OPERATOR MANUAL

STERIS 4085 General Surgical Table

(02/21/20) **P150832-639**

A WORD FROM STERIS CORPORATION

IMPORTANT: Read this entire manual before attempting to install or operate your STERIS 4085 General Surgical Table. Ensure all appropriate personnel understand the contents of this manual.

This Operating Manual contains important information on proper use and maintenance of the STERIS 4085 General Surgical Table. **All personnel involved in the use and maintenance of this equipment must carefully review and comply with the warnings, cautions and instructions contained in this manual.** These instructions are important to protect the health and safety of personnel operating the table and should be retained in a conveniently accessible area for quick reference.

Complete instructions for uncrating have been furnished. If missing, contact STERIS for a replacement copy, giving the serial, equipment and model numbers of the unit.

STERIS carries a complete line of accessories for use with this table. STERIS representatives will gladly review these with you.

Advisory

A listing of the *SAFETY PRECAUTIONS* to be observed when operating and servicing this STERIS 4085 General Surgical Table is found in *SECTION 1* of this manual. Do not operate or service the equipment until you have become familiar with this information.

Any alteration of the surgical table not authorized or performed by STERIS which could affect its operation will void the warranty, could adversely affect operator safety and could violate national, state or local regulations.

Serious incidents that have occurred in relation to this medical device should be reported to the manufacturer and competent authority in the country where the incident occurred.

Indications for Use

The STERIS 4085 General Surgical Table is an electrohydraulically operated surgical table designed to support virtually all general surgical procedures including cardiac and vascular, endoscopic, gynecology, urology, nephrectomy, neurology, ophthalmologic and orthopedics with the addition of STERIS table accessories.

Service Information

A thorough preventive maintenance program is essential for safe and proper unit operation. This manual contains maintenance schedules and procedures which should be followed for satisfactory equipment performance. Comprehensive instructions for monthly, quarterly and semi-annual preventive maintenance can be found in the Maintenance Manual (available from STERIS).

Only STERIS-trained personnel should attempt to perform maintenance on the STERIS 4085 General Surgical Table to avoid personal injury, improper equipment performance, invalidation of the equipment warranty or other costly damage.

Printed in U.S.A.

Customers are encouraged to contact STERIS concerning our comprehensive preventive maintenance program. Under the terms of this program, preventive maintenance, adjustments and replacement of worn parts are provided on a scheduled basis to help ensure optimal equipment performance and help avoid untimely or costly interruptions. STERIS maintains a global staff of well equipped, factory-trained technicians to provide these services, as well as expert repair services. Please contact STERIS for details.

NOTE: A patient grounding post/potential equalization terminal (male connector, DIN 42801) is provided. The female connector for patient grounding is not furnished by STERIS.

EC REP

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Class 1 Equipment
Type B Equipment

Splash-Proof Equipment (enclosed equipment protected against splashing water, IPX4)

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or oxygen or nitrous oxide.

Suitable for intermittent operation 3 min/hr.

The base language of this document is ENGLISH. Any translations must be made from the base language document.

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SAFETY PRECAUTIONS

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The following ***Safety Precautions*** **must** be observed when operating or servicing this STERIS 4085 General Surgical Table. WARNING indicates the potential for personal injury and CAUTION indicates the potential for damage to equipment. For emphasis, certain ***Safety Precautions*** are repeated throughout the manual. **It is important to review ALL *Safety Precautions* before operating or servicing the unit**.

WARNING – PINCHING HAZARD:

Pinch points are created during tabletop articulation. Carefully review illustrations in Figure 2-1 and Figure 2-2 before operating the table.

To avoid serious injury, keep limbs, fingers and other body areas clear of all pinch points when positioning the table.

When manually positioning table sections, stay clear of potential pinching hazards.

WARNING – TIPPING HAZARD:

Do not place patient on the table unless floor locks are engaged.

Do not disengage floor locks when patient is on table.However, if table needs to be repositioned within operating room with patient aboard, proceed as directed in *SECTION 2.2, PATIENT POSITIONING AND WEIGHT LIMITATION*.

Do not use this table for patients exceeding the maximum patient weight (patient in normal or reverse orientation) of 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower), 1000 lb (454 kg) with patient posturing (except tabletop slide), or 600 lb (272 kg) with full patient posturing (including tabletop slide).

Center tabletop over column before applying chest compressions.

Center tabletop over column before transferring patient on or off of table.

WARNING – EXPLOSION HAZARD:

Table must not be used in the presence of flammable anesthetics.

WARNING – TRIPPING HAZARD:

Route the power cord to the receptacle to minimize being tripped over by personnel in the area.

WARNING – PERSONAL INJURY HAZARD:

Failure to keep the patient properly secured with the patient safety straps at all times could result in death or serious injury.

The floor locks must be engaged at all times when a patient is on the table. Failure to engage the floor locks before placing a patient on the table or disengaging the floor locks while a patient is on the table could result in the table rolling unexpectedly during the procedure. However, if table needs to be repositioned within operating room with patient aboard, proceed as directed in *SECTION 2.2, PATIENT POSITIONING AND WEIGHT LIMITATION*.

Keep hands and feet clear of the unloading platform and the table base when unloading the table. Serious personal injury could result.

Section 4.1, **Steps 1-6** in "Operating Table" must be executed before patient is transfered to the table. Execution of **Steps 1-6** with the patient on the table could result in injury to both the patient and the operating room staff.

Healthcare professionals must ensure patients are positioned and monitored so as to prevent compromising respiration, nerve pathways or circulation.

When installing any table accessory, check for correct attachment and tighten securely (if appropriate). Do not use a worn or damaged accessory. Before using any accessory, ensure it has been installed properly.

Patient must be secured to the table in accordance with recommended positioning practices. Unanticipated patient or table movement could result in death or serious injury.

When cleaning/disinfecting table, do not use phenolics which may cause patient skin burns if inadequately rinsed off, or alcohol, which does not have sufficient cleaning/disinfecting properties.

Do not exceed 350 lb (159 kg) on the leg section.

If the integrity of the external protective ground installation or arrangement is in doubt, operate the table from its internal power source.

If an antistatic path is necessary, STERIS recommends antistatic pads (specifically developed for this table) in direct contact with the patient. Table must also be positioned on antistatic floor or connected to equalization device (equipotential connector).

Do not remove table leg section if patient is not properly positioned. Patient's torso and buttocks must be firmly held in place by table back and seat sections and legs supported by leg supports.

WARNING – INSTABILITY HAZARD:

Possible patient or user injury, as well as table or accessory failure, may result from using STERIS table accessories for other than their stated purpose – or from using accessories manufactured and sold by other companies on STERIS surgical tables.

WARNING – PINCHING AND TIPPING HAZARD:

Patient injury may result if the operator of this table is not completely familiar with the controls for patient positioning and table operation.

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

Repairs and adjustments to this equipment must be made only by STERIS or STERIS-trained service personnel. Maintenance performed by unqualified personnel or installation of unauthorized parts could cause personal injury, result in improper equipment performance, invalidate the warranty, or result in costly damage. Contact STERIS regarding service options.

Regularly scheduled preventive maintenance is required for safe and reliable operation of this equipment. Contact STERIS to schedule preventive maintenance.

Do not service or perform maintenance on equipment while in use.

Table is factory set to operate at a certain voltage. Use of any other power supply could result in serious personal injury or table damage.

To avoid the risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

Use of this table in the presence of flammable anesthetics could result in serious personal injury or table damage.

Placing a patient whose weight exceeds maximum patient weight limit (patient in normal or reverse orientation) of 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower), 1000 lb (454 kg) with patient posturing (except tabletop slide), or 600 lb (272 kg) with full patient posturing (including tabletop slide) could result in injury to the patient and the operating room staff, and serious equipment damage.

Failure to perform periodic inspections of table could result in serious personal injury or equipment damage.

The Auto Limit Sensors (ALS) System suggested alternative tabletop movement does not take into account the type of surgery that may be in process or the environment (e.g., other equipment close by) and might not be compatible with the surgical procedure. To avoid an action that could result in death or serious injury to the patient and the operating room staff, and/or serious equipment damage, completely evaluate the feasibility of the suggestion.

ALS System is not active during Backup Control. Ensure proper tabletop movements to prevent patient/staff injury and/or equipment damage.

During Backup Control, tabletop functions are available even if table floor locks are NOT engaged. LOCK table before moving tabletop or transferring patient.

Use of accessories, transducers or cables with this table, other than those specified, may result in increased emissions or decreased immunity of the table.

Do not store items on table base. Doing so may result in equipment damage or inadvertent tabletop movement placing the patient and/or user at risk of injury.

Failure to keep all personnel and equipment clear of the table before actuating any inertia-driven or power-driven movement could result in table damage and/or personal injury.

Hand Control must be attached to table at all times to enable safety stop and all modes of operation.

With patient in normal or reverse orientation, table in Trendelenburg and slide at head limit, center tabletop before attempting to raise table to level or move into Reverse Trendelenburg.

Read and understand all instructions presented in this section before using the Universal Hand Control. Follow each step in the order presented in these instructions. If you need technical assistance or additional instructions, please contact STERIS.

WARNING – DISPOSAL HAZARD:

This product contains materials which may require disposal through appropriately licensed and permitted hazardous waste management firms.

WARNING – INFECTION HAZARD:

To protect against aerosols being reflected from potentially contaminated surfaces, wear rubber or plastic gloves, masks and eye protection, and follow OSHA blood-borne pathogens standards when cleaning.

When cleaning/disinfecting table, do not use alcohol as it does not have sufficient cleaning/disinfection properties.

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

When moving the table to or from point of use, roll it carefully at moderate speed and only over smooth floors. Maximum floor clearance is 1/4" (6.4 mm). Avoid door and elevator jambs, and obstructions greater than 1/4" (6.4 mm). If necessary, lift table over obstructions, onto trucks, etc. Lift table evenly and only by the table base. DO NOT transport articles (including accessories) on top of the table, and **DO NOT use a forklift to move the uncrated table.**

Hang the hand control from side rail of the table when not in use to avoid possible damage to the control.

When cleaning/disinfecting table, thoroughly read the cleaning fluid directions for use and follow all directions and cautions as shown.

Do not spray cleaning fluid into electric receptacles and avoid spraying directly on emergency backup buttons or into clearance space. Spray or drippage may settle onto electric circuits inside table causing corrosion and loss of function.

Cleaning procedures requiring articulation of the table should be performed only by persons familiar with table operation.

Route the hand control cord clear of any pinch points where cord could be damaged.

Use of incorrect hydraulic oil may severely damage the table and/or cause malfunction. Contact STERIS for proper hydraulic oil.

After performing cleaning procedures, ensure pads, tabletop and X-ray tops are completely dry before reinstalling. Moisture trapped between pads and X-ray tops may contribute to equipment damage, such as X-ray top warpage.

Appropriate components of this surgical table have been tested and found in compliance with IEC 60601-1-2: Edition 4 2014-02, Medical Electrical Equipment – Part 1; General Requirements for Safety; Electromagnetic Compatibility (EMC). There is, however, a potential for electromagnetic or other interference between this equipment and other devices. Should user experience interference, relocate this device or minimize the use of the affected equipment while this device is in operation.

Surgical table operation may be temporarily affected if portable or mobile RF communications equipment is used in close proximity.

Medical Electrical Equipment needs special precautions regarding EMC. Put table into service according to the EMC information provided in this manual.

CAUTION – POSSIBLE EQUIPMENT DAMAGE (CONT'D):

Possible EMC increased EMISSIONS or decreased IMMUNITY. Do not use accessories or replacement parts not listed in the Operator or Maintenance Manuals.

Surgical table operation may be affected if used adjacent to or stacked with other equipment. If adjacent or stacked use is needed, ensure table operates properly in this configuration.

The emissions characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 Class A). If it is used in a residential environment (for which CISPR 11 Class B is required) this equipment might not offer adequate protection to radio frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.

REMEMBER – POSSIBLE TIME DELAY:

Insufficient clearance space will make repairs more difficult and time-consuming. Refer to the equipment drawing for minimum clearance for service/maintenance access requirements.

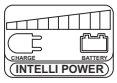
1.1 Symbols on Table

The following is a key to symbols on the STERIS 4085 General Surgical Table.

Table 1-1. Definition of Symbols on Surgical Table

Symbol	Definition
	Type B Equipment
	Protective Earth Ground
	Equipotentiality
	Electric Shock Hazard
	Control Power ON
0	Control Power OFF
	Powered By AC
 - OR - 	Attention, Consult Manual for Further Instructions
	Safety Warning
A	Amperage Rating of the Unit
V	Voltage Rating of Unit
~	Alternating Current

Table 1-1. Definition of Symbols on Surgical Table (Cont'd)

Symbol	Definition
Hz	Frequency Rating of Unit
W	Power Rating
SN	Serial Number of the Unit
IPX4	Splash-Proof Equipment
	INTELLIPOWER® Dual Power System Power Panel (Battery Charge/Discharge Status)
	Powered By Battery
REF	Equipment or Reorder Number
MD	Medical Device
UDI	Unique Device Identifier

1.2 Symbols on Hand Control

Table 1-2 and **Table 1-3** are keys to the symbols appearing on the STERIS 4085 General Surgical Table Hand Control and Hand Control LCD Display.

Table 1-2. Definition of Symbols on Hand Control

Symbol	Definition
	Move Tabletop to Level
	Patient Orientation on Surgical Table (Reverse/Normal)
	Stop All Table Articulation
	Tilt Tabletop Left

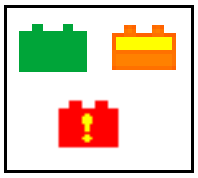
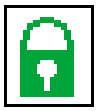
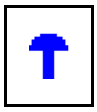
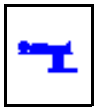
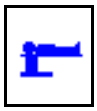
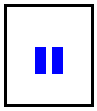
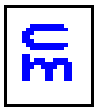
Table 1-2. Definition of Symbols on Hand Control (Cont'd)

Symbol	Definition
	Tilt Tabletop Right
	Tabletop Up (Height Up; Raise)
	Tabletop Down (Height Up; Lower)
	Move Tabletop into Trendelenburg
	Move Tabletop into Reverse Trendelenburg
	Floor Lock Function (see **Table 1-3**)
	Slide Tabletop Toward Head End (SLIDE HEAD)
	Slide Tabletop Toward Foot End (SLIDE FOOT)

Table 1-3. Definition of Hand Control LCD Display Screen Icons

Symbol	Definition
	Table Powered by Facility Power. Green = Normal Condition; Red = Fault Condition.

Table 1-3. Definition of Hand Control LCD Display Screen Icons (Cont'd)

Symbol	Definition
	Table Powered by Battery Power. Green (Solid Icon) = Battery Fully Charged; Orange/Yellow (Half-Filled/-Solid Icon) = Battery at Half Charge; Red/Yellow (Solid Icon With Yellow !) = Battery Empty (Table Will Soon Stop Functioning).
	Floor Locks Engaged (Green).
	Floor Locks Unlocked (Orange).
	ALS Notification (ICON and Text).
	Maintenance Notification (Orange).
	Kidney Bridge (Blue).
	Keypress (Green).
	Slide in Head Direction (Blue).
	Slide in Foot Direction (Blue).
	Slide Displayed in Inches (Blue).
	Slide Displayed in Centimeters (Blue).

2.1 Pinch Point Warnings

WARNING – PINCHING HAZARD:

- **Pinch points are created during tabletop articulation. Carefully review illustrations in Figure 2-1 and Figure 2-2 before operating the table.**
- **To avoid serious injury, keep limbs, fingers and other body areas clear of all pinch points when positioning the table.**

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Failure to keep all personnel and equipment clear of the table before actuating any inertia-driven or power-driven movement could result in table damage and/or personal injury.

When inertia-driven or power-driven table parts close (especially during extreme tabletop articulation), pinch-point hazards exist (see Figure 2-1). All personnel involved in tabletop positioning should examine and be aware of these points before operating the STERIS 4085 General Surgical Table.

Pinch points shown (circled) in Figure 2-1:

1. Between Head Section and Floor.
2. Between Leg Section and Floor.
3. Between Leg Section and Column Cover.
4. Between Leg Section and Base Cover.

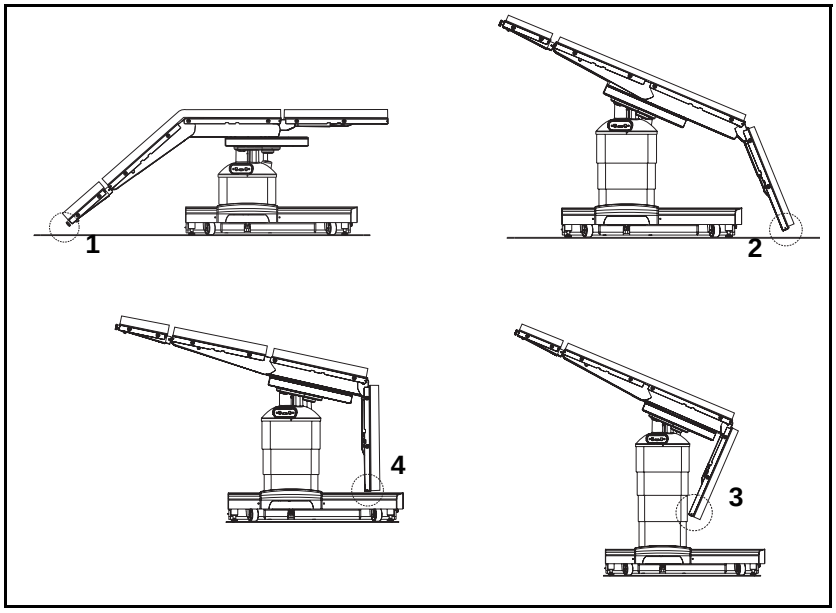


Figure 2-1. Pinch Points

WARNING – PINCHING HAZARD:

- **Pinch points are created during tabletop articulation. Carefully review illustrations in Figure 2-1 and Figure 2-2 before operating the table.**
- **To avoid serious injury, keep limbs, fingers and other body areas clear of all pinch points when positioning the table.**

Pinch points shown (circled) in Figure 2-2:

1. Between Kidney™ Elevator Mechanism and Seat Section.
2. Between Leg Section and Seat Section.
3. Side Rail Lock.
4. Between Back Section and Seat Section.
5. Between Head Section and Back Section.

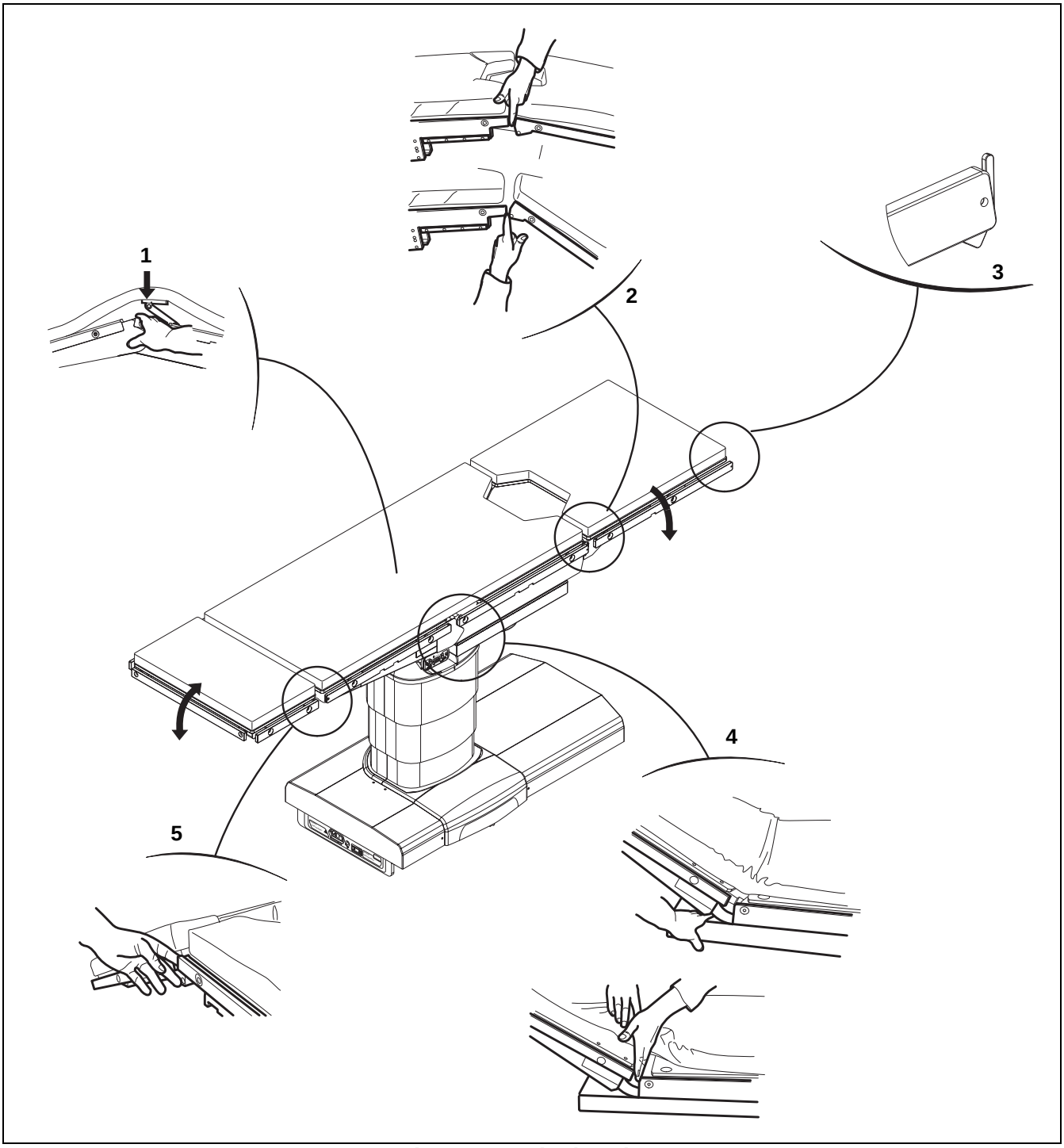


Figure 2-2. Pinch Points

2.2 Patient Positioning and Weight Limitation

WARNING – TIPPING HAZARD:

- **Do not place patient on the table unless floor locks are engaged.**
- **Do not use this table for patients exceeding the maximum patient weight (patient in normal or reverse orientation) of 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower), 1000 lb (454 kg) with patient posturing (except tabletop slide), or 600 lb (272 kg) with full patient posturing (including tabletop slide).**

WARNING – PERSONAL INJURY HAZARD:

- **The floor locks must be engaged at all times when a patient is on the table. Failure to engage the floor locks before placing a patient on the table or disengaging the floor locks while a patient is on the table could result in the table rolling unexpectedly during the procedure. However, if table needs to be repositioned within operating room with patient aboard, proceed as directed in *SECTION 2.2, PATIENT POSITIONING AND WEIGHT LIMITATION*.**
- **Healthcare professionals must ensure patients are positioned and monitored so as to prevent compromising respiration, nerve pathways or circulation**.
- **Do not exceed 350 lb (159 kg) on the leg section.**

NOTE: Accessories may have a specified weight limitation that is less than that of the table. Do not exceed the lowest weight limit, table or accessory.

The STERIS 4085 General Surgical Table is designed to safely support (with patient in normal or reverse orientation): 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower); 1000 lb (454 kg) full patient posturing (except tabletop slide); 600 lb (272 kg) full patient posturing (including tabletop slide). **Do not exceed the maximum patient weight.**

NOTE: When positioning the patient on the table, note the following:

1) *Always check patient stability when patient is positioned.*
2) *Do not place patient on the table unless floor locks are engaged.*
3) *Use extreme care when transferring patients to or from table.*
4) *Ensure all accessories are properly installed and secured.*
5) *Check for and eliminate harmful patient pressure points once patient is positioned.*
6) *Have a qualified medical professional monitor patient during surgery for all possible patient positioning hazards.*
7) *Do not exceed 350 lb (159 kg) on the Leg Section. Leg Section is not designed to support full body weight.*

All patients must be restrained for proper safety regardless of the length or type of procedure.

NOTE: STERIS recommends only using STERIS manufactured or distributed accessories with this table. Use of accessories not manufactured or approved by STERIS may not be compatible with this table and could result in injuries or equipment damage.

Table Repositioning With Patient — Not For Patient Transport

If the table needs to be repositioned within the operating room with the patient aboard, utilize the following procedure:

1. Ensure patient is properly secured.
2. Center and level tabletop with patient over column.
3. Lower tabletop to lowest possible height.
4. Ensure table path is clear of obstructions.
5. One person must be at each end of tabletop.
6. Release floor locks.
7. If the table is moved with the patient aboard, apply only lateral force to reposition table. DO NOT push down on or lift tabletop while repositioning table.
8. Once table is repositioned, lock table by engaging all the floor locks.

2.3 Patient Safety Straps

WARNING – PERSONAL INJURY HAZARD: Failure to keep the patient properly secured with the patient safety straps at all times could result in death or serious injury.

Adjust the patient safety straps such that they restrain the patient according to currently accepted patient restraining practices, keeping in mind the Trendelenburg/Reverse Trendelenburg, back, lateral tilt and height adjustment.

2.4 General Description

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Appropriate components of this surgical table have been tested and found in compliance with IEC 60601-1-2: Edition 4 2014-02, Medical Electrical Equipment – Part 1; General Requirements for Safety; Electromagnetic Compatibility (EMC). There is, however, a potential for electromagnetic or other interference between this equipment and other devices. Should user experience interference, relocate this device or minimize the use of the affected equipment while this device is in operation.

The STERIS 4085 General Surgical Table (see Figure 2-3):

- is a mobile, electrohydraulically operated surgical table specifically designed to provide the complete patient positioning flexibility required for modern surgical care facilities.
- features powered lateral tilt, Trendelenburg/Reverse Trendelenburg and adjustable height functions.
- is designed to safely function with patients not exceeding the maximum patient weight limit (patient in normal or reverse orientation) of 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower); 1000 lb (454 kg) full patient posturing (except tabletop slide); 600 lb (272 kg) full patient posturing (including tabletop slide).
- is constructed of aluminum alloy, stainless steel and other high quality materials.
- is equipped with a large sliding table top providing unrestricted radiological access without patient reversing.
- is powered by either internal battery or facility electric through use of the patent-pending INTELLIPOWER® dual power system.

The table accepts positioning commands from three sources:

1. A **hand control** (which includes “FLEX”, "REFLEX", "SLIDE HEAD", "SLIDE FOOT", "STOP", "TREND”, "REVERSE TREND", “HEIGHT UP”, "HEIGHT DN", “TILT LEFT”, "TILT RIGHT", "BACK DN", "BACK UP", "LEG DN" , "LEG UP", "KIDNEY UP", "KIDNEY DN", "LEVEL", "Normal and Reverse Orientation with LED" and "FLOOR LOCK". Refer to Figure 4-3 for control feature locations.
2. An optional physician-controlled **foot control** (which includes Trendelenburg Tilts, Lateral Tilts and Height functions). Refer to *SECTION 4.4, OPTIONAL FOOT CONTROL OPERATION*.
3. An **Auxiliary Control System** permits table operation in the event of primary control malfunction (refer to *SECTION 4.5, BACKUP (OVERRIDE) CONTROL SYSTEM*).

NOTE: The Head Section is manually adjustable.

** SAE Measurements are approximate based on metric dimensions.*

2.5 Technical Specifications

See Figure 2-4 through Figure 2-6.

2.5.1 Overall Size (W x L x H)

22 x 81 x 26 to 45"* (550 x 2055 x 675 to 1136 mm)

2.5.2 Range of Motion

Height: 26 to 45" (675 to 1136 mm)*

Trendelenburg Range: 30° ±1°

Reverse Trendelenburg Range: 30° ±1°

Lateral Tilt Range: 20° ±1°

Slide Motion: HEAD: 9" (227 mm)*; FOOT: 9" (227 mm)*

Back Section Motion: UP: 80° ±1°; DOWN: 40° ±1°

Leg Motion: UP: 0° ; DOWN: 105° ±1°

Kidney Elevator Mechanism: 4" (110 mm)*

Flex/Reflex: 140° ±1° / 100° ±1°

Head Motion (Manual): 90° ±1°

2.5.3 EMC/High-Frequency Interference

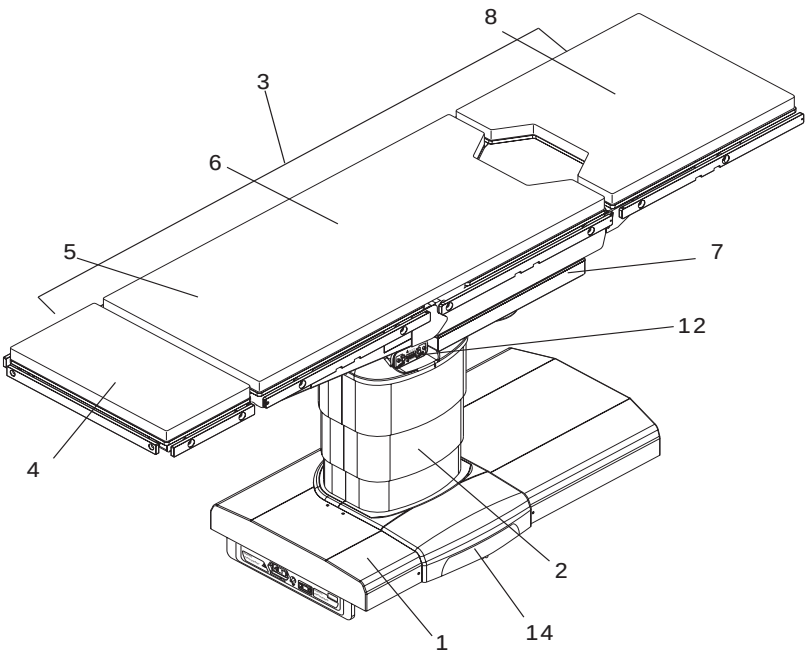
WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Use of accessories, transducers or cables with this table, other than those specified, may result in increased emissions or decreased immunity of the table.

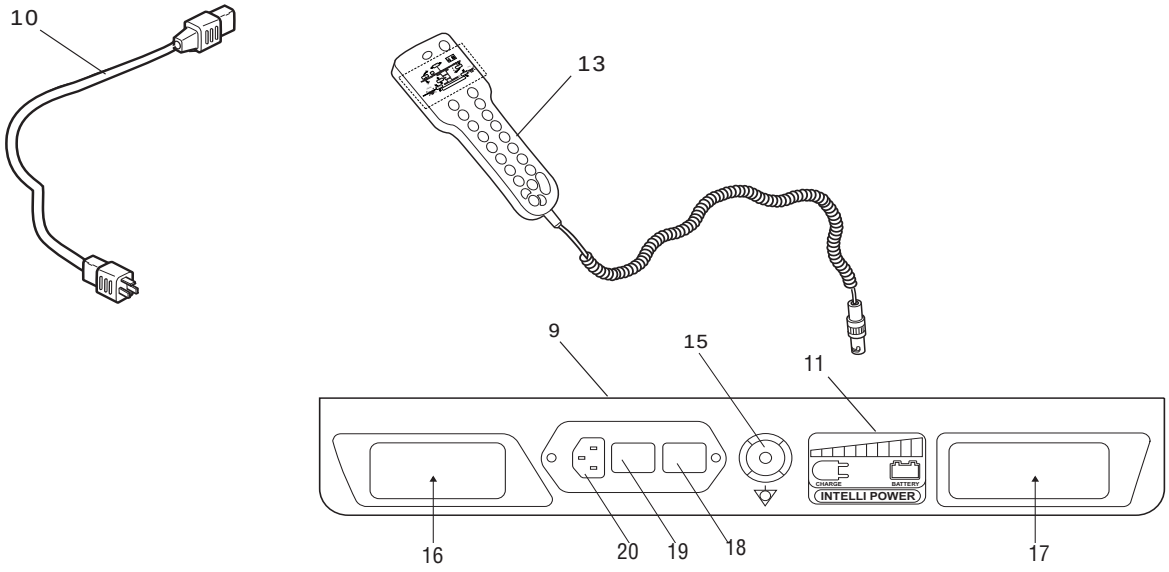
WARNING – PERSONAL INJURY HAZARD: Appropriate components of this surgical table have been tested and found in compliance with IEC 60601-2-46, 3rd Edition, Medical Electrical Equipment - Part 2-46: Particular requirements for the basic safety and essential performance of operating tables. There is, however, a potential that high frequency surgical equipment, cardiac defibrillators or cardiac defibrillator-monitors could interfere with this equipment and cause unanticipated table movement producing possible patient and/or staff injury. Should user experience any interference, relocate this device or minimize the use of the interfering equipment while this device is in operation.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Appropriate components of this surgical table have been tested and found in compliance with IEC 60601-1-2: Edition 4 2014-02, Medical Electrical Equipment – Part 1; General Requirements for Safety; Electromagnetic Compatibility (EMC). There is, however, a potential for electromagnetic or other interference between this equipment and other devices. Should user experience interference, relocate this device or minimize the use of the affected equipment while this device is in operation.

Note the following:

- Medical Electrical Equipment needs special precautions regarding EMC and needs installed and put into service according to the EMC information provided in this manual.
- Portable and mobile RF communications equipment can affect Medical Electrical Equipment.
- For table control via e-Serve (RS-232) connection, note the table has been tested for EMC compliance using a 6’ (2 m) long, shielded serial cable. A longer or unshielded cable could cause problems and must be observed to verify normal operation.
- The use of accessories, transducers and cables other than those specified by the manufacturer, may result in increased emissions or decreased immunity of the STERIS 4085 General Surgical Table.
- The STERIS 4085 General Surgical Table should not be used adjacent to or stacked with other equipment. If so, table should be observed to verify normal operation.





KEY:

1. Table Base
2. Column
3. Tabletop
4. Head Section
5. Back Section
6. Kidney Elevator Mechanism
7. Seat Section (Sliding)
8. Leg Section
9. Power Panel
10. Power Cord
11. INTELLIPOWER Dual Power System Display
12. Connection Panel
13. Hand Control
14. Auxiliary Control System
15. Ground Equalization Terminal (Male Connection)
16. Service Label
17. Service Bar Code Label
18. Primary Fuses
19. Main Power Switch
20. AC Receptacle

Figure 2-3. STERIS 4085 General Surgical Table Components (Typical)

Dimensions are inches (mm). SAE measurements are approximate based on metric dimensions.

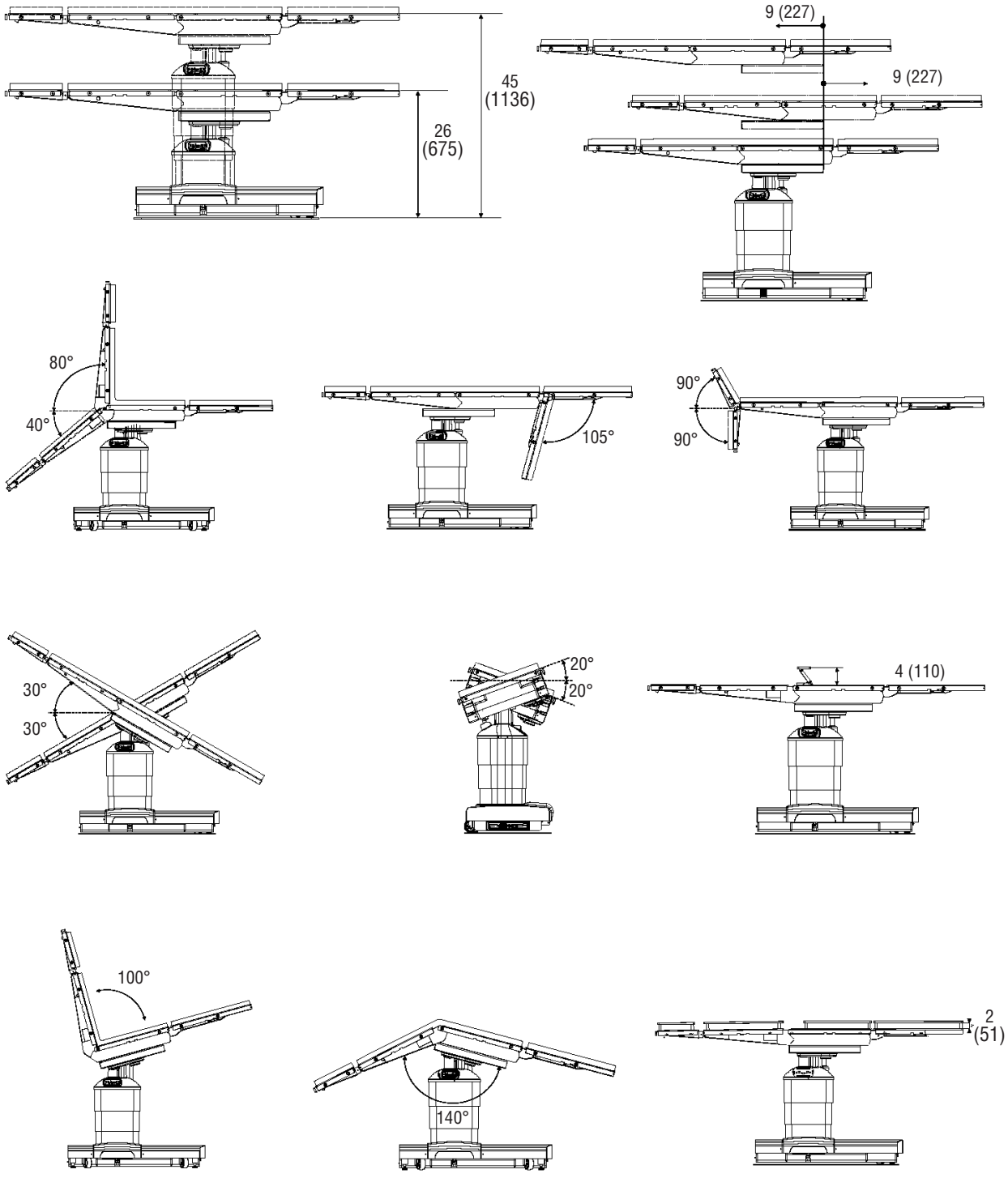


Figure 2-4. STERIS 4085 General Surgical Table Range of Motion (Typical)

- Medical Electrical Equipment needs special precautions regarding high frequency interference. Equipment needs installed and put into service according to facility regulations and procedures.
- Potential hazards from the interfering high-frequency device could be patient burns and/or electrical shock of patient and operator.
- Potential explosion hazards caused by the interfering high-frequency device because this surgical table is not suitable for use in the presence of a flammable anesthetic mixture with air or oxygen or nitrous oxide.

2.5.4 Weight

Table: Approximately 560 lb (250 kg)
Maximum Patient Weight (patient in normal or reverse orientation): 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower); 1000 lb (454 kg) full patient posturing (except tabletop slide); 600 lb (272 kg) full patient posturing (including tabletop slide).

2.5.5 Power Requirements

Line Power Input: 100-240 Vac, One-Phase, 50/60 Hz, 4.0 Amp

NOTE: Each table is shipped from the factory configured to the electrical requirement specified on the factory order. If this electrical configuration needs to be changed in the field, consult STERIS for the needed procedure and required materials.

2.5.6 Essential Performance

Essential Performance for Surgical Tables:

1) Support a patient without unwanted movement under single fault conditions.

2) Single fault conditions can include electrical, electromagnetic effects or mechanical problems.

3) In extreme cases of electromagnetic interference, operator may experience temporary loss of table function. This situation can be corrected by removing source of interference and power cycling surgical table if necessary.

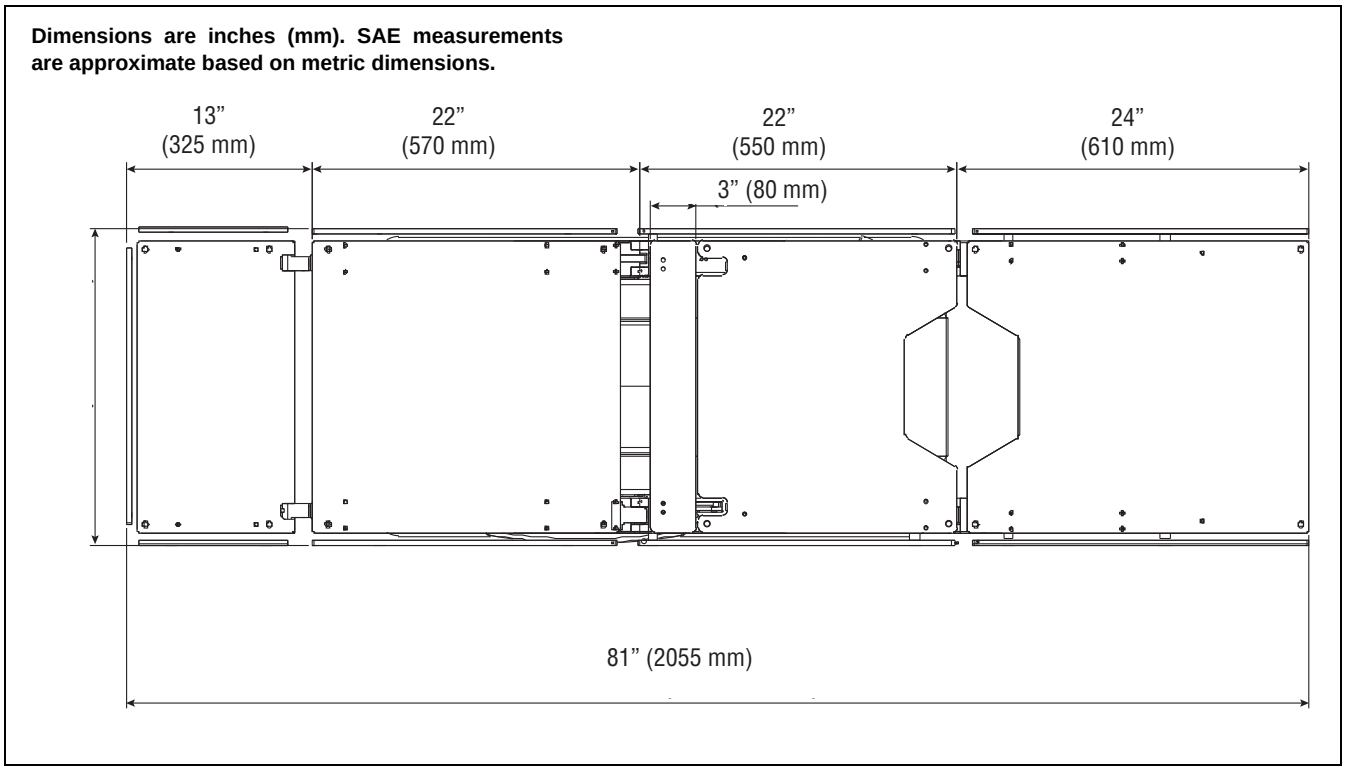


Figure 2-5. STERIS 4085 General Tabletop Dimensions (Typical)

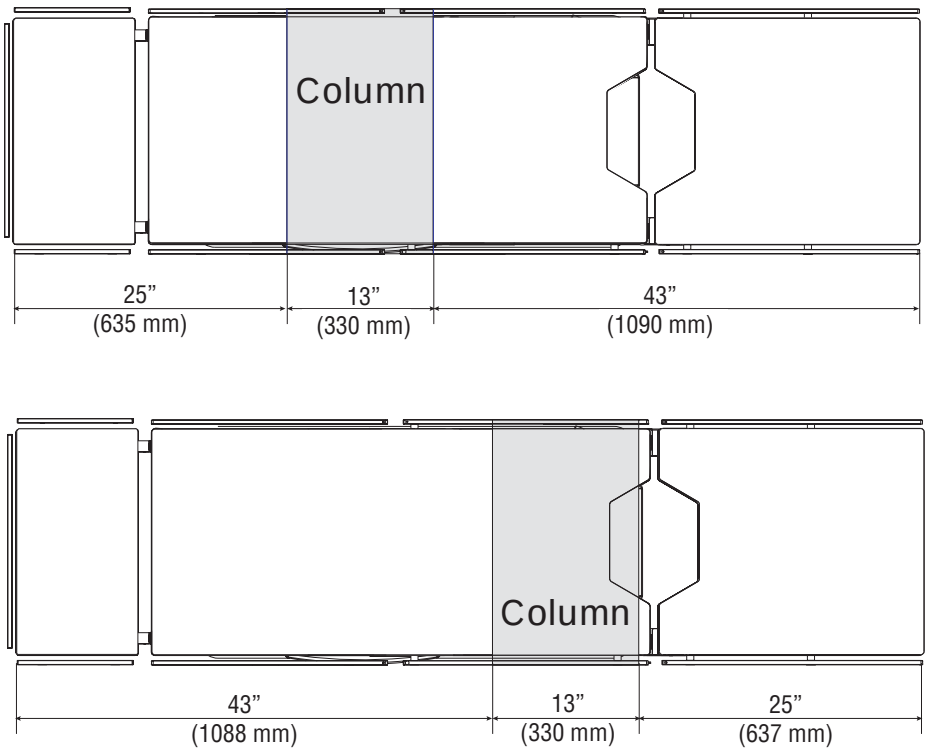


Figure 2-6. STERIS 4085 General Surgical Table Image Amplification Coverage

2.5.7 Environmental Conditions

Temperature: 63-77°F (17-25°C)

Relative Humidity: 20-80% RH

Atmospheric Pressure: 700-1060 hPa

2.5.8 Image Amplification Coverage

See *FIGURE 2-6.*

2.5.9 Transportation/Storage Conditions

Ambient Temperature: -40 - 158°F (-40 - 70°C); Not to exceed 15 weeks.

Relative Humidity: 10-100% non-condensing

Atmospheric Pressure: 500-1060 hPa

INSTALLATION INSTRUCTIONS

3

WARNING – PERSONAL INJURY HAZARD:

- **Keep hands and feet clear of the unloading platform and the table base when unloading the table. Serious personal injury could result.**
- **If the integrity of the external protective ground installation or arrangement is in doubt, operate the table from its internal power source.**

WARNING – EXPLOSION HAZARD: Table must not be used in the presence of flammable anesthetics.

WARNING – TRIPPING HAZARD: Route the power cord to the receptacle to minimize being tripped over by personnel in the area.

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Table is factory set to operate at a certain voltage. Use of any other power supply could result in serious personal injury or table damage.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: When moving the table to or from point of use, roll it carefully at moderate speed and only over smooth floors. Maximum floor clearance is 1/4" (6.4 mm). Avoid door and elevator jambs, and obstructions greater than 1/4" (6.4 mm). If necessary, lift table over obstructions, onto trucks, etc. Lift table evenly and only by the table base. DO NOT transport articles (including accessories) on top of the table, and DO NOT use a forklift to move the uncrated table.

Check the overall condition of the STERIS 4085 General Surgical Table and any applicable accessories upon receipt to ensure nothing was damaged during shipment. If damage appears to have occurred, contact the shipping company and STERIS.

STERIS recommends that only STERIS-trained or STERIS-supervised personnel attempt to uncrate/crate, install and perform maintenance on the STERIS 4085 General Surgical Table. Uncrating, crating, installation or maintenance by others may result in personal injury or damage to the product. Any alteration of this equipment not authorized or performed by STERIS will void the warranty, could adversely affect proper table functioning, could violate national, state and local regulations.

NOTE: A patient grounding post/potential equalization terminal (male connector, DIN 42801) is provided. The mating female connector for patient grounding is not furnished by STERIS.

IMPORTANT: *Before connecting the table to your ac power system, ensure table is marked for your power system (100, 120, 220 or 230/240).*

Install the table as follows:

WARNING – PERSONAL INJURY HAZARD: If an antistatic path is necessary, STERIS recommends the use of antistatic pads (specifically developed for this table) in direct contact with the patient. Table must also be positioned on antistatic floor or connected to equalization device (equipotential connector).

1. Position table at desired location.

   NOTE: The power cord is approximately 18 ft (5.5 m) long. Ensure table is positioned properly.

2. The STERIS 4085 General Surgical Table is equipped with INTELLIPOWER® dual power system modes. If table is to be operated on battery power, proceed to **Step 8**.
3. If not already installed, install battery fuse into table base as follows (see Figure 3-1):
   a. Locate correct battery fuse.
   b. Unscrew and remove black fuse cap.
   c. Insert fuse in cap.
   d. Insert fuse (with cap) into fuse holder assembly in table base.
   e. Push in fuse and cap and turn a quarter turn to lock assembly into table base.

   NOTE: If table is going to be stored for more than six months, remove fuse to limit battery discharge.
4. Plug power cord into appropriate socket on table base (see Figure 3-2).
5. Plug power cord into appropriate facility outlet.

NOTE: Where the integrity of the external protective earth conductor arrangement is in doubt, use battery power only.

6. Turn Main Power Switch to ON. Switch turns Green and plug symbol on INTELLIPOWER® LED Display lights.

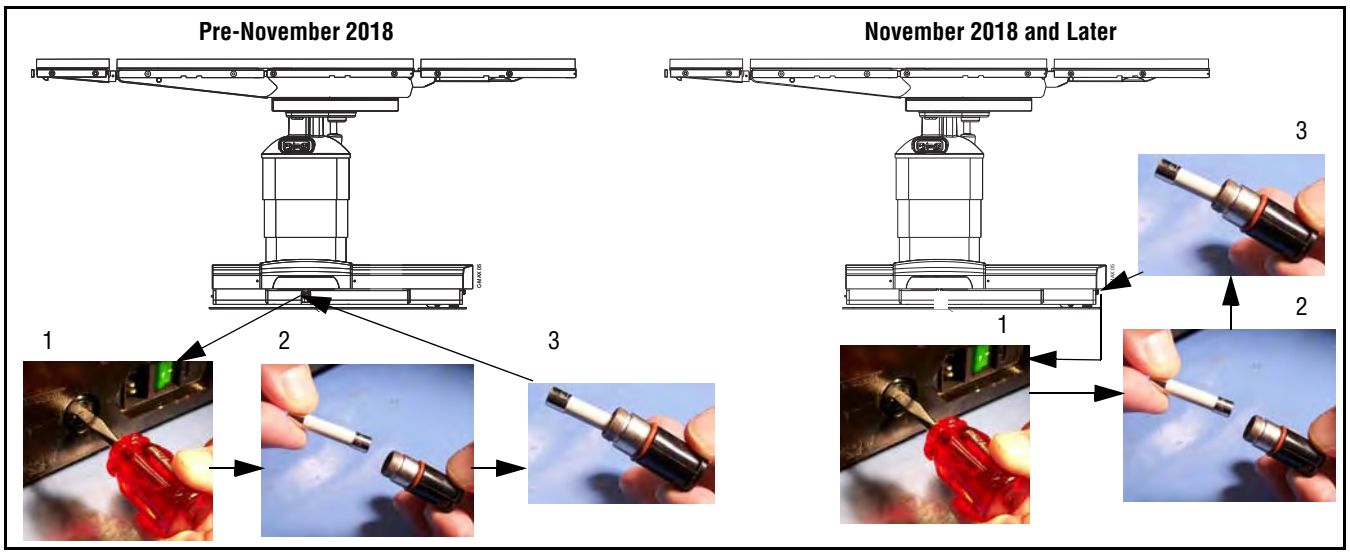


Figure 3-1. Install/Remove Battery Fuse

NOTE: A green Main Power Switch indicates facility power is available to the STERIS 4085 General Surgical Table. A lighted plug symbol on the LED Display indicates the batteries are charging. Refer to SECTION 5.5, BATTERY CHARGING PROCEDURE.

7. Route power cord to eliminate Tripping Hazard for facility personnel.
8. Remove hand control from package and plug into appropriate socket on table column (see Figure 3-3 and Figure 3-4) as follows:
   a. Lift appropriate protective cover on connection panel.
   b. Align red mark (or arrow) on hand control plug with red mark on table socket.
   c. Push hand control plug into table socket until a "click" is heard.
   d. Place hand control on table side rail.
9. Remove foot control (optional) from package and plug into appropriate socket on table column (see Figure 3-4 and Figure 3-5) as follows:

NOTE: The optional foot control allows operator to control HEIGHT, TREND and TILT movements.

   a. Lift appropriate protective cover on connection panel.

b. Align red mark (or arrow) on foot control plug with red mark on table socket.

c. Push foot control plug into table socket until a "click" is heard.

d. Place foot control where it cannot be damaged.

10. Lock table by using hand control to activate floor locks.

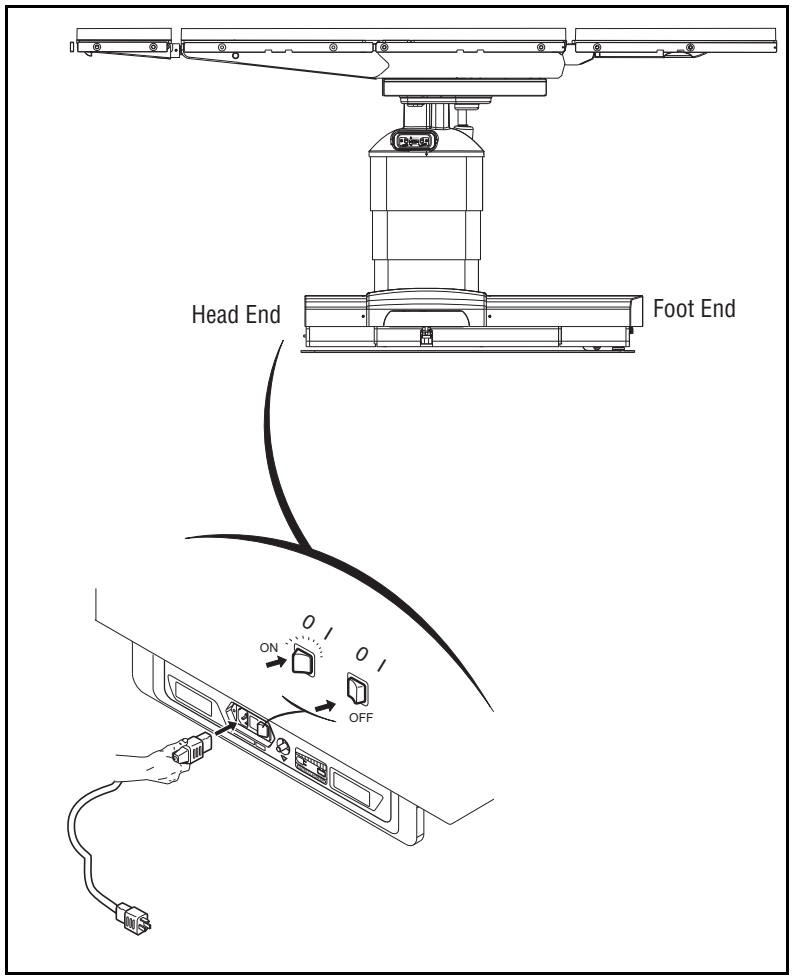


Figure 3-2. Connect STERIS 4085 General Surgical Table to Facility Power (Typical)

11. Install head section as follows:

a. Fully loosen both locking thumbscrews located at bottom edge of back frame (see Figure 3-6).

b. Insert both head section installation rods into back frame until fully engaged.

NOTE: The head section should slide easily into back frame. Do not force.

c. Fully tighten both locking thumbscrews to lock head section in place.

d. Pull head section (both sides) to ensure correct installation.

12. Install leg section as follows:

NOTE: The STERIS 4085 General Surgical Table is equipped with Hi-Lock™ locking mechanism enabling quick and easy removal/ installation of the leg section with a safety lock feature.

a. Using hand control, position table top seat section to horizontal by pressing **LEG UP** button (refer to *SECTION 4.2, HAND CONTROL)*.

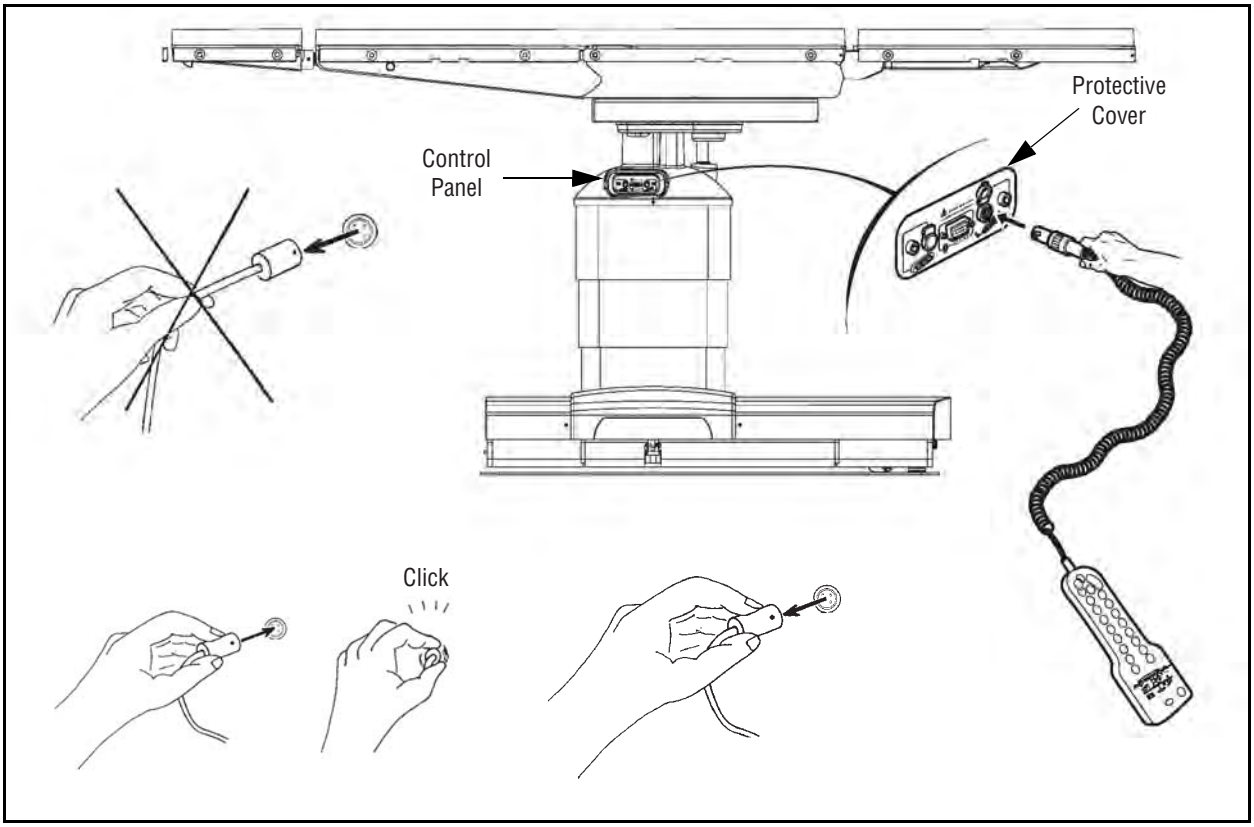


Figure 3-3. Connect Hand Control to STERIS 4085 General Surgical Table (Typical)

b. Insert both leg section installation rods into seat frame until fully engaged. Listen for "click" sound to indicate correct installation (see Figure 3-8).

NOTE: The leg section should slide easily into the back frame (seat section). Do not force.

c. Pull leg section (both sides) to ensure correct installation.

This completes the STERIS 4085 General Surgical Table installation. Refer to *SECTION 4* for Operating Instructions.

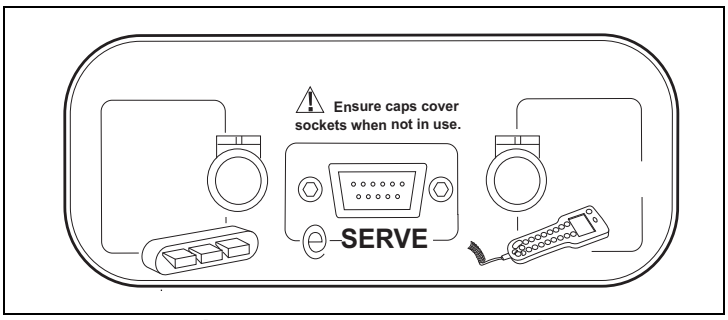


Figure 3-4. Connect Panel

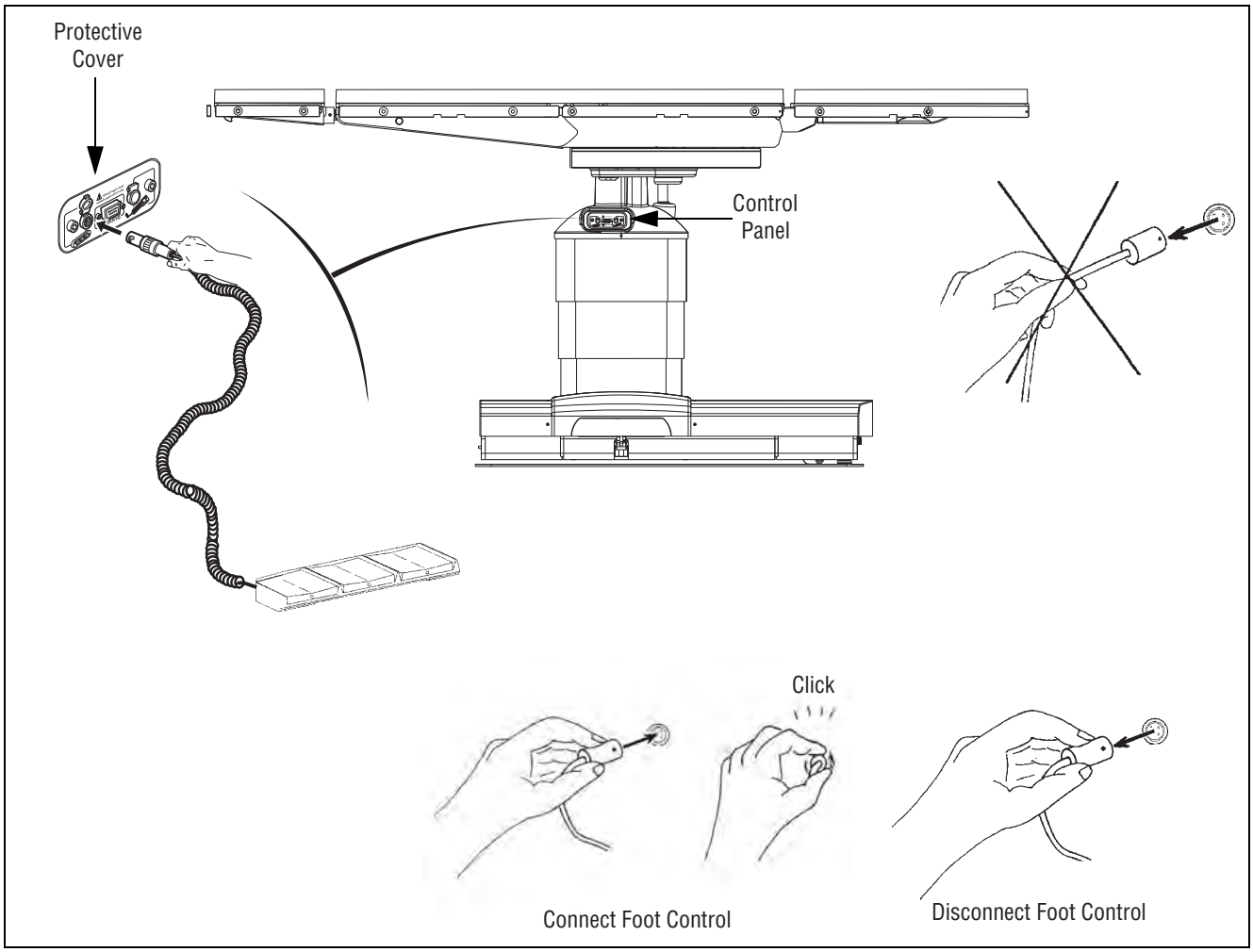


Figure 3-5. Connect Optional Foot Control to STERIS 4085 General Surgical Table (Typical)

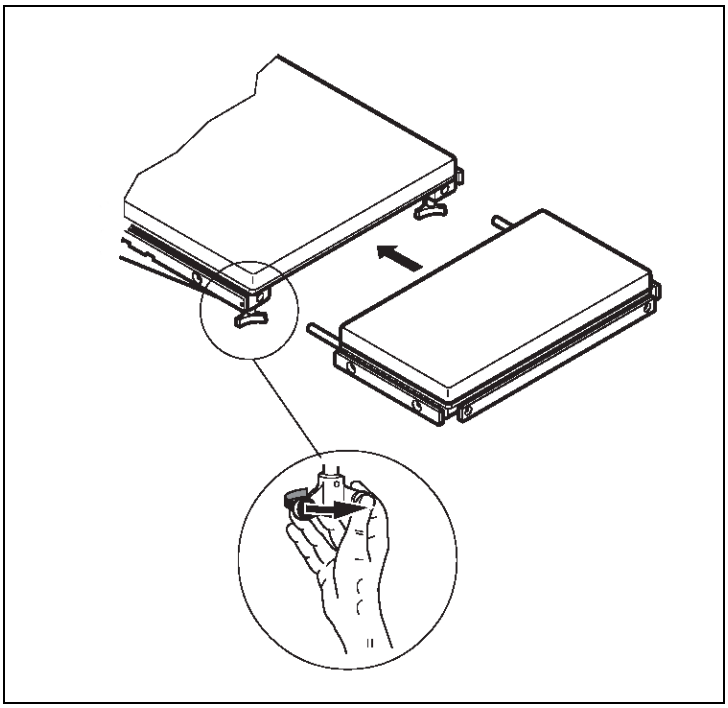


Figure 3-6. Install Head Section

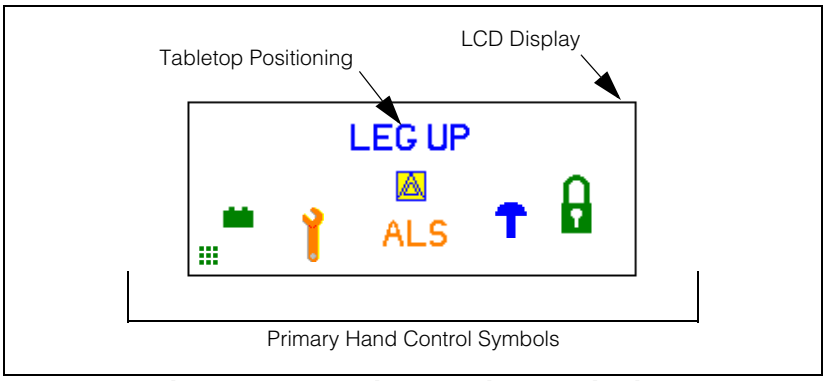


Figure 3-7. Hand Control LCD Display

WARNING – PERSONAL INJURY HAZARD: Do not exceed 350 lb (159 kg) on the leg section.

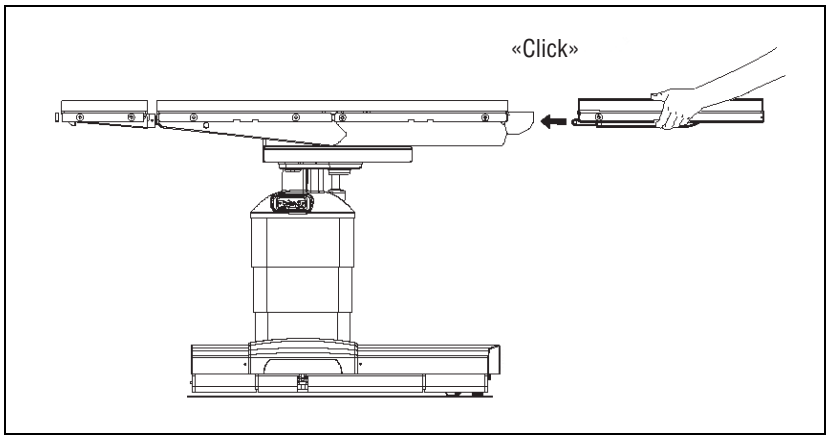


Figure 3-8. Attaching Leg Section (Typical)

OPERATING INSTRUCTIONS

4

4.1 Operating Table

WARNING – PERSONAL INJURY HAZARD:

- **Section 4.1, Steps 1 - 6 in "Operating the Table" must be executed before patient is transfered to the table. Execution of Steps 1 - 6 with the patient on the table could result in injury to both the patient and the operating room staff.**
- **Healthcare professionals must ensure that patients are positioned and monitored so as to prevent compromising respiration, nerve pathways or circulation.**
- **Patient must be secured to the table in accordance with recommended positioning practices. Unanticipated patient or table movement could result in death or serious injury.**
- **If the integrity of the external protective earth conductor installation or arrangement is in doubt, operate the table from its internal power source.**

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

- **Table is factory set to operate at a certain voltage. Use of any other power supply could result in serious personal injury or table damage.**
- **Use of this table in the presence of flammable anesthetics could result in serious personal injury or table damage.**

Operate the STERIS 4085 General Surgical Table as follows:

1. Review Pinch Point Warnings as presented in *SECTION 2.1, PINCH POINT WARNINGS* of this manual.
2. STERIS 4085 General Surgical Table is equipped with INTELLIPOWER® dual power system. If table is to be operated on battery power, proceed to **Step 4**.

   NOTE: For more information on the battery system, refer to SECTION 5.5, BATTERY CHARGING PROCEDURE.
3. Verify power cord is plugged into both the facility outlet and table receptacle and Main Power Switch is in ON position.

   NOTE: For cord connected tables, the power cord attachment plug is to be used as a disconnect from facility power. The surgical table must be positioned so plug is not difficult to reach.
4. For optimum performance, before attempting to operate table, **allow table to reach room temperature** (see Figure 4-1).
5. After referencing *SECTION 4.2.1, HAND CONTROL FUNCTION BUTTONS DESCRIPTION,* position tabletop to LEVEL.

   *NOTE: If the Hand Control AND Foot Control are installed, Hand Control has priority. Also, the STERIS 4085 General Surgical Table Head Section is manually adjusted as follows (if Head Section is not installed, refer to SECTION 3, INSTALLATION INSTRUCTIONS, **Step 11**):*

   1) The head section may be positioned UP and DOWN 90° from horizontal (level).

   2) While holding head section securely in one hand, pull release handle (spring loaded) located under right side of head section (see Figure 4-2) and tilt head section to desired angle (level in this case).

   3) Release handle to lock head section at desired angle. Move headrest slightly until ratchet mechanism locks headrest in position.

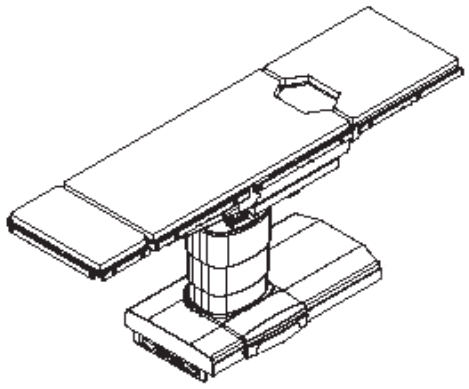


Figure 4-1. STERIS 4085 General Surgical Table (Typical)

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Placing a patient whose weight exceeds maximum patient weight limit (patient in normal or reverse orientation) of 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower), 1000 lb (454 kg) with patient posturing (except tabletop slide), or 600 lb (272 kg) with full patient posturing (including tabletop slide) could result in injury to the patient and the operating room staff, and serious equipment damage.

WARNING – TIPPING HAZARD:

- **Do not place patient on the table unless floor locks are engaged.**
- **Do not use this table for patients exceeding the maximum patient weight (patient in normal or reverse orientation) of 1100 lb (499 kg) without patient posturing or tabletop slide (except raise / lower), 1000 lb (454 kg) with patient posturing (except tabletop slide), or 600 lb (272 kg) with full patient posturing (including tabletop slide).**
- **Center tabletop over column before applying chest compressions.**

WARNING – PERSONAL INJURY HAZARD: Do not exceed 350 lb (159 kg) on the leg section.

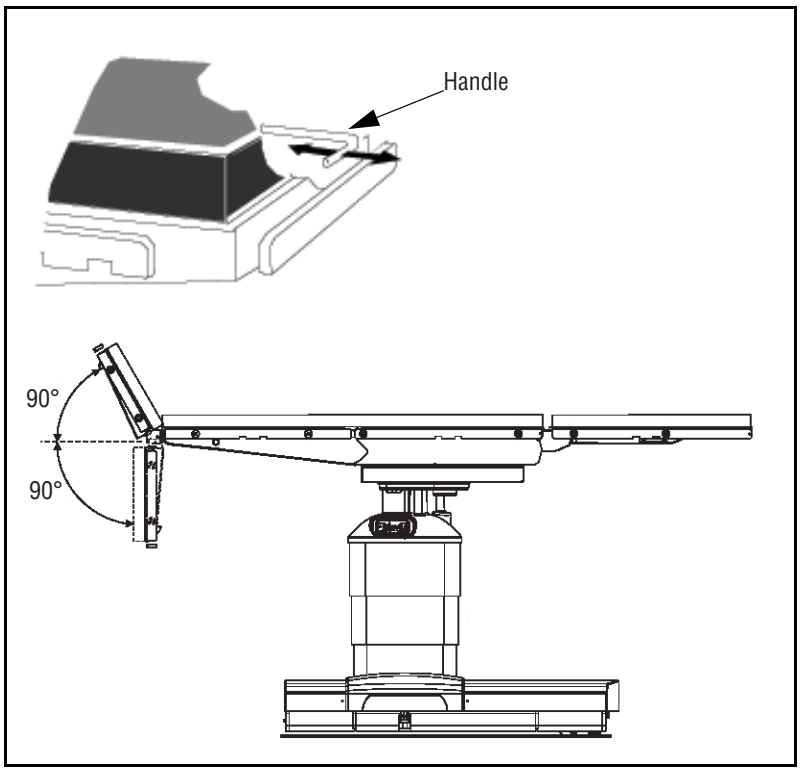


Figure 4-2. Head Section Operation (Typical)

6. Engage floor locks by pressing hand control **LOCK** button (see *SECTION 4.2.1, HAND CONTROL FUNCTION BUTTONS DESCRIPTION*).
7. Before placing patient on table, ensure patient does not exceed maximum patient weight limit (patient in normal or reverse orientation) of 1100 lb (499 kg) without patient posturing or tabletop slide (except raise/lower); 1000 lb (454 kg) full patient posturing (except tabletop slide); 600 lb (272 kg) full patient posturing (including tabletop slide). Assuming patient weight does not exceed table weight capacity, transfer or position patient and ensure patient is properly restrained (refer to ***SECTION 2.3, PATIENT SAFETY STRAPS,*** in this manual).

NOTE: A patient grounding post/potential equalization terminal (male connector, DIN 42801) is provided. The mating female connector for patient grounding is not furnished by STERIS.

4.2 Hand Control

If hand control is not installed, plug the hand control into the appropriate socket of the table column (refer to Figure 3-3 and Figure 3-4) per **Step 8,** *SECTION 3, INSTALLATION INSTRUCTIONS*. When tabletop is in Standard Operating Mode (versus Reverse Orientation Mode), Auto Limit Sensor system provides instant user feedback on any conflicting tabletop articulations. Refer to *APPENDIX A* for additional Universal Hand Control features.

4.2.1 Hand Control Function Buttons Description

*NOTE: The hand control automatically deactivates upon nonuse after 30 minutes if floor locks are released and 10 hours when floor locks are engaged. The hand control is reactivated by depressing **ANY** button but **STOP**.*

The STERIS 4085 General Surgical Table is equipped with a hand control (see Figure 4-3). This hand control contains easy-to-read ICONs and illuminates the key pad for easy articulation identification when room is dark. For the hand control function buttons to be operational:

1. The table must be turned on. Reference **Steps 3 and 4** in *SECTION 4.1, OPERATING TABLE*.

   NOTE: Software Version appears on the LCD Display for one second then goes off indicating that the table is ready for operation.
2. The hand control must be turned ON. (Press **ANY** function button on the Hand Control except **STOP**; the keyboard backlighting system is illuminated.)

WARNING – PINCHING AND TIPPING HAZARD: Patient injury may result if the operator of this table is not completely familiar with the controls for patient positioning and table operation.

WARNING – PERSONAL INJURY HAZARD: The floor locks must be engaged at all times a patient is on the table. Failure to lock the floor locks before placing a patient on the table or disengaging the floor locks while a patient is on the table could result in the table rolling unexpectedly during the procedure. However, if table needs to be repositioned within operating room with patient aboard, proceed as directed in *SECTION 2.2, PATIENT POSITIONING AND WEIGHT LIMITATION*.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Hang the hand control from side rail of the table when not in use, to avoid possible damage to the control.

The hand control contains a backlighted keyboard and a LCD Display (see Figure 4-4). This display provides table status and instructions for the user. The hand control pushbuttons, LCD Display, and descriptions are as follows (see Figure 4-3):

NOTE: Simply release the hand control pushbutton when desired STERIS 4085 General Surgical Table Tabletop position has been reached and table automatically stops and locks in position. Refer to SECTION 2.5.2, RANGE OF MOTION, for the positioning of the following table functions.

Reverse Orientation: See *SECTION 4.3, REVERSE PATIENT ORIENTATION*.

FLEX: When depressed, back section moves down and tabletop moves into Reverse Trendelenburg position.

NOTE: In reverse configuration, FLEX function is NOT available for patient safety. REV. ORIENT appears in the LCD Display and LED lights.

REFLEX: When depressed, back section moves up and tabletop moves into Trendelenburg position.

NOTE: In reverse configuration, REFLEX function is NOT available for patient safety. REV. ORIENT appears in the LCD Display and LED lights.

SLIDE HEAD: When depressed, Zip-Slide™ moves tabletop toward head end. When slide returns to central ("0") position, **movement stops for one second before continuing.** LCD Display Slide Head ICON (refer to **Table 1-3**) displays. An ICON is not displayed at center (“0”) position.

Figure 4-3. STERIS 4085 General Surgical Table Primary Hand Control

SLIDE FOOT: When depressed, Zip-Slide moves tabletop toward foot end. When slide returns to central ("0") position, **movement stops for one second before continuing**. LCD Display Slide Head ICON (refer to **Table 1-3**) displays. An ICON is not displayed at center (“0”) position.

NOTE: To toggle Slide Units between Inches and Centimeters, proceed as follows:

1) Turn Hand Control ON.

2) After control completes boot-up, immediately hold for one second and release LEVEL and FLEX simultaneously.

3) Verify units change from "Inches" to "Centimeters."

HEIGHT UP: When depressed, the **entire** tabletop rises.

HEIGHT DN: When depressed, the **entire** tabletop lowers.

TREND: When depressed, the head end of the tabletop lowers; or, foot end raises.

REVERSE TREND: When depressed, the head end of the tabletop rises; or, foot end lowers.

TILT LEFT: When depressed, the tabletop rolls to the left (patient's left or viewing the table from the head end).

TILT RIGHT: When depressed, the tabletop rolls to the right (patient's right or viewing the table from the head end).

BACK UP: When depressed, the tabletop back section raises.

BACK DN: When depressed, the tabletop back section lowers.

LEG UP: When depressed, the tabletop leg section raises.

LEG DN: When depressed, the tabletop leg section lowers.

KIDNEY UP: When depressed, the tabletop Kidney™ Elevator Mechanism raises to the maximum 4" (110 mm). The LCD Display Kidney Bridge (refer to **Table 1-3**) ICON displays.

KIDNEY DN: When depressed, the tabletop Kidney Elevator Mechanism lowers. The LCD Display Kidney Bridge (refer to **Table 1-3**) ICON is no longer displayed.

LEVEL: When depressed, the tabletop is gradually returned to level or horizontal position by aligning the tabletop sections in the following order:

- Kidney Elevator Mechanism and lateral tilt;
- Trendelenburg and back;
- Leg.

*NOTE: When using **LEVEL** function, note the following:*

1) *When operating in Reverse Orientation, **LEVEL** function does NOT operate.*
2) *When **SENSOR FAIL** or **SENSOR DEF** alarms are active, **LEVEL** function is disabled.*

FLOOR LOCK: When **FLOOR LOCK** button is depressed, the LCD Display shows the ICONs for Locked (green) or Unlocked (orange).

- To lock table, press and hold **FLOOR LOCK** button. LCD Display shows “Hold 1 sec to Lock.” After one second, control system orders floor locks to lower. While floor locks are lowering, LCD Display shows “LOCKING.” Once table is locked, Locked (green) ICON appears on LCD Display and green LED lights at FLOOR LOCK pushbutton.
- To unlock table, press and hold **FLOOR LOCK** button. LCD Display shows “Hold 3 secs to Unlock.” After three seconds, control system orders floor locks to raise. While floor locks are raising, LCD Display shows “UNLOCKING.” Once table is unlocked, UnLocked (orange) ICON appears on LCD Display and amber LED lights at FLOOR LOCK pushbutton.

NOTE: When table is in the UNLOCK configuration, NO tabletop functioning is active. If a tabletop function button is pressed while table is in the UNLOCK configuration, the LCD Display shows LOCK TABLE.

STOP: When depressed, all hand control function buttons deactivate. All functions are stopped immediately.

*NOTE: The hand control automatically deactivates upon nonuse after 30 minutes if floor locks are released and 10 hours when floor locks are engaged. The hand control is reactivated by depressing **ANY** button but **STOP**.*

4.2.2 Hand Control LCD Display Description

The Hand Control is equipped with a LCD (Liquid Crystal Display) Display to assist in the table operation (see Figure 4-4). The LCD Display indicator descriptions are as follows:

NOTE: Numbers in ( ) refer to items shown in Figure 4-4.

LCD Display (1): displays any control system messages to the user about table operation.

LCD Status ICONs (2): indicates the table is receiving power from the table batteries (Battery ICON) or facility power (Plug ICON) and whether the table floor locks are engaged or not (Lock or Open Lock ICONS). Refer to **Table 1-3**. This area may also indicate an operational situation, see Maintenance (11). Refer to *SECTION 6, TROUBLESHOOTING*, for more information.

Tabletop Positioning (3): indicates what tabletop function is in operation.

NOTE: Auto Limit Sensors (ALS) Warning indicates the tabletop has been ordered into a configuration or has moved into a position that may cause tabletop damage or patient injury. This feedback is from the Auto Limit Sensor™ (patent pending) control device system. To prevent a tabletop sectional conflict, or collision of tabletop with the table or floor, ALS System immediately stops the movement in process and the ALS LED lights. The control system alerts the user to an alternative movement choice in the LCD Display (1).

IMPORTANT: *The ALS System suggested alternative movement is not the only movement available.*

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: The Auto Limit Sensor (ALS) System suggested alternative tabletop movement does not take into account the type of surgery that may be in process or the environment (e.g., other equipment close by) and might not be compatible with the surgical procedure. To avoid an action that could result in death or serious injury to the patient and the operating room staff, and/or serious equipment damage, completely evaluate the feasibility of the suggestion.

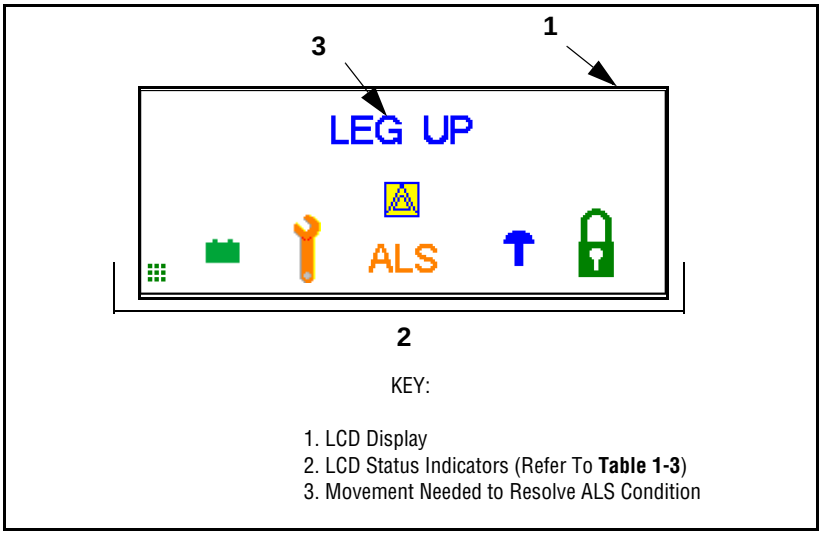


Figure 4-4. Primary Hand Control LCD Display

4.3 Reverse Patient Orientation

WARNING – PERSONAL INJURY HAZARD: Do not exceed 350 lb (159 kg) on the leg section.

Definition: Headrest attached to leg section and patient oriented with head on headrest.

Some surgeries (e.g., shoulder) require the patient to be in reverse positioning and the table to be operated in a reverse configuration. Press **Reverse Orientation** button on hand control (see Figure 4-3) and hold for two seconds, Yellow LED should light beside graphic representation of Reverse Orientation. Press **Reverse Orientation** button again and hold for two seconds to cancel Reverse Orientation function and green LED lights beside graphic representation of Normal Orientation.

When **Reverse Orientation** button is pressed, all other hand control commands (through the control system) note the new patient head position. Trendelenburg and Lateral Tilt movements and Back and Leg Sections are automatically reversed.

IMPORTANT:*When using the* ***Reverse Orientation*** *button, note the following:*

3) The information displayed on the LCD is NOT reversed.

4) When table is turned OFF, control system stores orientation status. Before any new positioning is attempted, ensure table patient configuration is correct.

5) The STERIS 4085 General Surgical Table Head Section is manually adjusted and is not affected by ***Reverse Orientation*** *button operation.*

6) FLEX and REFLEX functions are NOT available for patient safety.

7) When operating in REVERSE ORIENTATION, ***LEVEL*** *function does NOT operate.*

8) The hand control automatically deactivates upon nonuse after 30 minutes if floor locks are released and 10 hours when floor locks are engaged. The hand control is reactivated by depressing ***ANY*** *button but* ***STOP.***

4.4 Optional Foot Control Operation

The STERIS 4085 General Surgical Table may be operated using the optional foot control as follows:

1. Connect foot control cord to appropriate control panel socket on table column (refer to Figure 3-5).
2. The foot control allows operator to control HEIGHT, TREND and TILT movements.
3. Press and release any positioning pedal to switch table control ON. If the hand control is also attached, PEDAL ON appears on the LCD Display message window.

   NOTE: When using the hand control and optional foot control at the same time, the hand control has priority. Also, if the hand control ***STOP*** *button is pressed, foot control also switches OFF.*
4. If foot control is unplugged from table, ENSURE protective cover is placed over opening.

4.5 Backup (Override) Control System

The STERIS 4085 General Surgical Table is equipped with an auxiliary control system. This system can be actuated at any time and allows table operation in the event of primary control malfunction. A pedal (foot pump to provide hydraulic power) and override hand control (see Figure 4-4 and Figure 4-6) are located on the right side of the table base behind a cover panel and are used for table movements.

NOTE: The STERIS 4085 General Surgical Table head section must be manually adjusted.

4.5.1 Backup (Override) Control System Operation

To operate system, proceed as follows (see Figure 4-5):

1. Flip pedal down.
2. Slide Backup Hand Control out from base.
3. To operate table functions, pump pedal while pressing desired function button on Backup Hand Control (see Figure 4-6).

NOTE: When using the Backup (Override) Control System, note the following:

*1) For **FLOOR UNLOCK** and **SLIDE (HEAD** and **FOOT)** functions, it is not necessary to pump pedal.*

2) Pressing any button on the Backup Hand Control deactivates Primary Hand Control.

*3) When a **SLIDE** pushbutton is pressed, the green LED (see Figure 4-6) next to the word CAUTION should light indicating system is active.*

*4) When any tabletop function button (except **SLIDE**) is pressed, green LED next to USE WITH FOOT PUMP should light.*

5) The ALS System is NOT active during Backup (Override) Control System operation.

*6) When table is in the Backup **UNLOCK** configuration, tabletop functioning IS active. **LOCK** table before moving tabletop.*

*7) Reverse Orientation is NOT available in Backup Control operation. If patient was in reverse orientation when auxiliary control was activated, change **TREND** to **REV. TREND**, **LEFT TILT** to **RIGHT TILT**, etc.*

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

- **ALS System is not active during Backup Control. Ensure proper tabletop movements to prevent patient/staff injury and/or equipment damage.**
- **During Backup Control, tabletop functions are available even if table floor locks are NOT engaged. LOCK table before moving tabletop or transferring patient.**

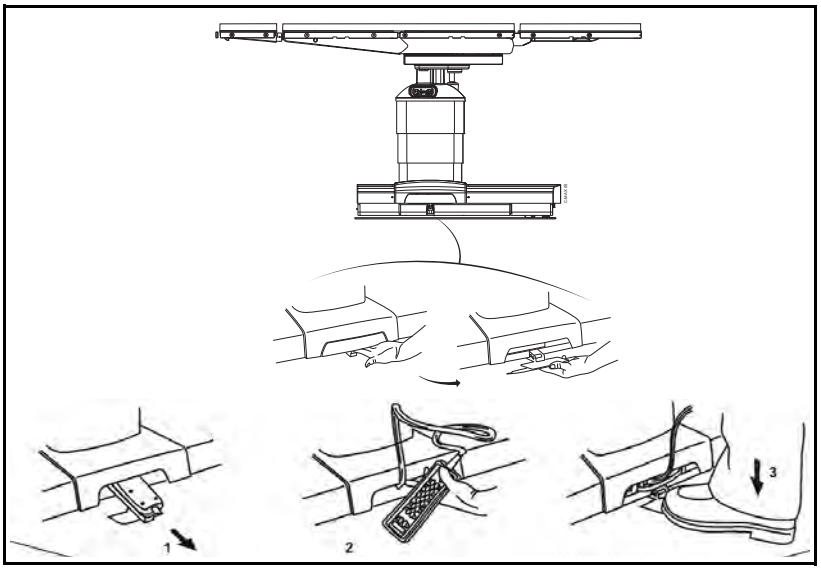


Figure 4-5. Backup (Override) Control System

4.5.2 Backup Hand Control Description

The Backup Hand Control pushbutton descriptions are as follows (Figure 4-6):

NOTE: Simply release the Backup Hand Control pushbutton when desired STERIS 4085 General Surgical Table Tabletop position has

been reached and table automatically stops and locks in position. Refer to SECTION 2.5.2, RANGE OF MOTION, for the positioning of the following table functions.

SLIDE HEAD: When depressed, Zip-Slide moves tabletop toward head end. When slide returns to central ("0") position, movement stops for one second before continuing. Function powered by battery.

SLIDE FOOT: When depressed, Zip-Slide moves tabletop toward foot end. When slide returns to central ("0") position, movement stops for one second before continuing. Function powered by battery.

HEIGHT UP: When depressed and pumping simultaneously, the **entire** tabletop raises.

HEIGHT DN: When depressed and pumping simultaneously, the **entire** tabletop lowers.

TREND: When depressed and pumping simultaneously, the head end of the tabletop lowers; or, foot end raises.

REVERSE TREND: When depressed and pumping simultaneously, the head end of the tabletop raises; or, foot end lowers.

TILT LEFT: When depressed and pumping simultaneously, the tabletop rolls to the left (patient's left or viewing the table from the head end).

TILT RIGHT: When depressed and pumping simultaneously, the tabletop rolls to the right (patient's right or viewing the table from the head end).

BACK UP: When depressed and pumping simultaneously, the tabletop back section raises.

BACK DN: When depressed and pumping simultaneously, the tabletop back section lowers.

LEG UP: When depressed and pumping simultaneously, the tabletop leg section raises.

LEG DN: When depressed and pumping simultaneously, the tabletop leg section lowers.

KIDNEY UP: When depressed and pumping simultaneously, the tabletop KIDNEY Elevator raises to the maximum 4" (110 mm).

KIDNEY DN: When depressed and pumping, the tabletop Kidney Elevator Mechanism lowers.

FLOOR LOCK: When depressed and pumping simultaneously, floor locks are slowly lowered. To ensure table is correctly secured to the floor, gently push on table.

FLOOR UNLOCK: When depressed, floor locks are slowly released. To ensure floor locks are completely disengaged, gently push on table.

*NOTE: When table is in the Backup **FLOOR UNLOCK** configuration, tabletop functioning IS active. **FLOOR LOCK** table before moving tabletop.*

STOP: When depressed, all hand control function buttons deactivate. All functions are stopped immediately.

4.5.3 Return Backup Control System

When situation has been corrected and normal table operation is available, replace Backup Control System as follows (see Figure 4-5):

1. Turn Backup Hand Control face down.
2. Wind cable and place under controller.
3. Slide controller and cord back into table base.
4. Fold pedal back to original position.

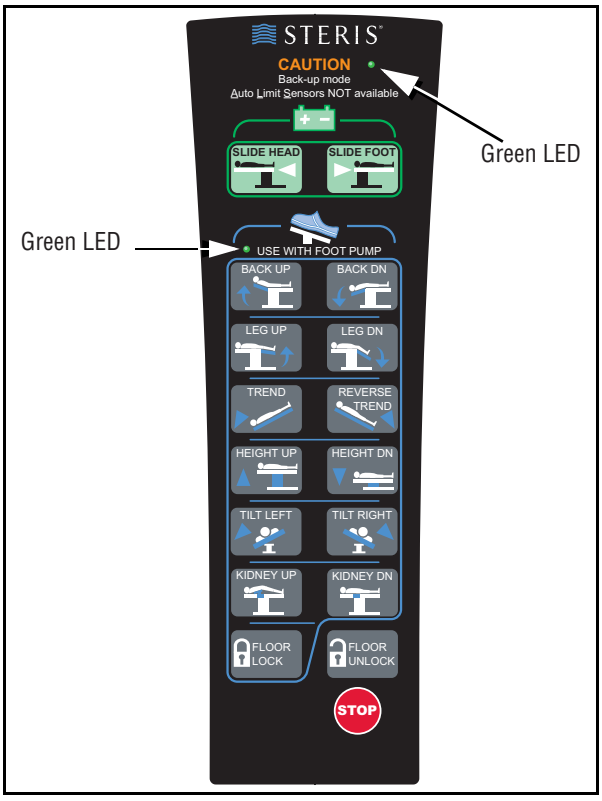


Figure 4-6. Backup (Override) Hand Control

4.6 Leg Section Removal

WARNING – PERSONAL INJURY HAZARD:

- **Do not remove table leg section if patient is not properly positioned. Patient's torso and buttocks must be firmly held in place by table back and seat sections and legs supported by leg supports.**
- **Do not exceed 350 lb (159 kg) on the leg section.**

The STERIS 4085 General Surgical Table leg section is designed to be easily removed (Hi-Lock™ locking mechanism) to enable procedures requiring optional leg supports. Remove the leg section as follows:

1. Using hand control (see Figure 4-3), level leg section (bring to horizontal).
2. While holding leg frame, press both handles and simultaneously pull backward (see Figure 4-7).
3. Safely store leg section to prevent damage.

NOTE: When leg section is removed from the STERIS 4085 General Surgical Table, the LCD Display shows LEG OUT if the LEG UP or LEG DOWN hand control pushbutton is pressed.

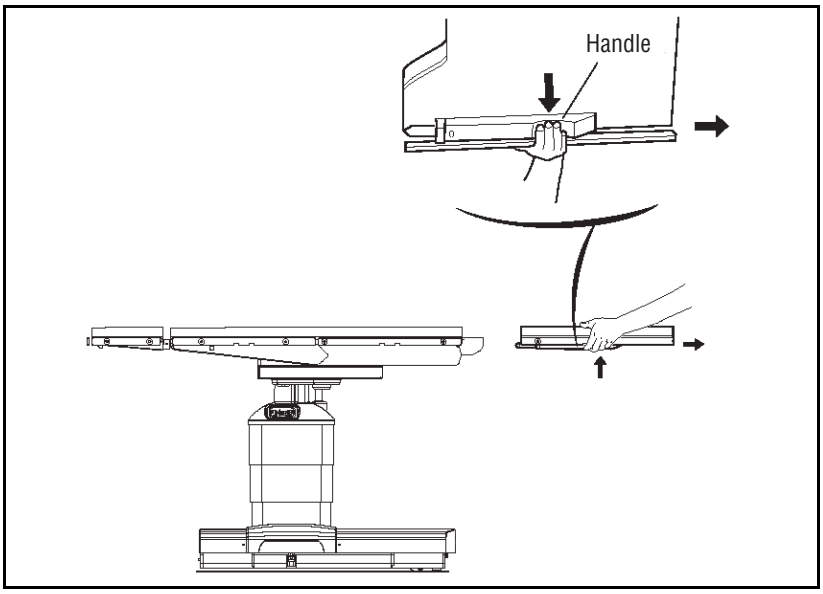


Figure 4-7. Leg Section Removal

4.7 Table Pads

The conductive Tabletop Pads (see Figure 4-8) are backed with fastening strips which fasten to mated strips on the tabletop. To install, proceed as follows:

1. Place pads in position and firmly press fastening strips together.
2. To remove pads, gently “peel” pad away from tabletop.

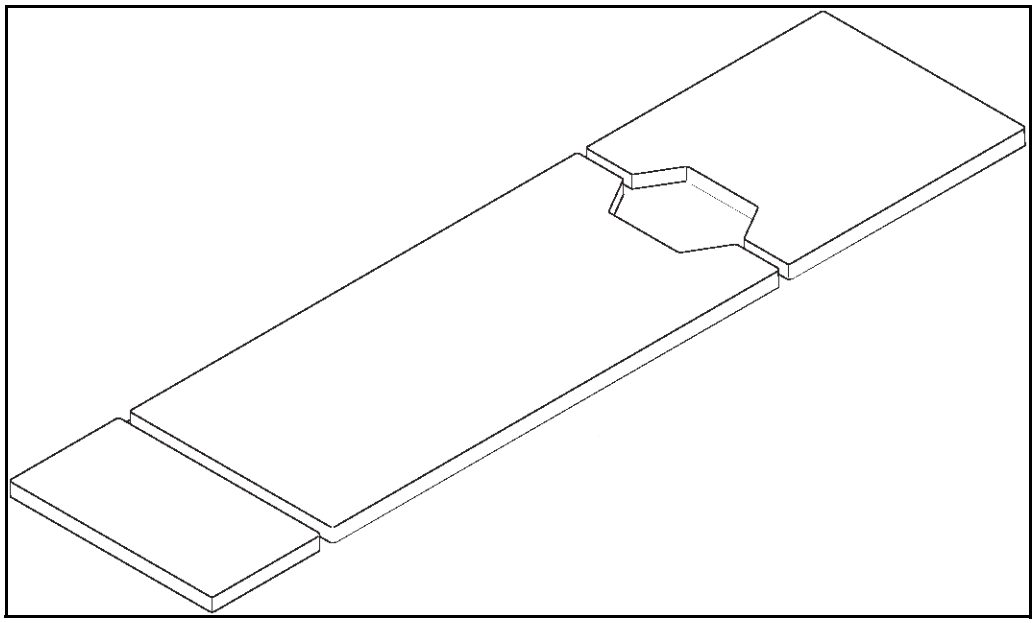


Figure 4-8. Tabletop Pads

4.8 X-Ray Top Installation

The STERIS 4085 General Surgical Table is designed to enable installation of an X-ray top to allow use of X-ray cassette film. Attach the four-part X-ray top as follows (see Figure 4-9):

1. Carefully remove X-ray top sections from packing container.
2. Remove pads from tabletop (see *SECTION 4.7, TABLE PADS*).
3. Position X-ray top section over corresponding tabletop section, aligning posts to mounting holes.
4. Press down on X-ray top section until a "click" is heard.
5. Ensure X-ray top sections are securely mounted by gently pulling up on section.
6. Reinstall tabletop pads.
7. Remove and store X-ray top by reversing above steps.

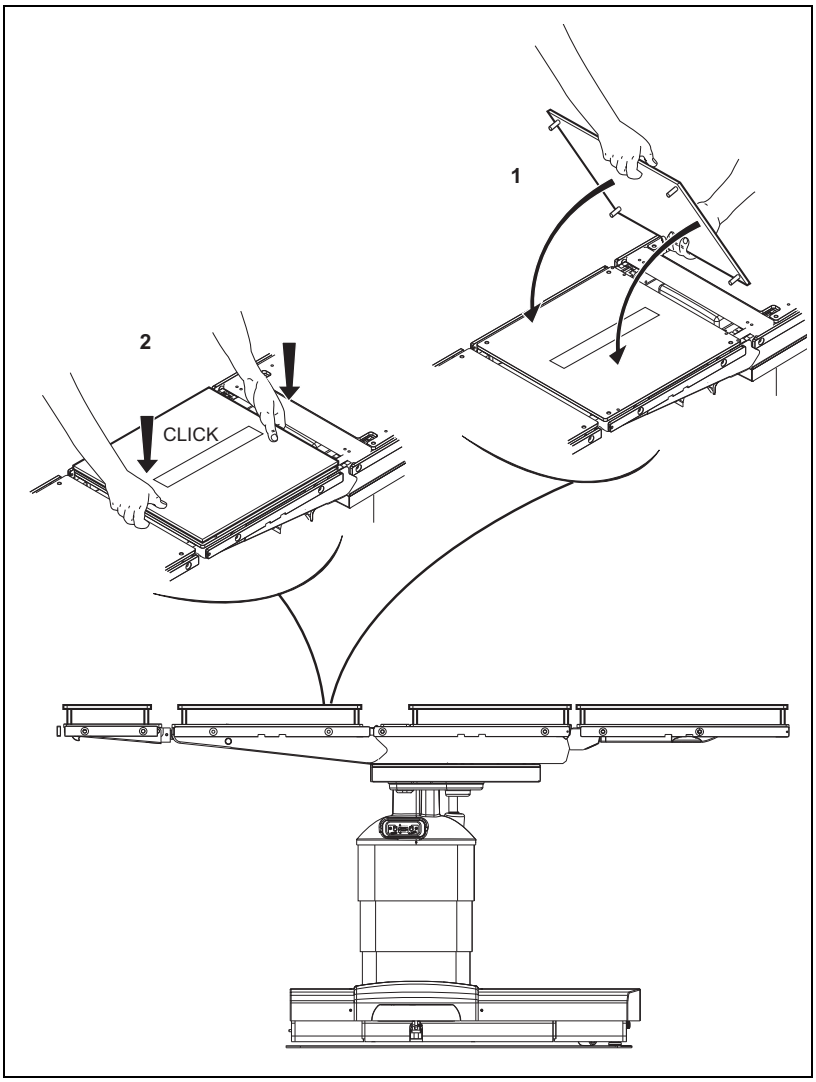


Figure 4-9. X-Ray Top Installation (Typical)

4.9 Accessories/Side Rails

The standard STERIS permanently attached 3/8" wide x 1-1/8" tall side rails allow for the use of many standard surgery table attachments and accessories. The rails consist of one rail mounted to each side of each tabletop main section.

NOTE: Side Rail loading has been evaluated through cantilevered testing and is rated at 200 lb (91 kg). Any additional loading needs to consider table stability.

For complete information on accessory options, consult STERIS.

WARNING – PERSONAL INJURY HAZARD: When installing any table accessory, check for correct attachment and tighten securely (if appropriate). Do not use a worn or damaged accessory. Before using any accessory, ensure it has been installed properly.

WARNING – INSTABILITY HAZARD: Possible patient or user injury, as well as table or accessory failure, may result from using STERIS table accessories for other than their stated purpose – or from using accessories manufactured and sold by other companies on STERIS surgical tables.

Table 4-1. STERIS 4085 General Surgical Table Specific Accessories*

Accessory	Equipment Number
Foot Control	BF58-600
Hand Control	BF319
Table Pads (Complete Set)	BF58-000
X-Ray Top (Complete Set)	BF219

** Contact STERIS for ordering information.*

ROUTINE MAINTENANCE

5

5.1 Read Before Performing Routine Maintenance

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

- **Repairs and adjustments to this equipment must be made only by STERIS or STERIS-trained service personnel. Maintenance performed by unqualified personnel or installation of unauthorized parts could cause personal injury, result in improper equipment performance, invalidate the warranty, or result in costly damage. Contact STERIS regarding service options.**
- **Regularly scheduled preventive maintenance is required for safe and reliable operation of this equipment. Contact STERIS to schedule preventive maintenance.**
- **Do not service or perform maintenance on equipment while in use.**

The routine maintenance procedures described in this section of the manual should be performed regularly at the indicated intervals. Table usage may require more frequent maintenance than indicated. See *SECTION 5.6* for ***REPLACEMENT PARTS***. Any maintenance procedures not included in this section should be performed only by STERIS-trained service personnel fully acquainted with the STERIS 4085 General Surgical Table.

NOTE: Anytime table covers have been removed, the table must be resealed per SECTION 5.10, SEALING TABLE COVERS.

The following preventive maintenance advisories must be observed:

1. Under no circumstances should this equipment be serviced without the Maintenance Manual. This (use of Maintenance Manual) also meets requirements for essential performance and compliance with electromagnetic compatibility.
2. The Maintenance Manual can be purchased by contacting STERIS Customer Service.
3. A detailed Preventive Maintenance schedule and replacement parts list can be found in the Maintenance Manual.
4. Preventive Maintenance is essential in keeping this equipment in optimal working condition. STERIS recommends establishing an annual maintenance agreement with STERIS service.
5. Customer should maintain a record of all maintenance procedures performed on the table.
6. If a problem occurs, refer to *SECTION 6, TROUBLESHOOTING*.
7. Preventive Maintenance and regular service must be performed according to the Maintenance Manual to comply with the requirements for essential performance and compliance with electromagnetic compatibility.
8. The Maintenance Manual describes the steps necessary for checking and replenishing the hydraulic oil.

NOTE: Never permit unqualified persons to service the table and Preventive Maintenance is not covered under warranty.

5.2 Cleaning Table

WARNING – INFECTION HAZARD:

- **To protect against aerosols being reflected from potentially contaminated surfaces, wear rubber or plastic gloves, masks and eye protection, and follow OSHA blood-borne pathogens standards when cleaning.**
- **When cleaning/disinfecting table, do not use alcohol as it does not have sufficient cleaning/disinfection properties.**

WARNING –PERSONAL INJURY HAZARD: When cleaning/disinfecting table, do not use phenolics, which may cause patient skin burns if inadequately rinsed off, or alcohol, which does not have sufficient cleaning/ disinfection properties.

NOTE: The user must follow the requirements of the national committee responsible for hygiene and disinfection when cleaning table. Disinfectants can be used in spray or wipe applications. Enzymatic cleaners should be applied with a disposable cloth and not sprayed (and thoroughly rinsed with a clean, damp, lint-free cloth to remove residue).

Clean entire table per following procedures.

NOTE: When cleaning table and pads, note the following:

1) Use of any disinfectant solution OTHER than those listed below may cause discoloration or deterioration of pad surface:

- *Coverage® Plus Germicidal Surface Wipes Disinfecting/ Deodorizing/Cleaning Wipes*
- *Quaternary Ammonium Compound (Quats) with Ethanol solvent*
- *Quaternary Ammonium Compound (Quats) with Isopropyl Alcohol (IPA) solvent*
- *Quaternary Ammonium Compound (Quats) with IPA + 2-Butoxyethanol solvent*
- *Quaternary Ammonium Compound (Quats) + Biguanide*
- *H2O2 (Hydrogen Peroxide)*
- *Neutral Cleaners*

2) The use of H2O2 + PAA (Hydrogen Peroxide + Peracetic Acid) is strongly discouraged for use on all STERIS products.

3) Always follow manufacturer instructions for concentrations and use of cleaning products.

4) Avoid discoloration of hand control keypad and display. Do not clean hand control with povidone-iodine solutions or allow such solutions to contact keypad and display surfaces.

5) Ensure no excess fluids remain on pads or table top surfaces during and after cleaning.

6) DO NOT SPRAY any cleaning product directly onto hand control or any system components. For other system components, dampen a clean, soft cloth with the cleaning solution and wring out the excess moisture.

7) If recommended cleaning products are not available in your area, use a neutral disinfectant or a disinfectant with a sodium hypochlorite solution (0.1% or 1000 parts per million available chlorine).

5.2.1 General

Use the following materials to perform cleaning procedures described in this section:

- Several clean, dry lint-free cloths.
- Container of clean water.
- Prepare approved cleaning or disinfecting solutions as directed on product label.

To ensure prolonged use of STERIS mattresses and pads, abide by following cleaning instructions:

1. Inspect mattress prior to and/or after use to check for mattress integrity.
2. Follow cleaning frequency per facility protocol; however, clean all stains promptly.
3. Use hospital-grade low-level disinfectant cleaning agent appropriate for soft materials.
4. For special considerations such as large volume blood spills, contamination or exposure to high risk tissue and fluids or C. difficile, mattresses and pads may be cleaned with an intermediate to high level distinction dilution rate of 10% or 1:10 dilution rate of household beach (5.25% or 6% sodium hypochlorite) also expressed as 5000 parts per million of available chlorine, as recommended by the CDC and AORN guidelines.

   NOTE: This dilution rate or higher is not the recommendation for routine use and requires a damp cloth water rinse post cleaning.
5. Dilute all cleaners, disinfectants and germicides in accordance with manufacturers' instructions.
6. Use a soft sponge, cloth or wipe to clean, avoiding hard bristle or abrasive brushes.
7. Allow adequate drying time before returning mattress to table or accessory surface and placing into service.
8. Avoid applying strong adhesive tape directly to mattress surface, as pulling and tearing may affect integrity of mattress material.
9. Some cleaning agents leave a residue which can build up over time. Depending on cleaning agent, it may be necessary to rinse and wipe clean with a slightly damp cloth.
10. Some procedures performed on table mattresses or pads may involve excessive fluid exposure. Be sure to drape accordingly.

STERIS also recommends the following precautions for mattresses and pads:

1. Do not pull, tear, rip or cut “Vent” flap tag as it is an integral mattress part.
2. Do not machine wash or machine dry.
3. Do not use harsh cleaners or solvents including moderate to high concentrations of alcohol.
4. Do not use staining or color stripping chemicals or iodophor type disinfectants, such as Betadine or improperly diluted bleach, which can affect fabric finish, color and possibly fabric strength.
5. Do not use undiluted or improperly diluted bleach or concentrated cleaning agents.
6. Do not allow any cleaning agent to remain in contact with fabric for a prolonged time or beyond cleaning agent manufacturer’s recommendations.
7. Do not fail to adequately rinse cleaning agent or disinfectant from fabric.

5.2.2 After Each Usage

WARNING – INFECTION HAZARD: To protect against aerosols being reflected from potentially contaminated surfaces, wear rubber or plastic gloves, masks and eye protection, and follow OSHA blood-borne pathogens standards when cleaning.

WARNING – PERSONAL INJURY HAZARD: When cleaning/disinfecting table, do not use phenolics, which may cause patient skin burns if inadequately rinsed off, or alcohol, which does not have sufficient cleaning/ disinfection properties.

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **When cleaning/disinfecting table, thoroughly read the cleaning fluid directions for use and follow all directions and cautions as shown.**
- **Cleaning procedures requiring articulation of the table should be performed only by persons familiar with table operation.**
- **Do not spray cleaning fluid into electric receptacles and avoid spraying directly on emergency backup buttons or into clearance space. Spray or drippage may settle onto electric circuits inside table causing corrosion and loss of function.**
- **After performing cleaning procedures, ensure pads, tabletop and X-ray tops are completely dry before reinstalling. Moisture trapped between pads and X-ray tops may contribute to equipment damage, such as X-ray top warpage.**

After each use of the STERIS 4085 General Surgical Table, clean/ disinfect as follows:

NOTE: Ensure all protective covers are installed over any open receptacles.

1. Remove gross soil with a disposable cloth and place used cloth in an appropriate biohazardous waste disposal container.
2. Clean tabletop and pads as follows:
   a. Articulate tabletop to level and place at comfortable working height.
   b. Gently "peel" pad away from tabletop fastening strips and place on another table or flat surface.
   c. Hold can 6-8" (152-203 mm) from surface and spray cleaning fluid liberally on top and sides of pads or wipe with a clean cloth dampened with cleaning solution. (It is recommended to clean only one pad at a time.) Carefully avoid any pad seams.
   d. Wipe dampened surfaces with a clean, lint-free cloth dampened with water to remove cleaning fluid (dampening cloth minimizes streaking).
   e. Wipe cleaned surfaces again with clean, damp, lint-free cloth to remove residue.
   f. Wipe cleaned surfaces again with clean, dry, lint-free cloth to remove all moisture.
   g. Repeat **Steps c, d, and e** for other pads. Repeat **Steps c, d, e, and f** for tabletop surfaces exposed when pads are removed. Thoroughly dry bottom of pads and tabletop surfaces.
   h. Place pads back onto tabletop by aligning with sides of table and pressing into place on fastening strips.
3. Raise table to maximum height to access lower surfaces.
4. Clean yoke, shrouds and entire base surface as follows:
   a. Hold can 6-8" (152-203 mm) from surface and spray cleaning fluid liberally on yoke and shrouds. Avoid spraying in direction of connectors.
   b. Wipe sprayed surfaces with a clean, lint-free cloth dampened with water to remove cleaning fluid (dampening cloth minimizes streaking).
   c. Wipe cleaned surfaces again with a clean, damp, lint-free cloth to remove residue.
   d. Repeat **Steps a, b, and c** for base surface.

5. **Turn hand control OFF** and clean as follows:

NOTE: Do NOT immerse hand control in liquid.

   a. Hold can 6-8" (152-203 mm) from surface and spray cleaning fluid liberally on hand control.

   b. Wipe sprayed surfaces with a clean, lint-free cloth dampened with water to remove cleaning fluid (dampening cloth minimizes streaking).

5.2.3 End-of-Day Cleaning Procedure

At the end of each day, perform the cleaning procedures as outlined in *SECTION 5.2.2, AFTER EACH USAGE*.

5.2.4 Weekly Cleaning Procedure

After each weekly use of the STERIS 4085 General Surgical Table, clean/disinfect table as follows:

1. Perform **Steps 1 through 4** of *SECTION 5.2.2, AFTER EACH USAGE*.
2. Check table casters and floor locks for any accumulated debris and clean as follows:
   a. Ensure floor locks are properly engaged (raising casters off floor).
   b. Hold cleaner spray can 6-8" (152-203 mm) from caster and spray cleaning fluid liberally on the caster.
   c. Wipe caster with a cloth, dampened with water, to remove cleaning fluid and debris.
   d. Perform **Steps b and c** for remaining three casters.
3. Articulate table through all movements and clean all additional surfaces exposed during these articulations as follows:
   a. Hold spray cleaner can 6-8" (152-203 mm) from surface to be cleaned and spray cleaning fluid liberally on surface.
   b. Wipe sprayed surfaces with a clean, lint-free cloth, dampened with water to remove cleaning fluid.
   c. Wipe cleaned surfaces again with a clean, damp, lint-free cloth to remove any remaining residue.
4. Turn hand control **OFF** when finished with cleaning procedure.
5. Perform **Step 5** of *SECTION 5.2.2, AFTER EACH USAGE*.

5.3 Bi-Weekly Maintenance

Operate each STERIS 4085 General Surgical Table function (refer to *SECTION 4, OPERATING INSTRUCTIONS*). Operation must be smooth and quiet. If table operation is not smooth, have a qualified technician repair the table. Never permit inexperienced, unqualified persons to attempt to make any repairs to the table.

5.4 Monthly Maintenance

Check STERIS 4085 General Surgical Table casters and floor locks for any accumulated debris and clean as follows:

NOTE: Ensure Hand Control is in proper working order and good condition.

1. Ensure floor locks are properly engaged.
2. Hold spray cleaner can 6-8" (152-203 mm) from caster and spray cleaning fluid liberally on the caster.

3. Wipe caster with a cloth, dampened with water, to remove cleaning fluid and debris. Ensure items such as suture, oils and floor wax are removed.
4. Perform **Steps 2 and 3** for remaining three casters.

5.5 Battery Charging Procedure

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Repairs and adjustments to this equipment must be made only by STERIS or STERIS-trained service personnel. Maintenance performed by unqualified personnel or installation of unauthorized parts could cause personal injury, result in improper equipment performance, invalidate the warranty, or result in costly damage. Contact STERIS regarding service options.

WARNING – TRIPPING HAZARD: Route the power cord to the receptacle to minimize being tripped over by personnel in the area.

STERIS 4085 General Surgical Table is equipped with INTELLIPOWER® dual power system. The table is powered either by facility power or by internal batteries. If table is to be operated on battery power, note the following:

IMPORTANT: Batteries are recharged automatically as long as the Main Power Switch is set to **ON** and the ac power is connected to the STERIS 4085 General Surgical Table. The PLUG icon appears on Power Panel LED Display (see Figure 5-1) indicating ac power and diode bar indicates battery condition.

Bar graph description:

- When table is plugged into facility ac and Main Power Switch is ON, diode bar shows battery charge state. This battery charge state is also indicated by icon on primary hand control (refer to Figure 4-4 and **Table 1-3**).
- When table is on battery power and primary hand control is active (on), diode bar shows battery charge state. This battery charge state is also indicated by icon on primary hand control (refer to Figure 4-4 and **Table 1-3**).

Batteries require recharging on a periodic basis depending on frequency of table usage. Low or discharged battery conditions are indicated by HALF FILLED or EMPTY BATTERY icon on the Hand Control (refer to Figure 4-4 and *SECTION 4.2.2, HAND CONTROL LCD DISPLAY DESCRIPTION*) and some or all green diode bars on Power Panel LED Display are OFF.

NOTE: Fully charged batteries enable between 100 and 150 procedures (approximately three weeks) without recharging. Note the charge/discharge ICON on the LED Display (see Figure 5-1) of Power Panel.

Lead acid batteries last longer if not fully discharged. Therefore, to obtain the longest life and capacity from your STERIS 4085 General Surgical Table batteries, always connect ac power cord to table base and plug into an appropriate ac receptacle as often as possible, and as long as possible, with the Main Power Switch set to **ON**. If this is not always possible, recharge batteries at the following times:

NOTE: When two green diode bars on Power Panel LED Display are OFF, batteries are half charged. This level of power enables normal table operation without damaging the batteries. However, when the last green diode bar is OFF, batteries must be recharged without further delay or battery damage occurs. If all diodes are OFF, batteries are completely drained and the table can only operate on main facility power.

- Every 15 days when the table is in normal service; more often if usage demands.
- Whenever HALF FILLED BATTERY icon appears on LCD Status Control Indicator (Figure 4-4 Item 2).
- If the table remains in extended storage for longer than three months; batteries must be charged every three months.

NOTE: If the sealed lead-acid gel electrolyte-type batteries do not charge, check for the following:

*1) Battery fuse is blown - replace (refer to Figure 3-1 and SECTION 3, INSTALLATION INSTRUCTIONS **Step 3**).*

2) Ac power cord is defective - replace if necessary.

*3) Main Power Switch is **OFF** (not illuminated).*

4) Charger Circuit is not operating.

Recharge batteries as follows:

1. Connect ac power cord to table base and plug into an appropriate ac receptacle.
2. Turn Main Power Switch to **ON**.
3. Allow approximately 12 hours for full battery charge.
4. Verify FILLED BATTERY icon on hand control. Disconnect ac power.

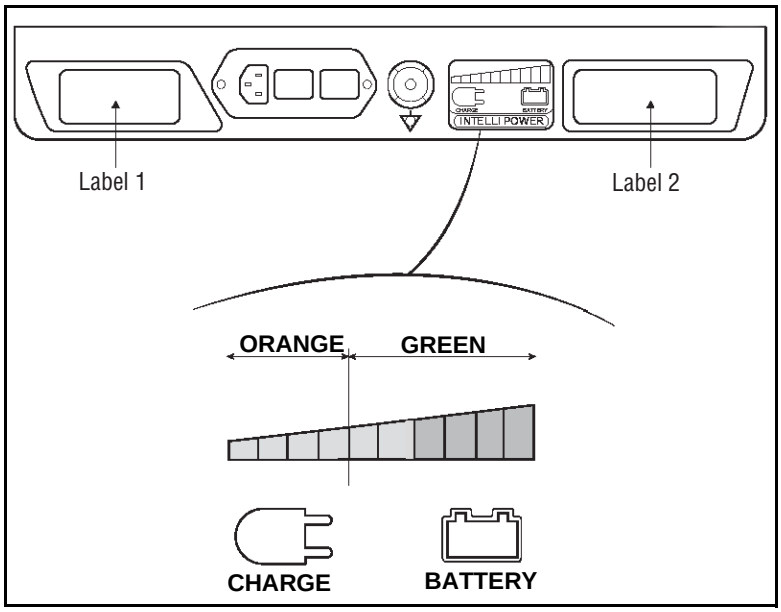


Figure 5-1. INTELLIPOWER Panel LED Display

5.6 Replacement Parts

The parts listed in this section are those necessary to do minor maintenance on the STERIS 4085 General Surgical Table.

To order replacement parts, proceed as follows:

1. Include part number and description listed in **Table 5-1**.

2. Include model and serial numbers of your equipment on your order.
3. Send your order directly to STERIS.

NOTE: For Replacement Parts, note the following:

1) Use only STERIS authorized parts on the equipment. Use of unauthorized parts voids the warranty.

2) This table uses lead-acid batteries. Lead-acid batteries normally are subject to self-discharge and battery-life deterioration in long-term storage. Therefore, STERIS does not recommend that batteries be procured and then stored as spare parts. If batteries are procured and stored, they should be kept covered and in a cool, dry area. Stored batteries must be recharged every six months to minimize deterioration. Use a charging current commensurate with the battery amp-hour size. Charge to a floating charge voltage equivalent to 13.6-13.8 volts.

Table 5-1. Replacement Parts

DESCRIPTION	PART NUMBER	RECOMMENDED SPARES
Hand Control Assembly	150832-632	1
Power Cord	093909-354	1
Fuse (Main), 4.0 Amp	150832-335	1
Fuse (Set)	342213555	1
Pad, Head Section	150832-695	1
Pad, Back/Seat Section	413724-464	1
Pad, Leg Section	413724-465	1
Battery	134469-361	N/A

5.7 ALS Check

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: The Auto Limit Sensor (ALS) System suggested alternative tabletop movement does not take into account the type of surgery that may be in process or the environment (e.g., other equipment close by) and might not be compatible with the surgical procedure. To avoid an action that could result in death or serious injury to the patient and the operating room staff, and/or serious equipment damage, completely evaluate the feasibility of the suggestion.

The STERIS 4085 General Surgical Table is equipped with the Auto Limit Sensor™ system. This system provides instant user feedback on any conflicting tabletop articulations. An Auto Limit Sensors (ALS) Warning (refer to Fig. 4-4, Item 2) on the hand control indicates the tabletop has been ordered into a configuration or has moved into a position that may cause tabletop damage or patient injury. To prevent a tabletop sectional conflict, or collision of tabletop with the table or floor, ALS System immediately stops the movement in process and the ALS LED lights. The control system alerts the user to an alternative movement choice in the LCD Display (refer to Figure 4-4, Item 1).

NOTE: The ALS System suggested alternative movement is not the only movement available. Users should exercise professional judgement in determining the most desirable movement.

Test the Auto Limit Sensor system as follows:

1. Review and follow instructions presented in *SECTION 4, OPERATING TABLE,* and prepare the STERIS 4085 General Surgical Table for operation.
2. Raise tabletop to highest position possible.
3. Use **SLIDE HEAD** and move tabletop to head end limit.
4. Press **LEG DOWN** button until ALS Warning lights and tabletop motion stops. If system does not engage, stop tabletop movement before collision and call STERIS.

5.8 LEVEL Check

Check the STERIS 4085 General Surgical Table tabletop LEVEL function as follows:

1. Review and follow instructions presented in *SECTION 4, OPERATING TABLE* and prepare STERIS 4085 General Surgical Table for operation.
2. Press **LEVEL** pushbutton.

   *NOTE: When operating in REVERSE ORIENTATION, **LEVEL** function does NOT include the back section for compliance with anesthesia procedures. Ensure **REV. ORIENT** is not active.*
3. When depressed, tabletop is gradually returned to level or horizontal position by aligning tabletop sections in following order:
   a. KIDNEY Elevator and lateral tilt.
   b. Trendelenburg and back.
   c. Leg.
4. Use a level and ensure tabletop is level. If not, call STERIS.

5.9 Auxiliary Control Check

Check the STERIS 4085 General Surgical Table auxiliary control system as follows:

1. Review and follow instructions presented in *SECTION 4, BACKUP (OVERRIDE) CONTROL SYSTEM* and prepare the STERIS 4085 General Surgical Table for auxiliary control system operation.
2. With tabletop at extreme low height, press **HEIGHT UP** pushbutton and pump pedal.

3. Ensure tabletop raises correctly. If not, call STERIS.

5.10 Sealing Table Covers

Whenever the Table Column cover assembly and/or Table Base cover are removed and then returned, the covers need sealed to prevent fluid intrusion to meet IPX4 requirements. Seal the covers as follows:

NOTE: Remove all old sealant and clean all mating parts before reapplying the silicone sealant. Use RTV 123 Black Silicone Sealant (R005300-568).

5.10.1 Two-Part Base Cover (Stainless Steel)

NOTE: To aid in loosening RTV between stainless-steel base covers for future procedures, spray Dry Lubricant Spray NG 202 (P752870-091) along the front base shroud edge that contacts the RTV before applying the RTV.

1. Apply 1/4 x 3/4" closed cell foam tape (R007200-964) to top of mounting brackets (see *FIGURE 5-2*). Do not apply tape to portion of table base where plastic cover touches base (see *FIGURE 5-3*).

Figure 5-2. Apply Tape to Mounting Bracket

2. Install base cover. Ensure base cover sits flush on base (see *FIGURE 5-3*) at base cover insert opening.

Figure 5-3. Ensure Base Cover Sits Flush on Base at Insert Opening

3. Seal mating areas between front and rear base covers as shown in *FIGURE 5-4*.

   NOTE: Ensure RTV is applied to both left and right sides of base covers before assembly.

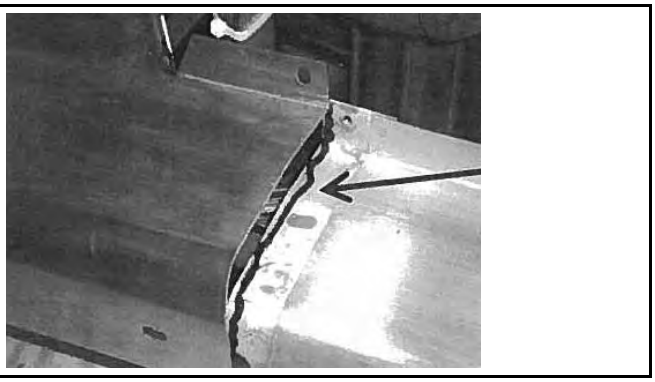


Figure 5-4. Seal Mating Areas Between Front and Rear Base Covers

4. Apply RTV to bottom of each V-shaped cut-out around interface with column covers (see *FIGURE 5-5*).

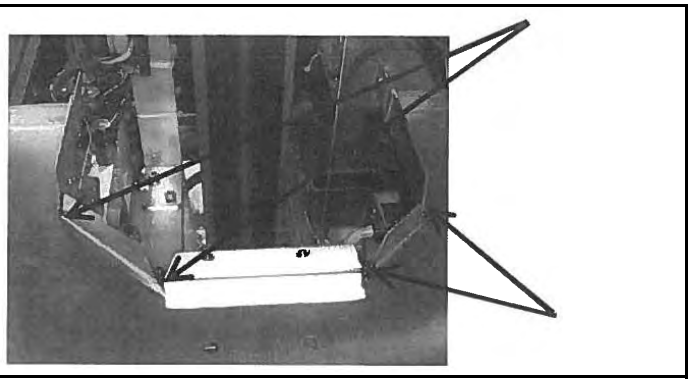


Figure 5-5. Apply RTV to V-Shaped Cut-Outs

5. Seal area where power supply inlet is exposed through base (see *FIGURE 5-6*).

Figure 5-6. Seal Cover Around Power Inlet

6. Seal around entire perimeter between upper plastic column covers and column ensuring to fill entire gap as shown in *FIGURE 5-7*. Smooth out RTV as much as possible.

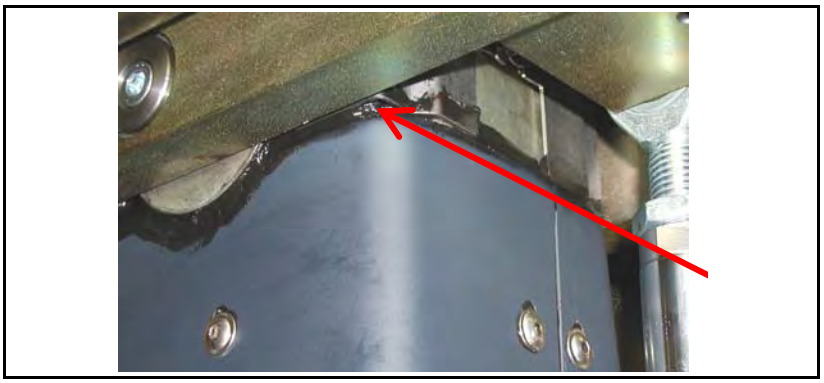


Figure 5-7. Seal Around Upper Plastic Covers and Column

7. Seal along both seams of upper plastic column covers as shown in *FIGURE 5-8*.

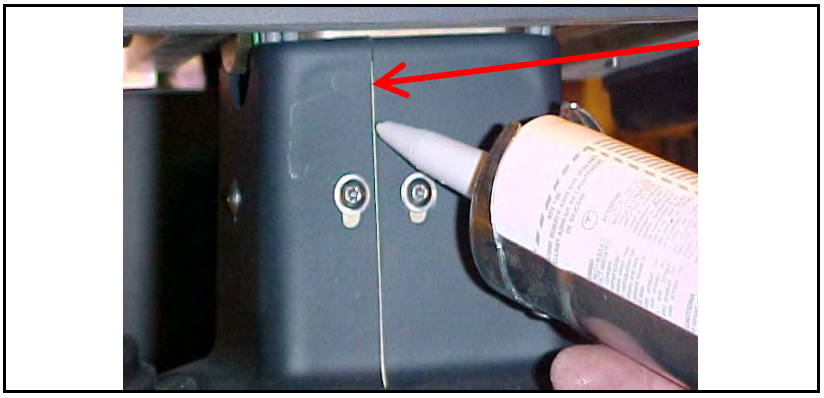


Figure 5-8. Seal Along Both Seams of Upper Plastic Column Covers

8. Install lower (inner) column cover around column.
9. Snap halves together and fasten using previously removed screw. Repeat for all column covers.
10. Secure upper (outer) cover to bracket using six existing fasteners.
11. Secure lower cover to base using four existing fasteners.
12. Secure base cover to base using screw and spacer.
13. Ensure telescoping column covers move smoothly and do not separate during operation.
14. After applying RTV, remove any excess sealant using an alcohol dampened rag.
15. Allow sufficient cure time as recommended by the RTV manufacturer before returning table for use.

5.10.2 One-Part Base Cover (Plastic)

1. Seal area where power supply inlet is exposed through base (see *FIGURE 5-6*).
2. Install base cover insert and fasten to base cover (see *FIGURE 5-9*).

Figure 5-9. Install Base Cover Insert and Attach to Base Cover

3. Apply RTV to seam between base cover insert and base cover (see *FIGURE 5-10*).

Figure 5-10. Seal Seam Between Base Cover Insert and Base Cover

4. Apply RTV around base perimeter where column shrouds attach.
5. Seal around entire perimeter between upper plastic column covers and column ensuring to fill entire gap as shown in *FIGURE 5-7*. Smooth out RTV as much as possible.
6. Seal along both seams of upper plastic column covers as shown in *FIGURE 5-8*.
7. After applying RTV, remove any excess sealant using an alcohol dampened rag.
8. Allow sufficient cure time as recommended by the RTV manufacturer before returning table for use.

TROUBLESHOOTING

6

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

- **Failure to perform periodic inspections of the table could result in serious personal injury or table damage.**
- **Repairs and adjustments to this equipment must be made only by STERIS or STERIS-trained service personnel. Maintenance performed by unqualified personnel or installation of unauthorized parts could cause personal injury, result in improper equipment performance, invalidate the warranty, or result in costly damage. Contact STERIS regarding service options.**

CAUTION – POSSIBLE EQUIPMENT DAMAGE: When moving the table to or from the point of use, roll it carefully at moderate speed and only over smooth floors. Maximum floor clearance is 1/4" (6.4 mm). Avoid door and elevator jambs, and obstructions greater than 1/4" (6.4 mm). If necessary, lift table over obstructions, onto trucks, etc. Lift table evenly and only by the table base. DO NOT transport articles (including accessories) on top of the table, and DO NOT use a forklift to move uncrated table.

This section of the manual describes the types of table malfunctions which may occur and indicates probable causes.

If you are unable to correct the situation following the Troubleshooting Charts (or if a problem occurs which is not described on the charts) or *SECTION 5, ROUTINE MAINTENANCE* of this publication, please contact STERIS. Service charges may be incurred, consult your warranty for details. A trained service technician will promptly place your STERIS 4085 General Surgical Table in proper working order.

NOTE: Never permit unqualified persons to service the table. If you are unable to correct a table malfunction, please contact STERIS.

Calling For Service: First, try to define the situation and determine whether you can solve it yourself (see **Table 6-1 or Table 6-2).** If you cannot solve the situation, call STERIS and give the following information for the table: model number, serial number, date of purchase.

NOTE: To prevent possible hand control functioning issues, return table to level between a series of hand control commands.

Table 6-1. Troubleshooting Chart

SITUATION	ACTION
Hand Control does not activate when table is plugged into electrical outlet and any pushbutton (except **STOP**) is pressed .	Main battery fuse blown – replace. Faulty power cord – replace. Hand control not plugged in properly – correct. Faulty hand control** – replace. Call STERIS.*
Table remains on battery power even when main power cord is plugged into facility power.	Incorrect power cord connection – correct. Faulty power cord – replace. Main fuse blown – replace. Call STERIS.*
No functions using hand control.	Hand Control not plugged in properly – correct. No Power – table deactivates after 30 minutes of non-use. Press any button on hand control (except **STOP**). Faulty hand control** – replace. Call STERIS.*
Table does not tilt right/left using hand control.	Hand control not on – Press any button on hand control (except **STOP**). Faulty Hand control** – replace. Call STERIS.*
Table does not Trendeleburg/Reverse Trendeleburg using hand control.	Hand control not on – Press any button on hand control (except **STOP**). Faulty Hand Control** – replace. Call STERIS.*
Table does not raise/lower using hand control.	Hand control not on – Press any button on hand control (except **STOP**). Faulty hand control** – replace. Call STERIS.*
LEVEL button on hand control does not function. All other buttons function normally.	Sensors needed for leveling function faulty – Manually level tabletop using other hand control function buttons. Faulty hand control** – replace. Call STERIS.*

** Service charges may be incurred. Consult your warranty for details.*

*** Use optional foot control or auxiliary (override) control system if hand control is faulty [refer to SECTION 4.5, BACKUP (OVERRIDE) CONTROL SYSTEM].*

Table 6-2. Troubleshooting Chart, LCD Message

FAULT DISPLAYED	FAULT DESCRIPTION	FAULT ACTION
1 KEY ONLY	Two pushbuttons are pressed at the same time	Press one button at a time or replace Hand Control for defective button.
DUAL COMMAND	Commands are sent from the optional foot pedal and the hand control at the same time.	Hand control has priority.
REVERSE ORIENT	Flex and Reflex are disabled in reverse orientation.	Press REV. ORIENT button to change to Normal Orientation.
LOW BATTERY	Battery voltage below 23 V.	Plug the power cord into facility power, ensure power switch is ON and green AC LED is ON.
LOCK AGAIN	The pressure switch status does not change after FLOOR LOCK is pressed or status does change and FLOOR LOCK was not pressed.	Inspect for oil leakage; verify pressure switch connect; change floor lock valve block.
WRONG USE	Hand control pushbutton is pressed and held for longer than one minute.	Release button or replace Hand Control for defective button.
SENSOR DEFECT	The sensor voltage is out of range (0.3 - 4.7 V). LEVEL function is disabled.	Check sensor, wire and connection; calibrate sensor; change sensor.
SENSOR FAIL	Voltage difference between sensor and expected value by control board. LEVEL function is disabled.	Check sensor, wires and connection; verify wiper contacts sensor over entire travel (back and leg sections); calibrate sensor; change defective sensor.
BATTERY FUSE	Missing or blown fuse (fuse holder access external to table base). Hand Control does not turn ON without facility power..	Check fuse; plug the power cord into facility power.
BATT DEFECT	Battery voltages differ by more than 0.6 V.	Check voltage of each battery; replace battery.
CHARGER DEFECT	Battery charger circuit in power supply is defective or fuse F1 (inside the charger) is blown.	Check battery fuse (external to table base); change power supply.
POWER DEFECT	Transformer too hot or fuse F2 (inside power supply) is blown. Table still operates on battery power.	Wait for transformer to cool (30-60 minutes); change power supply.
PUMP DEFECT	No hydraulic pump control; fuse F4 (inside power supply) may be blown.	Change power supply.
VALVE DEFECT	No valve control.	Change control board.
MOTOR DEFECT	No SLIDE motor control; SLIDE inoperative; fuse F3 (inside power supply) may be blown.	Replace sliding board.
MOTOR FAIL	The power control is always on. SLIDE inoperative.	Replace sliding board.
SLIDE DEFECT	No SLIDE control. SLIDE inoperative.	Change sliding board.
SLIDE FAIL	SLIDE continuously operating. SLIDE inoperative.	Replace sliding board.
PUMP FAIL	Pump does not shut off.	Change power supply.
BAD VERSION	Hand control software version is incompatible with control board software version.	Change control board.

Table 6-2. Troubleshooting Chart, LCD Message (Cont'd)

FAULT DISPLAYED	FAULT DESCRIPTION	FAULT ACTION
VOLTAGE PEAK	Battery voltage reaches 31 V (batteries are overcharging which can damage table).	Immediately disconnect power cord; replace power supply
VALVE FAIL	Valve does not shut off.	Check for shorted solenoid valve (67 Ω nominal); change control board
BATTERY MODE	Table operates off batteries when connected to facility ac power. Fuse F2 may be blown.	Change power supply
CONNECT AC POWER or PLUG MAINS	Battery voltage is below 19V.	Plug table into facility power. Ensure switch is ON and green AC LED is ON.

DISPOSAL HAZARDS

7

WARNING – DISPOSAL HAZARD: This product contains materials which may require disposal through appropriately licensed and permitted hazardous waste management firms.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Use of incorrect hydraulic oil may severely damage the table and/or cause malfunction. Contact STERIS for proper hydraulic oil.

The following materials may be contained within the table. When disposing of the table or its parts, ensure the proper disposal of hazardous and other regulated waste in compliance with federal, state and local regulations.

Lead Acid (Pb/H_2SO_4): gelled cell batteries located in the table base at the head end of the table. Approximate weight 5 lb (2 kg).

Lead (Pb) in Solder: contained in solder on circuit boards and in some miscellaneous wire connections. Minute amounts.

Electronic and Electrical Parts: not known to require special disposal at date of this manual.

Metal Parts: made from aluminum (Al), steel (Fe), cast iron (Fe), copper (Cu), and copper alloys (Cu/x), plastic, synthetic rubber, plating (Cr, Ni, Zn, Au), and adhesives not known to require special disposal methods at date of this manual.

Hydraulic Oil: contained in hydraulic components located in the base, column, leg section, back section, and hydraulic system lines and hoses.

Polyvinylchloride (PVC): Approximate weight 3.8 lb (1.7 kg).

APPENDIX A - UNIVERSAL HAND CONTROL

A

A.1 Indications for Use

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Read and understand all instructions presented in this section before using the Universal Hand Control. Follow each step in the order presented in these instructions. If you need technical assistance or additional instructions, please contact STERIS.

NOTE: For this section of the Operator Manual, the term Surgical Table refers to Cmax, STERIS 4085 General and STERIS 5085 General Surgical Tables unless noted otherwise. The Universal Hand Control is not to be used with the STERIS 5085 SRT Surgical Tables. Failure to comply with the safety information contained within this publication could result in injuries, damage to the equipment or damage to other property.

The Universal Hand Control (Figure A-1) is intended for use only with STERIS Surgical Tables. The Universal Hand Control is not to be used with the STERIS 5085 SRT or any other surgical table that is not specifically identified in this document. The Universal Hand Control provides a simple user interface to manipulate all Surgical Table articulations (see **Table A-4**).

NOTE: Uses other than as specified and described in this publication and appropriate Operator Manuals are not recommended and may not be safe. This Universal Hand Control is to be operated only by users who have been successfully trained on operation of the applicable Surgical Table and the use of the Universal Hand Control. Please contact STERIS for appropriate guidance, in-service and training.

The Universal Hand Control can be configured to operate in Compatibility Modes for either the Cmax/4085 Surgical Tables or the 5085 General Surgical Table.

NOTE: Refer to the appropriate Operator Manual for specific instructions on operating the surgical table:

1) Cmax (P150830-685).

2) STERIS 4085 General (this manual).

3) STERIS 5085 General (413724-246).

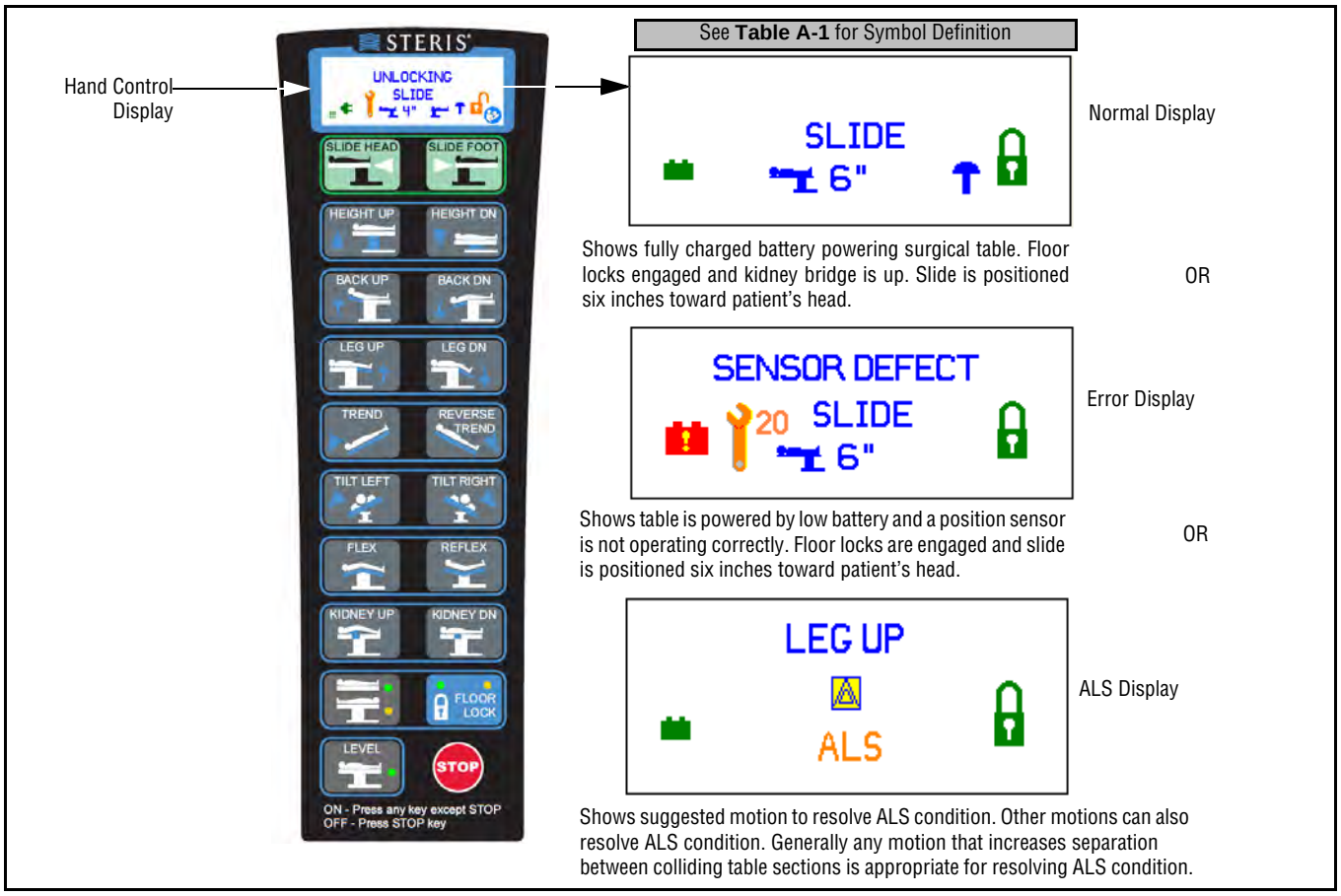


Figure A-1. Universal Hand Control

Table A-1. Symbol Definition

Symbol	Color	Definition
	Green	POWER: Table is connected to facility power
	Green	POWER: Table is running with a fully charged battery
	Orange/ Yellow	POWER: Table is running with a half-charged battery
	Red/Yellow	POWER: Table is running with a discharged battery
	Green	FLOOR LOCK STATUS: Floor locks are engaged
	Orange	FLOOR LOCK STATUS: Floor locks are not engaged
	Orange	MAINTENANCE: Surgical table has detected a condition requiring Service
 ALS	Blue/Yellow symbol with Orange text	AUTO LIMIT SENSOR (ALS): ALS sensors activating to prevent table collision with obstacle
	Blue	KIDNEY BRIDGE: Bridge is extended.
	Blue	HEAD/FOOT:Slide is positioned toward patient's head
	Blue	HEAD/FOOT: Slide is positioned toward patient's foot
	Green	KEY PRESS: Key has been pressed on Universal Hand Control
	Cyan	REFER TO INSTRUCTIONS: Reminds user to refer to supplied Operator Manual
	Blue	INCHES: Indicates slide position readout is displayed in inches
	Blue	CENTIMETER: Indicates slide position readout is displayed in centimeters
	Blue	POINTER: Indicates button user needs to push when selecting compatibility mode

A.2 Operating Instructions

Use the Universal Hand Control as follows:

1. Connect Universal Hand Control to Surgical Table and press any key except **STOP** to activate table.
2. Note Hand Control display. Display indicates which table it is configured to control (see Figure A-2)

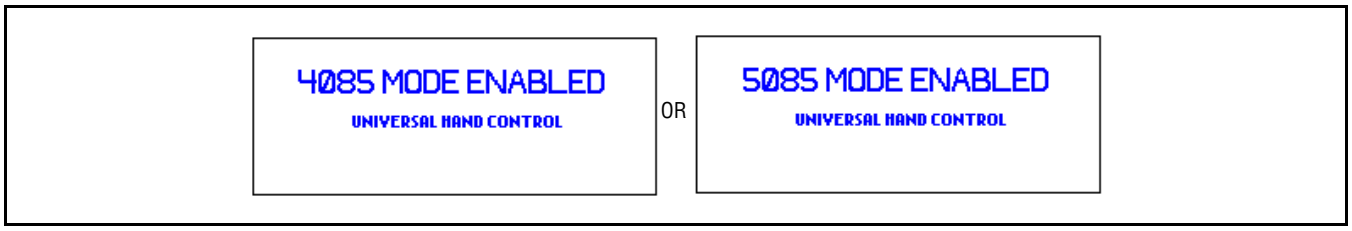


Figure A-2. Universal Hand Control Compatibility Mode

3. If Surgical Table matches a compatibility mode indicated in Figure A-2, display indicates Hand Control software version prefaced by letters 'HCV', table control software version prefaced by letters 'TCV' and type of Surgical Table connected. Figure A-3 shows display when Universal Hand Control is connected to Cmax/ 4085 Surgical Table equipped with version 2 table control chassis or to a 5085 Surgical Table.

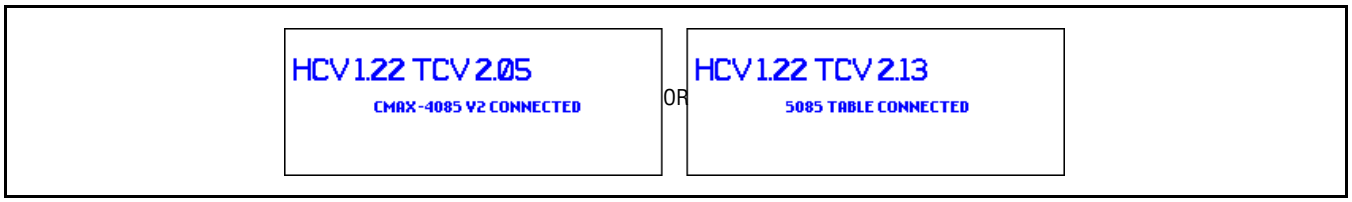


Figure A-3. Hand Control Software and Table Software Displayed

4. Figure A-4 shows display appearance when Universal Hand Control is connected to Cmax/4085 Surgical Table equipped with version 1 table control chassis running table control software version 1.48.

Figure A-4. Surgical Table Running Software Version 1.48

5. Figure A-5 shows display appearance when Universal Hand Control is connected to Cmax Surgical Table equipped with version 1 table control chassis running table control software version less than 1.47.

Figure A-5. Surgical Table Running Software Version Less Than 1.47

6. After a brief time, display clears and shows symbols representing state of table. When key is pressed, a table articulation is commanded. This is normal operating mode. Surgical Table is now ready for use with Universal Hand Control.

7. If Surgical Table does not match compatibility mode indicated in **Step 2,** Universal Hand Control displays a screen (Figure A-6) permitting user to select a compatibility mode that matches table type detected during power on.

   a. Display screen indicates pressing **SLIDE HEAD** (YES) key enters compatibility mode for table type detected.

   b. This is normal selection to be made when Universal Hand Control detects a table type that differs from existing compatibility mode.

   c. Figure A-6 shows display when a Cmax/4085 Surgical Table is detected while Universal Hand Control is configured for a 5085 Surgical Table or when a 5085 Surgical Table is detected while Universal Hand Control is configured for a Cmax/4085 Surgical Table.

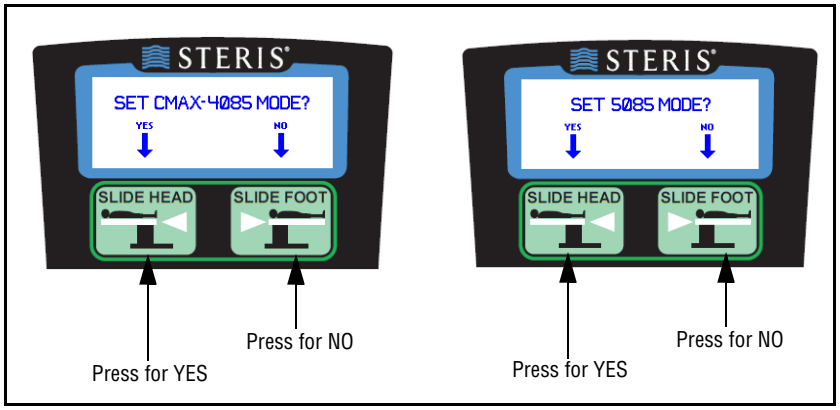


Figure A-6. Configure Universal Hand Control

8. Pressing **SLIDE FOOT** (NO) keeps original compatibility mode of Universal Hand Control and begins table operation. Subsequent behavior depends upon which table is actually connected to Hand Control.

9. After user selects compatibility mode for Universal Hand Control by pressing **SLIDE HEAD** (YES) key, display instructs user to restart table. Figure A-7 shows display when a restart is required. After Universal Hand Control is powered off and on, it functions according to description beginning in **Step 2**.

NOTE: A restart is only required after changing compatibility modes.

Figure A-7. Restart Table After Selecting Compatibility Mode

10. Refer to **Table A-2** for situation when Universal Hand Control and Surgical Table Compatibility Modes do not match.

Table A-2. Universal Hand Control and Surgical Table Compatibility Modes Do Not Match

Compatibility Mode	Table Type	Universal Hand Control And Surgical Table Behavior	Corrective Action
Cmax/4085	5085	When the 5085 is not in Beach Chair Mode, Universal Hand Control and 5085 Surgical Table function correctly. **Refer to Operator's Manual** symbol appears in lower right corner of display. When table is powered on again, user is prompted to select 5085 Compatibility Mode. When Beach Chair Mode is engaged, Universal Hand Control displays **BEACH CHAIR MODE ERROR** (see BEACH CHAIR MODE for 5085 Section and Figure A-10).	Power table off by pressing **STOP** button. Power table on by pressing any key except **STOP** and select 5085 Mode when prompted.
5085	Cmax/4085 With Version 2 Table Control Chassis	Universal Hand Control and Surgical Table function correctly. **Refer to Operator's Manual** symbol appears in lower right corner of display. When table is powered on again, user is prompted to select 4085 Compatibility Mode.	Power table off by pressing **STOP** button. Power table on by pressing any key except **STOP** and select 4085 Mode when prompted.
5085	Cmax/4085 With Version 1 Table Control Chassis Running Version 1.46 or Higher Software	Universal Hand Control display shows **BAD VERSION** message but otherwise Hand Control and Surgical Table function correctly. **Refer to Operator's Manual** symbol appears in lower right corner of display. When table is powered on again, user is prompted to select 4085 Compatibility Mode.	Power table off by pressing **STOP** button. Power table on by pressing any key except **STOP** and select 4085 Mode when prompted.
5085	Cmax/4085 With Version 1 Table Control Chassis Running Version 1.43 Software	Universal Hand Control and Surgical Table shut down after approximately seven seconds.	Power table on by pressing any key except **STOP** and select 4085 Mode immediately when prompted.

A.3 Message Display With Numeric Error Codes

Universal Hand Control displays numeric error messages beside **Wrench** symbol when V2 table control board is installed in a Surgical Table. Numeric error codes persist during a key press for articulation related errors. Numeric error codes persist until the Surgical Table is powered off for errors related to system failures. Figure A-8 shows a typical error code display. **Table A-3** lists error codes (wrench codes) and their meanings.

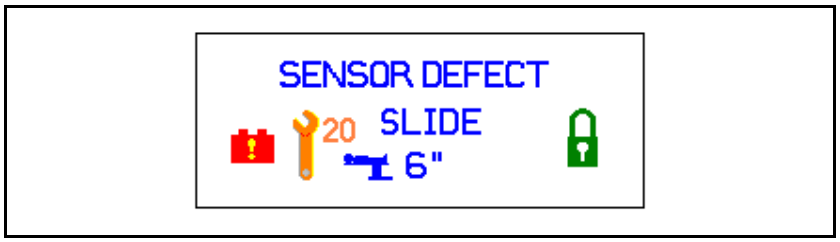


Figure A-8. Typical Error Code Display - Error Code 20 Displayed

Table A-3. Display Screen Numeric Error Codes

LCD SCREEN WRENCH NUMBER	CONDITION	ACTION
2	ALARM - Commands received from both Primary and Auxiliary Hand Controls.	Only one Hand Control (Primary or Auxiliary) is required to perform user guided task.
7	ALARM - SLIDE blocked.	Press STOP. Slide function is blocked causing an overvoltage situation, address obstruction.
9	ALARM - Table batteries depleted.	Plug table into facility power.
10	ALARM - Floor locks not detected.	Floor Lock pressure switch failure. Call STERIS.
11	ALARM - Controller button depressed too long.	If no button found depressed, press STOP to stop any table movement and call STERIS. If button was pressed for more than one minute, release button and repress for less than one minute.
12	ALARM - TILT sensor failure.	Combination movements (Level, Flex and Reflex) are not allowed. Call STERIS Service.
13	ALARM - TRENDELENBURG sensor failure.	Combination movements (Level, Flex and Reflex) are not allowed. Call STERIS Service.
14	ALARM - BACK sensor failure.	Combination movements (Level, Flex and Reflex) are not allowed. Call STERIS Service.
15	ALARM - LEG sensor failure.	Combination movements (Level, Flex and Reflex) are not allowed. Call STERIS Service.

Table A-3. Display Screen Numeric Error Codes (Cont'd)

LCD SCREEN WRENCH NUMBER	CONDITION	ACTION
17	ALARM - HEIGHT sensor failure.	Combination movements (Level, Flex and Reflex) are not allowed.
18	ALARM - SLIDE sensor failure.	Combination movements (Level, Flex and Reflex) are not allowed. Call STERIS Service. SLIDE toward head and floor unlock/lock commands are not allowed if SLIDE sensor is defective. Call STERIS Service.
20	ALARM - Sensor needs recalibration.	Combination movements (Level, Flex and Reflex) are not allowed. Call STERIS Service.
21	ALARM - Battery fuse missing or bad connection.	Protection fuse not installed or has failed. Call STERIS Service to ensure fuse is installed or to replace fuse.
22	ALARM - Battery voltage imbalance greater than 0.6.	Call STERIS Service.
23	ALARM - Charging circuit failure (Power Supply or P6 cable or main board defect).	Call STERIS Service.
24	ALARM - Thermal protection of Power Supply activated.	Call STERIS Service.
25	ALARM - Hydraulics failure. No pump motor feedback (Power Supply or P6 cable or main board defect).	Hydraulic pump failure. Call STERIS Service.
26	ALARM - Hydraulics failure. No valve feedback.	Hydraulic valve failure. Call STERIS Service.
27	ALARM - No slide motor feedback.	Call STERIS Service.
28	ALARM - Continuous slide motor feedback.	Call STERIS Service.
29	ALARM - Slide command not received.	Call STERIS Service.
30	ALARM - Continuous slide command received.	Call STERIS Service.
31	ALARM - Hand Control software not compatible with master control software.	Call STERIS Service.

Table A-3. Display Screen Numeric Error Codes (Cont'd)

LCD SCREEN WRENCH NUMBER	CONDITION	ACTION
32	ALARM - Solid state device controlling power to hydraulic pump is ON continuously.	Table turns OFF 10 seconds after message is displayed. Call STERIS Service.
33	ALARM - Battery voltage supplied to master control PCB is greater than 31 V.	Table turns OFF 10 seconds after message is displayed. Call STERIS Service.
34	ALARM - Solid state device controlling any hydraulic solenoid valve is ON continuously.	Table turns OFF 10 seconds after message is displayed. Call STERIS Service.
37	ALARM - Table operating more than 30 minutes while unlocked or 10 hours when locked.	Restart table if required by pressing a command button.
42	ALARM - Control PC Board battery failure (not installed, bad or bad contact).	Call STERIS Service. Have Control PC Board lithium real time clock battery replaced.
47	ALARM - Communication loss between primary hand control and master control PC Board.	Ensure primary hand control is plugged into table. Call STERIS Service.

A.4 Power-On Error Messages

As the Surgical Table powers-on, the following compatibility errors may occur:

- TABLE NOT CONNECTED - The Universal Hand Control did not detect a connection to a Surgical Table.
- TABLE NOT SUPPORTED - The Universal Hand Control is connected to a Surgical Table that is not supported. See *INDICATIONS FOR USE* of this publication for more information.
- 5085-SRT NOT SUPPORTED - The Universal Hand Control is connected to 5085 SRT Surgical Table. See *INDICATIONS FOR USE* of this publication for more information.
- BEACH CHAIR MODE ERROR – This message appears when Universal Hand Control cannot cancel Beach Chair Mode for 5085 General Surgical Table. See *BEACH CHAIR MODE SECTION* of this publication for more information.

A.5 Beach Chair Mode For 5085 General Surgical Table

Control of the Beach Chair Mode can only be accomplished with the Advanced Hand Control. The table CANNOT function in the Beach Chair Mode (see **Table A-4**) using the Universal Hand Control configured for the 5085 General Surgical Table. The Universal Hand Control does not incorporate the menu-driven interface that is supplied on the Advanced Hand Control.

The Universal Hand Control cancels the Beach Chair Mode when it detects that the 5085 General Surgical Table is in Beach Chair Mode. The message **EXITING BEACH CHAIR** appears on the display when Beach Chair Mode cancellation is in progress (see Figure A-9). Once the Beach Chair Mode is cancelled, the Universal Hand Control displays normal operating symbols on the display (see Figure A-1) and begins normal table operation.

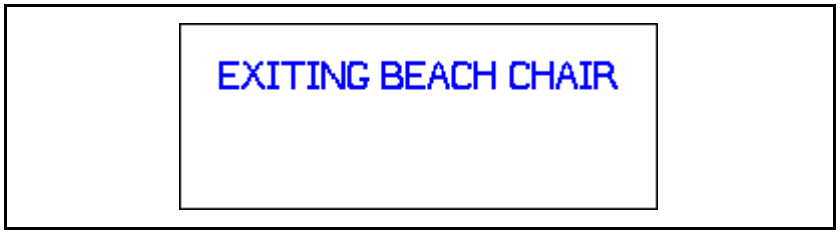


Figure A-9. Message Displayed During 5085 Beach Chair Mode Cancellation

If the Universal Hand Control detects a Surgical Table error is preventing the cancellation of the Beach Chair Mode, the Universal Hand Control displays the **SEE OPERATOR'S MANUAL** and **BEACH CHAIR MODE ERROR** messages on the display. Using the Universal Hand Control configured for a Cmax/4085 also causes this error. A symbol appears in the lower right corner of the display instructing the user to refer to the operator's manual (see Figure A-10).

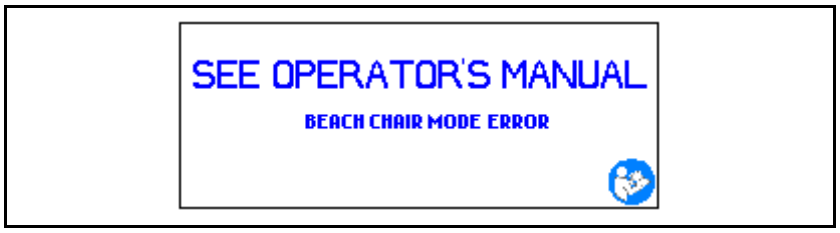


Figure A-10. Universal Hand Control Display During Beach Chair Mode Cancellation

Pressing any key while the **BEACH CHAIR MODE ERROR** message (see Figure A-10) is displayed returns the Universal Hand Control to normal operation (see Figure A-1) with the following exceptions:

NOTE: The table should be serviced by a STERIS technician to resolve an issue preventing cancellation of the Beach Chair Mode.

1. The 5085 General Surgical Table continues to operate in Beach Chair Mode.
2. The 5085 General Surgical Table is operating in reverse orientation and cannot be placed into normal orientation mode.
3. The ALS functionality for the leg section is inoperative to accommodate a beach chair or shoulder accessory. If the leg section is attached it can collide with obstacles.
4. Functionality of the 5085 General Surgical Table is allowed under this condition so that the user can articulate the table to facilitate handling the patient if necessary.

5. Using Universal Hand Control configured to a Cmax/4085 table also causes this error. If a Cmax/4085 configuration was selected for the Universal Hand Control Compatibility Mode, please select the 5085 Compatibility Mode when prompted.

A.6 Feature Matrix

Table A-4 shows the functionality available for each compatible Surgical Table.

Table A-4. Surgical Table Available Functionality

Function	Cmax/4085 V1	Cmax/4085 V2	5085
Height Up/Down	Yes	Yes	Yes
Trendelenburg/Reverse Trendelenburg	Yes	Yes	Yes
Tilt Left/Right	Yes	Yes	Yes
Leg Up/Down	Yes	Yes	Yes
Back Up/Down	Yes	Yes	Yes
Slide Head/Foot	Yes	Yes	Yes
Normal/Reverse Orientation	Yes	Yes	Yes
Kidney Up/Down	Yes	Yes	Yes
Level	Yes	Yes	Yes
Floor Locks Lock/Unlock	Yes	Yes	Yes
Flex/Reflex	Yes	Yes	Yes
Beach Chair Mode	Not Applicable	Not Applicable	No
Language Selection	Not Applicable	Not Applicable	No
Position Memory	Not Applicable	Not Applicable	No
Rotate Mode	Not Applicable	Not Applicable	No
Text Error Messages	Yes	Yes	No
Numeric Error Codes (Wrench Codes)	No	Yes	Yes
Display Angles and Positions	No	No	Yes
Display Animation of Surgical Table Positions	No	No	Yes
Utilize Menu Interface	No	No	Yes

APPENDIX B - EMC COMPLIANCE

B

EMC COMPLIANCE TECHNICAL DATA

The STERIS 4085 General Surgical Table is designed for most surgical procedures with maximum radiological access without patient reversing. The STERIS 4085 General Surgical Table and related components are intended for use in the electromagnetic environment specified in **Table B-1** through **Table B-4**. The Customer or the user should ensure this table is used in such an environment.

NOTE: Review all EMC safety precautions listed below before operating the STERIS 4085 General Surgical Table within the surgical suite.

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **Appropriate components of this surgical table have been tested and found in compliance with IEC 60601-1-2: Edition 4 2014-02, Medical Electrical Equipment - Part 1; General Requirements for Safety; Electromagnetic Compatibility (EMC). There is, however, a potential for electromagnetic or other interference between this equipment and other devices. Should user experience interference, relocate this device or minimize the use of the affected equipment while this device is in operation.**
- **Surgical table operation may be temporarily affected if portable or mobile RF communications equipment is used in close proximity.**
- **Medical Electrical Equipment needs special precautions regarding EMC. Put table into service according to the EMC information provided in this manual.**
- **Possible EMC increased EMISSIONS or decreased IMMUNITY. Do not use accessories or replacement parts not listed in the Operator or Maintenance Manuals.**
- **Surgical table operation may be affected if used adjacent to or stacked with other equipment. If adjacent or stacked use is needed, ensure table operates properly in this configuration.**

Table B-1. Guidance and Manufacturer's Declaration – Electromagnetic Emissions – For All Equipment and Systems (per IEC 60601-2 Clause 6.8.3.201 a – 3 Table 201)

The STERIS 4085 General Surgical Table and related components are intended for use in the electromagnetic environment specified below. The Customer or the user should ensure this STERIS 4085 General Surgical Table is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The STERIS 4085 General Surgical Table uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The STERIS 4085 General Surgical Table is suitable for use in all establishments, other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

NOTE: The emissions characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 Class A). If it is used in a residential environment (for which CISPR 11 Class B is required) this equipment might not offer adequate protection to radio frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.

Table B-2. Guidance and Manufacturer's Declaration – Electromagnetic Immunity For All Equipment and Systems (per IEC 60601-2 Clause 6.8.3.201 a – 6 Table 202)

The STERIS 4085 General Surgical Table and related components are intended for use in the electromagnetic environment specified below. The Customer or the user should ensure this STERIS 4085 General Surgical Table is used in such an environment.

Immunity test	IEC 60601 4th Edition Test Level	Compliance Level	Electromagnetic Environment – Guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential Mode ±2 kV common mode	±1 kV differential Mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage Dips/ Dropout IEC 61000-4-11	0% UT for 0.5 cycle @ 0, 45, 90, 135, 180, 225, 270 and 315 degrees. 0% UT for 1 cycle	>95% Dip for 0.5 Cycle 60% Dip for 5 Cycles 30% Dip for 25 Cycles >95% Dip for 5 Seconds --- 0% UT for 0.5 cycle @ 0, 45, 90, 135, 180, 225, 270 and 315 degrees. 0% UT for 1 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of the STERIS 4085 General Surgical Table requires continued operation during power mains interruptions, it is recommended that the STERIS 4085 General Surgical Table be powered from the equipped internal battery. **(Tested at UT = to 230V ac and UT= 100V ac, 50Hz for each all test levels).**
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE: UT is the ac mains voltage prior to application of the test level.

Table B-3. Guidance and Manufacturer's Declaration – Electromagnetic Immunity For Equipment and Systems That Are Not Life-Supporting (per IEC 60601-2 Clause 6.8.3.201 b Table 204)

The STERIS 4085 General Surgical Table and related components are intended for use in the electromagnetic environment specified below. The Customer or the user should ensure this STERIS 4085 General Surgical Table is used in such an environment.

Immunity test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment– Guidance
Conducted RF IEC 61000-4-6	3 Vrms (Outside ISM) 6Vrms (In ISM Bands) 150 kHz to 80 MHz	(V1) = 3 Vrms (V2) = 6 Vrms (V3) = 10 Vrms	Portable and mobile RF communications equipment should be separated from the STERIS 4085 General Surgical Table, including cables, no less than the distance calculated/listed below: D=(3.5/V1)(Sqrt P) D=(12/V2)(Sqrt P) D=(12/E1)(Sqrt P) 80 to 800 MHz D=(23/E1)(Sqrt P) 800 MHz to 2.7 GHz where P is the max power in watts and D is the recommended separation distance in meters. Field strengths from fixed transmitters, as determined by an electromagnetic site survey, should be less than the compliance levels (V1 and E1). Interference may occur in the vicinity of equipment containing a transmitter.
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.7 GHz	(E1) = 3 V/m	

Table B-4. Recommended Separation Distances Between Portable and Mobile RF Communications Equipment and STERIS 4085 General Surgical Table (per IEC 60601-2 Clause 6.8.3.201 b Table 206)

The STERIS 4085 General Surgical Table and related components are intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The Customer or the user can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and this STERIS 4085 General Surgical Table as recommended below, according to the minimum output power of the communications equipment.

Rated maximum output power of transmitter **W**	**Separation distance according to frequency of transmitter** **m**		
	150 kHz to 80 MHz $d = [\frac{3.5}{3}]\sqrt{P}$	80 MHz to 800 MHz $d = [\frac{3.5}{3}]\sqrt{P}$	800 MHz to 2.5 GHz $d = [\frac{7}{3}]\sqrt{P}$
0,01	0.12	0.12	0.23
0,1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Recommendation regarding use of high frequency (HF) surgical equipment (per IEC 60601-2-46 3rd edition):

1. The 4085 Surgical Table is intended for use with high frequency surgical equipment.
2. If degradation of performance is noted the HF surgical equipment leads and return plates must be re-oriented to a more favorable position.

Statement regarding X-Ray Attenuation:

The aluminum equivalence for the table top and the x-ray top is 2 millimeters.

WARNING: The presence of any material in the x-ray beam will introduce diffusion and scattering effects. Operators should take appropriate precautions against x-ray exposure. Material placed in the path of an x-ray beam will attenuate the x-ray intensity. The x-ray beam intensity must not exceed safe patient levels.

WARNING:Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the 4085 General Surgical Table, including cables specified by the STERIS. Otherwise, degradation of the performance of this equipment could result.

Examples of portable RF communications equipment include TETRA 400, GMRS 460, FRS 460, LTE Band 13 and 17, GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5, GSM 1800, CDMA 1900, GSM 1900, DECT, LTE Band 1, 3, 4, 25; UMTS, Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7, and WLAN 802.11 a/n.