procedure in supine position, using 'M' type face Head Rest



- 2) Neurosurgical procedure in supine position, using Sugita Head Clamp



- 3) Neurosurgical procedure in supine position, using 3 Pin Skull Clamp Head Rest



- 4) Neurosurgical procedure in supine position, using 3 Pin Skull Clamp



- 5) Neurosurgical procedure in sitting position, using 'M' type face Head Rest



- 6) Neurosurgical procedure in sitting position, using Sugita Head Clamp



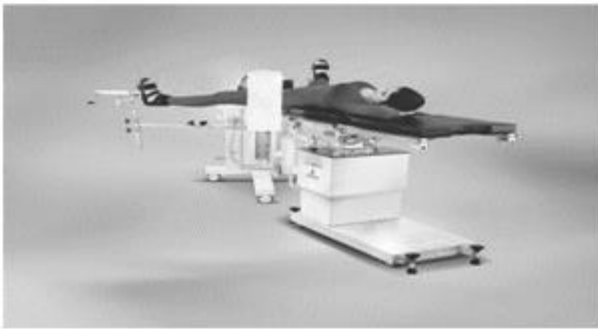
- 7) Neurosurgical procedure in prone position, using Prone position Head Rest



- 1) Shoulder surgery, using 4 section Back Plate with laterally detachable shoulder sections



- 2) Neck of the femur treatment (lateral view)



- 3) Neck of the femur treatment (a.p. view )



- 4) Lower leg treatment with traction exerted at a downward angle, using Swivelling Counter – traction Post for Tibia and Fibula (a.p. view)



- 5) Lithotomy position



- 6) Lateral thorax position for Kidney and Thoracic surgery



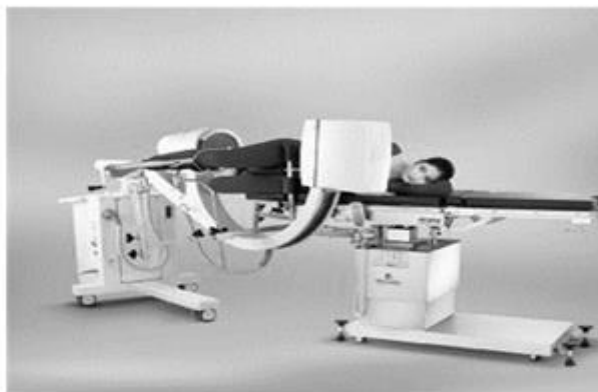
- 7) Intramedullary nailing of the upper arm, using Weinberger Hand Traction Device



- 1) Intramedullary nailing of the upper arm, using Weinberger Hand Traction Device



- 2) Femur treatment in lateral position, using Steinmann Pin Holder and Counter traction Post for Femur (lateral view)



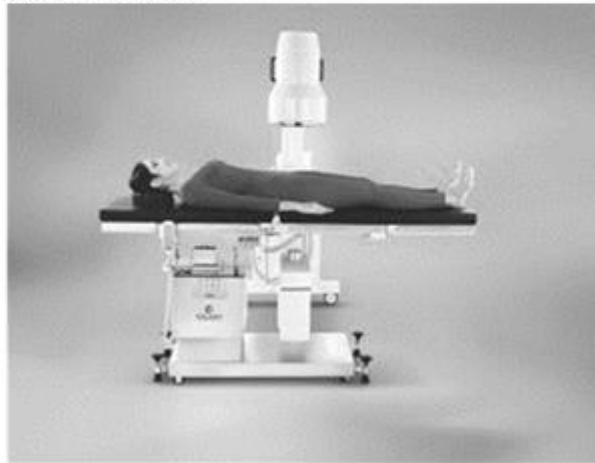
- 3) Caesarian position using split-type leg section (optional)



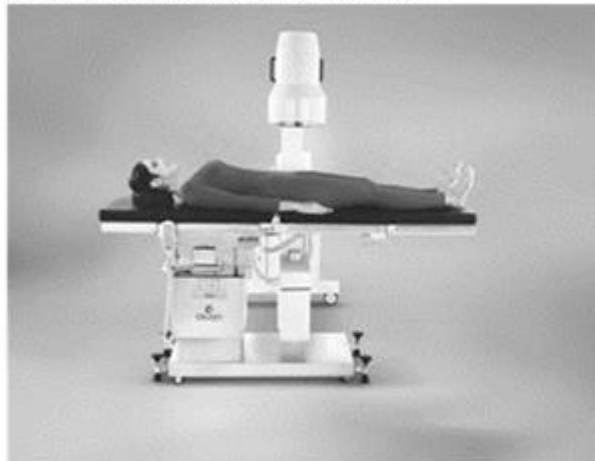


**Radiology**

1) Vascular surgery

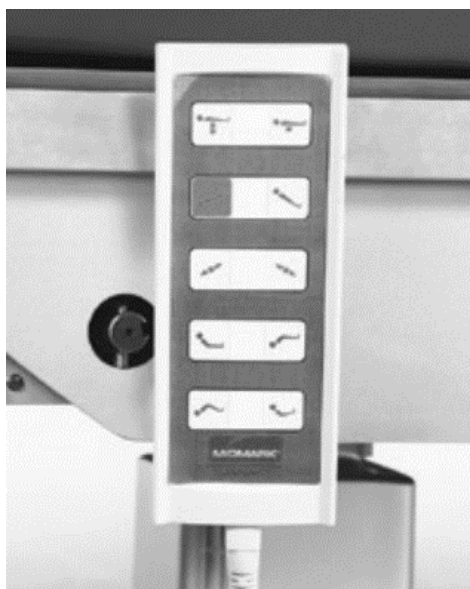


2) Cardiovascular surgery (Unrestricted access with the C-arm from head to lower leg)



### Control Elements (Handset & ACP)

- The motorized adjustment functions can be controlled using the handset & ACP
- Cleaning of the handset & ACP with water or other liquid is prohibited



**A. Adjusting the Height:** Press the Power ON button (6) and select the button (1). Press button (4 or 5) to raise or lower the height of the Operation Table respectively as shown in the above figure.

**B. Adjusting Trendelenburg / Reverse Trendelenburg position:**



Press the Power ON button (6) and select the button (2). Press button (4 or 5) to raise or lower the head section respectively at the required inclination as shown as shown in the above figure.

#### D. Adjusting Lateral Tilt:



Press the Power ON button (6) and select the button (3). Press button (4 or 5) to left or right the head section respectively at the required inclination as shown in the above figure.

#### E. Castors & Braking:



The Table is provided with four Castors for moving the Table within the Operation Theatre area. To immobilize the Table on the floor with the base, press the foot brake paddle as shown in the above fig.

**Handset /ACP if dropped can cause malfunctioning of the handset.**



| Cleaning of the handset & ACP with water or other liquid is prohibited


#### **Battery Indicators on Handset & ACP–**

Refer the indicator on handset shows that the control elements are running on the main supply

#### **Battery**


The Operation Table is equipped with a battery to allow emergency operation of the electric drive system. This ensures that all the power adjustment can still be carried out even in the event of power failure. The battery also has inbuilt fuse protection for the safety of battery as well as users.


- Charge the battery for 20 hours and then connect it to the system, if the Operation Table has not been in use over a period of one month. This may damage the battery.
- Always keep the Operation Table in charging condition for any emergency use.
- Always keep the Operation Table connected to the main supply to get a fully charged battery.
- Using the Operation Table on Battery should be only as per its Duty cycle (refer Electrical Specifications given above)

 Batteries in the Operation Table may emit hydrogen gas. So do not bring fire or a heated object close to the Product

### Load Bearing Capacity



 Do not load the Operation Table more than the safe working load mentioned above. Patient/user should not mount or sit or place any heavy load on the backrest section/leg section as it may cause toppling.

 With due consideration to environmental limitations, materials used to make the device are not affected by contact with any biochemicals or biowaste. When used as per its intended purpose, all materials used in the product and accessories do not facilitate any breeding or growth of bio-contaminants on their own.

## MAINTENANCE & CLEANING

Each time before putting the bed into service the user must ensure that-

- All the functions are in satisfactory working condition before allotting the Operation Table to the patient
- Lubrication of all mechanical joints/ pins/ moving parts/ tightening of the bolts should be carried out at least once in three months, to avoid unnecessary sound and wear & tear of the bed
- Visual inspection is carried out at regular intervals and check for any mechanical damage (e.g. loose/ missing rivets, screws, etc.)
- If any damage or malfunction is observed, transfer the patient to other Operation Table and report this matter to the operator
- If the Operation Table is not being used, it should be stored in a dry and flat indoor environment which is rodent-free with a gradient not more than 5 degrees
- If the Operation Table is not in use for a long time, it is necessary to conduct a test to check for functioning and any mechanical damage that might have been caused
- Depending on the usage certain moving parts may require replacement due to wear & tear. We recommend timely replacement with genuine 'Midmark' spares for safety and trouble-free operation

### Cleaning & Disinfecting

- The Operation Table is not suitable for machine wash or steam cleaning.
- Do not use water jet for cleaning.
- The Operation Table cannot tolerate the influence of strong solvent, basic or alkaline liquids & caustic agents.
- The cleaning agents must not contain any substances which bring about any change in the structure or adhesive property of the plastic.
- The Operation Table should be properly cleaned and disinfected at regular intervals to avoid infection and stains.
- We recommend use of approved disinfectant and cleaning agents to clean the Operation Table. Take extra care to clean areas that may trap dust or dirt. All detachable accessories and its component can be cleaned separately.



Do not expose the Operation Table to excessive moisture as corrosion may cause personal injury or equipment damage.

### Disposal



Product and its defective parts especially elements made of plastic, steel & rubber material should be disposed off in accordance with the statutory rules and regulations prevailing for such disposal of waste. The user is advised to contact 'Midmark India Pvt. Ltd.' for further assistance.

**Warning**



A Voltage Stabilizer of 500 VA with surge and spike protection must be connected in series to safeguard the operating table from voltage fluctuation. The Company stands no Guarantee on Electronic Control Box for any failure due to line voltage fluctuation or spikes.

**ROUTINE INSPECTION CHECKLIST: INSPECTIONS BY THE USER(Recommended Frequency: Every new allotment but not later than three months)**

Checks		OK	Not OK	Description of faults
<b>Visual check of the electrical components (product specific)</b>				
Handset / ACP cable	Damage, entangled			
Mains cable	Damage, entangled			
Control elements	Damage			
<b>Visual check of the mechanical components</b>				
Upholstery Top	Damage			
Screws / Revits	Missing / loose			
Accessories (Crutches, Arm Rest, Anaesthesia screen holder etc.)	Damage / missing			
<b>Performance check of the electrical Components</b>				
Handset / ACP	Functional test			
Control Unit	Functional test			
Motors	Functional test			
<b>Performance check of all mechanical components</b>				
leg rest	Locking/mobilization			
Backrest	Locking/mobilization			
Castors	Locking/mobilization			
Brakes	Locking/mobilization			
Accessories (Crutches, Arm Rest, Anaesthesia screen holder etc.)	Locking, smooth movement			
<b>Sign</b>	<b>Result of inspection</b>		<b>Date</b>	

## Trouble Shooting Guide

PROBLEM	POSSIBLE CAUSES	REMEDY
The Table is not functioning	<ul style="list-style-type: none"> <li>• Main cables not plugged in</li> <li>• No main voltage at main supply sockets.</li> </ul>	<p>* Plug in the mains cable</p> <ul style="list-style-type: none"> <li>• Check the supply current.</li> </ul>
Certain functions are not Working in the product.	<ul style="list-style-type: none"> <li>• Actuators not functioning</li> <li>• Control unit not working.</li> <li>• Handset / ACP not functioning</li> <li>• Handset cable not fixed properly to the control unit</li> <li>• Connection to the motors is loosened.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace Actuator.</li> <li>• Repair or replace the Control unit.</li> <li>• Repair or replace the Handset / ACP.</li> <li>• Fix the cable firmly.</li> </ul>
The Table is not functioning during power failure	<ul style="list-style-type: none"> <li>• Battery discharged</li> <li>• Battery fuse blown off</li> <li>• Battery wire loosened</li> </ul>	<ul style="list-style-type: none"> <li>• Recharge the batteries as recommended.</li> <li>• Replace the fuse.</li> <li>• Fix the battery wire firmly.</li> </ul>
Abnormal sound / vibrations during any operation	<ul style="list-style-type: none"> <li>• Centre column is tight</li> <li>• Nuts / bolts are loosen</li> </ul>	<ul style="list-style-type: none"> <li>• Lubrication required.</li> <li>• Tighten the bolts.</li> </ul>
Unusual burning smell	<ul style="list-style-type: none"> <li>• Check for any short circuit in the mains wire</li> <li>• Short circuit in the control unit</li> <li>• Sparking in the mains socket connection</li> </ul>	<ul style="list-style-type: none"> <li>• Switch off the mains supply, unplug the product from its mains plug &amp; contact 'Midmark' for further assistance.</li> <li>• Check &amp; fix the plug firmly.</li> </ul>
Lithotomy Crutches / Rods/ Arm rests are not locking.	<ul style="list-style-type: none"> <li>• Locking teeth's are slipping.</li> <li>• Threading spoiled in the Locking knob</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the Locks</li> </ul>
Backrest movement is not working (product specific)	<ul style="list-style-type: none"> <li>• Check Handle operation</li> <li>• Gas spring failure</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust the Handle</li> <li>• Replace gas spring</li> </ul>
Castors / Brakes	Castors broken / Brakes are not working.	Repair / Replace Castors or brakes.

## **WARRANTY & SERVICE**

Midmark India Pvt. Ltd., warrants, solely to the end users of this Operation Table that for a period specified in the warranty certificate, such Operation Table shall perform as per its intended use. The foregoing warranties shall not apply if the product has been subjected to: (a) physical abuse, misuse, abnormal use, or use not consistent with Midmark India Pvt. Ltd.'s published directions, (b) any modification by anyone other than Midmark India Pvt. Ltd. or third parties designated by Midmark India Pvt. Ltd., or (C) fraud, tampering, negligence or accidents, depending upon the nature of the products.

**Limitation of Liability:** In no event shall Midmark India Pvt. Ltd., be liable or obligated to the end user in any manner for any special, non-compensatory, consequential, indirect, incidental, statutory or punitive damages of any kind, including, without limitation, for injury or loss of life, lost profits, lost sales, lost revenue, loss of any software or data, or loss of use of any hardware, software or data, regardless of the form of action, whether in contract, tort, negligence, strict product liability, or otherwise, even if Midmark India Pvt. Ltd. has been informed of or is aware of the possibility of any such damages in advance. Midmark India Pvt. Ltd.'s total aggregate liability under this agreement in relation to anything which Midmark India Pvt. Ltd., has done or not done in connection with this agreement shall be limited to the price of the products purchased and paid for by the end user during the period in which such liability arises. The limitations set forth above shall be deemed to apply to the maximum extent permitted by applicable law and notwithstanding the failure of the essential purpose of any limited remedies.

In order to maintain functional safety and right to claim under the warranty only original 'Midmark' replacements parts must be used. For ordering replacements parts, customer service request and further question, please contact our technical support department.

## **DISCLAIMAR**

Every effort has been made to ensure that the information in this user manual is valid. Midmark India Pvt. Ltd., reserves the right to change the information in this document without prior notice.





**JANAK**<sup>®</sup>  
Because we care.

## MANUFACTURER'S ADDRESS

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**Toll-Free No.: 1800 22 8020 | Email: [technicalsupport@midmark.com](mailto:technicalsupport@midmark.com)**



**JANAK**<sup>®</sup>

## MIDMARK INDIA PVT LTD.



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