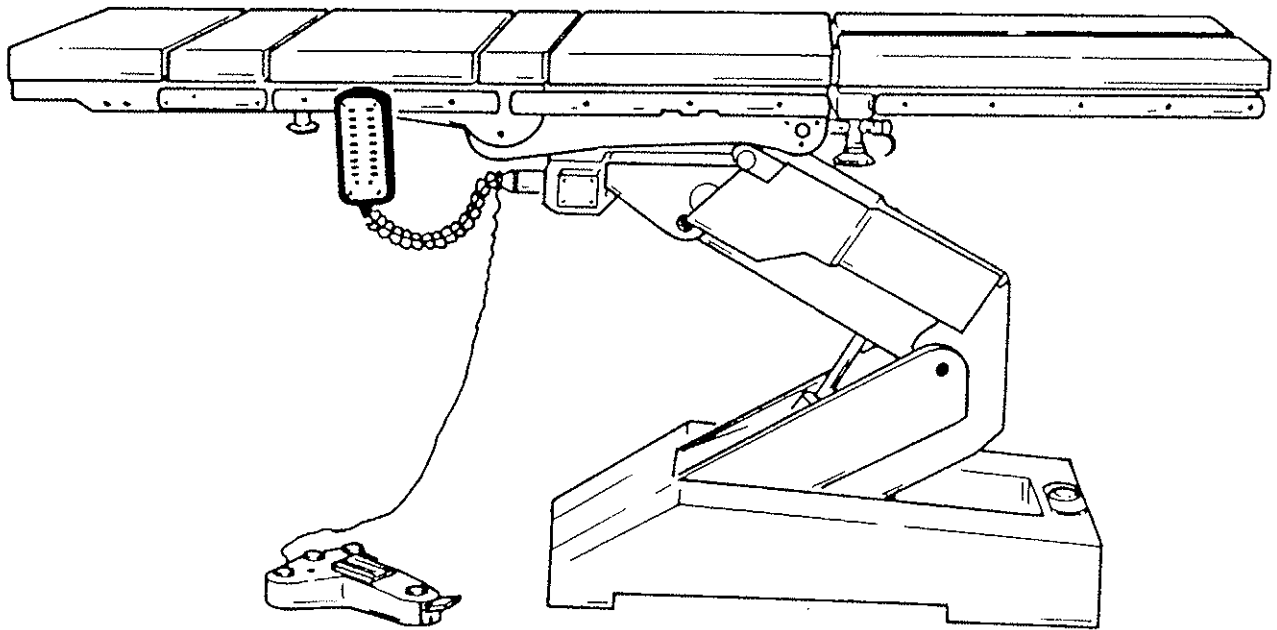




**SKYTRON**

GRAND RAPIDS, MICHIGAN



**MODEL 7000  
MICRO SURGERY OPERATING TABLE  
OPERATORS MANUAL**

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### SKYTRON STANDARD LIMITED WARRANTY SURGICAL TABLES & ACCESSORIES

SKYTRON, a Division of KMW, Inc. (SKYTRON) warrants all new surgical tables sold by it directly or through a dealer or other authorized representative, with exception to replacement parts, spares, pads and accessory items, to be free from defects in material or workmanship, under normal use and service, for a period of one (1) year. The warranty period shall begin with the initial operation or one (1) year after receipt of the surgical table, whichever shall occur first.

Replacement parts, spares, pads and accessory items are warranted to be free from defects in material or workmanship, under normal use and service, for a period of ninety (90) days from receipt by the ultimate user, with exception to replacement parts supplied by SKYTRON, for surgical tables under warranty, which shall be covered for any remaining period of the original table warranty, or 90 days, whichever is of greater benefit to the ultimate user.

SKYTRON'S responsibility and liability shall be limited to the repair or replacement of any part which we, SKYTRON, determine to be defective within the applicable warranty period. Minor adjustments required as a result of normal wear during use of the product within the warranty period are not covered under warranty, and after ninety (90) days from the start of the one (1) year warranty period SKYTRON or its representatives reserve the right to make a reasonable charge for the labor involved in the repair or replacement of warranty parts.

SKYTRON shall not be liable for any other expense, loss or damage, whether direct, incidental, consequential or exemplary arising in connection with the sale or use of or the inability to use SKYTRON products.

NO EXPRESS WARRANTY IS GIVEN BY SKYTRON WITH RESPECT TO ITS PRODUCTS EXCEPT AS SPECIFICALLY SET FORTH HEREIN. ANY WARRANTY IMPLIED BY LAW, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS EXPRESSLY LIMITED TO THE ONE-YEAR AND 90-DAY TERMS SET FORTH ABOVE. THE FOREGOING STATEMENTS OF WARRANTY ARE EXCLUSIVE AND IN LIEU OF ALL OTHER REMEDIES.

No dealer, agent, employee or other representative of SKYTRON is authorized to extend or enlarge this warranty.

Rev. 8-90

Although current at the time of publication, SKYTRON's policy of continuous development makes this manual subject to change without notice.

## SPECIAL USER ATTENTION

To help assure the highest degree of operating safety for user and patient, SKYTRON has provided many warning, caution, and note instructions throughout this manual. Please review them and the ones on the opposite page thoroughly prior to operating this table.

Due to the extreme positioning capabilities of the table, multiple function positioning requires special attention for possible interference points. The Operator has the ultimate responsibility of preventing damage to the table and surrounding equipment or injury to the patient and staff.

Familiarize all operating personnel with regard to not only the proper operation of the SKYTRON surgical table, but also the warnings, cautions and notes associated with its proper use.

### WARNING

Indicates possibility of personal injury.

### CAUTION

Indicates possibility of damage to equipment.

### NOTE

Indicates pertinent facts or conditions.

### WARNING

DO NOT use the table in the presence of **FLAMMABLE GASES** (Flammable gases are not commonly used in the U.S.).

### WARNING

DO NOT unlock brakes when a patient is on the table. An uneven patient weight load may cause instability.

### CAUTION

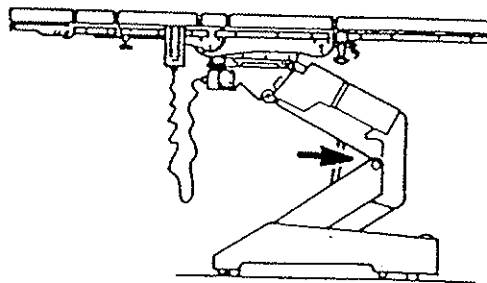
DO NOT sit on end of leg sections as damage may result.

### NOTE

With an even weight load distribution, all table positioning functions will operate smoothly and quietly with up to a 350 pound patient weight load.

### WARNING

Potential pinch and/or crush hazard exists if hands or fingers are placed between elevation sections or elevation sections and base during elevation - down positioning.

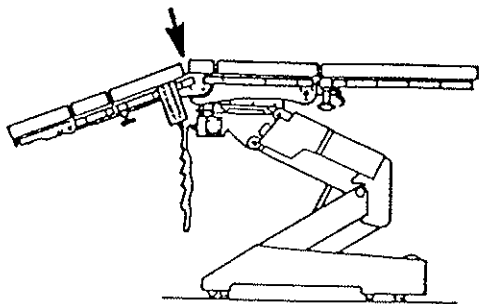


## SPECIAL USER ATTENTION

Potential pinch and/or crush hazard may be caused by some table positioning. Attending personnel should be made aware of and examine these points before operating the table.

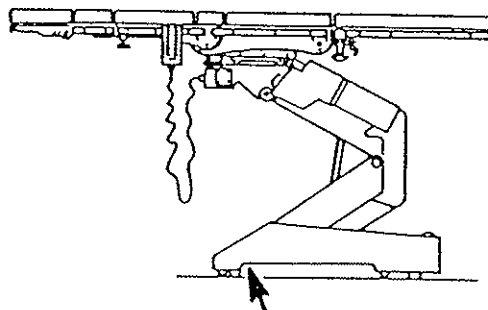
### WARNING

Potential pinch and/or crush hazard exists if hands or fingers are placed between edges of back and seat section frames during extreme back section posturing.



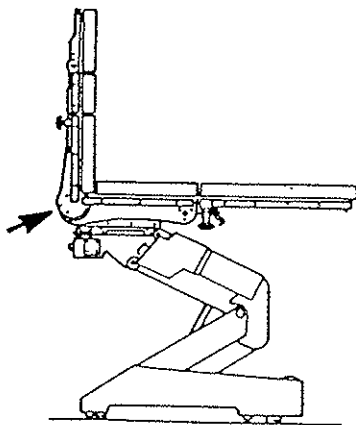
### WARNING

DO NOT unlock brakes when a patient is on the table. An uneven patient weight load may cause instability. Potential pinch and/or crush hazard exists if feet are placed under the table base when floor lock/brakes are released.



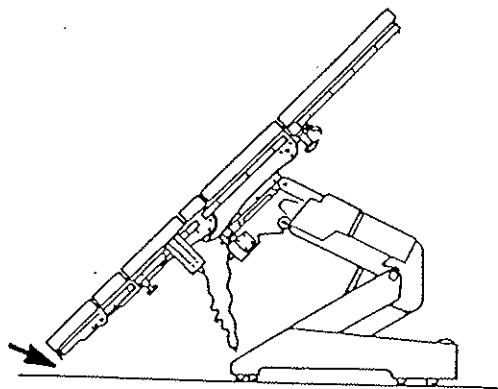
### WARNING

Potential pinch and/or crush hazard exists if hands or fingers are placed in gear mechanism (under back section) during back section posturing.



### WARNING

To avoid injury to surgical staff or damage to the table, use extreme care when attempting full trendelenburg positioning while the table top is in a low position. Some table positions will allow the head section of the table to contact the floor.



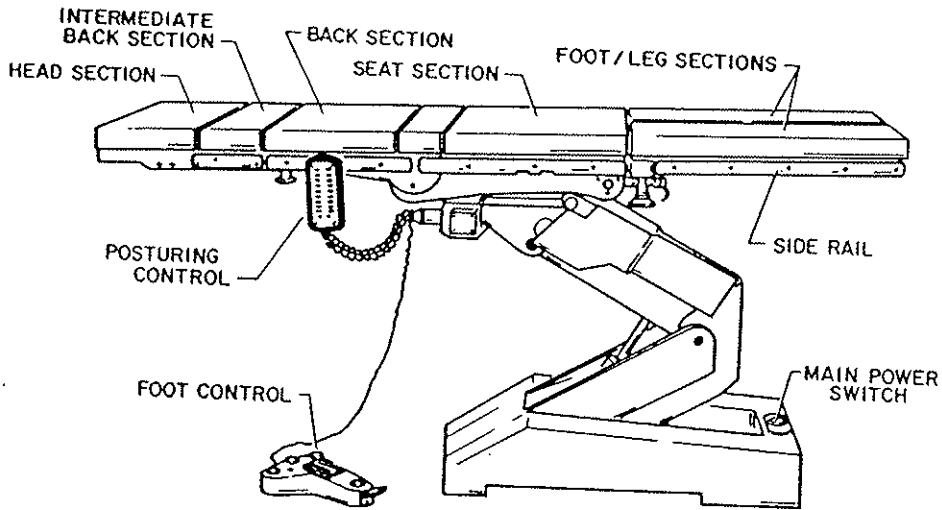
### WARNING

To maximize patient safety, utilize proper restraint methods during extreme trendelenburg posturing modes.

### WARNING

Potential pinch and/or crush hazard exists if hands or fingers are placed between edges of seat and leg sections when leg sections are raised or lowered.

## SECTION I INTRODUCTION



**Figure 1-1. Model 7000  
Micro-Surgery Operating Table**

### 1-1. General

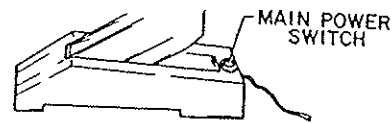
SKYTRON's Model 7000 Micro-Surgery Operating Table is electro-hydraulically operated and designed for the stability, posturing capabilities, and precision movement required for sensitive surgical procedures.

The table top has longitudinal (end to end) and lateral (side to side) slide features which can be activated by the hand-held pendant control as well as the foot control. The hand-held control also operates the floor lock/brake system and the positioning functions for trendelenburg, lateral-tilt, back section, elevation and speed selection.

Manual controls are provided for head section positioning, back section extension and the split foot-leg section operations.

### 1-2. Power Requirements

The Model 7000 Micro-Surgery Operating table requires a 115 VAC, 60Hz electrical power supply. The table is equipped with a 20-foot power cord with a standard three-prong, hospital grade plug. Electrical circuit protection is provided by two 8 Amp fuses. The foot operated, main power switch is located on top of the foot end of the base. See figure 1-2.



**Figure 1-2. Main Power Switch**

### 1-3. Posturing Control Unit

The hand-held posturing control unit (figure 1-3) has a non-slip rubber cover which assures a positive grip during use. A spring clip hanger is located on the back of the unit. This allows storage of the unit on the table side rails.

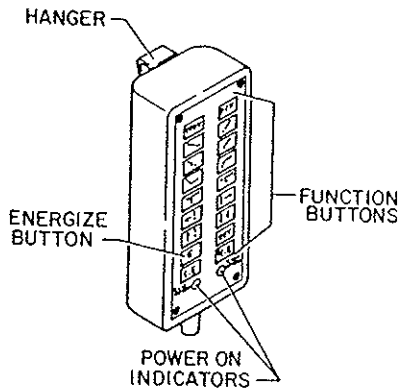


Figure 1-3. Posturing Control Unit

To protect against accidental actuation of the table during a critical procedure, the posturing control unit requires two separate actions to initiate any posturing change. Both a FUNCTION button and the ENERGIIZE button must be activated simultaneously for any table movement to occur.

The function push buttons are identified with internationally recognized symbols for all functions. See figure 1-4.

#### NOTE

The trendelenburg functions and the ENERGIIZE push buttons are red; all others are black.

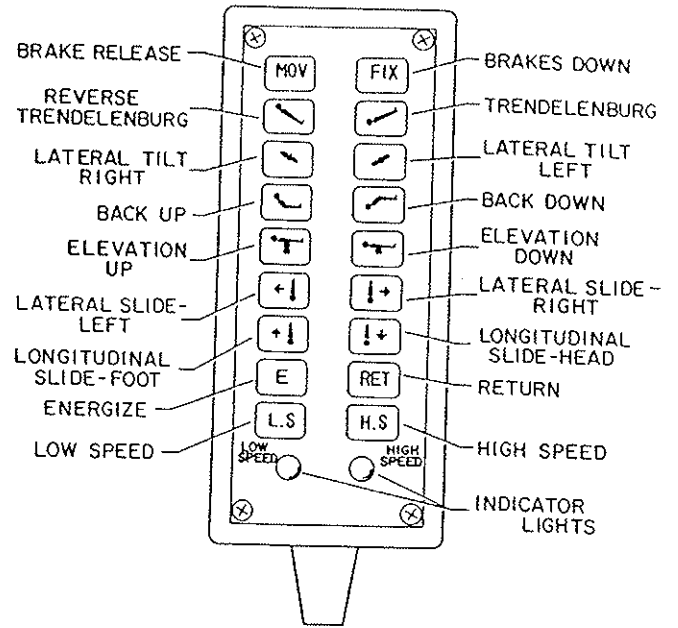


Figure 1-4. Posturing Control Functions

### 1-4. Foot Control Unit

The foot control unit allows the surgeon to control the table top slide functions. See figure 1-5. The four buttons activate the top slide movement and the return lever allows a one touch procedure to return the table top to a center position. A selector switch on the side of the unit is used to select Normal or Microscope interface functions. The Microscope mode reverses the direction of the top slide movements. Indicator lights on the top of the foot control show which mode the control unit is in.

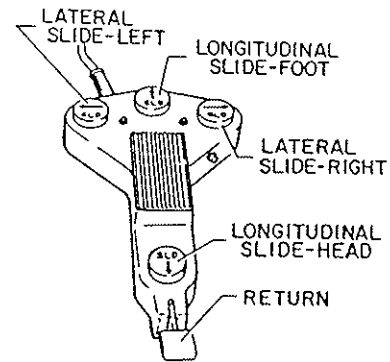


Figure 1-5. Foot Control Unit

SECTION II OPERATION

2-1. Electrical Power

- a. Check to be sure power cord is plugged into 115 VAC outlet.
- b. Depress "Main Power ON/OFF" switch located on top of the foot end of the base. See figure 2-1. A green indicator light on the posturing control unit should now be illuminated.

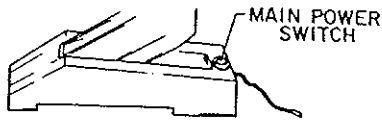


Figure 2-1. Main Power Switch

2-2. Posturing Control Unit

The hand-held posturing control unit (figure 2-2.) activates the following table functions:

NOTE

To protect against accidental activation of the table during critical procedures, both a FUNCTION button and the ENERGIZE button must be pressed simultaneously for any table movement to occur.

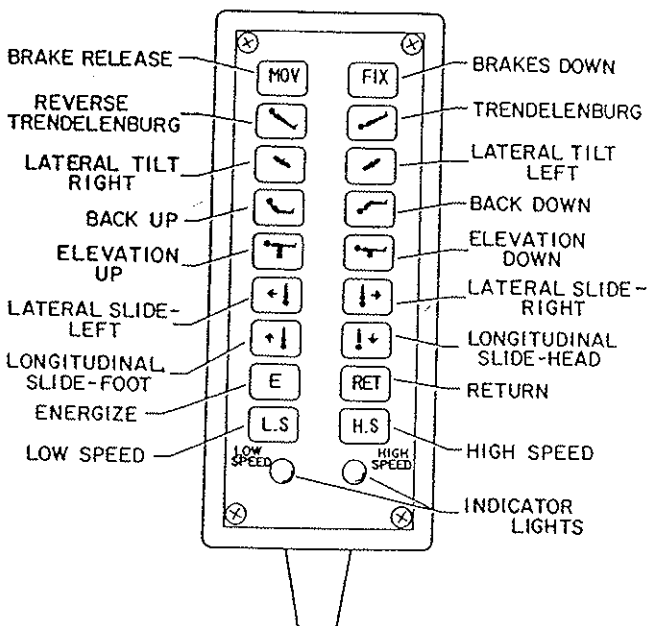


Figure 2-2. Posturing Control Unit

- a. Speed Selection. Normal table positioning functions should be done with the control system in the high speed mode. Low speed operation is mainly used for top slide positioning especially for movement during microscope procedures. To place the system in high speed, depress both the H.S. and ENERGIZE buttons. See figure 2-3. The high speed indicator light should be illuminated.

To place the system in low speed, depress both the L.S. and ENERGIZE buttons. See figure 2-4. The low speed indicator light should be illuminated.



Figure 2-3. High Speed Function



Figure 2-4. Low Speed Function

- b. Floor Lock/Brake System. The floor lock/brake system consists of four hydraulic cylinders which raise and support the table base off from the castors. To activate the brakes, press both the FIX and ENERGIZE buttons (figure 2-5.) and hold for 6-8 seconds to allow full extension of the cylinders.

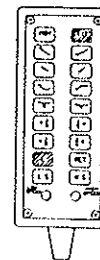


Figure 2-5. Brake System Function

**WARNING**

DO NOT unlock brakes when a patient is on the table. An uneven patient weight load may cause instability. Potential pinch and/or crush hazard exists if feet are placed under the table base when floor lock/brakes are released.

To allow the table to be moved, release the brake system by pressing both the MOVE and ENERGIZE buttons. See figure 2-6. Hold the buttons for approximately 6-8 seconds to allow the brake cylinders to fully retract.



**Figure 2-6. Brake Release Function**

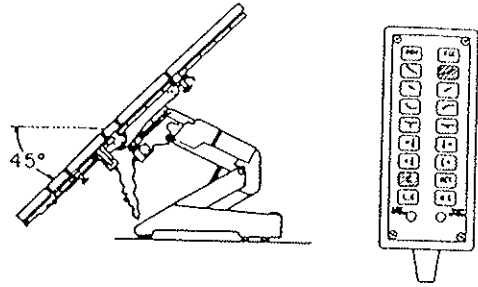
**WARNING**

To maximize patient safety, utilize proper restraint methods during extreme trendelenburg posturing modes.

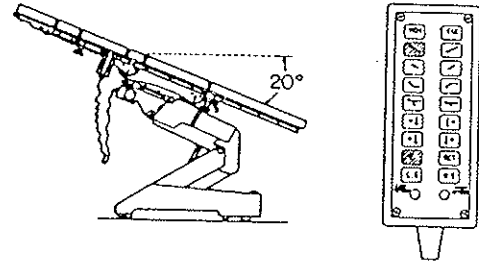
**WARNING**

To avoid injury to surgical staff or damage to the table, use extreme care when attempting full trendelenburg positioning while the table top is in a low position. Some table positions will allow the head section of the table to contact the floor.

c. Trendelenburg. To place the table in a trendelenburg (head down) position, push both the TRENDELENBURG and ENERGIZE buttons simultaneously. See figure 2-7. Tilt of up to 45° may be obtained. To place the table in a reverse trendelenburg (head up) position, push both the REVERSE TRENDELENBURG and ENERGIZE buttons. See figure 2-8. Tilt of up to 20° may be obtained.



**Figure 2-7. Trendelenburg Function**

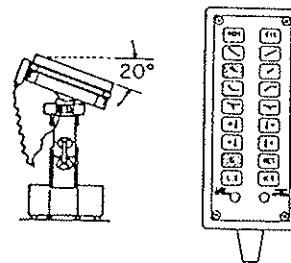


**Figure 2-8. Reverse Trendelenburg Function**

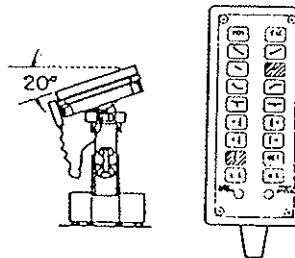
**WARNING**

To maximize patient safety, utilize proper restraint methods during extreme lateral-tilt modes.

d. Lateral Tilt. To achieve lateral tilt-right (as viewed from head end of table), push both the LATERAL TILT-RIGHT and ENERGIZE buttons (figure 2-9.). Tilt of up to 20° may be obtained. To achieve lateral tilt-left, push both the LATERAL TILT-LEFT and ENERGIZE buttons (figure 2-10.). Tilt of up to 20° may be obtained.



**Figure 2-9. Lateral Tilt-Right (front view)**



**Figure 2-10. Lateral Tilt-Left (front view)**



**WARNING**

Potential pinch and/or crush hazard exists if hands or fingers are placed between edges of back and seat section frames or side rails during extreme back section posturing.

e. Back Section. To raise the back section, push both the BACK-UP and ENERGIZE buttons (figure 2-11.), the back section will raise up to 90° above horizontal. To lower back section, push both the BACK-DOWN and ENERGIZE buttons (figure 2-12.), the back section will go down to 25° below horizontal.

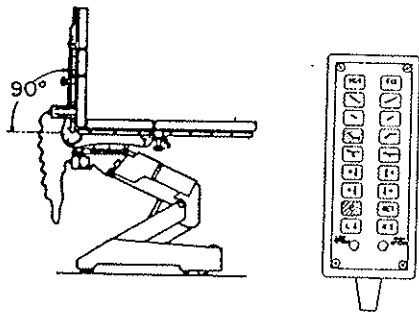


Figure 2-11. Back Section - Up

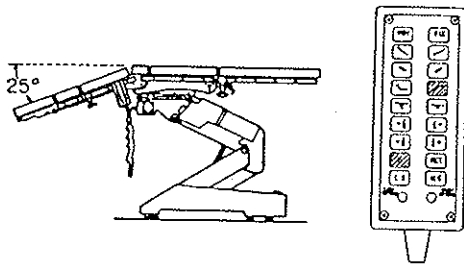


Figure 2-12. Back Section - Down

**WARNING**

Potential pinch and/or crush hazard exists if hands or fingers are placed in gear mechanism (under back section) during back section posturing.

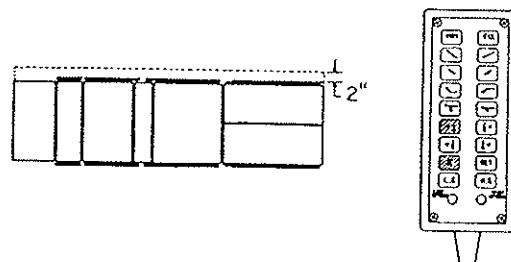


Figure 2-15. Lateral Slide - Left

**WARNING**

Potential pinch and/or crush hazard exists if hands or fingers are placed between elevation sections or elevation sections and base during elevation-down positioning.

f. Elevation. To raise table top, push both the ELEVATION-UP and ENERGIZE buttons (figure 2-13.). The table will raise to a maximum height of 44". To lower the table top, push both the ELEVATION-DOWN and ENERGIZE buttons (figure 2-14.). The table top will go down to a minimum height of 23".

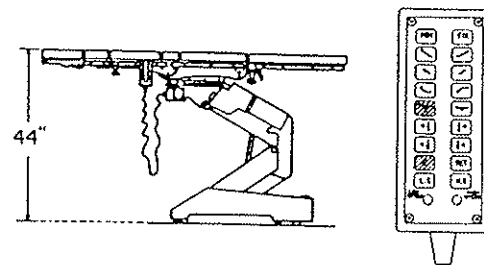


Figure 2-13. Elevation - Up

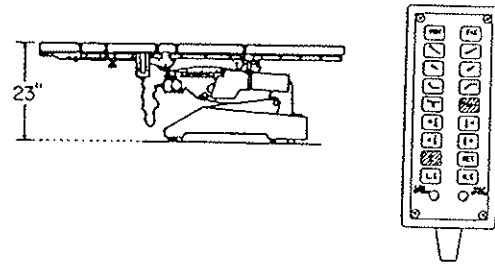


Figure 2-14. Elevation - Down

g. Lateral Top Slide (Side to Side). To achieve lateral top slide-left (as viewed from head end of table), push both the LATERAL SLIDE-LEFT and ENERGIZE buttons. See figure 2-15. Movement of up to 2" from center may be obtained. To achieve

lateral top slide-right push both the LATERAL SLIDE-RIGHT and ENERGIZE buttons (figure 2-16.). Movement of up to 2" from center may be obtained.

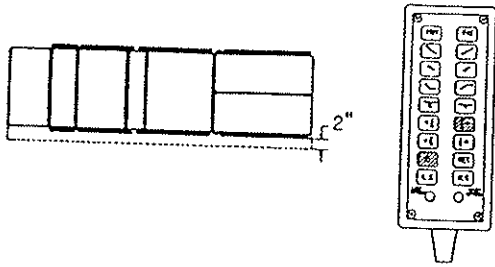


Figure 2-16. Lateral Slide - Right

h. Longitudinal Top Slide (End to End). To achieve longitudinal top slide movement toward the foot end, push both the LONGITUDINAL SLIDE-FOOT and ENERGIZE buttons. See figure 2-17. Movement of up to 2" from center may be obtained. To achieve longitudinal top slide movement toward the head end, push both the LONGITUDINAL SLIDE-HEAD and ENERGIZE buttons (figure 2-18.). Movement of up to 2" from center may be obtained.

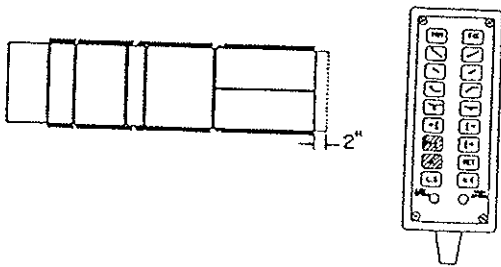


Figure 2-17. Longitudinal Slide - Foot

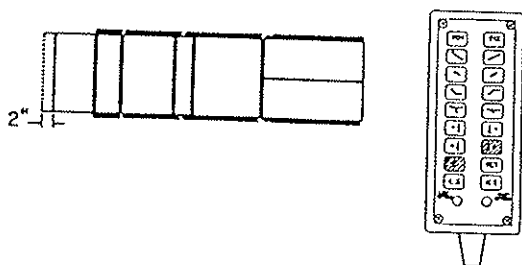


Figure 2-18. Longitudinal Slide - Head

i. Return. Pressing both the RETURN and EN<sup>9</sup>ERGIZE buttons will place the table in a level and centered position. See figure 2-19.



Figure 2-19. Return Function

### 2-3. Foot Control

The foot control is provided for surgeon control of the table top slide functions. See figure 2-20.

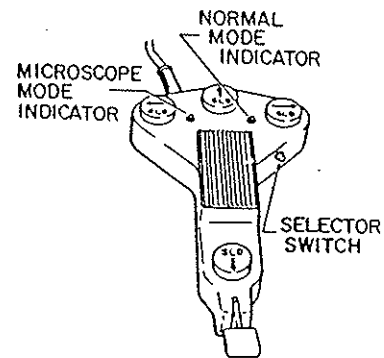


Figure 2-20. Foot Control Function

a. Lateral top slide is achieved by pressing either the Lateral Slide-Right or Lateral Slide-Left button as desired. Movement of up to 2" from center position may be obtained.

b. Longitudinal top slide is achieved by pressing either the Longitudinal Slide-Right or Left button as desired. Movement of up to 2" from center position may be obtained.

c. The return lever, when depressed, automatically returns the table top to full center position.

d. Microscope Mode Selector Switch. A switch located on the side of the foot control is used to change the operational mode of the foot control from Normal to Microscope. See figure 2-21. The Microscope mode reverses the direction of the top movements to compensate for the reverse imaging experienced when viewing through a microscope. It does NOT change the table speed.

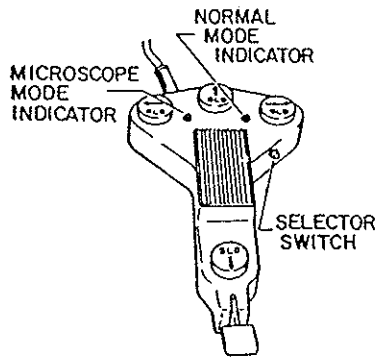


Figure 2-21. Foot Control Mode Switch

e. Speed Selection. The speed of the top slide movement can be changed with the High Speed/Low Speed functions of the pendant control. See figure 2-22. (refer to paragraph 2-2. a). Low speed should be selected for precise positioning when using the Microscope mode on the foot control.

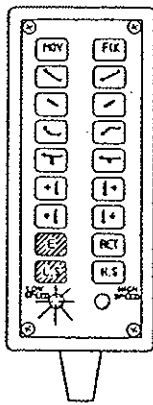


Figure 2-22. Speed Control Function

2-4. Head Section

A quick release positioning bar located under and to the front of the head section (figure 2-23.) is used to raise or lower the head section. Pull the release bar toward the head end to allow the section to move up or down. Positioning from 15° above horizontal to 90° below horizontal in 15° increments is available. Release the bar to lock head section in position.

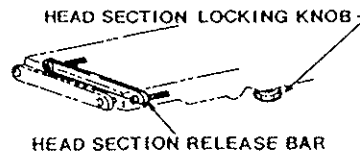


Figure 2-23. Head Section

By loosening two locking knobs beneath the back section, an additional 6" of longitudinal adjustment can be achieved. If desired, the head section may be removed by loosening the locking knobs and pulling it straight out of the back section.

2-5. Intermediate Back Section

The intermediate back section, located between the head section and main back section, is secured with two locking knobs located under the back section. See figure 2-24. By loosening the two locking knobs, an additional 3" of longitudinal extension can be achieved. If desired, the intermediate back section may be removed by loosening the locking knobs and pulling the section straight out of the back section. An additional set

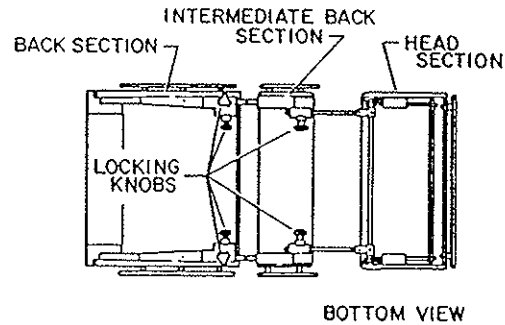


Figure 2-24. Intermediate Back Section

of locking knobs and guide holes in the main back section allow the head section to be reattached with the intermediate back section removed. See figure 2-25.

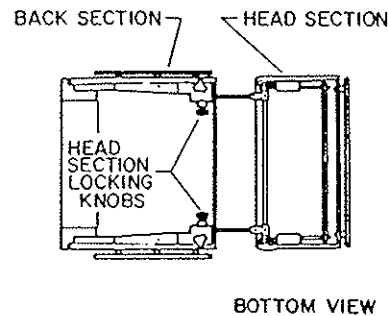


Figure 2-25. Intermediate Back Section Removal

## 2-6. Foot/Leg Section

The Model 7000 series table has movable, split-leg sections. The individual sections can be rotated both vertically and horizontally. To reposition a section vertically, lift up slightly on the leg section side rail and pull the LOCK TRIGGER outward (figure 2-26.). The positioning range is from horizontal to 90° below, in 15° increments.

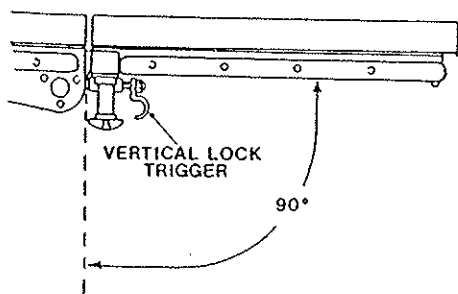


Figure 2-26. Foot/Leg Vertical Positioning

### WARNING

Potential pinch and/or crush hazard exists if hands or fingers are placed between the edges of seat and leg sections when leg sections are raised or lowered.

To reposition the leg section horizontally, loosen the LOCK HANDLE (figure 2-27.) at least one counterclockwise turn. Position leg section as desired and tighten LOCK HANDLE. To remove the leg section, turn the LOCK HANDLE at least five counterclockwise turns and lift the leg section up to remove it.

### CAUTION

Do not sit on end of leg sections as damage may result.

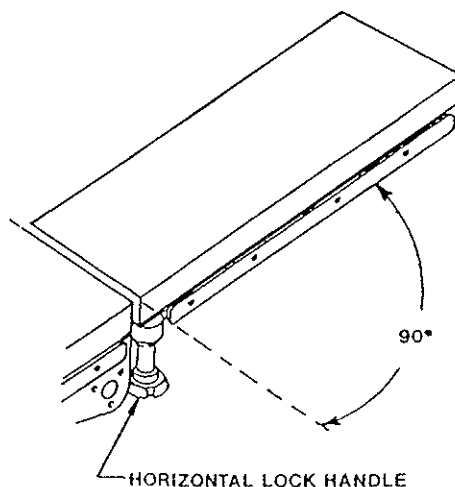


Figure 2-27. Foot/Leg Horizontal Positioning

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## SECTION III MAINTENANCE

### 3-1. Preventive Maintenance

The following preventive maintenance checks and services are recommended to ensure the serviceability and proper operation of your SKYTRON surgical table.

a. During normal cleaning, a general visual examination should be made checking for leaks, loose bolts or parts, and cracked, chipped, or missing paint.

b. Monthly, a thorough visual examination should be made checking for leaks, loose bolts, fittings or parts and cracked, chipped or missing paint. Any necessary repairs should be made.

### 3-2. Service

To obtain factory service, replacement parts, or preventative maintenance contracts, contact your nearest SKYTRON representative or write:

SKYTRON  
5000 36th Street S.E.  
Grand Rapids, Michigan 49508  
(616) 957-0500  
1-800-552-4633