MAINTENANCE MANUAL

Amsco® 3085 SP Surgical Table
After S/N B420702-025

(10/07/10) **P764332-897**

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OPERATOR MANUAL

Amsco® 3085 SP Surgical Table

(08/10/11) **P150830-353**

A WORD FROM STERIS CORPORATION

This manual contains important information on proper use and maintenance of the Amsco® 3085 SP 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 a 3085 SP 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 and model numbers of the unit.

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

Advisory

A listing of the *Safety Precautions* to be observed when operating and servicing this equipment can be 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 this equipment not authorized or performed by STERIS Engineering Service which could affect its operation will void the warranty and could violate federal, state or local regulations.

Indications for Use

The Amsco 3085 SP Surgical Table is a mobile, electrohydraulically operated general surgical table providing flexible articulation of the surgical patient.

Service Information

A thorough preventive maintenance program is essential to safe and proper unit operation. This manual contains maintenance schedules and procedures which should be followed for satisfactory equipment performance.

Customers are encouraged to contact STERIS concerning our comprehensive preventive maintenance agreement. Under the terms of this agreement, preventive maintenance, adjustments, and replacement of worn parts are done on a scheduled basis to help assure equipment performance at peak capability and to help avoid untimely or costly interruptions. STERIS maintains a global staff of well equipped, factory-trained technicians to provide this service, 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 mating female connector is not furnished by STERIS.

EC Authorized Representative

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Manufactured by:
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Class 1 Equipment

Type B Equipment

Classified as IPX4

(Splash-proof)

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

Suitable for continuous use.

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

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SAFETY PRECAUTIONS

1

The following *Safety Precautions* **must** be observed when operating and servicing this equipment. 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 extreme tabletop articulation. Carefully review illustrations in Figure 2-1 before operating the table.

WARNING – TIPPING HAZARD:

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

⚠ Do not release floor locks while patient is on table.

⚠ Do not use this table for patients exceeding the 1,000-lb (452-kg) limit when patient is positioned in normal orientation. The maximum safe patient weight on this table for standard surgical positions in normal orientation is 1,000 lb (452 kg) with floor locks locked.

⚠ Do not use this table for patients exceeding the 500-lb (226-kg) limit when patient is positioned in reversed orientation. The maximum safe patient weight on this table for standard surgical positions in reversed orientation is 500 lb (226 kg) with floor locks locked.

⚠ When performing surgery requiring a headrest accessory in reversed patient orientation, or when using a Fem/Pop board or the 3080/3085 Ortho Extension accessory, do not exceed the 400 lb (181 kg) patient weight.

⚠ Do not use the Fem/Pop Board with X-ray Tops for bariatric patients.

⚠ Foot Extension Accessory or combination of Foot Extension and Headrest Accessories from previous design STERIS tables must not be used for reverse orientation on the 3085 SP Table.

⚠ Do not use two or more Uro-Endo/Image Amplification Extension accessories together on the 3085 SP Table.

⚠ Do not articulate table with auxiliary override systems unless floor locks are engaged.

⚠ During an articulation if the tabletop sections contact an obstruction, the table may tip. Before lowering either the table top or individual sections, remove possible obstructions. Do not allow leg section, when lowered, to contact the floor.

⚠ Fem/Pop Board must be installed into leg section only. Board must be used to support the legs only. It is not intended to support upper body weight.

⚠ Do not use the Fem/Pop Board with patients exceeding 400 lb (181 kg).

WARNING – EXPLOSION HAZARD:

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

WARNING – TRIPPING HAZARD:

⚠ Route the power cord to the receptacle in a position so it will not be tripped over by personnel in the area.

WARNING – PERSONAL INJURY HAZARD:

⚠ Healthcare professionals must ensure patients are positioned and monitored 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 worn or damaged accessory. Check installation before using any accessory.

⚠ There is a 1,000-lb (452-kg) patient weight limit if patient is in normal orientation and a 500-lb (226-kg) patient weight limit if patient is in reversed orientation; however, the accessory load rating may be lower. Do not exceed the accessory load rating if it is lower than the table rating.

⚠ Unanticipated table movement could cause patient injury. Patient must be secured to the table in accordance with recommended positioning practices.

⚠ Do not immerse any part of foot control in liquids; this could cause unanticipated table movement, leading to patient injury. Always cover control with a plastic bag before using.

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

WARNING – INSTABILITY HAZARD:

⚠ Stabilize table when transferring patient.

⚠ 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, on STERIS tables, accessories manufactured and sold by other companies.

⚠ Patient Transfer Board must be used as a leg support only. It is not intended to support upper body weight of a patient.

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:

⚠ Safe and reliable operation of this equipment requires regularly scheduled preventive maintenance, in addition to the faithful performance of routine maintenance. Contact STERIS to schedule preventive maintenance.

⚠ Repairs and adjustments to this equipment must be made only by fully qualified service personnel. Nonroutine maintenance performed by inexperienced, unqualified personnel or installation of unauthorized parts could cause personal injury, invalidate the warranty, or result in costly damage. Contact STERIS regarding service options.

⚠ Storing items on table base may result in equipment damage causing inadvertent tabletop movement placing patient and/or user at risk of personal injury. DO NOT use table base for storage.

WARNING – INFECTION HAZARD:

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

WARNING – DISPOSAL HAZARD:

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

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- When moving the table to point of use, roll it carefully at moderate speed and only over smooth floors. Maximum floor clearance is 1/4" (6 mm). Avoid door jambs, elevator jambs, and obstructions greater than 1/4" (6 mm). If necessary, lift uncrated 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.
- Route the hand control cord (and optional HERMES®-Ready[1] or ACT Enabled™ interface cord and/or optional foot control cord, if applicable) clear of any pinch points where the cord(s) could be damaged.
- The use of incorrect hydraulic oil may severely damage the table and/or cause malfunction. Contact STERIS for the proper oil to use.
- For ORCS equipped tables, use the HERMES®-Ready[1] or ACT Enabled™ 3085 SP hand control with the blue strain relief on the plug. The standard 3085 SP hand control has a red strain relief on the plug. **These two hand controls are not interchangeable.**
- Hang the hand control from side rail (or end rail) of the table when not in use, to avoid possible damage to the control.
- During some extreme articulations, the tabletop may contact the base and/or column shrouds. Take care to avoid positioning the table in such a way as to cause damage to the shrouds.
- Use caution when raising the seat section or back section while the kidney bridge is elevated. The section may contact the elevated kidney bridge and damage the bridge and/or section.
- 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.
- 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 override switches or into clearance space above column. 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.
- After performing cleaning procedures, ensure pads 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.
- Table may cause dimpling of cushioned vinyl flooring or other soft flooring. When fully loaded to 500 lb (226 kg) patient load, the floor lock feet exert up to 380 psi (2,619 KPa) pressure on the floor. The pressure may reach 440 psi (3,033 KPa) with a 1,000-lb (452-kg) patient load.
- The table has internal switches for setting to various ac-input voltages. Improper setting of switches may damage table electrical system and/or cause improper operation of the table.
- The HERMES®-Ready[1] and ACT Enabled hand controls are interchangeable for control of table functions; however, ORCS voice-activation control will NOT operate properly with improper hand control.

[1]HERMES-Ready is a registered trademark of Computer Motion.

Definition of Symbols

Following is a key to symbols which may be on your table or controls.

Symbol	Definition
	Protective Earth (Ground)
	Attention, Consult Manual for Further Instructions
A	Amperage Rating of the Unit
V	Voltage Rating of the Unit
~	Alternating Current
k W	Power Rating of the Unit
H z	Frequency of the Unit
	Equipotentiality
	Type B Equipment
	Powered by AC
	Powered by Battery
	Battery Charged
	Battery Down
	Optional HERMES-Ready System Installed
	ON
	OFF

Continued ...

Symbol	Definition
	Floor Lock (Function Touch Pad)
	Floor Lock: Lock
	Floor Lock: Unlock
	Patient Orientation (Function Touch Pad)
	Normal Orientation
	Reverse Orientation
	Trendelenburg
	Reverse Trendelenburg
	Height Up (Raise)
	Height Down (Lower)
	Tilt Left
	Tilt Right
	Back Up
	Back Down
	Leg Up
	Leg Down

Continued ...

Symbol	Definition
	Flex
	Reflex
	Level
IPX4	Enclosure Code Rating per IEC529

2.1 Pinch Point Warnings

During extreme tabletop articulation, various possible pinch points exist. These points are identified in Figure 2-1. All personnel involved in tabletop positioning should examine and be aware of these points before operating the table.

WARNING – PINCHING HAZARD: Pinch points are created during extreme tabletop articulation. Carefully review the illustrations in Figure 2-1 before operating the table.

2.2 Patient Positioning and Weight Limitation

The Amsco® 3085 SP Surgical Table is designed to safely support a 1,000-lb (452-kg) patient in the normal orientation **only** with limited posturing, or a 500-lb (226-kg) patient in the reversed orientation.

- **Refer to the following Sections and Figures 2-2 and 2-3 for Precautionary Tipping recommendations, typical Patient Positioning, and Maximum Weight Limitations.**
- **Accessories may have a specified lesser weight limitation than the table. Do not exceed the lowest weight limit, table or accessory.**
- **For patient weights exceeding 500 lb (226 kg), do not use an accessory that has no labeled weight limit. Accessories available for patient weights exceeding 500 lb (226 kg) will be labeled as such with the allowable limit.**
- **Always check patient stability when patient is positioned.**

IMPORTANT: When normal patient loads exceed 700 lb (318 kg), note the following:

- Reflex and Return-to-Level articulations may be slow or not operate. Use other articulations to move the table tops to the desired position.
- Moving the table from an extreme Right Tilt may require the table tops be level. When normal patient loads exceed 900 lb (408 kg), moving the table from an extreme Right Tilt may be slow or not operate.

WARNING – TIPPING HAZARD:

- **Do not place patient on the table unless floor locks are engaged.**
- **Do not release floor locks while patient is on table.**
- **Do not use this table for patients exceeding the 1,000-lb (452-kg) limit when patient is positioned in normal orientation. The maximum safe patient weight on this table for standard surgical positions in normal orientation is 1,000 lb (452 kg) with floor locks locked.**
- **Do not use this table for patients exceeding the 500-lb (226-kg) limit when patient is positioned in reversed orientation. The maximum safe patient weight on this table for the standard surgical positions in reversed orientation is 500 lb (226 kg) with floor locks locked.**
- **When performing surgery requiring a headrest accessory in reversed patient orientation, or when using a Fem/Pop board or the 3080/3085 Ortho Extension accessory, do not exceed 400 lb (181 kg) patient weight.**

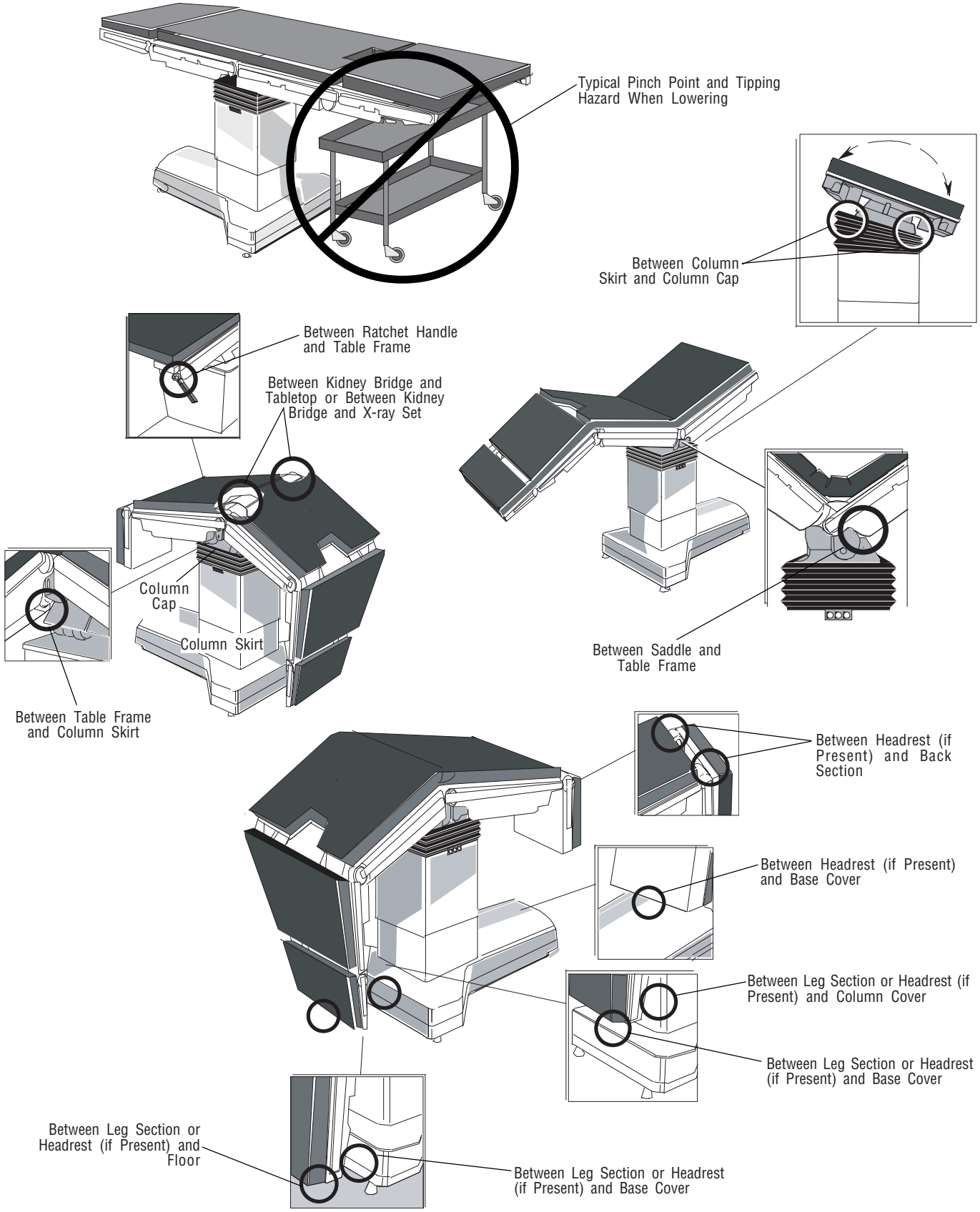


Figure 2-1. Pinch Points

2.2.1 Prevent Possible Tipping

WARNING – TIPPING HAZARD:

- **Do not use this table for patients exceeding the 1,000-lb (452-kg) limit when patient is positioned in normal orientation. The maximum safe patient weight on this table for standard surgical positions in normal orientation is 1,000 lb (452 kg) with floor locks locked.**
- **Fem/Pop Board must be installed into leg section only. Board must be used to support the legs only. It is not intended to support upper body weight.**
- **Do not use the Fem/Pop Board with patients exceeding 400 lb (181 kg).**

Do not exceed the maximum patient weight indicated in Figures 2-2 and 2-3.

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

Do not release floor locks while patient is on table.

Do not attempt to move table while patient is on it.

Do not extend (lengthen) the patient support surface beyond that shown, unless using a STERIS table accessory intended for this purpose and the accessory weight limitation is not exceeded.

When using Fem/Pop Board or the 3080/3085 Ortho Extension accessory, do not exceed 400 lb (181 kg) maximum patient weight.

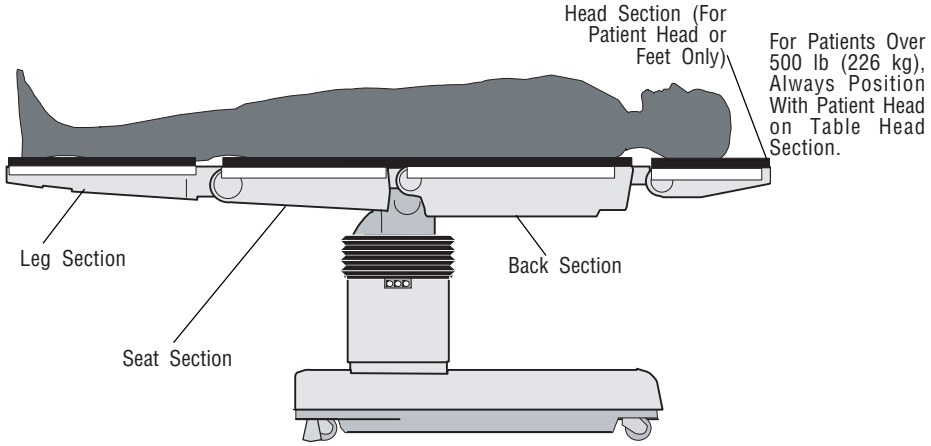


Figure 2-2. Normal Patient Orientation (For up to 1,000-lb [452-kg] Patient Weight)

2.2.2 For Reverse Patient Orientation

WARNING – TIPPING HAZARD:

- **Do not use this table for patients exceeding the 500-lb (226-kg) limit when patient is positioned in reversed orientation. The maximum safe patient weight on this table for standard surgical positions in reversed orientation is 500 lb (226 kg) with floor locks locked.**
- **When performing surgery requiring a headrest accessory in reversed patient orientation, or when using a Fem/Pop board or the 3080/3085 Ortho Extension accessory, do not exceed 400 lb (181 kg) patient weight.**
- **Foot Extension Accessory or combination of Foot Extension and Headrest Accessories from previous design STERIS tables must not be used for reverse orientation on the 3085 SP Table.**

When performing surgery requiring a headrest accessory in a reversed patient orientation, do not exceed 400-lb (181 kg) patient weight limit.

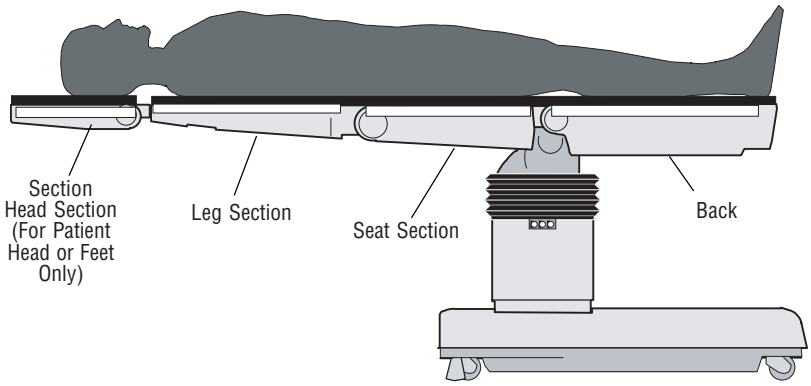


Figure 2-3. Reverse Patient Orientation (For up to 500-lb [226-kg] Patient Weight)

2.2.3 Other Considerations

Use extreme care when transferring patients to or from table.

Ensure all accessories are properly installed and secured.

Check for and eliminate harmful patient pressure points once patient is positioned.

Have a qualified medical professional monitor patient during surgery for all possible patient positioning hazards.

*NOTE: When quickly articulating the table through various repeated movements, the synchronization of the tabletop sections can get out of alignment and the hand control may stop functioning properly. To prevent this condition, the user should perform a return-to-level function after **each** procedure. This will keep the variance over multiple articulations to a minimum.*

⚠ WARNING – PERSONAL INJURY HAZARD:

- **Healthcare professionals must ensure patients are positioned and monitored so as to prevent compromising respiration, nerve pathways, or circulation.**
- **There is a 1,000-lb (452-kg) patient weight limit if patient is in normal orientation and a 500-lb (226-kg) patient weight limit if patient is in reversed orientation; however, the accessory load rating may be lower. Do not exceed the accessory load rating if it is lower than the table rating.**

2.3 General Description

Amsco 3085 SP Surgical Tables are remote control, Image Amplification compatible units with auxiliary override (backup) systems for the control and hydraulic systems. Tables are furnished with 2" (51 mm) thick pads and are available in the following two configurations:

- Electric Powered
- Battery Powered

Both tables are operated in the same manner.

*NOTE: Two hand controls are available: The standard hand control unit (with a **red** strain relief on the plug) is for standard tables; the Operating Room Control System (ORCS) hand control (with a **blue** strain relief on the plug) is for tables equipped with either the HERMES®-Ready[1] or ACT Enabled™ interface control options. **The hand controls are not interchangeable.***

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **For ORCS equipped tables, use the HERMES®-Ready[1] or ACT Enabled 3085 SP hand control with the blue strain relief on the plug. The standard 3085 SP hand control has a red strain relief on the plug. *These two hand controls are not interchangeable.***
- **The HERMES®-Ready[1] and ACT Enabled hand controls are interchangeable for control of table functions; however, ORCS voice-activation control will NOT operate properly with improper hand control.**

Image Amplification Coverage

Head End – 28" (711 mm) with headrest attached (plus 3" [76 mm] maximum extension of headrest).

Foot End – 33" (838 mm) without headrest attached.

– 45" (1,143 mm) with headrest attached (no extension of headrest allowed when at this end).

Width – 14.5" (368 mm) average on both ends.

[1]HERMES-Ready is a registered trademark of Computer Motion.

2.4 Technical Specifications

2.4.1 Overall Size (WxLxH)

24-13/32 x 75-15/16 x 27 to 44"
(620 x 1,928 x 686 to 1,118 mm)

2.4.2 Weight

737 lb (334 kg); maximum anticipated floor lock pressure exerted on floor: 380 psi (2,619 KPa) with a 500-lb (226-kg) patient load, 440 psi (3,033 KPa) with a 1,000-lb (452-kg) patient load.

2.4.3 Utility Requirements

Electric:*

- 100 V, 5 A, 1-Phase
- 120 V, 4.5 A, 1-Phase
- 220 V, 3 A, 1-Phase
- 230/240 V, 2.5 A, 1-Phase

** Each table is shipped from the factory configured to the electrical requirement specified on the factory order. If required to be changed in the field, consult STERIS for the procedure/materials required. Tables intended to be shipped to other than USA or Canada will have procedure/materials included in shipping container.*

⚠ WARNING – PERSONAL INJURY HAZARD: If the integrity of the external protective earth conductor 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 power cord to receptacle in a position so it will not be tripped over by personnel in the area.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **When moving the table to point of use, roll it carefully at moderate speed and only over smooth floors. Maximum floor clearance is 1/4" (6 mm). Avoid door jambs, elevator jambs, and obstructions greater than 1/4" (6 mm). If necessary, lift uncrated 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.**
- **The table has internal switches for setting to various ac input voltages. Improper setting of switches may damage table electrical system and/or cause improper operation of the table.**

NOTE: Patient grounding post/potential equalization terminal (male connector, DIN 42801) is provided. Mating female connector is not furnished by STERIS.

IMPORTANT: Before connecting the table to your ac power system, check that table internal voltage switches are set for your power system (100, 120, 220, or 230/240).

IMPORTANT: Battery powered tables should be completely charged prior to initial operation. Charge batteries as indicated in *SECTION 6, ROUTINE MAINTENANCE*, before proceeding.

If table is to be placed in extended storage, have table prepared for storage by a qualified service technician. Ensure batteries are disconnected and check batteries before reconnecting. Every six months the table must be operated through all articulations and the batteries charged.

Ensure the bellows located beneath the saddle is intact, in place, and is free of rips, tears, and punctures.

3.1 Install and Route Power Cord

WARNING – TRIPPING HAZARD: Route the power cord to the receptacle in a position so it will not be tripped over by personnel in the area.

1. Place table at desired location.

NOTE: Omit Steps 2 and 3 if table is battery-powered.

2. Connect female end of 20' (6 m) long power cord* to male connector located on narrow end of table base (can only be connected one way). See Figure 3-1. Lift hinged cover to access the connector.
3. Route power cord to wall receptacle so it will not be tripped over, then plug it into an appropriate receptacle.
4. For either electric-powered or battery-powered 3085 SP, power cord may remain plugged into appropriate receptacle indefinitely. It will not harm table or table batteries.

** The Australian medical power cord will be much shorter.*

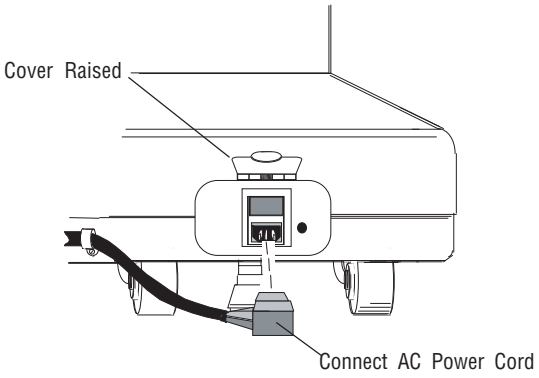


Figure 3-1. Power Cord Connection (Electric Table Only)

3.2 Install Hand Control and Lock Table in Place

Connect the hand control plug to the proper table receptacle.

NOTE: A spring-loaded lock ring locks plug into receptacle. When disconnecting the hand control, pull back on the lock ring before pulling the plug from the receptacle.

3.2.1 Standard 3085 SP Tables Hand Control

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **For ORCS equipped tables, use the HERMES®-Ready[1] or ACT Enabled 3085 SP hand control with the blue strain relief on the plug. The standard 3085 SP hand control has a red strain relief on the plug. *These two hand controls are not interchangeable.***
- **The HERMES®-Ready[1] and ACT Enabled hand controls are interchangeable for control of table functions; however, ORCS voice-activation control will NOT operate properly with improper hand control.**

Align the red dot on the hand control cord red plug with the red dot of the table red receptacle and push into connected position (see Figure 3-2).

*NOTE: The standard hand control and the ORCS hand control (for tables equipped with either HERMES®-Ready[1] or ACT Enabled™ interface control options) are **not interchangeable**.*

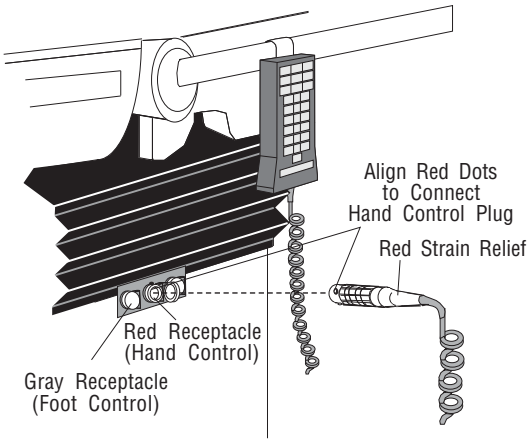


Figure 3-2. Hand Control Connection for Standard 3085 SP Table

3.2.2 Operating Room Control System (ORCS) Hand Control

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **For ORCS equipped tables, use the HERMES®-Ready[1] or ACT Enabled 3085 SP hand control with the blue strain relief on the plug. The standard 3085 SP hand control has a red strain relief on the plug. *These two hand controls are not interchangeable.***
- **The HERMES®-Ready[1] and ACT Enabled hand controls are interchangeable for control of table functions; however, ORCS voice-activation control will NOT operate properly with improper hand control.**

Align the red dot on the hand control cord and the blue plug with the red dot of the table blue receptacle, and push into connected position (see Figure 3-3).

*NOTE: The standard hand control and the ORCS hand control (for tables equipped with either HERMES®-Ready[1] or ACT Enabled™ interface control options) are **not interchangeable**.*

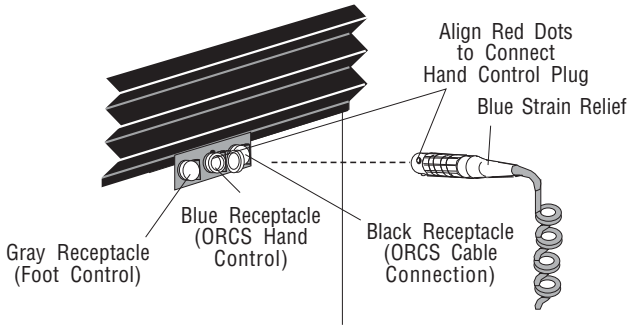


Figure 3-3. Hand Control Connection for ORCS Equipped 3085 SP Table

[1]HERMES-Ready is a registered trademark of Computer Motion.

3.2.3 Lock Table in Place

1. Press **ON** button at top of hand control to turn table on. All LEDs on hand control may light momentarily for control system self-test when power is turned on.

   Refer to Figure 3-4 for identification of hand control functions. See *SECTION 7, TROUBLESHOOTING,* to identify any problems with the hand control.

NOTE: If the wrong function selection button is accidentally pressed, press the correct function button to override the incorrect selection.

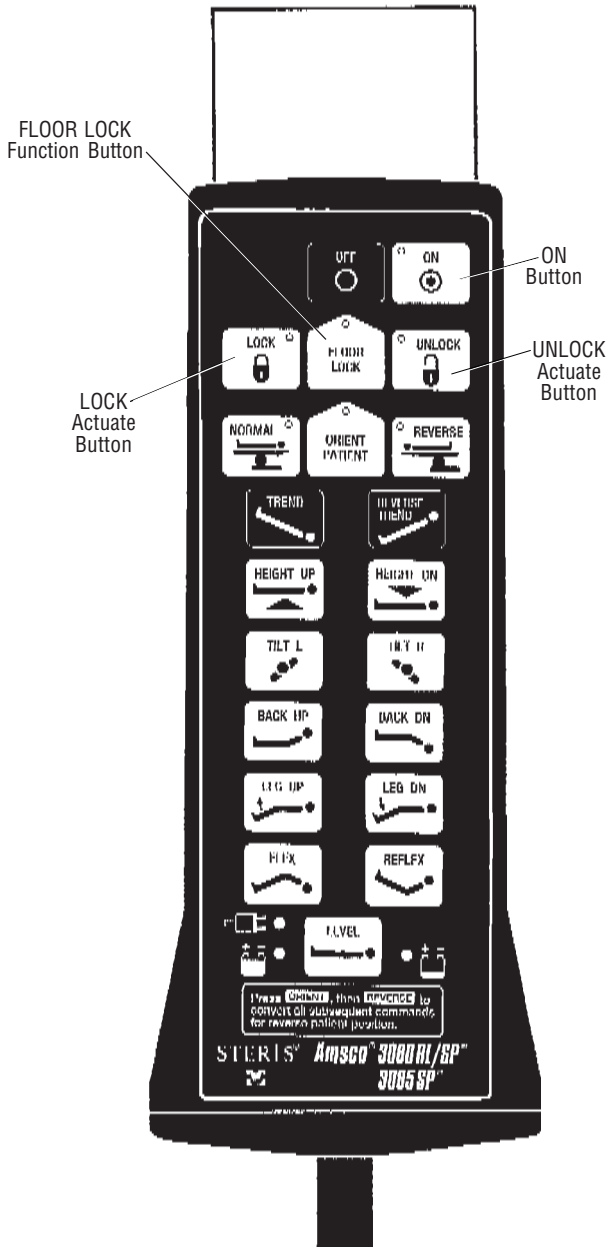


Figure 3-4. Standard Hand Control

2. Press **FLOOR LOCK** Function button in center row of control buttons, and **within five seconds** press **LOCK** button (to the left of **FLOOR LOCK** button, see Figure 3-4). Table is locked in position as floor locks are lowered and casters are raised. Table will remain locked (immobile) until **UNLOCK*** function is actuated.

NOTE: The tripodal floor locks are self-compensating for floor irregularities of up to 1/4" (6 mm), and should not require adjustment. Floor locks should engage simultaneously and the table base should rise evenly. Casters should swing freely when the table is in the LOCKED position.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **Hang hand control from side rail (or end rail) of table when not in use to avoid possible damage to the control.**
- **Route the hand control cord (and optional HERMES®-Ready[1] or ACT Enabled™ interface cord and/or optional foot control cord, if applicable) clear of any pinch points where the cord(s) could be damaged.**

3. Hang hand control on table side rail or end rail (see Figure 3-2) and route control cord away from possible pinch points.

4. Check floor locks to ensure each is snug against floor (see Figure 3-5).

IMPORTANT: If table was in storage for longer than four weeks, operate table through all articulations prior to usage.

* *To unlock table, press the FLOOR LOCK button in the center row of control buttons, and within five seconds press the UNLOCK button adjacent to it on the right (see Figure 3-4). Floor locks will retract and table will rest on casters.*

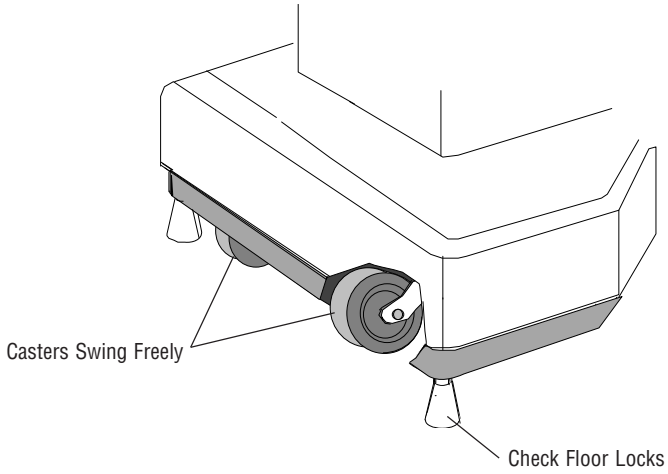


Figure 3-5. Check Floor Locks

[1] *HERMES-Ready is a registered trademark of Computer Motion.*

3.3 Hand Control Interchangeability

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: The HERMES®-Ready[1] and ACT Enabled hand controls are interchangeable for control of table functions; however, ORCS voice-activation control will NOT operate properly with improper hand control.

The 3080 RL, 3080 SP, and 3080 RL/SP/3085 SP hand control will plug into and operate the 3080 RL, 3080 SP, and 3085 SP tables. However, note the following exceptions:

- The 3080 RC hand control will plug into and operate the 3080 RL, 3080 SP, and 3085 SP in a normal fashion EXCEPT *there is no Return-to-Level button.*
- The 3080 RL, 3080 SP, and 3080 RL/SP/3085 SP hand control will plug into and operate the 3080 RC EXCEPT *the 3080 RC does not have the Return-to-Level capability.*
- The standard hand control (for the 3080 RC, 3080 RL, 3080 SP or 3085 SP tables) has a six pin plug. The Operating Room Control System (ORCS) hand control (for either 3085 SP HERMES®-Ready[1] or ACT Enabled™ table) has a different plug (18 pins) and cannot be plugged into or used on any 3080 or 3085 table except HERMES®-Ready[1] or ACT Enabled™ 3085 SP tables.

4.1 Attach Headrest and Orient Patient

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

WARNING – TIPPING HAZARD:

- **Do not place patient on the table unless floor locks are engaged.**
- **Do not release floor locks while patient is on table.**

WARNING – PERSONAL INJURY HAZARD: If the integrity of the external protective earth conductor installation or arrangement is in doubt, operate the table from its internal power source.

For maximum patient positioning flexibility, the Amsco® 3085 SP Surgical Table is designed so the headrest can be attached to either end of the table.

IMPORTANT: Control must be oriented as to the patient's position on table before any positioning functions are operable. When the table is turned on with the hand control, it will automatically activate in NORMAL patient orientation. The user can then select REVERSE orientation if desired.

NOTE: Thumbscrews located under tabletop frame must be loosened before headrest can be attached or removed.

1. Determine desired patient position and attach headrest to table end to obtain this desired position (see Figure 4-1) as follows:

NOTE: The headrest (head section) is intended only to support the patient head or feet. Load rating is 77 lb (35 kg).

   a. Insert rods extending from each side of headrest attachment into bores provided in either end of table frame.

   b. Reach under tabletop frame and fully tighten both thumbscrews (one on each side of frame) to secure headrest attachment in place. Refer to *SECTION 4.4, HEADREST POSITIONING,* for adjustment procedures.

2. Verify power is ON and table floor locks are properly engaged.

NOTE: If the wrong function selection button is accidentally pressed, press the correct function button to override the incorrect selection.

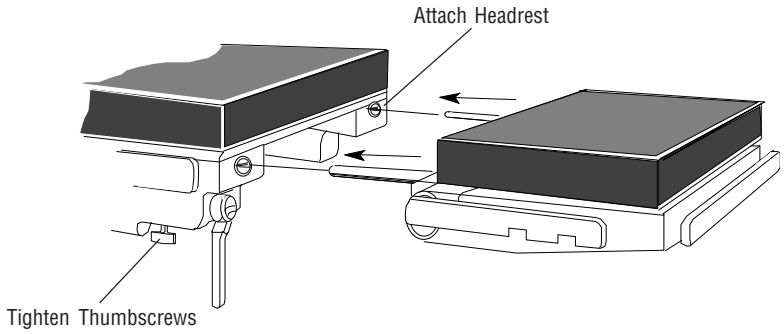


Figure 4-1. Attach Headrest

⚠ WARNING – TIPPING HAZARD:

- **Do not use this table for patients exceeding the 1,000-lb (452-kg) limit when patient is positioned in normal orientation. The maximum safe patient weight on this table for standard surgical positions in normal orientation is 1,000 lb (452 kg) with floor locks locked.**
- **Do not use this table for patients exceeding the 500-lb (226-kg) limit when patient is positioned in reversed orientation. The maximum safe patient weight on this table for the standard surgical positions in reversed orientation is 500 lb (226 kg) with floor locks locked.**
- **When performing surgery requiring a headrest accessory in reversed patient orientation, or when using a Fem/Pop board or the 3080/3085 Ortho Extension accessory, do not exceed the 400 lb (181 kg) patient weight.**

3. Press **ORIENT PATIENT** Function button in center row of buttons on hand control and **within five seconds** (while LED is still lit), press appropriate Actuate button (**NORMAL** or **REVERSE**) to indicate orientation of patient's head on table (see Figures 4-2 and 4-3).

*NOTE: Activation of the **ORIENT PATIENT** function automatically translates all subsequent commands from the hand, foot, and optional Operating Room Control System (ORCS) controls, so that they correspond correctly to where the indicated patient's head is on the table. For example, when the **REVERSE** Actuate button is activated, the direction of the Trendelenburg and Side Tilt articulations is automatically reversed, and the Back and Leg articulations are likewise adjusted so each part of the patient's anatomy is positioned correctly when the patient is reversed on the tabletop. The anesthesiologist does not have to think backward to adjust for the reverse orientation of the patient.*

If the control is turned OFF or power is lost while the "reverse" orientation is activated, when the table control is turned ON again, the control automatically reverts to "normal" orientation.

IMPORTANT: When "Reverse" patient orientation is selected, the Flex and Reflex articulation functions are disabled. Also, refer to *SECTION 2* for patient positioning and weight limitation.

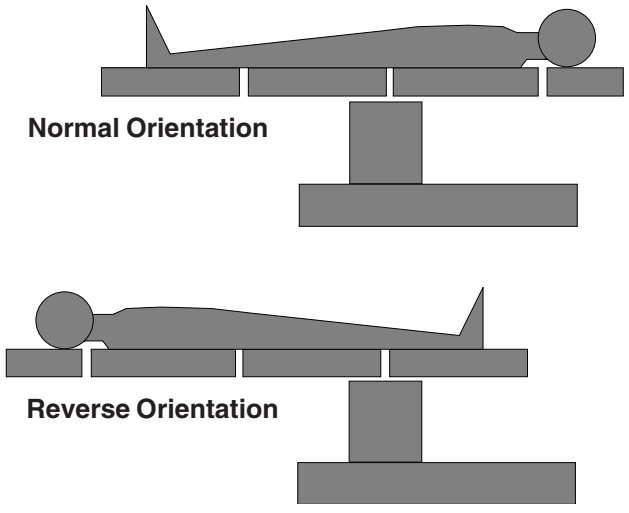


Figure 4-2. Patient Orientation

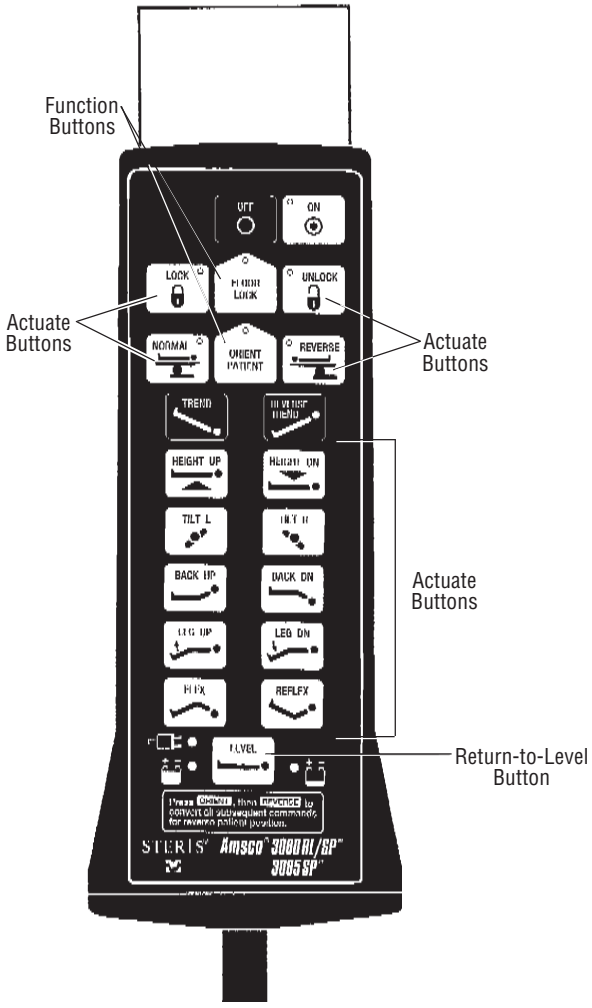


Figure 4-3. Hand Control

4.2 Tabletop Positioning

WARNING – PINCHING HAZARD: Pinch points are created during extreme tabletop articulation. Carefully review illustrations in Figure 2-1 before operating the table.

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:

- **Healthcare professionals must ensure patients are positioned and monitored to prevent compromising respiration, nerve pathways, or circulation.**
- **Unanticipated table movement could cause patient injury. Patient must be secured to the table in accordance with recommended positioning practices.**

The tabletop may be articulated within the limits shown by use of the hand control positioning buttons or the optional foot control positioning pedals, or by the optional ORCS System. If these controls fail to function, refer to *SECTION 7, TROUBLESHOOTING,* to see if the problem can be quickly determined and corrected. If problem is not readily apparent, table may continue to be operated per procedures outlined in *SECTION 5, AUXILIARY OVERRIDE SYSTEMS*. Headrest position and kidney bridge elevation must be adjusted manually as outlined later in this section.

NOTE: Battery-powered tables should be switched OFF after each procedure to prevent unnecessary battery discharge. If low battery condition is indicated by the hand control LED, refer to SECTION 6 for Battery Charging Procedure.

*The table will continue to function normally for **at least 24 hours** after the BATTERY DOWN LED (see SECTION 1, DEFINITION OF SYMBOLS) first illuminates. If the LED illuminates during a procedure, complete the procedure and recharge the batteries at the end of the day. If the BATTERY DOWN LED is flashing, immediately connect the ac power cord to the table base and plug into an appropriate acreceptacle (see Figure 6-3).*

*NOTE: When quickly articulating the table through various repeated movements, the synchronization of the tabletop sections can get out of alignment and the hand control may stop functioning properly. To prevent this condition, the user should perform a return-to-level function after **each** procedure. This will keep the variance over multiple articulations to a minimum.*

4.2.1 Hand Control Operation

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **Hang hand control from side rail (or end rail) of table when not in use to avoid possible damage to the control.**
- **Route the hand control cord (and optional HERMES®-Ready[1] or ACT Enabled™ interface cord and/or optional foot control cord, if applicable) clear of any pinch points where the cord(s) could be damaged.**

NOTE: Refer to SECTION 7, TROUBLESHOOTING, to identify problems as indicated by red LEDs on the hand control.

The following functions must be completed before any positioning functions are operable:

- Control turned ON.
- Floor locks engaged.

[1]HERMES-Ready is a registered trademark of Computer Motion.

Adjust the tabletop position by using the hand control positioning buttons, as follows (see Figure 4-3):

1. Press **FLOOR LOCK** Function button in center row of buttons on hand control and **within five seconds** (while LED is still ON), press desired Actuate button (**LOCK** or **UNLOCK**) adjacent to it.
2. Press **ORIENT PATIENT** Function button in center row of buttons, and **within five seconds** (while LED is still ON), press desired Actuate button (**NORMAL** or **REVERSE**) adjacent to it to indicate patient orientation on table.

   If no selection is made, table will default to **NORMAL** orientation.

⚠ WARNING – TIPPING HAZARD: During an articulation if the tabletop sections contact an obstruction, the table may tip. Before lowering either the tabletop or individual sections, remove possible obstructions. Do not allow leg section, when lowered, to contact the floor.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **During some extreme articulations, the tabletop may contact the base and/or column shrouds. Take care to avoid positioning the table in such a way as to cause damage to the shrouds.**
- **Use caution when raising the seat section or back section while the kidney bridge is elevated. The section may contact the elevated kidney bridge and damage the bridge and/or section.**

3. Press desired positioning Actuate button.
4. When desired position has been reached, release positioning Actuate button to automatically stop tabletop and lock it in position.
5. Range of nominal tabletop movements is as follows:
   - **Trendelenburg** (**TREND** button) – 25° maximum from horizontal.
   - **Reverse Trendelenburg** (**REVERSE TREND** button) – 25° maximum from horizontal.
   - **Height** (**HEIGHT UP** and **HEIGHT DN** buttons) – 27" (686 mm) minimum to 44" (1118 mm) maximum.
   - **Side Tilt** (**TILT L** and **TILT R** buttons) – 18° maximum to right or to left of horizontal.

   NOTE: Momentary delay may occur when activating Side Tilt while the safety mechanism disengages the tilt-lock function.

   - **Back** (**BACK UP** and **BACK DN** buttons) – up 55° maximum (80° in REVERSE orientation) or down 25° maximum (105° in REVERSE orientation) from horizontal.
   - **Leg** (**LEG UP** and **LEG DN** buttons) – up 80° maximum (55° in REVERSE orientation) or down 105° maximum (25° in REVERSE orientation) from seat section.

   NOTE: FLEX and REFLEX position controls are disabled when in REVERSE patient orientation.

   - **Flex** (**FLEX** button) – back section down 20° maximum with seat section down 25° maximum from horizontal.
   - **Reflex** (**REFLEX** button) – back section up 25° maximum with seat section up 35° maximum from horizontal.
   - **Return To Level** – tabletop can be returned to level by pressing **LEVEL** button. Table will move in gradual, anatomically correct increments until it reaches level.

   NOTE: If the LEVEL button is pressed while the green LED on the ORIENT PATIENT Function button is still lit, the table will not return to level. Wait for completion of the orient patient function (maximum five seconds) before pressing the LEVEL button to activate the return-to-level function.

IMPORTANT: For table positioning when patient load exceeds average weights, note the following:

1) When a normal patient load exceeds 700 lb (318 kg), Reflex and Return-to-Level articulations may be slow or not operate. Use other articulations to move the tabletops to the desired position.

2) When a normal patient load exceeds 700 lb (318 kg), moving the table from an extreme Right Tilt may require the tabletops be level. When normal patient load exceeds 900 lb (408 kg), moving the table from an extreme Right Tilt may be slow or not operate.

3) When a reversed patient load exceeds 400 lb (181 kg), certain articulations may be much slower than with a lighter load; for example, Reversed Trendelenburg articulating. Additionally, when using X-ray tops with bariatric patients, the automatic return-to-level function may not respond until first initiating an independent articulation.

4.2.2 Optional Foot Control Operation

⚠ WARNING – PERSONAL INJURY HAZARD:

- **Unanticipated table movement could cause patient injury. Patient must be secured to the table in accordance with recommended positioning practices.**
- **Do not immerse any part of foot control in liquids; this could cause unanticipated table movement, leading to patient injury. Always cover control with a plastic bag before using.**

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Route the hand control cord (and optional HERMES®-Ready[1] or ACT Enabled™ interface cord and/or optional foot control cord, if applicable) clear of any pinch points where the cord(s) could be damaged.

An optional foot control assembly is available for use in conjunction with the hand control. See Figure 4-4 for identification of foot control functions.

NOTE: Battery-powered tables should be switched OFF after each procedure to prevent unnecessary battery discharge. If a low battery condition is indicated by the hand control BATTERY DOWN LED, refer to SECTION 6 for Battery Charging Procedures.

1. **The following must be completed before any foot control positioning functions are operable:**
   - Hand control connected.
   - Control turned ON.
   - Floor locks engaged.
   - ORIENT PATIENT button activated (green LED ON) to indicate patient's position on table (see Figures 4-2 and 4-3).

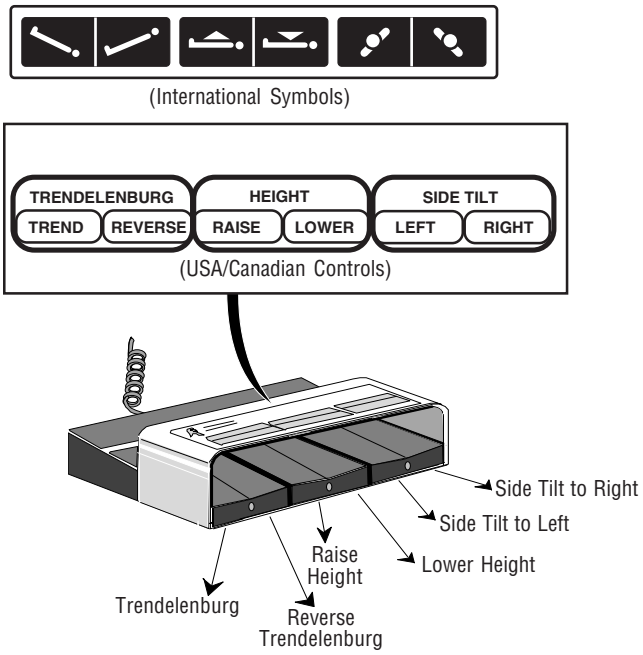


Figure 4-4. Foot Control

[1] *HERMES-Ready is a registered trademark of Computer Motion.*

⚠ WARNING – TIPPING HAZARD: During an articulation if the tabletop sections contact an obstruction, the table may tip. Before lowering either the tabletop or individual sections, remove possible obstructions. Do not allow leg section, when lowered, to contact the floor.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **During some extreme articulations, the tabletop may contact the base and/or column shrouds. Take care to avoid positioning the table in such a way as to cause damage to the shrouds.**
- **Use caution when raising the seat section or back section while the kidney bridge is elevated. The section may contact the elevated kidney bridge and damage the bridge and/or section.**

2. Connect foot control assembly to table by aligning foot control cord gray plug red dot with table gray receptacle red dot, and pushing plug into connected position (see Figure 4-5).

NOTE: For foot control, note the following:

1) A spring-loaded lock ring locks plug into receptacle. When disconnecting foot control, pull back on lock ring before pulling plug from receptacle.

2) If foot control and hand control are actuated simultaneously, hand control has priority.

3. Adjust tabletop position using foot control positioning pedals, as follows (see Figure 4-4):

- **Trendelenburg** – 25° maximum from horizontal.

  Depress left side (labeled **TREND**) of TRENDELENBURG pedal (located in the left position of foot control pedals) and release pedal when desired position has been reached to automatically stop tabletop and lock it in position.

- **Reverse Trendelenburg** – 25° maximum from horizontal.

  Depress right side of TRENDELENBURG pedal (located in the left position of foot control pedals) and release pedal when desired position has been reached to automatically stop tabletop and lock it in position.

- **Raise Height** – 44" (1,118 mm) maximum.

  Depress left side of HEIGHT pedal (located in the center position of foot control pedals) and release pedal when desired position has been reached to automatically stop tabletop and lock it in position.

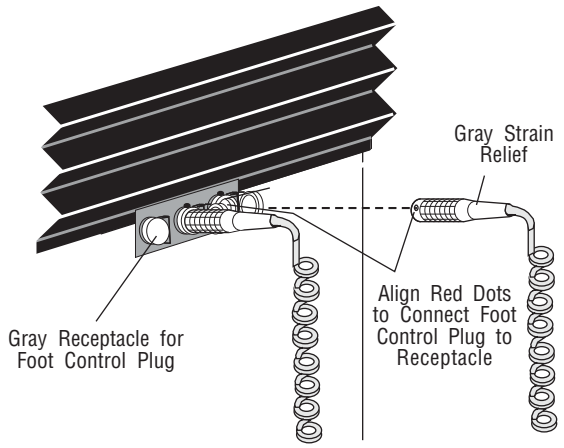


Figure 4-5. Foot Control Connection

- **Lower Height** – 27" (686 mm) minimum.

  Depress right side of HEIGHT pedal (located in the center position of foot control pedals) and release pedal when desired position has been reached to automatically stop tabletop and lock it in position.

- **Side Tilt to Left** – 18° maximum from horizontal.

  Depress left side of SIDE TILT pedal (located in the right position of foot control pedals) and release pedal when desired position has been reached to automatically stop tabletop and lock it in position.

- **Side Tilt to Right** – 18° maximum from horizontal.

  Depress right side of SIDE TILT pedal (located in the right position of foot control pedals) and release pedal when desired position has been reached to automatically stop tabletop and lock it in position.

  NOTE: Momentary delay may occur when activating side tilt while the safety mechanism disengages tilt-lock function.

IMPORTANT: For table positioning, when patient load exceeds average weights, note the following:

1) When a normal patient load exceeds 700 lb (318 kg), Reflex and Return-to-Level articulations may be slow or not operate. Use other articulations to move the tabletops to the desired position.
2) When a normal patient load exceeds 700 lb (318 kg), moving the table from an extreme Right Tilt may require the tabletops be level. When normal patient load exceeds 900 lb (408 kg), moving the table from an extreme Right Tilt may be slow or not operate.
3) When reversed patient load exceeds 400 lb (181 kg), certain articulations may be much slower than with lighter loads; for example, Reversed Trendelenburg articulation.

4.2.3 Care of Controls When Not In Use

When not in use both during and between procedures, the hand control should be attached to the table side rail.

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

The foot control, if used, should be bagged and placed on the floor near the surgical area. When the foot control is not required for a procedure, it should be unplugged from the table and stored with other accessories until needed. Never store the foot control (or any other objects) on the table base.

4.3 Optional Operating Room Control System (ORCS) Operation

4.3.1 HERMES-Ready System Operation

⚠ WARNING – PERSONAL INJURY HAZARD: Unanticipated table movement could cause patient injury. Patient must be secured to the table in accordance with recommended positioning practices.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Route the hand control cord (and optional HERMES®-Ready[1] or ACT Enabled™ interface cord and/or optional foot control cord, if applicable) clear of any pinch points where the cord(s) could be damaged.

For voice-activation of Amsco 3085 SP Surgical Table functions, either the HERMES®-Ready[1] or ACT Enabled™ Interface System and appropriate hand control are needed.

NOTE: Battery-powered tables should be switched OFF after each procedure to prevent unnecessary battery discharge. If a low battery condition is indicated by the hand control BATTERY DOWN LED, refer to SECTION 6 for Battery Charging Procedures.

A HERMES-Ready Interface System and a HERMES-Ready Hand Control are required for voice-activation of the HERMES-Ready Amsco 3085 SP table functions.

IMPORTANT: Use the HERMES-Ready 3085 SP hand control with the **blue** strain relief. The standard 3085 SP hand control with a **red** strain relief tail on the connector will not connect to the HERMES-Ready table. For proper HERMES System operation, *ensure HERMES-Ready table is interfaced with the HERMES System only, not with any other Operating Room Control System.*

NOTE: If the HERMES Interface System and the table hand control are actuated simultaneously, the hand control has priority.

1. **The following must be completed before any HERMES Voice-Activated positioning functions are operable:**
   - Hand control connected (HERMES-Ready unit with blue tail on connection).
   - Control turned ON.
   - Floor locks engaged.
   - ORIENT PATIENT button activated (green LED ON) to indicate patient's position on table (see Figures 4-2 and 4-3).
2. Connect HERMES Interface System to HERMES-Ready 3085 SP table by aligning HERMES interface cord black plug red dot with red dot of black receptacle on HERMES-Ready table and pushing plug in to complete connection (see Figure 4-6).

   NOTE: A spring-loaded lock ring locks the plug into the receptacle. When disconnecting the interface system, pull back on the lock ring before pulling the plug from receptacle.
3. For operating instructions, refer to **HERMES Operating Room Control Center Operating and Maintenance Manual and Appendix** provided with HERMES System.

   NOTE: When the HERMES System is powered up and it initially interrogates the table, the HERMES display screen should acknowledge it as the table.

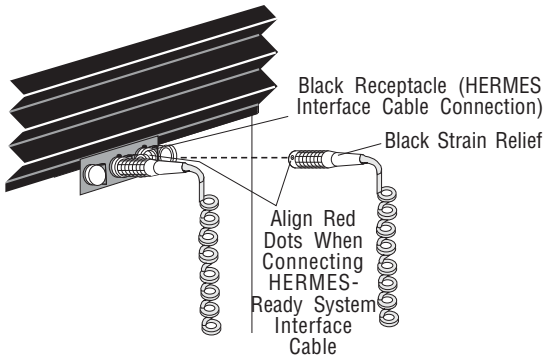


Figure 4-6. HERMES-Ready System Connection

[1] *HERMES-Ready is a registered trademark of Computer Motion.*

4.3.2 ACT Enabled System Operation

An ORCS (not provided by STERIS) and an ACT Enabled Hand Control are required for voice- and/or touch panel-activation of the ACT Enabled Amsco 3085 SP table functions.

NOTE: Battery-powered tables should be switched OFF after each procedure to prevent unnecessary battery discharge. If a low battery condition is indicated by the hand control BATTERY DOWN LED, refer to SECTION 6 for Battery Charging Procedures.

IMPORTANT: Use the ACT Enabled 3085 SP hand control with the **blue** strain relief. The standard 3085 SP hand control with a **red** strain relief tail on the connector will not connect to the ACT Enabled table. For proper ACT voice/touch panel operation, *ensure ACT Enabled table is interfaced with the appropriate Operating Room Control System.* ACT Enabled tables can NOT be controlled by the HERMES system.

NOTE: If the ORCS and the table hand control are actuated simultaneously, the hand control has priority.

⚠ WARNING – PERSONAL INJURY HAZARD: Unanticipated table movement could cause patient injury. Patient must be secured to the table in accordance with recommended positioning practices.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Route the hand control cord (and optional HERMES®-Ready[1] or ACT Enabled™ interface cord and/or optional foot control cord, if applicable) clear of any pinch points where the cord(s) could be damaged.

1. **The following must be completed before any ACT Enabled Voice-Activated positioning functions are operable:**
   - Hand control connected (ACT Enabled unit with blue tail on connection).
   - Control turned ON.
   - Floor locks engaged.
   - ORIENT PATIENT button activated (green LED ON) to indicate patient's position on table (see Figures 4-2 and 4-3).
2. Connect ORCS to ACT Enabled 3085 SP table by aligning ACT Enabled interface cord black plug red dot with red dot of black receptacle on ACT Enabled table and pushing plug in to complete connection (see Figure 4-7).

   NOTE: A spring-loaded lock ring locks the plug into the receptacle. When disconnecting the interface system, pull back on the lock ring before pulling the plug from receptacle.
3. For operating instructions, refer to **ACT Enabled Operating Room Control System Operating Manual** provided with that system.

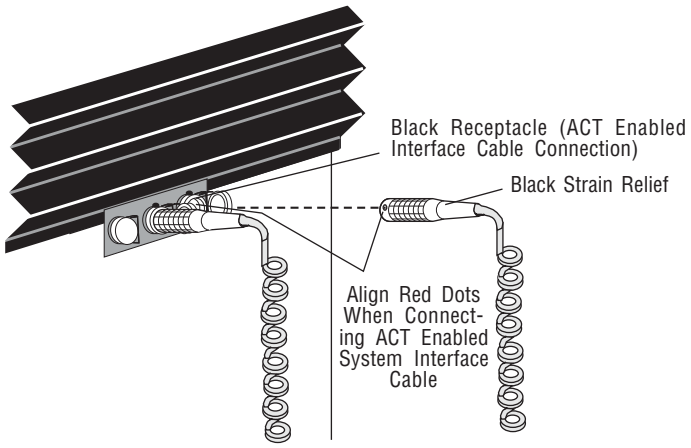


Figure 4-7. ACT Enabled System Connection

[1]HERMES-Ready is a registered trademark of Computer Motion.

4.4 Headrest Positioning

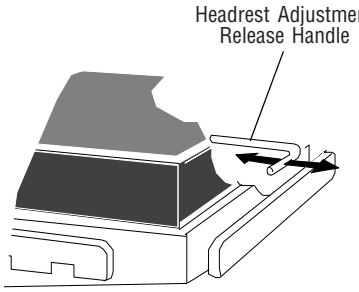


Figure 4-8. Headrest Positioning

The headrest can be attached to either end of table (see Figure 4-1). Headrest is manually adjustable 90° upward and 90° downward from horizontal position. Adjust the headrest to desired position as follows:

1. See Figure 4-8. Locate release handle (under right side of headrest) and pull to release (spring-loaded).
2. Tilt headrest upward or downward to desired position, let go of release handle, then move headrest slightly until ratchet mechanism locks it into position.

4.5 Kidney Bridge Elevation

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, on STERIS tables, accessories manufactured and sold by other companies.

WARNING – PERSONAL INJURY HAZARD: When installing any table accessory, check for correct attachment and tighten securely (if appropriate). Do not use worn or damaged accessory. Check installation before using any accessory.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Use caution when raising the seat section or back section while the kidney bridge is elevated. The section may contact the elevated kidney bridge and damage the bridge and/or section.

Kidney bridge elevation is manually adjustable up to a maximum height of 4" (101 mm) above the primary tabletop. Adjust the kidney bridge for desired elevation as follows:

1. Locate kidney bridge ratchet handle (under left side of back section) and flip it down (spring-loaded). See Figure 4-9.

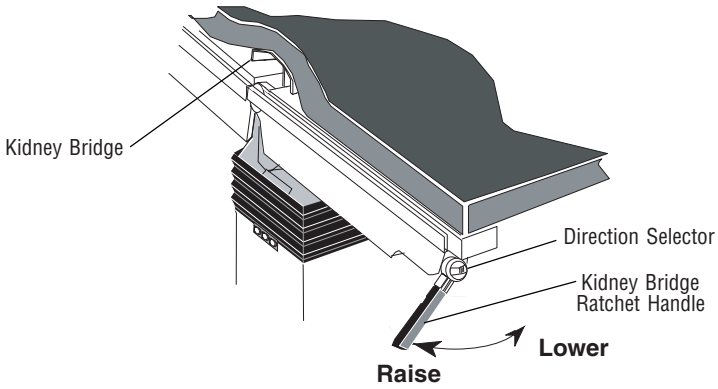


Figure 4-9. Kidney Bridge Adjustment

2. Set ratchet drive directional control (see Figure 4-10):

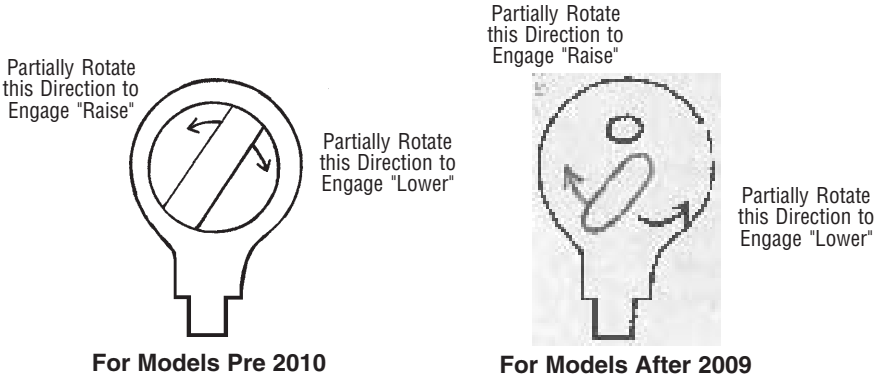


Figure 4-10. Set Ratchet Drive Directional Control

Alternately rotate ratchet in drive direction and free-return direction until desired height is reached.

3. Flip ratchet handle back up into stored position when elevation adjustment is complete.

4.6 Pads and Accessories

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, on STERIS tables, accessories manufactured and sold by other companies.

WARNING – PERSONAL INJURY HAZARD: When installing any table accessory, check for correct attachment and tighten securely (if appropriate). Do not use worn or damaged accessory. Check installation before using any accessory.

Mattress pads are backed with hook fastener strips which fasten to companion strips on the tabletop (see Figure 4-11).

Removable accessories are positioned and secured by clamps or sockets which are applied to (and slide along) the side rails. Contact STERIS to order additional table accessories.

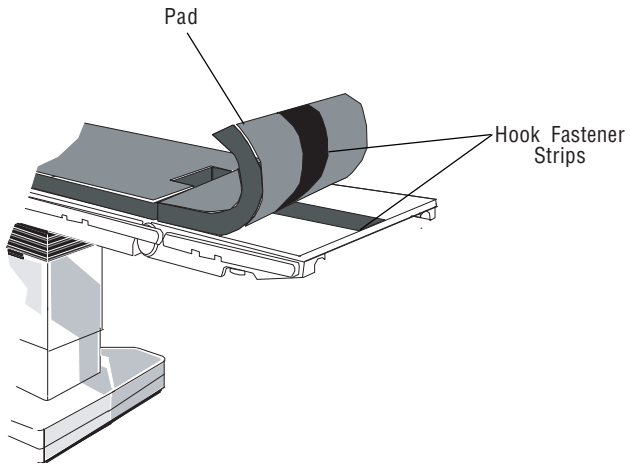


Figure 4-11. Tabletop Pads

4.6.1 Tabletop Pads

1. To install tabletop pad, place pad in position and press hook fastener strips together (see Figure 4-11).
2. To remove, “peel” away from tabletop.

4.6.2 X-ray Top Accessory

A four-section X-ray top accessory is available from STERIS for use with Amsco 3085 SP tables (see Figure 4-12). Each of the top sections has two types of standoff spacers. The shorter spacers rest on the tabletop; the longer, spring-loaded spacers (which secure the X-ray top) fit into tabletop mounting holes. The position of the longer spacers must be adjusted for the table which is to receive the X-ray top.

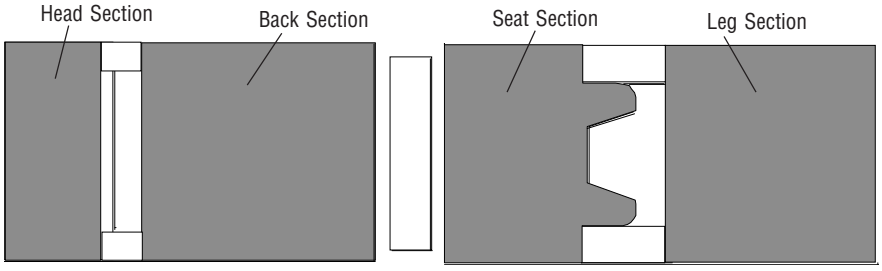


Figure 4-12. X-ray Top Sections

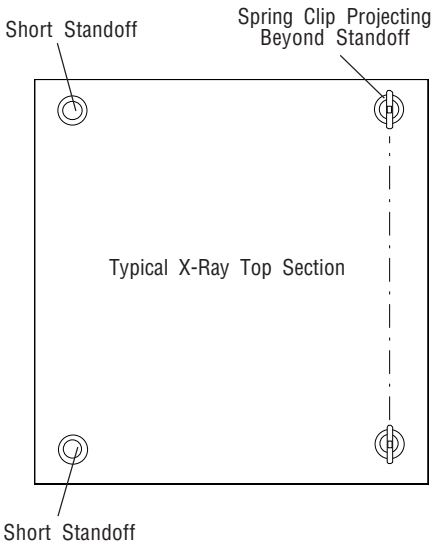


Figure 4-13. X-Ray Top Spring Clips and Standoffs

Perform the following for each X-ray top section:

1. Loosen screws securing spring-loaded spacers to X-ray top section. Position section on table.
2. Rotate spacers so spring clips are in line when viewed from beneath tabletop (see Figure 4-13).
3. Shift X-ray top section until mounting screw shaft on one of spring-loaded spacers is centered in hole in X-ray top section. (A 1/16" [1.6 mm] clearance is provided between each screw shaft and its X-ray mounting hole.)
4. Hold spacer to prevent it from rotating and tighten screw.
5. Ensure remaining spring-loaded spacer is flat against tabletop and center it in its tabletop mounting hole, then tighten screw.

   NOTE: When removing an X-ray top section, grasp it at the corners where the spring-loaded spacers are located and lift straight up. Grasping it at the opposite corners will cause the spacers to bind. Repeat the preceding procedure if the spacers bind when section is lifted correctly.
6. Remove replace X-ray top section several times; X-ray top should lift freely.

4.6.3 General Accessories Applied to Side Rails

⚠ WARNING – PERSONAL INJURY HAZARD:

- **When installing any table accessory, check for correct attachment and tighten securely (if appropriate). Do not use worn or damaged accessory. Check installation before using any accessory.**
- **There is a 1,000-lb (452-kg) patient weight limit if patient is in normal orientation and a 500-lb (226-kg) patient weight limit if patient is in reversed orientation; however, the accessory load rating may be lower. Do not exceed the accessory load rating if it is lower than the table rating.**

1. To install, place clamp (or socket) on side rail and lock in position with knob (or handle) provided (see Figure 4-14).
2. To remove, loosen knob (or handle) and slide clamp (or socket) along side rail until a notch is reached, then remove clamp (socket).

   NOTE: Clamp (socket) may also be removed from end of side rail by raising gravity stops.

The following special accessories have been developed specifically for use with

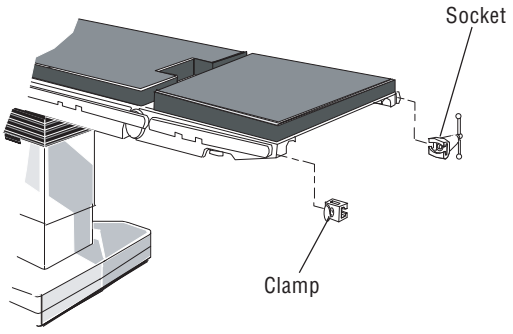


Figure 4-14. General Accessories Applied to Side Rails

4.6.4 Accessories Specific to Amsco 3085 SP Tables

⚠ WARNING – PERSONAL INJURY HAZARD: When installing any table accessory, check for correct attachment and tighten securely (if appropriate). Do not use worn or damaged accessory. Check installation before using any accessory.

⚠ WARNING – INSTABILITY HAZARD: Patient Transfer Board must be used as a leg support only. It is not intended to support upper body weight of a patient.

⚠ WARNING – TIPPING HAZARD:

- **Do not use two or more Uro-Endo/Image Amplification Extension Accessories together on the 3085 SP Table.**
- **Foot Extension Accessory or combination of Foot Extension and Headrest Accessories from previous design STERIS tables must not be used for reverse orientation on the 3085 SP Table.**
- **When performing surgery requiring a headrest accessory in reversed patient orientation, or when using a Fem/Pop board or the 3080/3085 Ortho Extension accessory, do not exceed the 400 lb (181 kg) patient weight.**
- **Do not use the Fem/Pop Board with X-ray Tops for bariatric patients.**

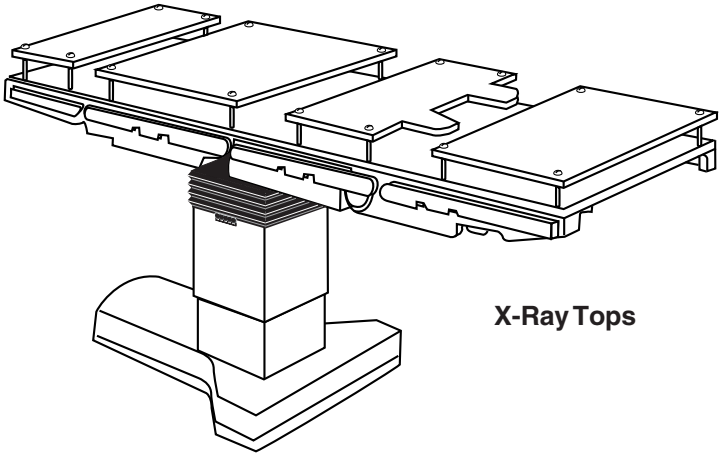
the Amsco 3085 SP (see Figure 4-15) and Quantum 3080 tables. These accessories are not intended to be used with any other previous-design STERIS tables.

- **Uro-Endo/Image Amplification Extension –** attaches to back section ONLY. With headrest attached, it provides an additional 8" (203 mm) of I.A. coverage. Without the headrest, for reversed patients, it also expands the Uro-Endo procedure capability of table. Do not use more than one at a time. (Limited to 400-lb [181 kg] patient load.)
- **Patient Transfer Board –** inserts into Uro-Endo/I.A. Extension to support patient's legs during transfer to table. It is intentionally flexible and is intended to be removed after patient is positioned. (Limited to 400-lb [181-kg] patient load.)
- **Drain Tray –** slides onto perineal edge of seat section and Uro-Endo/I.A. Extension. (Not limited to patient weight.)
- **Neuro Seat Plate –** placed under pad by hooking support legs onto side rail supports and allowing to rest on top of kidney bridge. It extends leg seat length and provides for less than 90° seating (with kidney bridge elevated) for unique reversed chair posture. (Limited to 400-lb [181 kg] patient load.)
- **Fem/Pop Board –** intended to be installed into leg section only and used as a leg support for improved lower body I.A. coverage. It is not intended to support upper body weight. Do not use the Fem/Pop Board with X-ray tops for obese patients. (Limited to 400-lb [181 kg] patient load.)
- **X-Ray Tops –** removable cassettes can be inserted through the head, foot, or side of table. (Acceptable for patient loads up to 1,000 lb [452 kg].)
- **3080/3085 Orthopedic Extension –** attaches to seat section to provide a mobile radiolucent orthopedic platform. (Limited to 400-lb [181 kg] patient load.)

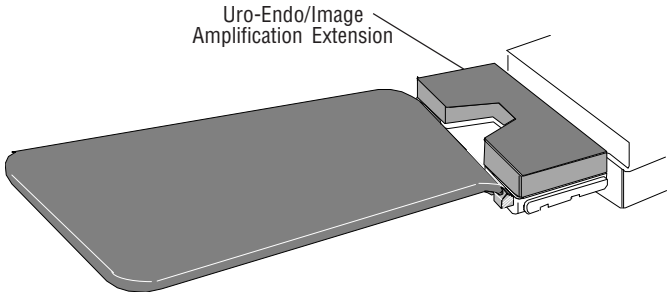
The following special accessories have been developed specifically for use with the Amsco 3085 SP and Quantum 3080 tables. These accessories are not intended to be used with any other previous-design STERIS tables.

- **Eye-ENT-Neuro Headrest Adapter –** inserts into the frame headrest bores to permit use of all previous design headrest accessories on the 3085 table. It maintains the same end-of-table relationship for accessories as when used with previous design tables. (Limited to 300-lb [136 kg] patient load.)
- **Eye-ENT-Neuro Headrest Adapter with 4" Extension –** inserts into the frame headrest bores to extend back section an additional 4" (101 mm). (Limited to 300-lb [136 kg] patient load.)
- **Foot Extension –** clamps to side rails at either end of table to provide additional patient support. (Limited to 500-lb [226 kg] patient load.)
- **Perineal Cutout Filler –** attaches to tabletop to cover cutout and provide additional patient support. (Limited to 400-lb [181 kg] patient load.)

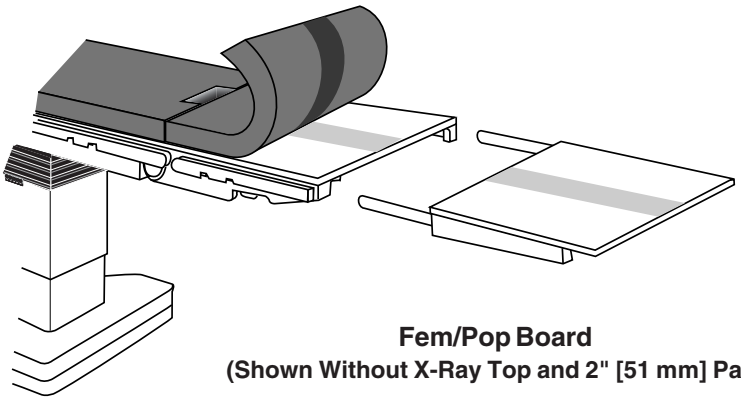
For application of other STERIS table accessories to your Amsco 3085 SP table, contact STERIS.



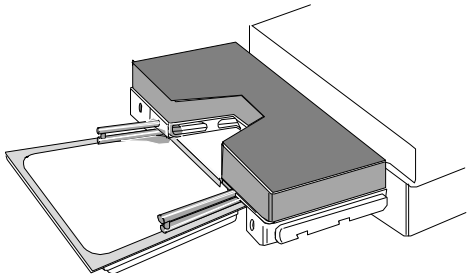
X-Ray Tops



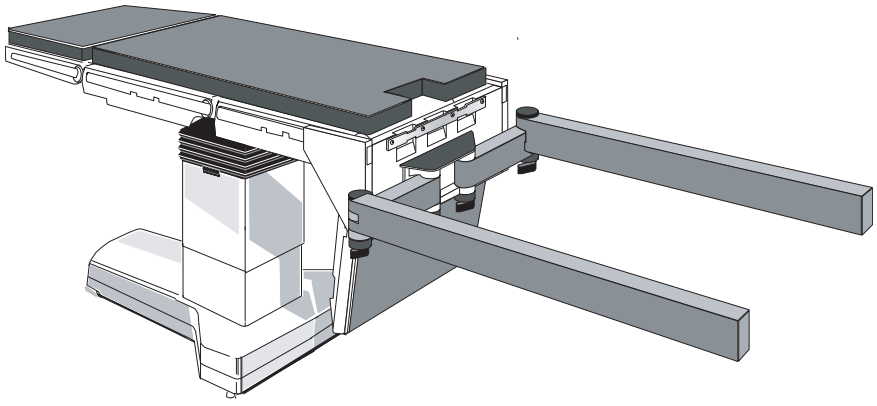
Patient Transfer Board



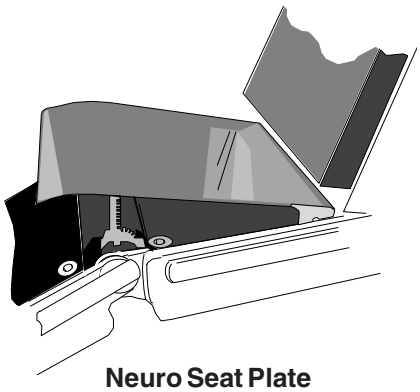
Fem/Pop Board
(Shown Without X-Ray Top and 2" [51 mm] Pad)



Drain Tray



3080/3085 Orthopedic Extension



Neuro Seat Plate

Figure 4-15. Accessories* for Amsco 3085 Tables

**Contact STERIS for ordering information. Refer to specific accessory descriptions for weight limitations.*

AUXILIARY OVERRIDE SYSTEMS

5

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

WARNING – TIPPING HAZARD: Do not articulate table with auxiliary override systems unless floor locks are engaged.

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.

The Amsco® 3085 SP Surgical Table is equipped with Auxiliary Override Systems that can be actuated at any time and that will allow table operation in the event of primary control malfunction.

Articulate table according to the procedures in *SECTION 5.1, ARTICULATION WITH ELECTRIC PUMP POWER AVAILABLE,* or according to the procedures in *SECTION 5.2, ARTICULATION WITH NO ELECTRIC PUMP POWER AVAILABLE,* if no pump power is available.

Operate the floor lock auxiliary override systems according to the procedures in *SECTION 5.3, FLOOR LOCK OVERRIDE SYSTEMS*.

NOTE: The auxiliary control switches perform ALL functions to correspond to NORMAL patient orientation only. Actuation of any auxiliary switch overrides and shuts down the following:

- *Primary hand control,*
- *Optional foot control,*
- *Optional HERMES® command capability[1],*
- *Optional ACT Enabled™ Interface.*

Since there are several methods of control for the table, particularly with use of the HERMES® or ACT Enabled™ Systems, it is important to understand the hierarchy of the respective controls' override capability over other control methods.

Table control methods are prioritized, from highest override control to lowest, as follows:

1. Auxiliary Control switches (override all commands from those below).
2. Table Hand Control.
3. ORCS commands (HERMES® or ACT Enabled™ System).
4. Foot Control (no override capability of other controls).

[1]HERMES is a registered trademark of Computer Motion.

5.1 Articulation With Electric Pump Power Available

⚠ WARNING – PINCHING HAZARD: Pinch points are created during extreme tabletop articulation. Carefully review illustrations in Figure 2-1 before operating the table.

⚠ WARNING – TIPPING HAZARD: During an articulation if the tabletop sections contact an obstruction, the table may tip. Before lowering either the tabletop or individual sections, remove possible obstructions. Do not allow leg section, when lowered, to contact the floor.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **During some extreme articulations, the tabletop may contact the base and/or column shrouds. Take care to avoid positioning the table in such a way as to cause damage to the shrouds.**
- **Use caution when raising the seat section or back section while the kidney bridge is elevated. The section may contact the elevated kidney bridge and damage the bridge and/or section.**

A row of toggle switches (located on the top of column under the small hood, on the opposite side from the hand control connection; see Figure 5-1) is used for table movements if control power is still available.

Articulate table as follows:

- **Trendelenburg:** 25° maximum from horizontal.

  Press **TREND** switch **down** to activate function; release switch when desired position has been reached to automatically stop tabletop and lock it in position.

- **Reverse Trendelenburg:** 25° maximum from horizontal.

  Lift **TREND** switch **up** to activate function; when desired position has been reached, release switch to automatically stop tabletop and lock it in position.

- **Height:** 27" (686 mm) minimum to 44" (1118 mm) maximum.

  Lift **HEIGHT** switch **up to raise** tabletop or press **down to lower** tabletop; when desired position has been reached, release switch to automatically stop tabletop and lock it in position.

- **Side Tilt:** 18° maximum to right or to left of horizontal.

  Lift **SIDE TILT** switch **up to tilt tabletop away** from yourself, or press **down to tilt tabletop toward** yourself; when desired position has been reached, release switch to automatically stop tabletop and lock it in position.

  NOTE: A momentary delay may occur when activating the side tilt while the safety mechanism disengages the tilt-lock function.

- **Back:** up 55° maximum or down 25° maximum from horizontal.

  Lift **BACK** switch **up to raise** back section or press **down to lower** back section; release switch when desired position has been reached to automatically stop tabletop and lock it in position.

- **Leg:** up 80° maximum or down 105° maximum from horizontal.

  Lift **LEG** switch **up to raise** leg section or press **down to lower** leg section; when desired position has been reached, release switch to automatically stop tabletop and lock it in position.

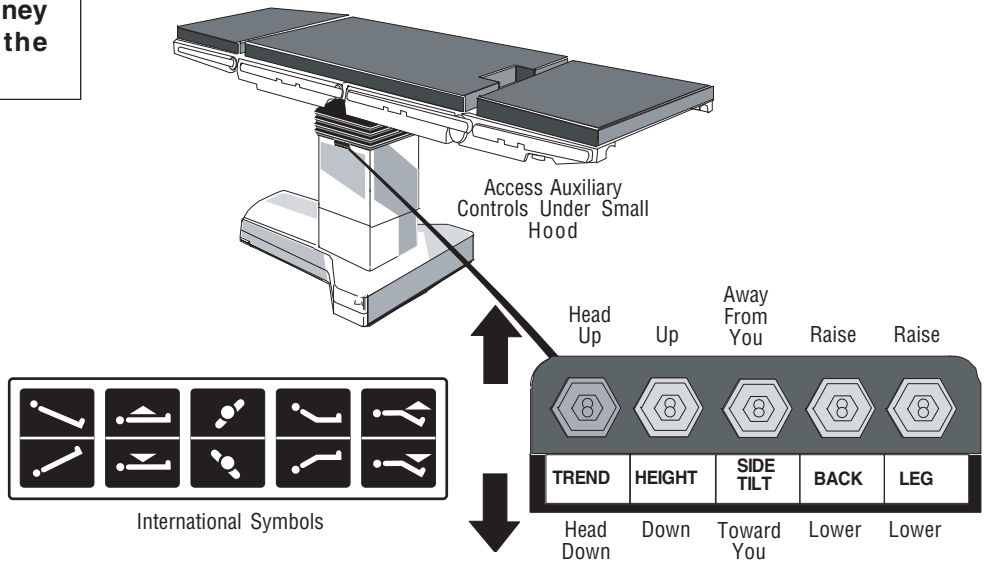


Figure 5-1. Auxiliary Controls (Override Switches)

5.2 Articulation With No Electric Pump Power Available

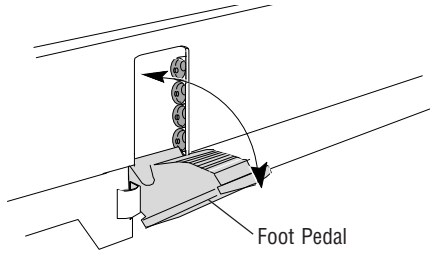


Figure 5-2. Foot Pedal

The toggle switches are used in conjunction with the foot pedal for table movements when **no** electric pump power is available.

Articulate table as follows:

1. Flip foot pedal down (see Figure 5-2).
2. Position toggle switches, as outlined in *SECTION 5.1, ARTICULATION WITH ELECTRIC PUMP POWER AVAILABLE,* for desired movement (or select movement with hand or foot control).
3. Pump foot pedal manually (while still holding toggle switch [or hand or foot control button/pedal] in position) until desired degree of movement is obtained.
4. Stop pumping foot pedal and release toggle switch (or hand or foot control button/pedal) to stop movement and lock in position.
5. Correct problem or have qualified service technician repair table before further use.

5.3 Floor Lock Override Systems

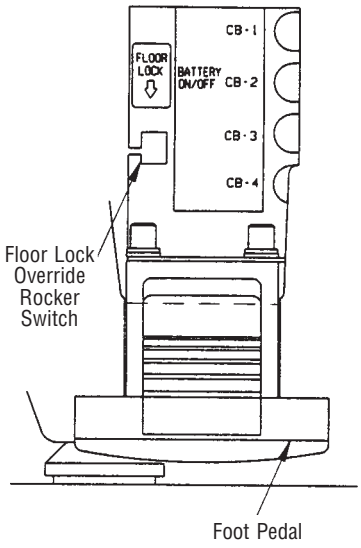


Figure 5-3. Floor Lock Override Switch

A floor lock override switch is located inside the manual pump pedal recess (see Figure 5-3). Flip the pedal down to access the switch (see Figure 5-2).

Operate the override system as follows:

- **If electric pump power is available:** move the rocker switch down to activate the UNLOCK function; release it when the floor locks are retracted and the table is resting on its casters. To activate the LOCK function, move the rocker switch up; release it when the table is resting on its floor locks (the casters swing freely).
- **If NO electric pump power is available:** move and hold the rocker switch down to activate the UNLOCK function and operate the foot pump (or have an assistant operate it) until the floor locks are retracted and the table is resting on its casters. To activate the LOCK function, move and hold the rocker switch up (or have an assistant operate it) until the table is resting on its floor locks (the casters swing freely).

6.1 Preventive Maintenance Schedule

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Safe and reliable operation of this equipment requires regularly scheduled preventive maintenance, in addition to the faithful performance of routine maintenance. Contact STERIS to schedule preventive maintenance.

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

Maintenance procedures described in *SECTIONS 6 AND 8* should be performed regularly at the intervals indicated, using the maintenance schedules in **Table 6-1** as a guide. Increased usage of the table may result in more frequent maintenance than indicated. Refer to *SECTION 8* for replacement parts list.

Customer should maintain a record of all maintenance procedures performed on the unit.

If an operating problem occurs, refer to *SECTION 7, TROUBLESHOOTING.*

NOTE: Never permit unqualified persons to service the table.

IMPORTANT: If the table is to be placed in extended storage, have the table prepared for storage by a qualified service technician. Ensure the batteries are disconnected and check the batteries before reconnecting. The table must be operated through all articulations and the batteries must be charged every six months.

Table 6-1. Preventive Maintenance Schedule for Amsco® 3085 SP Surgical Table

SERVICE REQUIRED	MINIMUM FREQUENCY
1.0 PREPARATION FOR PREVENTIVE MAINTENANCE	
1.1 Discuss equipment with operators.	6x per year
1.2 Examine side rail hardware. Tighten as required.	6x per year
1.3 Check X-ray tops for tightness of standoffs.	6x per year
1.4 Check integrity of cap shroud.	6x per year
2.0 HYDRAULIC SYSTEM	
2.1 Replace oil filter element.	1x per year
2.2 Check hydraulic oil level.	6x per year
2.3 Check table base, all hoses, fittings, and components of hydraulic system for evidence of oil leaks.	6x per year
3.0 CASTERS AND FLOOR LOCKS	
3.1 Check/clean casters.	6x per year
3.2 Lubricate casters.	1x per year
3.3 Check floor lock system; have qualified service technician adjust if needed.	6x per year
3.4 Verify presence of all foot pads.	6x per year

Table 6-1. Preventive Maintenance Schedule for Amsco 3085 SP Surgical Table (Cont'd)

SERVICE REQUIRED	MINIMUM FREQUENCY
4.0 CONTROLS	
4.1 Verify proper operation of all articulations for full motion.	
• Using hand control.	6x per year
• Using override function.	6x per year
• Using manual control (foot pump).	6x per year
• Using foot control, if equipped.	6x per year
• Using battery power, if equipped.	6x per year
4.2 Check integrity of hand control and cord.	6x per year
5.0 ELECTRICAL CHECKS	
5.1 Ensure all circuit board connectors and cable plugs are tight.	6x per year
5.2 Check all cables for damage or fraying.	6x per year
5.3 Verify battery charger voltage (28.5 Volts ± 1 percent, motor battery charger at P20; 28.3 Volts ± 1 percent, control battery charger at S1/S5 terminals).	2x per year
5.4 Verify battery voltage (13.6-13.8 Volts per battery fully charged at 77°F [25°C]).	2x per year
5.5 Check Operation of circuit breaker CB-2 with table using battery power.	1x per year
6.0 TABLE RIGIDITY	
6.1 Check tabletop for any horizontal or vertical play.	2x per year
6.2 Check side tilt mechanism for any play and ensure screws on the top clevis and bottom support bracket are secure.	2x per year
6.3 Lubricate column guide rails.	1x per year
7.0 FINAL TEST	
7.1 Secure all covers and shrouds.	6x per year
7.2 Reinstall any pads that were removed. Check for rips, tears, etc.	6x per year
7.3 Check area to ensure removal of all materials used during inspection.	6x per year

Table 6-2. Recommended Cleaning Products*

Product Name	Product Use
Coverage® Spray HB Ready-to-Use Disinfectant Cleaner	Hospital-grade quaternary-based disinfectant spray
Coverage® HB Concentrate	EPA-registered Hepatitis-B-effective quat
T.B.Q.® Hard Surface Disinfectant Cleaner	Detergent-based germicide
Coverage Plus® Concentrated Disinfectant Cleaner	One-step germicide disinfectant cleaner
Coverage® Spray Ready-to-Use Disinfectant Cleaner	General cleaner/disinfectant formulated with quarternary ammonium compounds and nonionic detergents
Germicidal Cloth Impregnated Non-Woven Disposable Cloth	Surface disinfectant

** Contact STERIS for ordering information.*

6.2 Cleaning/ Disinfecting Procedures

6.2.1 Post-Usage

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

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **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.**
- **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.**
- **After performing cleaning procedures, ensure pads 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.**

1. Remove gross soil with a disposable cloth and place used cloth in an appropriate biohazardous waste disposal container.
2. Clean tabletop as follows:
   a. Articulate tabletop to level position and place at a comfortable working height.
   b. Remove tabletop pads by pulling upward to free them from hook fastener strips (see Figure 6-1) and place on another table or other flat surface.
   c. Holding can 6-8" (150-200 mm) from surface, spray cleaning fluid liberally on top and sides of pads. Clean only one pad at a time.

   NOTE: Follow manufacturer's label recommendations when using cleaning fluids/disinfectants.

   d. Wipe sprayed surfaces with a clean lint-free cloth dampened with water to remove cleaning fluid. (Dampening cloth will minimize streaking.)
   e. Wipe cleaned surfaces again with a clean, damp, lint-free cloth to remove any remaining residue.
   f. Wipe cleaned surfaces again with a clean, dry, lint-free cloth to remove all moisture.
   g. Repeat **Steps c, d, e, and f** for bottom of pads.
   h. Holding can 6-8" (150-200 mm) from surface, spray cleaning fluid liberally on tabletop surfaces exposed when pads are removed.
   i. Repeat **Steps d, e, and f** for tabletop surfaces exposed when pads are removed.
   j. Place pads back onto tabletop by aligning with sides of table and pressing into place on hook fastener strips.

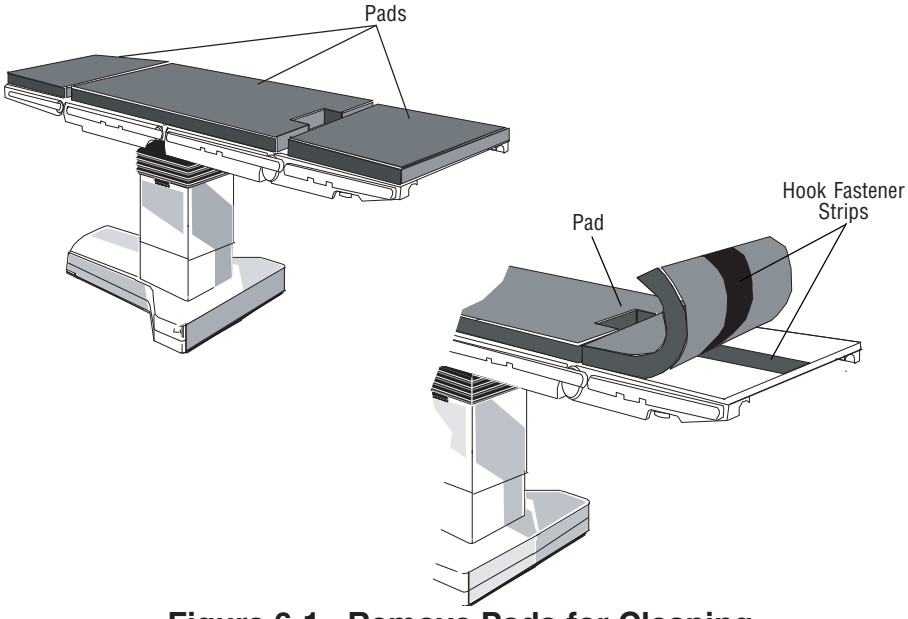


Figure 6-1. Remove Pads for Cleaning

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **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 override switches or into clearance space above column. Spray or drippage may settle onto electric circuits inside table causing corrosion and loss of function.**

3. Raise table to maximum elevation to access lower surfaces.
4. Clean bellows, shrouds, and entire base surface as follows:
   a. Care should be taken so bellows is not torn, punctured, or ripped, and that seals at top and bottom are not broken.
   b. Holding can 6-8" (150-200 mm) from surface, spray cleaning fluid liberally on column skirt, cap, and shrouds.
   c. Gently wipe sprayed surfaces with a clean cloth dampened with water to remove cleaning fluid. (Dampening cloth will minimize streaking.)
   d. Wipe cleaned surfaces again with a clean, damp, lint-free cloth to remove any remaining residue.
   e. Repeat **Steps b, c, and d** for base surface.
5. Turn control OFF when finished with cleaning tabletop and base.
6. Clean hand control as follows:
   a. Disconnect hand control from table.
   b. Holding can 6-8" (150-200 mm) from surface, spray cleaning fluid liberally on hand control and cord.
   c. Wipe sprayed surface with a clean cloth dampened with water to remove cleaning fluid.
   d. Wipe cleaned surfaces again with a clean, damp, lint-free cloth to remove any remaining residue.
   e. Reconnect hand control to table, and store by attaching to table side rail.

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

6.2.2 End-of-Day

Perform all steps listed in *SECTION 6.2.1, POST-USAGE,* cleaning procedure.

6.2.3 Weekly

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **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 override switches or into clearance space above column. Spray or drippage may settle onto electric circuits inside table causing corrosion and loss of function.**

1. Perform **Steps 1 through 4** under *SECTION 6.2.1, POST-USAGE,* cleaning procedure.
2. Articulate table through all movements and clean all additional exposed surfaces during these articulations as follows:
   a. Holding can 6-8" (150-200 mm) from surface, spray cleaning fluid liberally on surface to be cleaned.
   b. Wipe sprayed surfaces with a clean cloth dampened with water to remove cleaning fluid. (Dampening cloth will minimize streaking.)
   c. Wipe cleaned surfaces again with a clean, damp, lint-free cloth to remove any remaining residue.
3. Turn control OFF when finished with cleaning procedures.
4. Inspect bellows for rips, tears or punctures. A damaged bellows can allow fluids to settle into table interior.

6.3 Biweekly Maintenance

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

1. Charge batteries per instructions listed in *SECTION 6.5.1, BATTERY CHARGING PROCEDURE.*

   NOTE: Battery-powered tables should have batteries charged a minimum of 38 hours every two weeks (more often if table usage demands).

2. Operate each table function. Operation should be smooth and quiet.

   If it is not, call STERIS. A factory-trained service technician will promptly arrange to have the table placed in proper working order.

6.4 Monthly Maintenance

1. Clean casters and floor locks (see Figure 6-2).
2. Lightly lubricate caster bearings with Lubriplate No. 2 (R-6400-826)*, or equivalent.

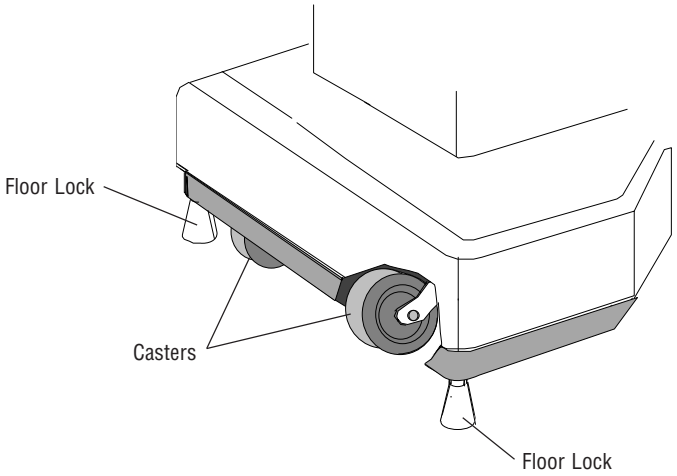


Figure 6-2. Casters and Floor Locks

** Available from STERIS.*

6.5 Battery Charging Procedure

6.5.1 Electric-Powered Tables

Control batteries* are recharged automatically when table is being used and do not require additional charging.

6.5.2 Battery-Powered Tables

Motor and control batteries* will require recharging on a periodic basis depending on frequency of table usage. Low or discharged battery conditions are indicated by LEDs on the hand control as explained in the Hand Control Diagnostic Chart in *SECTION 7*.

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

⚠ WARNING – TRIPPING HAZARD: Route the power cord to the receptacle in a position so it will not be tripped over by personnel in the area.

Lead acid batteries last longer if NOT fully discharged. Therefore, to obtain the longest life and capacity from your 3085 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. If this is not always possible, recharge batteries at the following times:

- When table is first put into service.
- Every two weeks when table is in normal service; more often if usage demands.
- Whenever a low battery indicator LED is ON.
- If table remains in extended storage, batteries must be charged every six months.
- It is **not necessary** to have **hand control** ON to charge batteries.
- On either electric-powered or battery-powered 3085 SP, power cord may be left plugged into appropriate receptacle indefinitely. It will not harm table nor table batteries.

NOTE: If batteries will not charge, refer to SECTION 7 for possible causes and corrective actions.

Recharge batteries as follows:

1. Connect ac power cord to table base and plug into an appropriate ac receptacle (see Figure 6-3).

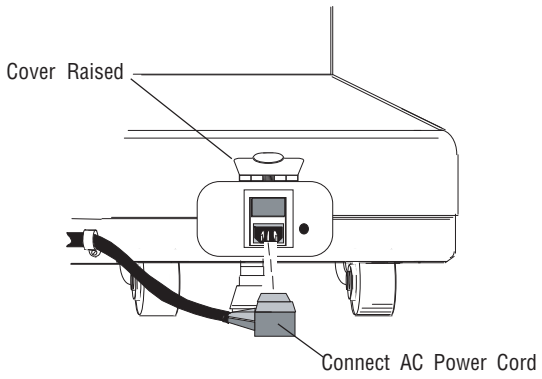


Figure 6-3. Change Batteries

* *All motor and control batteries are a sealed, lead-acid gel electrolyte-type, with a nominal life of four years.*

2. Allow a **minimum of 48 hours** for full battery charge. See chart below:

Charging Time	Portion Charge
24 hours	90 percent
36 hours	95 percent
48 hours	100 percent

3. Verify low battery indicator LED is off and disconnect ac power.
4. As an alternative to **Step 2**, battery table may be used during daytime on battery and charged at night for six to eight hours charging time minimum.

   OR

   Table may be used during week and charged over weekend (38 hours).
5. Depending on how batteries are cared for, table battery life can vary greatly. The following can shorten the battery's useful life:
   - continuing to leave this type of battery discharged for a long period, or
   - continuing to use table battery even though battery light is blinking and not plugging table into appropriate receptacle, or
   - not fully charging battery.

⚠ WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Safe and reliable operation of this equipment requires regularly scheduled preventive maintenance, in addition to the faithful performance of routine maintenance. Contact STERIS to schedule preventive maintenance.

This section describes the types of Amsco® 3085 SP Surgical Table malfunctions most likely to occur, and probable causes and corrective actions. Use the Operator Troubleshooting Chart to identify general problems. Use the Hand Control Diagnostics Chart to identify problems as indicated by the hand control LEDs.

NOTE: Never permit unqualified persons to service the table.

If you are unable to correct the problem with the use of the Operator Troubleshooting Chart or the Hand Control Diagnostics Chart, or if a problem occurs not described on the charts, please contact STERIS. A trained service technician will promptly place your equipment in proper working order.

*NOTE: When quickly articulating the table through various repeated movements, the synchronization of the tabletop sections can get out of alignment and the hand control may stop functioning properly. To prevent this condition, the user should perform a return-to-level function after **each** procedure. This will keep the variance over multiple articulations to a minimum.*

Operator Troubleshooting Chart

PROBLEM	POSSIBLE CAUSE AND CORRECTIVE ACTION
1. Cannot turn table ON.	1. Hand control not connected – Connect per *SECTION 3*. 2. Hand control defective – Replace.
2. No power to pump motor; table will not articulate.	1. Table unplugged (electric-powered table only) – Plug in. 2. No facility power (electric-powered table only) – Turn facility power on. 3. F1 or F2 fuse blown (electric-powered table only) – Replace fuse(s) per *SECTION 8*. 4. AC power cord defective (electric-powered table only) – Replace power cord. 5. Batteries totally discharged (battery-powered table only) – Recharge batteries per *SECTION 6*. 6. Circuit breaker CB-1 tripped (electric-powered table only) – Reset per *SECTION 8*. 7. Circuit breaker CB-2 tripped (battery-powered table only) – Reset per *SECTION 8*.
3. Motor batteries will not charge (battery-powered table only).	1. Circuit breaker CB-4 tripped – Reset per *SECTION 8*. 2. Circuit breaker CB-2 tripped – Reset per *SECTION 8*. 3. AC power cord defective – Replace power cord.

Hand Control Diagnostics Chart

NOTE: When power supplies are operational and the table is plugged into an ac receptacle, the ON touch pad green LED and ac power green LED will be ON.

INDICATION	CONDITION	CORRECTIVE ACTION
1. Control ON – green AC LED is ON and red BATTERY LED is flashing.	AC power connected; low or discharged batteries (battery-powered table only).	Charge batteries per *SECTION 6*.
2. Control ON – green BATTERY LED is ON and red BATTERY LED flashing.	Low or discharged batteries (battery-powered table only).	Charge batteries per *SECTION 6*. *NOTE: If batteries are totally discharged, control shutdown will occur after 3-1/2 minutes when table is in use or after 30 seconds if condition exists at power up.*
3. Control ON – green BATTERY LED (only) is ON when table plugged into AC receptacle.	Battery level acceptable; faulty battery charger or power circuit (battery-powered table only).	1. Check ac power cord – Replace power cord if necessary. 2. Check F1 and F2 fuses – Replace fuse(s) if necessary. 3. Reset circuit breaker CB-3. 4. Reset circuit breaker CB-4. 5. Reset circuit breaker CB-1.
4. All green, yellow, and red LEDs flashing.	No communication between table control and hand control.	1. Check hand control connection per *SECTION 3*. 2. Replace hand control if necessary.
5. Green ON LED flashing.	1. Optional foot control switch was actuated when hand control switched ON; control logic error disables foot control functions.	Turn hand control OFF, then ON to reset controls.
	2. Faulty foot control; foot control function is disabled.	Replace foot control.

Hand Control Diagnostics Chart (Cont'd)

INDICATION	CONDITION	CORRECTIVE ACTION
6. All LEDs are OFF (not lit).	1. Hand control unplugged while table control ON; control automatically shuts off after two minutes.	Reconnect hand control per *SECTION 3*.
	2. AC power off (electric-powered table only); control automatically shuts off six hours after last function selected.	Reconnect ac power cord per *SECTION 3*.
	3. Floor locks off (battery-powered table only); control automatically shuts off 30 minutes after last function selected.	Activate floor locks per *SECTION 3*.
	4. AC power off (battery-powered table only); control automatically shuts off 24 hours after last function selected.	Reconnect ac power cord per *SECTION 3*.
7. Hand Control will not physically plug into the table.	Hand control plug will not slide into receptacle.	1. Check the control: The standard hand control has a 6-pin connector and will not fit either the HERMES®-Ready[1] or ACT Enabled ™ 3085 SP Table.
		2. Check the control: The HERMES®-Ready[1] and ACT Enabled ™ hand controls have an 18-pin connector and will not fit the standard 3085 SP Table.
		3. If plug or receptacle is deformed, it must be replaced.

NOTE: For troubleshooting of the optional HERMES®-Ready[1] system, refer to the HERMES® Operating Room Control Center Operating and Maintenance Manual, provided with the Operating Room Control System (ORCS). For troubleshooting of the optional ACT Enabled™ system, refer to the ACT Enabled™ Operating Manual, provided with the Operating Room Control System (ORCS).

[1]HERMES-Ready is a registered trademark of Computer Motion.

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

The material in this section is provided to allow for servicing components of the Amsco® 3085 SP Surgical Table most likely to need attention. These procedures are more advanced than cleaning and replacing expendables. These procedures should always be performed by an experienced, trained service technician.

8.1 Reset Circuit Breakers

Four circuit breakers (CB-1, CB-2, CB-3, and CB-4) protect various table components* and may be reset if tripped by a fault condition. When tripped, the circuit breaker will pop out and is readily detectable.

Reset circuit breakers as follows:

1. Lower foot pedal on table base to access circuit breakers (located on right of opening when foot pedal is down). See Figure 8-1.
2. Press in on protective boot covering circuit breaker to reset.
3. Raise foot pedal back into stored position.

** CB-1 protects power transformer.*
CB-2 protects motor batteries and has extra internal manual on/off switch.
CB-3 protects motor battery charger.
CB-4 protects control power supply.

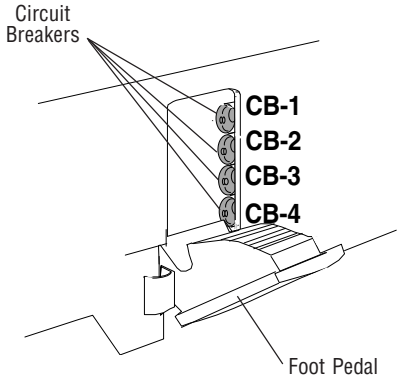


Figure 8-1. Circuit Breakers

8.2 Change Fuses

Two replaceable fuses (F1 and F2) are located in a cartridge above the ac input in the table base. If one or both of the fuses are blown by a fault condition, replace as follows:

1. Disconnect ac power cord from wall receptacle and table base input (see Figure 8-2).
2. Pry cartridge out with a small screwdriver to access fuses.
3. Remove blown fuse(s) and replace. Refer to **Table 8-1** for correct rating and part number of fuses.
4. Push cartridge back into connected position and reconnect ac power cord to table. Plug cord into wall receptacle.

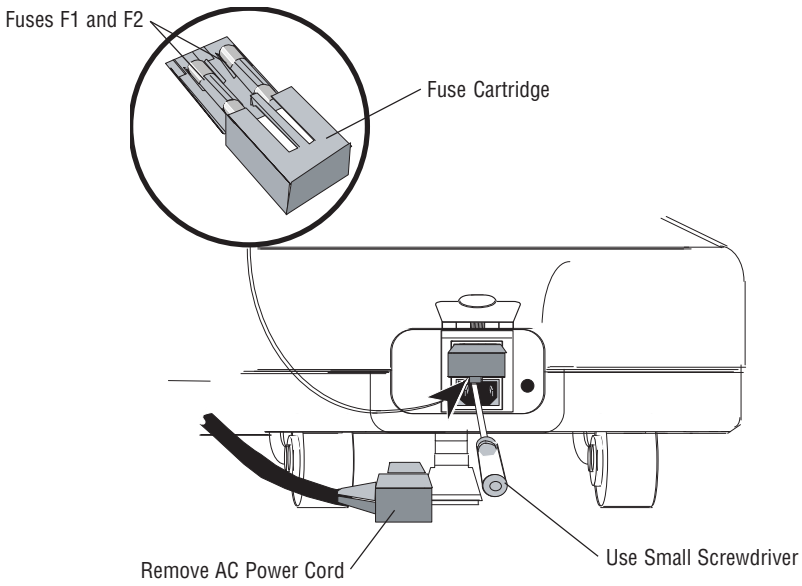


Figure 8-2. Fuse Location

One replaceable fuse (F3) is located internal to the table. This requires removal of the base shroud for access. Replacement of this fuse must be made only by a fully qualified service technician. Refer to **Table 8-1** for correct rating and part number of fuse.

8.3 Disconnect the Motor Battery

CB-2 circuit breaker, in addition to being a protective device, includes an internal, manually operated ON/OFF switch. If necessary, the motor battery can be disconnected from the table circuit as follows:

For Models manufactured pre mid-2009:

1. Press in on protective boot covering CB-2 circuit breaker until a "click" is felt.
2. Release button.
3. In OFF position, button is popped out same as when circuit breaker is tripped. To reset, see *Section 8.1, Reset Circuit Breakers*.

For Models manufactured after mid-2009:

1. Press red release lever inside protective boot covering CB-2 circuit breaker until a "click" is heard and felt.
2. In OFF position, button is popped out same as when circuit breaker is tripped. To reset, see *SECTION 8.1, RESET CIRCUIT BREAKERS*.

8.4 Replacement Parts

The parts listed in **Table 8-1** may be necessary to do minor maintenance on the Amsco 3085 SP Table.

To order replacement parts, proceed as follows:

1. Include part number and description listed in **Table 8-1**.
2. Include model and serial numbers of your equipment on your order.
3. Send your order directly to STERIS.

Contact STERIS if you need any parts not listed in **Table 8-1.**

NOTE: Use only STERIS authorized parts on the equipment. Use of unauthorized parts will void the warranty.

Table 8-1. Amsco 3085 SP Surgical Table Replacement Parts

Description	Part Number		Recommended Spares
Power Cord Types Available • USA Plug, USA Cord • USA Plug, IEC Cord • Schuko Plug, IEC Cord • Australian Plug, Orange Cord • English Plug, IEC Cord	 P93909-354 P56397-682 P56397-687 P56397-686 P56397-684	 (see NOTE 2)	One spare of the type you use. If your plug is not in this list, order the Power Cord type nearest to your applications, cut the plug off and install your plug in its place. Always use a grounded plug.
Hand Controls • Standard 3085 SP • HERMES®-Ready[1] 3085 SP • ACT Enabled™ 3085 SP	 P141210-318 P141210-367 P146664-103		*[1]HERMES-Ready is a registered trademark of Computer Motion.*
Fuse Applications *(see NOTES 3 and 4)* **• 120 VAC Application** F1 and F2 F3 **• 120 VAC Application (Export)**: F1 and F2 F3 **• 100 VAC Application** F1 and F2 F3 **• 220 VAC Application** F1 and F2 F3 **• 230/240 VAC Application** F1 and F2 F3	 P150823-292 P93909-222 P150823-292 P129360-586 P150823-292 P129360-586 P150830-365 P129360-586 P150830-365 P129360-586	 (6 Amp, USA) (0.5 Amp, USA) (6 Amp, IEC) (0.5 Amp, IEC) (6 Amp, IEC) (0.5 Amp, IEC) (3.15 Amp, IEC) (0.5 Amp, IEC) (3.15 Amp, IEC) (0.5 Amp, IEC)	 10 5 10 5 10 5 10 5 10 5
Batteries	See NOTE 1		See NOTE 1

NOTES:

1. *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 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 should be recharged every six months to minimize life 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.*
2. *The cords are approximately 6 m (20 ft) long, except for the Australian cord which is only 4 m (13 ft) long.*
3. *USA fuses are AGC or ABC or MTH, and are also for use in Canada. F1 and F2 are slo-blow.*
4. *IEC fuses are IEC glass fuses. IEC fuses for F3 require IEC fuseholder, STERIS part number P129360-654.*

DISPOSAL HAZARDS

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 are contained within the Amsco® 3085 SP Surgical 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 (Pb) Weight** – solid weight (P146653-460, quantity = 1) located in the table base at the narrow end. Approximate weight = 90 lbs (41 kg).
- **Lead Acid (Pb/H_2SO_4)** – gelled cell batteries (P93908-637, quantity = 2 and P136806-806, quantity = 2 battery-powered table only) located in the table base in the narrow end. Approximate weight = 39 lbs (14 kg).
- **Mercury (Hg)** – in sealed glass tube electrical switches, contained in RTV potted Return-to-Level switch assemblies (P136807-726, P136807-727, and P136807-728). Quantity = 3 assemblies per table (two mercury switches per assembly). Two assemblies are located in the back section frame and one assembly is located in the seat section frame. Approximate total mercury per table = 18 g.
- **Hydraulic Oil** – Chevron AW32 or equivalent (P150823-197; service part P764322-636). Oil is in the hydraulic components located in the base, on the column, in the seat section, in the back section, inside the column, and in all the hydraulic system lines and hoses. Approximate quantity = 0.9 US gal (3.4 L).
- **Gear Compound** – Chevron grade 680, located in the oiler pads in the column. Approximate amount = 1 oz (28 g).
- **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 methods 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.

MAINTENANCE MANUAL

Maintenance Instructions

Amsco® 3085 SP Surgical Table
After S/N B420702-025

(10/07/10) P764332-898

A Word From STERIS Corporation

IMPORTANT: A listing of the *SAFETY PRECAUTIONS* to be observed when operating and servicing this equipment can be found in *SECTION 1* of this manual. Do not operate or service the equipment until familiar with this information. Also, please refer to *SECTION 2.1, TERMS AND DEFINITIONS*, for a list of terminology used in this document.

Thank you for choosing this fine STERIS product. STERIS is committed to ensuring your continued satisfaction. This manual contains important information on proper use and maintenance of the Amsco® 3085 SP Surgical Table. **All personnel involved in the use and maintenance of this equipment must carefully review and comply with the *SAFETY PRECAUTIONS* and instructions in this manual. Do not operate or service this surgical table until familiar with this information.**

These instructions are intended to protect the health and safety of personnel operating and maintaining the Amsco 3085 SP Surgical Table and should be retained in a conveniently accessible area for quick reference.

Complete instructions for uncrating and installing this unit, as well as an equipment drawing, have been furnished. If missing, contact STERIS for replacement copies, giving the serial, equipment and model numbers of the unit.

NOTE: Refer to SECTION 2 of this manual for a listing of TERMS, DEFINITIONS AND SYMBOLS that may appear in this manual or on your equipment.

ADVISORY

A listing of the *SAFETY PRECAUTIONS* to be observed when operating and servicing this Amsco 3085 SP 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 operation will void the warranty, could adversely affect operator safety, adversely affect efficacy or result in non-compliance with applicable national, federal, state or local regulations.

INDICATIONS FOR USE

The Amsco 3085 SP Surgical Table is a mobile, electrohydraulically operated surgical table designed to support general surgical procedures including urology, neurology and orthopedics with the addition of the 3080/3085 Orthopedic Extension.

SERVICE INFORMATION

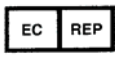
A thorough preventive maintenance program is essential to safe and proper equipment operation. Comprehensive instructions for monthly, quarterly and semi-annual preventive maintenance can be found in this Maintenance Manual.

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.

Customers are encouraged to contact STERIS for information on our annual maintenance programs. Under the terms of these programs, preventive maintenance, adjustments and replacement of worn parts are provided on a scheduled basis to help ensure optimal equipment performance and to help minimize untimely or costly schedule interruptions. STERIS maintains a worldwide staff of well-equipped, factory-trained technicians to provide these services, as well as on-site installation, training and expert repair services. Contact STERIS for details.

 Printed in U.S.A.

EC Authorized Representative



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2720 Gunter Park East
Montgomery, AL 36109 • USA

Class 1 Equipment

Type B Equipment

Classified as IPX4

(Splash-proof)

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

Suitable for continuous use.

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

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Section 1: Safety Precautions

The following *Safety Precautions* **must** be observed when operating or servicing this Amsco® 3085 SP 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.**

Strictly following these *Safety Precautions* enhances your ability to safely and effectively utilize the unit and helps the Customer avoid improper maintenance methods that may damage the unit or render it unsafe. It is important to understand that these Safety Precautions are not exhaustive; Customers are encouraged to develop their own safety policies and procedures to enhance and complement these *Safety Precautions*.

WARNING – PINCHING HAZARD:

⚠ Pinch points are created during tabletop articulation. Carefully review illustrations in Figure 2-1 of Operator Manual 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 – 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 potential tripping hazards for staff.

WARNING – PERSONAL INJURY HAZARD:

⚠ Patient injury may result if the operator of this table is not completely familiar with the controls for patient positioning and table operation. All users should carefully review the Operator Manual before operating the table.

⚠ When cleaning/disinfecting table, do not use phenolics which may cause patient skin burns if inadequately rinsed off.

⚠ 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. STERIS recommends that the table be positioned on antistatic floor or connected to equalization device (equipotential connector).

⚠ Pinch point areas exist between top sections and saddle casting. Keep hands clear while moving tabletop and turn table off during adjustments.

⚠ The lock mechanism has a high spring force and can cause severe pinching. Keep fingers, etc. away from under the plunger and blocking.

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.
- Table is factory set to operate at a certain voltage. Use of any other power supply could result in serious personal injury and/or table damage.
- Use of this table in the presence of flammable anesthetics could result in serious personal injury and/or table damage.
- Failure to perform periodic inspections of the table could result in serious personal injury and/or equipment damage.
- To prevent column cover from falling, securely hold cover when removing fastening screws.
- Storing items on table base may result in equipment damage causing inadvertent tabletop movement placing the patient and/or user at risk of personal injury. DO NOT use the table base for storage.
- Breaking hydraulic fittings may cause associated table sections to fall and excessive fluid may flow from the fitting.
- Read this procedure carefully and completely before starting column bearing replacement repair. Failure to follow this procedure correctly could result in personal injury and/or equipment damage.

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 which does not have sufficient cleaning/disinfection properties.

WARNING – ELECTRIC SHOCK HAZARD:

- Unplug surgical table from facility electrical supply and open CB2 to remove battery power before servicing. Always follow appropriate electrical safety-related work practice standards.
- Before replacing PC boards or power supply assembly, disconnect all power sources; i.e., wall plug, control battery and (if a battery- operated table) the motor battery positive terminal.

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

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.

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 5/8" (16 mm). Avoid door and elevator jambs, and obstructions greater than 5/8" (16 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.

Do NOT pressure clean the Amsco 3085 SP Surgical Table.

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 and tabletop are completely dry before reinstalling. Failure to do so can result in damage to tabletop and pads.

Appropriate components of this surgical table have been tested and found in compliance with IEC 60601-1-2:2001, 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.

To prevent power supply LED damage (if equipped) when installing power supply, observe necessary clearance between base and LEDs.

Do not pull the hand control cord when disconnecting hand control from table. This can result in damage to the hand control.

The table has internal switches for setting to various ac-input voltages. Improper setting of switches may damage table electrical system and/or cause improper operation of table**.**

Static electricity can damage microprocessor controls. Indiscriminate probing of circuits or improper connections may result in immediate or delayed electrical failure. If the electronics are to be accessed, use a personal grounding device. Exercise care in all activities involving the electronic circuitry.

CAUTION – POSSIBLE EQUIPMENT DAMAGE (CONT'D):

Isolate the coil and/or pump motor from the power control by disconnecting the wires on the motor terminal board, or slip the wires off the solenoid coil that is being serviced.

Always connect power cord to a properly grounded socket.

To prevent rubber bumpers from being cut off, replace base shroud parts carefully and evenly.

Before articulating or making any adjustments to the table, ensure no electrical or hydraulic hoses are subjected to stress or pinching.

Tilt articulation must be activated while adjusting the cylinder rod to release the brake mechanism. Failure to do this destroys the cylinder.

Do not remove back section cylinder without supporting back section. Limit switch may be damaged if back section drops too much.

When replacing solenoid valves, carefully remove retaining washer and pressure spring to prevent washer and spring from quickly expelling from the valve block.

Use care when unthreading solenoid valve housing from the valve manifold. Plunger is equipped with a spring which may expel from the housing upon removal of the plunger housing.

When unscrewing spring guide from side of Control Block #2, threads may run out before spring is fully relaxed. Hold spring guide tightly to prevent housing, spring and pin from flying out.

Failure to secure a tabletop section may result in sudden lowering of that section when hydraulic line is opened.

When reinstalling power supply assembly, be aware of table-lock microswitch wires (blue twisted pair wire). Handle carefully to avoid breaking solder connections.

Handle wire cables carefully, ensuring they do not get entangled in other components and wires do not pull out of the plugs.

Before field-resetting of voltage switches, disconnect table from any external ac power source.

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.

Section 2: Terms, Definitions, Symbols and Special Tools

2.1 TERMS AND DEFINITIONS

Accessories - Optional surgical procedure devices attaching to the Surgical Table usually at the Side Rails.

ABS - Acrylonitrile Butadiene Styrene.

Auxiliary (Override) Control Panel - This control panel can be actuated at any time and will allow table operation in the event of primary control malfunction. An override control panel is located at the top of the Table Column and is used for table movements.

BHYD - Bieri Hydraulic system.

CB-x - Four Circuit Breakers protect various table components (power tansformer, motor batteries, motor battery charger, control power supply).

Electrohydraulic - Combination of electric and hydraulic mechanisms.

Flex - Tabletop position where Back Section is down 20° maximum with Seat Section down 25° maximum from horizontal.

Foot Control - Optional control of Surgical Table using foot pedals. Hand Control selections override Foot Control selections.

Floor Locks - Hydraulically operated table locking system located in the Surgical Table base.

Hand Control - Constructed of injection-molded black plastic (two-piece, sealed), is the primary interface for table operation. Hand Control is equipped with a coiled 2' (610 mm), 10' (3 m) extended, long cord (approximately). The Hand Control plugs into a color-coded receptacle located at the top of the column. Membrane touch switches provide, through a self-contained PC Board, input signals to activate table functions and articulations.

HMI - Human Machine Interface (such as Hand, Auxiliary Control or Override Panel).

I/O - Input/Output.

Normal Patient Positioning - Patient is positioned on Surgical Table with head-on-head section.

Orient Patient - Touch Pad on Hand Control. Press this Touch Pad then either Normal or Reverse (within five seconds) to change patient orientation (NORMAL or REVERSE).

ORCS - Operating Room Control System.

Pinch Point - During patient positioning or tabletop movement where a potential exists for pinching a hand or foot of the patient or healthcare professional using the table.

Power Panel - Located at head-end of the Table Base. Contains table fuse, AC receptacle for power cord and ground equalization terminal (male connection).

Reflex - Tabletop position where Back Section is up 25° maximum with Seat Section up 35° maximum from horizontal.

Reverse Patient Positioning - Patient is positioned on Surgical Table with head on leg section. Head Section is added to Leg Section.

Reverse Trendelenburg - Lowering of tabletop leg or foot section toward the floor.

Side Rail - Stainless-Steel rail attached to both sides of Surgical Table Tabletop.

Surgical Table - Amsco® 3085 SP Surgical Table.

Table Base - Cast iron with textured enamel finish covered by stainless-steel and ABS enclosure. Base contains casters, floor locks, power assembly and hydraulic fluid.

Table Column - Supports tabletop and includes lift cylinders, bearings, hydraulic piping, Trendelenburg hydraulic actuators and master computer. Covered and protected by two-piece stainless-steel shrouds.

Tabletop -Four section (head, back, seat and leg) interlocking top supported by the Table Column and mobile Table Base.

Tilt - Lateral Tilt, movement of the tabletop laterally.

Trendelenburg - Lowering of tabletop head section toward the floor.

TLT Pads - Tri-Layer Technology Surgical Table Pads.

2.2 SYMBOLS

Table 2-1 and **Table 2-2** contain symbols which may appear on your Amsco 3085 SP Surgical Table and/or Hand Control.

2.3 SPECIAL TOOLS/MATERIALS REQUIRED FOR MAINTENANCE

Table 2-3 shows tools and kits necessary to repair and maintain the Amsco 3085 SP Surgical Table. It is important that these tools be on hand before any maintenance procedures are started. Because of the special nature of the hydraulic system, keeping the hydraulic hoses and cylinders clean and dust free is very important.

Table 2-1. Definition of Symbols on Surgical Table

Symbol	Definition
	Type B Equipment
	Protective Earth Ground
	Equipotentiality
	Attention, Consult Manual for Further Instructions
	Electric Shock Hazard
	WEEE Directive - Product Must Be Recycled
kW	Power Rating of Unit
SN	Serial Number of Unit
V~	Voltage Rating of Unit, Alternating Current
A	Amperage Rating of Unit
Hz	Frequency Rating of Unit
IPX4	Splash-Proof Equipment; Enclosure Code Rating Per IEC529
	Optional HERMES-Ready System Installed

Table 2-2. Definition of Symbols on Hand Control

Symbol	Definition
	ON
	OFF
	Floor Lock: Lock
	Floor Lock (Function Touch Pad)
	Floor Lock: Unlock
	Normal Orientation
	Patient Orientation (Function Touch Pad)
	Reverse Orientation
	Trendelenburg
	Reverse Trendelenburg
	Height Up (Raise)
	Height Down (Lower)
	Left Tilt

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

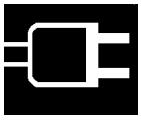
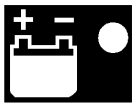
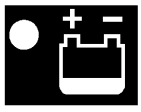
Symbol	Definition
	Right Tilt
	Back Up
	Back Down
	Leg Up
	Leg Down
	Flex
	Reflex
	Powered by AC
	Powered by Battery
	Battery Charged
	Level
	Battery Down
	Optional HERMES-Ready System Installed

Table 2-3. Special Tools for Amsco 3085 SP Surgical Table Maintenance

Part Number	Tool	Quantity
P764322-952	Allen Wrench - Tamperproof Screws	1
P764323-811	Protractor, Digital Smart Level	1
P764322-660	Kit, Tool, 3080 Bieri (B4)	1
P150823-387	• Hose, Size 2-250 mm	1
P764324-652	• #0202-4-4 Female Pipe Connector	1
P764324-653	• #G6-PL-S Union #6 to #6	1
P764324-654	• #BUZ 6-LS-S Plug	2
P764324-655	• Hex Key Set L Metric	1
P764324-656	• Socket, 1/2 DR, 24 mm, 12pt Deep	1
P764324-657	• Wrench Comb. Met., 10mm Thin, 70° Offset	1
P764324-658	• Wrench Comb. Met., 13mm Thin, 70° Offset	1
P764324-659	• Wrench Comb. Met., 14mm Thin, 70° Offset	1
P764324-660	• Wrench Comb. Met., 17mm Thin, 70° Offset	1
P764324-661	• Wrench Comb. Met., 19mm Thin, 70° Offset	1
P764324-662	• GE6-PL 1/4' NPT-S	1
P764329-992	Kit, Velcro Adhesive, 1 pt. (With Instructions)	1
P755715-499	Stainless Steel Cleaner, Can	1
R005300-545	Loctite®[1] 222, 50cc	1
R005300-554	Loctite®[1] 242, 50cc	1
R005300-548	Loctite®[1] 271, 10cc	1
R005300-542	Loctite®[1] 609, 50cc	1
R005300-540	Loctite®[1] 290, 50cc	1
R005300-557	Loctite®[1] 495, 1 oz	1
P764322-636	Kit, 3080 Oil, 1 gal.	1
P764326-267	Chevron 680 Oil, 4 oz	1
P764322-635	Neptune 7, 4 oz Tube	1
R005300-286	Ore-Lub Anti-Seize	1
R006400-826	Lubriplate HD-2, 14 oz Tube, 50cc	1
R006200-400	Lint-Free Cloth (BAF), Package	1

[1] *Loctite is a registered trademark of Loctite Corporation, a Heckel Company*

Table 2-3. Special Tools for Amsco 3085 SP Surgical Table Maintenance (Cont'd)

Part Number	Tool	Quantity
P764322-894	Carrying Case	1
P764319-808	Gray Touch-Up Paint (12 oz Spray)	1
P150824-8612	Gray Touch-Up Paint (60cc Bottle)	1
R005300-563	Clear 108 RTV	1
R005300-006	White 162 RTV	1

Section 3: Principles of Operation

3.1 GENERAL

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

The following sections give a detailed description of the Amsco® 3085 SP Surgical Table. This section of the maintenance manual covers power distribution, tabletop articulation and floor lock operation in detail.

Also included at the end of this manual section is a listing of system schematics for the electrical and hydraulic layouts (located behind *REFERENCE DRAWINGS* Tab).

***Important:** Before connecting the table to your ac power system, ensure internal voltage switches are set for your power system (100, 120, 220 or 230/240).*

CAUTION – POSSIBLE EQUIPMENT DAMAGE: The table has internal switches for setting to various ac-input voltages. Improper setting of switches may damage table electrical system and/or cause improper operation of table.

3.2 TABLE OVERVIEW

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Appropriate components of this surgical table have been tested and found in compliance with IEC 60601-1-2:2001, 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: Refer to included Operator Manual (P150830-353; behind OPERATOR MANUAL Tab) for more detailed operating instructions.

The Amsco 3085 SP Surgical Table is a mobile, electrohydraulically operated surgical table specifically designed to support all general surgical procedures including urology, neurology and orthopedics with the addition of the 3080/3085 Orthopedic Extension. The Amsco 3085 SP Surgical Table features powered lateral tilt, Trendelenburg/Reverse Trendelenburg, back/leg and adjustable height functions. This table is constructed of aluminum alloy, stainless steel and other high quality materials and is designed to safely function with patients not exceeding the maximum patient weight limit (patient in NORMAL orientation) of 1000 lb (454 kg) without patient posturing. Exceptions to this maximum patient weight limit:

- A 500 lb (227 kg) rating applies to side tilt in NORMAL patient orientation.
- A 500 lb (227 kg) rating applies to all REVERSE patient orientation.
- A 400 lb (181 kg) rating applies to 3080/3085 Orthopedic Extension accessory.
- A 400 lb (181 kg) rating applies to Fem/Pop Board.
- A 500 lb (227 kg) rating applies to the Amsco Shoulder Table.

NOTE: When performing surgery requiring a headrest accessory in a REVERSED patient orientation, do not exceed the 400 lb (181 kg) patient weight limit.

The Amsco 3085 SP Surgical Table is powered by either internal battery or facility electric power and accepts positioning commands from three sources:

***Important:** Battery powered tables should be completely charged prior to initial operation. Charge batteries as indicated in SECTION 4.4, BATTERY CHARGING PROCEDURE, before proceeding.*

WARNING – TRIPPING HAZARD: Route the power cord to the receptacle to minimize potential tripping hazards for staff.

1. A hand control (which includes Battery Discharge Status, Facility or Battery Power LED, Level, Flex/Reflex, Leg Up/Leg Down, Back Up/Back Down, Tilt Left/Tilt Right, Height Up/Height Down, Trendelenburg/Reverse Trendelenburg, Reverse/Normal Patient Orientation LED, Floor Lock/Unlock LED, ON/OFF). See Figure 3-1 of this document for control feature locations.
2. An optional physician-controlled foot control (which includes Trendelenburg Tilts, Side Tilts, and Height functions). See Figure 3-1 and *SECTION 3.2.1, OPTIONAL FOOT CONTROL OPERATION*.
3. An Auxiliary Override Control Panel permits table operation in the event of primary control malfunction [see Figure 3-1 for control feature locations and *SECTION 3.2.2, AUXILIARY (OVERRIDE)*

CONTROL SYSTEM]. The Head Section is manually adjustable.

3.2.1 Optional Foot Control Operation

NOTE: Refer to included Operator Manual (P150830-353; behind OPERATOR MANUAL Tab) for more detailed operating instructions.

The Amsco 3085 SP 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.
2. The foot control allows operator to control Up/Down, Trendelenburg/Reverse Trendelenburg and Right/Left Tilt movements.
3. Press and release any positioning pedal to switch table control ON.

   NOTE: When using the hand control and optional foot control at the same time, the hand control has priority.
4. If foot control is unplugged from table, ENSURE protective cover is placed over opening.

3.2.2 Auxiliary (Override) Control System

NOTE: Refer to included Operator Manual (P150830-353; behind OPERATOR MANUAL Tab) for more detailed operating instructions.

The Amsco 3085 SP Surgical Table is equipped with an auxiliary (override) control system. This system can be actuated at any time and will allow table operation in the event of primary control malfunction. An override control panel (see Figure 3-1) is located at the foot end of the Table Base and is used for table movements.

NOTE: The Amsco 3085 SP Surgical Table head section must be manually adjusted. When table is turned OFF, control system stores orientation status. Before any new positioning is attempted, ensure table patient configuration is correct.

3.3 HYDRAULIC SYSTEM

Refer to Hydraulic System Schematic P134469-303 (behind *REFERENCE DRAWINGS* Tab) for graphical information on hydraulic operation for the Amsco 3085 SP Surgical Table.

NOTE: "BHYD" = Bieri Hydraulic system.

3.3.1 Principles of BHYD Operation

There are 10 hydraulic cylinders in the BHYD system which allow for multiple articulations of the table. Left and right tilt require one cylinder. Leg up and down requires two cylinders. Column raise and lower requires one cylinder. Back raise and lower requires two cylinders. To obtain level compensating, the floor locks require three hydraulic cylinders. Articulations such as flex and Trendelenburg require the use of multiple cylinders, therefore requiring a series of directional and flow control valves.

The leg cylinder is protected by the use of an internal flow fuse valve. If a hydraulic line failure occurs, the flow fuse valve inside the cylinder will act as a check valve and prevent sudden falling of the table section.

The BHYD system incorporates six lowering brake check valves that act as fluid pilots for lowering and ports of restriction when actuated. Five three-position directional valves are used to select the particular articulation. Four two-position directional valves are used to control fluid flow for articulations involving the back seat section cylinders.

The 3085 SP Table is powered by an electrohydraulic system utilizing a special, high-efficiency gear pump that is driven by a 24 Vdc motor. The pump is rated at 0.25 gallons per minute (0.62 Lpm) and has a 1820 psi capacity. The system pressure-control valve reduces the operating pressure to 1750 psi (+50 psi, -25 psi). There is a manual foot pump for table operation in the event of power loss to the 24 Vdc motor.

The hydraulic fluid used in the 3085 BHYD system is filtered by two 10-micron filters at the output of the electric and manual pumps.

The early BHYD system utilized a special purpose valve, start/stop valve, S13. Its function is to release system pressure when not in use, ensuring smooth start and stop operation with minimal noise in slave valves S9S and S10S. The N.O. S13 valve is de-energized and the hydraulic fluid is diverted back to the reservoir.

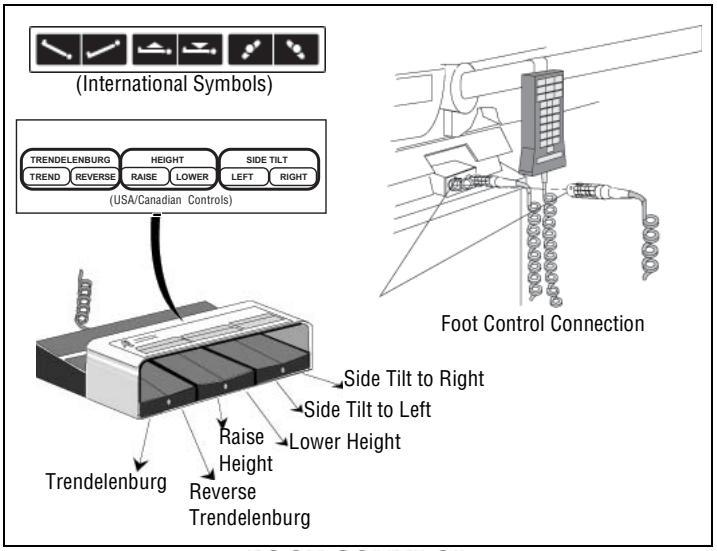
On the later BHYD system, S13 has been removed. System pressure bleeds to near zero in approximately two seconds following articulations through the normal leakage of the system spool valves. The electronic circuit remains unaffected and the S13 harness wires are tied back and no longer used.

NOTE: All articulations require either the Hydraulic Pump and Motor to be running and producing necessary pressure or the use of the manual foot pump.

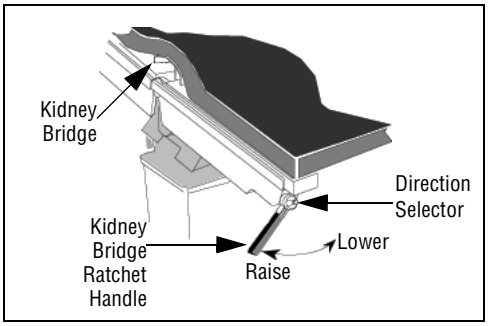
Electrical operation of the hydraulic system varies between hand control and auxiliary control operation.

3.3.2 Seat/Back Section Synchronization Variance

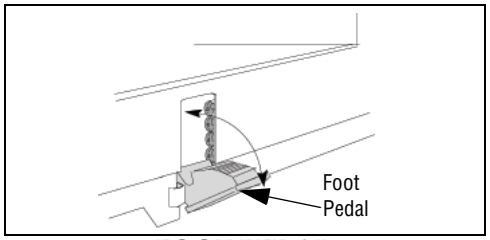
The amount of seat/back section synchronization variance on 3080/3085 SP Surgical Tables with Bieri 3 Hydraulic System may be at the high limit. If so, this can cause the seat and back sections to take a slight flex or reflex position when either the Trendelenburg or Reverse Trendelenburg functions are selected for minor adjustments multiple times.



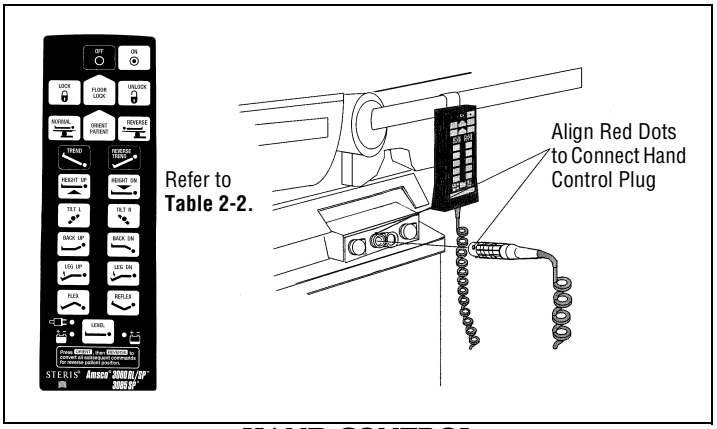
FOOT CONTROL



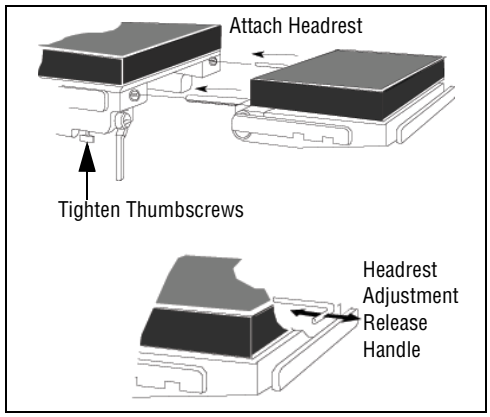
KIDNEY BRIDGE



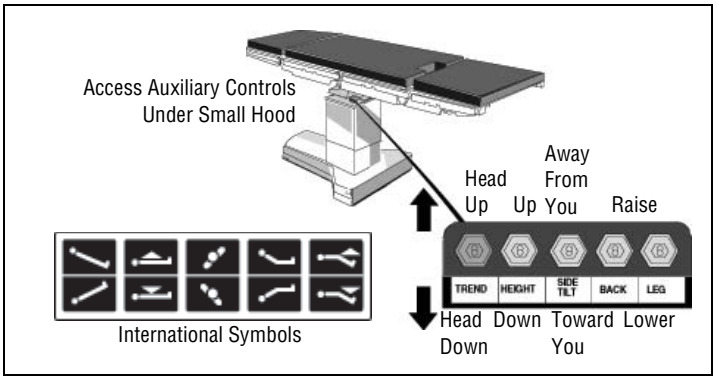
FOOT PEDAL



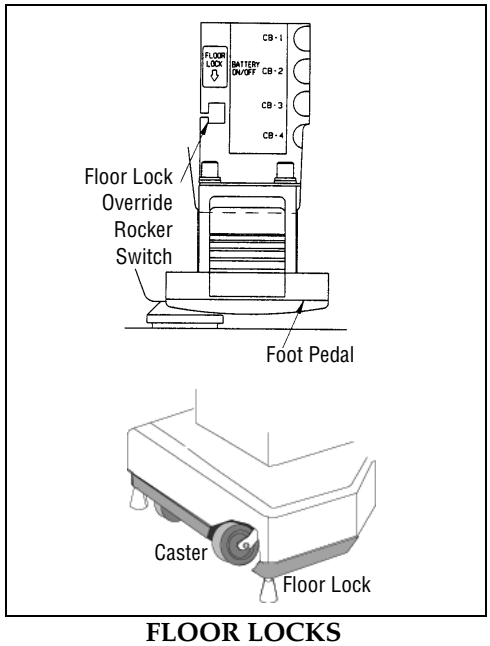
HAND CONTROL



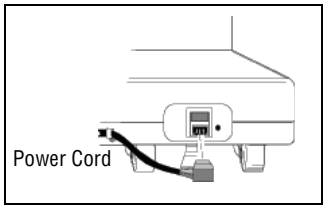
HEADREST



AUXILIARY CONTROLS (OVERRIDE SWITCHES)



FLOOR LOCKS



POWER CORD

Drawings are not to scale

Figure 3-1. Amsco 3085 SP Surgical Table Components (Typical)

This condition results from air becoming entrapped in the hydraulic system. Refer to *SECTION 7.28, HYDRAULIC SYSTEM AIR BLEED PROCEDURE*, for a procedure for bleeding the air from the hydraulic system. If the bleed procedure does not adequately reduce the seat/back section variance, Table Control Software 56400-112 Revision 6 is available to correct the condition.

3.3.3 Table Articulation/Operation

3.3.3.1 Side Tilt

See Figure 3-2 and refer to Hydraulic System Schematic (P134469-303) behind *REFERENCE DRAWINGS* Tab.

The side tilt articulations involve the use of one mechanically-locking hydraulic cylinder, two lowering brake check valves, one three-position directional valve (S1 and S2) and one start/stop valve (S13 on early motor and pump units).

Left side tilt is accomplished when solenoid S1 (and S13 on early motor and pump units) is energized. Fluid is directed through the S1 valve to the lowering brake check valve. At this point fluid is sent in two directions. One direction allows for fluid to pass through a check valve and straight to the cylinder. The second direction is diverted off to act as a pilot for the return line restrictor. Fluid from the cylinder is allowed to flow through the return line check valve, the restriction orifice and S1 back to the reservoir.

Right-side tilt is accomplished in the same manner as the left side (outlined above), but uses solenoid S2 (and S13 on early motor and pump units) instead.

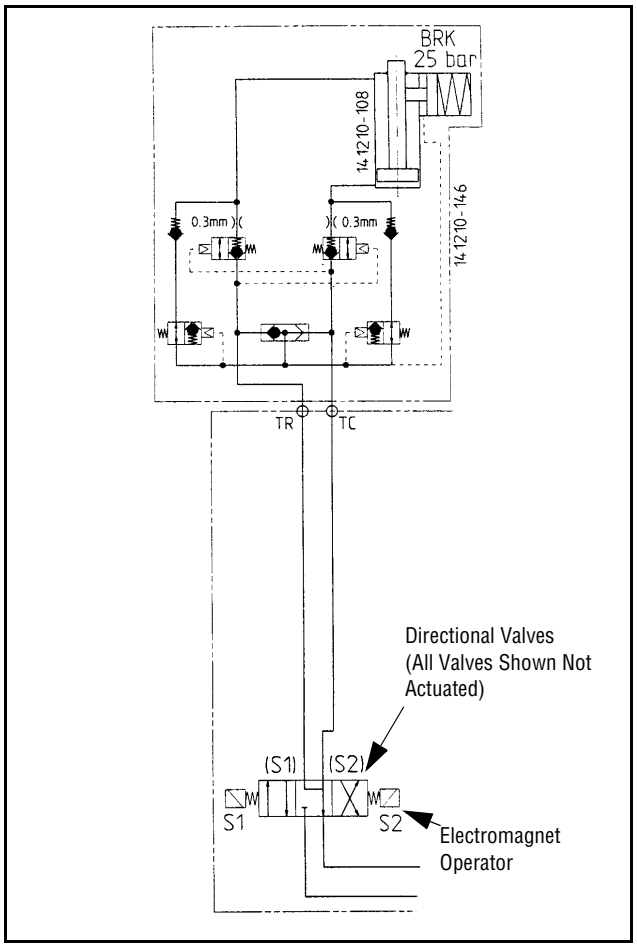


Figure 3-2. Side Tilt

3.3.3.2 Column Raise/Lower

See Figure 3-3 and refer to Hydraulic System Schematic (P134469-303) behind *REFERENCE DRAWINGS* Tab.

Raising and lowering of the tabletop involves the use of one cylinder, one three-position directional valve (S5 and S6), one lowering brake check valve and one start/stop valve (S13, on early motor and pump units). A variable orifice restrictor is added to the system at the inlet/outlet of the raise/lower cylinder. This device is used to assist speed control and to compensate for varying tabletop loads.

The tabletop is raised when S5 (and S13 on early motor and pump units) is energized. Fluid is directed to the lowering brake check valve where it passes through the valve and through the variable orifice restrictor to the lift cylinder and causes the tabletop to rise.

The tabletop is lowered when S6 (and S13 on early motor and pump units) is energized. Fluid is directed to the lowering brake check valve to actuate the return line restrictor, to control the lowering speed, and unseats the pilot check valve. Fluid from the cylinder passes through the variable orifice, back to S6 and on to the return port of the reservoir.

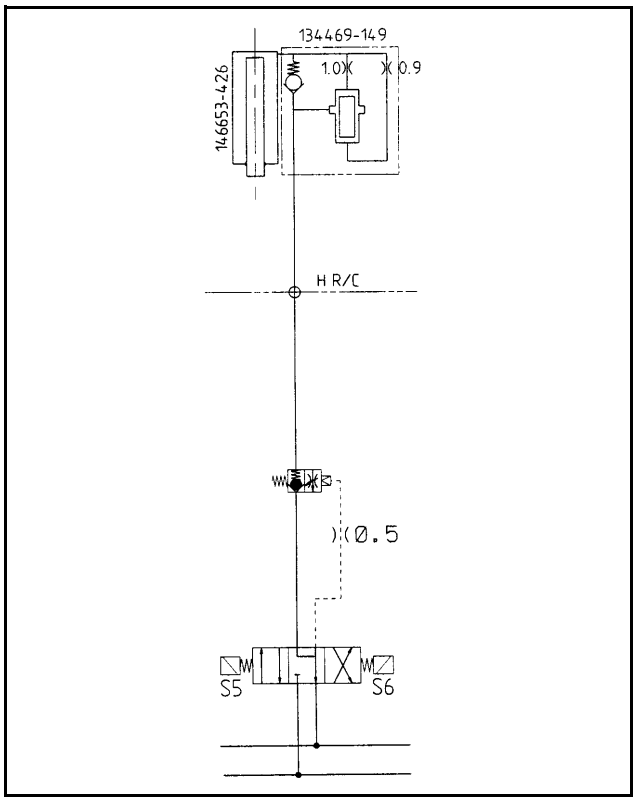


Figure 3-3. Column Raise/Lower

3.3.3.3 Leg Up and Down

See Figure 3-4 and refer to Hydraulic System Schematic (P134469-303) behind *REFERENCE DRAWINGS* Tab.

The leg up and down articulations require the use of two hydraulic cylinders, two lowering brake check valves, one three-position directional valve (S3 and S4) and one start/stop valve (S13, on early pump and motor units).

Leg up is accomplished when solenoid S3 (and S13 on early pump and motor units) is energized. Fluid is directed through the S3 valve to the lowering brake check valve. At this point fluid is directed two directions.

In one direction the fluid flows to the return line restrictor and actuates it to control the speed of the articulation. The second fluid direction unseats the holding check valve and allows fluid to flow to both of the cylinders. Return fluid from the cylinders comes back to the lowering brake valve and passes through the now activated restrictor port to the S3 valve and back to the reservoir.

Leg down is accomplished when solenoid S4 (and S13 on early pump and motor units) is energized. Fluid is directed through the S4 valve to the lowering brake check valve. Fluid is then directed in two directions. In one direction the fluid actuates the return line restrictor to control the articulation speed, and unseats the holding check valve. The second direction allows fluid to pass through an unrestricted port and on to the cylinders causing them to retract. The return fluid from the cylinders is directed back to the lowering brake check valve. The fluid passes the unseated check valve to the S4 valve and back to the reservoir.

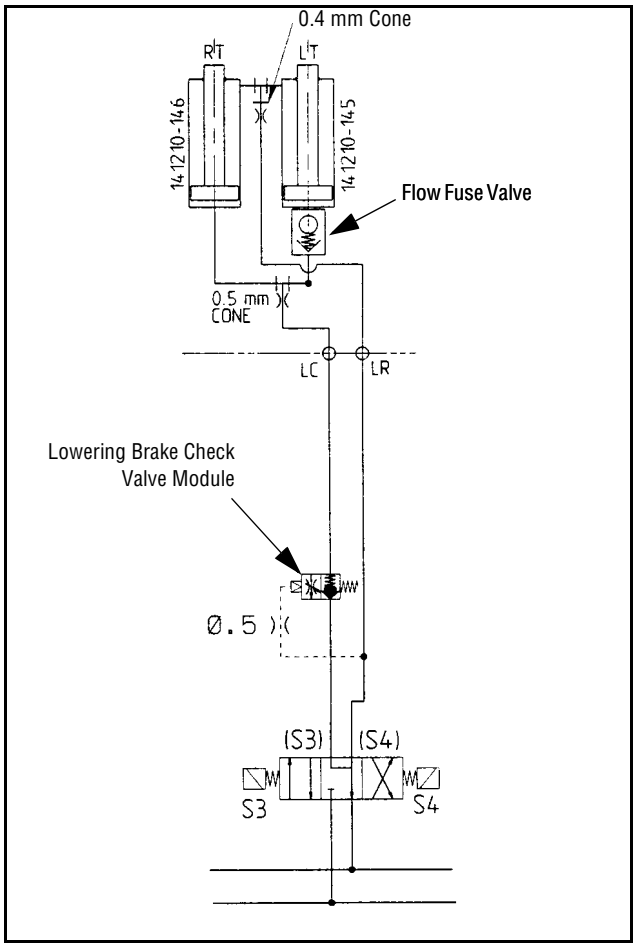


Figure 3-4. Leg Up and Down

3.3.3.4 Flex/Reflex

See Figure 3-5 and refer to Hydraulic System Schematic (P134469-303) behind *REFERENCE DRAWINGS* Tab.

Flexing and Reflexing the tabletop requires the use of one three-position directional valve (S-7 and S-8), two lowering brake check valves, two position directional valves (S-9S and S-10S), one start/stop valve (S-13, on early motor and pump units), two back cylinders and one seat cylinder.

The Flex articulation is accomplished by energizing the S-8 solenoid valve, allowing fluid to flow through the three-position directional valve. The fluid then flows to one lowering brake check valve and passes through its pilot check then on to the back cylinder two-position directional valve (S-10S).

NOTE: S-9 and S-10 solenoids are not energized during this articulation.

Fluid passes through the two-position directional (S-10S) valve and branches to the retract side of the back cylinders and also to the second lowering brake check valve where its pilot check is unseated and return line restrictor is actuated. Fluid leaving the back section cylinders passes through the two-position directional valve (S-10S) to the retract side of the seat cylinder. Having piloted the check valve, the fluid in the seat section is allowed to flow through the two-position directional valve (S-9S), the lowering brake check valve, the S-8 valve and back to the reservoir.

The Reflex articulation is accomplished by energizing the S-7 and S-13 (on early motor and pump units) solenoid valves allowing fluid flow through the three-position directional valve. The fluid then flows to one lowering brake check valve and passes through its pilot check and on to the seat cylinder two-position directional valve (S-9S) and to the extend side of the seat cylinder.

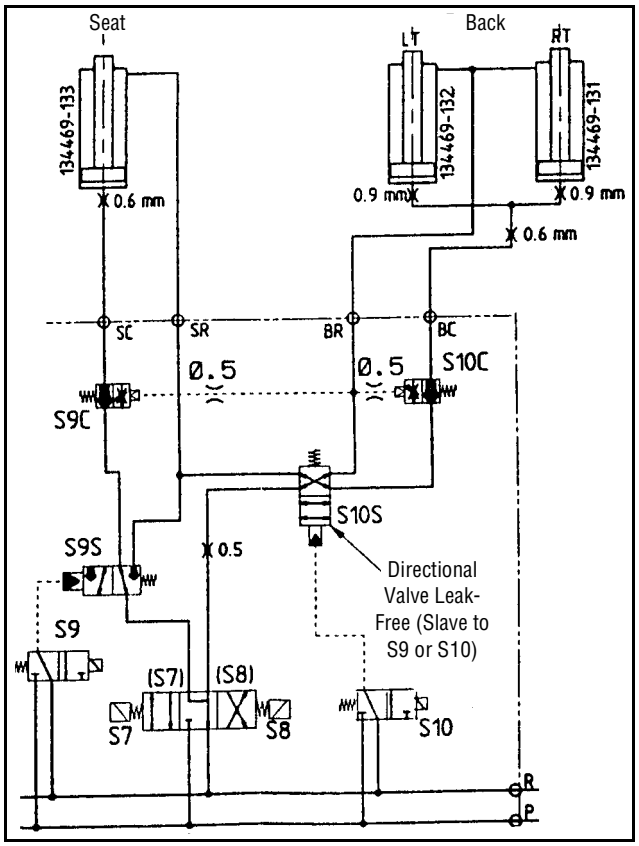


Figure 3-5. Flex/Reflex, Trendelenburg/ Reverse Trendelenburg and Back Up/Down

3.3.3.5 Trendelenburg/Reverse Trendelenburg

See Figure 3-5 and refer to Hydraulic System Schematic (P134469-303) behind *REFERENCE DRAWINGS* Tab.

These articulations require the use of one three-position directional valve (S-7 and S-8), three two-position directional valves (S-9S and S-10S), one electrical (S-10), two lowering brake check valves, one start/stop valve (S-13, on early motor and pump units), two back cylinders and the seat cylinder.

The Trendelenburg articulation is accomplished by energizing the S-7, S-10 and S-13 (on early motor and pump units) solenoid valves.

NOTE: Energizing the S-10 solenoid introduces fluid pilot pressure to S-10S two-position directional valve, causing it to actuate.

Fluid flows through the S-7 valve to the first lowering brake check valve. The fluid unseats the check valve and continues to flow to the two-position directional valve (S-9S), passing through it to the seat cylinder. Fluid leaving the seat cylinder is directed to the second two-position directional valve (S-10S) which is now in its actuated position state due to the energizing of S-10. Fluid passes through the second two-position directional valve (S-10S) to the retract side of the back cylinders and also branches off to actuate the return line restrictor and pilot the check valve in the lowering brake check valve. This allows fluid exiting the back cylinders to flow through the two-position directional valve (S-10S), the piloted lowering brake check valve, the S-7 valve and back to the reservoir.

The Reverse Trendelenburg articulation is accomplished by energizing the S-8, S-10 and S-13 (on early motor and pump units) solenoid valves.

NOTE: Energizing the S-10 solenoid introduces fluid pilot pressure to the S-10S two-position directional valve, causing it to actuate.

Fluid flows through the S-8 valve to the first lowering brake check valve. The fluid unseats the check valve and continues to flow through the two-position directional valve (S-10S), which is now in its actuated position due to the energizing of S-10, to the extend side of the back cylinders. Fluid leaving the back cylinders branches to the second lowering brake check valve to pilot it and to actuate the return line restrictor. The second branch passes through the two-position directional valve (S-10S) to the retract side of the seat cylinder. Fluid leaving the seat cylinder passes through the two-position directional valve (S-9S), through the now piloted check and restricting orifice in the lowering brake check valve, through the S-8 valve and back to the reservoir.

The shuttle valve S10 contains a return spring to ensure it fully reaches the home position after Trendelenburg and Reverse Trendelenburg articulations. A weak or faulty spring results in a downward drift of the seat section following the two articulations. A stiffer spring is available for replacement on Bieri 3 Hydraulic Systems only.

3.3.3.6 Back Up/Down

See Figure 3-5 and refer to Hydraulic System Schematic (P134469-303) behind *REFERENCE DRAWINGS* Tab.

The Back Up and Back Down functions require the use of one three-position directional valve (S-7 and S-8), three two-positioned directional valves (S-9S and S10S), (one electric, S-9), two lowering brake check valves, one start/stop valve (S-13, on early motor and pump units) and two back cylinders.

The Back Up articulation is accomplished by energizing the S-7, S-9 and S-13 (on early motor and pump units) solenoid valves.

NOTE: Energizing the S-9 solenoid introduces fluid pilot pressure to the S-9S two-position directional valve, causing it to actuate.

Energizing the S-7 and S-13 (on early motor and pump units) solenoids allows fluid to flow through the check valve on the first lowering brake check valve and to the two-position directional valve (S-9S). Fluid exits this valve and passes through the second twoposition

directional valve (S-10S) to the back cylinder extend ports. Fluid leaving the back cylinders branches to the second lowering brake check valve to unseat its pilot check and to actuate the return line restrictor. This allows fluid flowing from the other branch to pass through the two-position directional valve (S-10S), the now piloted lowering brake check valve, through S-7 and back to the reservoir.

The Back Down articulation is accomplished by energizing the S-8, S-9 and S-13 (on early motor and pump units) solenoids.

NOTE: Energizing the S-9 solenoid introduces fluid pilot pressure to the S-9S two-position directional valve, causing it to actuate.

Energizing the S-8 and S-13 (on early motor and pump units solenoids) allows fluid to flow through the check valve on the first lowering brake check valve, through the two-position directional valve (S-10S) where it branches to the retract ports on the back cylinders and to the second lowering brake check valve to pilot the check valve and to actuate the return line restrictor. Fluid leaving the Back cylinders flows through the two-position directional valve (S-10S) to the second twoposition directional valve (S9S), through it to the now piloted lowering check, through S-8 and back to the reservoir.

3.3.3.7 Floor Lock Operation

See Figure 3-6 and refer to Hydraulic System Schematic (P134469-303) behind *REFERENCE DRAWINGS* Tab.

The floor lock operation requires the use of one three-position directional valve (S-11 and S-12), one start/stop valve (S-13, on early motor and pump units), three flow control restrictors and three floor lock cylinders. Because the floor lock system relies on a mechanical over-centering method to lock the floor locks, check valves are not required for this hydraulic circuit.

The Floor Lock function is accomplished by energizing the S-12 and S-13 (on early motor and pump units) solenoid valves. This allows fluid to flow through the S-12 valve to the restrictors on the extend ports of each cylinder. Fluid flow is restricted as it is passed on to the cylinders, controlling the extend rate. Fluid leaving the cylinders returns back to the S-12 solenoid and back to the reservoir.

The Floor Unlock function is accomplished by energizing the S-11 and S-13 (on early motor and pump units) solenoid valves. This allows fluid to flow through the S-11 valve to the retract ports of the floor lock cylinders. Fluid exiting the cylinders passes through the flow control restrictors back to the S-11 valve and on to the reservoir.

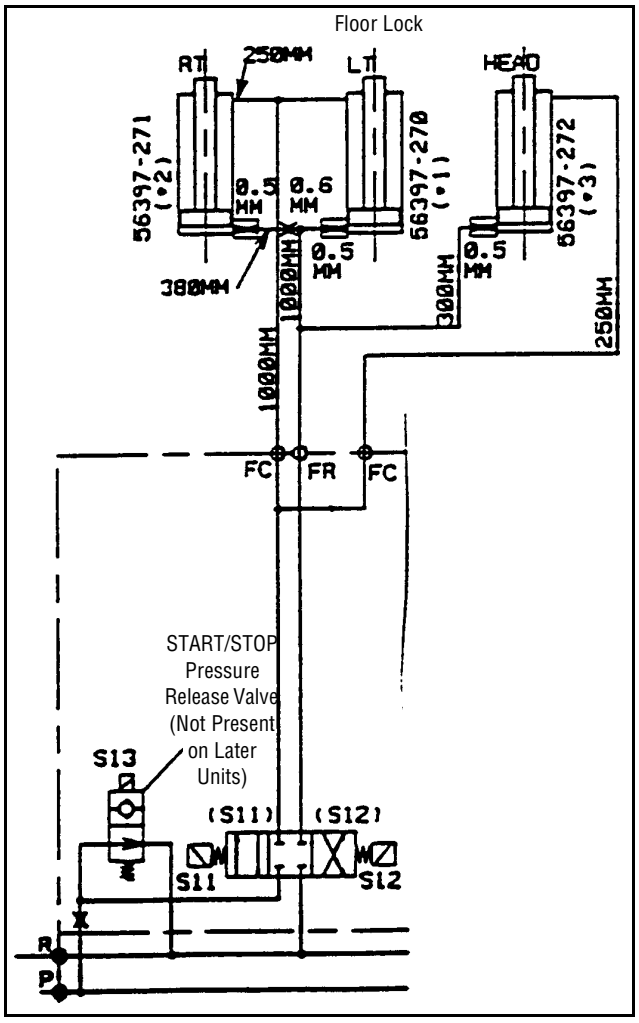


Figure 3-6. Floor Lock Operation

3.4 ELECTRICAL SYSTEM

3.4.1 System Description

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Static electricity can damage microprocessor controls. Indiscriminate probing of circuits or improper connections may result in immediate or delayed electrical failure. If the electronics are to be accessed, use a personal grounding device. Exercise care in all activities involving the electronic circuitry.

The Amsco 3085 SP Surgical Table control system is designed for maximum reliability and includes adequate system redundancy for almost any circumstance. The control system utilizes microprocessor technology to control the hydraulic pump and solenoid valves. The primary control system consists of a "master" and a "slave" computer. A secondary and separate override control system allows operation of basic table functions

should the primary microprocessor system become inoperative.

The master computer is located on the table column, while the slave computer is located in the hand control. Communication between the two is through a coiled cord (RS232 format). The master computer selects which outputs are to be actuated based on inputs from the hand control, foot control (optional) and table sensors. An Intel 8032 microcontroller is the heart of the master computer, with software stored on a 27C256 EPROM. Solenoid outputs are generated through an 8255, buffered with open-collector drivers. A watchdog timer and appropriate software monitor input/output signals to ensure graceful (instant) recovery should the I/O ports become configured in an erroneous state. Current sensors prevent the solenoids from being turned on by improper signals. Input isolation is also provided for the seat, raise, column and floor-lock limit switches. Input comparators indicate low-battery conditions, first through an LED on the hand control and, more specifically, on LEDs located on the table-control PC board mounted under the shroud.

The slave computer provides user inputs (from touch-pad switches) to the master computer. It also receives feedback signals and turns on the proper status LEDs. An Intel 80C31 microcontroller is the heart of the slave computer with software stored on a 27C256 EPROM. The LED buffer inputs and touchpad matrix strobe inputs are generated through an 8255. Like the master computer, a hardware watchdog timer and software routines ensure correct I/O port status. The use of microprocessors allows for complex control functions to be implemented with minimum hardware and through the use of a small, lightweight pendant control.

Simple yet reliable backup is provided by a secondary and separate override system which allows operation of basic table functions should the primary microprocessor system become inoperative. The override control assembly uses different and basic technology. It turns off microprocessor controls when actuated by opening all driver lines and actuating the function selected at the override switch PC board. It bypasses the solenoid power cut-back circuit and turns the pump motor and solenoids fully on.

Input lines are fused and include a line filter and transient protection. On older tables, the motor battery charger on battery equipped tables had an input voltage-selector switch (SW2) which allowed for table operation on 100, 120, 220 or 230/240 Vac, 50/60 Hz. On newer tables, the motor battery charger on battery equipped tables has an auto-select feature for the input voltage and so has no selector switch or jumpers. A battery-powered table includes a 24-Vdc, 24-AH rated battery for the pump motor. An integral battery charger requires 24 hours for 90% battery charge, 36 hours for 95%, and 48 hours for 100% charge. A minimum of 36 hours is recommended.

The input voltage selector switch on the new (IPX4) power supply assembly was removed. Input voltage selection is made using jumpers provided by the factory pre-configured for 120 Vac. Pre-IPX4 tables continue to use the same power supply which includes the two input voltage selector switches.

***Important:** The jumpers must be re-configured for use at other input voltages.*

3.4.2 Principles of Operation

3.4.2.1 Incoming Power

A line cord, fused in the table at F1 and F2 (6 amp at 120 Vdc, 4 amp at 240 Vac) feeds 120 Vdc (domestic units) to the line filter. The line filter supplies line voltage to the power transformer and each of two battery chargers (one charger if a line-powered table). Each charger is fused and the rating is based on line voltage.

3.4.2.2 Power Control Assembly

This module is located in the table base and contains the control battery charger and the power-control PC board. This circuit board monitors and controls the following:

- Battery and battery chargers
- Actuation and protection of the hydraulic pump and solenoid
- Power-up and line-cord operation relays
- Power cut-back circuitry
- AC signal indicator for the line-cord LED on the hand control.

Jumpers on the circuit board identify whether it is battery or line-cord (electric) type.

The battery charger(s) supply 24 Vdc to the control and to the motor batteries, provided the line cord is plugged in. Line-cord power is the primary power for battery tables. Battery voltage is monitored by the table control, through the hand control on power-up, and every 10 minutes thereafter. The table control sends a "charger off" signal to the power-control PC board to isolate the chargers and batteries, then monitors the battery voltage. If low voltage is sensed, the table control sends a low-battery signal to the low-battery LED on the hand control, as well as to the low-battery LED on the table control PC board.

Control power-up/power-down is generated on the power-control PC board via direct signals from the hand-control ON/OFF touch pads. These signals activate a latch relay on the power-control PC board which transfers the 24 Vdc signal to the table control PC board. This latch relay CR3, which is multipoled, also isolates the batteries

from the table control to conserve battery life when the unit is off, and powers the delay circuit for motor and coil enable. The latch relay can also be set (turn power off) from the override switch PC board whenever any of the manual switches is activated.

The hydraulic pump motor is activated using either the table function switches on the hand control or the function switches on the override board. In either case, a low (DC ground) signal is fed to switching transistor Q6, which provides 24 Vdc to motor. The control circuitry is protected from a locked or shorted pump motor by a current-monitoring circuit which opens the pump motor line when the current exceeds 25 amps. This circuit is automatically reset when the current drain is reduced or eliminated.

The hydraulic solenoid coils are also powered from the power-control PC board. The control circuitry is protected from shorted coils/components by a current-monitoring circuit. This circuit opens the solenoid voltage line when current exceeds 2.5 amps. The circuit is automatically reset when condition is corrected. A solenoid power-cut circuit is used by the control to save battery power. When the hand control is being used, the 24 Vdc solenoid voltage is cut to approximately 8 to 13 volts after the coil is energized. This current is enough to hold the hydraulic plunger open once it has been initially energized. The feature is not used when any of the override switches is activated.

The ac power indicator, located on the hand control, is sensed on the powercontrol PC board. When the line cord is plugged in, the battery charger energizes opto-isolator(s) that transfer a dc ground to the table control PC board for processing, which turns on the hand control LED.

A control reset signal from the table-control PC board energizes a timing circuit on the power-control PC board to delay (microseconds) the pump motor and hydraulic solenoid coil operating voltage until all I/O ports can be set. This prevents any erroneous table articulation at power-up.

3.4.2.3 Table Control PC Board

The table-control PC board (master computer) controls all table functions based on inputs from the hand control, foot control (optional) and table sensors. Communication with the hand control is through an RS232 format line.

The table-control PC board contains a dc-dc converter which reduces the 24 Vdc from the power-control PC board to 5 Vdc for use in this board and the hand control. Test points are on the board to monitor this voltage.

Battery voltages are monitored by comparators on the board. The circuit responds by indicating battery status to the hand control for display to the operator.

Floor-lock microswitch (two) signals are fed into the board, which responds by signaling the hand control to indicate floor-lock status and enabling hand control table operation. If an unlock indication is sensed by the table-control PC board, the hand control is disabled.

Foot control signals are input directly into the board via opto-isolators. The particular table function is activated when a dc ground is applied to the appropriate pin. The table must be on and properly oriented for this option to work.

The AC ON signal from the power-control PC board is processed by this board and transmitted, via RS232, to the hand control for display.

Signals from the limit switches for stopping the seat, back (back limit switch not present on later tables) and raise/lower cylinders are input directly into this board via opto-isolators. These switches will stop table movement prior to reaching a mechanical stop indicated by the hand control.

The I/O drivers provide a separate ground to each hydraulic solenoid coil when a table function is activated. The positive voltage, from the powercontrol PC board, is already prewired to each coil. All coil activation through the hand control is through this board.

When using the hand control, the motor ON signal is generated by the I/O driver board.

A watchdog timer monitors the transmit line from the table-control PC board to the hand control. This circuit is looking for a burst of information every 100 milli-seconds. If not sensed, the CPU will attempt to reset prior to an automatic cutoff.

NOTE: A jumper is used at P29, Pins 2 and 3, to configure for battery-operated tables.

3.4.2.4 Hand Control

The hand control houses the "slave" computer which controls all touch-pad switches (except ON and STOP/OFF) and all LED table-operation status indications.

Signals from the table function touch pads are acknowledged and transmitted, via an RS232 format line, to the table-control PC board which, in turn, activates the particular hydraulic solenoid. The LEDs next to the function touch pads indicate the operation status of the table as received from the "master" computer on the table-control PC board. The AC ON, BATTERY ON and LOW BATTERY LED signals are generated directly from the powercontrol PC board.

A watchdog timer monitors the transmit line of the CPU for proper bursts of information. A CPU reset is generated if a communications error is detected between the hand control and the table control.

The hand-control PC board is powered by +5 Vdc from the dc-dc converter on the table-control PC board.

3.4.2.5 Override Switch Control Board

All signals generated by the override switches are controlled by this board, i.e., all table-positioning and floor-lock switch signals. The hand control, table-control PC board and most circuitry on the power-control PC board are bypassed when any override switch is engerized. A 24-Vdc power supply, either from the batteries or from the line cord, is necessary to operate the hydraulic solenoid coils. It is not needed for the hydraulic pump since a foot operated pump backs up this device.

When an override switch is energized, four multi-poled relays (CR1, CR2, CR3 and CR4) are energized, isolating the hydraulic solenoid coils from the tablecontrol PC board and the hand control. Simultaneously, a dc ground signal is fed to the power-control PC board to turn on the hydraulic pump if possible (see note), and to turn off power to the hand control.

NOTE: If the line cord is plugged into the table or if motor-battery power is available (battery powered tables only), the hydraulic pump will come on. Otherwise, the control batteries are used along with the manual pump. The control batteries do not have the capability to run the hydraulic pump.

The second pole of the override switch applies a dc ground to the proper hydraulic coil for activation. Circuitry on the board prevents more than one switch being acknowledged.

A Resistive-Capacitive (RC) circuit exists on the CR3 and CR4 relay coils to time-delay-off these two relay coils if an override articulation has been selected. This is

Section 4: Inspection and 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.

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

4.1 GENERAL

In addition to the routine maintenance, regularly scheduled preventive maintenance is essential for safe and reliable operation of the equipment. Procedures described in this section of the Maintenance Manual should be performed at regular intervals as indicated in **Table 4-1**, *Preventive Maintenance Schedule*. The interval frequency should be increased with increased usage of the equipment. Should a problem occur, refer to **Table 5-1**, *Troubleshooting Guide*.

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Regularly scheduled preventive maintenance is required for safe and reliable operation of this equipment. Contact STERIS to schedule preventive maintenance.

A preventive maintenance program is available from STERIS to help ensure peak performance and to avoid unscheduled downtime. The program includes maintenance adjustments and replacement of worn parts by a qualified technician on a scheduled basis. Contact STERIS for details.

Important: *If table is to be placed in extended storage, have table prepared for storage by a qualified service technician. Ensure batteries are disconnected and check batteries before reconnecting. If table remains in extended storage for longer than six months, table must be operated through all articulations and the batteries charged every six months.*

4.2 PREVENTIVE MAINTENANCE SCHEDULE

Use **Table 4-1** as a Preventive Maintenance record and, along with the instructions in this section, as a guide to performing preventive maintenance. Preventive maintenance is not covered under warranty.

NOTE: For preventive maintenance, note the following:

1) *Recommended frequency of inspection is yearly. Usage/Utility conditions may necessitate fewer or more frequent inspections.*
2) *If repair or replacement is necessary, refer to SECTION 7: COMPONENT REPAIR AND REPLACEMENT, for instructions.*
3) *Never permit unqualified persons to service this equipment.*
4) *Maintain a record of all maintenance procedures performed on this table.*

4.3 CLEANING TABLE

4.3.1 General

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 which 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.

NOTE: The user must follow the requirements of the national committee responsible for hygiene and disinfection when cleaning table.

See **Table 4-3** for recommended cleaning products. Clean the entire table per the following procedures.

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

- Several clean, dry lint-free cloths.

(Continue on Page 4-4)

Table 4-1. Preventive Maintenance Schedule for Amsco 3085 SP Surgical Table

Service Required	Minimum Frequency
1.0 PREPARATION FOR PREVENTIVE MAINTENANCE	
1.1 Discuss equipment operation with department personnel.	Each Inspection
1.2 Remove pads. Examine pad covers and fastening strips (pads and table).	Each Inspection
1.3 Examine clamps and other side rail hardware. Tighten all visible screws on side rails.	1 x per year
1.4 Perform overall visual inspection of table, hand control and power cord.	Each Inspection
1.5 Check X-Ray tops for standoffs tightness and signs of cracking.	2 x per year
1.6 Verify cap shroud integrity.	2 x per year
1.7 Unfasten and remove table shrouds and base cover.	Each Inspection
2.0 HYDRAULIC SYSTEM	
2.1 Check hydraulic oil level.	1 x per year
2.2 Inspect floor directly beneath table and all hoses, fittings and components of hydraulic system for evidence of oil leaks.	1 x per year
3.0 CASTERS AND FLOOR LOCKS	
3.1 Clean and inspect casters.	2 x per year
3.2 Check floor-lock mechanism for proper operation. Have qualified Service Technician adjust if needed.	1 x per year
3.3 Inspect table stability with floor locks engaged and on casters.	1 x per year
3.4 Check pin and foot assemblies. Replace as needed.	1 x per year
3.5 Verify all foot pads are present.	2 x per year
4.0 CONTROLS	
4.1 Using hand control and/or optional foot control, check table positioning.	2 x per year
5.0 ELECTRICAL CHECKS	
5.1 Ensure all circuit board connectors and cable plugs are tight.	1 x per year
5.2 Check all cables for damage or fraying.	1 x per year
5.3 Inspect electrical cord and hand control cable.	2 x per year
5.4 Check operation of circuit breaker CB-2 with table using battery power.	2 x per year
5.5 Verify operation of Auxiliary (Override) Control System.	2 x per year
5.6 Verify condition of batteries and battery charger status.	1 x per year
5.7 Measure voltage of both batteries. Difference in readings must be less than 0.2 V. Perform articulations for at least two minutes. Voltage must not drop more than 0.6 V. Wait two minutes and verify voltage has risen by 0.3 V at most. Supply 120 V and ensure voltage rises above 28 V.	1 x per year

Table 4-1. Preventive Maintenance Schedule for Amsco 3085 SP Surgical Table (Cont'd)

Service Required	Minimum Frequency
6.0 TABLETOP OPERATION	
6.1 Check operation of **Return-to-Level** function.	2 x per year
6.2 Check operation of back section.	2 x per year
6.3 Check operation of leg section.	2 x per year
6.4 Check lateral tilt operation.	2 x per year
6.5 Check Trendelenburg, then Reverse Trendelenburg operation.	2 x per year
6.6 Check raise and lower operation.	2 x per year
6.7 Check headrest section operation.	2 x per year
7.0 TABLE RIGIDITY	
7.1 Check tabletop for any horizontal/vertical play. Adjust as needed.	2 x per year
7.2 Check side tilt mechanism for play and ensure screws on top clevis and bottom support bracket are secure.	2 x per year
7.3 Ensure saddle pin is properly inserted and pipe plugs are tight.	2 x per year
8.0 FINAL TEST	
8.1 Examine all lubricated parts. Apply lubrication (Lubriplate No. 2, R6400-826) as needed.	1 x per year
8.2 Secure all covers and shrouds using sealant as presented in *SECTION 7.3, IPX4 PROCEDURES*.	Each Inspection
8.3 Ensure all Safety Precautions labels are present and readable.	Each Inspection
8.4 Wipe down all tabletops and shrouds.	Each Inspection
8.5 Reinstall any pads that were removed. Check for rips, tears, etc.	Each Inspection
8.6 Inspect area to ensure removal of all materials used during inspection.	Each Inspection

- Container of clean water.
- Cleaning products listed in **Table 4-3**, Recommended Cleaning Products.

When using disinfectants, follow all manufacturer's label recommendations.

4.3.2 After Each Usage

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 pressure clean the Amsco 3085 SP Surgical Table.**
- **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 and tabletop are completely dry before reinstalling. Failure to do so can result in damage to tabletop and pads.**

After each use of the Amsco 3085 SP 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. (It is recommended to clean only one pad at a time.) Carefully avoid any pad seams.

      NOTE: Do not use any oxidizing products with chloric derivative base such as bleach, or oxygenic derivatives such as peracetic acid.

   d. Wipe sprayed surfaces with a clean lint-free cloth dampened with water to remove cleaning fluid (dampening cloth will minimize 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 cloth dampened with water to remove cleaning fluid (dampening cloth will minimize 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. Unplug hand control. Note hand control plug is locked, do not simply pull on plug.
6. Clean hand control 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 cloth dampened with water to remove cleaning fluid (dampening cloth will minimize streaking).
   c. Wipe cleaned surfaces again with a clean, damp, lint-free cloth to remove residue.
   d. Wipe cleaned surfaces again with clean, dry, lint-free cloth to remove all moisture.
7. If necessary, brush tabletop and pads fastening strips with a non-metalic brush.

4.3.3 End-Of-Day Cleaning Procedure

At the end of each day, perform the cleaning procedures as outlined in *SECTION 4.3.2, AFTER EACH USAGE*.

4.3.4 Weekly Cleaning Procedure

After each weekly use of the Amsco 3085 SP Surgical Table, clean/disinfect table as follows:

1. Perform **Steps 1 through 4** of *SECTION 4.3.2, 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. Ensure items such as suture, oils and floor wax are removed.
   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 **Steps 5 and 6** of *SECTION 4.3.2, AFTER EACH USAGE*.

4.4 BATTERY CHARGING PROCEDURE

4.4.1 Electric-Powered Tables

Control batteries* are recharged automatically when table is being used and do not require additional charging.

* *All motor and control batteries are a sealed, lead-acid gel electrolyte-type, with a nominal life of four years.*

4.4.2 Battery-Powered Tables

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 potential tripping hazard for staff.

Motor and control batteries* will require recharging on a periodic basis depending on table usage. Low or discharged battery conditions are indicated by LEDs on the hand control as explained in *SECTION 7, TROUBLESHOOTING, "HAND CONTROL DIAGNOSTIC CHART"*, of the Operator Manual.

Recharge batteries at the following times:

- When table is first put into service.
- Every two weeks when table is in normal service; more often if usage demands.
- Whenever low battery indicator LED is on.
- If table remains in extended storage for longer than six months, batteries must be charged every six months.

NOTE: If batteries will not charge, refer to SECTION 5, TROUBLESHOOTING, for possible causes and corrective actions.

* *All motor and control batteries are a sealed, lead-acid gel electrolyte-type, with a nominal life of four years.*

Recharge batteries as follows:

1. Connect ac power cord to table base and plug into an appropriate ac receptacle.
2. Allow **a minimum of 48 hours** for full battery charge. See chart below:

Charging Time	Portion Charge
24 hours	90%
36 hours	95%
48 hours	100%

3. Verify low battery indicator LED is OFF and disconnect ac power.

4.5 RESET CIRCUIT BREAKERS

NOTE: For tables after S/N 0425709074, CB2 is a switch style circuit breaker.

Four circuit breakers (CB-1, CB-2, CB-3 and CB-4) protect various table components* and may be reset if tripped by a fault condition. When tripped, the circuit breaker will pop out and is readily detectable.

Reset circuit breakers as follows:

1. Lower foot pedal on table base to access the circuit breakers (located on right of opening when foot pedal is down). See Figure 4-1.
2. Press in on the protective boot covering the circuit breaker to reset.
3. Raise foot pedal back into stored position.

* *CB-1 protects power transformer.*
CB-2 protects motor batteries and has extra internal manual on/off switch.
CB-3 protects motor battery charger.
CB-4 protects control power supply.

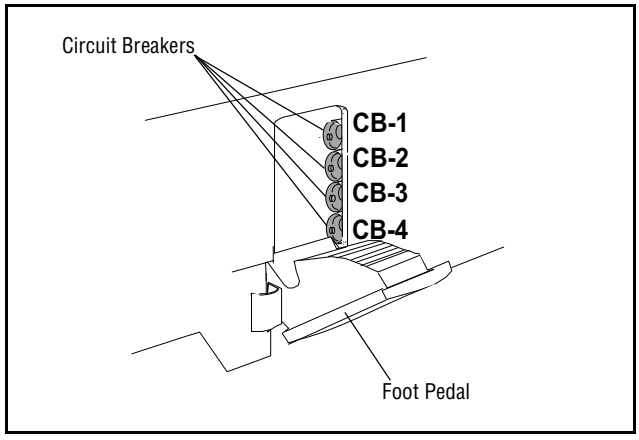


Figure 4-1. Circuit Breakers

4.6 CHANGE FUSES

Two replaceable fuses (F1 and F2, 6 Amp for 120 Vac input; 4 Amp for 220 Vac input) are located in a cartridge above the ac input in the table base. If one or both of the fuses are blown by a fault condition, replace as follows:

1. Disconnect ac power cord from wall receptacle and table base input (see Figure 4-2).
2. Pry cartridge out with a small screwdriver to access fuses.
3. Remove blown fuse(s) and replace. Refer to **Table 4-2** for correct part number of fuses.
4. Push cartridge back into connected position and reconnect ac power cord to table. Plug cord into wall receptacle.

Two replaceable fuses (F3 and F4) are located internal to the table. These require removal of the base shroud for access. Replacement of these fuses must be made only by fully qualified service technicians. See **Table 4-2** for correct rating and part number.

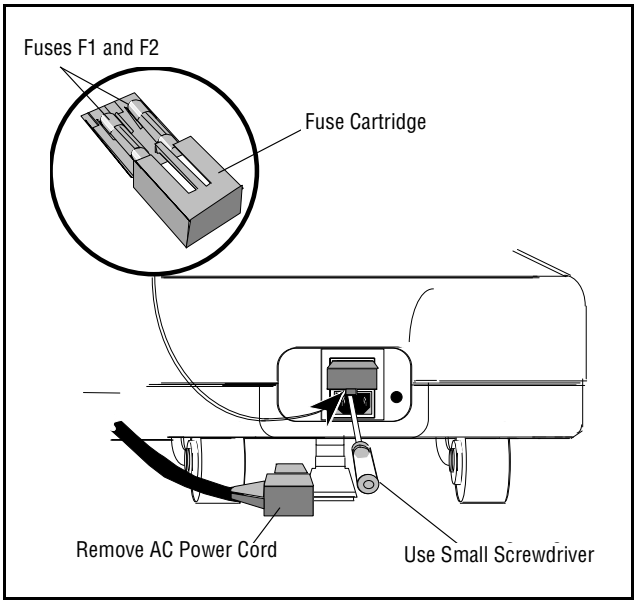


Figure 4-2. Fuse Location

4.7 DISCONNECT MOTOR BATTERY

NOTE: For tables after S/N 0425709074, CB2 is a switch style circuit breaker.

CB-2 circuit breaker, in addition to being a protective device, includes an internal manually operated ON/OFF switch. If necessary, the motor battery can be disconnected from the table circuit as follows:

1. Press in on the protective boot covering the CB-2 circuit breaker until a "click" is felt.
2. Release the button.
3. In the OFF position, the button is popped out much the same as when the circuit breaker is tripped. To reset, see *SECTION 4.5, RESET CIRCUIT BREAKERS*.

4.8 REPLACEMENT PARTS AND SUPPLIES

Use only STERIS-authorized parts on this equipment. Use of unauthorized parts will void the warranty. Refer to *ILLUSTRATED PARTS BREAKDOWN*.

To order supply products, proceed as follows:

1. Include description as listed in **Table 4-2** or **Table 4-3**.
2. Include model and serial numbers of your equipment on your order.
3. Send your order directly to STERIS Sales and Service Center serving your area.

Table 4-2. Amsco 3085 SP Replacement Parts

Description	Part Number	Recommended Spares
Power Cord Types Available		(See NOTE 5)
• USA Plug, USA Cord	P764324-271	1
• USA Plug, IEC Cord	P056397-682	1
• Schuko Plug, IEC Cord	P056397-687	1
• Australian Plug, Orange Cord	P056397-686 (See NOTE 2)	1
• English Plug, IEC Cord	P056397-684	1
Fuse Applications (See NOTES 3 and 4)		
• **100 Vac Application**		
F1 and F2	P150823-292 (6 Amp, IEC)	10
F3	P129360-586 (0.5 Amp, IEC)	5
F4	P150830-131 (1.6 Amp, IEC)	5
• **120 Vac Application**		
F1 and F2	P150823-292 (6 Amp, USA)	10
F3	P093909-222 (0.5 Amp, USA)	5
F4	P089371-091 (1 Amp, USA)	5

Table 4-2. Amsco 3085 SP Replacement Parts (Cont'd)

Description	Part Number	Recommended Spares
• **220/230/240 Vac Application**		
F1 and F2	P129360-587 (4 Amp, IEC)	10
F3	P129360-585 (0.5 Amp, IEC)	5
F4	P129360-586 (0.5 Amp, IEC)	5
Batteries	(See NOTE 1)	(See NOTE 1)

NOTES:

1) 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 should be recharged every six months to minimize life 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.

2) The cords are approximately 6 m (20') long, except for Australian cord which is 4 m (13') long.

3) USA fuses are AGC or ABC or MTH, and are also for use in Canada.

4) IEC fuses are IEC glass fuses. IEC F3 and F4 fuses require IEC fuseholder (STERIS part number P129360-654).

5) One spare of the type you use. If your plug is not in this list, order the Power Cord type nearest to your applications, cut the plug off and install your plug in its place. Always use a grounded plug.

Table 4-3. Recommended Cleaning Products

Product Name	Product Use
Coverage® Spray HB Plus Ready-to-Use One-Step Disinfectant	Hospital-grade quaternary-based disinfectant spray
Coverage® HB Concentrated Disinfectant Cleaner	EPA-registered Hepatitis-B-effective quaternary
T.B.Q.® Hard Surface Disinfectant	Detergent-based germicide
Germicidal Surface Wipes Disinfecting/Deodorizing/ Cleaning Wipes	Surface disinfectant

Recommended active ingredients: quaternary ammonium propionate; guanidium acetate; N-propanol.

Avoid: oxidizing products made with chlorine derivatives such as Javel water or oxygenated derivative such as peracetic acid.

If unsure of compatibility, contact STERIS.

Section 5: Troubleshooting

IMPORTANT: A listing of the *SAFETY PRECAUTIONS* to be observed when operating and servicing this equipment can be found in *SECTION 1* of this manual. Do not operate or service the equipment until you have been trained on this information.

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.**

WARNING – ELECTRIC SHOCK HAZARD: Unplug surgical table from facility electrical supply and open CB2 to remove battery power before servicing. Always follow appropriate electrical safety-related work practice standards.

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 5/8" (16 mm). Avoid door and elevator jambs, and obstructions greater than 5/8" (16 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.

5.1 GENERAL

This section describes the types of Amsco® 3085 SP Surgical Table malfunctions or situations that may occur and indicates possible causes and suggested actions for remedy. See **Table 5-1** for a complete listing and description of table situations.

If unable to correct the situation following the Troubleshooting Guide or a situation occurs that is not described in this section, please call STERIS. A trained service technician will promptly place your Amsco 3085 SP Surgical Table in proper working condition.

Calling For Service: First, try to define the situation and determine whether you can solve it yourself (see **Table 5-1**). If you can't solve the situation, call STERIS and give the following information for the table: model number, serial number and date of purchase.

NOTE: When troubleshooting, note the following:

1) *Never permit unqualified persons to service this table.*
2) *When power supplies are operational and the table is plugged into Facility power, the ON touch pad green LED and ac power green LED are ON.*

Use **Table 5-1** as follows:

- Situation - select the situation that best describes the symptom the table is exhibiting.
- Cause - determine what has occurred to set off the alarm or create this situation.
- Service Instructions - follow the list of conditions that should be checked to isolate and correct the one causing the problem. The instructions are listed in the order in which they should be completed.

NOTE: When quickly articulating the table through various repeated movements, the synchronization of the tabletop sections can get out of alignment and the hand control may stop functioning properly. To prevent this condition, the user should perform a return-to-level function after each procedure. This will keep the variance over multiple articulations to a minimum.

Table 5-1. Troubleshooting Guide

Situation	Cause	Service Instructions
1. Cannot turn table ON.	Hand control not connected or defective.	1. Hand control not connected - connect. 2. Hand control defective - replace.
2. No power to pump motor: table will not articulate.	Table not receiving power.	1. Table unplugged (electric-powered table only) - plug table into facility power. 2. No facility power (electric-powered table only) - turn facility power ON. 3. F1 or F2 fuse blown (electric-powered table only) - replace fuse(s). 4. AC power cord defective (electric-powered table only) - replace power cord. 5. Batteries totally discharged (battery-powered table only) - recharge batteries. 6. Circuit Breaker CB-1 tripped (electric-powered table only) - reset. 7. Circuit Breaker CB-2 tripped (battery-powered table only) - reset.
3. Motor batteries will not charge (battery-powered table only).	Power cord or circuit breaker situation.	1. Circuit Breaker CB-4 tripped - reset. 2. Circuit Breaker CB-2 tripped - reset. 3. AC power cord defective - replace power cord.
4. Control ON, green AC LED is ON and red BATTERY LED is flashing (battery-powered table only).	Batteries low or discharged - AC power connected.	Charge batteries.
5. Control ON - green BATTERY LED ON and red BATTERY LED flashing.	Batteries low or discharged. *NOTE: If batteries are totally discharged, control shutdown occurs after 3-1/2 minutes when table is in use or after 30 seconds if condition exists at power up.*	Charge batteries.
6. Control ON - green BATTERY LED (only) ON when table plugged into ac receptacle.	Faulty battery charger or power circuit (battery-powered table only).	1. Check ac power cod - replace power cord. 2. Check F1 and F2 fuses - replace fuse(s) if necessary. 3. Reset circuit breaker CB-3. 4. Reset circuit breaker CB-4. 5. Reset circuit breaker CB-1.

Table 5-1. Troubleshooting Guide (Cont'd)

Situation	Cause	Service Instructions
7. All green, yellow and red LEDs flashing.	Faulty communications.	1. Check hand control connection. 2. Replace hand control if necessary.
8. Green ON LED flashing.	Control logic error or faulty foot control.	1. Optional foot control switch was actuated when hand control switched ON; control logic error disables foot control functions - turn hand control OFF, then ON to reset controls. 2. Faulty foot control - replace foot control.
9. All LEDs are OFF.	Facility power situation or table control has shut power down.	1. Hand control unplugged while table control ON - control automatically shuts OFF after two minutes. Reconnect hand control. 2. Facility power OFF (electric-powered units only) - control automatically shuts off six hours after last function selected. Reconnect ac power cord. 3. Floor locks unlocked (battery-powered units only) - control automatically shuts off after 30 minutes after last function selected. Activate floor locks. 4. Facility power OFF (battery-powered units only) - control automatically shuts off 24 hours after last function selected.
10. Hand control does not physically plug into table.	Hand control plug does not slide into receptacle.	1. Check control connector - standard hand control has 6-pin connector and does not fit HERMES-Ready 3085 SP table. HERMES-Ready control has 18-pin connector and will not fit standard 3085 SP table. 2. Check plug and receptacle for damage - replace any deformed plug or receptacle. *NOTE: For troubleshooting of the optional HERMES-Ready system, refer to the HERMES Operating Room Control Center Operating and Maintenance Manual, provided with the HERMES System.*
11. Hand control stops functioning.	Table stops responding to hand control commands after a high number of commands are inputted.	1. Turn table OFF, then ON. 2. Use the Return-to-Level function occasionally, i.e., after each surgical procedure.

Table 5-1. Troubleshooting Guide (Cont'd)

Situation	Cause	Service Instructions
12. Table cannot be turned ON by hand control.	Electrical system malfunction.	1. Check table operation using override switches - proceed to **Situation 13**. 2. Listen for operation of CR3 in power-control assembly when ON/OFF switches are activated - check continuity of ON circuit from hand control to power assembly and either replace hand control or repair open wire. 3. Listen for operation of CR3 in power-control assembly when ON/OFF switches are activated - check for 24 Vdc on P1-6 and P1-9 and replace power control PC board if no voltage. 4. Check for 5 Vdc on table control PC board - check P5/P1 cable continuity and repair or replace cable. 5. Check for 5 Vdc on table control PC board - replace table control PC board.
13. No override switch operation with line cord plugged in.	Electrical system malfunction.	1. Check F1 and F2 line fuses - replace if missing or blown. 2. Check CB1 - reset circuit breaker. 3. Check for 24 Vdc across P6-2 and P6-13 - replace power control PC board. 4. Check for 24 Vdc at hydraulic pump motor terminal board with a switch activated - repair or replace pump motor if voltage is present. 5. Check for "E motor on signal" at P5-15 with a switch activated (should be at dc ground potential) - replace power control PC board if signal is present. 6. Check for 24 Vdc solenoid coil voltage at P5-1 - replace power control PC board if no voltage present. 7. Check P8 and P5 for continuity or loose plugs - repair or replace cable. 8. Check override switches for continuity - replace override switch board. 9. Check P9/P10 cable for continuity or loose plugs or pins - repair/replace cable, replace override control board.

Table 5-1. Troubleshooting Guide (Cont'd)

Situation	Cause	Service Instructions
14. No override switch operation when line cord is not plugged in.	Electrical system malfunction.	1. Check table operation when line cord is plugged in - proceed to **Situation 13**. 2. Check control and motor battery voltages - charge batteries by plugging cord into facility power. Proceed to **Situation 15**. 3. Check wiring and cable plugs between batteries and power control PC board - repair cable or replace power control PC board.
15. Batteries do not charge, low battery or depleted battery on hand control.	Electrical system malfunction.	1. Check line fuses F1 and F2 - replace if blown. 2. Check charger line fuses F3 and F4 (battery-powered table only) - replace if blown. 3. Check charger circuit breakers CB3 (control), CB4 (motor) and CB2 (motor battery) - reset circuit breaker. 4. Check for +24 Vdc at charger output (for isolation, disconnect battery prior to measuring) - no voltage, replace battery charger. 5. Check all cables between batteries and charger - if OK, replace batteries or power control PC board. 6. Check for charger voltage on wires to battery (for isolation, disconnect battery prior to measuring) - no voltage, replace power control PC board.
16. No hand control "AC ON" LED ON when table is plugged into Facility power.	Electrical system malfunction.	1. Check for battery charger voltage(s) - see **Situation 15**. 2. Check for 24 Vac (transformer secondary) across P6-9 and P6-10) - Reset CB1, replace transformer and/or power control PC board. 3. Check for 0 Vdc (dc ground potential) at P5-6 or P1-21 - replace power control PC board. 4. Check P1/P5 cable for continuity - replace power control PC board.
17. AC ON LED will not go OFF when line cord is unplugged.	Electrical system malfunction.	Disconnect wire #69 at P5-6 or P1-21 - if LED goes OFF, replace power control PC board; if LED stays ON, replace table control PC board.

Table 5-1. Troubleshooting Guide (Cont'd)

Situation	Cause	Service Instructions
18. Floor lock LOCK LED does not come ON.	Electrical system malfunction	1. Check LS1 and LS2 switch adjustment on back locking legs - adjust switches. 2. Check solder joints at microswitch terminals - resolder as necessary. 3. Carefully ground (dc ground) wire #82 at P27-1 to simulate floor locks LOCKED - check continuity between P1-20 and P27-1. 4. Check at P1-20 - replace table control PC board if LOCK LED does not come ON.
19. Table does not raise with hand control, pump operates.	Electrical system malfunction	Ensure LS5 (raise) limit switch is energized if table is at other than full height - adjust or replace switch assembly.
20. Table does not flex or Reverse Trendelenburg with hand control.	Electrical system malfunction	Seat limit switch (LS3) is defective, stuck or out of adjustment - adjust or replace switch assembly or replace rubber boot.
21. Table does not flex or Trendelenburg with hand control.	Electrical system malfunction	Seat limit switch (LS4) is defective, stuck or out of adjustment - adjust or replace switch assembly or replace rubber boot.
22. Green ON LED flashing.	Electrical system malfunction	1. Optional foot control switch was actuated when hand control switched ON; control logic error disables foot control functions - turn hand control OFF then ON to reset controls. 2. Faulty foot control - foot control function is disabled - replace foot control.
23. Return to Level Failure; selected but no motion.	Electrical system malfunction	Ensure P28, 29, 31, 32, 33, 34, 35 and 36 connectors are secure.
24. Return to Level Failure; one section continues past level.	Electrical system malfunction	Short in level switch - test with ohmmeter and replace as necessary. *NOTE: If leg section faulty part, entire section (P136807-731) must be replaced and readjusted as described in SECTION 7: COMPONENT REPAIR AND REPLACEMENT.*
25. Return to Level Failure; one section not at level but does not move.	Electrical system malfunction	Open level switch - test with ohmmeter and replace as necessary. *NOTE: If leg section faulty part, entire section (P136807-731) must be replaced and readjusted as described in SECTION 7: COMPONENT REPAIR AND REPLACEMENT.*

Table 5-1. Troubleshooting Guide (Cont'd)

Situation	Cause	Service Instructions
26. Table articulates with NO input from hand control or override command.	Electrical system malfunction	Faulty override switch board from liquid exposure - replace override switch board and verify RTV is applied around bellows for fluid intrusion protection.

Table 5-2. Battery Diagnostics

Battery	Low Battery LED Status	
	ON	Flashing
Motor	22.7 Vdc	21.6 Vdc
Control	23.6 Vdc	22.7 Vdc

5.2 ELECTRICAL TROUBLESHOOTING

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Isolate the coil and/or pump motor from the power control by disconnecting the wires on the motor terminal board, or slip the wires off the solenoid coil that is being worked on.

See Troubleshooting Guide (**Table 5-1**) for a sequence of steps to use to identify and correct most electrical problems encountered. Also refer to the electrical schematics behind *REFERENCE DRAWINGS* tab when using the Troubleshooting Guide.

Refer to *SECTION 3.3, HYDRAULIC SYSTEM*, when the cause of the problem appears to be hydraulic.

Refer to **Table 5-2**, Battery Diagnostics, to determine proper battery voltages (battery-operated tables only).

Electrical Troubleshooting Guidelines:

- Before replacing any PC boards or other components suspected of being defective, ensure all cable plugs are fully inserted into their respective jacks.
- Ensure all cable pins are installed and locked into place on the plug(s).
- When making any dc voltage measurements, reference the dc ground, not the chassis ground. (These two points are isolated from each other.)

  The pump motor and/or the hydraulic solenoids can be checked by applying 24 Vdc only directly to the component.
- To completely disconnect power to the table, the line cord as well as the batteries must be disconnected.
- When resoldering or replacing any of the table or floor-lock microswitches, isolate the control by disconnecting its associated plug.

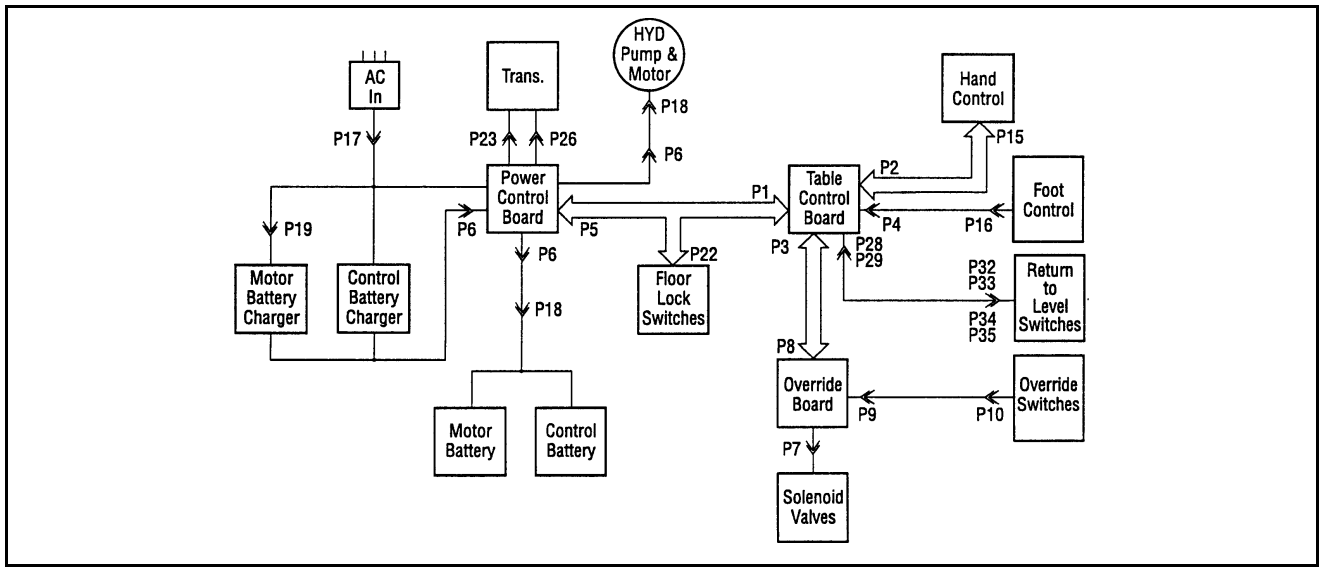


Figure 5-1. Amsco 3085 SP Surgical Table Block Diagram

Section 6: Field Test Procedure

IMPORTANT: A listing of the *SAFETY PRECAUTIONS* to be observed when operating and servicing this equipment can be found in *SECTION 1* of this manual. Do not operate or service the equipment until you have been trained on this information.

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.

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **Static electricity can damage microprocessor controls. Indiscriminate probing of circuits or improper connections may result in immediate or delayed electrical failure. If the electronics are to be accessed, use a personal grounding device. Exercise care in all activities involving the electronic circuitry.**
- **Always connect power cord to a properly grounded socket.**

Important: *Unless otherwise specified, all Amsco® 3085 SP Surgical Table tabletop sections are designated by their names for a patient in the normal (not reversed) position. Also, all tests requiring table articulation are to be done utilizing the hand control with the LEFT patient orientation button (normal position) actuated, and with the table plugged in and supplied with specified voltage.*

6.1 GENERAL

The following procedures are to be used to completely evaluate the operation of an Amsco 3085 SP Surgical Table. Unless major repairs have been made to the table, all of the listed procedures will not have to be completed. Where only minor repairs have been made, select only those procedures that are applicable. Items which do not comply with test procedures must be corrected and retested.

NOTE: If a test fails and a component needs to be adjusted or replaced, see SECTION 7: COMPONENT REPAIR AND REPLACEMENT, for specific instructions.

Keep records of all readings, measurements, discrepancies, corrections, tests and reinspections. Each test must meet the standards of material and performance set forth in this procedure.

Before starting, carefully read the complete test procedure to know all steps to be completed and all the test equipment required.

6.2 TEST INSTRUMENTATION NEEDED

- Spring scale (P757290-091).
- Pressure gauge (P764322-738).
- Protractor (P764322-747).
- Lint-free cloth (R006200-400).

6.3 HYDRAULIC PUMP RELIEF VALVE

1. Remove cap from pressure test port located on pump pressure port banjo fitting (see Figure 6-1).
2. Install pressure gauge into test port using DIN (European) adapter.
3. Using override switches, operate a table function to end of its limit (mechanical stop). With movement stopped but pump still running (pump dead-headed), check relief valve setting by monitoring gauge. Setting should be 1750 (-25 or +50) psi.
4. If adjustment is necessary, loosen locking or jam nut on adjusting screw. Rotate adjusting screw until proper pressure is reached.
5. Remove pressure gauge and reinsert test cap.

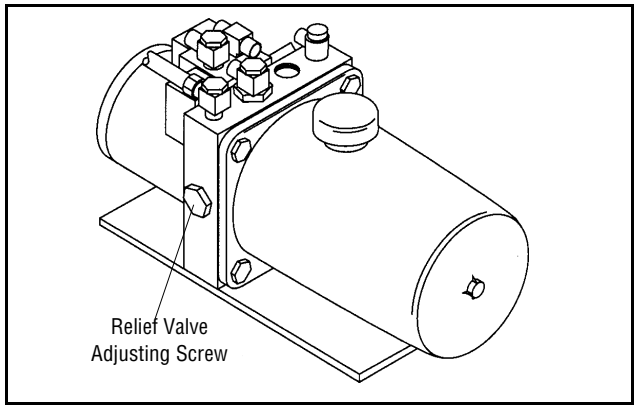


Figure 6-1. Hydraulic Pump Relief Valve

6.4 TABLE OBSERVATION

1. Check entire table for proper fit and finish of all exposed parts. Check for any burrs, sharp edges or corners to which users could be exposed. Correct as necessary.
2. Check base/column shrouds for damage and proper movement/engagement.
3. Using a Clark socket, ensure socket slides freely over each side rail and that rivet stops and gravity locks prevent socket from being removed. Ensure each gravity lock swings freely.
4. Flip foot pump pedal up and down several times to ensure it pivots smoothly and stays in position.
5. Articulate headrest throughout its range (+90° to -90°). Ensure ratchet action is normal and release handle operation is smooth throughout range.
6. Raise kidney bridge to maximum height (top surface of bridge should be at least 3-7/8" [98 mm] from top surface of leveled back section). Ensure ratchet action is smooth and normal throughout. Flip handle into and out of its stowed position several times, ensure detent retains handle in stowed position.

6.5 TABLE MOBILITY

NOTE: The following tests are to be done with the floor locks disengaged, with the tabletop horizontal and at maximum elevation, and on a smooth level surface.

1. Move table forward, backward, left and right: 3" (914 mm) minimum in each direction. Ensure casters operate smoothly and without unusual noise.
2. Move table longitudinally, with headrest leading, until casters are aligned for movement in that direction. Attach a spring scale to end of leg section on table centerline. Slowly push table straight ahead. Gauge reading should be less than 35 lb (16 kg).
3. With table in same alignment, slowly push at right angles to table centerline, at outboard end of left side rail on table headrest. Gauge reading should be less than 20 lbs (9 kg).

6.6 FLOOR LOCK ASSEMBLY

1. With table on a level floor, engage floor locks.
2. Check distance between each caster and floor: it should be 1/4 ±1/32" (6 ±0.8 mm). If adjustment is necessary, refer to *SECTION 7.12, FLOOR LOCK ADJUSTMENT*.

6.7 TABLE ARTICULATION

1. Articulate each table function through entire range and ensure there are no unusual noises, speed variations or other performance problems. Table speed and range of movement should fall within parameters shown in **Table 6-1**.
2. Actuate RAISE function for at least 30 seconds. This causes pump to develop maximum pressure and relief valve to be fully employed. There should be no chattering, squealing or other unusual noises.
3. Refer to **Table 6-2** (for electric table) and **Table 6-3** (for battery-powered table) and articulate table through various functions using conditions described.

   *NOTE: If a battery-operated table, the base shroud must be removed for the last three conditions - see **Step 4**.*
4. Remove table column and base shrouds as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
5. Thoroughly examine table assembly for evidence of any hydraulic leaks, mechanical wear, electrical wire abrasion or any other degradation. Articulate each table function again through entire range and ensure there are no unusual noises, speed variations or other performance problems.

Table 6-1. Table Articulation Movement and Times

Articulation	Note	Units	Movement		Time	
			Minimum	Maximum	Minimum	Maximum
Minimum Elevation	(1)	inches	26.5	27.5	12	24
Maximum Elevation	(1)	inches	43.5	44.5	12	24
Left Tilt	(2)	degrees	16.0	20.0	5	17
Right Tilt	(2)	degrees	16.0	20.0	5	17
Trendelenburg	(2, 4)	degrees	22.0	27.0	10	22
R. Trendelenburg	(2, 5, 6)	degrees	22.0	27.0	12	22
Back Up	(2)	degrees	53.0	57.0	15	28
Back Down	(2, 6)	degrees	-23.0	-27.0	17	29
Leg Up	(3)	degrees	79.0	81.0	24	26
Leg Down	(3)	degrees	-104.0	-107.0	24	29

NOTES:
(1) From floor to leveled back top surface, no pads.
(2) Referenced to column stage block.
(3) Referenced to seat section.
(4) Measure back section angle.
(5) Measure seat section angle.
(6) Assure overtravel by actuating override switch.

Table 6-2. Test Functions - Electric Table

AC Cord	Pump	Control
Connected	Electric	Foot Control
Connected	Electric	Override Switches
Disconnected	Manual	Hand Control
Disconnected	Manual	Foot Control
Disconnected	Manual	Override Switches

Table 6-3. Test Functions - Battery-Operated Table

AC Cord	Motor Battery	Pump	Control
Connected	Connected	Electric	Foot Control
Connected	Connected	Electric	Override Switches
Disconnected	Connected	Electric	Foot Control
Disconnected	Connected	Electric	Override Switches
Disconnected	Disconnected	Manual	Hand Control
Disconnected	Disconnected	Manual	Foot Control
Disconnected	Disconnected	Manual	Override Switches

6.8 TABLETOP RAISE/LOWER

1. Lower table to minimum elevation. Check distance from floor to leveled back top surface (without pad). See **Table 6-1**.
2. Raise table to maximum elevation. Check distance from floor to leveled back top surface (without pad). See **Table 6-1**.
3. With table at maximum elevation, check limit switch LS5. Switch should be made (roller engages "V" slot) at 1/16 ±1/32" (1.6 ±0.8 mm) before table reaches maximum mechanical stop. If necessary, loosen switch mounting bracket screws and reposition switch to meet this requirement. Repeat **Step 2**.

NOTE: The following test is to check tabletop "lash," which falls into three categories: longitudinal, lateral and rotational. It is normal for the tabletop to have a certain amount of lash and adjustments should be made only when the lash exceeds the amount specified.

4. Engage floor locks, level tabletop and raise table to maximum elevation. Measure tabletop lash* as follows (see Figure 6-2):
   a. **Longitudinal Lash and Rigidity:** Hang or apply 50 lb (23 kg) of force on end of headrest on table centerline. Measure amount of vertical movement at outboard end of left back-section siderail when 50 lb (23 kg) weight is moved to end of leg section on table centerline. Measurement shall not exceed 1/4" (6 mm).
   b. **Lateral Lash and Rigidity:** Hang or apply 50 lb (23 kg) of force on left siderail at the seat/back joint. Measure amount of vertical movement at outboard end of left back section when the 50 lb (23 kg) weight is moved to right side. Measurement shall not exceed 3/32" (2.4 mm).
   c. **Rotational Lash and Rigidity:** Push in horizontal plane with 50 lb (23 kg) applied (or 50 lb force exerted) at right angles to outboard end of right leg-section siderail. Measure amount of movement at outboard end of left backsection siderail when 50 lb (23 kg) is removed and a push of 50 lb (23 kg) is applied to outboard end of right back-section siderail. Measurement shall not exceed 3/16" (4.8 mm).

   *NOTE: If it is determined that the tabletop has excessive lash, check to ensure the lash is from the column being out of adjustment. With the column and base shrouds removed, apply an alternating load to the tabletop as outlined above while observing the column for motion between its upper and lower sections. If the lash is from the column, it should be adjusted as outlined in **Step 5**.*

* *Lash is the clearance or "play" between adjacent movable mechanical parts.*

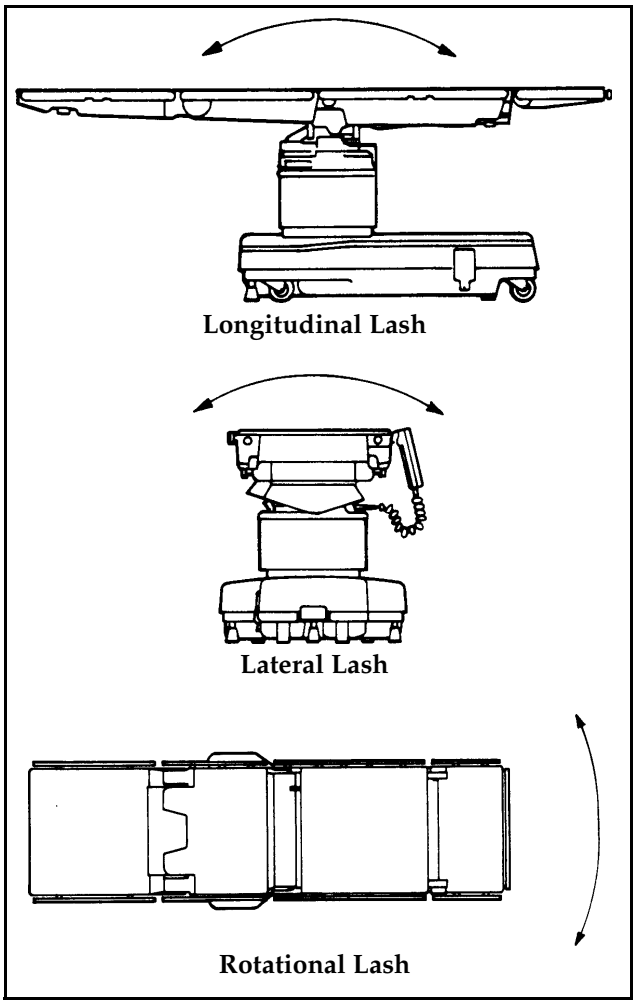


Figure 6-2. Tabletop Lash

5. Position tabletop to minimize the load on column. Attach headrest to back section. Actuate leg section to its full up position. Level seat section, back section and headrest. Refer to *SECTION 7.16, LASH ADJUSTMENTS*, for information on lash adjustment.

   ***Important:** Do not remove all the column lash, which would inadvertently make the column too tight, creating excessive loads on the bearings and producing premature bearing failure. Removal of all column lash could also produce a sticking condition on the column so that it will not lower after remaining at one height for a period of time.*

6.9 TABLETOP TILT

Check tabletop tilt as follows:

1. Articulate tabletop in full lateral LEFT TILT and then full lateral RIGHT TILT. Tilt as referenced to column stage block should be 18 ±1°.
2. The maximum right and left tilts must be within 2° of each other. Calculate difference by subtracting

recorded right tilt angle from left tilt angle. If necessary, adjust cylinder rod (refer to *SECTION 7.17.7, SIDE TILT CYLINDER*).

6.10 TABLETOP LIMIT SWITCHES

WARNING – PERSONAL INJURY HAZARD: Pinch point areas exist between top sections and saddle casting. Keep hands clear while moving top and turn table off during adjustments.

6.10.1 Seat Section Limit Switch (LS3)

NOTE: This limit switch is NOT present on later tables.

1. With tabletop sections horizontal, manually depress limit switch LS3, mounted to saddle under seat section. Attempt to actuate FLEX. Pump should not turn on and no motion should occur. Repeat for REVERSE TRENDELENBURG.
2. With switch released, actuate same functions. When motion has started, depress switch. The pump should turn off and motion should stop.
3. Starting with tabletop horizontal, actuate BACK RAISE at least 10 degrees to ensure articulation actuates seat limit switch. Actuate REVERSE TRENDELENBURG until motion stops. Verify seat limit switch LS3 actually stopped motion by actuating REVERSE TRENDELENBURG with override control switches located on shroud cap. Seat section should move further down by a small amount.
4. If limit switch LS3 does not function as described above, check to ensure it is being actuated when seat section is within 0.5 ±0.3° of its mechanical stop (use REVERSE TRENDELENBURG function). If limit switch requires adjustment, refer to *SECTION 7.13, SEAT SECTION LIMIT SWITCH ADJUSTMENT*.

6.10.2 Back Section Limit Switch (LS4)

1. With tabletop sections horizontal, manually depress switch mounted to underside of back section. Attempt to actuate FLEX. Pump should not turn on and no motions should occur. Repeat for TRENDELENBURG and BACK LOWER.
2. With switch released, actuate same functions. When motion has started, depress switch. Pump should turn off and motion should stop.
3. Starting with tabletop horizontal, actuate BACK LOWER until motion stops. Verify motion stopped from back limit switch by actuating BACK LOWER with override control switches located on shroud cap. Back section should move further down by a small amount.
4. If limit switch LS4 does not function as described above, check to ensure it is being actuated when back section is within 0.5 ±0.3° of its mechanical stop (use TRENDELENBURG function). If limit switch requires adjustment, refer to *SECTION 7.14, LS4 - BACK SECTION LIMIT SWITCH ADJUSTMENT*.

6.10.3 Column Limit Switch (LS5)

1. Using hand control, actuate tabletop RAISE and LOWER functions, checking to ensure LS5 stops table motion 1/16 ±1/32" (1.6 ±0.79 mm) before maximum table height.
2. If adjustment is necessary, refer to *SECTION 7.15, LS5 - COLUMN LIMIT SWITCH ADJUSTMENT*.

6.11 TABLETOP BACK SECTION

1. Articulate back section to full DOWN position (use normal patient orientation). Measure and record angular position of both right and left sides as referenced to column stage block. Measured angles must be 25±1°. Amount of racking must be 1/2° or less.
2. If adjustment is necessary, refer to *SECTION 7.7, BACK SECTION ADJUSTMENT*.

6.12 TABLETOP SEAT SECTION

NOTE: This is a check of Trendelenburg and Reverse Trendelenburg.

1. Articulate seat section to full DOWN position. Measure and record angle as referenced to column stage block. It should be 25 ±1°.
2. If adjustment is necessary, refer to *SECTION 7.8, SEAT SECTION ADJUSTMENT*.

6.13 TABLETOP LEG SECTION

1. Articulate leg section to full up position using override switches. Measure and record angle of each leg frame.
2. Measured angles must be 81 ±1° and within 1° of one another. If adjustment is necessary, refer to *SECTION 7.6, LEG SECTION ADJUSTMENT*.
3. Articulate leg section to full down position, measure and record angle of each leg section frame.
4. Measured angles must be 105 ±1° and within 1° of each other. If adjustment is necessary, refer to *SECTION 7.6, LEG SECTION ADJUSTMENT*.

6.14 SELF-LEVELING TEST PROCEDURE

1. Position tabletop so following positions are at least 10° from level:
   - Left Tilt

- Seat Up
- Back Up
- Leg Down

2. Actuate Return to Level. Tilt, back and seat must return to within 2° of horizontal, and leg section must return to within 2° of seat section.
3. Position tabletop so following positions are at least 10° from level:
   - Right Tilt
   - Seat Down
   - Back Down
   - Leg Up
4. Repeat **Step 2**.

   Important: *Note the following during self-leveling:*

   1) Table positioning will alternate on 1 to 1.8 second intervals until the top returns to level.

   2) Refer to SECTION 7.10, LEG RETURN-TO-LEVEL AND LEG FULL-UP ADJUSTMENT for adjustment procedures.

Section 7: Component Repair and Replacement

IMPORTANT: A listing of the *SAFETY PRECAUTIONS* to be observed when operating and servicing this equipment can be found in *SECTION 1:* of this manual. Do not operate or service the equipment until you have been trained on this information.

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

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.**
- **Storing items on table base may result in equipment damage causing inadvertent tabletop movement placing the patient and/or user at risk of personal injury. DO NOT use the table base for storage.**

WARNING – PINCHING HAZARD:

- **Pinch points are created during tabletop articulation. Carefully review illustrations in Figure 2-1 of Operator Manual 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 HAZARD: If the integrity of the external protective ground installation or arrangement is in doubt, operate the table from its internal power source.

CAUTION – POSSIBLE EQUIPMENT DAMAGE:

- **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.**
- **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.**

7.1 GENERAL

This section provides procedures for removing/replacing components, assemblies and detail parts from the Amsco® 3085 SP Surgical Table. Reassembly is essentially the reverse of disassembly. Refer to supplied *Illustrated Parts Breakdown (P764332-899)*, as indicated, to perform the appropriate inspection and maintenance procedures. Always perform applicable testing/adjusting/calibrating after replacing a component or assembly.

Before disassembling or servicing a component - especially when working on a component with which you are not familiar - review the written procedures given in these sections. Reading and reviewing procedures minimizes potential problems and confusion while servicing an assembly.

7.2 CONTAMINATION CONTROL ASPECTS OF HYDRAULIC FIELD SERVICE

7.2.1 General

Precautions must be taken when servicing the hydraulic system. Working in the field is not the ideal situation, but being aware of the need for maintaining

system cleanliness, using common sense and good practices, and being dedicated to contamination control should lead to success.

To prevent contamination from entering the hydraulic system, all possible care must be taken during field hydraulic servicing. The system is designed to maintain oil and component cleanliness during normal operation. When any hydraulic line or component is opened, the system is vulnerable to the entrance of contaminants (i.e., solid particles). Average particle sizes in the oil are normally about 25 microns, or 0.001 inches. Some components may fail in a hazardous way if subjected to particles greater than 100 microns, or 0.004 inches.

7.2.2 Work Place

The Operating Room would be the ideal place to perform hydraulic service, but a maintenance area or some other "back room" is the more probable location. Avoid, at all costs, working in or next to a room where any woodworking is carried out. Almost as bad is an area where metal work, especially grinding, is done. The airborne particles generated by these or other similar operations are devastating and uncontrollable. If you have no choice, at least ensure no such activities have been performed there for several hours and none will occur during servicing.

Try to work in a place with no nearby doors through which people will be continually passing. The less people-traffic around you, the better. Stay away from heating and cooling vents that also put particulates into the air.

7.2.3 Tools

Tools, gauges, hydraulic plugs, caps, etc., must be extremely clean during servicing. Clean tools with a clean, lint-free cloth if possible. Hands and fingernails must also be clean when handling hydraulics. Scrub fingernails with a brush.

Always place tools and parts on a clean surface as work is being done. And, of course, no smoking, eating or drinking when working with hydraulics.

7.2.4 General Procedures

Wipe all components to be serviced, and areas adjacent to them, with a clean, lint-free cloth.

- **Breaking connections -** If connection is to remain broken for any length of time, both ends of connection must be plugged or capped with clean parts. If this is impractical, at least cover open port with a clean, lint-free cloth. A rubber band can be used to hold cloth in place.
- **Removing components -** When a component is removed, place it on and cover it with a clean, lint-free towel.
- **Handling parts -** Try to handle all hydraulic components by touching only those surfaces which do not interact with hydraulic system oil.
- **Assembling -** Examine all surfaces coming into contact with hydraulic system oil (wetted surfaces). Any visible particles (i.e., 0.002 inch or more in diameter) must be removed. Also examine O-rings and O-ring seats for scratches and/or tears, as well as contamination.

  Be careful any critical surfaces do not unnecessarily touch anything during assembly.

  Ensure all fittings, valves, etc., are torqued per specifications.
- **Completing work -** Clean external surfaces of work area as before. Any leaks will be more easily detected if all areas are clean before checking.

When the work is complete, verify the table functions normally ... not only the function that was repaired, but all functions.

7.3 IPX4 PROCEDURES

NOTE: Units with Serial Numbers B420702-025 and higher have the Level Protection Against Fluid Intrusion (IPX4) changes.

Adherence to IPX4 standards introduced the following changes to the 3085 SP surgical table:

NOTE: The most noticable changes are the replacement of the plastic cap shroud assembly (with a sealed flexible bellows), the repositioning of the override switches and the relocation of the hand control, foot control and Hermes interface cable (if applicable). The flexible bellows, override switches and connection receptacle plates are sealed with black RTV to prevent fluid intrusion.

1. Back and seat cylinder hydraulic hoses run inside bellows and exit through a sealed clamp on right side of new bracket mounted to saddle. Hoses run vertically between back and seat sections. Black RTV is used to seal around hoses and wires where they go through this clamp. If either hose or wiring needs replaced, remove clamp and split adhered area apart. When reassembling, work new RTV into crevices in this sealing area, align and reapply clamp.

   NOTE: STERIS suggests letting table sit (without moving top sections) for at least four hours to permit sealant to harden. Otherwise, hoses may slip from the pulling forces as the top sections move. Full cure time is 24 hours.

2. IPX4 column shrouds are not interchangeable with older 3085 SP table shrouds.
3. Base changed as follows:
   a. Carefully lower base shroud into place. Do not snag two floor lock switches nor roll under new foam tape sealing shroud to base. Base shroud is secured to table with two screws, one at narrow end and one at wide end. Ensure screws are reinstalled once shroud is returned
   b. AC plate assembly and fuses (F1 and F2) are covered by spring-loaded hinge cover. Cover limits direct splash into power inlet. Also, ac plate assembly is sealed with black RTV.

      NOTE: This new ac plate assembly cannot be used on earlier tables because the hinged cover hits the cord bracket found on the early base shrouds. Also, fuses F1 and F2 are now 3.15 Amp (compared to previous 4 Amp) because of the transformer change.
   c. Adhesive backed foam tape is applied all around upper edge of base casting to seal shroud to base. Note there are two thicknesses to this tape depending upon location.
   d. Circuit breaker bracket is larger and equipped with edging seal as well as black RTV applied to cracks and crevises.
   e. IPX4 tables are equipped with a low current leakage transformer designed to isolate other table electrical assemblies and thus reduce current leakage. Transformer input is through #1 voltage selector switch on power supply and is switched the same way for various input voltages. Transformer is supplied with two secondary outputs:
      - First output is 24 Vac, 20 Amp and powers 24 Vac secondary.
      - Second output is 120 Vac, 1 Amp and is supplied to power supply box to power control battery charger and motor battery charger.
   f. Power supply box is wired differently. Battery chargers are supplied (as noted above) with electrical power through new transformer's 120 Vac secondary. Also, #2 voltage selector switch (formerly used for integral control battery charger) is no longer needed and is eliminated. Fuse F3 still protects charger.

IPX4 basic maintenance and repair methods are very similar to the non-IPX4 procedures. The following comments may prove helpful in removing/installing parts as well as in pointing out helpful items and notes.

1. Black RTV sealant used to ensure fluid intrusion prevention adheres strongly to mating surfaces.
   a. At bolted joints. STERIS suggests completely removing bolts then carefully using a knife-blade (or similar item) to break joint.
   b. STERIS recommends not removing bellows unless maintenance is required in table sections (such as upper clevis area). If required, carefully break lower connection, raise bellows and hold with straps.

      NOTE: The bellows zipper may be unzipped but with the top secured, this may not help much and may result in bellow tearing. The bellows are constructed of a soft material.
2. Later column shrouds are no longer equipped with screwdriver slots at joints to assist in breaking apart. For initial breaking apart, insert a small screwdriver blade into space between holding brackets on inside surface. Next, switch to open side joint.
3. Reconnecting any previously sealed joint must include reapplication of sealant to preserve resistance to fluid intrusion from splashing. Also, all newly installed parts must be sealed as was existing part.

7.4 SHROUD REMOVAL/ REPLACEMENT PROCEDURES

The following procedures are for removing/replacing the shroud assembly on the Amsco 3085 SP Surgical Table. Review all *Safety Precautions* listed at the beginning of this section before starting the task.

7.4.1 Shroud Removal

NOTE: Numbers in parentheses () refer to items found on Figure 1 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted. Also, shroud removal may dislodge P9/P10 cable. After shroud removal, ensure cable remains securely installed.

1. Lower table to lowest position.
2. Remove four flat head screws (35) securing upper shroud (8) to mounting shroud brackets (see Sheet 2 of 3, arrangement differs by serial numbers).
3. Lower shroud pieces.
4. Each column shroud (6, 7 and 8) consists of two pieces that snap together. To remove, slip end of flat-head screwdriver into seam slots and pry pieces apart. Lift parts away from table column and set aside. Repeat this procedure for each column shroud.
5. Raise table to maximum height.
6. The base shroud (2) is fastened together by two screws (57) at top (front and back), and two spring catches at bottom (front and back). Remove both

screws, then reach inside shroud and unfasten both spring catches.

7. Remove front half of base shroud.
8. Remove ground strap (Section A-A and Figure 19, 24) attached to back half of base shroud assembly by removing nut and lockwasher (15, 16) from weld stud.
9. Remove back half of base shroud.

7.4.2 Shroud Replacement

NOTE: Numbers in parentheses () refer to items found on Figure 1 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: To prevent rubber bumpers from being cut off, replace base shroud parts carefully and evenly.

1. Raise table to maximum height.
2. Replace back half of base shroud and reconnect ground strap to weld stud.
3. Ensure manual foot pedal is in DOWN position and replace front half of base shroud.
4. Verify front and back pieces are even, then fasten spring catches. Reattach screws at top of joining seam (front and back).
5. Lower table to lowest position.
6. Replace bottom intermediate (6) shroud pieces, snapping them together evenly around column. Then replace middle intermediate (7) shroud pieces, snapping them together evenly around bottom intermediate shroud.
7. Replace upper (8) shroud pieces, snapping them together evenly around middle intermediate shroud.
8. Raise upper shroud and fasten in place with four screws (35) removed previously.
9. Raise table half-way. Ensure interlocks between shroud pieces (top and bottom) are connected.
10. To ensure proper adjustment of shroud sections, apply hand pressure to left side of bottom base cover (foot end) and shroud pieces self adjust.
11. Raise and lower table to ensure shroud sections function freely, without binding.

7.4.3 Base Shroud Adjustment

Position the base shroud on the base casting to provide the necessary clearance between column components and the base shroud:

1. If replacing bumpers, apply Loctite®[1] 222 to threads and assemble bumpers into base casting as shown in Figure 7-1.

   NOTE: Bumpers 1 and 2 should protrude 5/16 ± 1/32" (8 ± 0.8 mm) from the casting and the other three should be flush with the casting.
2. Position base shroud onto base with shroud in contact with bumpers 1 and 2.
3. Raise tabletop to maximum height. Articulate seat section to maximum UP position (use TREND and REFLEX functions) and articulate tabletop to maximum RIGHT SIDE TILT position.
4. Lower tabletop until lower end of seat cylinder is just below upper edge of shroud. Minimum clearance between seat cylinder (retract port block) and shroud should be 15/32" (11.9 mm) on left side and 5/32" (4 mm) on foot end as shown in Figure 7-1. If either (or both) of these dimensions is less than minimum, increase clearance by increasing projection of bumpers.
5. Articulate tabletop from full RIGHT SIDE TILT to full LEFT SIDE TILT, observing clearance between seat cylinder and shroud. Minimum clearance should never be less than 5/32" (4 mm). Adjust bumper 1 if necessary.
6. Projection of bumpers 1 and 2 from base casting is now fixed. Increase projection of bumpers 3, 4 and 5 until they are snug against shroud.

[1] *Loctite is a registered trademark of the Loctite Corporation, a Henkel Company.*

7.5 HYDRAULIC SYSTEM PRESSURE TEST

1. Remove cap from pressure test port located on pump pressure banjo fitting (refer to *SECTION 6.3, HYDRAULIC PUMP RELIEF VALVE*).
2. Attach pressure gauge to test port using tool kit supplied hose.
3. Using override switches, position a table function to end limit (mechanical stop). With movement stopped but pump still operating (pump dead-headed), check relief valve setting by monitoring gauge. Setting should be 1750 (-25, +50) psi.
4. If adjustment is necessary, loosen adjusting screw lock or jam nut (located on battery side of pump). Rotate adjusting screw until proper pressure is reached.

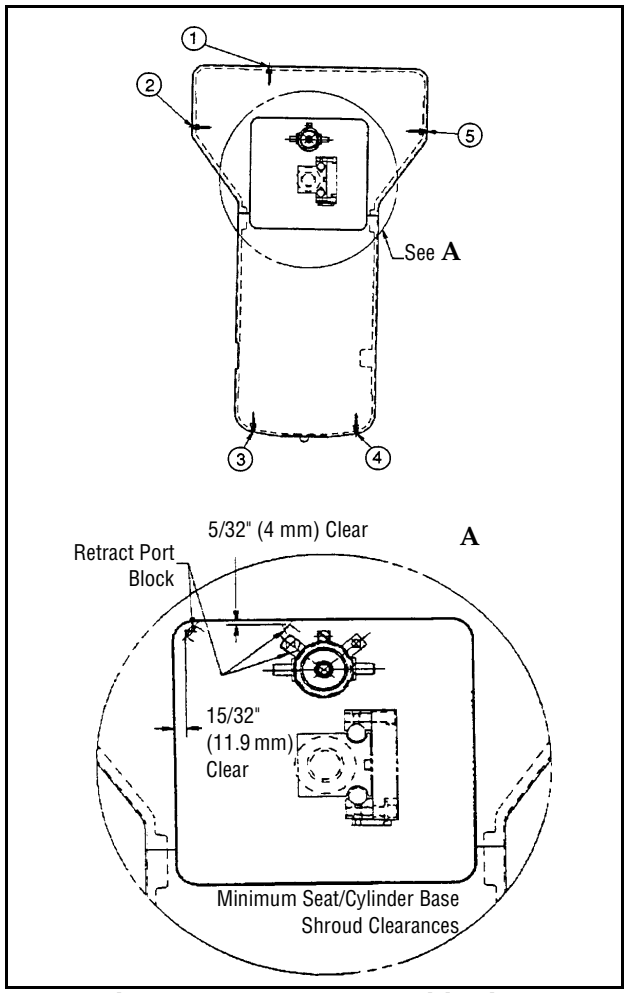


Figure 7-1. Bumper Positioning

5. Remove pressure gauge and reinsert test cap.

7.6 LEG SECTION ADJUSTMENT

Leg section articulation is powered by two hydraulic cylinders; one on the right side and one on the left side. Stroke of the cylinders is adjustable with cylinder rod stops to provide the same total articulation on each side. Adjust tabletop leg section as follows:

NOTE: The leg section adjustment is made without the top board and all angles are measured with respect to the seat section casting.

1. UP adjstment:
   a. Articulate leg section to full UP position using override switches. Measure and record angle of each leg frame.
   b. UP adjustment is made with shims between seat section frame and cap end cylinder clevis. Add shims to increase angle by approximately 1°.
   c. Loosen cap screws, insert or remove required shim thickness to give maximum UP position of 80°, then tighten cap screws.

      NOTE: Slightly raise the seat section for better access to the cap screws.
   d. Repeat **Steps b and c** for other side. Each side must be 80° ±1° (must be within 1° of each other).
   e. Remove cap screws one at a time and apply Loctite, then tighten.
2. DOWN Adjustment:
   a. Articulate leg section to full DOWN position, measure and record angle of each leg section frame.
   b. DOWN adjustment is made by rotating cylinder rod stops on cylinder rods. Turn cylinder rod stops toward cylinder body to decrease maximum DOWN articulation or away from body to increase articulation.

      NOTE: A 1/8-revolution of cylinder rod stop alters the angle by about 1°. Also, for right cylinder, which has return-to-level hardware attached, attachment bracket (refer to Figure 14, Item 9, IPB Section) must be removed prior to leg DOWN adjustment. Cylinder rod stop must be adjusted so one of radial tapped holes is vertical with respect to cylinder body.
   c. Back articulation away from maximum DOWN position a fraction of a degree to allow easy rotation of cylinder rod stop.
   d. Make necessary adjustment based on **Steps a and b** to give a maximum down angle of 105°.
   e. Repeat **Step a**. Measured angles must be 105° ±1° (must be within 1° of each other). Repeat **Steps b and c** if necessary.
   f. Apply Loctite to setscrews and tighten cylinder rod stops.
3. Double check all four adjustments. Correct as required.

7.7 BACK SECTION ADJUSTMENT

Back section articulation is powered by two hydraulic cylinders; one on the right side and one on the left side. The stroke of the cylinders is fixed and may not be the same on both sides. This unequal stroke produces greater articulation on one side of back section creating racking or twisting. Cylinders must be adjusted to balance this over travel as follows:

1. Articulate back section to full DOWN position. Measure and record angular position of both right and left side.

2. Turn cylinder rod into clevis to increase DOWN articulation and out to decrease articulation. A 1° change is equal to 1/10 revolution of rod in clevis.
3. Back articulation away from maximum DOWN position approximately 1°. Make necessary adjustments based on **Steps 1 and 2** to give a maximum DOWN position of 25°.
4. Repeat **Step 1**. Measured angles must be 25 ± 1°, and amount of racking must be 0.5° or less. Repeat **Step 2** if necessary.
5. Articulate back section to full UP position. Measure and record angular position of both sides. Amount of racking must be 0.5° or less; if not, adjust to equalize racking in maximum UP and DOWN positions.
6. Apply Locktite 290 to relock adjustments.

7.8 SEAT SECTION ADJUSTMENT

Adjust tabletop seat section as follows:

1. Move seat section to full DOWN position. Measure and record angle.
2. Turn cylinder rod into knuckle to increase DOWN articulation, and out of knuckle to decrease DOWN articulation.

   NOTE: A 1° degree change is equal to 1/18 revolution of the rod and knuckle.
3. To ease adjustment, raise seat section to horizontal or above. Loosen jam nut. Make necessary adjustment based on **Steps 1 and 2** to give a maximum DOWN position of 25°. Tighten jam nut against knuckle.
4. Repeat **Step 1**. Measured angle must be 25 ± 1°. Repeat **Steps 2 and 3** if necessary.

7.9 SIDE TILT CYLINDER ADJUSTMENT

Adjust side tilt hydraulic cylinder as follows:

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Before articulating or making any adjustments to the table, ensure no electrical or hydraulic hoses are subjected to stress or pinching.

1. Level table.
2. Move table to full RIGHT SIDE TILT position. Using digital protractor, measure angle of right tilt.
3. If tilt angle is not 18 ± 2°, adjust angle as follows:

WARNING – PERSONAL INJURY HAZARD: The lock mechanism has a high spring force and can cause severe pinching. Keep fingers, etc. away from under the plunger and blocking.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Tilt articulation must be activated while adjusting the cylinder rod to release the brake mechanism. Failure to do this destroys the cylinder.

   a. Remove clevis locking plate by removing two socket-head screws securing clevis locking plate.
   b. Briefly run tilt and place a block, such as a large screwdriver blade, behind mechanical lock plunger on side tilt cylinder so mechanical lock does not engage when tilt is stopped.

      NOTE: With the locking plate removed, the shaft may have a tendency to screw into or unscrew from the clevis. If this occurs, rotate the shaft back to the original position in the clevis when the tilt is stopped.
4. Move into right tilt but stop before full extension. Adjust angle by rotating cylinder shaft.
5. Reinstall clevis locking plate using two socket-head screws. Ensure cylinder rod flat is square with machined step on clevis.
6. Remove mechanical lock block (screwdriver) by running tilt while pulling block out.
7. Place table into full tilt and measure degree of tilt. Angle must be 18 ± 2°. Readjust if necessary.
8. If angle is correct, remove socket-head screws securing clevis lock plate. Apply Loctite 262 to screws, reinstall and tighten screws ensuring cylinder rod flat is square with machined step on clevis.

7.10 LEG RETURN-TO-LEVEL AND LEG FULL-UP ADJUSTMENT

Important: *For this procedure, note the following:*

- *The adjustment of the Leg Full-Up position is affected by the adjustment of the Leg Return-to-Level position. Therefore, the Leg Return-to-Level procedure must precede the Leg Full-Up procedure.*
- *If, for any reason after this procedure is complete, the cam shaft is repositioned, both the Leg Return-to-Level and Leg Full-Up positions must be rechecked and any*

required adjustments made to ensure conformance with the requirements.

- *If, for any reason after this procedure is complete, the right leg cylinder is replaced, or the right leg cylinder pivot block shims are changed, the Leg Return-to-Level and Leg Full-Up positions must be rechecked and any required adjustments made to ensure conformance with the requirements.*
- *See Figure 7-2 and Figure 7-3 for information and a picture of the environment and hardware dealt with in this procedure.*

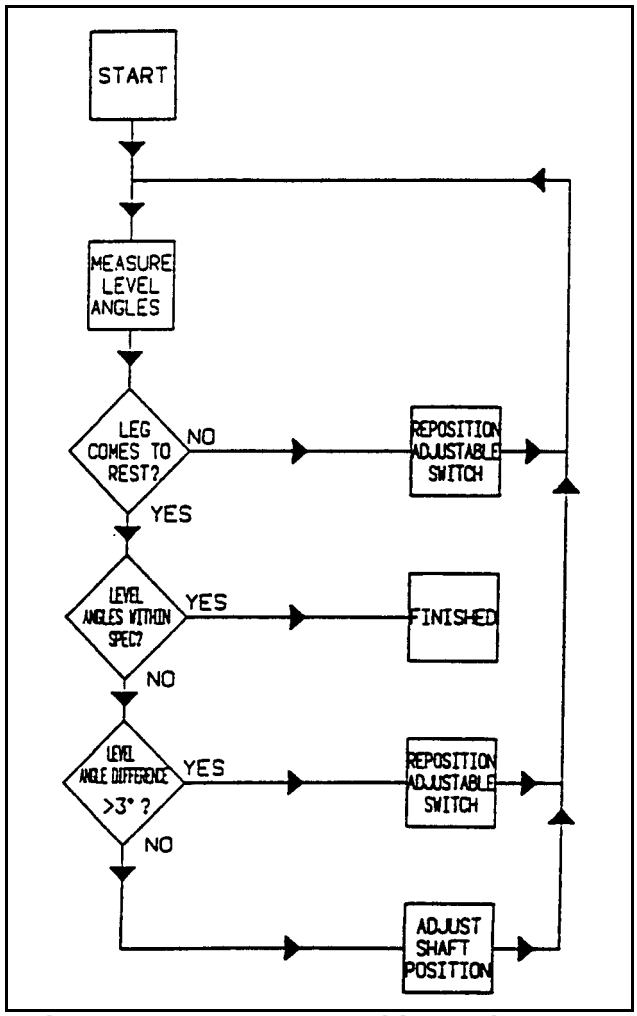


Figure 7-2. Leg Level Position Adjustment Procedure for Return-To-Level

1. **Initial Leg Full-Up Angle Check:**
   a. Disconnect leg section Return-to-Level wiring.
   b. Actuate leg up until motion stops.
   c. Measure angle leg section makes with seat section. Ensure it is 80 ± 1°. Record angle.
   d. If angle is not 80 ± 1°, initial leg adjustment is not correct and leg cylinder pivot block shims must be reassessed - see *SECTION 7.6, LEG SECTION ADJUSTMENT*.

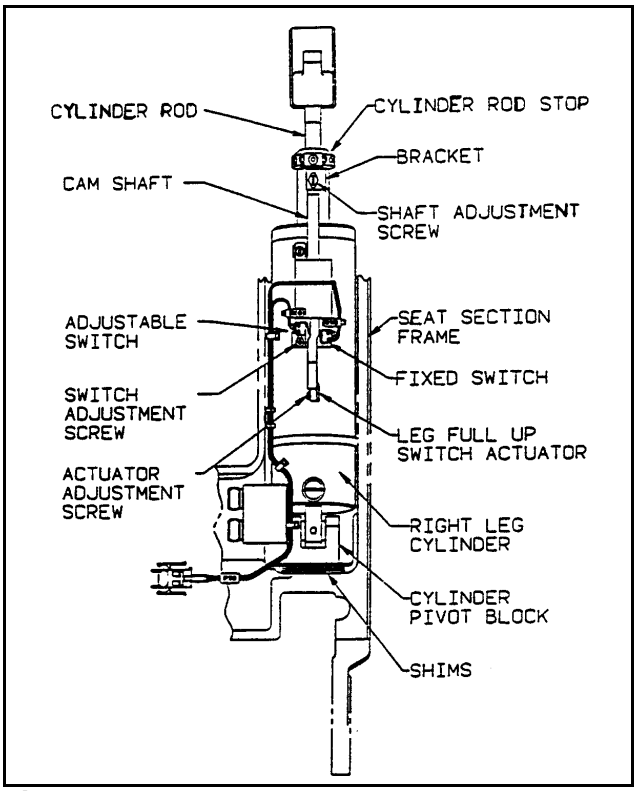


Figure 7-3. Leg Return-To-Level and Leg Full-Up Switch and Actuator Hardware

   e. Reconnect leg section Return-to-Level wiring.

2. **Leg Return-to-Level Position Adjustment:**

   NOTE: Refer to Figure 7-2 for a flow chart for this adjustment procedure.

   a. Lower leg approximately 10° below seat section angle. Actuate Return-to-Level. When all motion has stopped, note angle leg section makes with seat section.

      NOTE: If during the Return-to-Level function the leg does not come to rest but oscillates up and down from the horizontal position, reposition the adjustable switch away from the cylinder rod.

   b. Raise leg section approximately 10° above seat section angle. Actuate Return-to-Level. When all motion has stopped, note angle leg section makes with seat section.
   c. If angles measured in **Step 1** are within specification, Leg Level Position Adjustment is complete. Proceed Leg Full-Up Position Adjustment.
   d. If angles measured in **Steps 2a and 2b** are not within specification and their difference is less than 3°, axial adjustment of cam shaft position is required. Proceed as follows:
      - Loosen screw attaching cam shaft to bracket, slide shaft fore or aft, and retighten screw.

NOTE: A change in position of the shaft of 0.020" (0.51 mm) results in an angle change of about 1°.

- If leg section stopped too high, slide cam shaft toward cylinder rod.
- If leg section stopped too low, slide cam shaft away from cylinder rod.
- Repeat **Step 2**, Leg Return-to-Level Position Adjustment.

3. **Leg Full-Up Position Adjustment:**

   Ensure Return-to-Level wiring is properly connected. Actuate leg up until motion stops. Measure angle leg section makes with seat section.

   a. If angle is both at least 1° less than measured at beginning of *SECTION 7.10, LEG RETURN-TO-LEVEL AND LEG FULL-UP ADJUSTMENT*, and within specification, **Leg Full-Up Position Adjustment** is complete.

   b. If angle is at least 1° less than angle measured at beginning of *SECTION 7.10, LEG RETURN-TO-LEVEL AND LEG FULL-UP ADJUSTMENT*, but too low to meet specification, loosen Leg Full-Up actuator screw and slide actuator away from cylinder rod a small amount. Go to **Third Bullet** at beginning of *SECTION 7.10, LEG RETURN-TO-LEVEL AND LEG FULL-UP ADJUSTMENT*.

   c. If angle is within 1° of angle measured in **Step a** above, loosen Leg Full-Up switch actuator screw and slide actuator away from cylinder rod a small amount. Go to **Third Bullet** at the beginning of *SECTION 7.10, LEG RETURN-TO-LEVEL AND LEG FULL-UP ADJUSTMENT*.

4. Requirement Specifications:

   a. **Return-to-Level Angles** - After actuation of Leg Return-to-Level, for both leg section initially above and below seat section, angle of leg section, measured with respect to seat section, shall be 0 + 2°.

   b. **Leg-Up Angle** - When leg is actuated fully up, angle of leg section measured with respect to seat section shall be 80 ± 1° (angle must be at least 1° less than maximum angle permitted by mechanical elements).

7.11 FLOOR LOCK LINKAGE AND SWITCH ADJUSTMENT

See Figure 7-4.

1. Back off floor lock limit switch actuation screw to prevent damage to switch (if applicable).
2. Press FLOOR LOCK function button until floor lock cylinders are fully extended.
3. Turn cylinder rod out of clevis until gap between clevis and floor lock housing is 1/8 ± 1/32" (3.2 ± 0.8 mm)

   NOTE: The linkage should be just over center.

4. Adjust floor lock switch actuator screw so switch is just actuated when floor locks are locked (if applicable).
5. Apply Loctite #290 (R5300-540) liberally to both actuator screws and cylinder rods where they enter the clevis.

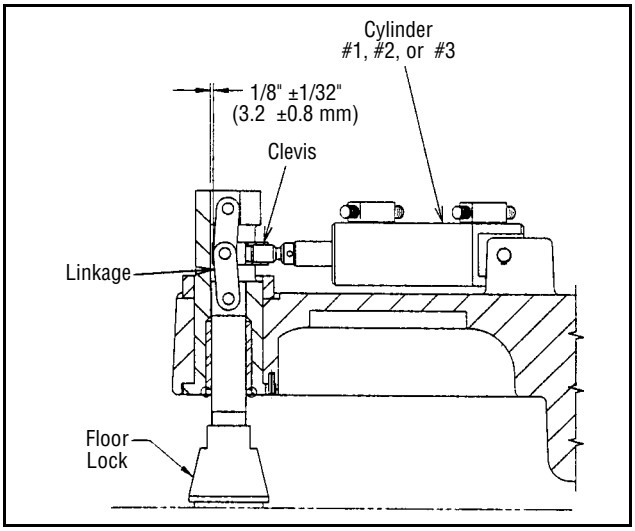


Figure 7-4. Floor Lock Linkage

7.12 FLOOR LOCK ADJUSTMENT

1. With table on a level floor, engage floor locks.
2. Check distance between each caster and floor, it should be 1/4 ± 1/32" (6 ± 0.8 mm).
3. If necessary, adjust floor locks as follows:

   a. Unlock floor locks and turn each foot onto its shaft until foot does not make contact with floor when floor locks are engaged.

   b. Engage floor locks. Unscrew each foot from its shaft until it just makes contact with floor.

   c. Unlock loor locks and unscrew each foot an additional 4-1/2 turns.

   d. Verify distance between caster and floor is 1/4 ± 1/32" (6 ± 0.8 mm) with floor locks engaged.

7.13 SEAT SECTION LIMIT SWITCH ADJUSTMENT

1. With tabletop sections horizontal, manually depress limit switch LS3, mounted to saddle under seat section. Attempt to actuate FLEX. Pump should

not turn on and no motion should occur. Repeat for REVERSE TRENDELENBURG.

2. With switch released, actuate same functions. When motion has started, depress switch. The pump should turn off and motion should stop.
3. Starting with tabletop horizontal, actuate BACK RAISE at least 10° to ensure articulation actuates seat limit switch. Actuate REVERSE TRENDELENBURG until motion stops. Ensure seat limit switch LS3 actually stopped motion by actuating REVERSE TRENDELENBURG with override control switches located on shroud cap. Seat section should move farther down by a small amount.
4. If limit switch LS3 does not function as described above, verify it is being actuated when seat section is within 0.5 ± 0.3° of its mechanical stop (use REVERSE TRENDELENBURG function). If limit switch requires adjustment, proceed as follows:
   a. Position tabletop at maximum RIGHT TILT for access to limit switch. Remove P28 from control board housing box.

      NOTE: The shrouds have to be lowered but not removed to gain access to P28.

   b. Connect P28 to a voltmeter set to read resistance.
   c. Position tabletop so seat section is within 0.5 ± 0.3° of mechanical stop and check switch. If switch is not made, adjust switch until it is energized.
   d. Using override switch, position tabletop to mechanical stop in REVERSE TRENDELENBURG to ensure switch does not get damaged.
   e. Remove voltmeter and reinstall P28 into control board housing box. Level tabletop and actuate REVERSE TRENDELENBURG to verify LS3 stops table motion within 0.5 ± 0.3° of its mechanical stop.

7.14 LS4 - BACK SECTION LIMIT SWITCH ADJUSTMENT

NOTE: This Back Section Limit Switch (LS4) is not present on newer tables.

1. With tabletop sections horizontal, manually depress switch mounted to underside of back section. Attempt to actuate FLEX. Pump should not turn on and no motions should occur. Repeat for TRENDELENBURG and BACK LOWER.
2. With switch released, actuate same functions. When motion has started, depress switch. Pump should turn off and motion should stop.
3. Starting with tabletop horizontal, actuate BACK LOWER until motion stops. Verify motion stopped from back limit switch by actuating BACK LOWER with override control switches located on shroud cap. Back section should move further down by a small amount.
4. If limit switch LS4 does not function as described above, ensure it is being actuated when back section is within 0.5 ± 0.3° of its mechanical stop (use TRENDELENBURG function). If limit switch requires adjustment, proceed as follows:
   a. Remove P29 from control board housing box and connect it to a voltmeter set to read resistance.

      NOTE: The shrouds have to be lowered but not removed to gain access to P29.

   b. Position tabletop so table back section is within 0.5 ± 0.3° of its mechanical stop (use TRENDELENBURG function). Tighten limit switch locknut until voltmeter indicates switch is made. If locknut adjustment range is not adequate, install switch pushbutton extension (P129360-679) using Loctite RC/609.
   c. Using override switch position table to its mechanical stop in TRENDELENBURG and ensure switch did not get damaged.
   d. Remove continuity tester and reinstall P29 into control board housing box. Level tabletop and actuate TRENDELENBURG function to ensure LS4 stops table motion within 0.5 ± 0.3° of its mechanical stop.

7.15 LS5 - COLUMN LIMIT SWITCH ADJUSTMENT

1. Using override control switches, raise tabletop to maximum height.
2. Lower tabletop approximately 1/16" (1.59 mm) from maximum position.
3. Set LS5 height and depth so switch disengages when roller on actuator connects with "V" slot.
4. Tighten switch mounting bracket screws.
5. Using hand control, actuate tabletop RAISE and LOWER functions, checing to ensure LS5 stops table motion 1/16 ± 1/32" (1.59 ± 0.79 mm) before maximum table height.

7.16 LASH ADJUSTMENTS

If it has been determined that the table lash needs adjusted (refer to **Step 4**, *SECTION 6.8, TABLETOP RAISE/LOWER*), proceed as follows:

NOTE: Lash is the clearance or "play" between adjacent movable mechanical parts.

7.16.1 Longitudinal Lash Adjustment

NOTE: The numbers in parentheses () refer to items found on Figure 7 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

1. Longitudinal lash is controlled by moving adjustable guide shaft (4) on head-end side of column. Guide shaft is secured to column by seven 1/2" hexhead cap screws (8). Five setscrews (12) are provided on backer (pressure) plate to aid in adjustment.
2. Check column for lash (refer to *SECTION 6.8, TABLETOP RAISE/LOWER*, **Step 4**) with tabletop at minimum, medium and maximum elevations. In most cases, excessive lash is found only at one elevation, and adjustment should be made only in that area. If lash is excessive at all elevations, adjust as follows:
   a. Loosen seven screws (8), then finger-tighten them. Starting with column fully down, tighten bottom setscrew until gaps between guide rod bearings and guide rods are minimal. Raise column to midpoint, then repeat tightening procedure on middle setscrew. Raise column to uppermost position and repeat tightening procedure on upper setscrew.
   b. Firmly tighten top hex head screw. Lower column to midpoint and firmly tighten middle screw. Lower column to bottom and firmly tighten bottom screw. Firmly tighten remainder of screws as column is being raised, with one guide rod being above and one below screw being tightened. Turn in remaining setscrews until they bottom.
   c. Check column motion while it raises and lowers. Movement up and down should be free with no sticking, minimal bearing lash and uniform speed. If problems are encountered, repeat **Steps a and b**. Occasionally it may be necessary to make adjustments at intermediate points between top and middle, or bottom and middle. Make these adjustments by repeating **Steps a and b**.
   d. Torque seven 1/2" (13 mm) hex head machine screws to 150 ± 5 ft-lb (203 ± 7 N•m). Recheck column motion as outlined in **Step c**.

   NOTE: Do not remove all of the column lash or inadvertently make the column too tight, creating excessive loads on the bearings and producing premature bearing failure. Removing all lash could also produce a sticking condition on the column so that it will not lower after remaining at one height for a period of time.

7.16.2 Lateral Lash Adjustment

1. Longitudinal lash must fall within allowable limits before lateral lash adjustment is started.
2. Lateral lash is controlled by adjusting four socket head cap screws adjacent to bearings in top column section. Each screw controls lash only for its adjacent bearing. Turning screws clockwise decreases lash, and turning them counterclockwise increases lash.
3. Raise tabletop near maximum height, until two bottom socket head screws are in line with two access holes in bottom column section.
4. Lash can occur in any of four bearings; however, only certain combinations produce lateral lash: all four bearings, any three bearings and two top bearings. Determine which bearings require adjustment and adjust only ones with lash.
5. Turn socket head cap screw until lash is removed from bearing and then back it off about 1/16 of a revolution.
6. Check column motion as it is raised and lowered. It should move up and down freely, with no sticking, minimal bearing lash and uniform speed. If problems are encountered, repeat **Steps, 3, 4 and 5**.

   NOTE: Do not remove all of the column lash or inadvertently make the column too tight, creating excessive loads on the bearings and producing premature bearing failure. Removing all lash could also produce a sticking condition on the column so that it will not lower after remaining at one height for a period of time.

7.16.3 Rotational Lash Adjustment

1. Longitudinal lash must fall within allowable limits before rotational lash adjustment is started.
2. Rotational lash is controlled by adjusting four socket head cap screws adjacent to bearings in top column section. Each screw controls lash only for adjacent bearing: turning screws clockwise decreases lash; turning screws counterclockwise increases lash.
3. Raise tabletop until two bottom socket head cap screws are in line with two access holes in bottom column section (nearly maximum height).

4. Lash can occur in any of four bearings; however, only certain combinations produce rotational lash: all four bearings, any three bearings, two head-end bearings or two foot-end bearings.
5. Turn socket head cap screw until lash is removed from bearing, then back it off about 1/16 of a revolution.
6. Check column motion while raising and lowering. It should move up and down freely, with no sticking, minimal bearing lash and uniform speed. If problems are encountered, repeat **Steps 3, 4 and 5**.

   NOTE: Do not remove all of the column lash or inadvertently make the column too tight, creating excessive loads on the bearings and producing premature bearing failure. Removing all lash could also produce a sticking condition on the column so that it will not lower after remaining at one height for a period of time.

7.17 HYDRAULIC CYLINDER REPLACEMENT

Important: *Holding check valves are located on the column manifolds, not in the cylinders.*

⚠ WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Breaking hydraulic fittings may cause associated table sections to fall and excessive fluid may flow from the fitting.

7.17.1 Floor Lock, Foot End, Right (Looking At Base From Foot-End)

NOTE: The numbers in parentheses () refer to items found on Figure 2 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

7.17.1.1 Removal

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Unlock (raise) floor locks so that there is no pressure on them.
3. Disconnect all hose fittings from cylinder body.

   NOTE: Install clean cap on end of hose to prevent contamination.
4. Use a hammer and punch to remove pivot pin or remove O-rings where used.
5. Unscrew cylinder rod from shaft and link assembly using an Allen wrench.
6. Lift cylinder away from base.
7. Remove fittings from cylinder.
8. Wipe fittings and put them on a lint-free cloth until reuse.

7.17.1.2 Replacement

NOTE: Always replace sealing washers.

1. Remove new cylinder from plastic bag and install fittings (from old cylinder) on new cylinder orienting them as closely as possible to correct position.
2. Tighten cylinder rod into shaft and link assembly (15, 16). Reinstall pivot pin and retaining rings (13, 14).
3. Reattach hoses. Tighten retaining nuts on hose fittings.
4. Operate floor lock several times and check for leaks.
5. Adjust according to *SECTION 7.11, FLOOR LOCK LINKAGE AND SWITCH ADJUSTMENT*.

7.17.2 Floor Lock, Foot End, Left (Looking At Base From Foot-End)

NOTE: The numbers in parentheses () refer to items found on Figure 2 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

7.17.2.1 Removal

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Unlock (raise) floor locks so that there is no pressure on them.
3. Detach hydraulic hoses from two elbow fittings on cylinder noting punch of each hose.
4. Remove power supply assembly as outlined in *SECTION 7.20.5, POWER SUPPLY ASSEMBLY REPLACEMENT*.
5. Use a hammer and punch to remove pivot pin or remove O-rings where used.
6. Unscrew cylinder rod from shaft and link assembly using an Allen wrench.
7. Remove cylinder from base.
8. Remove fittings from cylinder.
9. Wipe fittings and put them on a lint-free cloth until reuse.

7.17.2.2 Replacement

NOTE: Always replace sealing washers.

1. Remove new cylinder from plastic bag and install fittings (from old cylinder) on new cylinder orienting them as closely as possible to correct position.

2. Tighten cylinder rod into shaft and link assembly (15, 16). Reinstall pivot pin and retaining rings (13, 14).
3. Reattach hoses. Tighen retaining nuts on hose fittings.
4. Operate floor lock several times and check for leaks.
5. Adjust according to *SECTION 7.11, FLOOR LOCK LINKAGE AND SWITCH ADJUSTMENT*.

7.17.3 Floor Lock, Head End

7.17.3.1 Removal

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Unlock (raise) floor locks so that there is no pressure on them.
3. To remove this cylinder it is necessary to remove counterweight from table base.
4. Remove two screws and lockwashers holding counterweights to table base.
5. Remove counterweight from table base.
6. Remove all hydraulic hoses.
7. Use a hammer and punch to remove pivot pin or remove O-rings where used.
8. Unscrew cylinder rod from shaft and link assembly using an Allen wrench.
9. Remove cylinder from base.
10. Remove fittings from cylinder.
11. Wipe fittings and put them on a lint-free cloth until reuse.

7.17.3.2 Replacement

NOTE: Always replace sealing washers.

1. Remove new cylinder from plastic bag and install fittings (from old cylinder) on new cylinder orienting them as closely as possible to correct position.
2. Tighten cylinder rod into shaft and link assembly. Reinstall pivot pin.
3. Reattach hoses. Tighten retaining nuts on hose fittings.
4. Operate floor lock several times and check for leaks.
5. Reinstall counterweight.

7.17.4 Back Section Cylinders

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Do not remove back section cylinder without supporting back section. Limit switch maybe damaged if back section drops too much.

NOTE: The numbers in parentheses () refer to items found on Figure 12, Figure 13 and Figure 17 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

7.17.4.1 Removal

1. Insert a 2 x 4" between back and seat section and lower back section until board is wedged in place.
2. Remove back section tabletop.
3. Remove side rail.
4. Remove kidney-bridge linkage as follows:
   a. Tap out groove pin (Figure 12, 36) from universal joint (Figure 17, 19) connecting kidney bridge handle shaft to kidney bridge shaft assembly.
   b. Remove two round head screws and lockwashers (Figure 12, 34 and 35) holding brass support block (Figure 17, 18) in place.
   c. Remove two socket head cap screws and lockwashers (Figure 12, 32 and 33) from kidney bridge linkage block (Figure 17, 16).
   d. Lift linkage assembly up and out of way.
5. Remove setscrew (Figure 12, 26) from underside of saddle block.
6. Remove pivot pin (Figure 12, 25) from saddle block.
7. Remove two button plugs and dowell pins (Figure 13, 6 and 7) holding cylinder to back section casting.
8. Remove ground lead.
9. Disconnect and cap all three hydraulic hoses, marking them for reattachment.
10. Lift cylinder up and out of casting.
11. Wipe any fluid that may have leaked from hoses/ fittings.

7.17.4.2 Replacement

NOTE: Always replace sealing washers.

1. Place new cylinder into back section casting.
2. Attach all three hoses, ensure hoses are connected to appropriate port as marked during removal.

   NOTE: When attaching hoses, hold nut on hard line coming from cylinder and tighten fitting. Do not overtighten.

3. Reattach hose bracket.
4. Return both button plugs and dowell pins (Figure 13, 6 and 7) attaching cylinder to back section casting.

   NOTE: New cylinder is retracted. To extend cylinder rod, BACK UP function must be activated.
5. Turn power on. Raise back section slightly to extend new cylinder rod until hole in clevis lines up with hole in saddle block.
6. Insert pivot pin (Figure 12, 25). It may be necessary to jiggle back section slightly. Do not force pin - it should slide in.
7. Replace setscrew (Figure 12, 26).
8. Remove 2 x 4" wedge and operate UP/DOWN function to check cylinder for leaks.
9. Reinstall ground wire, kidney bridge linkage and side rail.

   NOTE: Procedure for other back-section cylinder is the same, except there is no kidney bridge linkage.

7.17.5 Leg Section Cylinders

NOTE: The numbers in parentheses () refer to items found on Figure 12, Figure 14 and Figure 15 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

7.17.5.1 Removal

1. Remove seat and leg section tabletops.
2. Remove seat section siderail.
3. Remove two socket flathead screws (Figure 15, 5) from end frame cap.

   NOTE: Do not remove setscrew on bottom outside of end frame cap assembly as this holds pivot pin (Figure 12, 19) to leg assembly after removal.
4. Remove two setscrews on inside edge of end frame cap assembly, top (Figure 12, 29) and bottom (Figure 12, 26).
5. Using special screw (P90696-061), screw into hole on pivot cap (Figure 10, 14) and turn to loosen cap.
6. Remove pivot cap.
7. Remove sleeve bearing and thrust washer (Figure 12, 21 and 20) from pin (Figure 12, 17).
8. Pulling outward, remove leg section (with pin attached) from seat section.
9. Tap out top pivot pin (Figure 12, 18) from outside toward inside.
10. Reflex table enough to gain access to two cap hex head screws (Figure 14, 17) holding cylinder (Figure 14, 2) to seat section casting.
11. Using Chapman set, remove two screws and washers (Figure 14, 17 and 18). Remove shims (Figure 14, 14 and 15).
12. Lower seat section to vertical position.
13. Carefully lift cylinder up and out of seat-section casting.
14. Remove hoses, marking ports for reattachment. Ports are marked on cylinder manifold ... mark hoses accordingly.

7.17.5.2 Replacement

NOTE: Always replace sealing washers.

1. Hand tighten hydraulic hoses in place as marked during removal. Then snug them down.
2. Place hydraulic cylinder in seat section casting.
3. Insert cap hex head screws and washers (Figure 14, 17 and 18) through seat section casting. Insert shims (Figure 14, 14 and 15) between casting and cylinder block.
4. Tighten screws into cylinder block using Chapman set.
5. Align hole in input link with hole in casting. Reinstall pivot pin (Figure 12, 18) through input link and casting.
6. Reattach leg section, ensuring pin (Figure 12, 17) is inserted through hole in coupler link. Slip sleeve bearing and thrust washer (Figure 12, 21 and 20) onto pin (Figure 12, 17).
7. Return pivot cap (Figure 10, 14). Use rubber mallet to properly seat cap in seat-section casting.
8. Replace and tighten setscrews at top side (Figure 12, 29) and underside (Figure 12, 26) of end-frame cap assembly.
9. Adjust leg section movement and tighten setscrew on locking collar of cylinder.

7.17.6 Seat Section Cylinder

NOTE: The numbers in parentheses () refer to items found on Figure 14 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

7.17.6.1 Removal

1. Lower shroud per *SECTION 7.4, SHROUD REMOVAL/REPLACEMENT PROCEDURES.*
2. Place 2 x 4" between seat section frame and saddle block. Lower table until it just touches 2 x 4" ... just enough to take pressure off cylinder ... so that seat frame is resting on 2 x 4".
3. Remove hydraulic hoses from cylinders (2 and 3), marking for reattachment.

4. Remove hex head cap screws and flat washers (17 and 18) from frame (1).
5. Remove shims (14 and 15) from cylinder (notice how they are placed with punch marks toward foot section).
6. Loosen jam nut holding cylinder rod to cylinder knuckle.
7. Hold cylinder with one hand while unscrewing cylinder rod from knuckle. Once cylinder is loose, lower it down and out of table base.

7.17.6.2 Replacement

NOTE: Always replace sealing washers.

1. Screw new rod of new cylinder into knuckle.
2. Reattach shims (14 and 15, with punch marks on pads toward leg section of table).
3. Start screws (17) with washers (18) into shims.
4. Attach hydraulic hoses, ensure they are connected to correct ports as marked during removal.
5. Lower seat section until mounting pads fit snugly against table frame (underside of skirt). Tighten screws into shims.

7.17.7 Side Tilt Cylinder

NOTE: The numbers in parentheses () refer to items found on Figure 9 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

7.17.7.1 Removal

1. Raise table to highest position.
2. Lower and remove shroud per *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES.*
3. Position table in full right-side tilt, then in Reflex position.
4. Remove two pipe plugs (20) holding clevis pins (12) through saddle and cylinder knuckle.
5. Drive two clevis pins (from seat section side) through knuckle enough to release side tilt cylinder. Cylinder should now be loose. Position table into far right side tilt.
6. Position table to full left side tilt to fully retract cylinder.
7. Remove hydraulic hoses (note each hose position), then place caps on fittings.
8. Remove two socket head screws and washers (8 and 7) holding locking plate (6) to knuckle (5).
9. Tap knuckle (from behind) to move it from locating pin.
10. Pull cylinder down and away from table. Be careful not to pull out any electrical plugs.
11. Remove setscrew (30) holding side tilt cylinder to dowel pin (25) in bracket (10).
12. Use a large punch to tap dowel pin out of bracket.

    NOTE: Pin is inserted with interference fit, so it may be difficult to tap out.
13. Remove fittings from cylinder.

7.17.7.2 Replacement

NOTE: Always replace sealing washers.

To replace the cylinder, follow *SECTION 7.17.7.1, REMOVAL*, in reverse order.

7.18 HYDRAULIC VALVE REPLACEMENT PROCEDURE

Refer to Figure 23 and Figure 24 located in Ilustrated Parts Breakdown. There are 10 hydraulic valves on the column. S1 through S8 are spool-type valves and S9 and S10 are cartridge-type valves.

There are also three hydraulic valves on the hydraulic pump assembly. S11 and S12 are spool-type valves and S13 (on early units) is a cartridge-type valve.

7.18.1 S1 Through S8

NOTE: The numbers in parentheses () refer to items found on Figure 23 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

***Important:** Removing the valve causes some hydraulic fluid leakage. Have a lint-free cloth available to catch any leakage.*

1. Disconnect ac power.
2. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
3. Raise table to maximum height.
4. To support raise/lower mechanism, insert a screwdriver through access hole at back of column. Slowly lower table until it contacts screwdriver.
5. Position table in sufficient left-side tilt to access table control board mounting screws.
6. P4 (Figure 19, 52) needs to be removed to access lower mounting screws.
7. Gently reposition table control board to gain access to valve coils located behind table control board.
8. Remove coil jam nuts (Figure 23, 21, 19 mm) from desired pair of solenoid valves.
9. Slide coil (Figure 23, 20) off of both left and right side of manifold assembly.

10. Loosen each solenoid housing using deep socket (24 mm). With lint free cloth under each housing to catch any leakage, unthread each housing by hand and remove from valve manifold.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: When replacing solenoid valves, carefully remove retaining washer and pressure spring to prevent washer and spring from quickly expelling from the valve block.

11. Wipe up any spillage.
12. Remove solenoid stem on control board side by sliding stem off valve slide.
13. Remove washer and pressure spring.
14. Remove solenoid stem and slide by pulling right stem out of manifold block.
15. Inspect plunger for wear and replace as necessary.
16. To replace valve, reverse this procedure.

7.18.2 S9 and S10

NOTE: The numbers in parentheses () refer to items found on Figure 23 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Use care when unthreading solenoid valve housing from the valve manifold. Plunger is equipped with a spring which may expel from the housing upon removal of the plunger housing.

1. Disconnect the ac power.
2. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
3. Raise table to maximum position.
4. To support raise/lower mechanism, insert screwdriver through access hole at back of column. Slowly lower table until it contacts screwdriver.
5. Position table in sufficient left-side tilt to access table control board mounting screws.
6. Remove jam nut (19 mm) holding solenoid coil.
7. Remove coil and safely set aside.
8. Loosen each solenoid housing using deep sock (24 mm). With lint free cloth under each housing to catch any leakage, unthread each housing by hand and remove from valve manifold.
9. Remove pressure spring from the plunger.
10. Remove plunger by sliding it off of spool.
11. Replace spool, O-ring, plastic seat and brass washer as necessary, noting orientation of each.
12. When reinstalling spool, O-ring, plastic seat and brass washer, ensure they are reassembled in plunger housing as a unit and in proper order before installing plunger housing.
13. To replace valve, reverse this procedure.

7.18.3 S10 Return Spring

This procedure only pertains to the Bieri 3 Hydraulic System. The earlier Bieri 1 and 2 Hydraulic Systems did not use a return spring. The Bieri 3 Hydraulic System can be identified by the spring guide on the sides of the second manifold section.

NOTE: Refer to Figure 23 located in Illustrated Parts Breakdown (refer to Tab) and Figure 7-5.

1. Unscrew spring guide (see Figure 7-5 and Item 24) on side of Control Block #2 (second block down) toward back section.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: When unscrewing spring guide from side of Control Block #2, threads may run out before spring is fully relaxed. Hold spring guide tightly to prevent housing, spring and pin from flying out.

2. Remove old spring (23) and replace with new spring (23).
3. Replace spring guide (24).

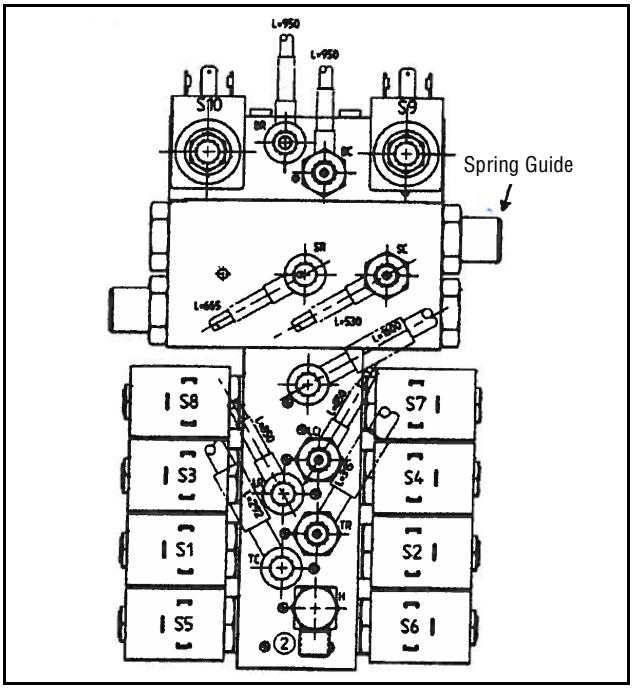


Figure 7-5. S10 Return Spring Replacement

4. If seat section drift still exists after replacing spring, replace ball check valve.

NOTE: All Bieri 3 manifolds currently shipping for Service parts are equipped with the stiffer spring.

7.18.4 S11 and S12

NOTE: Refer to Figure 24 located in Illustrated Parts Breakdown (refer to Tab).

1. Remove front base shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Remove front battery (closest to counterweight) as described in *SECTION 7.21, BATTERY REMOVAL/ REPLACEMENT*.
3. Remove jam nuts (19 mm) from both solenoids (S11 and S12).
4. Slide coil off of both left and right sides of manifold assembly.
5. Loosen each solenoid housing using deep socket (24 mm). With a lint-free cloth under each housing to catch any leakage, unthread each housing by hand and remove from valve manifold.
6. Wipe up spillage.
7. Remove solenoid stem on control board side by sliding stem off of valve slide.
8. Remove washer and pressure spring.
9. Remove solenoid stem and slide by pulling right stem out of manifold block.
10. Inspect plunger for wear and replace as necessary.
11. To replace valve, reverse this procedure.

7.18.5 S13

NOTE: Refer to Figure 24 located in Illustrated Parts Breakdown (refer to Tab).

1. Remove front base shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Remove jam nut (19 mm).
3. Remove and replace cartridge assembly using 24-mm wrench.
4. Reinstall in reverse order.

7.19 REPLACEMENT OF CHECK VALVES IN FITTINGS

NOTE: Hold a lint-free cloth under fittings when loosening and removing. Always replace sealing washers.

Before beginning any of the following fitting procedures, perform the following steps:

1. Remove front base shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Raise table to maximum height.
3. Support raise/lower mechanism by inserting a screwdriver through access hole on back of column. Slowly lower table until it contacts screwdriver.

NOTE: Refer to Figure 23 located in Illustrated Parts Breakdown (refer to Tab).

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Failure to secure a tabletop section may result in sudden lowering of that section when hydraulic line is opened.

4. Identify appropriate check valve to be replaced.
5. Secure top section requiring check valve replacement to:
   a. Keep section from falling when hydraulic line is opened.
   b. To minimize fluid loss.
   c. Reduce changing time.
6. Loosen and remove banjo fitting bolt using 14-mm wrench. Note position of banjo fittings seals.
7. Remove check valve cartridge from manifold using 17-mm wrench.
8. Remove check valve spring and ball.
9. Replace and reassemble in reverse order.

7.20 PC BOARD REPLACEMENT

NOTE: The numbers in parentheses () refer to items found on Figure 4 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

7.20.1 Table Control PC Board Assembly

1. Lower table to lowest position.
2. Lower shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
3. Raise table to maximum height and full left-side tilt to gain access to top screw (16) holding PC Board Assembly (18) in place.
4. Unplug cable plugs from bottom of PC Board Assembly.
5. Remove cable ties from side and bottom of PC Board Assembly.

   NOTE: Washers (17, 20 and 19) are installed in sequence. Before removing screws holding PC Board Assembly in place, note sequence and reinstall in same manner.
6. Remove top screw (16), wire shield (21) and washers (17, 20 and 19) holding PC board to column.

7. Remove bottom screw (16) and washers (17, 20 and 19) holding PC board to column.
8. Remove PC board.
9. Attach new PC Board Assembly to column.

   NOTE: Plugs P28 and P29 look alike but are not interchangeable. Check the cable indicators to ensure they are plugged into PC board properly.

10. Attach cable plugs.
11. Attach all cable ties to the board assembly, side and bottom.
12. Verify jumpers on control board.

7.20.2 Override Switch PC Board Assembly

NOTE: The numbers in parentheses () refer to items found on Figure 1 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

1. Lower table to lowest position.
2. Lower shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
3. Raise table to maximum height.
4. Unscrew and remove red toggle boot seal (53) and four grey toggle boot seals (52) holding switch assembly on skirt.
5. Remove four screws (42) and washers (28) holding override switch housing (62) to override bracket (67).
6. Unplug override switch harness and remove override switch housing (62).
7. Carefully remove and replace override switch board (54).

   NOTE: If existing override switch assembly has the connector mounted to the component side of the board (original configuration for table serial number range B420702-032 through B430302-041), discard the assembly and replace with P150830-758 which has connector on solder side of board and uses harness P134469-476 (both included in P764333-935.

   ***Important:** Check fit of override switch assembly in weldment when switch panel is mounted flush. Hose guide plate may need to be bent away from connector to eliminate interference with connector. Protect the electrical insulating material while bending the plate (see Figure 7-6).*

8. Return assembly in reverse order.

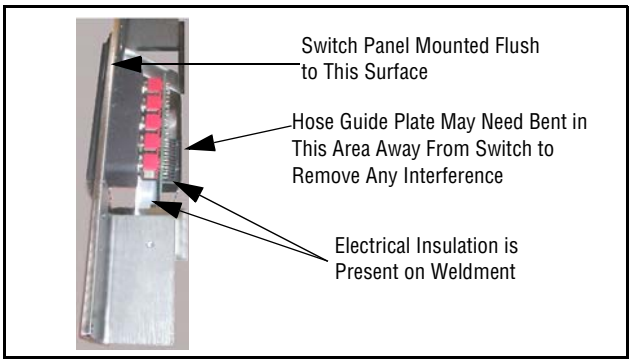


Figure 7-6. Proper Fit of Override Board Into New Hose Guide Plate

7.20.3 Override Control PC Board Assembly

NOTE: The numbers in parentheses () refer to items found on Figure 4 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

1. Lower table to lowest position.
2. Lower shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
3. Raise table to maximum height.
4. Remove P9/P10 cable assembly.
5. Remove four screws and lockwashers holding override box assembly (23) to saddle.
6. Disconnect P8 and P9 cable assemblies.
7. Remove assembly from table.
8. Install new assembly in reverse order.

7.20.4 Power Control PC Board

NOTE: The numbers in parentheses () refer to items found on Figure 3 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

⚠ WARNING – ELECTRIC SHOCK HAZARD: Before replacing PC boards or power supply assembly, disconnect all power sources; i.e., wall plug, control battery and (if a battery- operated table) the motor battery positive terminal.

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Remove three screws (38) and washers (39) holding power supply assembly cover in place. Power Control PC board (40) is on underside of this cover.
3. Lift cover and tilt back.
4. Disconnect plugs P5 and P6.
5. Turn cover over. Carefully slip PC board (40) off nylon standoffs, five places.

6. Press new board onto standoffs, ensure board is firmly snapped into place.
7. Reattach plugs P5 and P6.
8. Reattach cover to power supply assembly using three screws (38) and washers (39).
9. Return shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.

7.20.5 Power Supply Assembly Replacement

NOTE: The numbers in parentheses () refer to items found on Figure 3 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

⚠ WARNING – ELECTRIC SHOCK HAZARD: Before replacing PC boards or power supply assembly, disconnect all power sources; i.e., wall plug, control battery and (if a battery-operated table) the motor battery positive terminal.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: When reinstalling power supply assembly, be aware of table-lock microswitch wires (blue twisted pair wire). Handle carefully to avoid breaking solder connections.

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Remove three screws (38) and washers (39) holding power supply assembly cover in place. Power Control PC board (40) is on underside of this cover.
3. Lift cover and tilt back.
4. Disconnect plugs P5 and P6 and set cover aside.
5. Remove two screws (36) and lockwashers (35) on inside of power supply assembly, holding assembly to base.
6. Disconnect all electrical wires to assembly (refer to Figure 19 and Electrical Schematic for more information).
7. Lift power assembly off base.

   NOTE: When reinstalling P6, ensure no wires have pulled out of the plug. Check all wire connections.
8. Make wire connections and reattach power assembly to base.
9. Replace cover and fasten in place.
10. Return shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.

7.21 BATTERY REMOVAL/ REPLACEMENT

NOTE: The numbers in parentheses () refer to items found on Figure 3 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. With the ac power removed, disconnect four battery terminal wires and note their positions for reconnection.
3. Remove two 8 x 32 nut, washer and screw combinations (9, 11 and 10)from each end of battery support bracket (8).
4. Gently lift and remove battery.
5. Replace or reinstall battery by following procedure steps in reverse order.

7.22 MOTOR BATTERY CHARGER MODULE REPLACEMENT

Important: *This procedure is for Battery-Operated Tables only.*

NOTE: The numbers in parentheses () refer to items found on Figure 3 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

⚠ WARNING – ELECTRIC SHOCK HAZARD: Before replacing PC boards or power supply assembly, disconnect all power sources; i.e., wall plug, control battery and (if a battery- operated table) the motor battery positive terminal.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: When reinstalling power supply assembly, be aware of table-lock microswitch wires (blue twisted pair wire). Handle carefully to avoid breaking solder connections.

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Follow *SECTION 7.20.5, POWER SUPPLY ASSEMBLY REPLACEMENT*, to gain access to P19 and P20.
3. Remove two sems screws (9) and washers (11) holding battery charger (7) in place.
4. Carefully move cable assemblies for clear access.
5. Disconnect plugs P19, P20 and P21.
6. Lift battery charger from table base, being careful not to dislodge any wire connections.

7. Make wire connections (P19, P20 and P21) to new battery charger.
8. Lower new battery charger into table base.
9. Secure battery charger with two sems screws (9), washers (11) and nuts (10).
10. Replace power supply module as described in *SECTION 7.20.5, POWER SUPPLY ASSEMBLY REPLACEMENT.*

7.23 TRANSFORMER REPLACEMENT

NOTE: The numbers in parentheses () refer to items found on Figure 3 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

⚠ WARNING – ELECTRIC SHOCK HAZARD: Before replacing PC boards or power supply assembly, disconnect all power sources; i.e., wall plug, control battery and (if a battery- operated table) the motor battery positive terminal.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Handle wire cables carefully, ensuring they do not get entangled in other components and wires do not pull out of the plugs.

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Remove two screws (36) and lockwashers (35) holding transformer (22) to table base.
3. Disconnect plugs P19, P20 and P21.
4. If a battery-operated table, remove battery charger module as described in *SECTION 7.22, MOTOR BATTERY CHARGER MODULE REPLACEMENT*.
5. Disconnect plugs P26 and P23.
6. Carefully lift transformer from table base.

   Important: *When installing new transformer, ensure no connectors become lodged between hydraulic hoses.*
7. Place new transformer on table base.

   NOTE: To orient transformer properly, ensure P23 connection is facing the power supply assembly.
8. Connect all cables.
9. If battery-operated table, reinstall battery charger module.
10. Return shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.

7.24 MANUAL PUMP PRIMING PROCEDURE

NOTE: The numbers in parentheses () refer to items found on Figure 6 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Remove hose clamp and hose (Figure 22, 18 and 21) from reservoir fitting.
3. Use clean 500-mL wash bottle (or equivalent) of hydraulic oil and fill tube with oil.
4. Reinsert tube (now filled with fluid) into reservoir fitting.
5. Pump foot pump pedal several times. Oil should flow in tube when pump pedal is returning. If oil is not flowing, pour hydraulic fluid directly into pump using following method:
   a. Remove check valve (17) from hydraulic fitting (18).
   b. Fill pump body (3) with fluid and reattach check valve.
   c. Repeat **Steps 3, 4 and 5**.
6. Fasten hose clamp.
7. Pump pedal repeatedly, noting if oil is flowing through tube from reservoir to pump.

   If oil is flowing in tube, continue pumping pedal until it becomes hard to pump and tube is completely filled with oil. If oil is not flowing in tube, repeat **Steps 2 through 7** above.
8. Disconnect electric line to hydraulic pump motor. Using override hand control and manual pump, articulate each table function to check its operation.
9. Reconnect electric line to hydraulic pump motor.
10. Return shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.

7.25 COLUMN LUBRICATION

NOTE: The numbers in parentheses () refer to items found on Figure 7 located in Illustrated Parts Breakdown (refer to Tab) unless otherwise noted.

1. Lower table to lowest position.
2. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
3. Raise table until top of stage block is above top of guide shaft (4). Refer to **REFERENCE A** on Figure 7.
4. Pour one tablespoon of Chevron 680 oil down each slot. This flows to oiler (5), lubricating bearings (6).

7.26 RESERVOIR FILLING

NOTE: Use only 3080 Series table oil (P764322-636) when adding oil to or refilling reservoir.

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Raise table to maximum height.
3. Clean area around reservoir cap and then remove cap.
4. Add oil until FULL level is reached on dipstick attached to cap.
5. Replace cap.

7.27 HYDRAULIC FLUID FLUSH PROCEDURE

This procedure is for use when hydraulic fluid contamination is suspected inside the pump or one of the manifolds.

NOTE: Always replace sealing washers.

1. Remove shroud as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.
2. Unlock table and lower tabletop to lowest position.
3. Using a suction bottle and facility vacuum system, remove all hydraulic oil from reservoir.

   NOTE: Failure to use a suction bottle results in oil contamination of facility vacuum system.
4. Refill reservoir to approximately 3/4-full or about 1" (25.4 mm) from top.
5. Fully articulate table (no load), in succession, on ac power using indicated control:
   a. With override hand control, operate RAISE for about five seconds.
   b. Using hand control for remainder of steps, fully lock then unlock floor locks approximately five times.
   c. Relock floor locks.
   d. Fully RAISE then fully LOWER five times.
   e. Fully TILT in both directions five times. End on level.
   f. Operate leg section fully up/down five times.
   g. Purge back/seat system as follows:
      - Position table in full REFLEX. Continue BACK UP to full back up.
      - Position table to full BACK DOWN.
      - Position table into full REVERSE TRENDELENBURG.
      - Position table into full BACK UP followed by full BACK DOWN.
      - Fully extend and retract Kidney Bridge.
      - Repeat this procedure four more times.
6. Repeat **Steps 2 through 5** two more times.
7. Clean entire area outside all hose fittings to ensure no additional dust or lint are introduced into hydraulic system when disasssembled.
8. Clean hydraulic valves per procedures listed in *SECTION 7.17, HYDRAULIC CYLINDER REPLACEMENT*.
9. Repeat **Steps 2 through 5** six more times.
10. Let table sit idle for 20 minutes to allow all entrained air in oil to rise.
11. Repeat **Step 5** ten more times to ensure air removal and inspect for leaks.
12. Disconnect, one at a time, hydraulic lines to floor locks and purge each line. Remove as much oil as possible from foot cylinder and refill manually before reconnecting hydraulic line.
13. Level tabletop and raise table to half height. Measure distance from tabletop to floor. Note this dimension.
14. Allow sufficient time (minimum 30 minutes) to ensure no downward drift. Measure distance from tabletop to floor and compare to distance recorded in **Step 13**.
15. Fill reservoir to level line.
16. Reassemble table and return to service.

7.28 HYDRAULIC SYSTEM AIR BLEED PROCEDURE

Air entrapped in the hydraulic system can cause an excessive variance in the synchronization (returning to level, aligning) of the back/seat sections. Correct this situation by bleeding this entrapped air as follows:

NOTE: The hydraulic system air bleed procedure must be performed in the following sequence.

1. Ensure table is positioned on a reasonably level floor.
2. Check pump reservoir oil level. Add appropriate oil as necessary.
3. Lock table using floor locks as follows:
   a. Fully articulate floor locks until all three cylinders no longer drift at end of lock or unlock strokes.
   b. Using **override switches** (not **hand control**), lock floor locks.

NOTE: The hand control may not make the floor lock cylinder operate at full stroke. Full stroke operation is required to properly purge the system.

c. Ensure table is on level floor and floor locks are locked.

4. Bleed leg system as follows (use override switches):
   a. Place leg section full down
   b. Place seat in full raised position (Trendelenburg and back).
   c. Raise leg fully to maximum up position.
   d. Lower and raise leg section fully two more times.
   e. With leg section in full raised position, lower seat to full down (Reverse Trendelenburg and back).
   f. Lower leg fully.
   g. Raise and lower leg section fully two more times.
   h. Level tabletops.
5. Bleed tilt system (using override switches) by moving table top from full lft to full right tilt at least four times. Level tabletop at completion.
6. Bleed seat/back system as follows (use override switches):
   a. Raise back section fully.
   b. Stop for at least two seconds.
   c. Lower back section fully.
   d. Stop for at least two seconds.
   e. Repeat **Steps a through d** four more times.
   f. Raise back section to at least 15° above level.
   g. Place into full Trendelenburg ensuring seat cylinder is fully extended.
   h. Stop for at least two seconds.
   i. Raise back fully, lower back fully and stop.
   j. Place into full Reverse Trendelenburg (seat cylinder should be fully retracted).
   k. Stop for at least two seconds.
   l. Raise back section to full up.
   m. Lower back section fully.
   n. Repeat **Steps g through m** four more times.
   o. Level tabletop.

7.29 FIELD RESETTING OF VOLTAGE SETTINGS

NOTE: This procedure is typically completed by Service personnel outside of North America.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: Before field-resetting of voltage switches, disconnect table from any external ac power source.

1. Raise tabletop to maximum height as follows:
   a. If battery-powered and operable, use hand control in normal fashion.
   b. If electric-powered (or battery-operated and batteries are discharged), use hand control and manual foot pump.
2. Remove shrouds as described in *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.

7.29.1 Switches

NOTE: A special Allen wrench (P764322-952) is required to gain access to the voltage switches. Refer to FIELD INSTRUCTIONS (P150830-769) for more information.

1. Voltage tap switches (two on electric table; three on battery-operated table) are under switch covers. Use Allen wrench to remove tamper-proof screws and switch covers.
2. Change switches to the proper setting.
3. Replace switch covers and screws.
4. Verify table fuses (F1, F2, F3 and F4 - battery-operated tables only) are of proper voltage as listed in **Table 4-2**.
5. Replace table base and column shrouds.

7.29.2 Jumper Plug

NOTE: Refer to FIELD INSTRUCTIONS (P150830-769) for more information.

1. Remove Power Supply cover to gain access to voltage plug (identified as P202).
2. Change plug to attain proper voltage setting.
3. Replace power supply cover and screws.
4. Verify table fuses (F1, F2, F3 and F4 - battery-operated tables only) are of proper voltage as listed in **Table 4-2**.
5. Replace table base and column shrouds.

7.30 DISPOSAL HAZARDS

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

The following materials are contained within the Amsco 3085 SP 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 (Pb) Weight** - solid weight (P146653-460, quantity = 1) located in table base at narrow end. Approximate weight = 90 lb (41 kg).
- **Lead Acid (Pb/H_2SO_4)** - gelled cell batteries (P93908-637, quantity = 2 and P136806-806, quantity = 2 battery-powered table only) located in table base in narrow end. Approximate weight = 39 lb (14 kg).
- **Mercury (Hg)** - in sealed glass tube electrical switches, contained in RTV potted Return-to-Level switch assemblies (P136807-726, P136807-727 and P136807-728). Quantity = 3 assemblies per table (two mercury switches per assembly). Two assemblies are located in back section frame and one assembly is located in seat section frame. Approximate total mercury per table = 18 grams.
- **Hydraulic Oil** - Chevron AW32 or equivalent (P150823-197; service part P764322-636). Oil is in hydraulic components located in base, on column, in seat section, in back section, inside column, and in all hydraulic system lines and hoses. Approximate quantity = 0.9 US gallons (3.4 L).
- **Gear Compound** - Chevron grade 680, located in oiler pads in column. Approximate amount = 1 ounce (28 grams).
- **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 methods 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.

7.31 COLUMN BEARING REPLACEMENT

7.31.1 Required Tools and Supplies

Have the following items on hand to complete the Column Bearing Replacment:

- Adjustable Height Folding Sawhorse (2).
- 4 x 4" - 36" (914 mm) long (2).
- 2 x 4" - 48" (1219 mm) long (2).
- Tie-Down Straps (2).
- Anti-Seize (P764331-557).
- Loctite 242 (R5300-554).
- Loctite 222 (R5300-545).
- As Needed:
  - Bearings, four per table (P129359-671).
  - Felt Oilers, two per table (P129359-859).
  - Chevron 680 Oil, used to soak Felt Oilers and lubricate column (P764326-267).

    NOTE: If replacing the felt oilers, soak the new oilers in the Chevron oil while performing the procedure.
- Pressure Plate and Hardware:

  NOTE: The pressure plate was removed on 3085 SP IPX4 Surgical Tables after Serial Number B413304-015. To perform the Column Bearing Replacement, the pressure plate and associated hardware must be returned to the table.
  - Support, Column Guide (Pressure Plate), one (P146653-433).
  - Setscrew, #10-32 x 5/16", five (P043282-091).
  - Screw, Button Head, #10-24 x 1/2", five (P129352-751).

7.31.2 Procedure

⚠ WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Read this procedure carefully and completely before starting column bearing replacement repair. Failure to follow this procedure correctly could result in personal injury and/or equipment damage.

NOTE: Since each version of the Amsco 3085 SP Surgical Table could be slightly different, it is a good idea to take pictures during the disassembly process to make reassembly easier.

1. Prepare sawhorses as follows:
   a. Raise each sawhorse to full height.
   b. Attach both 4 x 4" boards to top of sawhorses using wood screws (see Figure 7-11).
2. Lock floor locks.
3. Remove base and column shrouds per *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES.*
4. Locate column pressure adjustment plate (see Figure 7-7) and proceed as follows:
   a. If pressure plate exists, loosen five setscrews one full turn.
   b. Remove pressure plate by removing and saving five button head screws.
   c. Set plate and hardware safely aside.
   d. If plate was not attached, have needed parts ready to be added during reassembly.

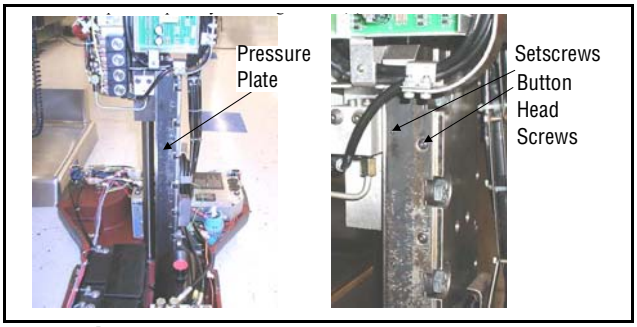


Figure 7-7. Remove Pressure Plate

5. Remove column stop screw (see Figure 7-8).

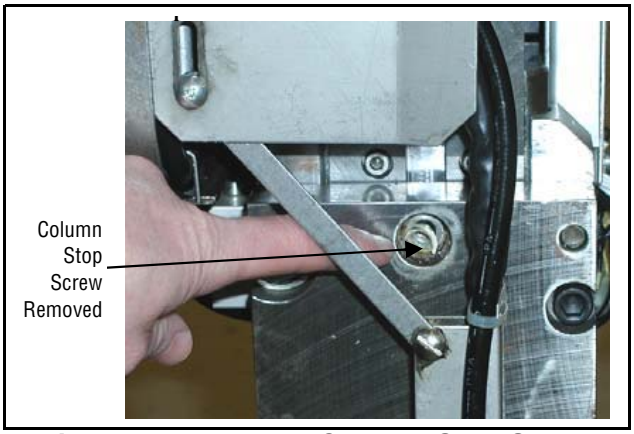


Figure 7-8. Remove Column Stop Screw

6. Remove hose guide bracket (see Figure 7-9).

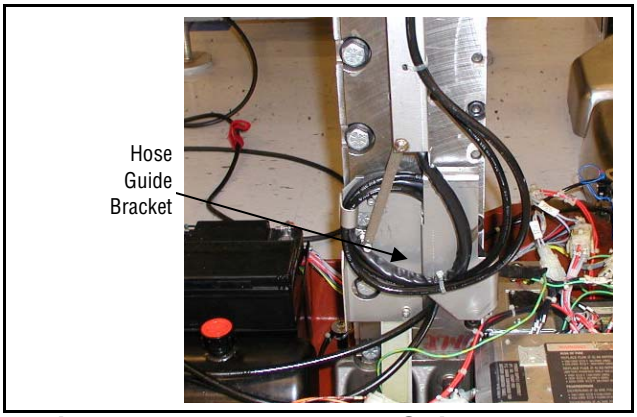


Figure 7-9. Remove Hose Guide Bracket

7. Locate seven 1/2" hex head screws securing left guide shaft (see Figure 7-10). Break loose and snug one at a time.

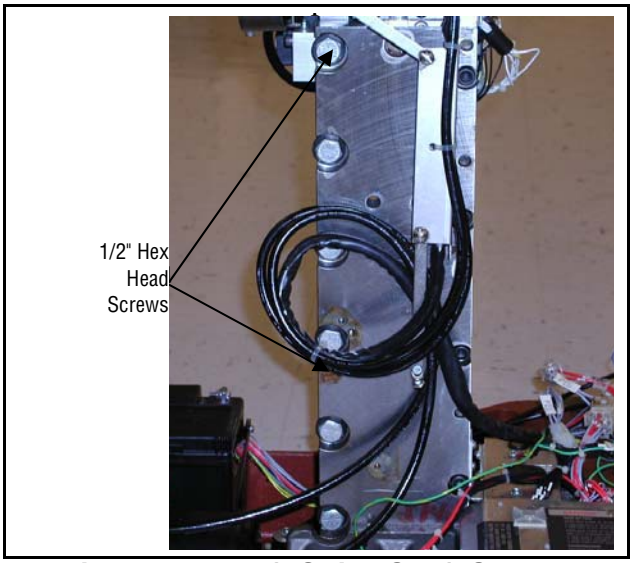


Figure 7-10. Left Guide Shaft Screws

8. Secure tabletop (see Figure 7-11) as follows:
   a. Place sawhorses under back and seat tabletop sections.
   b. Place both 2 x 4" parallel to and on top of 4 x 4" and underneath side rails.
   c. Use hand control Trendelenburg and Reverse Trendelenburg to align tabletop section side rails with both 2 x 4".
   d. Use hand control and slowly lower tabletop until side rails sit on top of 2 x 4".
   e. Use tie down straps to secure both 2 x 4" to tabletop as shown in Figure 7-11. There should be approximately 42" (1067 mm) from floor to bottom of side rails.

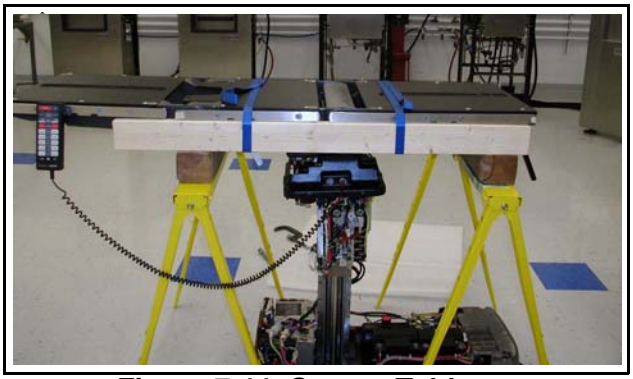


Figure 7-11. Secure Tabletop

9. Once tabletop is resting on the sawhorse, completely remove and discard seven 1/2" hex head screws loosened in **Step 7**.
10. After removing seven hex head screws, left side guide shaft can be removed. In some cases override relay board must be loosened to remove guide shaft as shown in Figure 7-12.

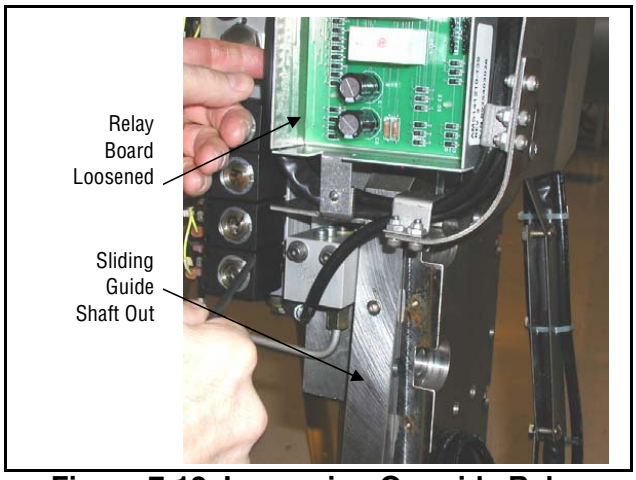


Figure 7-12. Loosening Override Relay

11. Unlock floor locks to give enough clearance for bottom of ram cylinder. Push base so right side guide shaft clears and gives access to bearings on that side (see Figure 7-13).

NOTE: The tabletop with the upper stage block attached is supported by the sawhorses and the base with the lower column assembly moves with the base. Remember that the hydraulic and electrical lines are still attached so do not force the base.

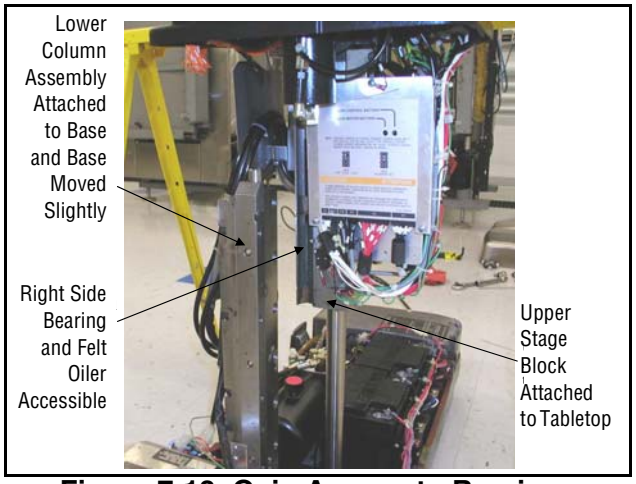


Figure 7-13. Gain Access to Bearings

12. On both sides, remove bearing using small screwdriver (see Figure 7-14). Remove felt oilers if they are being replaced.

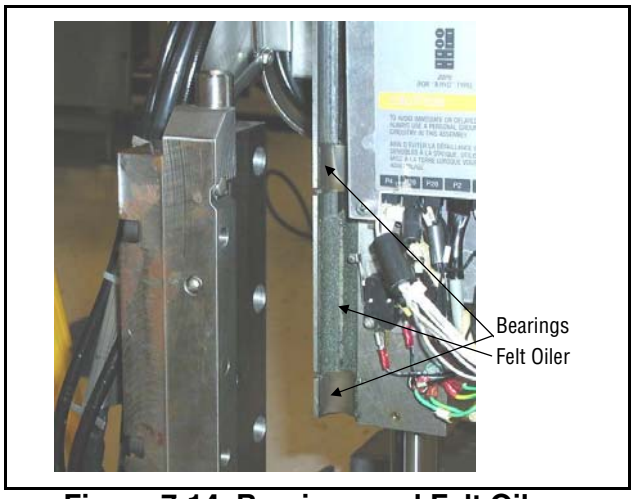


Figure 7-14. Bearings and Felt Oilers

13. Remove four bearings adjustment screws. Apply Loctite 222 and reinstall them hand tight (see Figure 7-15).

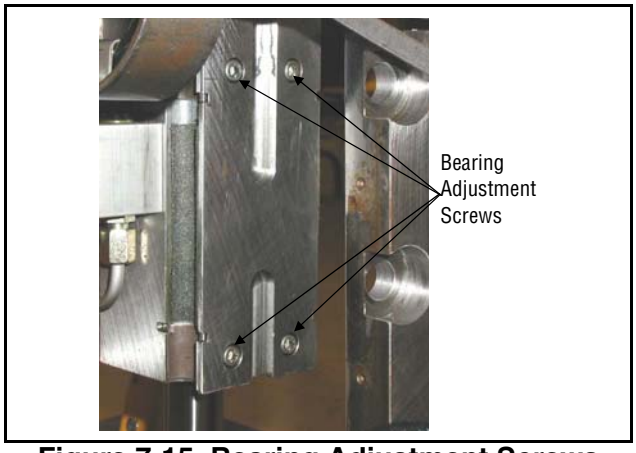


Figure 7-15. Bearing Adjustment Screws

14. Clean area and insert new bearings. Push bearing firmly into place. If replacing felt oiler, press oil soaked felt firmly into slot between bearings and spread open. Tighten four bearing adjustment screws until just flush with stage block.
15. After replacing bearings, carefully move base into position so right side guide shaft aligns back into groove where bearings are located.
16. Reinstall left side guide shaft using seven 1/2" hex head screws (new). Apply some anti-seize, tighten hand tight and back off slightly.
17. Reinstall column stop screw using Loctite 242.
18. Ensure ram is pointing straight down to center of area in base as shown in Figure 7-16.

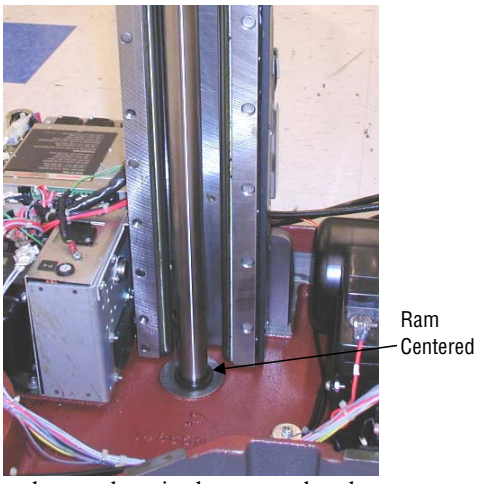


Figure 7-16. Center Ram

19. Activate loor locks and press raise button so tabletop weight is on ram and just off sawhorses. Remove sawhorse setup.
20. Reinstall pressure plate using Loctite 222 on button head screws.
21. Tighten five setscrews until they just touch left side guide shaft.
22. Check and adjust column for lateral, longitudinal and rotational lash per **Step 4** of *SECTION 6.8, TABLETOP RAISE/LOWER*.
23. After lash adjustment and seven 1/2" hex head screws are torqued to 150 ft-lb (203N•m), reinstall hose guide bracket.
24. Check table for proper articulation.
25. Replace shrouds per *SECTION 7.4, SHROUD REMOVAL/ REPLACEMENT PROCEDURES*.

Live Document, Historical Table

Live Document Page Number	Figure Number/ Name	Manual Development Historical Record
Front Cover	Front Cover	P: Stamp “12/16/2011 LIVE DOCUMENT” C: Document Manufacturing changes/manual errors and clarifications A: Stamped to show Live Document Date
2-6	Table 2-3 Special Tools for Amsco 3085SP Surgical Table Maintenance	P: Gray Touch-Up Paint (60cc Bottle) has a typo in the part number R: Correct part number is P150824-612

MAINTENANCE MANUAL

Illustrated Parts Breakdown

Amsco® 3085 SP Surgical Table
After S/N B420702-025

(10/07/10) P764332-899

A Word From STERIS Corporation

IMPORTANT: A listing of the *SAFETY PRECAUTIONS* to be observed when operating and servicing this equipment can be found in *SECTION 1* of the *Maintenance Instructions* (P764332-898). Do not operate or service the equipment until you have been trained on this information.

Thank you for choosing this fine STERIS product. STERIS is committed to ensuring your continued satisfaction. This manual illustrates and identifies assemblies and components of the Amsco® 3085 SP Surgical Table. **All personnel involved in the use and maintenance of this equipment must carefully review and comply with the *SAFETY PRECAUTIONS* and instructions contained in the *MAINTENANCE INSTRUCTIONS* (P764332-898). Do not begin service of this Surgical Table until you have become familiar with this information.**

GENERAL

Assemblies and components of the Amsco 3085 SP Surgical Table are illustrated and identified on the following pages. The part number, the description and the quantity required for each usage are given. Each indentation in the description represents the assembly level. The **UNITS PER ASSEMBLY** column is specific for the given assembly or subassembly level.

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.

CAUTION – POSSIBLE EQUIPMENT DAMAGE: To prevent voiding the warranty or damaging the equipment, use only STERIS replacement parts.

HOW TO USE THE ILLUSTRATED PARTS BREAKDOWN

1. Determine the function and application of the part required. Examine the list of illustrations and select the most appropriate title. Note the illustration page number.
2. Turn to the page indicated and locate the desired part on the illustration (see Example 1).
3. From the illustration, obtain the item number assigned to the part desired. Refer to the accompanying description for specific information regarding the part (see Example 1).
4. The abbreviation A/R means "As Required" or "Amount Required."
5. The abbreviation SS means "Stainless Steel."

SPECIAL INSTRUCTIONS

Table 1 provides part numbers and figure references for the most commonly replaced items on an Amsco 3085 SP Surgical Table. This table is for quick reference only. For a complete listing of parts, refer to the appropriate Figure and associated Illustrated Parts Breakdown (IPB) in this Section of the maintenance manual.

Printed in U.S.A.

FIG. & ITEM NO.		PART NUMBER		SVC	DESCRIPTION	UNITS PER ASSEMBLY			
10-1	**P**	**146667**	**035**		**Harmony LA Wall Control Assembly, Domestic**	**X**			
	P	**146667**	**327**		**Harmony LA Wall Control Assembly, Global**			**X**	
	P	**146667**	**358**		**Harmony LA Wall Control Assembly, LA2**				**X**
1	P	146667	278		ASSEMBLY, Cover/Membrane Replacement	1	–	–	1
2	P	042631	045		SCREW, Socket Button Head, 1/4-20	4	–	–	4
3	P	076230	091		WASHER, Lock, 1/4 External Tooth	4	–	–	4
4	P	146667	087		COVER	1	X	1	–
	P	129382	215		• SCREW, Hex Head, 1/4-20 x 1/2	–	1	–	–
	P	129382	219		• WASHER, 1/4	–	1	–	–
5	P	143356	211		REFLECTOR	1	–	1	–

No indention-part of top assembly

No indention-part of top assembly

One indention-first subassembly, part of assembly under which it is indented.

One indention-first subassembly, part of assembly under which it is identified with an "X" in the column.

Example 1. How To Use IPB Page (Typical)

Table 1. Amsco 3085 SP (IPX4) Parts - Quick Reference Guide

	Description Part	Number	Reference
Adhesives/Supplies	Loctite, Type 222	R005300-545	Figure 16, Item 36
	Loctite 242, 50 cc	R005300-554	Not Shown
	Loctite 262 (Thread Locker)	R005300-890	Not Shown
	Loctite 271	R005300-548	Not Shown
	Loctite 290, 50 cc	R005300-540	Not Shown
	Loctite, Type 495, 1 oz	R005300-557	Figure 16, Item 25
	Loctite, Type RC/609	R005300-542	Figure 16, Item 35
	Loctite, Primer T	R005300-912	Figure 16, Item 38
	RTV, GE 108 Clear, 2.8 oz.	R005300-563	Not Shown
	RTV, #108	R005300-567	Figure 5, Item 11
	RTV, Black, GE #123	R005300-568	Figure 1, Item 37
	RTV, White, #162	R005300-006	Not Shown
	Tape, Used on Shroud Clips	R007200-030	Figure 1, Item 38
	Foam, Tape, 3/16 x 3/8 (Unit of Measure per Foot)	R007200-553	Figure 1, Item 34
	Hydraulic Oil	P764322-636	Figure 8, Item 12
	Touch-up Paint, Dark Gray, 12-oz Can	~~P764319-808~~	Not Shown
	Touch-up Paint, Gray, 60-cc Bottle	P150824-612	Not Shown
	Neptune 7, 4-oz Tube	P764322-635	Not Shown
	Ora Lub Anti-Seize	R005300-286	Not Shown
	Lubriplate HD-2, 14-oz Tube	R006400-826	Not Shown
	Lint-Free Cloth (BAF), Package	R006200-400	Not Shown
Electrical	Circuit Breaker, 12 Amp (With ON/OFF) After S/N 0425709074	P056397-356 P056404-061	Figure 6, Item 23
	Transformer Assembly, 24V	P056397-862	Figure 3, Item 22
	Battery, Control, 12V	P093908-637	Figure 3, Item 53
	Switch, Limit (LS1, LS2 and P27)	P093909-544	Figure 19, Item 19
	Assembly, Rectifier	P093909-780	Figure 19, Item 33

Table 1. Amsco 3085 SP (IPX4) Parts - Quick Reference Guide (Cont'd)

	Description Part	Number	Reference
Electrical (Cont'd)	Assembly, Override (P22, Floor Lock)	P134469-092	Figure 6, Item 31
	Battery, Motor 12 V	P764331-223	Figure 3, Item 12
	Assembly, Cable (LS1, LS2 and P27)	P136807-035	Figure 19, Item 19
	Assembly, Limit Switch (P28 to Control Box)	P136807-080	Figure 19, Item 41
	Electric-to-Battery Conversion	P630939-039	Figure 20
	AC Plate Assembly With Labels and Cover	P755717-297	Figure 5 and Figure 19, Item 7
	Cord With Velcro Strap	P764324-271	Figure 3, Item 47
	Control PC Board Housing Assembly	P141210-546	Figure 4, Item 18
	Override Control Board Box Assembly	P141210-549	Figure 4, Item 23
	Power Supply	P134469-515	Figure 3, Item 37
	• Power Control PC Board (For P134469-515 Power Supply Only)	P141210-543	Figure 3 Item 40
	Battery Charger (Motor Only)	P426637-598	Figure 3, Item 7
Hydraulic	Motor Pump	P134469-299	Figure 24, Item 2
	Motor And Pump Assembly, Plastic Sump #4	P141210-540	Figure 24
Hydraulic Cylinders	Leg Section, Left Hand	P141210-145	Figure 21, Item 10
	Leg Section, Right Hand	P141210-146	Figure 21, Item 9
	Back Section, Right Hand	P134469-132	Figure 21, Item 11
	Back Section, Left Hand	P134469-131	Figure 21, Item 12
	Seat	P134469-133	Figure 21, Item 7
	Tilt	P141210-491	Figure 21, Item 8
	Floor Lock, #2 and #3	P056397-275	Figure 21, Item 4
	Floor Lock, #1	P056397-274	Figure 21, Item 3
Parts	Bearing, Plain Olite	P010540-091	Figure 2, Item 8
	Screw, Roundhead, Machine, 1/4-20 x 5/8	P003999-041	Figure 12, Item 4
	Gear, spur	P015220-045	Figure 17, Item 8

Table 1. Amsco 3085 SP (IPX4) Parts - Quick Reference Guide (Cont'd)

	Description Part	Number	Reference
Parts (Cont'd)	Worm	P016234-091	Figure 17, Item 10
	Joint, Universal	P020200-045	Figure 17, Item 19
	Cylinder, Rubber	P021504-091	Figure 2, Item 26
	Pin, Grooved, 3/16 x 1	P024700-061	Figure 17, Item 13
	Side Rail, Leg Section (Right Hand)	P056397-205	Figure 10, Item 8
	Side Rail, Leg Section (Left Hand)	P056397-206	Figure 10, Item 7
	Side Rail, Seat Section (Right Hand)	P056397-209	Figure 10, Item 10
	Side Rail, Seat Section (Left Hand)	P056397-210	Figure 10, Item 9
	Side Rail, Back Section (Right Hand)	P056397-213	Figure 10, Item 5
	Side Rail, Back Section (Left Hand)	P056397-214	Figure 10, Item 6
	Washer, Sealing, 10mm	P056397-441	Figure 23, Item 6
	Caster, Swivel Non-Conductive, 1/2-13	P056397-570	Figure 2, Item 1
	Side Rail Assembly, Left Hand	P056397-899	Figure 16, Item 5
	Side Rail Assembly, Right Hand	P056397-900	Figure 16, Item 32
	Shaft, Cross, Kidney Bridge	P093908-584	Figure 17, Item 4
	Shaft, Floor Lock	P093908-849	Figure 2, Item 17
	Knob, 5/16-18	P093909-192	Figure 12, Item 38
	Assembly, Spacer (X-Ray Top)	P093909-299	Figure 11, Item 2
	Label, Auxiliary Override	P093909-401	Figure 1, Item 24
	Rack, Kidney Bridge (Each)	P129359-653	Figure 12, Item 39
	Bearing	P129359-671	Figure 7, Item 6
	Pin	P129359-680	Figure 9, Item 11
	Bearing, Olite	P129359-882	Figure 7, Item 14
	Spring, Compression	P129360-228	Figure 16, Item 16
	Stop, Nylon	P129360-229	Figure 16, Item 17

Table 1. Amsco 3085 SP (IPX4) Parts - Quick Reference Guide (Cont'd)

	Description Part	Number	Reference
Parts (Cont'd)	Plug, Pipe (1/4)	P129360-580	Figure 9, Item 20
	Pad Set, 2" (3080/3085)	P129360-589	Figure 10, Item 27
	X-Ray Top Assembly, Head section	P136807-045	Figure 11
	Headrest Assembly	P141210-530	Figure 16
	Foot	P150199-001	Figure 2, Item 27
	Spacer, Side Rails, 9/16	P150823-276	Figure 10, Item 20
	Pad, TLT Back/Seat Section	P150830-173	Figure 10, Item 27
	Pad, TLT Leg Section	P150830-174	Figure 10, Item 27
	Pad, TLT Head Section	P150830-175	Figure 10, Item 27
	Pad Set, TLT	P150830-176	Figure 10, Item 27
	Hand Control, 3085 SP (Red Plug)	P141210-318	Figure 10, Item 26
	Hand Control, Hermes-Ready (Blue Plug)	P141210-367	Figure 10, Item 26
	Hand Control, ACT Interface (Blue Plug)	P146664-103	Figure 10, Item 26
	Back Section, Tabletop	P764324-054	Figure 10, Item 2
	Leg Section, Tabletop	P764324-055	Figure 10, Item 3
	Seat Section, Tabletop	P764324-056	Figure 10, Item 4
	Frame, Seat Section	P764328-196	Figure 9, Item 37
Parts Packages	Control Cord Replacement (Hand Control)	P764328-571	Figure 10, Item 26
	PC Board Replacement (Hand Control)	P764325-633	Figure 10, Item 26
	Control Housing With Bracket (Hand Control)	P764328-572	Figure 10, Item 26
	3080/3085 H. C. Cord Replacement (Hermes/ACT Interface)	P764333-131	Figure 10, Item 26
	3080/3085 H. C. PC Board (Hermes)	P764333-130	Figure 10, Item 26
	3080/3085 H. C. Control Housing With Bracket (Hermes)	P764333-132	Figure 10, Item 26
	3080/3085 H. C. PC Board (ACT Interface)	P764333-133	Figure 10, Item 26
	3080/3085 H. C. Control Housing With Bracket (ACT Interface)	P764333-135	Figure 10, Item 26

Table 1. Amsco 3085 SP (IPX4) Parts - Quick Reference Guide (Cont'd)

	Description Part	Number	Reference
Parts Packages (Cont'd)	Foot Control Switch	P764326-690	Not Shown
	Foot Control Cord	P764326-689	Not Shown
	Check Valve Kit	P150823-727	Figure 23
	Column Cylinder Seal	P764324-901	Figure 8
	Hook Fastener, 5 ft (With Instructions)	P764329-992	Figure 10, Item 11
	Solenoid Assembly Rebuild	P764330-172	Figure 23, Item 18
Tools	Column Seal Spanner Wrench	P764324-884	Figure 8, Item 10
	Allen Wrench, Tamperproof Screws	P764322-952	Not Shown
	Protractor, Digital Smart Level	P764323-811	Not Shown
	Wiper, Low Lint-Res. Free	R006200-402	Not Shown

LIST OF ILLUSTRATIONS

Figure 1. 3085 SP (IPX4) Surgical Table Base Shroud and Bellows Support Assembly (1 of 3) 2
Figure 1. 3085 SP (IPX4) Surgical Table Bellows Mounting Assembly (2 of 3) 3
Figure 1. 3085 SP (IPX4) Surgical Table Bellows Mounting Assembly (3 of 3) 4
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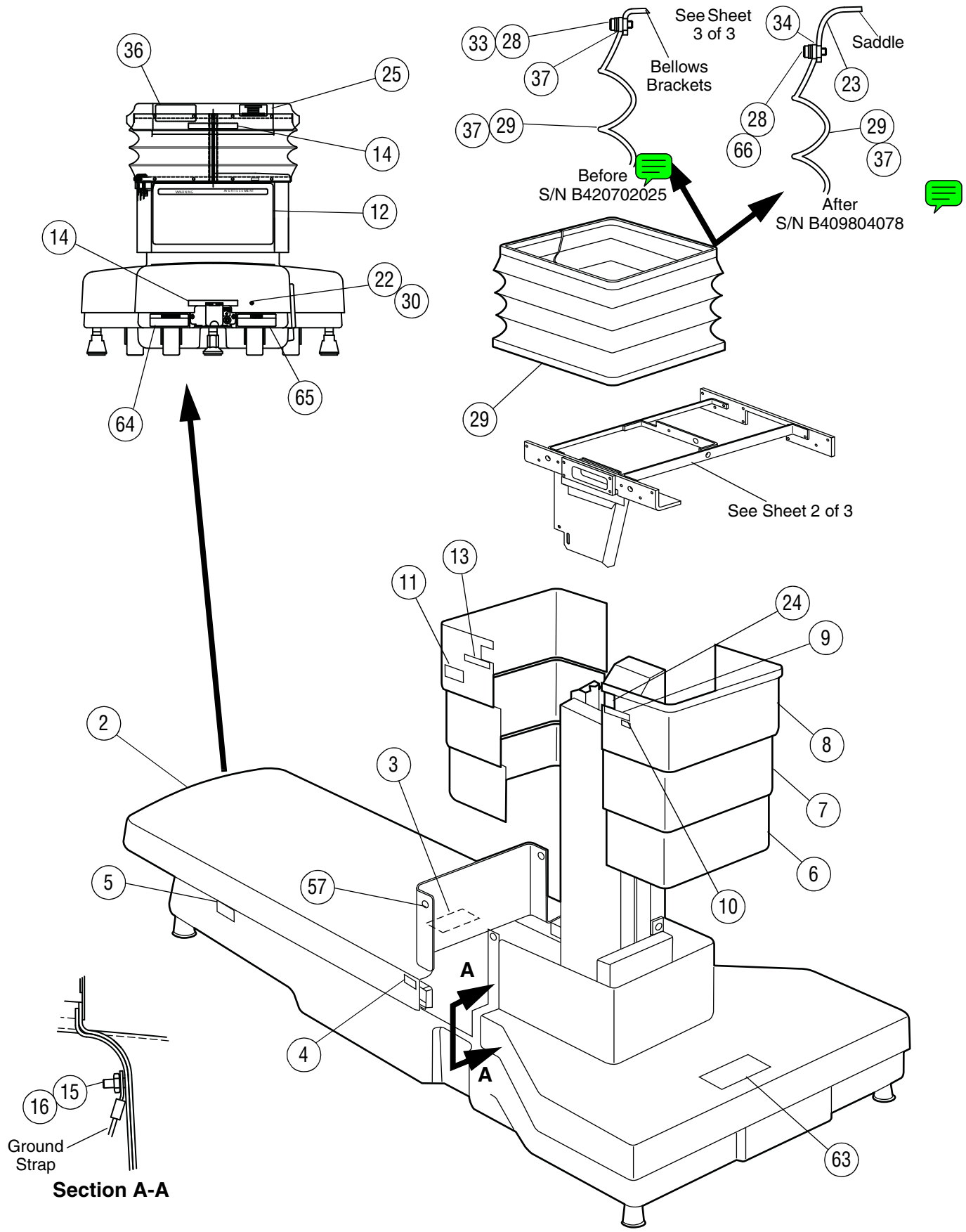


Figure 1. 3085 SP (IPX4) Surgical Table Base Shroud and Bellows Support Assembly (1 of 3)

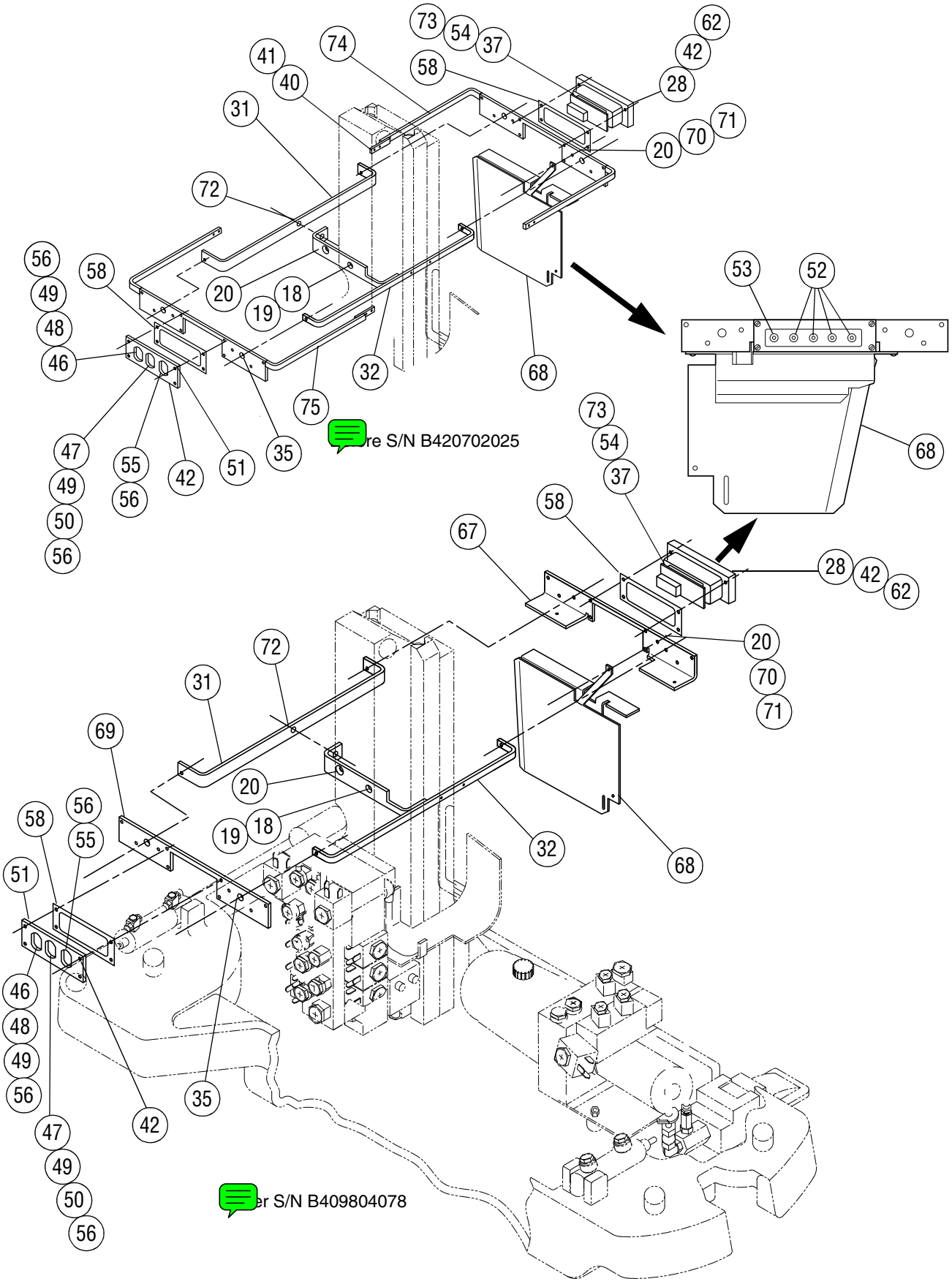
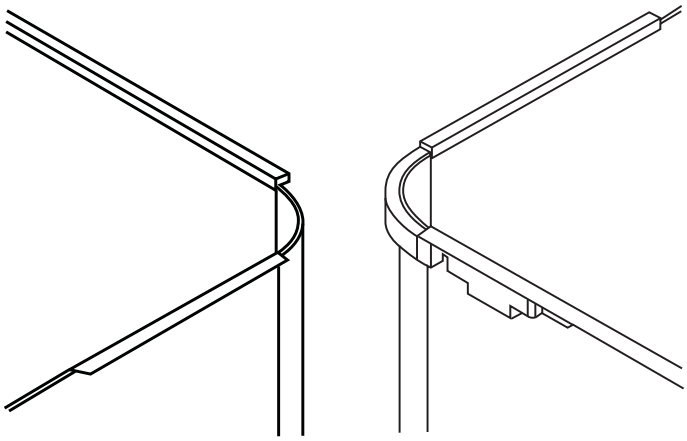


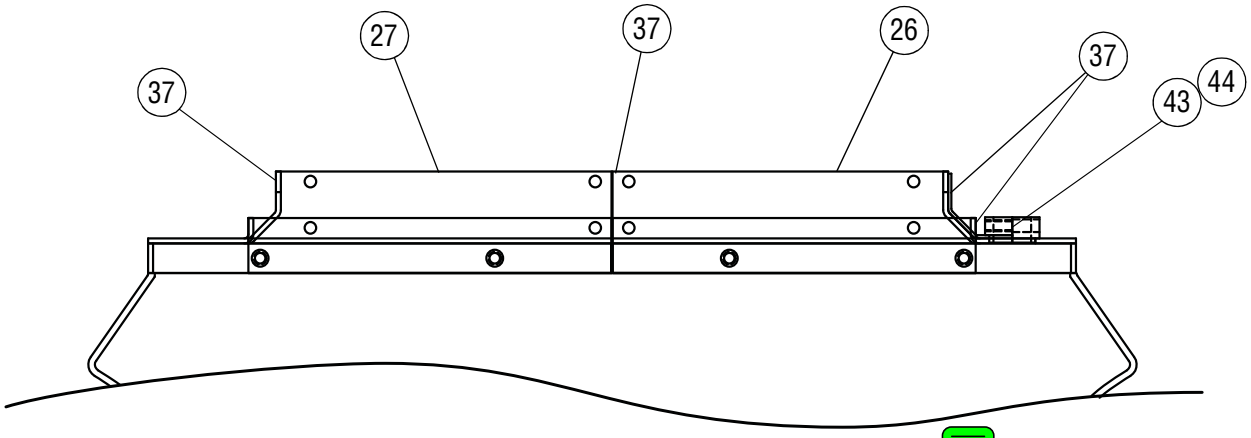
Figure 1. 3085 SP (IPX4) Surgical Table Bellows Mounting Assembly (2 of 3)



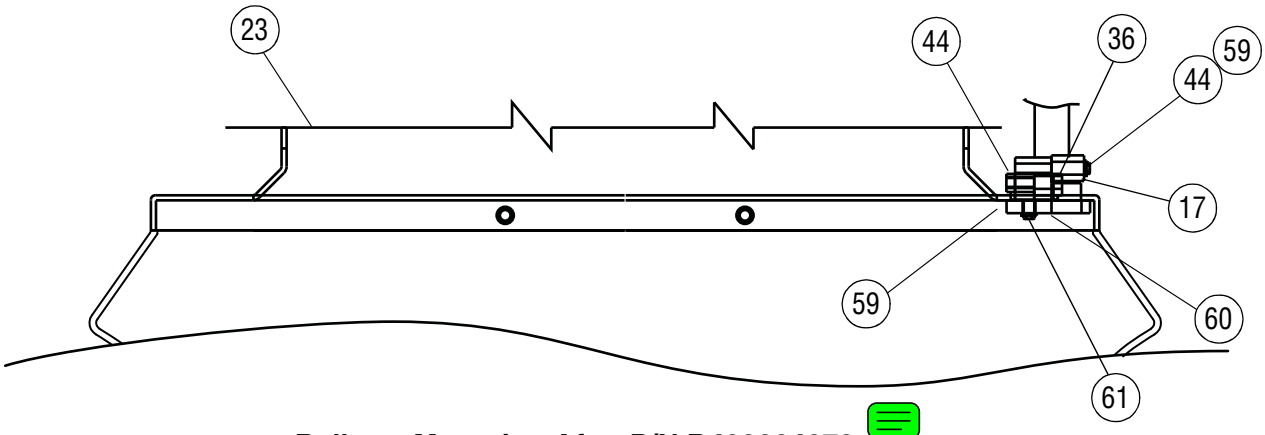
Bar Style **Clip Style**

* *There was a change to the shrouding. Note if your bottom shroud has clips welded on the inside of the upright for the column, individual shroud components are available for this style. The bar frame style components are NLA, a complete set of replacement shrouds will need to be replaced. P764332-903 KIT, 3085 (IPX4) Shrouds Bar Style to Clip Style. This Kit includes Items 2, 6, 7, 8, 9 and 13. See physical difference at left.*

Shroud Mounting Style



Bellows Mounting Before P/N B409804078



Bellows Mounting After P/N B409804078

Figure 1. 3085 SP (IPX4) Surgical Table Bellows Mounting Assembly (3 of 3)

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY		
1-					**3085 SP (IPX4) Surgical Table Bar Style Frame**	X		
					3085 SP (IPX4) Surgical Table Clip Style (Before S/N B409804078, With Bellows Mount)		X	
					3085SP (IPX4) Surgical Table (After S/N B409804078, Without Bellows Mount)			X
1	P	764332	903		KIT, 3085 (IPX4) Shrouds Bar Style to Clip Style (Not Shown)	1	-	-
2				*	ASSEMBLY, Base Shroud (NLA)	1	-	-
	P	764332	901		• ASSEMBLY, Base Shroud With English Labels	-	1	1
3		413724	362		• LABEL, Caution Do Not Use For Storage (English/French)	1	1	1
	P	056401	599		LABEL, Caution Do Not Use For Storage (Spanish, 220V)	A/R	A/R	A/R
	P	056401	600		LABEL, Caution Do Not Use For Storage (German, 220V)	A/R	A/R	A/R
4	P	129360	483		• STICKER, Natural Ground	1	1	1
5	P	093909	402		LABEL, Auxiliary, Floor Lock	1	1	1
6				*	SHROUD, Bottom Intermediate (NLA)	1	-	-
	P	141210	468		SHROUD, Bottom Intermediate	-	1	1
7				*	SHROUD, Intermediate (NLA)	1	-	-
	P	141210	469		SHROUD, Middle Intermediate	-	1	1
8				*	SHROUD, Upper Without Labels (NLA)	1	-	-
	P	764332	902		SHROUD, Upper With Labels	-	1	-
	P	764333	391		SHROUD, Upper Without Labels (Four Mounting Holes to Bellows)	-	-	1
9	P	134469	351		• LABEL, ID 3085 SP - Electric	2	2	2
	P	134469	352		• LABEL, ID 3085 SP - Battery	2	2	2
10	P	056397	703		LABEL, Hermes-Ready (HERMES Ready Only)	A/R	A/R	A/R
11	P	093909	795		LABEL, Warning	1	1	1
12	P	141210	459		LABEL, Warning	1	1	1
13	P	056397	643		LABEL, STERIS Logo	2	2	2
14	P	056397	676		LABEL, 120V Setting	1	1	1
	P	056397	678		LABEL, 230/240V Setting (International)	A/R	A/R	A/R
15	P	002960	042		NUT, Hex #10-32	1	1	1
16	P	124361	013		LOCKWASHER, External Tooth, #10	1	1	1
17	P	056397	929		CLAMP, Hose	-	-	1
18	P	037676	061		SCREW, Socket Head,1/4-28 x 5/8	1	1	-
19	P	019678	045		LOCKWASHER, 1/4	1	1	-
20	P	150823	547		SCREW, Flat Head, 1/4-28 x 5/8	1	1	-
21	P	093909	734		LABEL, Manual Pump (Not Shown)	1	1	1
22	P	076061	061		SCREW, Tress Head, 1/4-20 x 3/4	2	2	2
23					SADDLE, Bellows Mount (Not Service Part)	1	1	1
24	P	093909	401		LABEL, Auxiliary Override	1	1	1
25	P	093909	375		LABEL, Patent	1	1	1
26	P	141210	426		ASSEMBLY, Assembly, Bellows Mount, Right	1	1	-
27	P	141210	421		ASSEMBLY, Assembly, Bellows Mount, Left	1	1	-
28	P	020844	061		WASHER, #10, SS	12	12	28
29	P	141210	450		BELLOWS, Zippered (Notched)	1	1	-
	P	141210	496		BELLOWS, Zippered	1	-	-
30	P	150830	374		O-RING	1	1	1
31	P	141210	494		SUPPORT, Mounting Shroud (Foot End)	1	1	1
32	P	141210	497		ASSEMBLY, Mounting Shroud Support (Head End)	1	1	1

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
1-					**3085 SP (IPX4) Surgical Table Bar Style Frame (Cont'd).....** **3085 SP (IPX4) Surgical Table Clip Style** **(Before S/N B409804078, With Bellows Mount).....** **3085SP (IPX4) Surgical Table** **(After S/N B409804078, Without Bellows Mount) .....**	**X** **X** **X**			
33	P	012539	061		SCREW, Round Head, SS, #10-32 x 3/8	36	36	36	
34	R	007200	553		FOAM, Tape, 3/16 x 3/8 (Unit of Measure per Foot)	-	-	5	
35	P	024545	061		SCREW, Flat Head, SS, #10-32 x 5/16	4	4	4	
36					PLATE, Data	1	1	1	
37	R	005300	568		RTV, Black, GE #123	A/R	A/R	A/R	
38	R	007200	030		TAPE, Used on Shroud Clips (Not Shown)	A/R	A/R	A/R	
39	P	129360	241		KIT, Shipping Packing (Not Shown)	1	1	1	
40	P	081681	001		SCREW	-	-	4	
41	P	081682	001		LOCKWASHER, #6	-	-	4	
42	P	129361	221		SCREW, Button Head Cap, #10-32 x 1/2	10	10	10	
43	P	056397	857		ASSEMBLY, Hose Cover	1	1	-	
44	P	081222	001		SCREW, Socket Head Cap, SS, #8-32 x 7/8	2	2	-	
45					NOT USED				
46	P	129360	562		WASHER, Insulating (Gray - Foot Control, **P4**)	1	1	1	
47	P	129360	563		WASHER, Insulating (Red - Hand Control, **P2**)	1	1	1	
48	P	136807	027		ASSEMBLY, Foot Control Cable (**P4**)	1	1	1	
49	P	129360	275		CAP, Dust	2	2	2	
50	P	136806	819		ASSEMBLY, Hand Control Cable (**P2**)	1	1	1	
51	P	056397	852		PLATE, Connector (Controls Side)	1	1	1	
52	P	129360	351		SEAL, Toggle Boot (Gray)	4	4	4	
53	P	129360	352		SEAL, Toggle Boot (Red Trend. /R. Trend.)	1	1	1	
54	P	150830	758	**	ASSEMBLY, Override Switch Board (Contactor Control Side)	1	1	1	
55	P	150830	350		COVER, Hole	1	1	1	
56	P	129359	738		PIN, 9/16 x 3 Modified	2	2	2	
57	P	003967	041		SCREW, Machine Round Head, 8-32 x 14	2	2	2	
58	P	150830	501		GASKET, Hand Control/Override	2	2	2	
59	P	150473	302		WASHER, Flat, SS, #8	-	-	6	
60	P	056397	928		RETAINER, Hose	-	-	1	
61	P	050527	061		SCREW, Socket Head Cap, #8-32 x 1/2	-	-	2	
62	P	056397	851		HOUSING, Override Switch	1	1	1	
63	P	150830	569	***	LABEL, Weight Orientation	1	1	1	
64	P	056397	866		LABEL, Fuse Warning, French IPX4	1	1	1	
65	P	056397	867		LABEL, Fuse Warning, English IPX4	1	1	1	
66	P	200050	303		SCREW, Button Head, #10-32 x 3/8	20	20	36	
67	P	056404	067		BRACKET, Override	-	-	1	
68	P	134469	528		WELDMENT, Hose Guide	1	1	1	
69	P	056397	884		BRACKET, Control Side	-	-	1	
70		019677	041		LOCKWASHER, #10	1	1	1	
71		012538	061		SCREW, Hex Socket Button Head, #10-32 x 1/4	1	1	1	
72	P	150823	313		SCREW, Socket, Flat Head #10-24 x 1/2	6	6	6	
73	P	134469	476		CABLE, (**P9** and **P10** Override Switch)	1	1	1	
74	P	141210	568		BRACKET, OR Switch Side (Mounting Shroud)	1	1	-	

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
1-					**3085 SP (IPX4) Surgical Table Bar Style Frame (Cont'd) .....** **3085 SP (IPX4) Surgical Table Clip Style** **(Before S/N B409804078, With Bellows Mount) .....** **3085SP (IPX4) Surgical Table** **(After S/N B409804078, Without Bellows Mount).....**	**X** 	 **X** **X**		
75	P	141210	570		BRACKET, Control Side (Mounting Shroud)	1	1	-	
76		413724	362		LABEL, Warning, Do Not Use For Storage (English and French; Not Shown)	1	1	1	
77	P	431172	091		TIES, Wire (Not Shown).....	10	10	10	
					** See Note and Illustration in Figure 1 (3 of 3)*				
					*** Item 54 may have the connector on control side;* if not contact STERIS Service Engineering.				
					**** Included in Items 1 and 2.*				

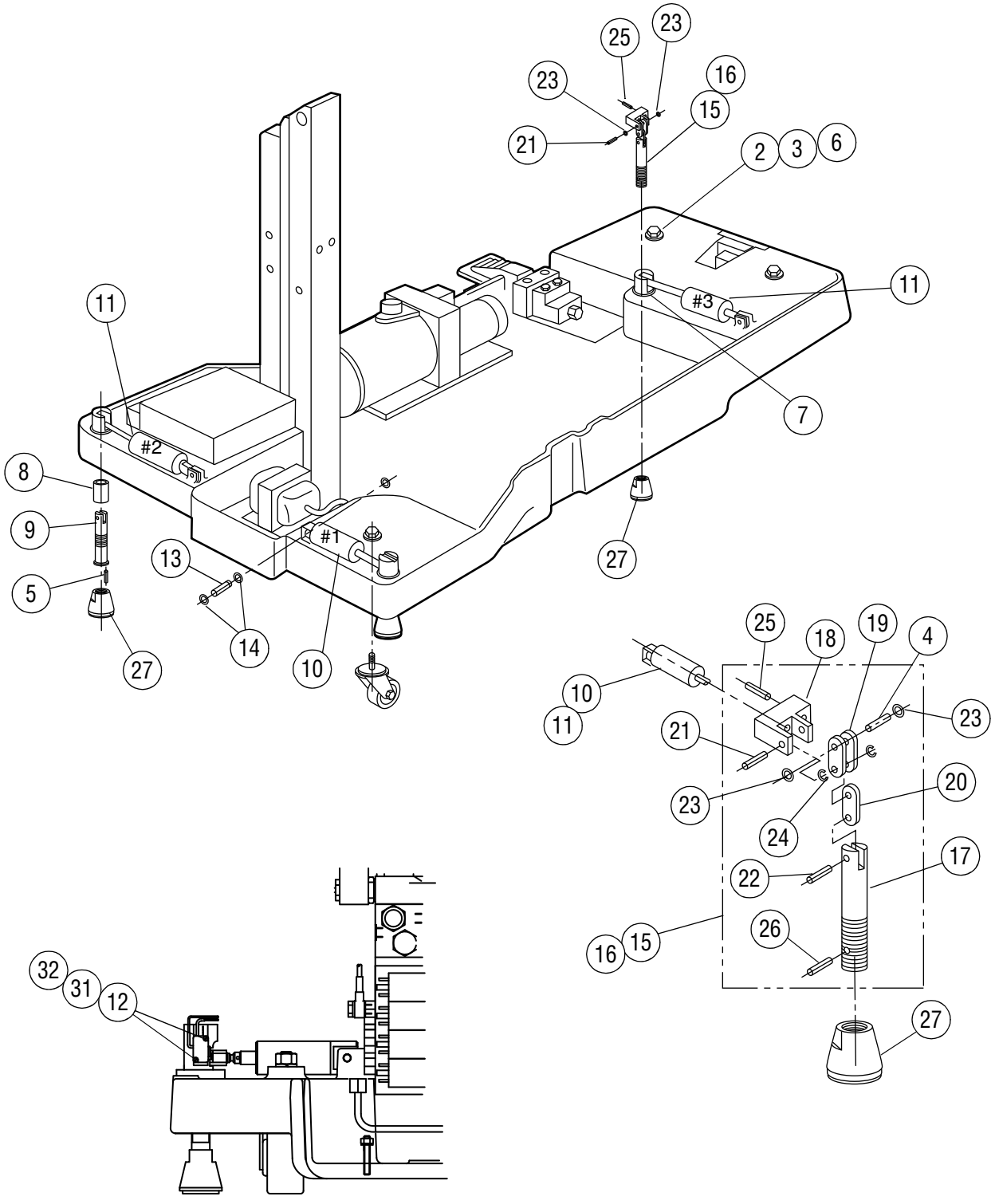
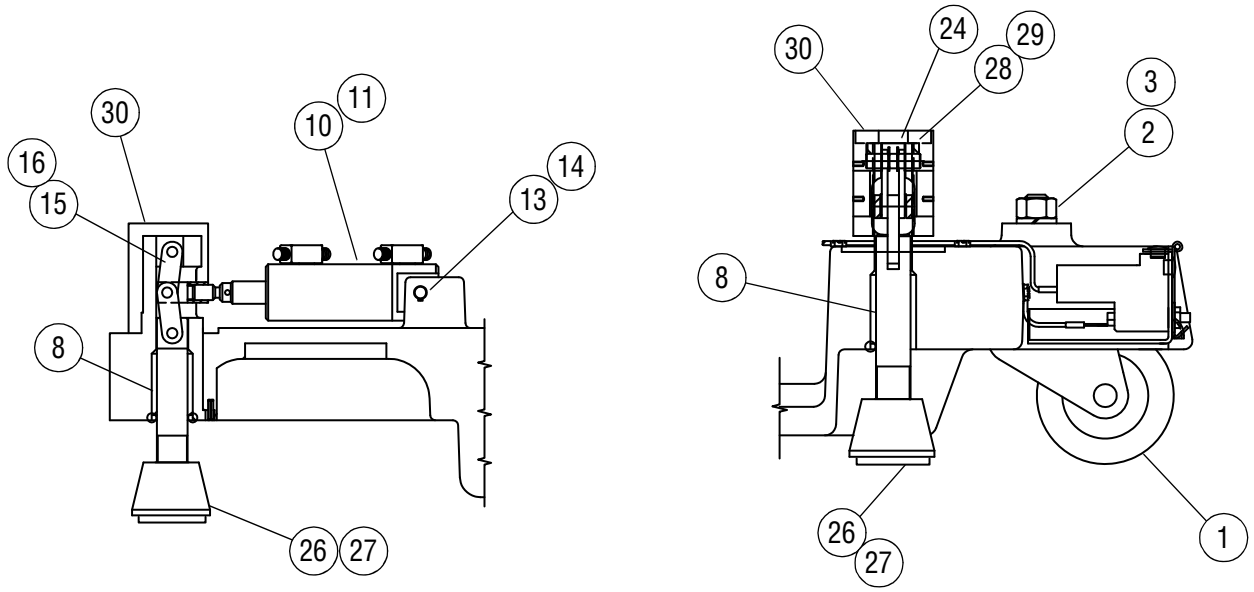
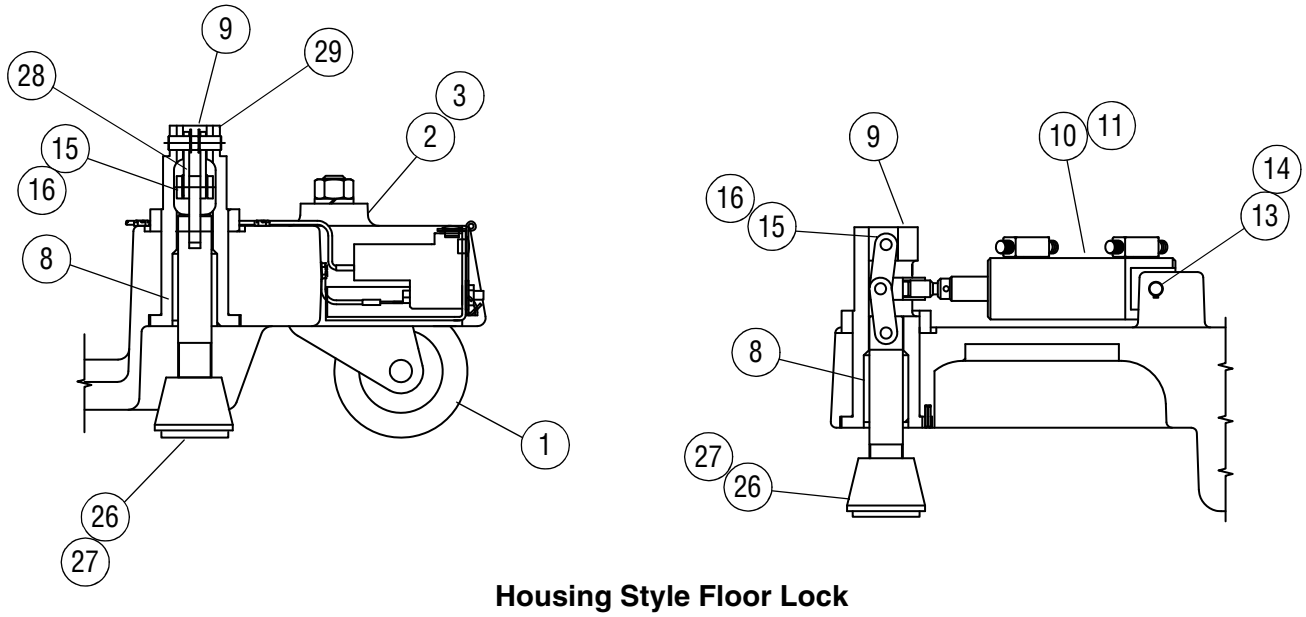


Figure 2. 3085 SP (IPX4) Surgical Table Base Assembly, Floor Lock and Casters (1 of 2)



Tower Style Floor Lock
S/N After B427104-145



Housing Style Floor Lock
S/N Before B427104-145

Figure 2. 3085 SP (IPX4) Surgical Table Base Assembly, Floor Lock and Casters (2 of 2)

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
2-					**3085 SP (IPX4) Surgical Table Base Assembly, Floor Lock and Casters; Housing Style (Before B427104145)**	**X**			
					3085 SP (IPX4) Surgical Table Base Assembly, Floor Lock and Casters; Tower Style (After B427104145)		**X**		
1	P	056397	570		CASTER, Swivel, 1/2-13, Non-Conductive	3	3		
2	P	019681	045		LOCKWASHER, 1/2	4	4		
3	P	013397	041		NUT, Hex, 1/2-13	4	4		
4	P	129359	900		PIN, Housing	3	–		
5	P	036683	061		PIN, Roll, 1/8 Diameter x 1/2	3	3		
6	P	019681	045		WASHER, Flat, 1/2	4	–		
7	P	129360	154		NUT, Retainer	3	–		
8	P	010540	091		BEARING, Plain Olite	3	3		
9	P	136806	493		HOUSING, Floor Lock	3	–		
10	P	056397	274		CYLINDER, Floor Lock **#1**	1	1		
11	P	056397	275		CYLINDER, Floor Lock **#2/#3**	2	2		
12	P	136807	035		ASSEMBLY, Limit Switch and Cable (**LS1, LS2 and P27**) (see Figure 19)	1	–		
13	P	129359	870		PIN, Cylinder Pivot	3	3		
14	P	036836	091		RING, Retaining	6	6		
15	P	093908	634		ASSEMBLY, Shaft and Link, Left Hand	2	–		
	P	056397	804		ASSEMBLY, Shaft and Link, Left Hand	–	2		
16	P	093908	635		ASSEMBLY, Shaft and Link, Right Hand	1	–		
	P	056397	805		ASSEMBLY, Shaft and Link, Right Hand	–	1		
17	P	093908	849		• SHAFT, Floor Lock	3	3		
18	P	093908	850		• CLEVIS, Cylinder (Housing Style)	1	–		
	P	056397	803		• CLEVIS, Cylinder Floor Lock (Tower Style)	–	3		
19	P	129360	152		• LINK, Pivot	6	6		
20	P	129360	151		• LINK, Shaft	3	3		
21	P	129359	898		• PIN, Link	3	3		
22	P	129359	899		• PIN, Shaft	3	3		
23	P	047429	061		• RING, Retaining, 1/4 Diameter	6	6		
24	P	024699	091		RING, Snap, 5/16 Diameter	10	6		
25	P	040848	061		SETSCREW, Socket Head, 1/4-20 x 3/4	3	3		
26	P	021504	091		CYLINDER, Rubber	3	3		
27	P	150199	001		FOOT	3	3		
28	P	150830	290		SCREW, Socket Head Cap, 1/4-20	12	12		
29	P	049134	061		WASHER, Flat, 1/4	24	24		
30	P	134469	433		TOWER, Floor Lock	3	3		
31	P	084114	001		WASHER, Flat #4	4	4		
32	P	091676	041		SCREW, #4-40 x 9/16	4	4		

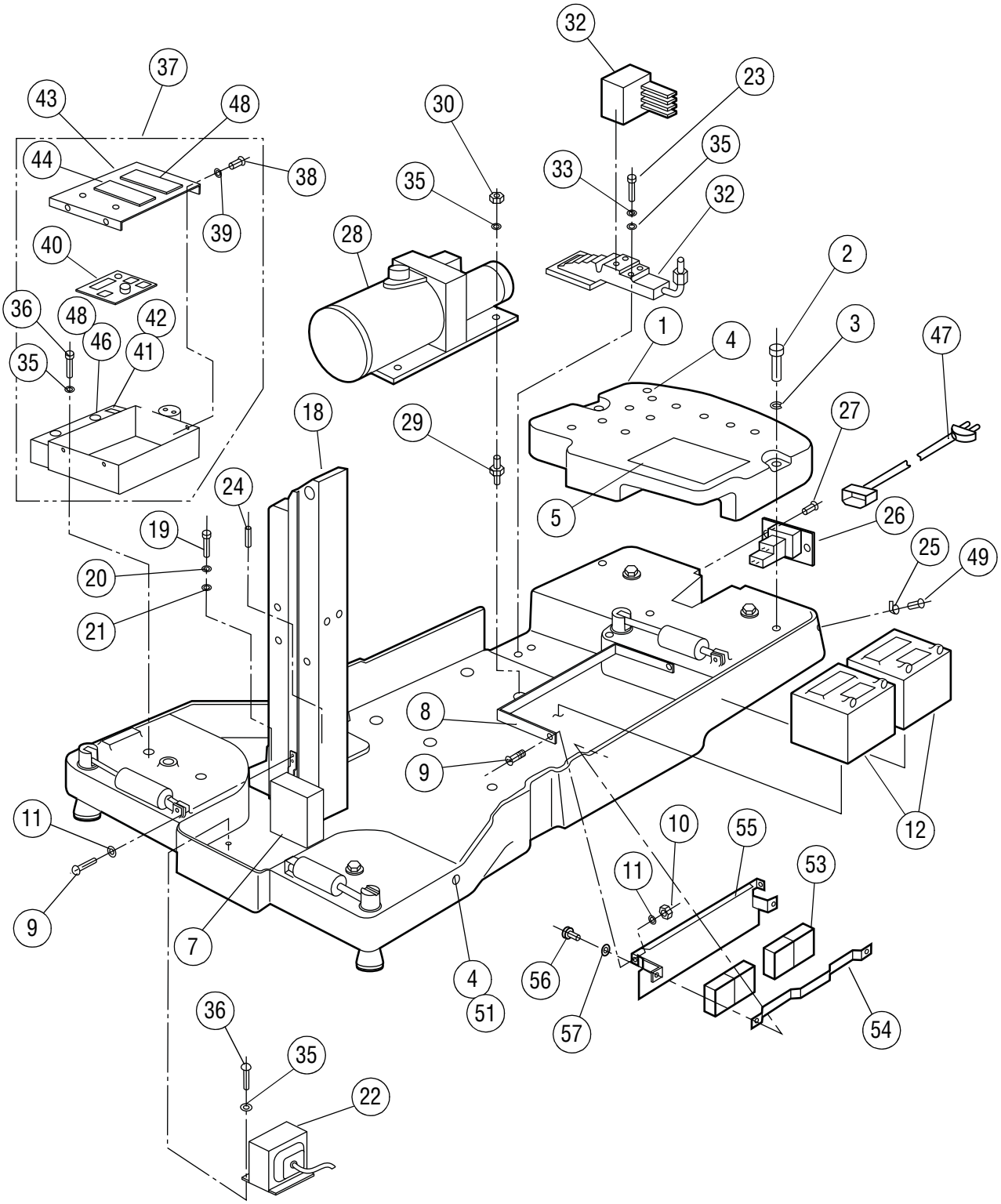


Figure 3. 3085 SP (IPX4) Surgical Table Base Assembly, Components

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
3-					**3085 SP (IPX4) Surgical Table Base Assembly, Components** **Electric Unit** **Battery Unit**	**X**	**X**		
1	P	146653	460		COUNTERWEIGHT	1	1		
2	P	129359	896		SCREW, Socket Head Cap, 3/8-16 x 3-1/4	2	2		
3	P	019680	041		WASHER, Helical Spring, 3/8	2	2		
4	P	129360	481		BUMPON	6	6		
5	P	134469	363		LABEL, Battery Replacement (Domestic, 120V)	1	1		
	P	134473	247		LABEL, Battery Replacement (French, 220V)	1	1		
	P	134473	248		LABEL, Battery Replacement (Spanish, 220V)	1	1		
	P	134473	249		LABEL, Battery Replacement (German, 220V)	1	1		
6					NOT USED				
7	P	426637	598		CHARGER, Battery (Motor)	–	1		
8	P	093909	212		BRACKET, Battery Support (Coated)	–	1		
9	P	093908	037		SCREW, Sems, #8-32 x 1/2	–	4		
10	P	003153	041		NUT, Hex, #8-32	–	4		
11	P	084114	003		WASHER, Flat, #8	–	6		
12	P	764331	223		BATTERY, Motor, 12 V	–	1		
13	P	134469	362		ASSEMBLY, Cable (**P25** to Battery; Not Shown)	–	1		
14	P	093909	467		JUMPER, Motor Battery (Not Shown)	–	1		
15	P	129360	598		TIE, Cable (Not Shown)	–	4		
16	P	093909	748		JUMPER, Wire, Program (**P29**; Not Shown)	–	1		
17					NOT USED				
18					ASSEMBLY, Column (see Figure 1, Figure 7 and Figure 8)	1	1		
19	P	036633	001		SCREW, Socket Head Cap, 3/8-16 x 1-3/4	4	4		
20	P	019680	041		WASHER, Helical Spring, 3/8	4	4		
21	P	010412	042		WASHER, Flat, 3/8	4	4		
22	P	056397	862		ASSEMBLY, Transformer, 24 V	1	1		
23	P	045613	091		SCREW, Sockethead Cap, 1/4-20 x 1-1/2	2	2		
24	P	046156	061		PIN, Spring Roll, 5/16 Diameter x 3/4	2	2		
25	P	129360	565		CLAMP, Wire	1	1		
26	P	134469	466		ASSEMBLY, A.C. Plate (see Figure 5)	1	1		
27	P	093908	037		SCREW, Sems, #8-32 x 1/2	2	2		
28	P	141210	540		MOTOR AND PUMP, Plastic Sump, Bieri #4 (see Figure 24)	1	1		
29	P	045744	001		MOUNTING, Motor (Vibration Mount)	4	4		
30	P	003097	041		NUT, Hex, 1/4-20	3	3		
31					NOT USED				
32	P	146653	789		ASSEMBLY, Foot Pump (see Figure 6)	1	1		
33	P	081673	006		WASHER, Flat, 1/4	2	2		
34					NOT USED				
35	P	019678	045		LOCKWASHER, 1/4	14	14		
36	P	002792	045		SCREW, Socket Head Cap, 1/4-20 x 1/2	7	7		
37	P	134469	515		POWER SUPPLY, 3085 Low Leakage (Electric/Battery)	1	1		
38	P	093908	035		• SCREW, Sems, #8-32 x 5/16	6	6		
39	P	084114	003		• WASHER, Flat, #8	4	4		

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
3-					**3085 SP (IPX4) Surgical Table Base Assembly, Components (Cont'd)**				
					Electric Unit	**X**			
					Battery Unit		**X**		
40	P	141210	543		• PC BOARD, Power Control (For P134469-515 Only)		1	1	
	P	150830	819		• HARNESS, 120 V, Jumper	1	1		
41	P	764314	447		• FUSE, 0.5 AMP (**F3**; 100 or 120 or 220/230/240 Vac)	1	1		
	P	150830	809		• FUSE, Time-Delayed, 2 AMP (**F4**; 100 or 120 or 220/230/240 Vac)	1	1		
42	P	093908	673		• HOLDER, Fuse	2	2		
43	P	129360	481		• BUMP-ON	1	1		
44	P	056404	006		• LABEL, Fuse Replacement	1	1		
45					NOT USED				
46	P	129360	653		COVER, Switch	2	2		
47	P	764324	271		CORD, With Velcro Strap	1	1		
	P	150830	129		KIT, International Cord	A/R	A/R		
48	P	056404	023		LABEL, Fuse (F3)	1	1		
	P	129360	525		LABEL, Fuse (F4)	1	1		
49	P	081669	002		SCREW, Truss Head, #10-32 x 1/2	2	2		
50					NOT USED				
51	P	093909	538		ASSEMBLY, Stand-Off Bumper, #8-32 (Before 5/13/1999)	5	5		
	P	056397	673		ASSEMBLY, Stand-Off Bumper, 1/4-20 (After 5/13/1999)	1	1		
52					NOT USED				
53	P	093908	637		BATTERY, Control, 12V	2	2		
54	P	093909	283		STRAP, Battery Support	1	1		
55	P	136806	807		PLATE, Battery Support	1	1		
56	P	050527	061		SCREW, Socket Head Cap, #8-32 x 1/2	2	2		
57	P	019676	041		LOCKWASHER, #8	2	2		

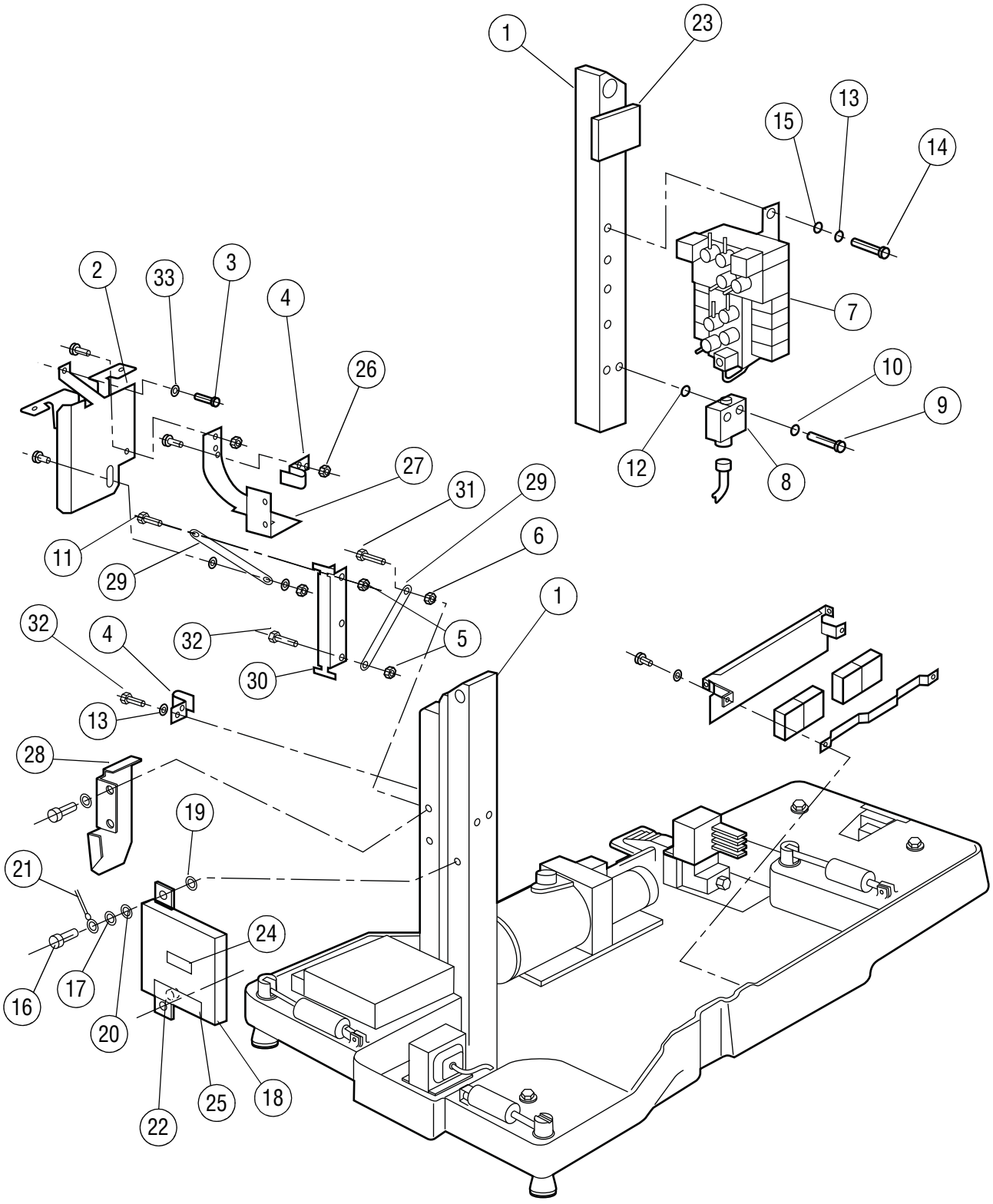


Figure 4. 3085 SP (IPX4) Surgical Table Base Assembly, Column Mounted Parts

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
4-					**3085 SP (IPX4) Surgical Table Base Assembly, Column Mounted Parts**	**X**
1					COLUMN ASSEMBLY (see Figure 7 and Figure 8)	1
2	P	134469	528		HOSE, Guide	1
3	P	200050	303		SCREW, Button Head Cap, #10-32 X 3/8	2
4	P	056397	373		CLAMP, Hose	2
5	P	008646	061		NUT, Hex #10-24	2
6	P	002960	042		NUT, Hex #10-32	2
7					ASSEMBLY, Control Block (see Figure 23)	1
8	P	134469	149		ASSEMBLY, Column Flange	1
9	P	091521	091		SCREW, Socket Head Cap, 1/4-20 x 2-1/4	4
10	P	026962	061		LOCKWASHER, 1/4, Internal Tooth	2
11	P	027690	041		SCREW, Truss Head #10-24 x 3/4	2
12	P	129359	667		O-RING	2
13	P	019677	041		LOCKWASHER, #10	5
14	P	041012	061		SCREW, Socket Head Cap, #10-32 x 1/2	4
15	P	017589	045		WASHER, Flat, #10	4
16	P	093908	037		SCREW, Sems, #8-32 x 1/2	2
17	P	084114	003		WASHER, Flat, #8	2
18	P	141210	546		ASSEMBLY, Control PC Board Housing	1
19	P	027324	091		WASHER, Flat, Nylon	2
20	P	129360	883		WASHER, Shoulder, Nylon	2
21	P	093909	782		SHIELD, Wire	1
22	P	129360	481		BUMPON	1
23	P	141210	549		ASSEMBLY, Override Control Board Box	1
24	P	093909	410		LABEL, Low Battery Indicator	1
25	P	093909	777		LABEL, Caution	1
26	P	118442	045		LOCKNUT	5
27	P	134469	349		SUPPORT, Hose	1
28	P	141210	088		HOSE, Guide Support	1
29	P	093909	778		LINK, Hose Hanger	2
30	P	093909	217		HANGER, Hose	1
31	P	081667	003		SCREW, Machine Hex Head, #10-32 x 1-1/4	1
32	P	012538	061		SCREW, Button Head Cap, #10-32 x 1/4	2
33	P	124361	013		LOCKWASHER, #10	2

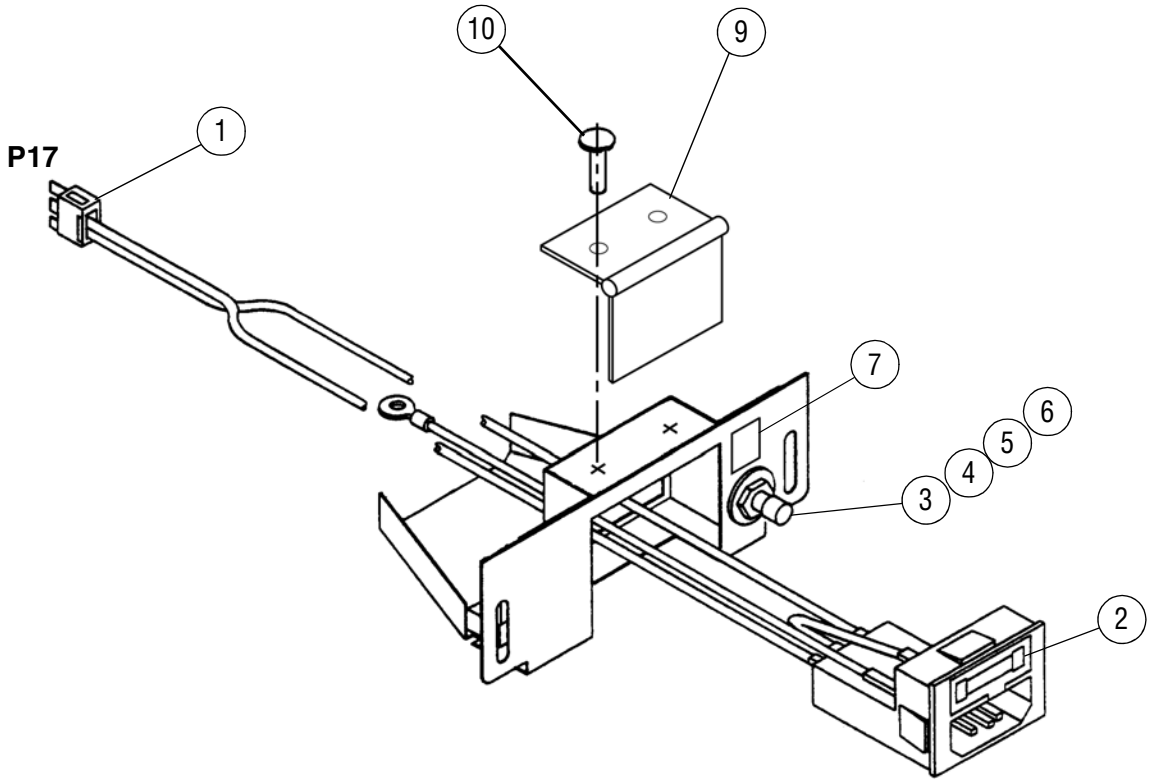


Figure 5. AC Plate Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
5-		**755717**	**297**		**AC Plate Assembly, w/o Labels and Cover (P17)**	**X**			
					AC Plate, Related Parts List		**X**		
1	P	136807	030		ASSEMBLY, Power Control Cable (P17).....	1	–		
2	P	150823	292		CARTRIDGE, 6 Amp Fuse (**F1/F2**; 100 or 120 Vac)	2	–		
	P	129360	587		FUSE, 4 Amp (**F1/F2**; 220/230/240 Vac).....	–	2		
3	P	129360	371		PLUG, International Grounding.....	1	–		
4	P	129360	373		WASHER, International Color Coded	1	–		
5	P	129360	375		LOCKWASHER, F/M6	1	–		
6	P	129360	451		NUT, Hex, M6 x 1	1	–		
7	P	093909	403		LABEL, Receptacle Ground.....	1	–		
8	P	093909	462		WIRE TIE, #4 (Not Shown)	5	–		
9	P	056397	855		COVER	1	–		
10	P	075422	091		SCREW, SS Truss Head, #6-32 x 1/4	2	–		
11	R	005300	567		RTV, #108 (Not Shown).....	A/R	A/R		
12	P	764324	271		CORD, Power, With Velcro Strap (Not Shown, see Figure 3)	–	1		

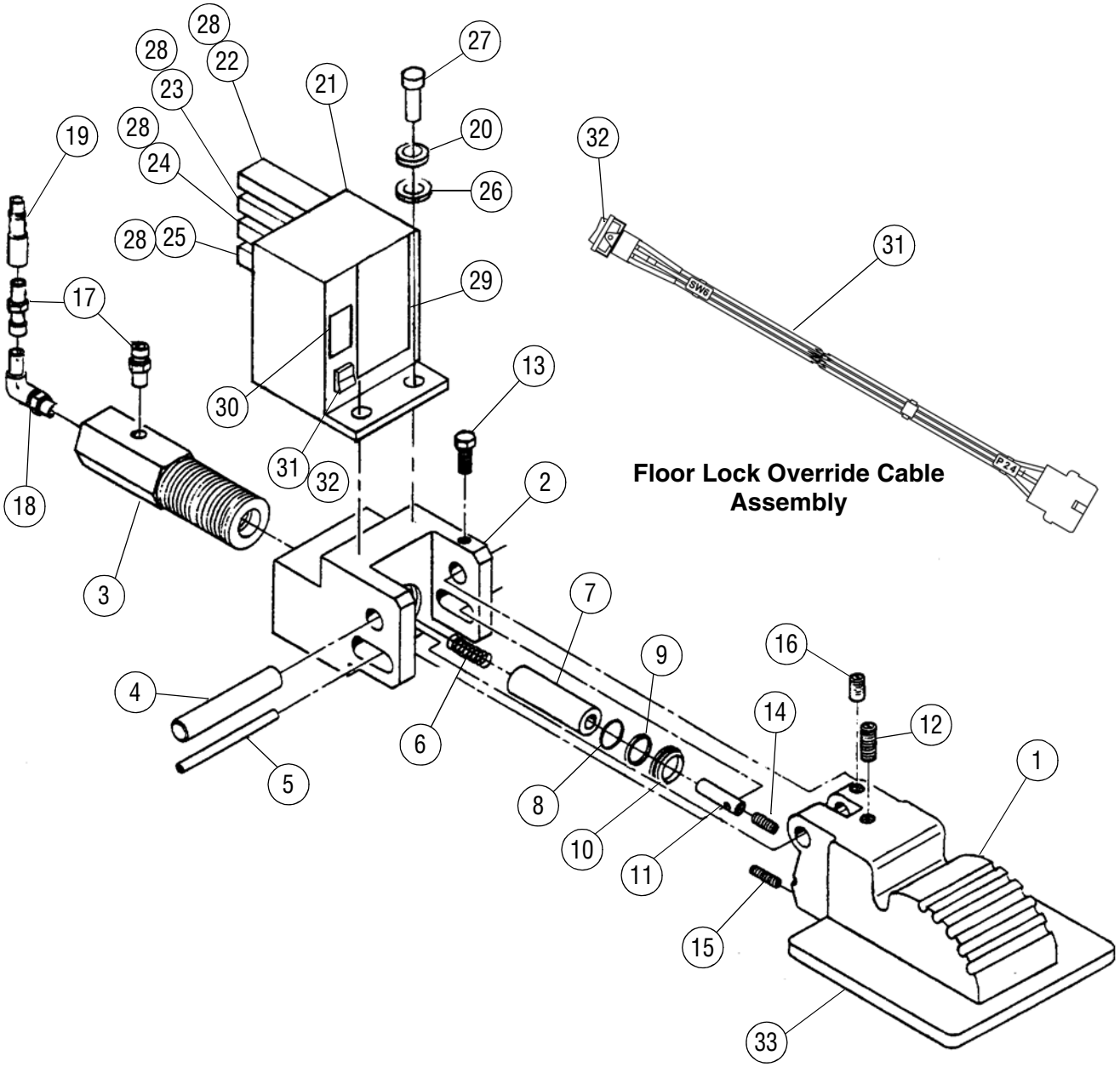


Figure 6. Foot Pump Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
6-	**P**	**146653**	**789**		**Foot Pump Assembly**	**X**			
					Foot Pump, Related Parts List		**X**		
1	P	136807	013		PEDAL, Painted	1	–		
2	P	136807	008		BRACKET, Pump	1	–		
3	P	136807	006		BODY, Pump	1	–		
4	P	129360	462		ROD, Pedal	1	–		
5	P	150830	378		PIN, Push	1	–		
6	P	129360	464		SPRING, Compression	1	–		
7	P	136807	009		PLUNGER	1	–		
8	P	043489	091		O-RING	1	–		
9	P	129360	463		RING, Back-up	1	–		
10	P	129360	479		RING, Wiper	1	–		
11	P	093909	373		ROD, Push	1	–		
12	P	080001	091		SETSCREW, Nylock, 1/4-20 x 1/2	1	–		
13	P	083443	001		SETSCREW, Hexhead, 1/4-20 x 1/2, Nylon	1	–		
14	P	042617	045		SETSCREW, #6-32 x 1/4	1	–		
15	P	031276	061		SETSCREW, #10-32 x 1/2	2	–		
16	P	004772	045		SETSCREW, 1/4-20 x 1/4	1	–		
17	P	093909	512		VALVE, Check	2	–		
18	P	129360	335		FITTING, Hydraulic	1	–		
19	P	129360	569		FITTING, Hydraulic	1	–		
20	P	081673	006		WASHER, Flat, 1/4	1	1		
21	P	134469	465	*	BRACKET, Circuit Breaker	–	1		
22	P	056397	408		BREAKER, Circuit, 20 Amp **(CB1)**	–	1		
23	P	056397	356	*	BREAKER, Circuit, 12 Amp **(CB2)**	–	1		
24	P	093909	320		BREAKER, Circuit, 1 Amp **(CB3)**	–	1		
25	P	093909	321		BREAKER, Circuit, 4 Amp **(CB4)**	–	1		
26	P	019678	045		LOCKWASHER, 1/4	–	4		
27	P	002792	045		SCREW, Socket Head Cap, 1/4-20 x 1/2	–	2		
28	P	129360	372		BUTTON, Seal Reset	–	4		
29	P	056397	659		LABEL, Circuit Breaker	–	1		
30	P	093909	402		LABEL, Auxiliary Floor Lock	–	2		
	P	129360	898		LABEL, Auxiliary Floor Lock (French, Spanish, German 220 V)	–	2		
31	P	134469	092		ASSEMBLY, Override (**P22** Floor Lock)	–	1		
32	P	056397	198		• SWITCH, Override (Only)	–	1		
33	P	093909	734		LABEL, Manual Pump	–	1		

For S/N after 0425709074, Part Number is P056404-061 for **CB2 and P134469-522 for Bracket.*

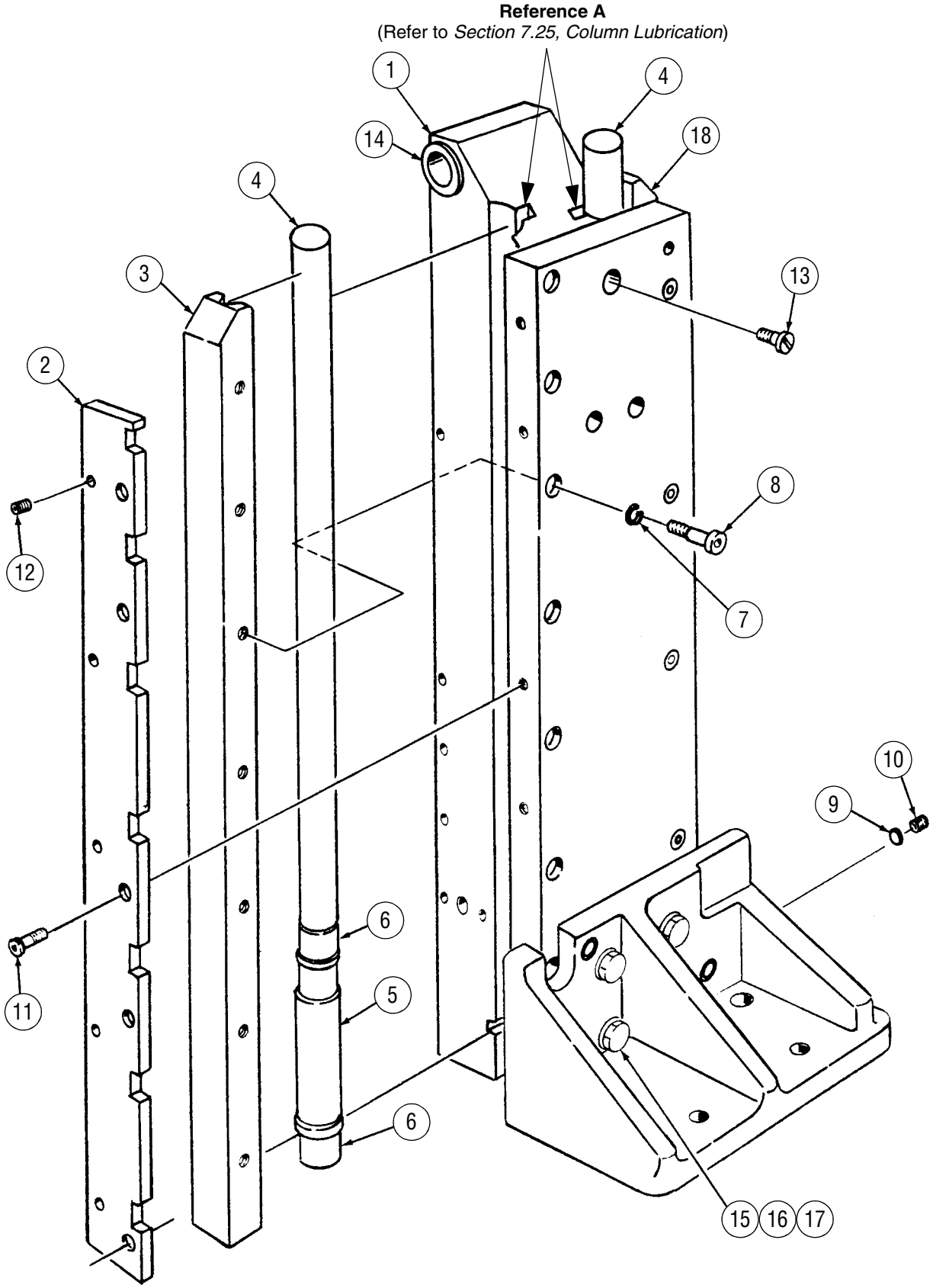


Figure 7. Column Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
7-					**Column Assembly (S/N Before B413304015)**	**X**			
					Column Assembly (S/N After B413304015)		**X**		
1				*	BLOCK, Stage	1	1		
2	P	146653	433		GUIDE, Column, Pressure Plate	1	–		
3	P	146653	432		SUPPORT, Right Hand	1	1		
4	P	093908	595		GUIDE, Shaft	2	2		
5	P	129359	859		OILER, Column	2	2		
6	P	129359	671		BEARING	4	4		
7	P	129359	878		WASHER, Flat	7	7		
8	P	129359	687		SCREW, Cap, Hexhead, 1/2-20 x 1-3/4	7	7		
9	P	022436	091		PLUG, Nylon Rod, 5/32 Dia. x 5/32	1	1		
10	P	010585	041		SETSCREW, Cup Point, #10-32 x 1/4	1	1		
11	P	129352	751		SCREW, Buttonhead Socket, #10-24 x 1/2	5	–		
12	P	043282	091		SETSCREW, #10-32 x 5/16	5	–		
13	P	129359	690		FASTENER, Self-Sealing, #1/4-20 x 1/4 (Bleed Screw)	1	1		
14	P	129359	882		BEARING, Olite	2	2		
15	P	129359	679		SCREW, Hexhead, 3/8-24 x 1-1/2	3	3		
16	P	019680	041		WASHER, Helical Spring, 3/8	3	3		
17	P	017263	042		WASHER, Flat, 3/8	3	3		
18	P	146653	431		SUPPORT, Left Hand	1	1		

* Item #1 Stage Block is available for STERIS Service Technicians Only.
Order part number P146653-426

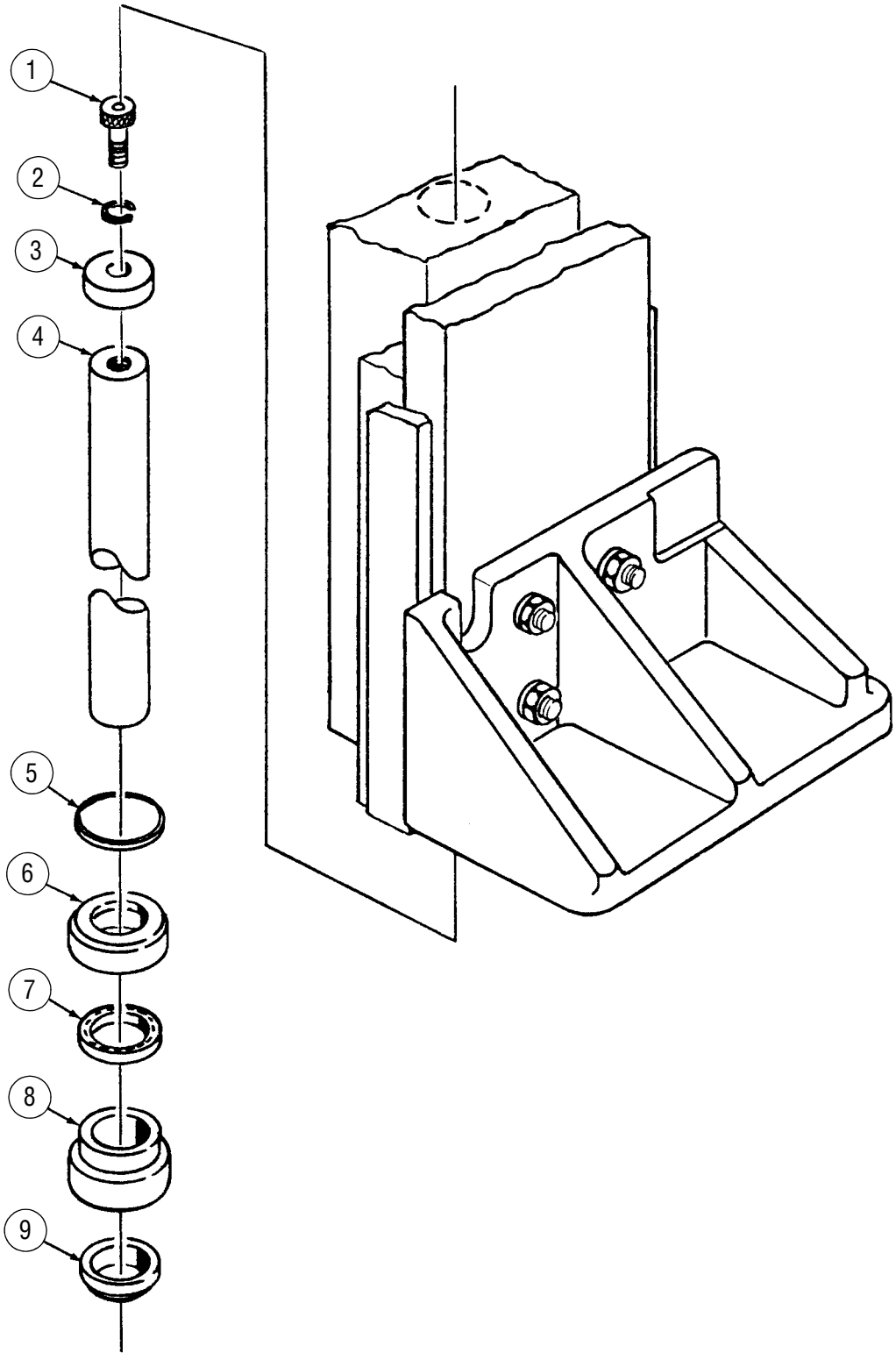


Figure 8. Column Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
8-					**Column Assembly**	**X**			
	P	**764324**	**901**	*	**KIT, Column Cylinder Seal**		**X**		
1	P	016868	041		SCREW, Socket Head Cap, 3/8-16 x 1	2	2		
2	P	019680	041		WASHER, Helical Spring, 3/8	1	1		
3	P	056397	238		CAP, Stop	1	1		
4				*	RAM	–	–		
5	P	129359	691		O-RING	1	1		
6	P	093908	577		BLOCK, Bearing	1	1		
7				*	SEAL, Reciprocating	–	–		
8	P	093908	591		NUT, Ram, #2-16 UNF	1	–		
9	P	129359	838		WIPER-SCRAPER	2	2		
10	P	764324	884		SPANNER WRENCH (Not Shown)	A/R	–		
11	P	129359	690		FASTENER, Self Sealing (1/4-20 x 1/4, Bleed Screw; Not Shown see Figure 7)	–	1		
12	P	764322	636		KIT, Hydraulic Oil (Not Shown)	1	A/R		
					** Whenever replacing seals or ram, replace all parts with Ram/Seal Kit (P764324-901). Spanner wrench required (P764324-884).*				

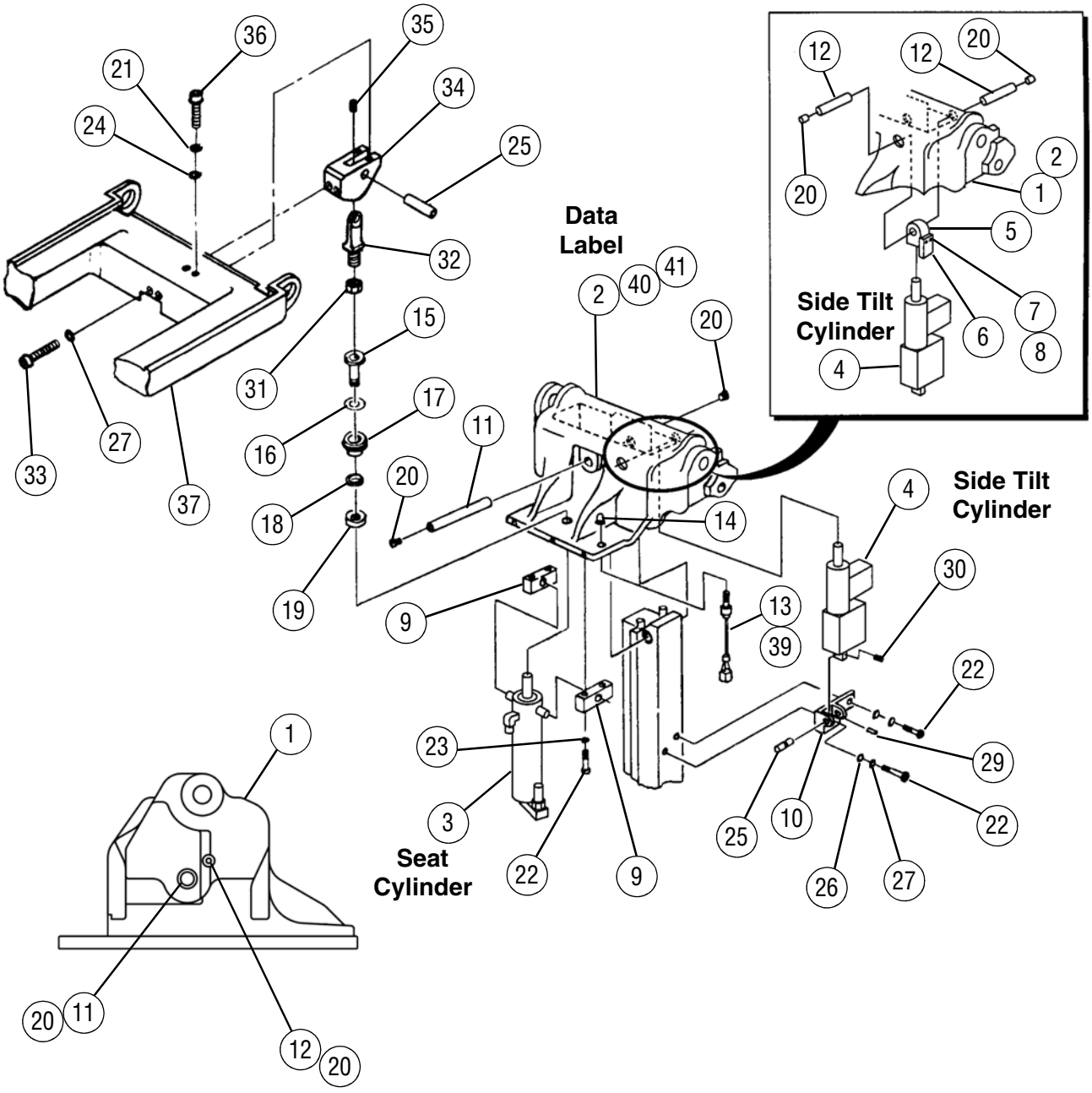


Figure 9. Table Saddle Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
9-					**Table Saddle Assembly (S/N Before B409804078)**	**X**			
					Table Saddle Assembly (S/N After B409804078)		**X**		
1					SADDLE (*Not a Service Replacement Part*)	–	1		
2					SADDLE (*Not a Service Replacement Part*)	1	–		
3					CYLINDER, Hydraulic (Seat; see Figure 21)	1	1		
4					CYLINDER, Tilt (see Figure 21)	1	1		
5	P	150823	750		• KNUCKLE, Tilt Cylinder	1	1		
6	P	150823	744	*	• LOCKING PLATE	1	1		
7	P	150830	154		• WASHER, Belleville, M5	1	1		
8	P	150830	153		• SCREW, Socket Head, M5 x 20	2	2		
9	P	093908	663		PAD, Pivot Mounting	2	2		
10	P	134469	346		BRACKET, Tilt Cylinder	1	1		
11	P	129359	680		PIN	1	1		
12	P	129359	850		PIN, Clevis, 3/8 Dia. x 2	2	2		
13	P	136807	080	**	ASSEMBLY, Limit Switch (**P28 to Control Box**)	1	–		
	P	129360	553	**	• SWITCH, Seat (**LS3**)	1	–		
14	P	129360	582	**	BOOT, Pushbutton	1	–		
15	P	093909	411		ADAPTER	1	1		
16	P	150823	518		PAD, Adapter	1	1		
17	P	056397	399		RING	1	1		
18	P	150823	517		RING, Wiper	1	1		
19	P	056397	401		NUT	1	1		
20	P	129360	580		PLUG, Pipe	4	4		
21	P	019678	045		LOCKWASHER, 1/4	4	4		
22	P	150830	009		SCREW, Socket Head Cap, 5/16-18 x 1-1/2	6	6		
23	P	019691	061		LOCKWASHER, 5/16	4	4		
24	P	049134	061		WASHER, Flat, 1/4	2	2		
25	P	129360	175		PIN, Dowel, 3/8 x 1-1/2	2	2		
26	P	150473	296		WASHER, Flat, 5/16	2	2		
27	P	081682	008		LOCKWASHER, 5/16	2	2		
28					NOT USED				
29	P	045605	061		PIN, Roll, 1/4 x 3/4	1	1		
30	P	036883	061		SETSCREW, Cup Point, #10-32 x 3/8	1	1		
31	P	016055	045		NUT, Jam, 1/2-20	1	1		
32	P	129359	737		KNUCKLE, Seat Lift Cylinder	1	1		
33	P	091521	091		SCREW, Socket Head Cap, 1/4-20 x 2-1/4	2	2		
34	P	136806	496		CLEVIS, Seat Section	1	1		
35	P	052004	061		SETSCREW, Cup Point, #10-32 x 1/4	1	1		
36	P	011266	045		SCREW, Socket Head Cap, 1/4-20 x 1	2	2		
37	P	764328	196		FRAME, Seat Section	1	1		
38	P	093909	795		LABEL, Warning (Electric Table Only; Not Shown)	1	1		
39	P	150476	930	**	BASE, Mounting Cable	1	–		
40	P	093909	375		LABEL, Patent	1	1		
41					LABEL, Data Label (S/N Data Plate)	1	1		
					** Use Loctite 262 (R5300-890) on locking side plate screws.*				
					*** The Seat Section Limit Switch will be on S/N before B431004011.*				

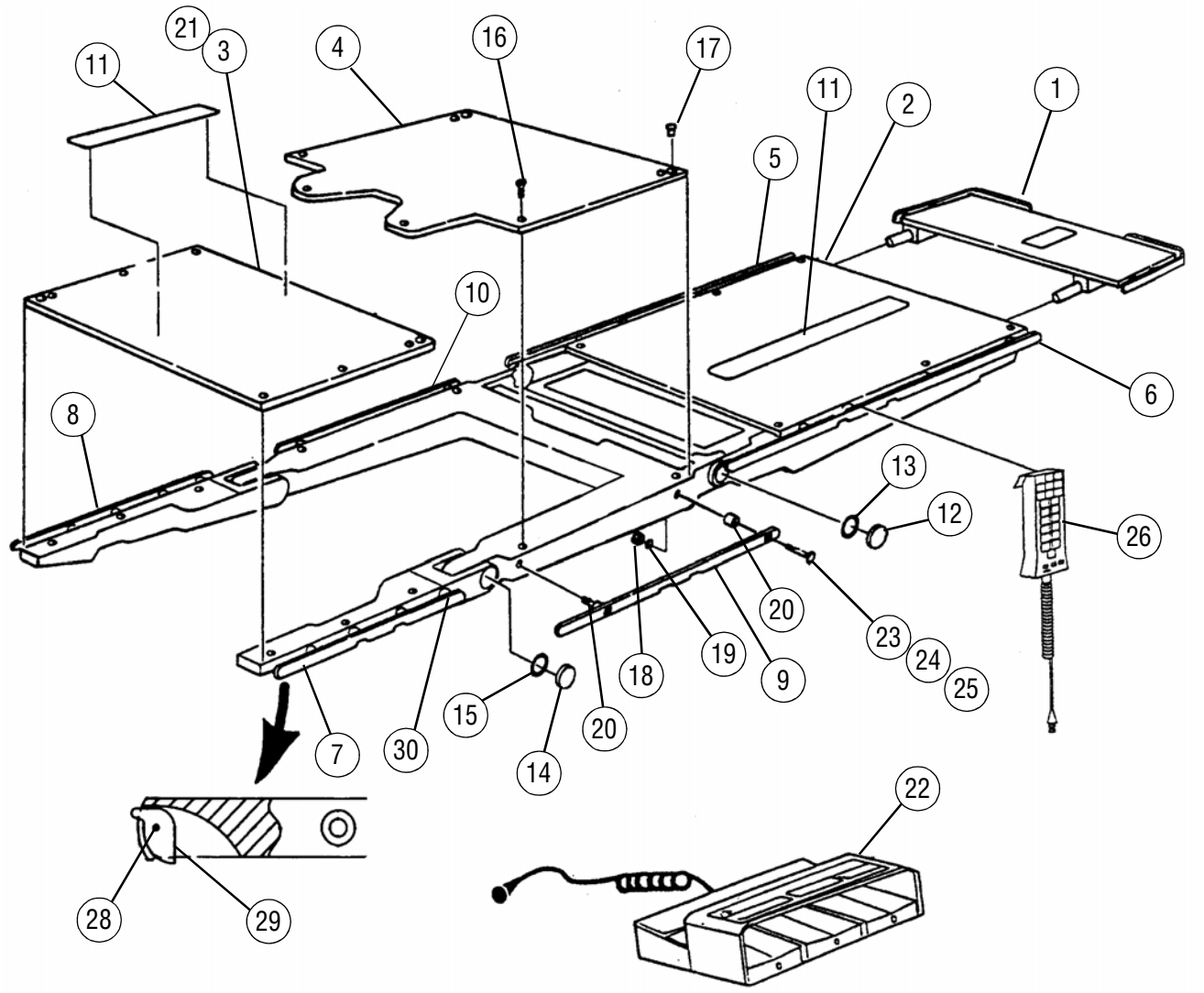


Figure 10. Table Tops and Side Rail Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
10-					**Table Tops and Side Rail Assembly**	**X**
1	P	141210	530		ASSEMBLY, Headrest (see Figure 16)	1
2	P	764324	054		TOP, Back Section	1
3	P	764324	055		TOP, Leg Section	1
	P	093909	539		TOP, Leg Section (Andrews Frame)	1
4	P	764324	056		TOP, Seat Section	1
5	P	056397	213	***	RAIL, Side, Back Section, Right Hand	1
6	P	056397	214	***	RAIL, Side, Back Section, Left Hand	1
7	P	056397	206	***	RAIL, Side, Leg Section, Left Hand	1
	P	093909	537	***	RAIL, Side, Leg Section, Left Hand (Andrews Frame)	1
8	P	056397	205	***	RAIL, Side, Leg Section, Right Hand	1
	P	093909	536	***	RAIL, Side, Leg Section, Right Hand (Andrews Frame)	1
9	P	056397	210	***	RAIL, Side, Seat Section, Left Hand	1
10	P	056397	209	***	RAIL, Side, Seat Section, Right Hand	1
11	P	764329	992		KIT, Hook Fastener (5 Feet)	1
12	P	093909	366	*	CAP, Pivot, 1-7/8	2
13	P	129360	171	*	TAPE, Adhesive, Pivot	2
14	P	129360	172	**	CAP, Pivot, 3	2
15	P	129359	894	**	TAPE, Adhesive, Pivot	2
16	P	021580	061		SCREW, Truss Head, 1/4-20 x 1	16
17					INSERT (*Not Service Part* - Included in Items 2, 3 and 4)	6
18	P	036545	061		NUT, Hex, 5/16-18	20
19	P	091147	061		LOCKWASHER, External Tooth, 5/16	20
20	P	150823	276		SPACER, Side Rails, 9/16” Long	20
21	P	075664	061		SCREW, Machine, Countersunk (Andrews Frame)	6
22	P	093909	527		FOOT CONTROL	1
23	P	042637	056		SCREW, Flat Head 5/16-18 x 1-1/2	18
24	P	150823	273		SCREW, Flat Head 5/16-18 x 2	1
25	P	150823	274		SCREW, Flat Head 5/16-18 x 2-1/2 (Wide X-Ray Top)	1
26	P	141210	318		HAND CONTROL, 3085 SP (Red Plug)	1
					REPAIR KITS:	
	P	764328	572		• KIT, Control Housing With Bracket	1
	P	764325	633		• PC BOARD Replacement	1
	P	764328	571		• KIT, Control Cord Replacement	1
	P	141210	367		HAND CONTROL, Hermes-Ready (Blue Plug)	A/R
					REPAIR KITS:	
	P	764333	130		• KIT, 3080/3085 H.C. PC Board, Hermes	A/R
	P	764333	131		• KIT, 3080/3085 H.C. Cord Replacement, Hermes/ACT Interface	A/R
	P	764333	132		• KIT, 3080/3085 H.C. Control Housing With Bracket, Hermes	A/R
	P	146664	103		HAND CONTROL, ACT Interface (Blue Plug)	A/R
					REPAIR KITS:	
	P	764333	133		• KIT, 3080/3085 H.C. PC Board, ACT Interface	A/R
	P	764333	131		• KIT, 3080/3085 H.C. Cord Replacement, Hermes/ACT Interface	A/R
	P	764333	135		• KIT, 3080/3085 H.C. Control Housing With Bracket, ACT Interface	A/R

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
10-					**Table Tops and Side Rail Assembly (Cont'd)**	**X**
27	P	129360	589		PADS, Set, 2" (Not Shown)	
	P	136806	811		•PAD, Leg Section, 2" (Not Shown)	1
	P	136806	813		•PAD, Head Section, 2" (Not Shown).....	1
	P	136806	815		•PAD, Back/Seat Section (Not Shown)	1
	P	150830	176		PAD SET, TLT (Not Shown)	1
	P	150830	175		•PAD, TLT Head Section (Not Shown).....	1
	P	150830	173		•PAD, TLT Back/Seat Section (Not Shown).....	1
	P	150830	174		•PAD, TLT Leg Section (Not Shown)	1
28	P	043224	061		PIN, Roll, 3/32 x 3/8	6
29	P	051112	061		CAM, Side Rail	6
30	P	009645	061		SCREW, Drive.....	6
					** Items 12 and 13 should be ordered together.* *** Items 14 and 15 should be ordered together.* **** Items 28, 29 and 30 are included in Items 5 through 10.*	

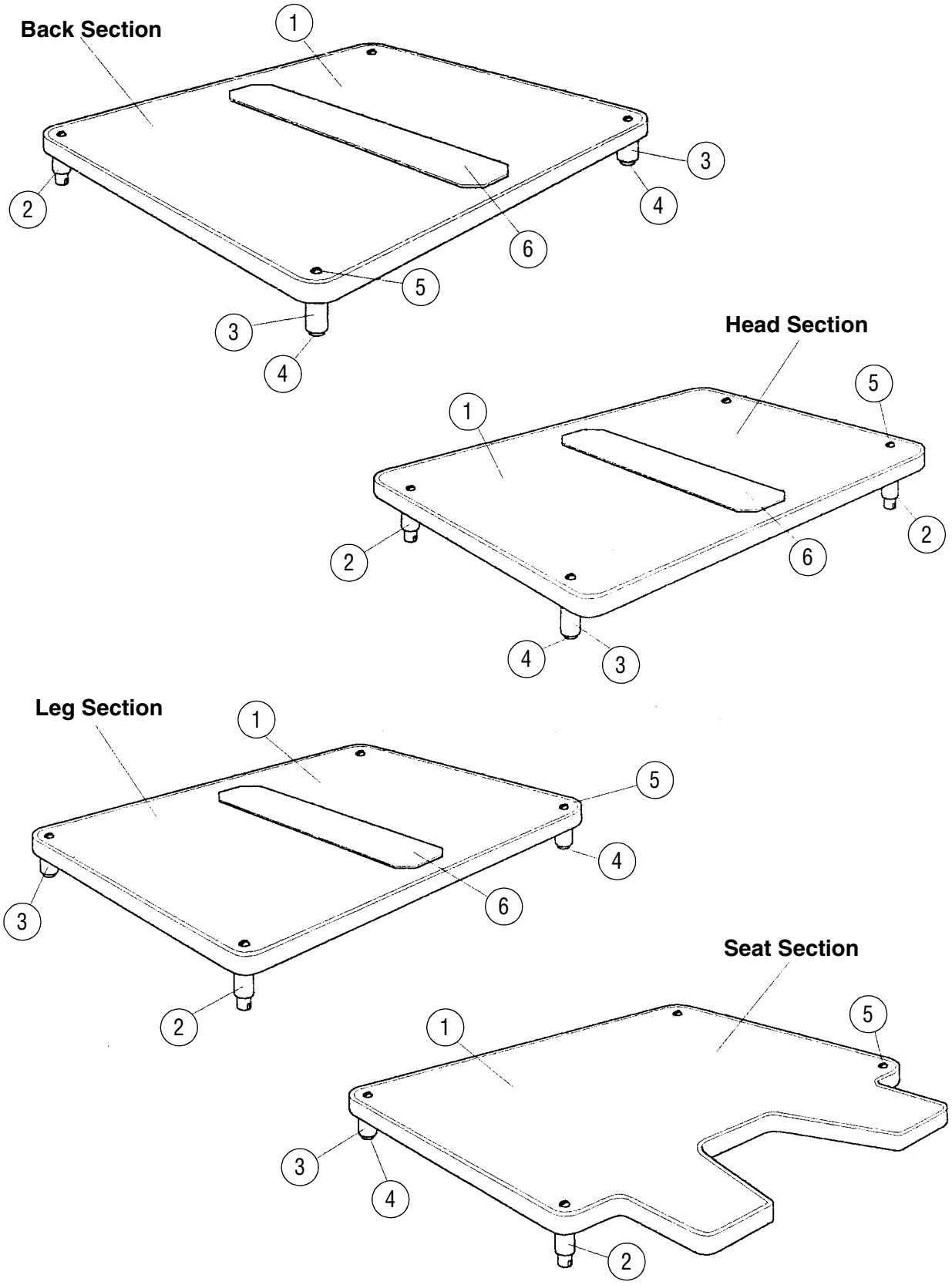


Figure 11. Standard X-Ray Top Assemblies

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
11-	**P**	**136807**	**044**		**Standard X-Ray Top Assembly, Back Section**	**X**			
	P	**136807**	**045**		**Standard X-Ray Top Assembly, Head Section**		**X**		
	P	**136807**	**042**		**Standard X-Ray Top Assembly, Leg Section**			**X**	
	P	**136807**	**043**		**Standard X-Ray Top Assembly, Seat Section**				**X**
1	P	093909	289		X-RAY TOP, Back Section	1	–	–	–
	P	093909	286		X-RAY TOP, Head Section	–	1	–	–
	P	093909	287		X-RAY TOP, Leg Section	–	–	1	–
	P	093909	288		X-RAY TOP, Seat Section	–	–	–	1
2	P	093909	299		ASSEMBLY, Spacer	2	2	2	2
3	P	077643	056		SPACER	2	2	2	2
4	P	129360	481		BUMPON	2	2	2	2
5	P	150055	001		SCREW, Truss Head, 1/4-20 x 7/8	4	4	4	4
6	P	764329	992		KIT, Hook Fastener (5 Feet)	A/R	A/R	A/R	A/R

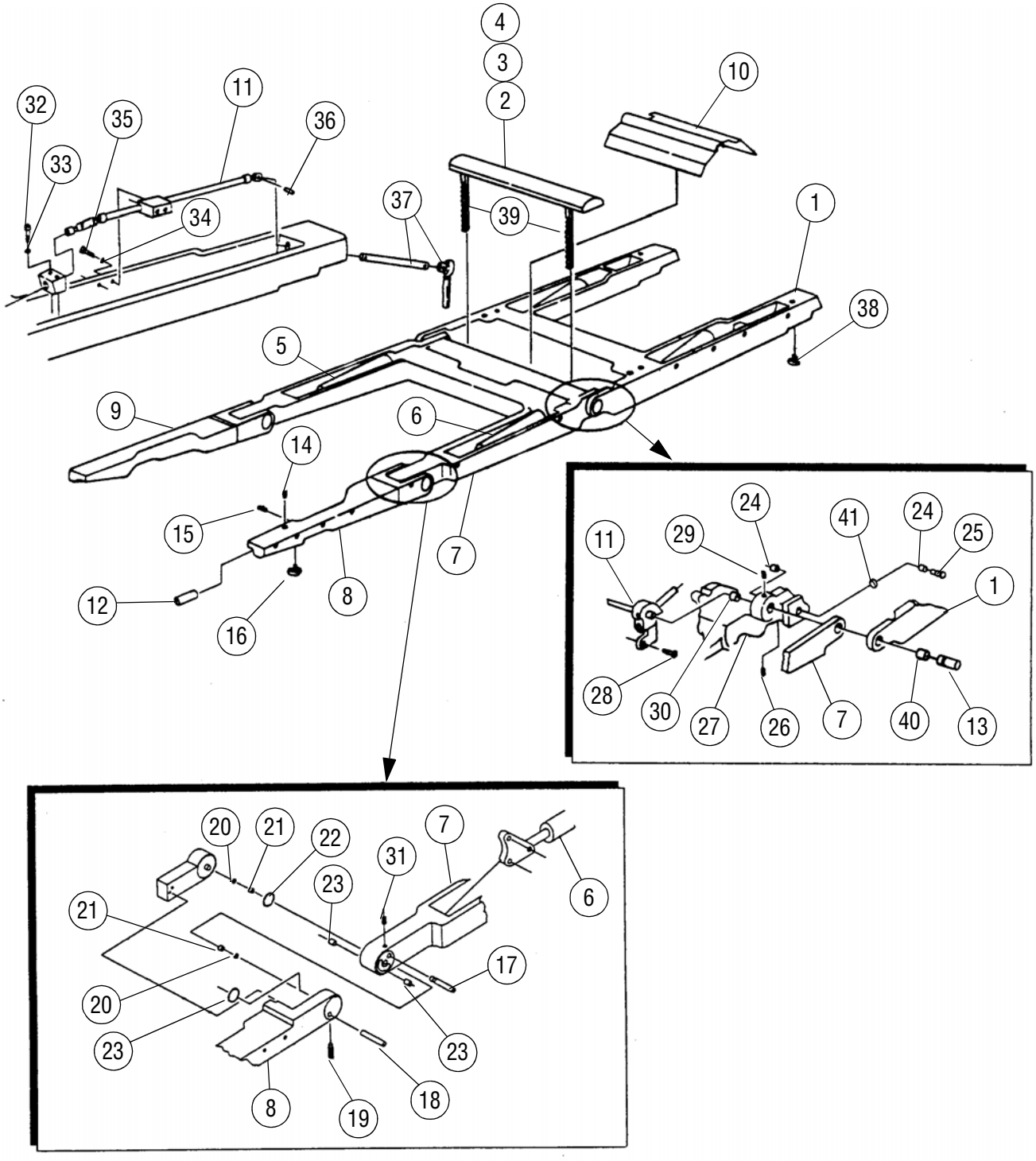


Figure 12. Tabletop Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
12-					**Tabletop Assembly**	**X**
1					ASSEMBLY, Back Section (see Figure 13)	1
2	P	136807	076		ASSEMBLY, Kidney Bridge and Rack	1
3	P	003952	041		SCREW, Roundhead, Machine, 1/4-20 x 1/2	2
4	P	003999	041		SCREW, Roundhead, Machine, 1/4-20 x 5/8	2
5					CYLINDER ASSEMBLY, Leg, Right-Hand (see Figure 21)	1
6					CYLINDER ASSEMBLY, Leg, Left-Hand (see Figure 21)	1
7					ASSEMBLY, Seat Section (see Figure 15)	1
8					ASSEMBLY, Leg Section, Left Side (see Figure 15)	1
9					ASSEMBLY, Leg Section, Right Side (see Figure 15)	1
10	P	136807	118		COVER, Saddle	1
11	P	146653	926		ASSEMBLY, Kidney Bridge Shaft (see Figure 17)	1
12	P	093909	431		BEARING, Mounting.	2
13	P	129359	689		PIN, Pivot	2
14	P	090348	061		PIN, Roll, 1/8 x 3/8	2
15	P	035139	061		SETSCREW, Cup Point, #6-32 x 1/4	2
16	P	077559	056		ASSEMBLY, Knob	2
17	P	129359	746		PIN, 5/8 Diameter x 2-1/2	2
18	P	129359	738		PIN, 9/16 x 3 Modified	2
19	P	150763	001		SETSCREW, Half Dog, #8-32 x 1/4	4
20	P	129359	748		WASHER, Thrust	4
21	P	129359	750		BEARING, Sleeve	4
22	P	129360	162		ASSEMBLY, Hinge Seal	4
23	P	129359	740		SPACER, Pin	4
24	P	093908	827		BEARING, Nylon Flange	4
25	P	129359	693		PIN	2
26	P	015263	091		SETSCREW, Cone Point, 1/4-20 x 1/4	2
27					SADDLE (*Not Service Part*)	1
28	P	074117	061		SCREW, Socket Head Cap, 1/4-20 x 3/8	2
29	P	129360	581		SETSCREW, Cup Point, 1/4-20 x 1/2	2
30	P	129360	579		BEARING	2
31	P	010585	041		SETSCREW, Cup Point, #10-32 x 1/4	5
32	P	129360	694		SCREW, Socket Head Cap, #8-32 x 1-1/2	2
33	P	019690	061		LOCKWASHER, #8, SS	2
34	P	046115	091		LOCKWASHER, #10	2
35	P	129361	221		SCREW, Roundhead, #10-32 x 1/2	2
36	P	041511	061		PIN, Groove, 5/32 x 5/8	1
37					ASSEMBLY, Kidney Bridge Handle (see Figure 18)	1
38	P	093909	192		KNOB, 5/16-18	2
39	P	129359	653		RACK, Kidney Bridge	2
40	P	093908	828		BEARING	4
41	P	150830	846		WASHER	A/R

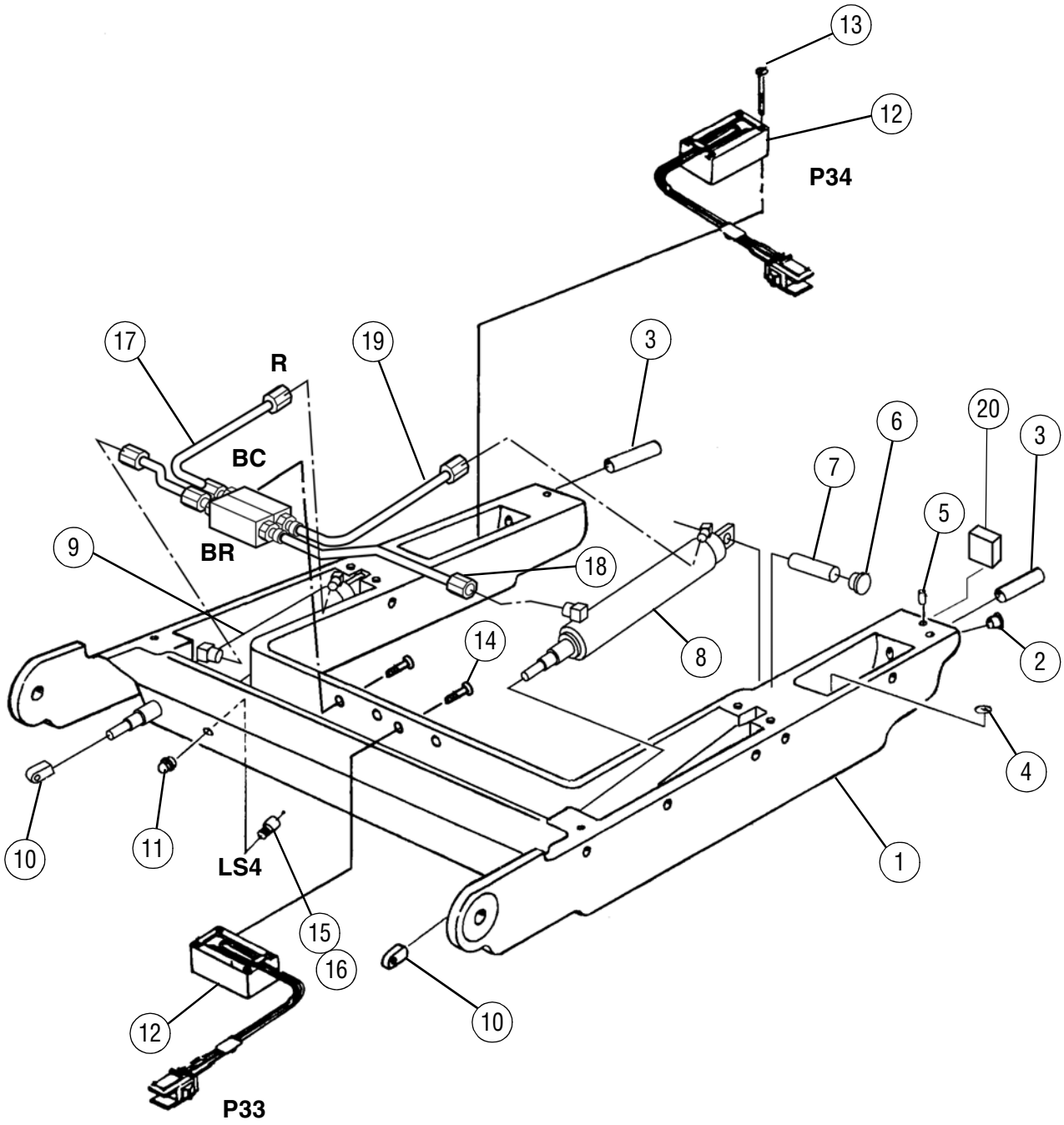


Figure 13. Back Section Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
13-					**Back Section Assembly**	**X**
1	P	764330	136		KIT, Back Section Assembly	1
2				*	• BEARING, Olite	1
3				*	• BEARING, Headrest Mounting	4
4	P	129360	483		• STICKER, Natural Ground	1
5	P	090348	061		• PIN, Roll, 1/8 x 3/8	4
6	P	150823	198		• PLUG, Button	2
7	P	150823	203		• PIN, Dowell 3/8 Dia. x 2-1/2	2
8					CYLINDER, Hydraulic (Back Section, Left-Hand - see Figure 21)	1
9					CYLINDER, Hydraulic (Back Section, Right-Hand - see Figure 21)	1
10	P	129359	652		CLEVIS, Cylinder	2
11	P	129360	582		BOOT, Pushbutton	2
12	P	134469	492		ASSEMBLY, Mercury Switch (**P33, P34 and P35**)	2
13	P	118407	045		SCREW, Pan Head #6-32 x 1	4
14	P	081681	003		SCREW, Round Head #6-32 x 1/4	2
15	P	141210	138		ASSEMBLY, Back Section Cable (**LS4, P33, P34, P31, P29**)	1
16	P	129360	888		SWITCH, Back (**LS4**)	1
17	P	056397	268		BLOCK, Distribution	1
18	P	150823	609		HOSE, #4, 225 mm	1
19	P	150823	608		ASSEMBLY, HOSE #4, 370 mm	1
20	P	056397	698		LABEL, Kidney Ratchet	1
21	P	056397	441		WASHER, Hydraulic Sealing (Not Shown)	A/R

** Not service part, order kit.*

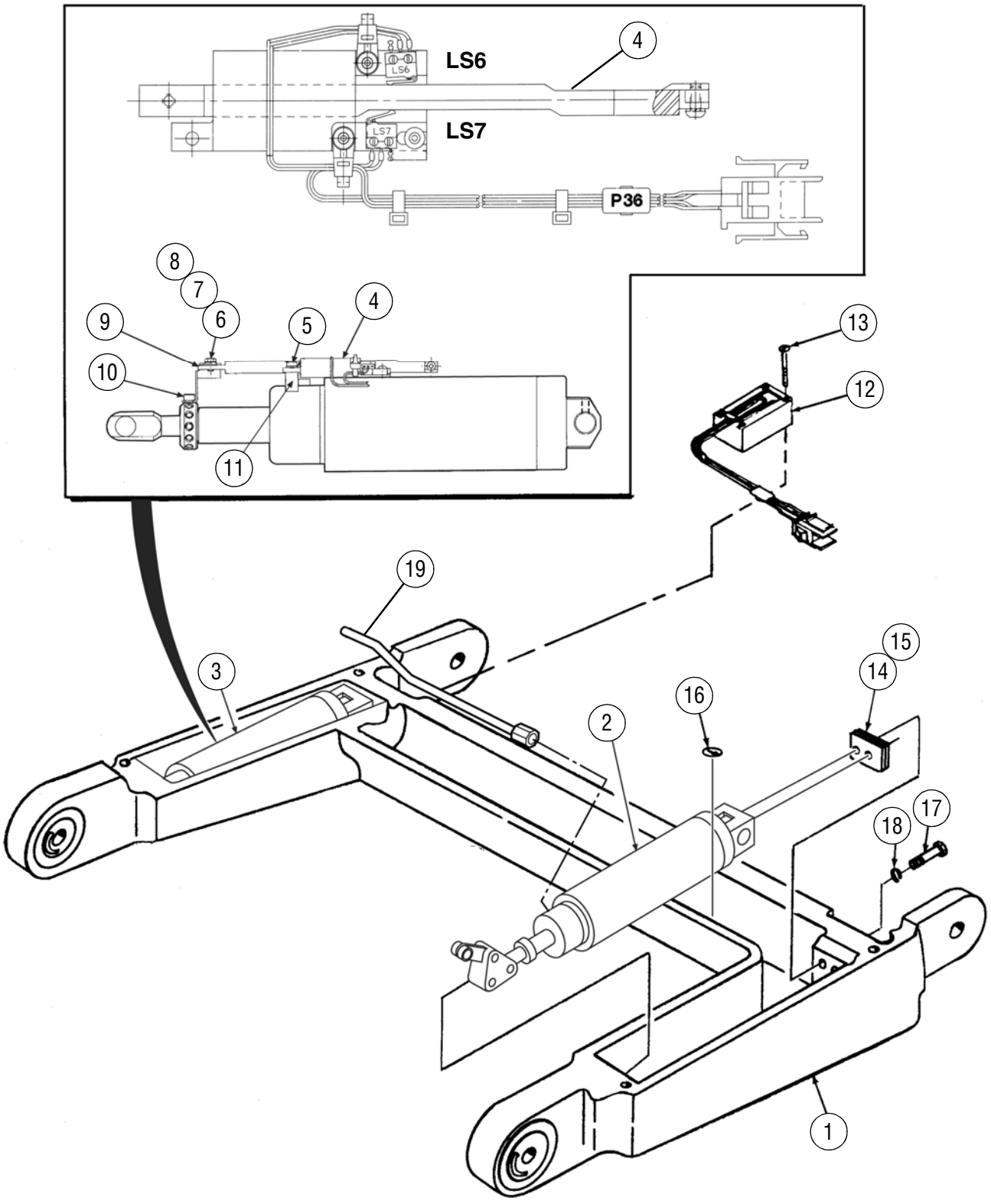


Figure 14. Seat Section Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
14-					**Seat Section Assembly**	**X**
1	P	764328	196		FRAME, Seat Section	1
2					ASSEMBLY, Leg Cylinder, L.H. (see Figure 21)	1
3					ASSEMBLY, Leg Cylinder, R.H. (see Figure 21)	1
4	P	136807	731		ASSEMBLY, Self Level	1
	P	136807	729		• HARNESS, Switch Assembly (**P36, LS6, LS7**)	1
5	P	129361	758		SCREW, Socket Head Shoulder, #4-40 x 3/16	1
6	P	084116	002		LOCKWASHER, #6, Internal Tooth	1
7	P	084114	002		WASHER, Flat, #6	1
8	P	129361	760		SCREW, Hex Head, #6-32 x 1/4	1
9	P	056397	374		BRACKET, Support Cam	1
10	P	129361	761		SCREW, Socket Head, #8-32 x 1/4	1
11	P	150823	437		SPACER	1
12	P	134469	492		ASSEMBLY, Mercury Switch (**P33, P34 and P35**)	1
13	P	118407	045		SCREW, Pan Head, #6-32 x 1	4
14	P	129359	836		SHIM, 010 Thk	A/R
15	P	129360	498		SHIM, 063 Thk	A/R
16	P	129360	483		STICKER, Natural Ground	2
17	P	012176	041		SCREW, Hex Head, 1/4-20 x 3/4	4
18	P	150620	001		WASHER, Flat, 1/4	4
19	P	150823	397		ASSEMBLY, Hose, Size 4, 290 mm (Seat Section)	1
20	P	056397	441		WASHER, Hydraulic Sealing (Not Shown)	A/R

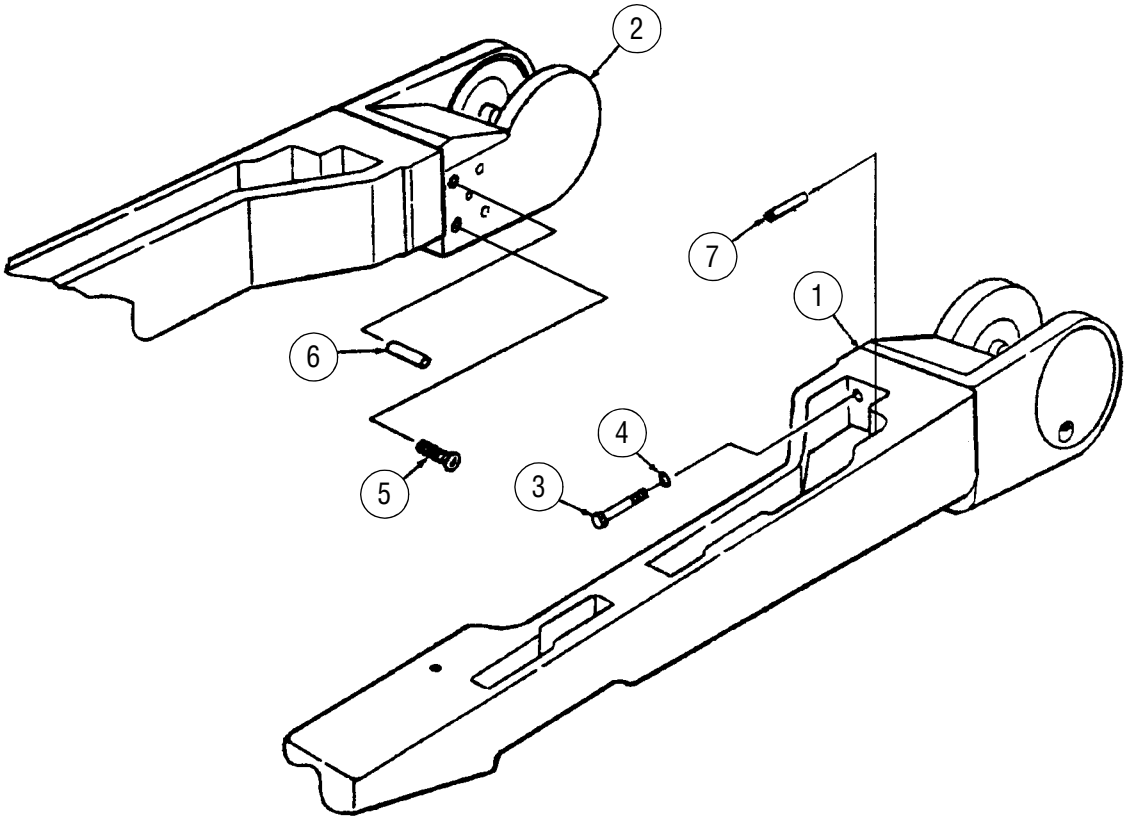


Figure 15. Leg Section Assemblies

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
15-					**Leg Section Assemblies**				
1	P	141210	524		LEG SECTION ASSEMBLY, Left Side	X			
2	P	141210	525		LEG SECTION ASSEMBLY, Right Side		X		
3	P	044746	045		SCREW, Cap, 3/8-16 x 1-1/4	2	2		
4	P	019680	041		WASHER, Helical Spring, 3/8	2	2		
5	P	150823	064		SCREW, Socket Flathead, 1/4-20 x 1	2	2		
6	P	015294	091		PIN, Dowel, 5/16 Diameter x 1	2	2		
7	P	129359	864		PIN, Spiral, 1/4 Diameter	2	2		

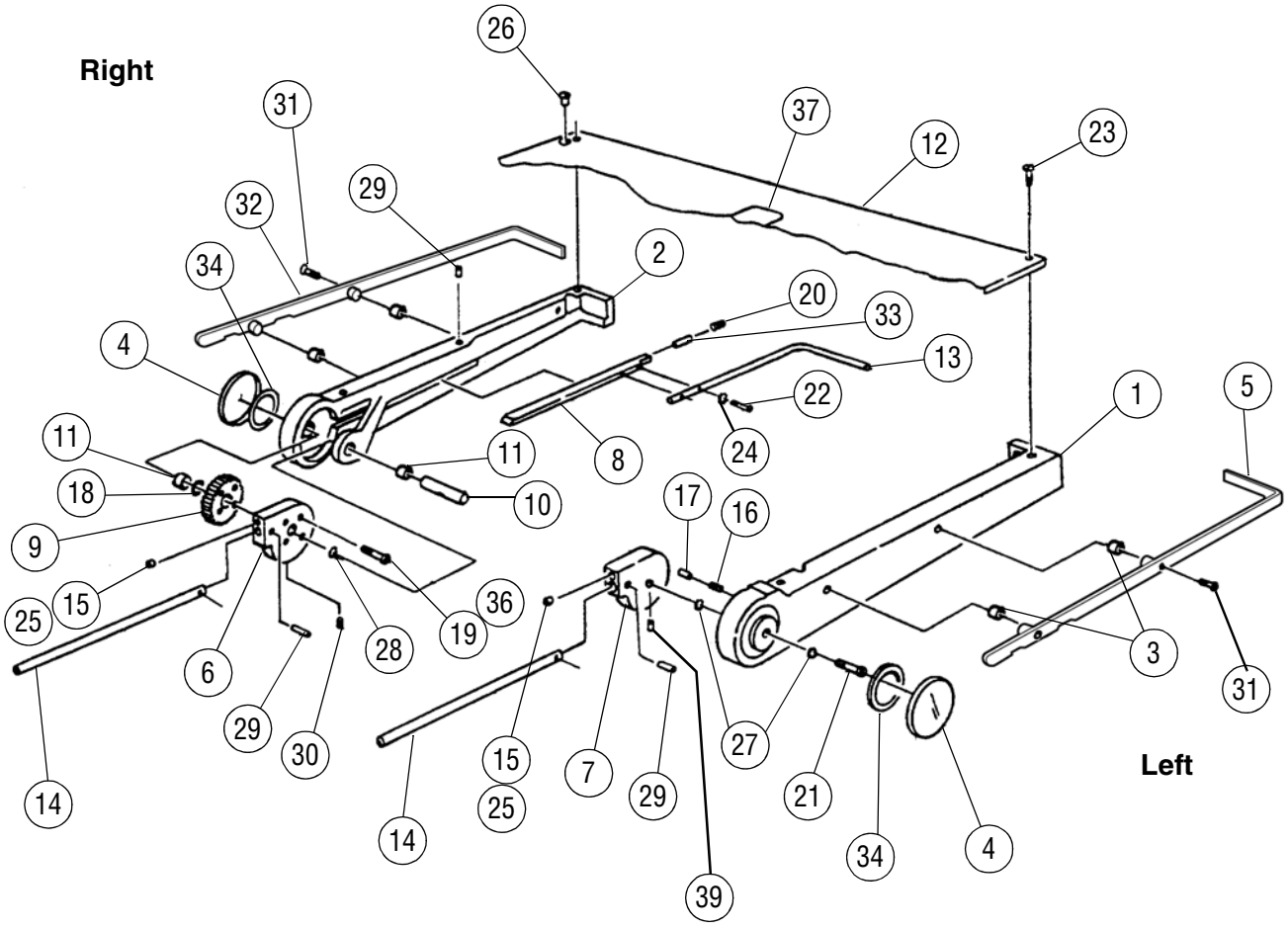


Figure 16. Headrest Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
16-	**P**	**141210**	**530**		**Headrest Assembly**	**X**
1	P	764332	915		FRAME, Side, Left Hand	1
2	P	764332	916		FRAME, Side, Right Hand	1
3	P	150823	276		SPACER, Side Rail, 9/16	4
4	P	093909	366		CAP, Pivot	2
5	P	056397	899		ASSEMBLY, Side Rail, Left Hand	1
6	P	134469	348		BLOCK, Support, Right Hand	1
7	P	136806	500		BLOCK, Support, Left Hand	1
8	P	134469	493		PAWL	1
9	P	093909	191		RACHET	1
10	P	129360	253		SHAFT	1
11	P	129360	249		BEARING, Sleeve	2
12	P	093908	590		TOP, Headrest	1
13	P	056397	898		HANDLE	1
14	P	093909	190		SHAFT	2
15	P	129360	230		BUMPER, Rubber	2
16	P	129360	228		SPRING, Compression	4
17	P	129360	229		STOP, Nylon	4
18	P	129360	255		WASHER, Spring	1
19	P	129360	258		BOLT, Shoulder, 8-32 x 1	4
20	P	129360	353		SPRING, Compression	1
21	P	083755	001		BOLT, Shoulder, 5/16-18 x 3/4	4
22	P	081222	001		SCREW, Socket Head Cap, SS, 8-32 x 7/8	2
23	P	150055	001		SCREW, Truss Head, 1/4-20 x 7/8	4
24	P	150473	302		WASHER, SS Flat, #8	4
25	R	005300	557		LOCTITE, Type #495, 1 oz	A/R
26	P	129357	090		INSERT, Top	2
27	P	010456	091		WASHER, Brass Flat, 11/16 OD x .390 ID	A/R
28	P	129360	256		WASHER, Thrust	1
29	P	036565	061		PIN, Roll, 1/8 x 1	3
30	P	031276	061		SETSCREW, Hex Socket, #10-32 x 1/2	1
31	P	129357	095		SCREW, Flat Head Socket, 5/16-18 UNC x 1-1/4	4
32	P	056397	900		ASSEMBLY, Side Rail, Right Hand	1
33	P	129180	173		PIN, Roll	1
34	P	129359	894		TAPE, Adhesive (Pivot)	2
35	R	005300	542		LOCTITE, Type RC/609 (Not Shown)	A/R
36	R	005300	545		LOCTITE, Type #222	A/R
37	P	764329	992		KIT, Hook Fastener (5 Feet)	1
38	R	005300	912		LOCTITE, Primer T (Not Shown)	A/R
39	P	150830	110		SETSCREW, Soft End, 8-32 x 15/64	1

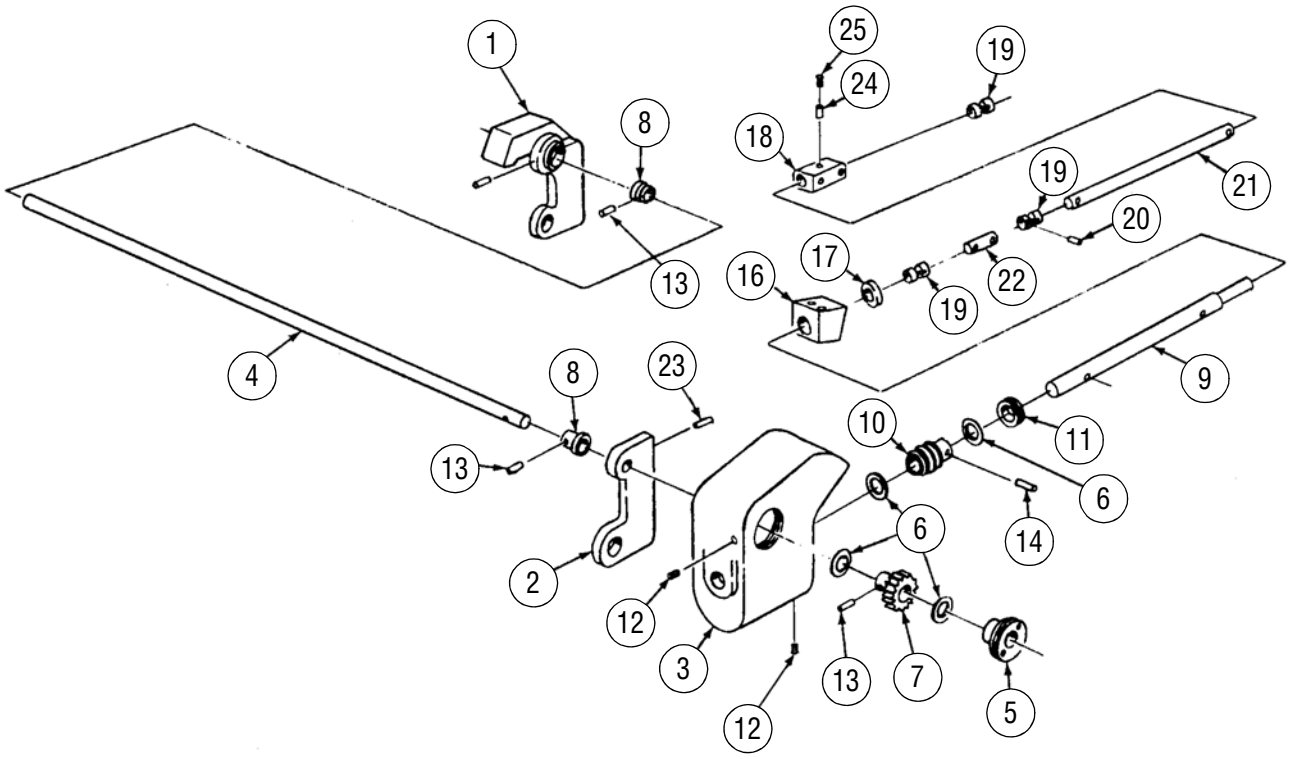
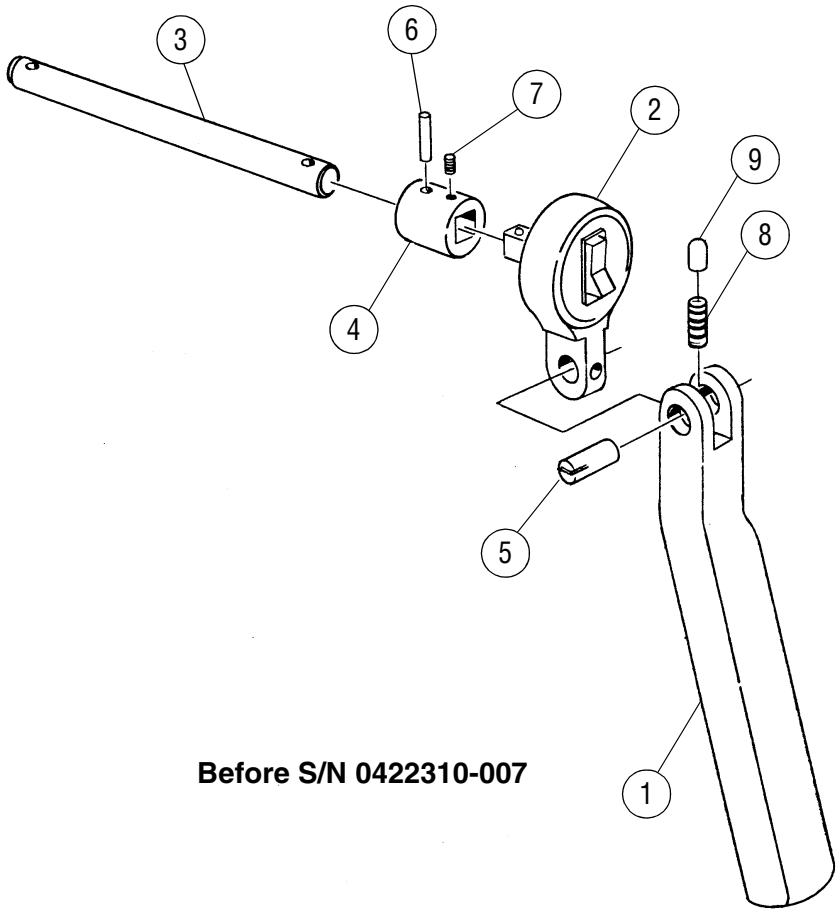
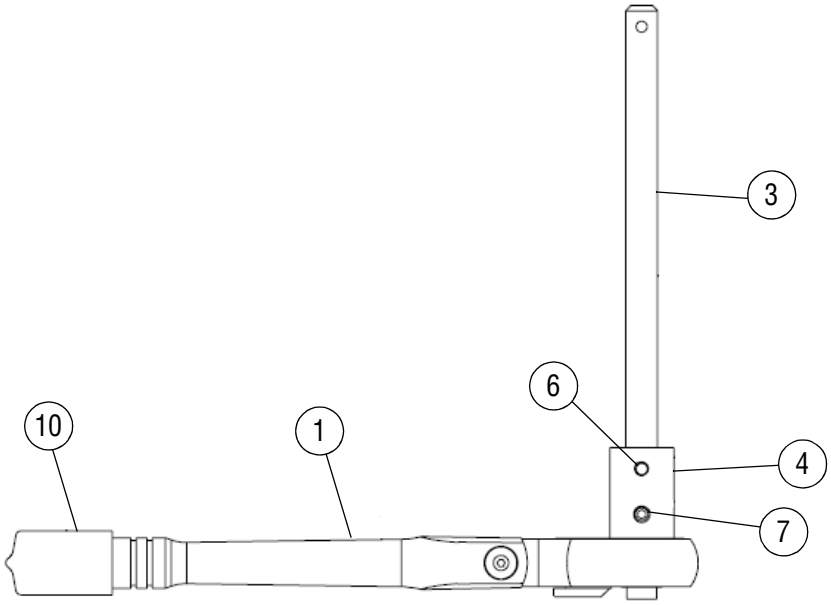


Figure 17. Kidney Bridge Shaft Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
17-	**P**	**146653**	**926**		**Kidney Bridge Shaft Assembly (Before S/N 0422310070) .....**	**X**			
	P	**146653**	**926**		**Kidney Bridge Shaft Assembly (After S/N 0422310070) .....**		**X**		
1	P	136806	486		STABILIZER, Right Hand	1	1		
2	P	136806	487		STABILIZER, Left Hand	1	1		
3	P	136806	460		BOX, Gear	1	1		
4	P	093908	584	*	SHAFT, Kidney Bridge Cross, 1/2 Dia. x 15-5/8	1	1		
5	P	016285	042		BEARING	1	1		
6	P	050713	091		BEARING, Thrust	4	4		
7	P	016247	091		GEAR, Worm	1	1		
8	P	015220	045	*	GEAR, Spur	2	2		
9	P	129359	684	*	SHAFT, Worm End	1	1		
10	P	016234	091		WORM	1	1		
11	P	016186	042		NUT, Adjusting	1	1		
12	P	034518	061		SETSCREW, #8-32 x 1/4	2	2		
13	P	024700	061		PIN, Grooved, 3/16 x 1	3	3		
14	P	030092	061		PIN, Grooved, 5/32 x 3/4	1	1		
15	P	056397	698		LABEL, Kidney Bridge Control (Domestic, Not Shown)	1	-		
	P	056401	598		LABEL, Kidney Bridge Control (French, Spanish, German 220V, Not Shown)	1	-		
	P	150830	853		LABEL, Kidney Bridge Control (Domestic/International, Not Shown) ..	-	1		
16	P	093908	640		BLOCK, Kidney Bridge Linkage	1	1		
17	P	129359	702		BEARING, Spherical	1	1		
18	P	129359	718		BLOCK, Support	1	1		
19	P	020200	045		JOINT, Universal	3	3		
20	P	041511	061		PIN, Groove, 5/32 x 5/8	5	5		
21	P	129359	686	*	SHAFT, 3/8 Dia. x 6-1/4	1	1		
22	P	129359	720		SHAFT, 3/8 Dia. x 1-3/8	1	1		
23	P	045591	061		PIN, Roll, .103 Dia. x 1/2	2	2		
24	P	129360	230		BUMPER, Rubber	1	1		
25	P	004772	045		SETSCREW, Hex Socket, 1/4-20 x 1/4	1	1		
					** Shafts may have undersized drill holes - drill at assembly operation required.*				



Before S/N 0422310-007



After S/N 0422310-007

Figure 18. Kidney Bridge Handle Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
18-					**Kidney Bridge Handle Assembly (NLA)** **Before S/N 0422310-007**	**X**			
	P	**056404**	**064**		**Kidney Bridge Handle Assembly** **After S/N 0422310-007**		**X**		
1	P	136806	457		HANDLE, Kidney Bridge	1	-		
	P	056404	063		RATCHET, Handle	-	1		
2	P	093908	662		RATCHET	1	-		
3	P	129359	685	*	SHAFT	1	1		
4	P	129359	681		SOCKET, Drive	1	1		
5	P	129360	266		PIN, Grooved	1	-		
6	P	041511	061		PIN, Groove, 5/32 x 5/8	1	1		
7	P	052004	061		SETSCREW, #10-32 x 1/4	1	1		
8	P	129360	265		SPRING, Compression	1	-		
9	P	129360	264		PLUNGER	1	-		
10	P	150830	852		CAP, Ratchet	-	1		
					** Shaft drill holes are undersize - to be drilled at assembly.*				

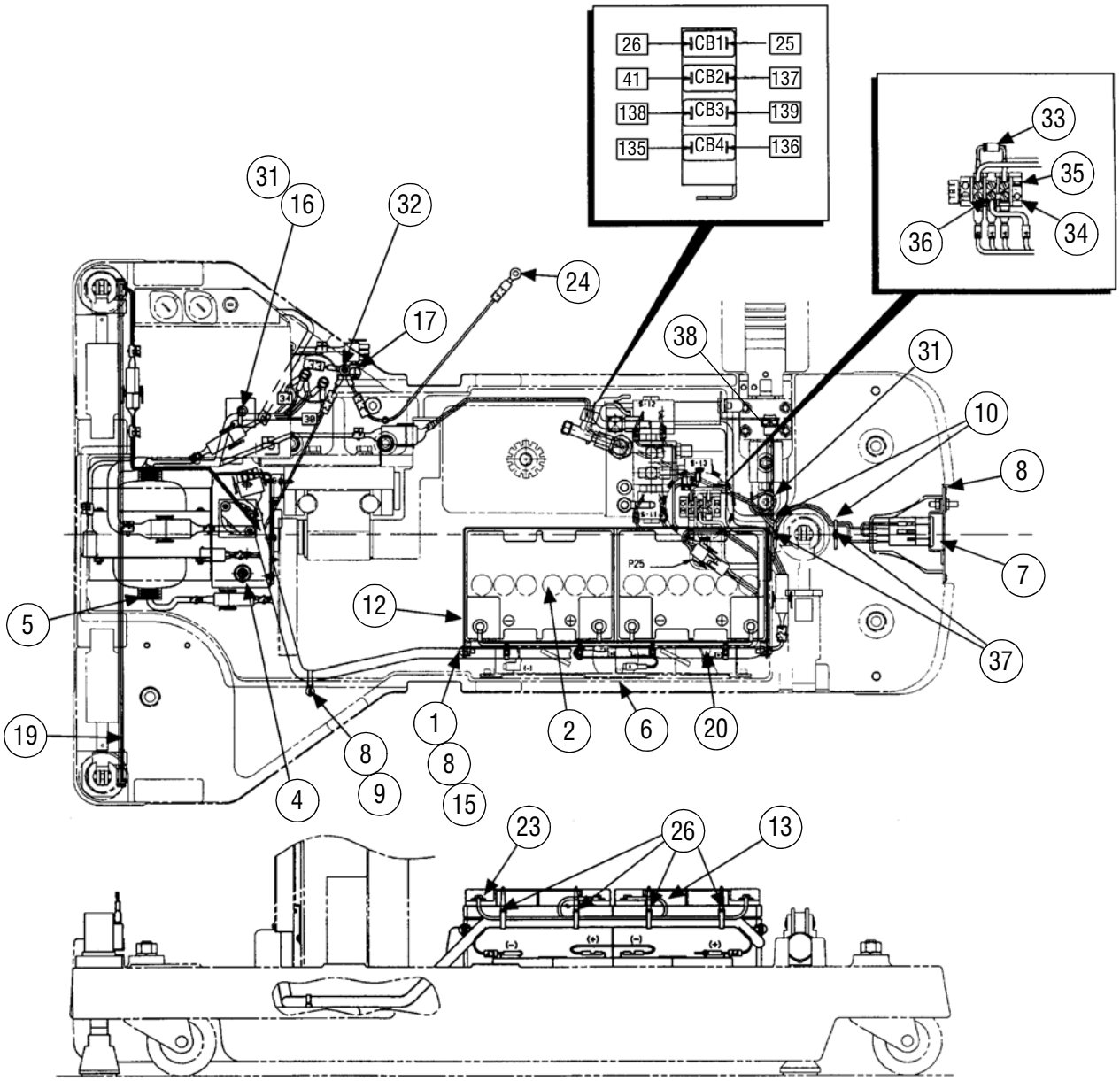


Figure 19. Table Base and Column: Electrical Assembly (1 of 3)

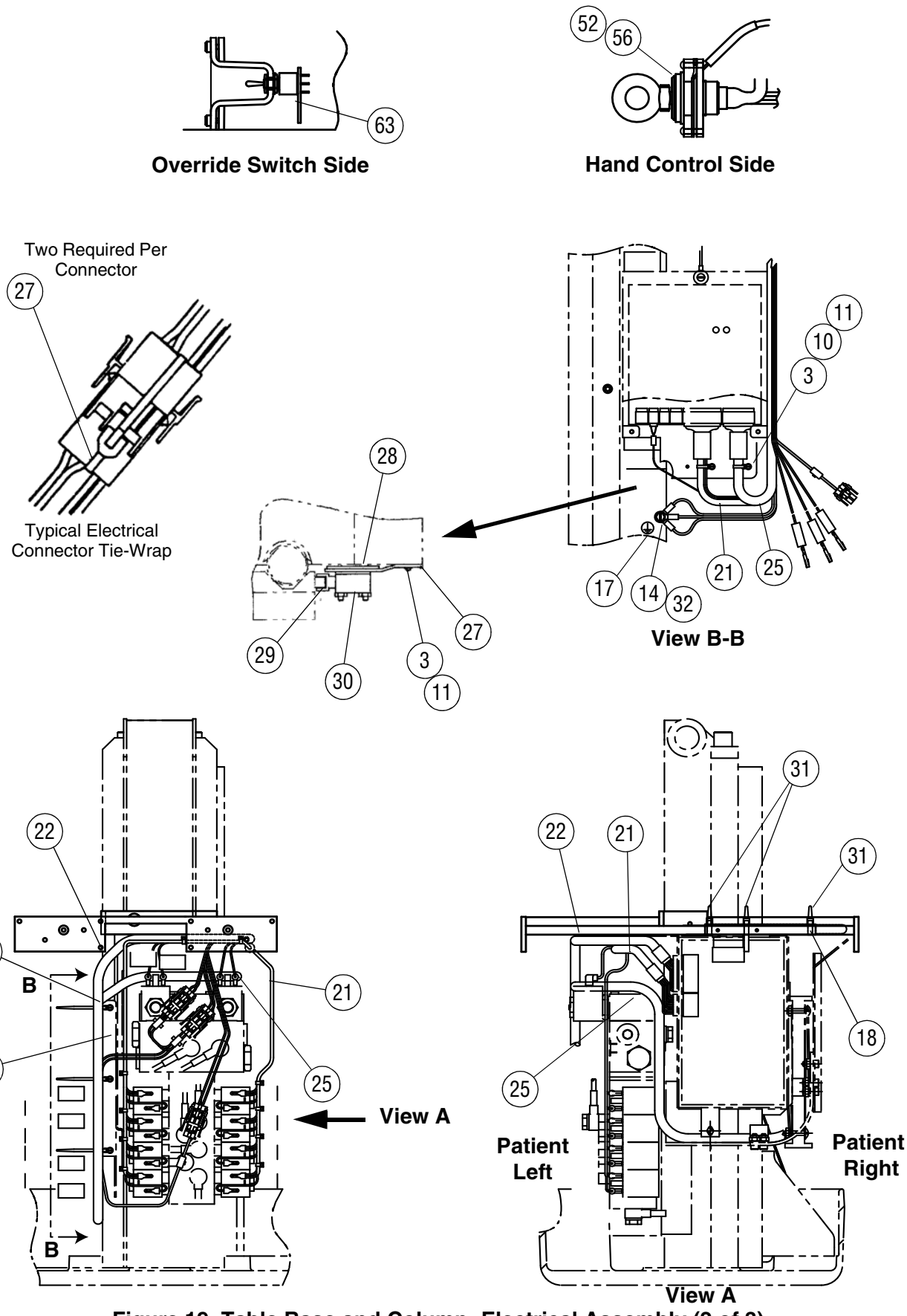


Figure 19. Table Base and Column: Electrical Assembly (2 of 3)

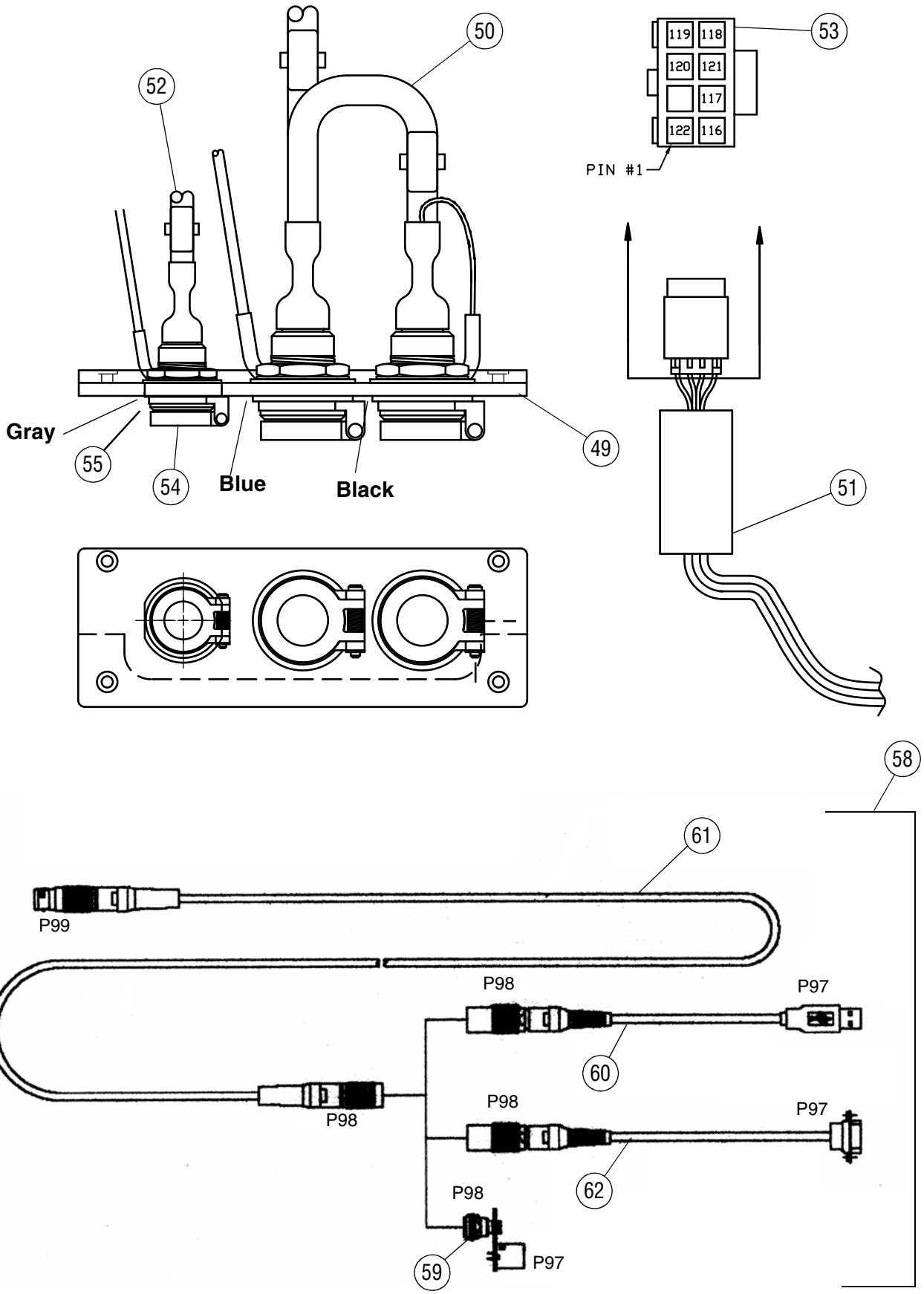


Figure 19. Table Base and Column: Hermes Electrical Assembly (3 of 3)

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
19-					**Table Base and Column Electrical Assembly** **3085 SP Table**	X			
					3085 SP HERMES-Ready Table		X		
1	P	003153	041		NUT, Hex, #8-32	2	2		
2	P	764331	223		BATTERY, 12 V	1	1		
3	P	030743	045		LOCKWASHER, #4, External Tooth	5	5		
4	P	426637	598		CHARGER, Battery	1	1		
5	P	056397	862		ASSEMBLY, Transformer, 24 V	1	1		
6	P	093909	468		JUMPER, Battery	1	1		
7	P	755717	297		ASSEMBLY, AC Plate Without Labels and Cover (**P17**)	1	1		
8	P	093908	037		SCREW, Sems, #8-32 x 1/2	9	9		
9	P	093909	461		WIRE TIE, #10	3	3		
10	P	093909	462		WIRE TIE, #4	9	9		
11	P	013334	045		SCREW, Round Head, #4-40 x 3/8	5	5		
12	P	093909	212		BRACKET, Battery Support	1	1		
13	P	093909	467		JUMPER, Motor Battery	1	1		
14	P	082675	001		SCREW, Hex Head, #10-32 x 3/8	3	3		
15	P	084114	003		WASHER, Flat #8	6	6		
16	P	150476	930	*	BASE, Mounting	1	1		
17	P	129360	483		STICKER, Natural Ground	3	3		
18	P	134469	476		ASSEMBLY, Cable (**P9 to P10**)	1	1		
19	P	136807	035		ASSEMBLY, Cable (**LS1, LS2 and P27**)	1	1		
	P	093909	544		• SWITCH, Limit (Only)				
20	P	141210	140	**	ASSEMBLY, Cable, Table Base	1	1		
21	P	141210	141		ASSEMBLY Cable, Solenoid (**P7**)	1	1		
22	P	141210	144		ASSEMBLY, Cable (**P3 to P8**)	1	1		
23	P	134469	362		ASSEMBLY, Cable (**P25 to Battery**)	1	1		
24	P	093909	525		STRAP Ground Assembly	1	1		
25	P	141210	142		ASSEMBLY, Cable (**P1 to P5 and P22**)	1	1		
26	P	129360	598		TIE, Cable	4	4		
27	P	093909	548	*	PLATE, Offset Switch	1	1		
28	P	093909	549	*	SWITCH, Plate Stud Assembly	1	1		
29	P	093909	702	*	SWITCH, Roller Arm (Raise/Lower Limit Switch)	1	1		
30	P	010370	045	*	NUT, Hex Machine, #2-56	2	2		
31	P	431172	091		TIE, Cable	15	15		
32	P	124361	013		LOCKWASHER, External Tooth, #10	3	3		
33	P	093909	780		ASSEMBLY, Rectifier	1	1		
34	P	129359	140		TERMINAL BLOCK	1	1		
35	P	081681	002		SCREW, Round Head, #6-32 x 1/2	2	2		
36	P	084123	001		JUMPER, #6 Stud	1	1		
37	P	090712	041		SCREW, Round Head, #4-40 x 5/8	2	2		
38	P	134469	092		CABLE ASSEMBLY, Override Floor Lock (**P22**)	1	1		
39	P	129360	582		BOOT, Pushbutton (**For P28,** Item 41; Not Shown)	1	–		
40	P	084104	001		CABLE, Tie (Not Shown)	1	–		
41	P	136807	080	*	ASSEMBLY, Limit Switch (**P28 to Control Box**; Not Shown)	1	1		
42	P	134469	492		ASSEMBLY, Mercury Switch (**P33, P34 and P35**; Not Shown)	1	1		
43					NOT USED				

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
19-					**Table Base and Column Electrical Assembly (Cont'd)** **3085 SP Table**	X			
					3085 SP HERMES-Ready Table		X		
44					NOT USED				
45	P	141210	137		CABLE ASSEMBLY, Leg Section (**P36**; Not Shown)	1	1		
46	P	141210	138		ASSEMBLY, Back Section Cable, (**P29, P31, P33, P34 and LS4**; Not Shown)	1	1		
47	P	129360	888		• SWITCH, Back (**LS4;** Not Shown)	1	1		
48	P	056401	561		• CABLE ASSEMBLY, Charging Indicator (Not Shown; French, Spanish, German 220V)	1	1		
49	P	755717	366		ASSEMBLY, Connector Plate Harness, Hermes, IPX4	–	1		
50	P	134469	473		• ASSEMBLY, Wire Harness Connector Plate (**P15, P99**)	–	1		
51	P	129360	572		• BEAD, Shield, .281 ID	–	1		
52	P	136807	027		• ASSEMBLY, Foot Control Cable (**P4**)	1	1		
53	P	093908	832		• HOUSING, Connector	–	1		
54	P	129360	275		• CAP, Dust	2	3		
55	P	129360	562		• WASHER, Insulating (Gray - Foot Control)	1	1		
	P	150830	158		• WASHER, Insulating (Blue - Hand Control)	–	1		
	P	150830	160		• WASHER, Insulating (Black - Hermes Control)	–	1		
56	P	136806	819		ASSEMBLY, Hand Control Cable (**P2**)	1	–		
57	P	134469	352		LABEL, Hermes Ready (Not Shown)	–	A/R		
58	P	134469	380		CABLE, Interface, 20 Feet (**P99 to P97**)	–	1		
59	P	093921	189		• ASSEMBLY, Mounting USB Board	–	1		
60	P	134469	385		• ASSEMBLY, Interface Adapter Cable (9" Long)	–	1		
61	P	134469	386		• ASSEMBLY, Interface Adapter Cable (20 Feet Long)	–	1		
62	P	136818	301		• ASSEMBLY, 3085 Act. Lemo. Cable (9" Long)	–	1		
63	P	150830	758		ASSEMBLY, Override Switch	1	1		
					** Items 16, 27, 28, 29, 30 and 41 are only found on units manufactured prior to B431004011.*				
					*** Connections P18, P26, Battery; P24, P25, TBI; CB1-4, S11-13.*				

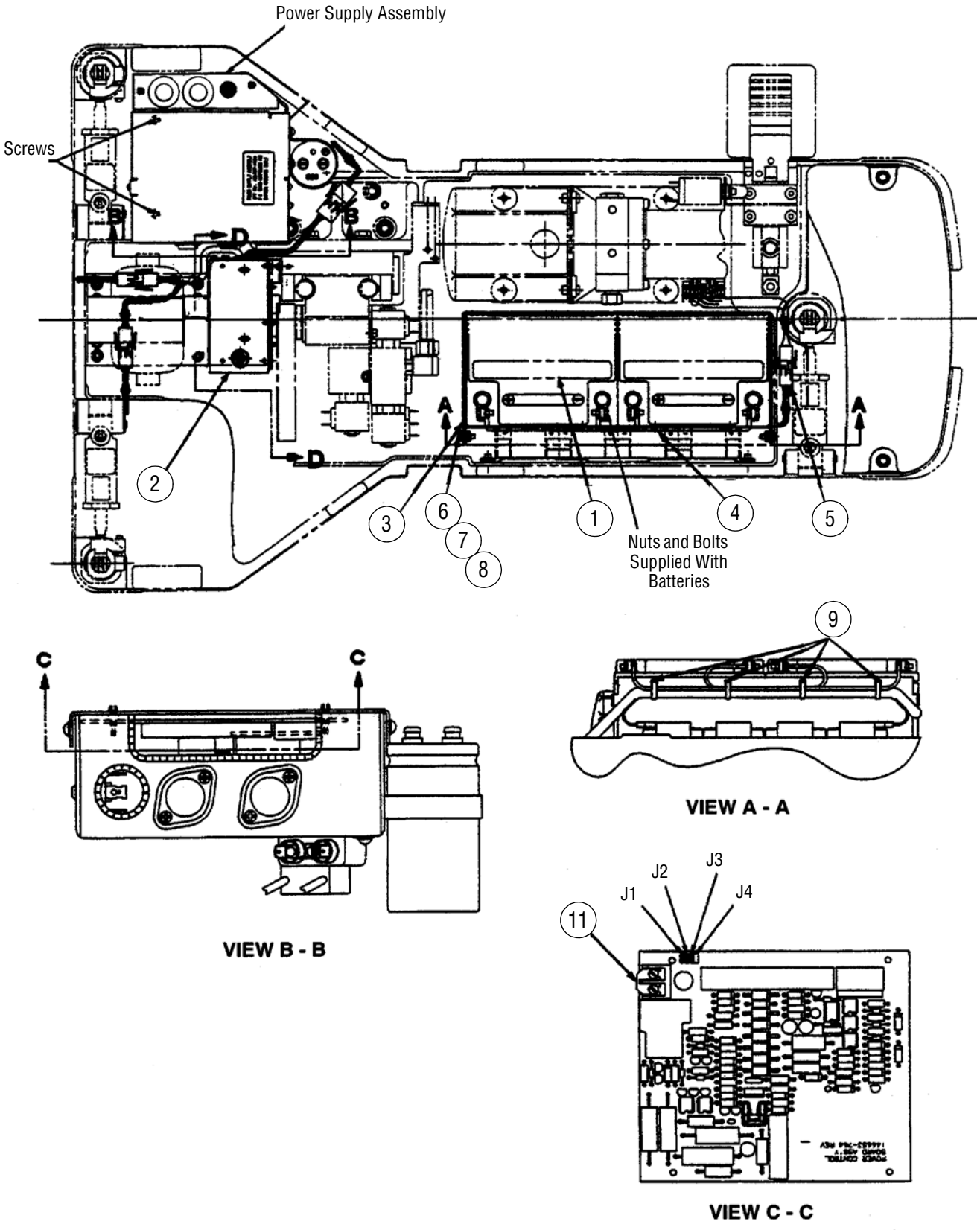


Figure 20. Electric-to-Battery Conversion (1 of 2)

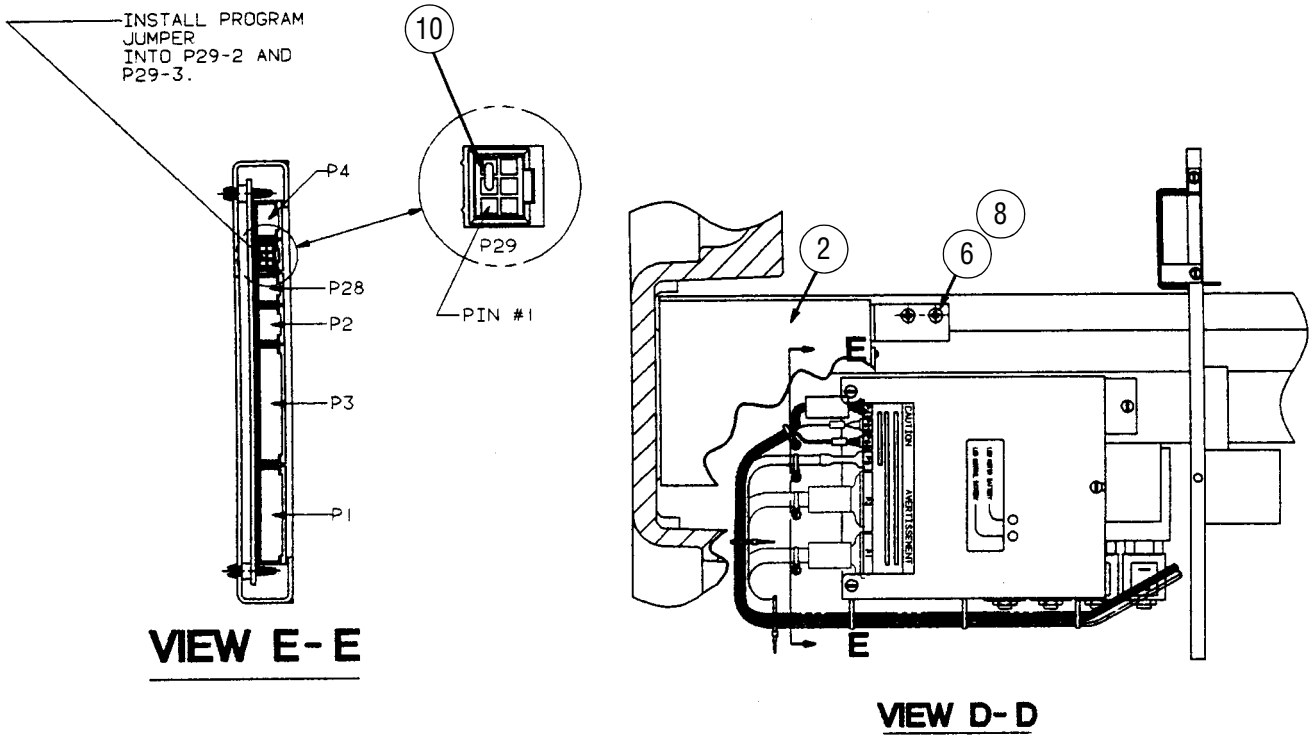


Figure 20. Electric-to-Battery Conversion (2 of 2)

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
20-	**P**	**630939**	**039**		**Electric-to-battery Conversion**	**X**
1	P	764331	223		BATTERY, 12 V	1
2	P	426637	598		CHARGER, Battery	1
3	P	093909	212		BRACKET, Battery Support (Coated)	1
4	P	093909	467		JUMPER, Motor Battery	1
5	P	136807	036		ASSEMBLY, Cable (**P25 to Battery**)	1
6	P	093908	037		SCREW, Sems, #8-32 x 1/2	4
7	P	003153	041		NUT, Hex, #8-32	2
8	P	084114	003		WASHER, Flat, #8	6
9	P	129360	598		TIE, Cable	6
10	P	093909	748		JUMPER, Wire, Program (**P29**)	1
11	P	129360	518		JUMPER	1

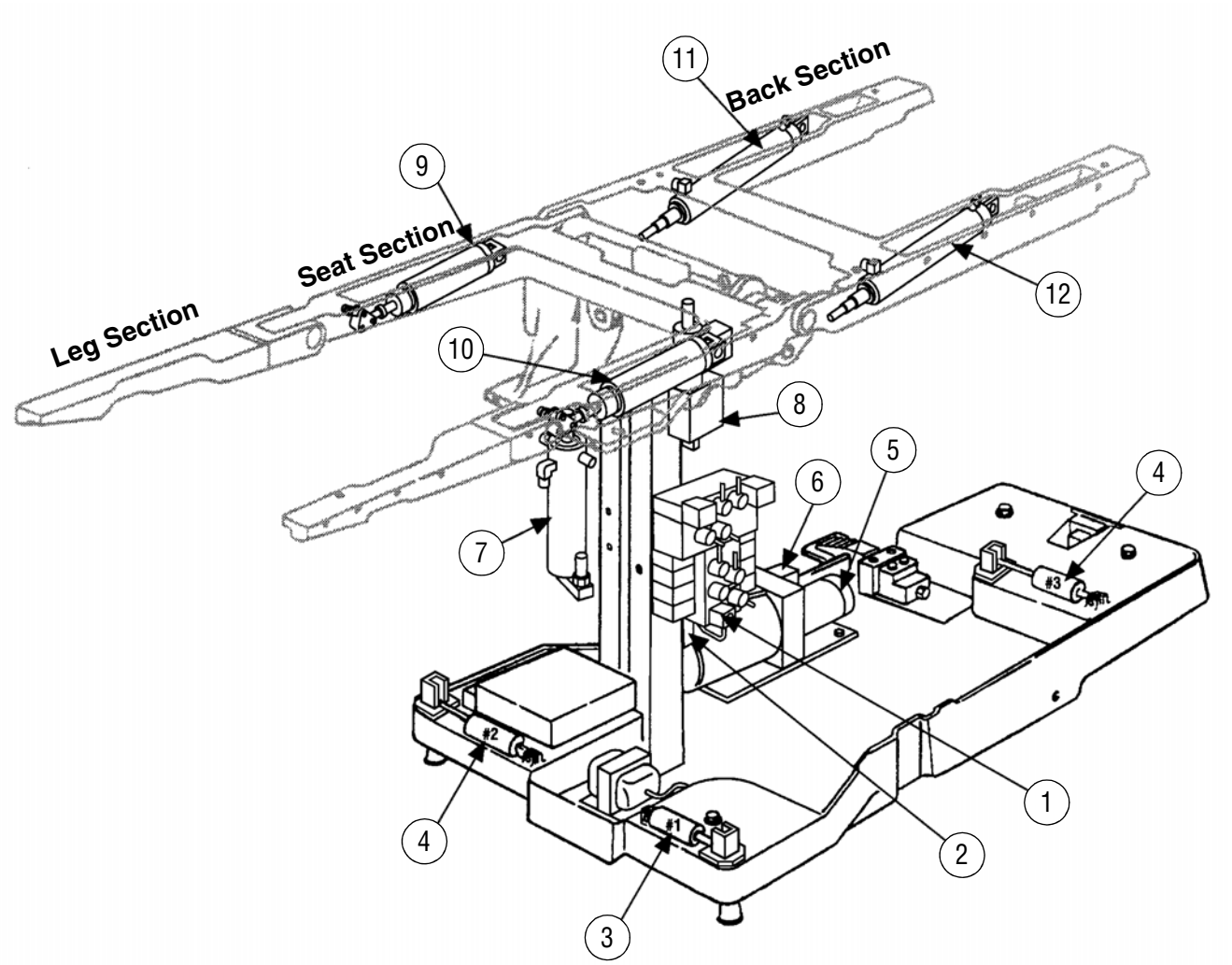


Figure 21. Hydraulic Components Layout

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
21-					**Hydraulic Components Layout**	**X**
1	P	141210	304		ASSEMBLY, Control Block Bieri #3 (see Figure 23).....	1
2	P	134469	149		ASSEMBLY, Column Flange	1
3	P	056397	274		CYLINDER, Hydraulic, **#1**, Floor Lock	1
4	P	056397	275		CYLINDER, Hydraulic, **#2 and #3**, Floor Lock.....	2
5					MOTOR and PUMP ASSEMBLY (see Figure 24)	1
6					VALVE BOX IV (see Figure 25).....	1
7	P	134469	133		CYLINDER, Seat	1
8	P	141210	491		CYLINDER, Tilt.....	1
9	P	141210	146		CYLINDER, Leg Section, Right Hand.....	1
10	P	141210	145		CYLINDER, Leg Section, Left Hand	1
11	P	134469	132		CYLINDER, Back Section, Right Hand.....	1
12	P	134469	131		CYLINDER, Back Section, Left Hand	1
13	P	056397	441		WASHER, Hydraulic Sealing (Not Shown)	A/R

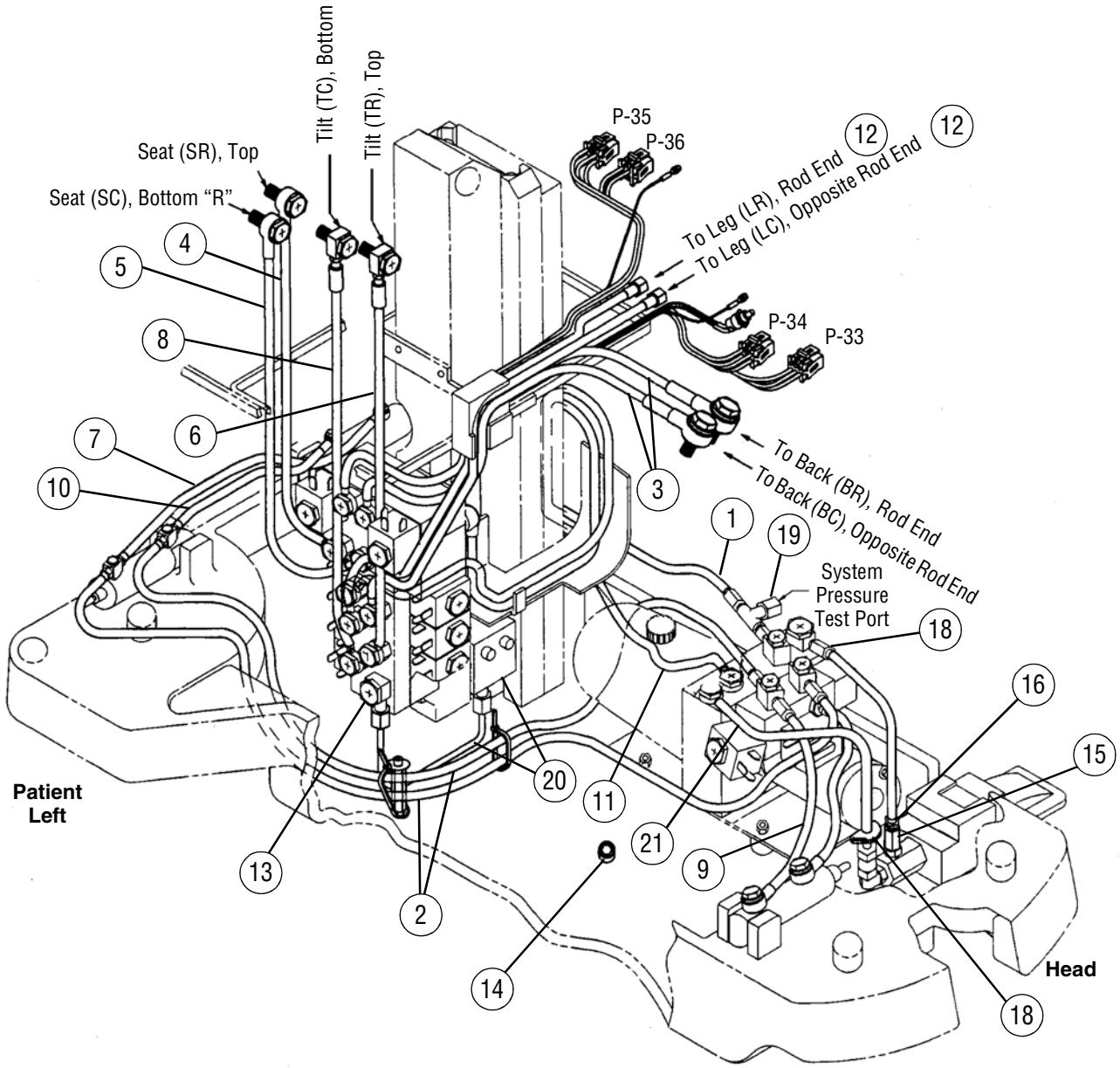


Figure 22. Table Base and Column: Hydraulic Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
22-					**Table Base And Column Hydraulic Assembly**	**X**
1	P	150823	398		HOSE, Size 4, 1600 mm (**Pressure**)	1
2	P	150823	384		HOSE, Size 2, 1000 mm (**FR, FC to Floor Lock Cylinder #1**)	2
3	P	150823	607		HOSE, Size 2, 950 mm (**BR, BC**)	2
4	P	150823	603		HOSE, Size 2, 665 mm (**SR**)	1
5	P	150823	620		HOSE, Size 2, 530 mm (**SC**)	1
6	P	150823	617		HOSE, Size 2, 330 mm (**TR**)	1
7	P	150823	601		HOSE, Size 2, 395 mm (**Floor Lock Cylinder #1 to #2**)	1
8	P	150823	618		HOSE, Size 2, 307 mm (**TC**)	1
9	P	150823	602		HOSE, Size 2, 315 mm (**Floor Lock Cylinder #3 to FR**)	1
10	P	150823	393		HOSE, Size 2, 250 mm (**Floor Lock Cylinder #1 to #2**)	3
11	P	150823	399		HOSE, Size 4, 1600 mm (**R**)	1
12	P	150823	388		HOSE, Size 2, 850 mm (**LR and LC**)	2
13					ASSEMBLY, Control Block (see Figure 23)	1
14	P	004433	091		SCREW, Set, 1/4-20 x 5/16	1
15	P	056397	377		COUPLING	1
16	P	150823	426		CONNECTOR, Male	1
17	R	003500	165		TUBING, Superthane, 7/16 x1/4 ID x 8-1/2 (Uom/Foot; Not Shown) ...	A/R
18	P	129360	600		CLAMP, Hose	2
19	P	764329	602		TEE, 1/4 x 1/4 x 12 mm (**Test Port**)	1
20	P	134469	149		ASSEMBLY, Column Flange	1
21	P	150823	387		HOSE, Size 2, 250 mm	1
22	P	056397	441		WASHER, Hydraulic Sealing (Not Shown)	A/R

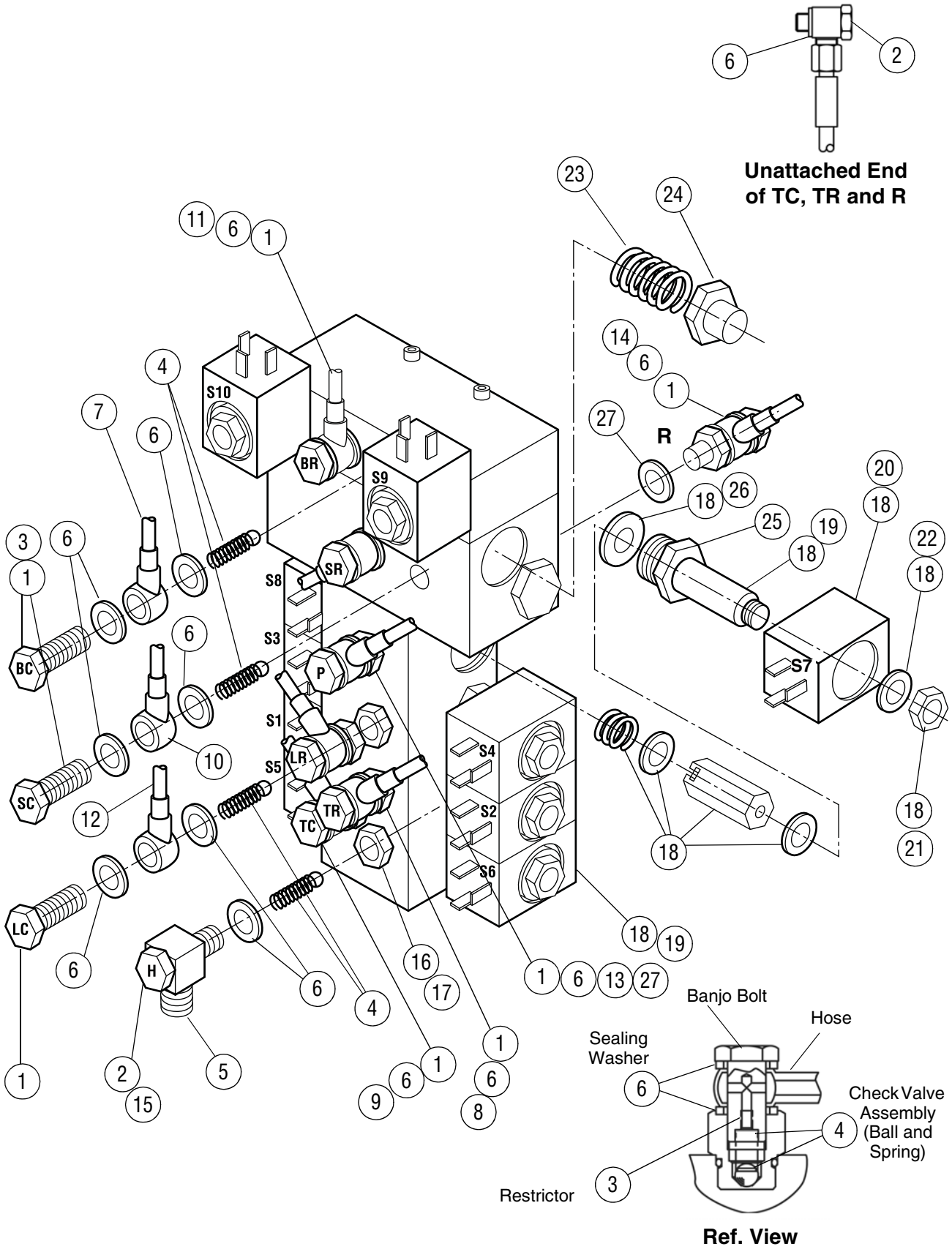


Figure 23. Control Block Assembly

Hydraulic Control Block Replacement Parts					Control Block Ports												
Figure and Item No.	Part No.		Description	TC,TR,P Opposite Control Block Side	TC	TR	BR	SR	LR	BC	SC	P	LC	H	R	s1-13	150823-727 Kit Check Valve
23	P141210-304		Control Block Assembly (Bieri Hydraulic #3)														
1	P150823-369		Banjo Bolt, 10 x 21mm		X	X	X	X	X	X	X	X	X		X		
2	P150823-583		Banjo Bolt, 10 x 25mm	X										X			
3	P150823-657		Restrictor							X	X						
4	P150823-727		Check Valve Assembly (Ball/Spring), Kit							X	X		X	X			8
5	P150823-966		Banjo Housing											X			
6	P056397-441		Sealing Washers	X	X	X	X	X	X	X	X	X	X	X	X		8
7	P150823-607	*	Hose Assembly, Size 2, 950mm				X			X							
8	P150823-617	*	Hose Assembly, Size 4, 330mm			X											
9	P150823-618	*	Hose Assembly, Size 4, 307mm		X												
10	P150823-620	*	Hose Assembly, Size 2, 530mm								X						
11	P150823-603	*	Hose Assembly, Size 2, 665mm					X									
12	P150823-388	*	Hose Assembly, Size 2, 850mm						X				X				
13	P150823-398	*	Hose Assembly, Size 4, 1600mm									X					
14	P150823-399	*	Hose Assembly, Size 4, 1600mm												X		
15	P056397-481		O-Ring Metric (Sealing Washers)	X		X								X			
16	P056397-585		Check Valve Cartridge		X	X	X	X	X	X	X	X	X	X	X		3
17	P056397-469		O-Ring (Check Valve Cartridge)		X	X	X	X	X	X	X	X	X	X	X		3
18	P764330-172		Kit, Solenoid Assembly Rebuild													1	
19	P150823-380		• Solenoid Assembly (S1-S12)													10	
20	P150823-661		•• Coil													A/R	
21	P150823-856		•• Coil Nut													A/R	
22	P150823-857		•• Washer, Spring													A/R	
23	P150830-150		Spring, Pressure														
24	P150823-692		Spring, Guide														
25	P150823-568		Cartridge, Solenoid Valve													13	
26	P056397-457		O-Ring (Solenoid Valve Cartridge)													13	
27	P056397-487		O-Ring									X			X	3	

** All Hose Assemblies Include: Sealing Washers (Usit Ring), Banjo Bolts, Restrictor, Banjo Housing*

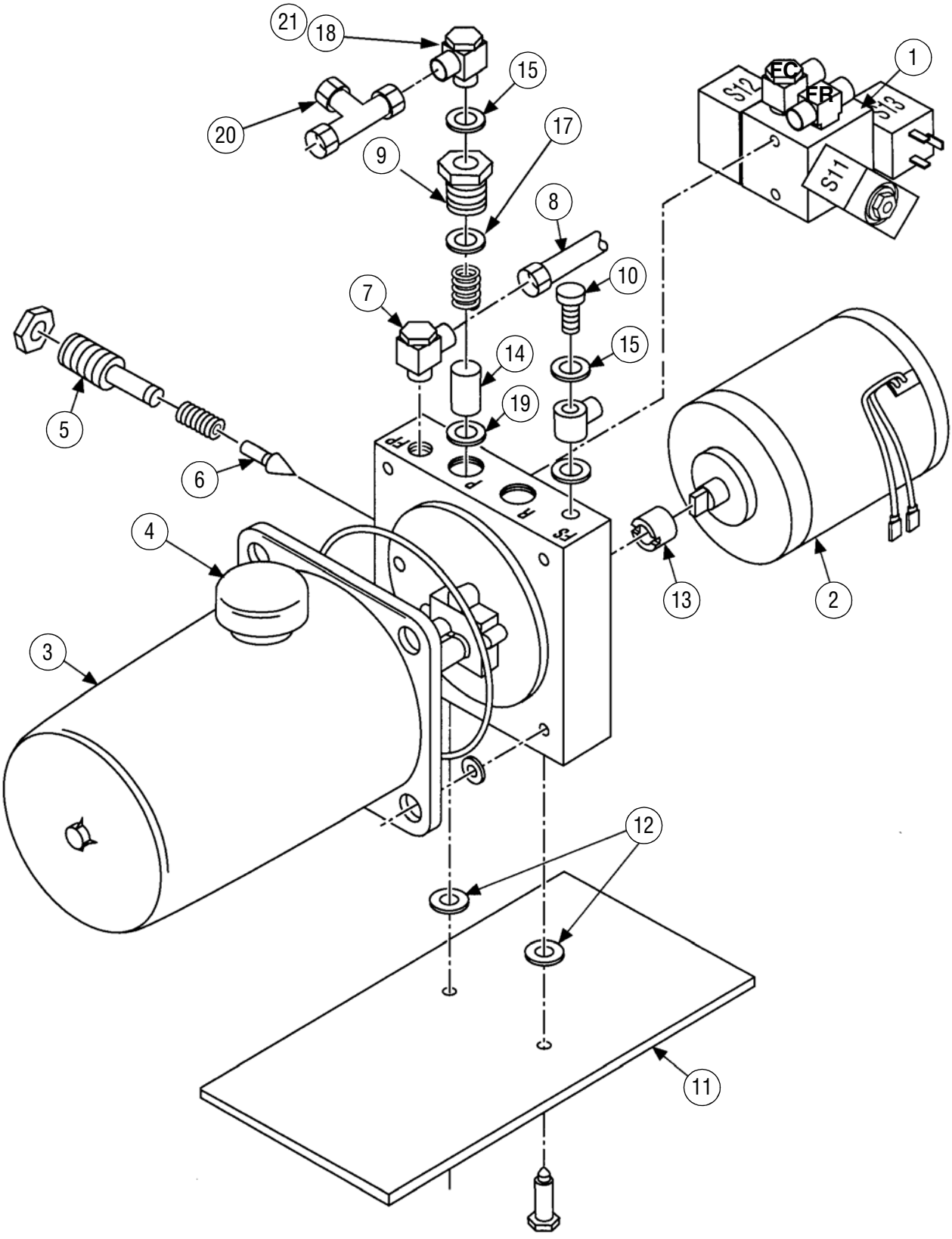


Figure 24. Motor and Pump Assembly

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
24-		**NLA**			**Motor and Pump Assembly (Metal Reservoir, Bieri #3)**	**X**			
	P	**141210**	**555**		**Motor and Pump Assembly (Plastic Reservoir, Bieri #4)**.....		**X**		
1					VALVE BOX IV (see Figure 25)	1	1		
2	P	134469	299		MOTOR	1	1		
3	P	150823	864	*	KIT, Metal Reservoir	1	–		
	P	150830	810	*	KIT, Plastic Reservoir	–	1		
					• O-RING SEAL, Reservoir				
					• NUT				
					• SCREW, Slotted Hex				
					• RESERVOIR				
					• WASHER.....				
					• (2) 1/2 Gal. Oil				
					• LOCTITE Sealant				
4	P	150823	702		• CAP, Breather With Dip Stick	1	–		
	P	150830	807		• CAP, Breather With Dip Stick.....	–	1		
5	P	150823	358		SCREW, Plug	1	1		
6	P	150823	365		CONE.....	1	1		
7	P	150823	567		FITTING, With Filter	1	1		
8	P	150823	387		HOSE, Size 2, 250mm (**FP to FR**).....	1	1		
9	P	150823	371		NIPPLE, Threaded.....	1	1		
10	P	150823	369		BOLT, Banjo, 10 x 21 MM.....	1	1		
11	P	056397	256		PLATE.....	1	1		
12	P	150823	873		WASHER	2	2		
13	P	150823	366		COUPLING	1	1		
14	P	150823	631		FILTER.....	1	1		
15	P	056397	441		WASHER, Sealing, 10 MM	2	2		
16	P	093909	780	**	ASSEMBLY, Rectifier (Not Shown - see Figure 19)				
17	P	056397	482		O-RING	1	1		
18	P	056397	481		O-RING, Metric	1	1		
19	P	150830	099		WASHER, Filter	1	1		
20	P	764329	602		TEE, 1/4 x 1/4 x 12 mm (**Test Port**)	1	1		
21	P	764332	936		FITTING, 90°	1	1		

** Changed to a plastic reservoir - it is not retrofittable.*

*** Not included with Motor and Pump Assembly - must be ordered separately.*

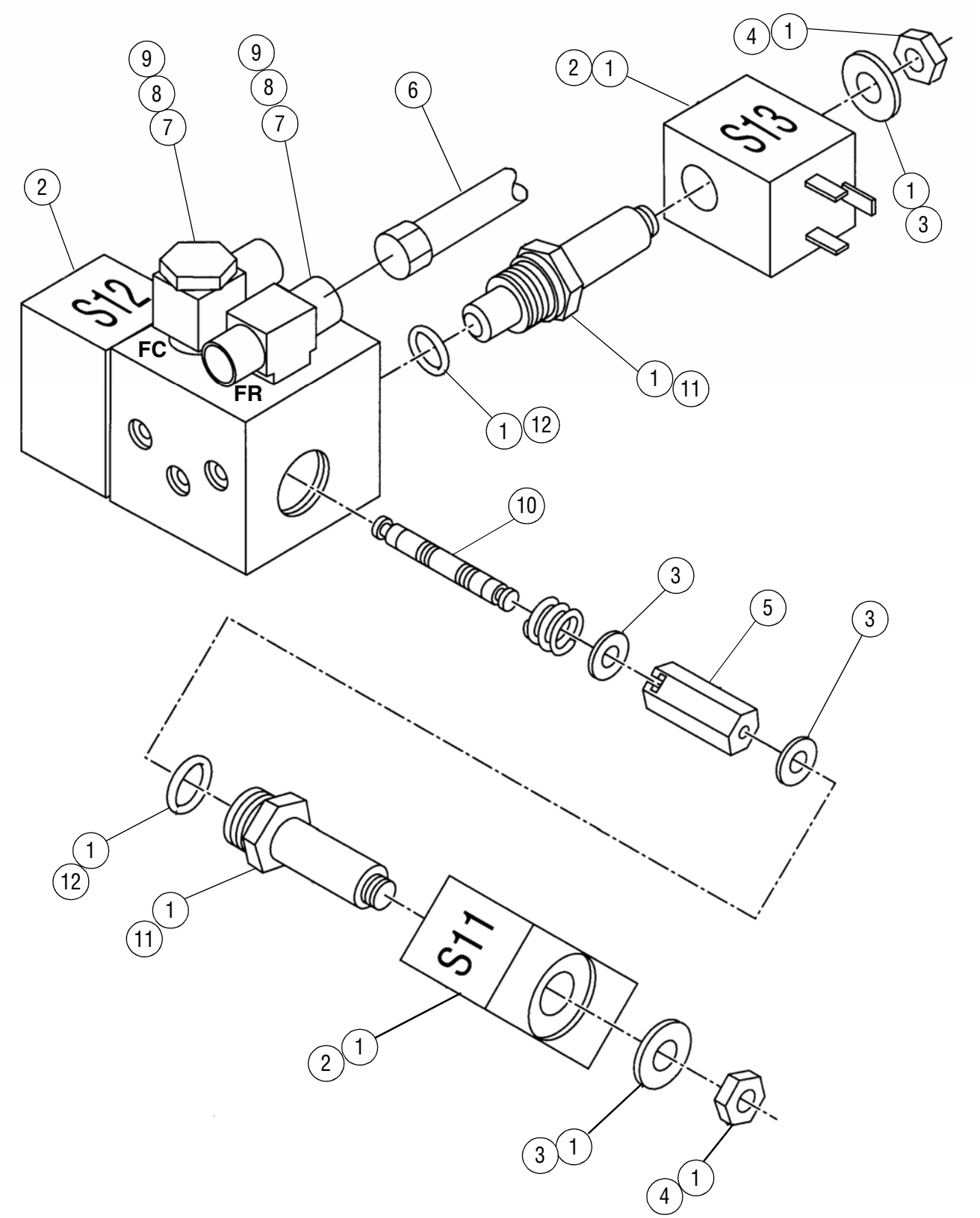


Figure 25. Valve Box IV

FIG. & ITEM NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY
25-					**Valve Box IV**	**X**
1	P	764330	172		KIT, Solenoid Assembly Rebuild	10
2	P	150823	380		KIT, Solenoid (**S1-S12**)	1
3	P	150823	857		• WASHER, Spring	A/R
4	P	150823	856		• NUT, Coil	A/R
5	P	150823	661		• COIL, Solenoid (**S1 through S13**)	A/R
6	P	150823	387		HOSE, Size 2, 250 MM (**FP to FR**)	1
7	P	150823	583		BOLT, Banjo	1
8	P	056397	441		WASHER, Sealing, 10 MM	1
9	P	056397	481		O-RING	1
10				*	MAGNETIC STEM	1
11	P	150823	568		CARTRIDGE, Solenoid Valve	3
12	P	056397	457		O-RING, Metric (Solenoid Valve Cartridge)	3
					** This is NOT a field-replaceable item. If this part fails, the Motor and Pump must be replaced (see Figure 24)*	

Live Document, Historical Table

Live Document Page Number	Figure Number/ Name	Manual Development Historical Record
Front Cover	Front Cover	P: Stamp “04/12/2011 LIVE DOCUMENT” C: Document Manufacturing changes/manual errors and clarifications A: Stamped to show Live Document Date
iii	Table 1. Amsco 3085SP (IPX4) Parts-Quick Reference Guide	P: Touch-up Paint, Dark Gray, 12-oz Can C: NLA A: No longer available, no substitution
iv	Table 1. Amsco 3085SP (IPX4) Parts – Quick Reference Guide	P: Control PC Board Housing Assembly part number is incorrect C: Error A: P141210-546
iv	Table 1. Amsco 3085SP (IPX4) Parts – Quick Reference Guide	P: Override Control Board Box Assembly part number is incorrect C: Error A: P141210-549
iv	Table 1. Amsco 3085SP (IPX4) Parts – Quick Reference Guide	P: Power Control PC Board part number is incorrect C: Error A: P141210-543
5	1 3085SP IPX4 Surgical Table Bellows Mounting Assembly	P: Units Per Assembly for shrouds were incorrect C: Error A: Updated Units Per Assembly
14	3 3085SP IPX4 Surgical Table Base Assembly, Components	P: Item #40 PC Board, Power Control (For P134469-515 Only) is incorrect C: Error A: P141210-543
17	4 3085SP IPX4 Surgical Table Base Assembly, Column Mounted Parts	P: Item #18 Assembly, Control PC Board Housing part number is incorrect C: Error A: P141210-546
17	4 3085SP IPX4 Surgical Table Base Assembly, Column Mounted Parts	P: Item #23 Assembly, Override Control Board Box part number is incorrect C: Error A: P14120-549
23	7 Column Assembly	Item #1 Stage Block is available for STERIS Service Technicians Only. Order Part Number P146653-426
29	10 Table Tops and Side Rail Assembly	P: How to tell the difference between Andrew's Frame and Basic Side Rail. C: To replace the correct rail. A: The Andrew's Frame has 5 spacers welded on the rail with notches on the bottom. The Standard Rail has 4 spacers on the rail that are held on with screws.
Front Cover	Front Cover	P: Stamp “06/06/2011 LIVE DOCUMENT” C: Document Manufacturing changes/manual errors and clarifications A: Stamped to show Live Document Date
2	1 3085SP (IPX4) Surgical Table Base Shroud and Bellows Support Assembly (1 of 3)	P: The title of this illustration is incorrect C: Error A: The correct title for the illustration is: After B420702-025 w/Bellow Mount
2	1 3085SP (IPX4) Surgical Table Base Shroud and Bellows Support Assembly (1 of 3)	P: Title of illustration needs clarification C: Clarification A: Title for illustration: After B409804-078 w/o Bellow Mount, direct to saddle
4	1 3085SP (IPX4) Surgical Table Bellows Mounting Assembly (3 of 3)	P: Clarify Title of illustration C: Clarification A: Title for illustrated: After B420702-025 w/Bellow Mount
4	1 3085SP (IPX4) Surgical Table Bellows Mounting Assembly (3 of 3)	P: Clarify Title of illustration C: Clarification A: Title for illustrated: After B409804-078 w/o Bellow Mount, direct to saddle
5	1 3085SP (IPX4) Surgical Table Base Shroud and Bellows Support Assembly	P: Unit of measure is incorrect on item # 29, P/N 141210-469 C: Error A: item # 29, P/N 141210469 is used on units After B409804-078 w/o Bellow Mount.

Live Document, Historical Table

Live Document Page Number	Figure Number/ Name	Manual Development Historical Record
Front Cover	Front Cover	P: Stamp “07/06/2011 LIVE DOCUMENT” C: Document Manufacturing changes/manual errors and clarifications A: Stamped to show Live Document Date
3	1 3085SP (IPX4) Surgical Table Bellows Mounting Assembly (2 of 3)	P: Clarify Title of illustration C: Clarification A: Title for illustrated: After B420702-025 w/Bellow Mount
3	1 3085SP (IPX4) Surgical Table Bellows Mounting Assembly (2 of 3)	P: Clarify Title of illustration C: Clarification A: Title for illustrated: After B409804-078 w/o Bellow Mount, direct to saddle
Front Cover	Front Cover	P: Stamp “04/09/2012 LIVE DOCUMENT” C: Document Manufacturing changes/manual errors and clarifications A: Stamped to show Live Document Date
21	6 Foot Pump Assembly	P: Item 32 P056397-198, Switch, Override is not available Must order Assembly, Override A: Part number for the Assembly Override is P134469-092

Reference Drawings

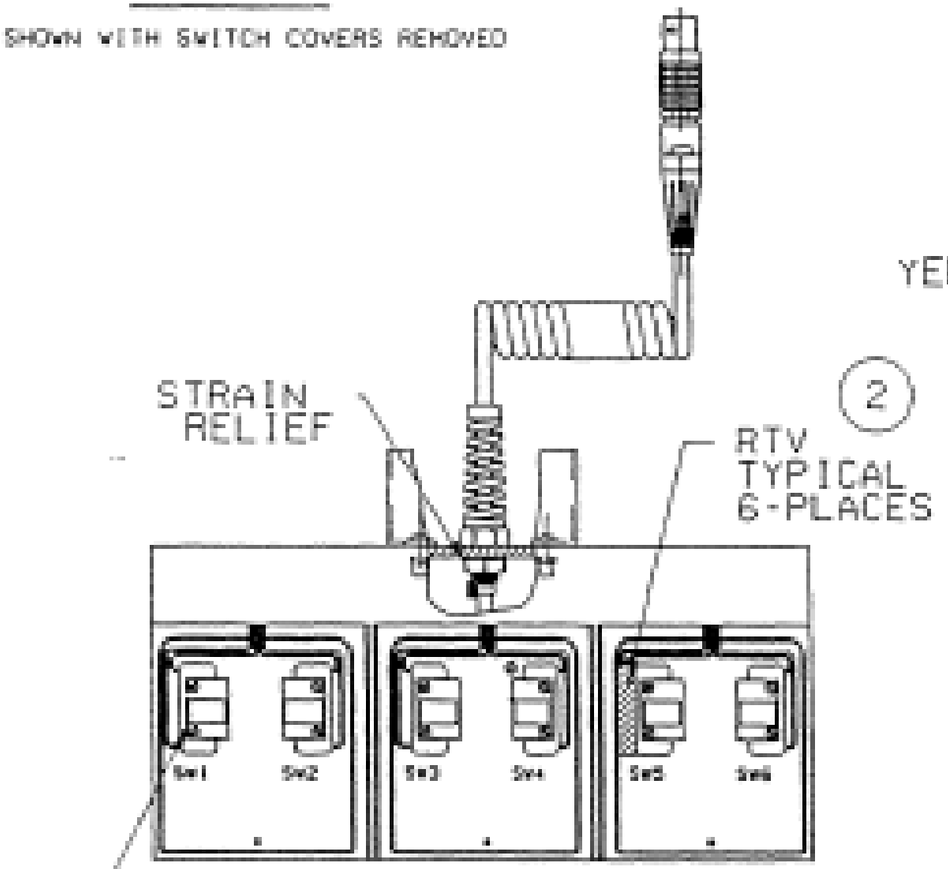
Located behind this tab (**Reference Drawings**) are the Amsco® 3085 SP Surgical Table reference drawings. These drawings are supplied as an aid in understanding unit operation and troubleshooting. See **Table 1** for listing and order of drawings.

Table 1. Amsco 3085 SP Surgical Table Technical Drawings

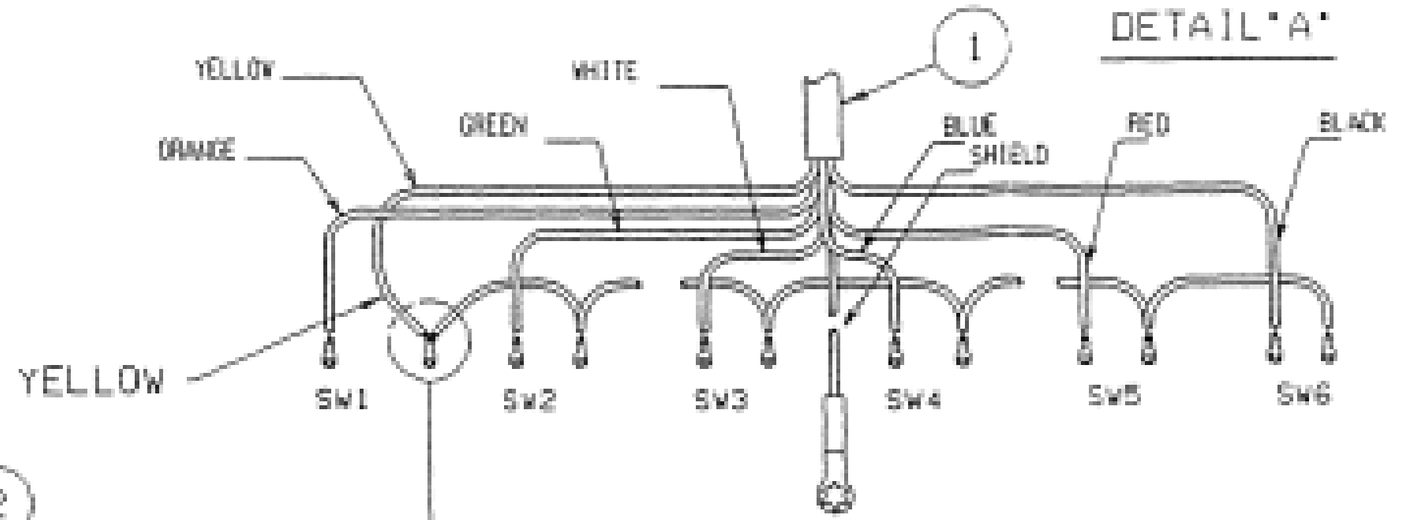
Title	Sheet	Drawing Reference Number
Instructions, Cord Replacement for Foot Control	4 of 4	755716-207
Schematic, 3080/3085 Bieri Hydraulic System (To Show S13)	1 of 3	141210-126
	2 of 3	
	3 of 3	
Schematic, Hydraulic System (Bieri Hydraulic #3); 06/18/96 Version to Show S13	1 of 1	134469-303
Schematic, 3085 System, Low Leak, SMT	1 of 3	141245-009
	2 of 3	
	3 of 3	
Schematic, 3085 System, Hermes, Low Leak, SMT	1 of 3	141245-010
	2 of 3	
	3 of 3	
Schematic, Power Control, Low Leak	1 of 1	141210-456
Schematic, Override Switch (Bieri Hydraulics); To Show S13	1 of 2	141210-127
	2 of 2	
Schematic, Hand Control (PC Board Detail)	2 of 2	141210-172
Assembly, Table Control Board	2 of 4	146655-473
	3 of 4	
Assembly, Table Control Board (SMT)	1 of 4	141210-545
	3 of 4	
	4 of 4	
Assembly, Power Supply (Battery Table)	1 of 1	134469-472
Assembly, Power Supply (Battery Table, SMT)	4 of 5	134469-515
Assembly, Power Supply (Battery Table)	1 of 1	136807-103
Assembly, Power Supply (Battery Table, SMT, 2 Switch)	4 of 5	141210-552
Assembly, Power Supply (SMT)	1 of 1	141210-554

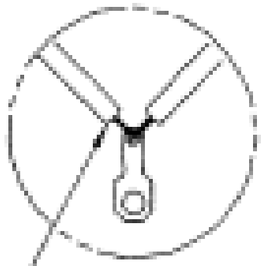
FIGURE 1

SHOWN WITH SWITCH COVERS REMOVED



SEE DETAIL "A" FOR WIRE LOCATIONS





CUT HERE (WIRE FROM CORD)

DETAIL "B"

NOTE: DO NOT CUT JUMPER WIRE. CUT YELLOW WIRE FROM CORD!

DETAIL "C"

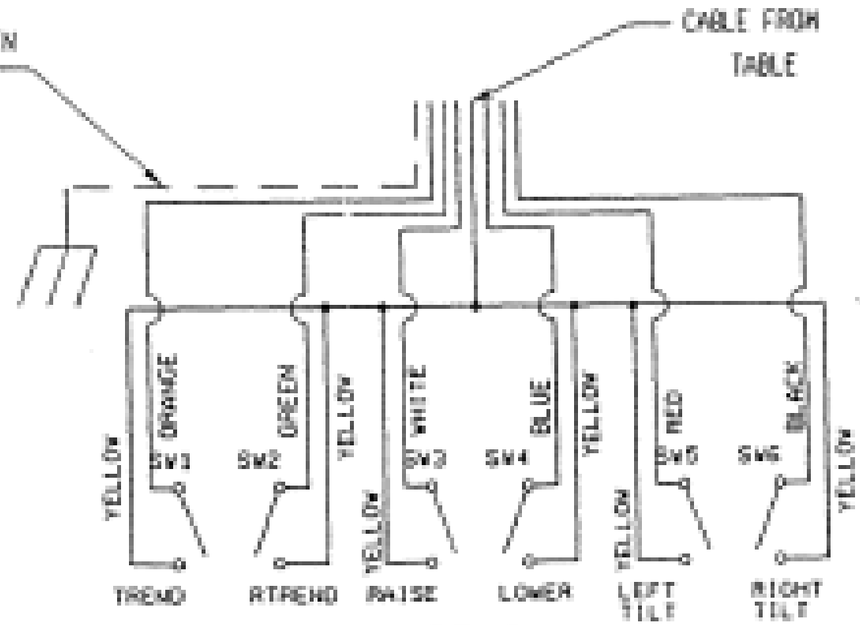


FIGURE 2
WIRING SCHEMATIC

(SWITCH CLOSES TO PERFORM FUNCTION)

INSTRUCTIONS, CORD REPLACEMENT FOR FOOT CONTROL

P/N 755716-207

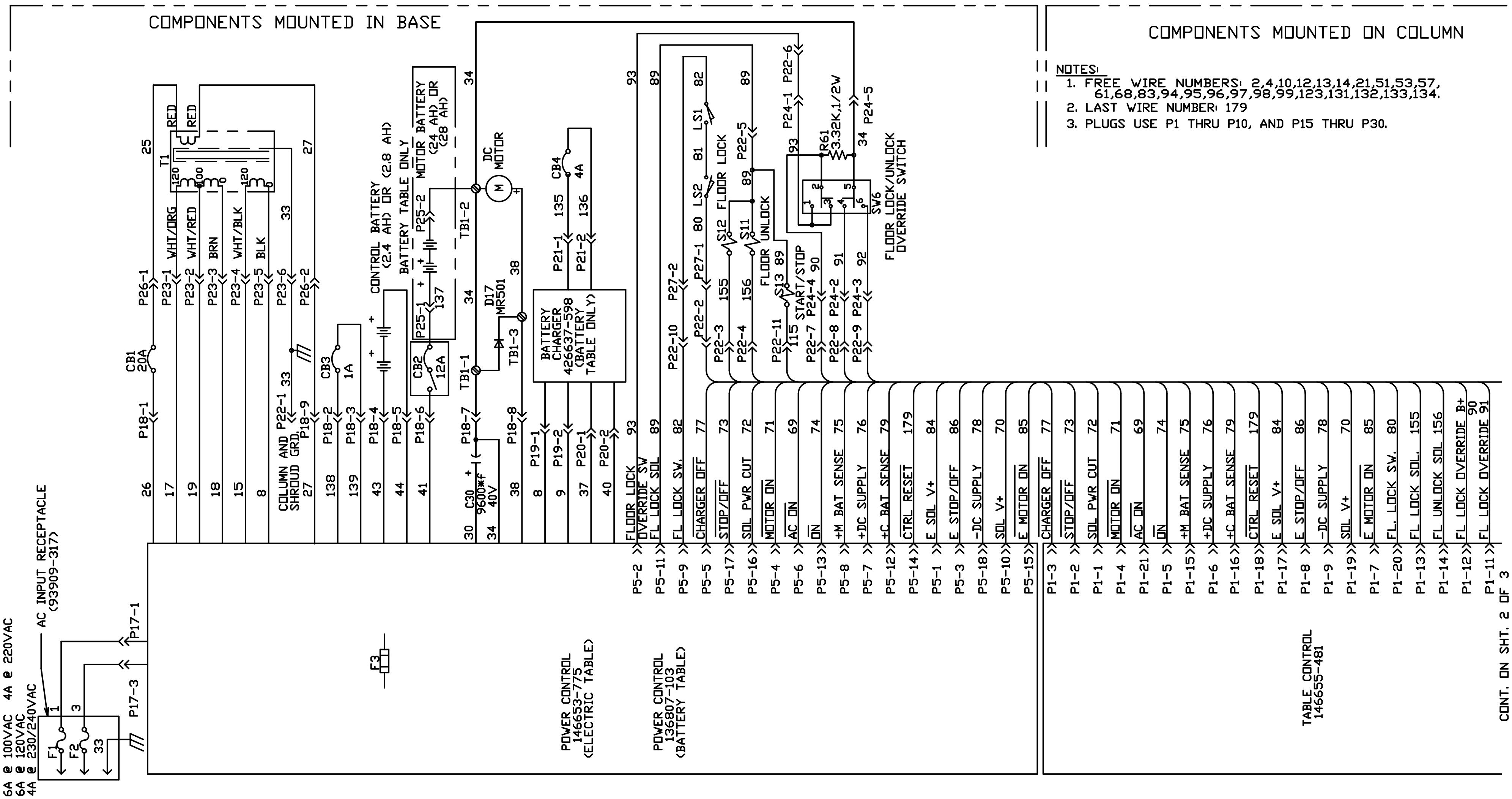
PAGE 4 OF 4

REV. 0 DATE 12/08/93

REF. 146655-469, SK-890736

DWG. NO. 141210-126 SHEET 1 OF 3

QUANTITY			PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV.	REVISION DATE
			141210-126	1	SCHEMATIC		6	01-11-01



TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF. 125				
2	12-15-93	934213	6	01-11-01	014002
1	09-01-93	934143	5	08-23-00	004211
0	02-28-91	934027	4	03-25-98	984105
0	02-28-91	PER #6	3	10-01-96	960131
NO.	DATE	ECA NUMBER	NO.	DATE	ECA NUMBER

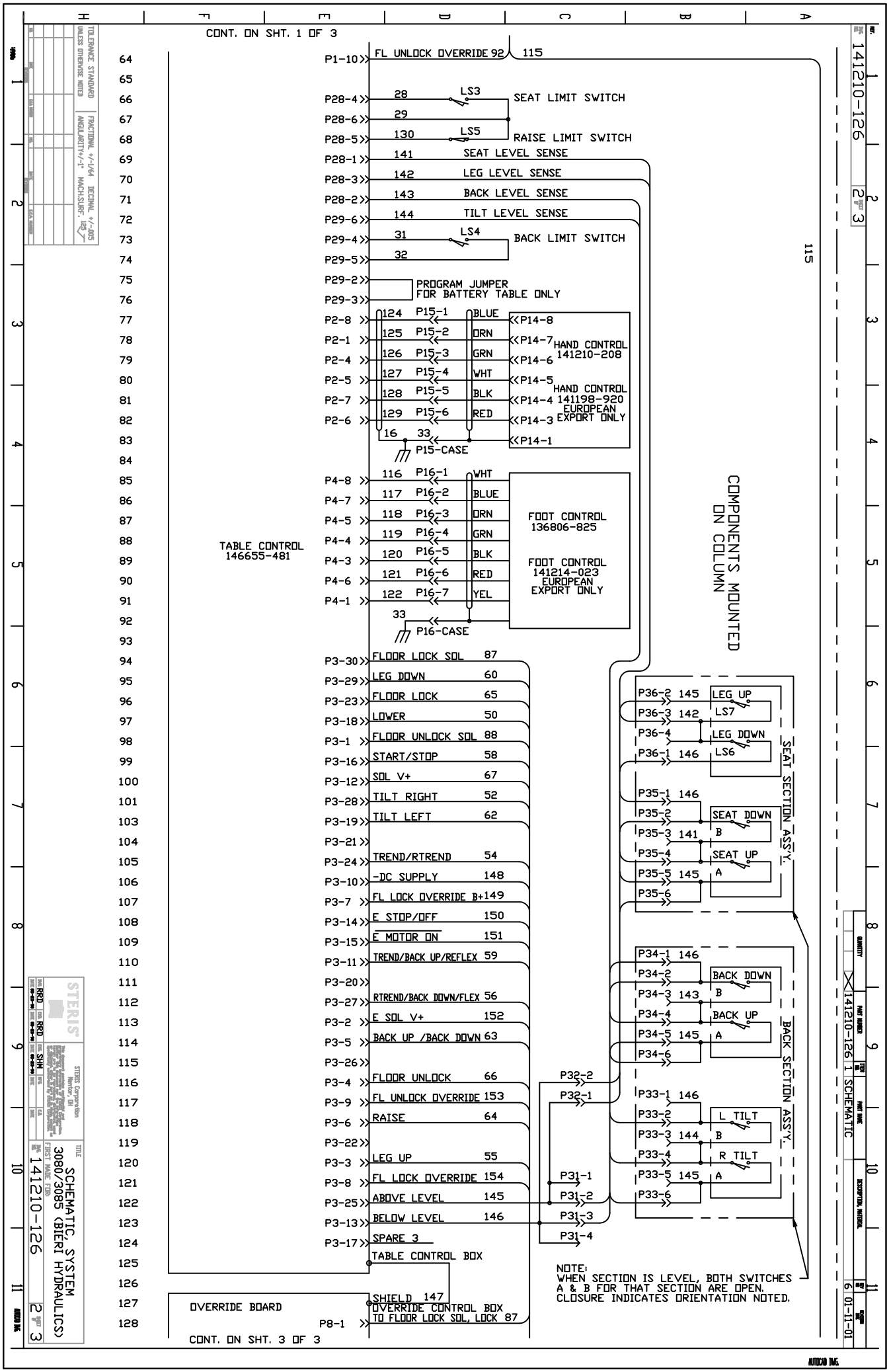
STERIS Corporation Mentor, OH

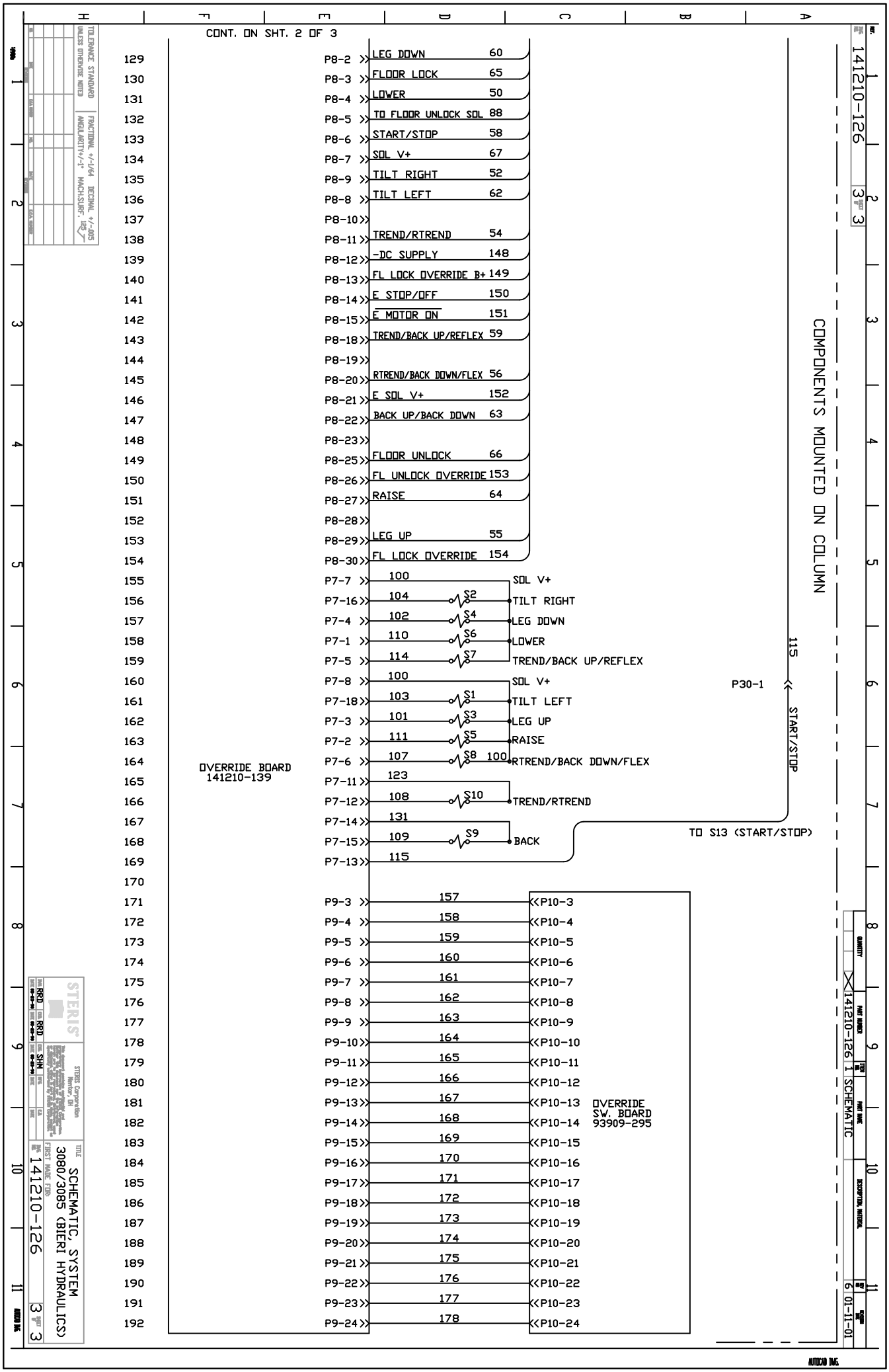
TITLE SCHEMATIC, SYSTEM 3080/3085 (BIERI HYDRAULICS)

FIRST MADE FOR: 141210-133/134

DWN RRD CKD RRD ENG SHM

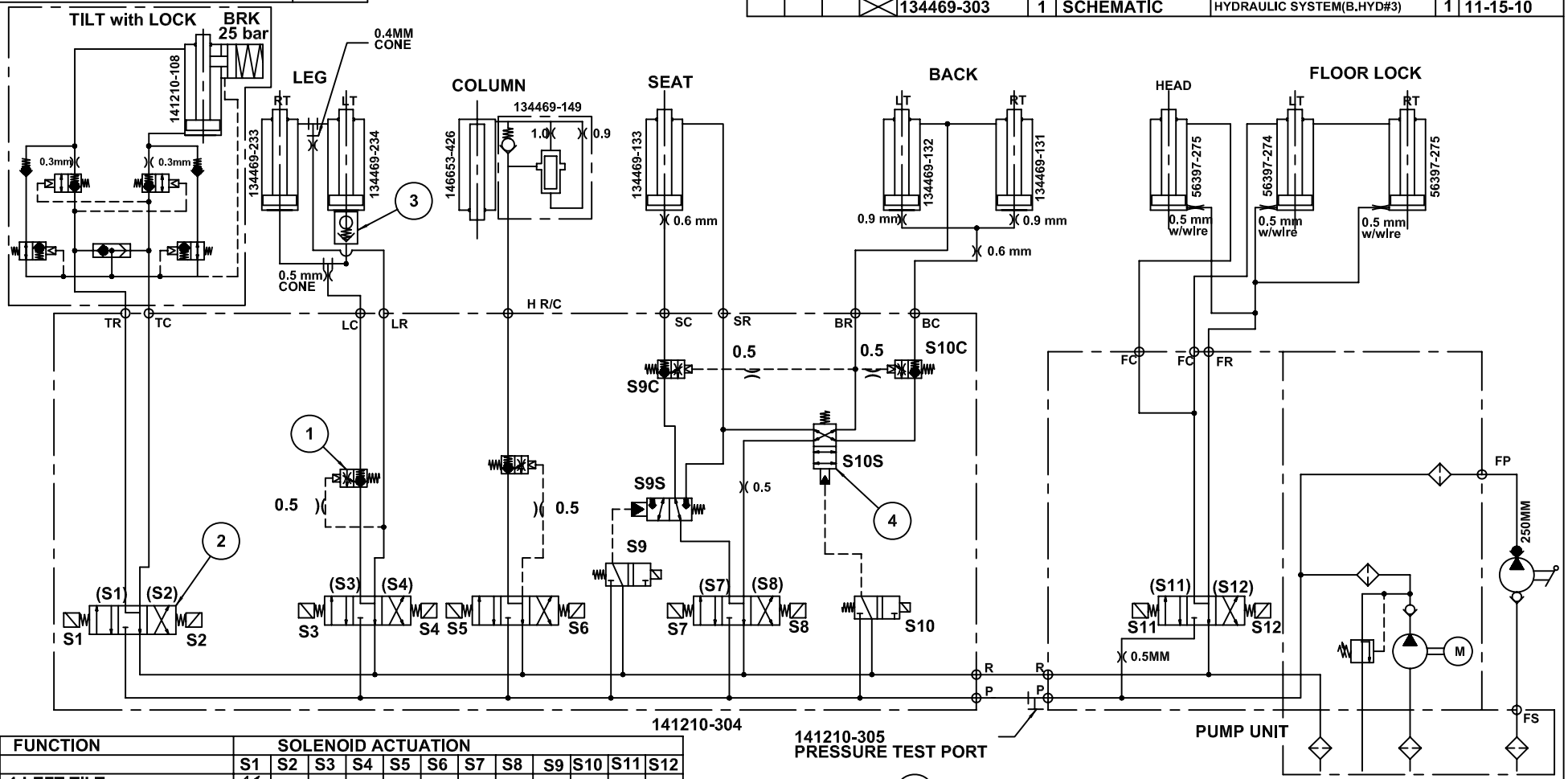
DWG. NO. 141210-126 SHEET 1 OF 3


CONT. ON SHT. 1 OF 3
P1-10 FL UNLOCK OVERRIDE 92 115
P28-4 28 LS3 SEAT LIMIT SWITCH
P28-6 29
P28-5 130 LS5 RAISE LIMIT SWITCH
P28-1 141 SEAT LEVEL SENSE
P28-3 142 LEG LEVEL SENSE
P28-2 143 BACK LEVEL SENSE
P29-6 144 TILT LEVEL SENSE
P29-4 31 LS4 BACK LIMIT SWITCH
P29-5 32
P29-2 PROGRAM JUMPER
P29-3 FOR BATTERY TABLE ONLY
P2-8 124 P15-1 BLUE P14-8
P2-1 125 P15-2 ORN P14-7
P2-4 126 P15-3 GRN P14-6
P2-5 127 P15-4 WHT P14-5
P2-7 128 P15-5 BLK P14-4
P2-6 129 P15-6 RED P14-3
16 33 P14-1
P15-CASE
HAND CONTROL 141210-208
HAND CONTROL 141198-920 EUROPEAN EXPORT ONLY
P4-8 116 P16-1 WHT
P4-7 117 P16-2 BLUE
P4-5 118 P16-3 ORN
P4-4 119 P16-4 GRN
P4-3 120 P16-5 BLK
P4-6 121 P16-6 RED
P4-1 122 P16-7 YEL
33
P16-CASE
FOOT CONTROL 136806-825
FOOT CONTROL 141214-023 EUROPEAN EXPORT ONLY
TABLE CONTROL 146655-481
P3-30 FLOOR LOCK SOL 87
P3-29 LEG DOWN 60
P3-23 FLOOR LOCK 65
P3-18 LOWER 50
P3-1 FLOOR UNLOCK SOL 88
P3-16 START/STOP 58
P3-12 SOL V+ 67
P3-28 TILT RIGHT 52
P3-19 TILT LEFT 62
P3-21
P3-24 TREND/RTREND 54
P3-10 -DC SUPPLY 148
P3-7 FL LOCK OVERRIDE B+ 149
P3-14 E STOP/OFF 150
P3-15 E MOTOR ON 151
P3-11 TREND/BACK UP/REFLEX 59
P3-20
P3-27 RTREND/BACK DOWN/FLEX 56
P3-2 E SOL V+ 152
P3-5 BACK UP /BACK DOWN 63
P3-26
P3-4 FLOOR UNLOCK 66
P3-9 FL UNLOCK OVERRIDE 153
P3-6 RAISE 64
P3-22
P3-3 LEG UP 55
P3-8 FL LOCK OVERRIDE 154
P3-25 ABOVE LEVEL 145
P3-13 BELOW LEVEL 146
P3-17 SPARE 3
TABLE CONTROL BOX
SHIELD 147
OVERRIDE CONTROL BOX TO FLOOR LOCK SOL, LOCK 87
OVERRIDE BOARD
P8-1
CONT. ON SHT. 3 OF 3
COMPONENTS MOUNTED ON COLUMN
SEAT SECTION ASS'Y.
P36-2 145 LEG UP
P36-3 142 LS7
P36-4 LEG DOWN
P36-1 146 LS6
P35-1 146
P35-2 SEAT DOWN
P35-3 141 B
P35-4 SEAT UP
P35-5 145 A
P35-6
BACK SECTION ASS'Y.
P34-1 146
P34-2 BACK DOWN
P34-3 143 B
P34-4 BACK UP
P34-5 145 A
P34-6
P33-1 146
P33-2 L TILT
P33-3 144 B
P33-4 R TILT
P33-5 145 A
P33-6
P32-2
P32-1
P31-1
P31-2
P31-3
P31-4
NOTE:
WHEN SECTION IS LEVEL, BOTH SWITCHES A & B FOR THAT SECTION ARE OPEN.
CLOSURE INDICATES ORIENTATION NOTED.
141210-126
SCHEMATIC, SYSTEM 3080/3085 (BIERI HYDRAULICS)
141210-126
SCHEMATIC
01-11-01


CONT. ON SHT. 2 OF 3
P8-2 LEG DOWN 60
P8-3 FLOOR LOCK 65
P8-4 LOWER 50
P8-5 TO FLOOR UNLOCK SOL 88
P8-6 START/STOP 58
P8-7 SOL V+ 67
P8-9 TILT RIGHT 52
P8-8 TILT LEFT 62
P8-10
P8-11 TREND/RTREND 54
P8-12 -DC SUPPLY 148
P8-13 FL LOCK OVERRIDE B+ 149
P8-14 E STOP/OFF 150
P8-15 E MOTOR ON 151
P8-18 TREND/BACK UP/REFLEX 59
P8-19
P8-20 RTREND/BACK DOWN/FLEX 56
P8-21 E SOL V+ 152
P8-22 BACK UP/BACK DOWN 63
P8-23
P8-25 FLOOR UNLOCK 66
P8-26 FL UNLOCK OVERRIDE 153
P8-27 RAISE 64
P8-28
P8-29 LEG UP 55
P8-30 FL LOCK OVERRIDE 154
P7-7 100 SOL V+
P7-16 104 S2 TILT RIGHT
P7-4 102 S4 LEG DOWN
P7-1 110 S6 LOWER
P7-5 114 S7 TREND/BACK UP/REFLEX
P7-8 100 SOL V+
P7-18 103 S1 TILT LEFT
P7-3 101 S3 LEG UP
P7-2 111 S5 RAISE
P7-6 107 S8 100 RTREND/BACK DOWN/FLEX
P7-11 123
P7-12 108 S10 TREND/RTREND
P7-14 131
P7-15 109 S9 BACK
P7-13 115
OVERRIDE BOARD
141210-139
115
P30-1
START/STOP
TO S13 (START/STOP)
P9-3 157 P10-3
P9-4 158 P10-4
P9-5 159 P10-5
P9-6 160 P10-6
P9-7 161 P10-7
P9-8 162 P10-8
P9-9 163 P10-9
P9-10 164 P10-10
P9-11 165 P10-11
P9-12 166 P10-12
P9-13 167 P10-13
P9-14 168 P10-14
P9-15 169 P10-15
P9-16 170 P10-16
P9-17 171 P10-17
P9-18 172 P10-18
P9-19 173 P10-19
P9-20 174 P10-20
P9-21 175 P10-21
P9-22 176 P10-22
P9-23 177 P10-23
P9-24 178 P10-24
OVERRIDE
SW. BOARD
93909-295
COMPONENTS MOUNTED ON COLUMN
141210-126
SCHEMATIC
STERIS
SCHEMATIC, SYSTEM
3080/3085 (BIERI HYDRAULICS)
141210-126
3 OF 3
01-11-01

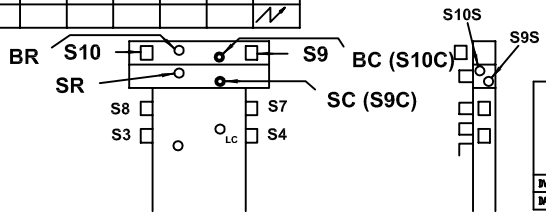
DWG. NO.	SHEET OF
134469-303	1 1

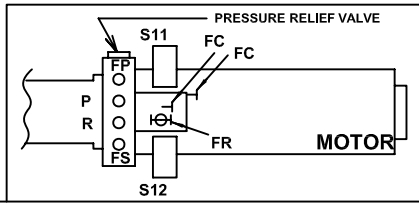
QUANTITY	PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV NO.	REVISION DATE
	134469-303	1	SCHEMATIC	HYDRAULIC SYSTEM(B.HYD#3)	1	11-15-10



FUNCTION	SOLENOID ACTUATION											
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
1 LEFT TILT	✓											
2 RIGHT TILT		✓										
3 LEG UP			✓									
4 LEG DOWN				✓								
5 RAISE					✓							
6 LOWER						✓						
7 FLEX								✓				
8 REFLEX							✓					
9 TRENDELENBERG							✓			✓		
10 R'TRENDELENBERG								✓		✓		
11 BACK UP							✓		✓			
12 BACK DOWN								✓	✓			
13 LOCK DISENGAGE											✓	
14 LOCK ENGAGE												✓

1. LOWERING BRAKE CHECK VALVE MODULE
2. DIRECTIONAL VALVES, ☑ IS ELECTRO MAGNET OPERATOR, ALL VALVES SHOWN NOT ACTUATED.
3. FLOW FUSE VALVE
4. DIRECTIONAL VALVE LEAK-FREE, (SLAVE TO S9 OR S10)





TOLERANCE, STANDARD UNLESS OTHERWISE NOTED
FRACTIONAL ±1/64 DECIMAL ±.005
ANGULAR ±0.5° MACH SURF 125

NO.	DATE	ECA NUMBER	NO.	DATE	ECA NUMBER
1	11-15-10	104309			
0	06-18-96	964146			

REVISIONS

STERIS

STERIS Corporation
Mentor, OH

DWN.	CKD.	ENG.	MFG.	C.D.
JKD	SM	SM	RAC	
DATE 06/12/96	DATE 06/12/96	DATE 06/12/96	DATE 06/12/96	DATE

TITLE
SCHEMATIC,HYDRAULIC SYSTEM
(BIERI HYDRAULIK #3)

FIRST MADE FOR:

DWG. NO. 134469-303 SHEET 1 OF 1

AUTOCAD DWG.

QUANTITY	PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV	DATE
	141245-009	1	SCHEMATIC, LOW LEAK, SMT		0	11/30/07

COMPONENTS MOUNTED IN BASE

COMPONENTS MOUNTED ON COLUMN

NOTES:
1. FREE WIRE NUMBERS: 2,4,10,12,13,14,21,51,53,57, 61,68,83,94,95,96,97,98,99,123,131,132,133,134.
2. LAST WIRE NUMBER: 179
3. PLUGS USE P1 THRU P10, AND P15 THRU P30, P201.

AC INPUT RECEPTACLE (93909-317)

6A @ 100VAC 3A @ 220VAC
6A @ 120VAC
3A @ 230/240VAC

POWER CONTROL, SMT 141210-515

TABLE CONTROL SMT 141210-546

CONT. ON SHT. 2 OF 3

TOLERANCE STANDARD UNLESS OTHERWISE NOTED | FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF.

REV	DATE	DRAWN
0	11-30-07	074187

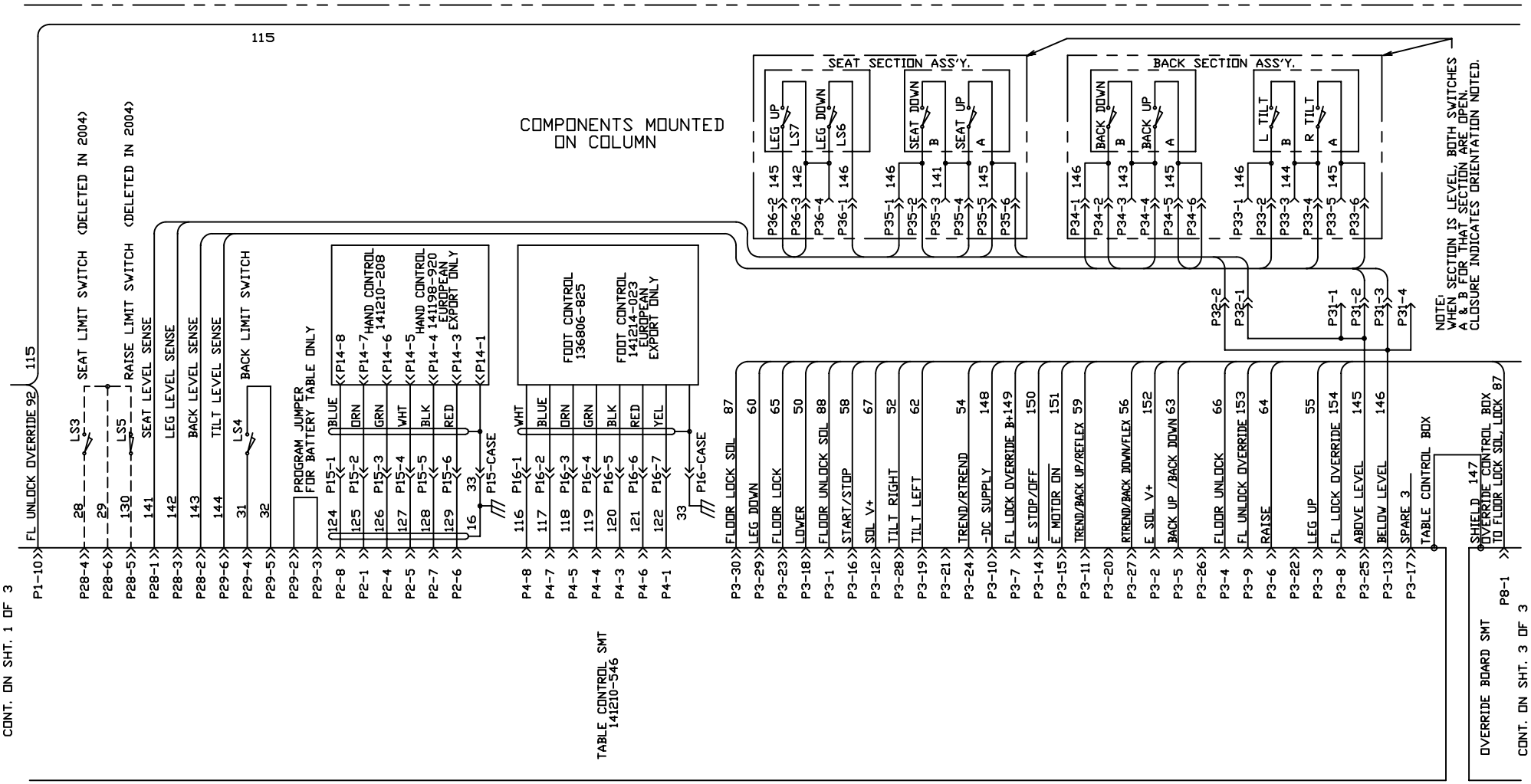
STERIS Corporation Mentor, OH

TITLE: SCHEMATIC, SYSTEM 3085, LOW LEAK, SMT

FIRST MADE FOR 141210-453/454

141245-009 1 OF 3

QUANTITY	PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV	ECN NO
	141245-009	1	SCHEMATIC, LOW LEAK, SMT		0	11/30/07



TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF. 125

STERIS

STERIS Corporation Mentor, OH

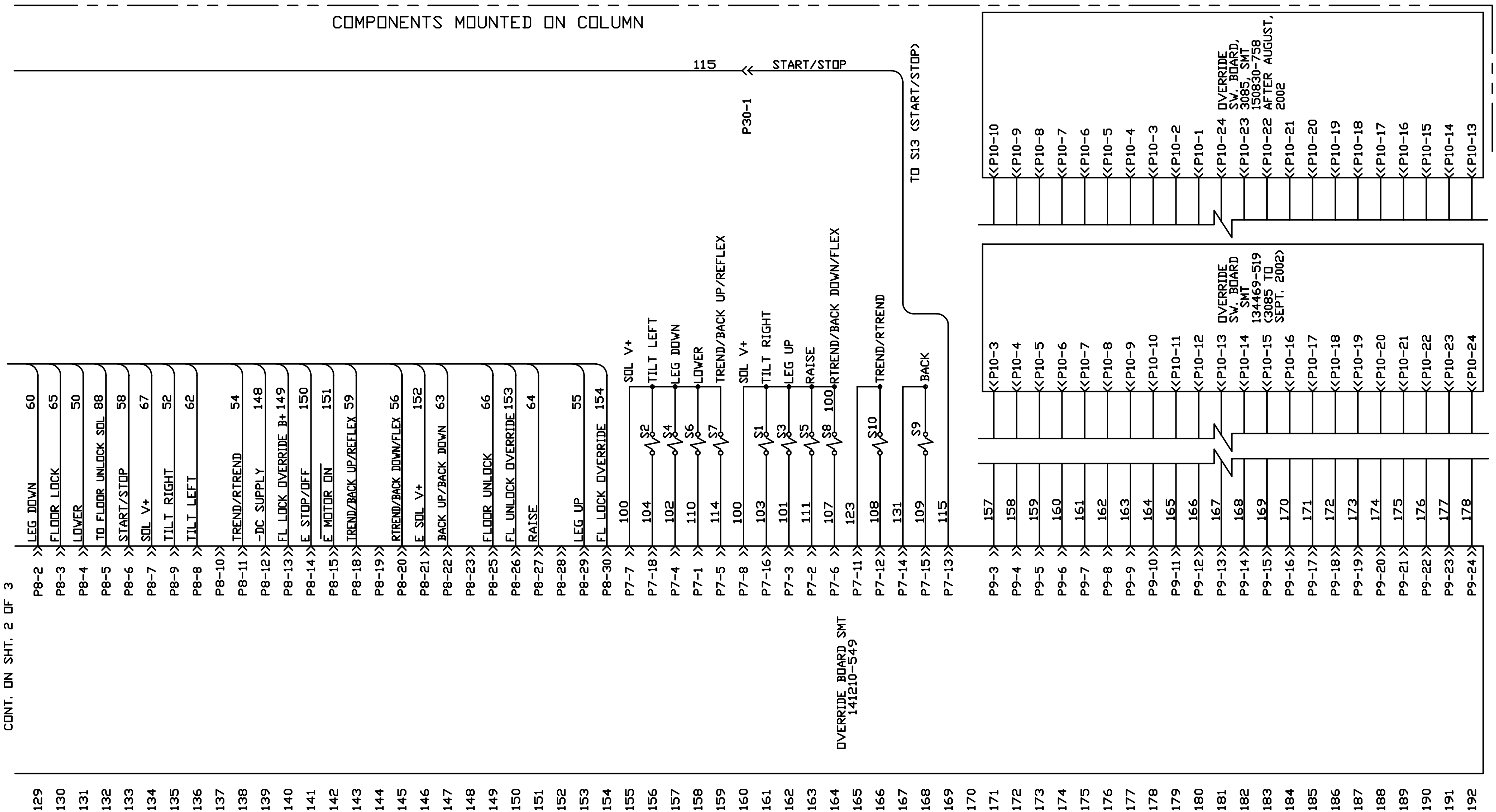
TITLE: SCHEMATIC, SYSTEM 3085, LOW LEAK, SMT

FIRST MADE FOR

DWG NO 141245-009 2 SHEET 3 OF 3

141245-009 3 OF 3

QUANTITY	PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV	REVISION DATE
	141245-009	1	SCHEMATIC, LOW LEAK, SMT		0	11/30/07



TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY +/-1° MACH.SURF. 125

STERIS Corporation
Mentor, OH

DR. RRD | CK. RRD | ENG. DLS

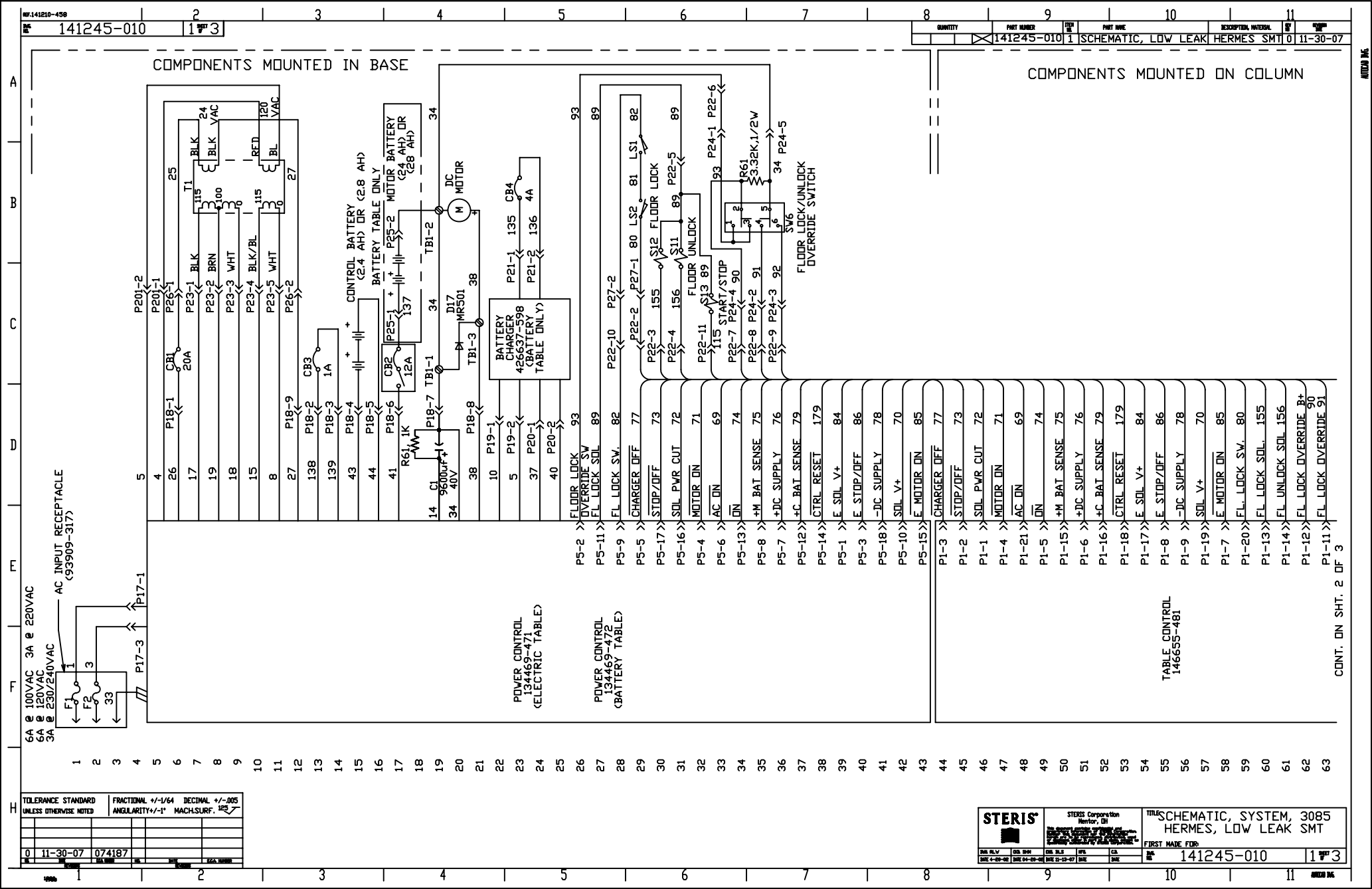
TITLE: SCHEMATIC, SYSTEM 3085, LOW LEAK, SMT

FIRST MADE FOR:

DWG NO. 141245-009 SHEET 3 OF 3

AUTOCAD DWG.

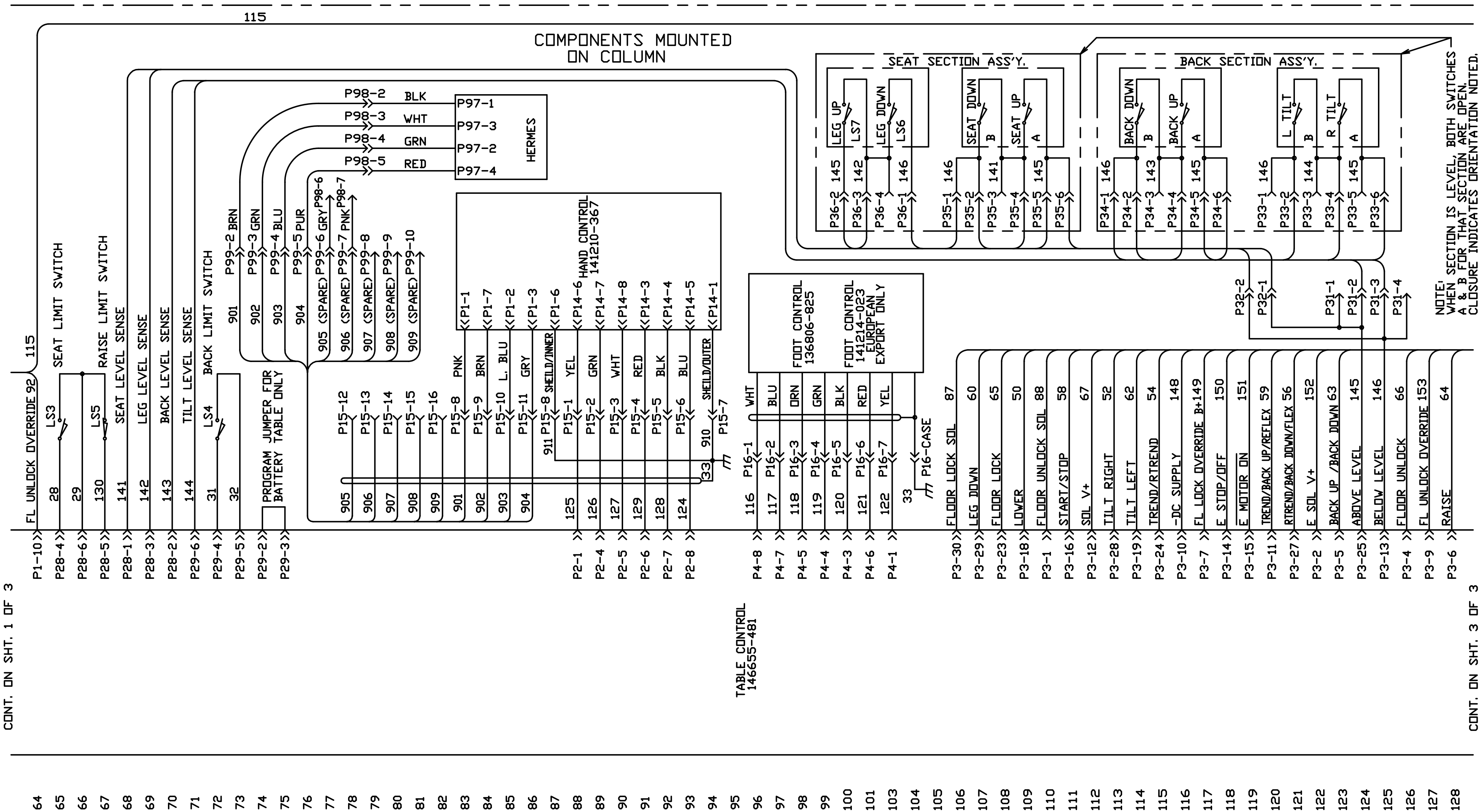
1990


141245-010
1 OF 3
QUANTITY
PART NUMBER
ITEM NO.
PART NAME
DESCRIPTION, MATERIAL
REV
DRAWING NO.
141245-010
1
SCHEMATIC, LOW LEAK
HERMES SMT
0
11-30-07
COMPONENTS MOUNTED IN BASE
COMPONENTS MOUNTED ON COLUMN
AC INPUT RECEPTACLE (93909-317)
6A @ 100VAC 3A @ 220VAC
6A @ 120VAC
3A @ 230/240VAC
F1
F2
CB1 20A
CB2 12A
CB3 1A
CB4 4A
T1
C1 9600uF 40V
R61 1K
D17 MR501
CONTROL BATTERY (2.4 AH) OR (2.8 AH)
BATTERY TABLE ONLY
MOTOR BATTERY (24 AH) OR (28 AH)
DC MOTOR
BATTERY CHARGER 426637-598 (BATTERY TABLE ONLY)
LS1
LS2
S12 FLOOR LOCK
S11 FLOOR UNLOCK
S13 START/STOP
R61 3.32K,1/2W
SW6 FLOOR LOCK/UNLOCK OVERRIDE SWITCH
POWER CONTROL 134469-471 (ELECTRIC TABLE)
POWER CONTROL 134469-472 (BATTERY TABLE)
TABLE CONTROL 146655-481
CONT. ON SHT. 2 OF 3
TOLERANCE STANDARD UNLESS OTHERWISE NOTED
FRACTIONAL +/-1/64 DECIMAL +/-.005
ANGULARITY+/-1° MACH.SURF.
0 11-30-07 074187
STERIS
STERIS Corporation Mentor, OH
TITLE SCHEMATIC, SYSTEM, 3085 HERMES, LOW LEAK SMT
FIRST MADE FOR
DWG NO. 141245-010
1 OF 3

REF.141210-458

DWG. NO. 141245-010 | SHEET 2 OF 3

QUANTITY				PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV	REVISION DATE
				141245-010	1	SCHEMATIC, LOW LEAK	HERMES SMT	0	11-30-07



TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF. 125

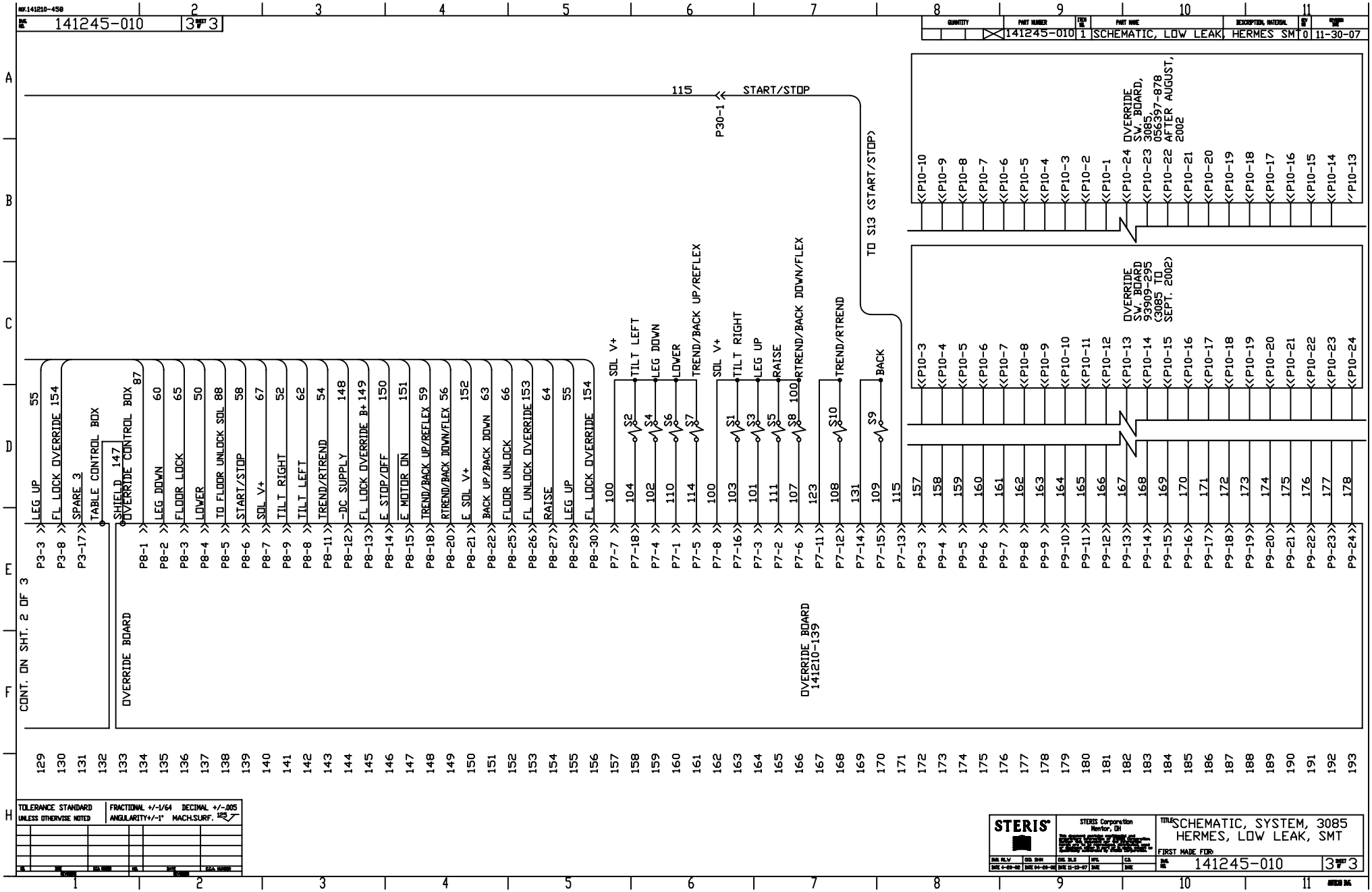
STERIS®

STERIS Corporation
Mentor, OH

TITLE SCHEMATIC, SYSTEM, 3085
HERMES, LOW LEAK, SMT

FIRST MADE FOR:

DWG. NO. 141245-010 | SHEET 2 OF 3


141245-010
3 OF 3
QUANTITY
PART NUMBER
PART NAME
DESCRIPTION, MATERIAL
141245-010
1
SCHEMATIC, LOW LEAK, HERMES SMT
0
11-30-07
115
START/STOP
P30-1
TO S13 (START/STOP)
OVERRIDE SW. BOARD, 3085 056397-878 AFTER AUGUST, 2002
P10-10
P10-9
P10-8
P10-7
P10-6
P10-5
P10-4
P10-3
P10-2
P10-1
P10-24
P10-23
P10-22
P10-21
P10-20
P10-19
P10-18
P10-17
P10-16
P10-15
P10-14
P10-13
OVERRIDE SW. BOARD 93909-295 (3085 TO SEPT. 2002)
P10-3
P10-4
P10-5
P10-6
P10-7
P10-8
P10-9
P10-10
P10-11
P10-12
P10-13
P10-14
P10-15
P10-16
P10-17
P10-18
P10-19
P10-20
P10-21
P10-22
P10-23
P10-24
CONT. ON SHT. 2 OF 3
LEG UP 55
FL LOCK OVERRIDE 154
SPARE 3
TABLE CONTROL BOX
SHIELD 147
OVERRIDE CONTROL BOX 87
P3-3
P3-8
P3-17
P8-1
P8-2
P8-3
P8-4
P8-5
P8-6
P8-7
P8-9
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P8-20
P8-21
P8-22
P8-25
P8-26
P8-27
P8-29
P8-30
OVERRIDE BOARD
LEG DOWN 60
FLOOR LOCK 65
LOWER 50
TO FLOOR UNLOCK SOL 88
START/STOP 58
SOL V+ 67
TILT RIGHT 52
TILT LEFT 62
TREND/RTREND 54
-DC SUPPLY 148
FL LOCK OVERRIDE B+ 149
E STOP/OFF 150
E MOTOR ON 151
TREND/BACK UP/REFLEX 59
RTREND/BACK DOWN/FLEX 56
E SOL V+ 152
BACK UP/BACK DOWN 63
FLOOR UNLOCK 66
FL UNLOCK OVERRIDE 153
RAISE 64
LEG UP 55
FL LOCK OVERRIDE 154
SOL V+
TILT LEFT
LEG DOWN
LOWER
TREND/BACK UP/REFLEX
SOL V+
TILT RIGHT
LEG UP
RAISE
RTREND/BACK DOWN/FLEX
TREND/RTREND
BACK
100
104
102
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114
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123
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131
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115
S2
S4
S6
S7
S1
S3
S5
S8
S10
S9
P7-7
P7-18
P7-4
P7-1
P7-5
P7-8
P7-16
P7-3
P7-2
P7-6
P7-11
P7-12
P7-14
P7-15
P7-13
OVERRIDE BOARD 141210-139
P9-3
P9-4
P9-5
P9-6
P9-7
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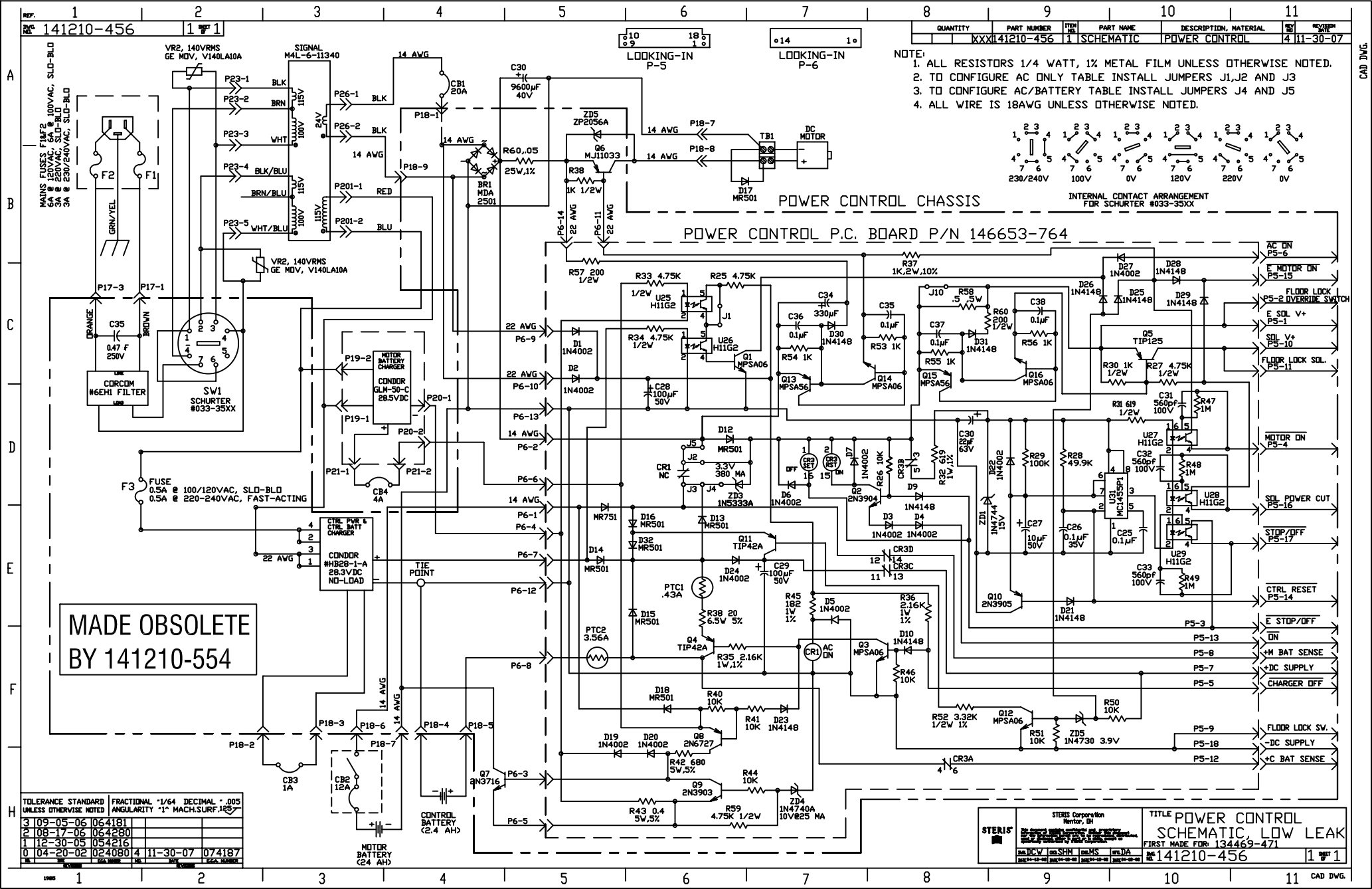
TOLERANCE STANDARD UNLESS OTHERWISE NOTED
FRACTIONAL +/-1/64 DECIMAL +/-.005
ANGULARITY+/-1° MACH.SURF.
STERIS
STERIS Corporation Mentor, OH
TITLE SCHEMATIC, SYSTEM, 3085 HERMES, LOW LEAK, SMT
FIRST MADE FOR
141245-010
3 OF 3

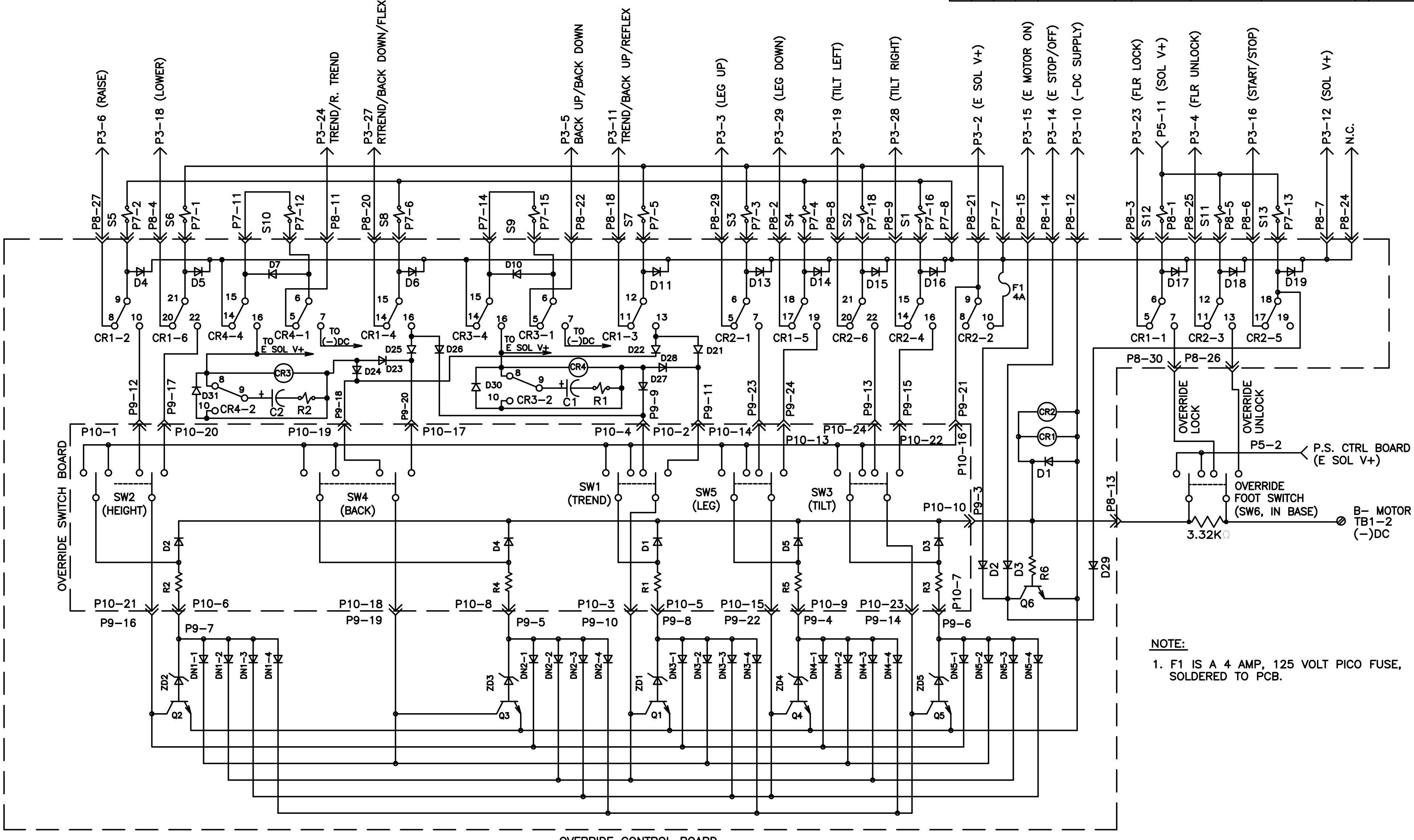

141210-456
POWER CONTROL CHASSIS
POWER CONTROL P.C. BOARD P/N 146653-764
NOTE:
1. ALL RESISTORS 1/4 WATT, 1% METAL FILM UNLESS OTHERWISE NOTED.
2. TO CONFIGURE AC ONLY TABLE INSTALL JUMPERS J1,J2 AND J3
3. TO CONFIGURE AC/BATTERY TABLE INSTALL JUMPERS J4 AND J5
4. ALL WIRE IS 18AWG UNLESS OTHERWISE NOTED.
MADE OBSOLETE BY 141210-554
POWER CONTROL
SCHEMATIC, LOW LEAK
FIRST MADE FOR: 134469-471
STERIS Corporation Mentor, OH

REF SK-890735

DWG NO 141210-127 | 1 SHEET OF 2

AUTOCAD DWG

QUANTITY				PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
			X	141210-127		SCHEMATIC, OVERRIDE	SW & CRTL	7	05-20-08



NOTE:

1. F1 IS A 4 AMP, 125 VOLT PICO FUSE, SOLDERED TO PCB.

TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 ANGULARITY+/-1°	DECIMAL +/-.005 MACH. SURF. 125	

NO	DATE	ECA NUMBER	NO	DATE	ECA NUMBER
3	06-12-95	954137	7	05-20-08	084128
2	06-22-92	924132	6	6-22-07	074173
1	06-25-91	PER#26	5	09-06-02	024206
0	05-23-90	PER #7	4	12-12-96	960262

STERIS

STERIS Corporation Mentor, OH

TITLE OVERRIDE SYSTEM SCHEMATIC 3080 (BIERI HYDRAULICS)

FIRST MADE FOR:

DWG NO 141210-127 | 1 SHEET OF 2

QUANTITY				PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
			XXX	141210-127		SCHEMATIC, OVERRIDE	SW & CTRL	7	05-20-08

AUTOCAD DWG

NOTES:

1. 056397-878 WAS USED ON 3085SP AFTER AUGUST, 2002.
   150830-758 IS THE SURFACE-MOUNT REPLACEMENT FOR 056397-878. (BIERI HYDRAULICS)
   134469-519 IS THE SURFACE-MOUNT REPLACEMENT FOR 093909-295. (PARK-BRUNING HYDRAULICS)
2. DO NOT MIX CABLES AND SWITCH BOARDS.
   USE: 134469-178 WITH 093909-295 & 134469-519.
   134469-476 WITH 056397-878 & 150830-758.

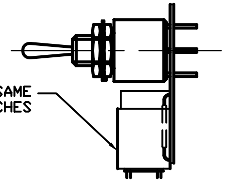
134469-178
P9-P10 CABLE:
WIRING FOR ORIGINAL PARKER-BRUNING
OVER-RIDE SWITCH BOARDS
093909-295 OR 134469-519.

P9	P10
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24

134469-476
P9-P10 CABLE:
WIRING FOR LATER BIERI
OVER-RIDE SWITCH BOARDS
056397-878 OR 150830-758.

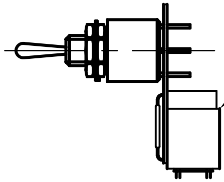
P9	P10
3	10
4	9
5	8
6	7
7	6
8	5
9	4
10	3
11	2
12	1
13	24
14	23
15	22
16	21
17	20
18	19
19	18
20	17
21	16
22	15
23	14
24	13

CONNECTOR ON SAME SIDE AS SWITCHES



093909-295 & 134469-519

CONNECTOR ON SIDE OPPOSITE SWITCHES



056397-878 & 150830-758

TOLERANCE STANDARD UNLESS OTHERWISE NOTED | FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY +/-1° MACH. SURF. 125

NO	DATE	ECA NUMBER	NO	DATE	ECA NUMBER

REVISIONS

STERIS®

STERIS Corporation
Mentor, OH

TITLE OVERRIDE SYSTEM SCHEMATIC
3080 (BIERI HYDRAULICS)
FIRST MADE FOR:

REF. 1 2 3 4 5 6 7 8 9 10 11

DWG. NO. 141210-172 SHEET 2 OF 2

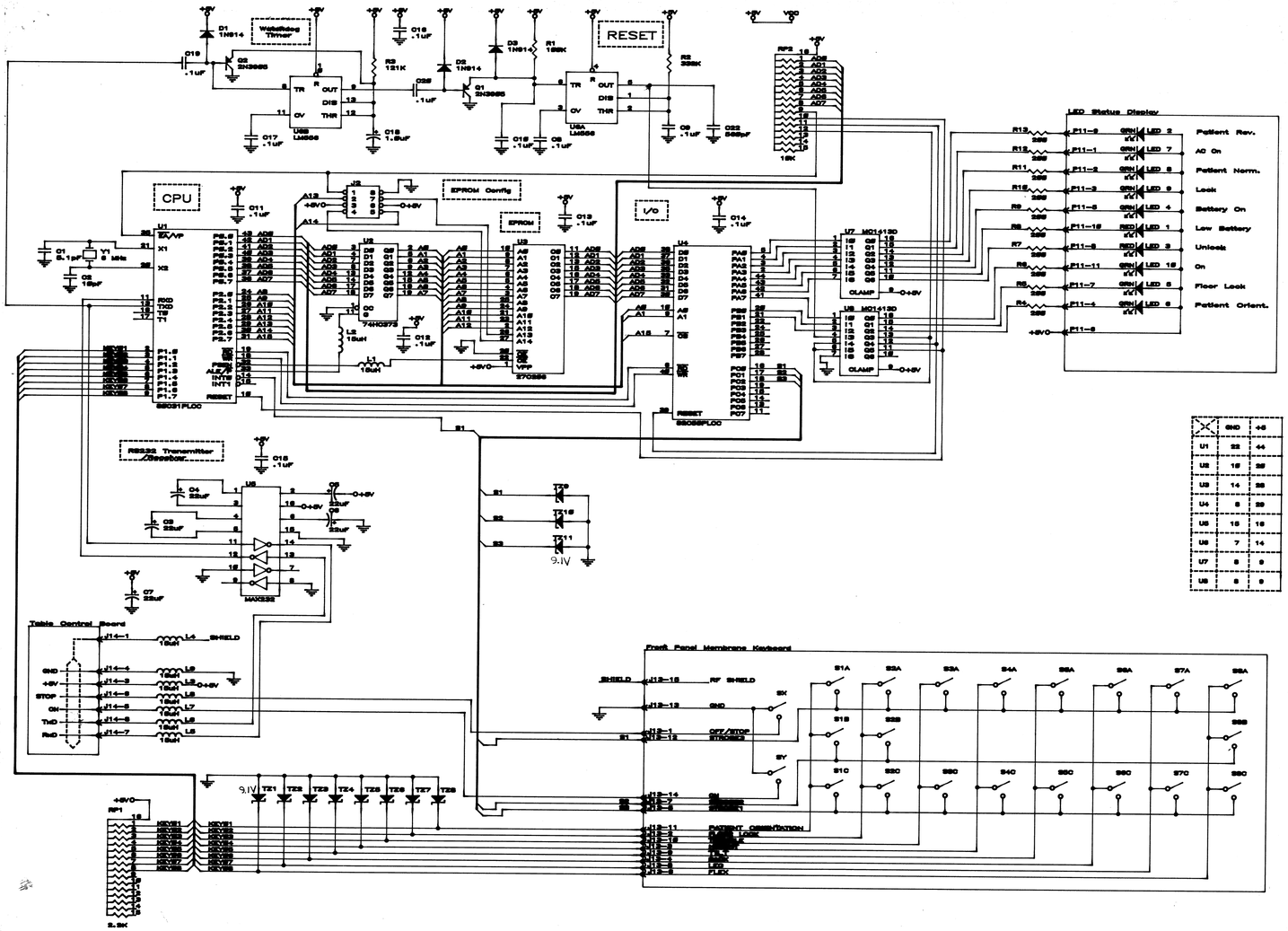
QUANTITY	PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
X	141210-172	1	PC BOARD		5	04/27/95

REPRO MAINTAINED AT.

CAD DWG.

NOTES:

1. ART * AMD-003 REV. 1 (09-24-91) TO BE MAINTAINED BY AMSCO MONTGOMERY.



	GND	+5
U1	22	44
U2	16	32
U3	14	28
U4	6	22
U5	15	16
U6	7	14
U7	8	9
U8	8	9

TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL ±1/64 DECIMAL ±.005 ANGULARITY ±1° MACH. SURF. 125

NO.	DATE	E.C.A. NUMBER	NO.	DATE	E.C.A. NUMBER
REVISIONS			REVISIONS		

AMSCO

AMERICAN STERILIZER COMPANY
ERIE, PENNSYLVANIA

DWN. RRD	CKD. RRD	ENG. DG	MFG.
DATE 06-25-91	DATE 06-25-91	DATE 06-25-91	DATE

TITLE: PC BOARD DETAIL HAND CONTROL

FIRST MADE FOR:

DWG. NO. 141210-172 SHEET 2 OF 2

CAD DWG.

DWG. NO. 146655-473 SHEET 2 OF 4

QUANTITY			PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV NO.	REVISION DATE
	X	1	146655-473	1	SCHEMATIC		17	05-01-08

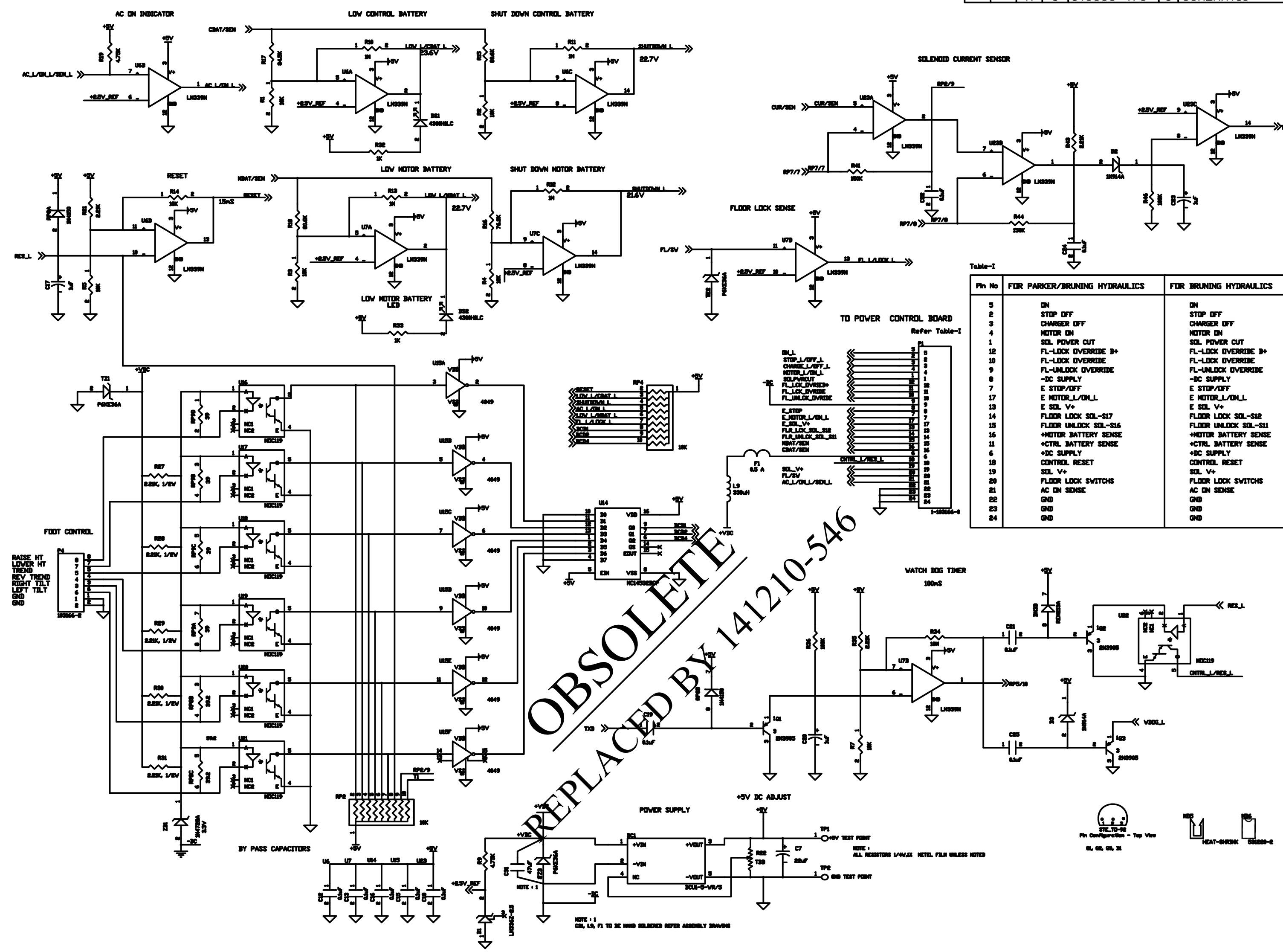


Table-I

Pin No	FOR PARKER/BRUNING HYDRAULICS	FOR BRUNING HYDRAULICS
5	ON	ON
2	STOP OFF	STOP OFF
3	CHARGER OFF	CHARGER OFF
4	MOTOR ON	MOTOR ON
1	SOL POWER CUT	SOL POWER CUT
12	FL-LOCK OVERRIDE B+	FL-LOCK OVERRIDE B+
10	FL-LOCK OVERRIDE	FL-LOCK OVERRIDE
9	FL-UNLOCK OVERRIDE	FL-UNLOCK OVERRIDE
8	-DC SUPPLY	-DC SUPPLY
7	E STOP/OFF	E STOP/OFF
17	E MOTOR_L/ON_L	E MOTOR_L/ON_L
13	E SOL V+	E SOL V+
14	FLOOR LOCK SOL-S17	FLOOR LOCK SOL-S12
15	FLOOR UNLOCK SOL-S16	FLOOR UNLOCK SOL-S11
16	+MOTOR BATTERY SENSE	+MOTOR BATTERY SENSE
11	+CTRL BATTERY SENSE	+CTRL BATTERY SENSE
6	+DC SUPPLY	+DC SUPPLY
18	CONTROL RESET	CONTROL RESET
19	SOL V+	SOL V+
20	FLOOR LOCK SWITCHS	FLOOR LOCK SWITCHS
21	AC ON SENSE	AC ON SENSE
22	GND	GND
23	GND	GND
24	GND	GND

TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF. 125

STERIS®

STERIS Corporation
Mentor, OH

TITLE: TABLE CONTROL BOARD ASSEMBLY

FIRST MADE FOR: 146655-481

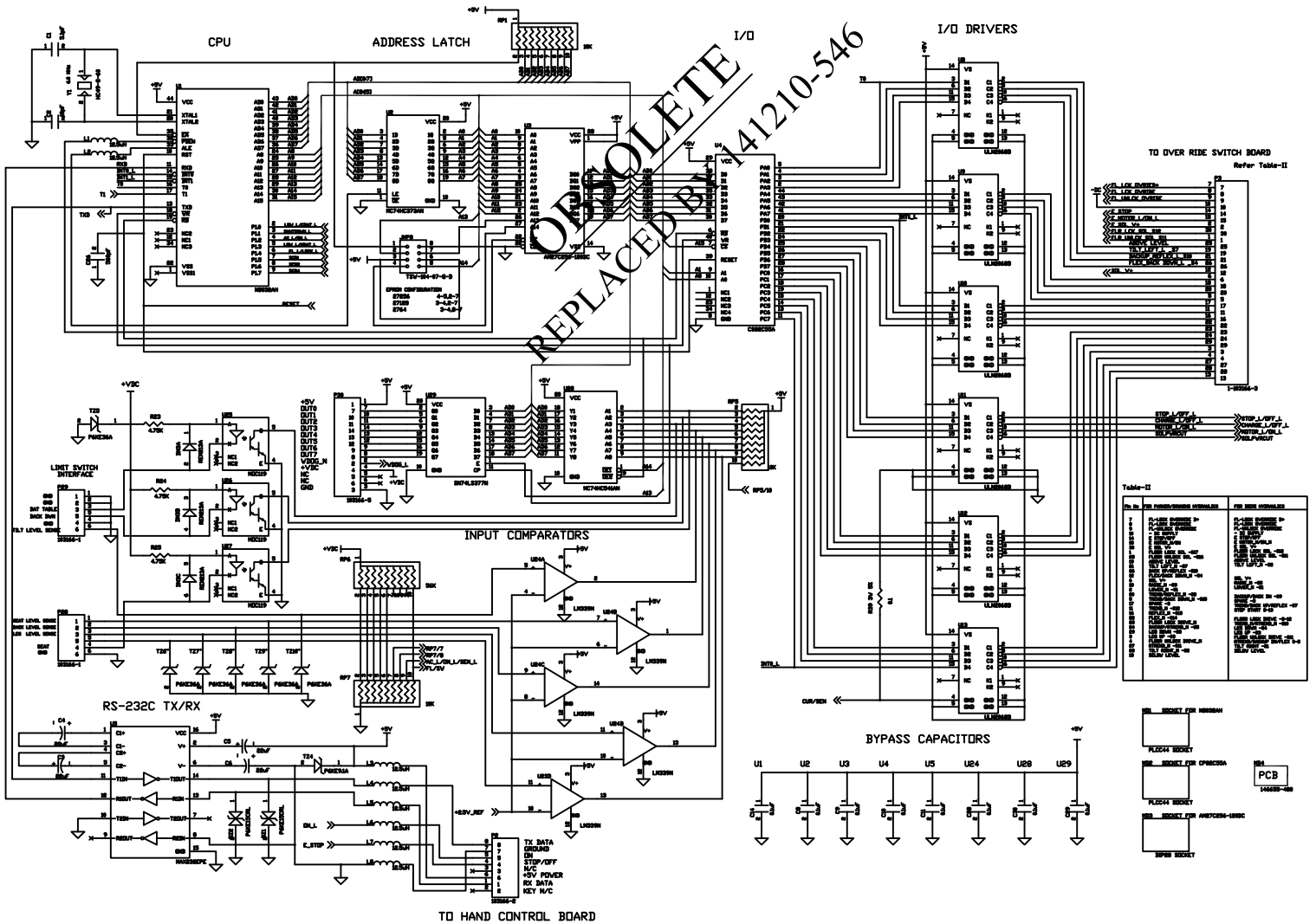
DWN. DJM	CKD. DJM	ENG. FJZ	MFG.	C.D.
DATE 6-29-09	DATE 7-14-09	DATE 7-17-09	DATE	DATE

DWG. NO. 146655-473 SHEET 2 OF 4

AUTOCAD DWG.

DWG NO	SHEET OF
146655-473	3 4

QUANTITY	PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV	ECN NO
XXX 1	146655-473	1	SCHEMATIC		17	05-01-08



OBSOLETE
REPLACED BY 141210-546

TOLERANCE STANDARD UNLESS OTHERVISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF. 125

STERIS	STERIS Corporation Mentor, OH	TITLE: TABLE CONTROL BOARD ASSEMBLY
DWN DJM 6-03-99	CHK DJM 7-06-99	ENG FJZ 7-07-99
MFG	QA	FIRST MADE FOR: 146655-481
DWG NO 146655-473	SHEET OF 3 4	

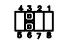
AUTOCAD DWG

QUANTITY				PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
			X	141210-545		TABLE CONTROL BOARD	ASSY, SMT	5	11-24-09

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. APPROPRIATE ESD PRECAUTIONS SHALL BE MAINTAINED AT ALL PHASES OF THE ASSEMBLY, INSPECTION, TESTING AND PACKAGING PROCESS.
2. WORKMANSHIP SHALL CONFORM TO IPC-A-610 LEVEL II.
3. ASSEMBLY SHALL BE PERFORMED USING THIS DRAWING IN CONJUNCTION WITH THE APPROPRIATE BILL OF MATERIALS.
4. MARK BOARD ASSEMBLY WITH P/N & REVISION IN SPACE PROVIDED USING APPROX. 14PT.
5. ASSEMBLY VENDOR MUST MEET RoHS DIRECTIVE REQUIREMENTS (Pb-FREE).
6. SET JUMPERS (ITEM 22) ON JMP8 (ITEM 15) TO VIEW AA-1.
7. EACH ASSEMBLY SHALL HAVE A UNIQUE S/N DESIGNATING DATE, ORDER OF MANUFACTURE & SOFTWARE PART NO. WITH REVISION LOCATED ON THE COMPONENT SIDE OF THE BOARD.
8. PROGRAM ITEM 52 WITH THE LATEST REVISION OF 150830-825 (ITEM 66) BEFORE INSTALLING IT INTO ITEM 19. MARK CHIP WITH P/N AND REVISION OF SOFTWARE.
9. EQUIVALENT PARTS MAY BE SUBSTITUTED UNLESS SPECIFIED OTHERWISE.

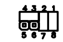
VIEW AA



JMP8

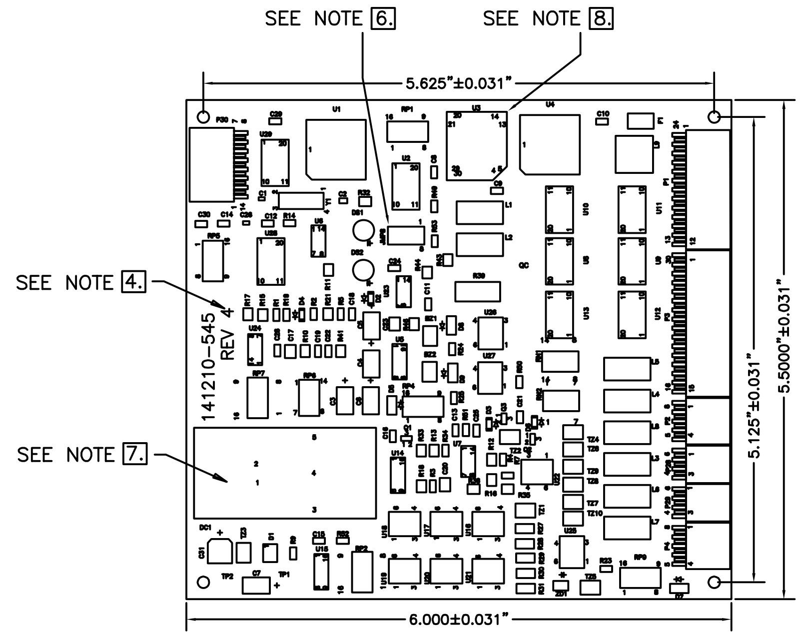
JUMPER ORIENTATION FOR REVISION 0 THRU 7 (3080RL WITH PARKER/BRUNING HYDRAULICS AND 3080RC) AND FACTORY TEST

VIEW AA-1



JMP8

JUMPER ORIENTATION FOR REVISIONS 8+ (BIERI HYDRAULICS,3080RL)



TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH. SURF. 125				
3	01-22-09	094028			
2	11-10-08	084313			
1	05-01-08	084024	5	11-24-09	094372
0	02-14-08	084024	4	08-13-09	094272
NO	DATE	ECA NUMBER	NO	DATE	ECA NUMBER
REVISIONS			REVISIONS		

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STERIS Corporation
Mentor, OH

TITLE TABLE CONTROL BOARD ASSY, SMT

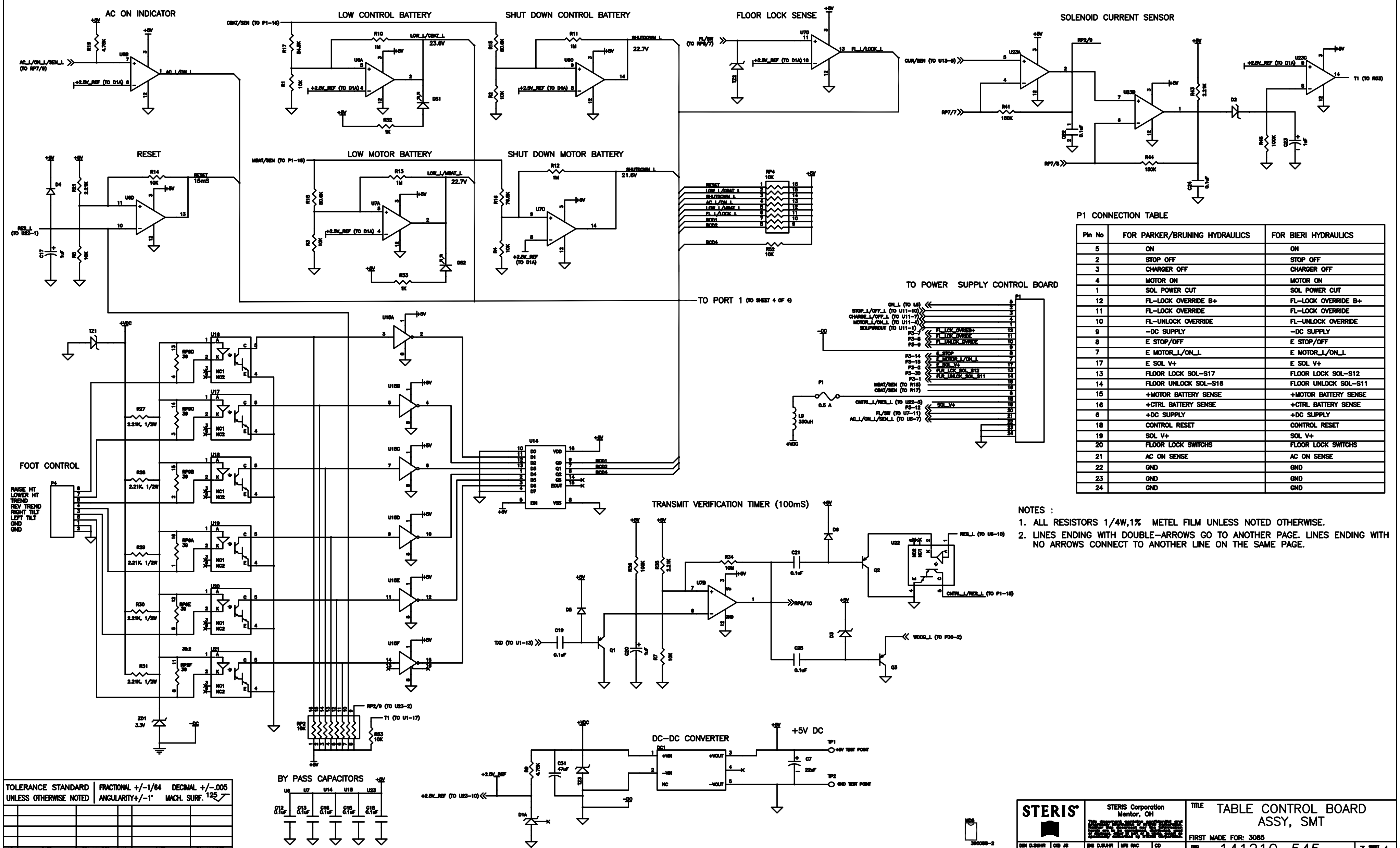
FIRST MADE FOR: 3085

DWN D.SUHR	CKD JS	ENG D.SUHR	MFG RAC	CD
DATE 02-14-08	DATE 05-01-08	DATE 02-14-08	DATE 05-01-08	DATE

REF 146655-473

AUTOCAD DWG

QUANTITY				PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
			X	141210-545		TABLE CONTROL BOARD	ASSY, SMT	5	11-24-09



P1 CONNECTION TABLE

Pin No	FOR PARKER/BRUNING HYDRAULICS	FOR BIERI HYDRAULICS
5	ON	ON
2	STOP OFF	STOP OFF
3	CHARGER OFF	CHARGER OFF
4	MOTOR ON	MOTOR ON
1	SOL POWER CUT	SOL POWER CUT
12	FL-LOCK OVERRIDE B+	FL-LOCK OVERRIDE B+
11	FL-LOCK OVERRIDE	FL-LOCK OVERRIDE
10	FL-UNLOCK OVERRIDE	FL-UNLOCK OVERRIDE
9	-DC SUPPLY	-DC SUPPLY
8	E STOP/OFF	E STOP/OFF
7	E MOTOR_L/ON_L	E MOTOR_L/ON_L
17	E SOL V+	E SOL V+
13	FLOOR LOCK SOL-S17	FLOOR LOCK SOL-S12
14	FLOOR UNLOCK SOL-S16	FLOOR UNLOCK SOL-S11
15	+MOTOR BATTERY SENSE	+MOTOR BATTERY SENSE
16	+CTRL BATTERY SENSE	+CTRL BATTERY SENSE
6	+DC SUPPLY	+DC SUPPLY
18	CONTROL RESET	CONTROL RESET
19	SOL V+	SOL V+
20	FLOOR LOCK SWITCHS	FLOOR LOCK SWITCHS
21	AC ON SENSE	AC ON SENSE
22	GND	GND
23	GND	GND
24	GND	GND

NOTES :

1. ALL RESISTORS 1/4W,1% METEL FILM UNLESS NOTED OTHERWISE.
2. LINES ENDING WITH DOUBLE-ARROWS GO TO ANOTHER PAGE. LINES ENDING WITH NO ARROWS CONNECT TO ANOTHER LINE ON THE SAME PAGE.

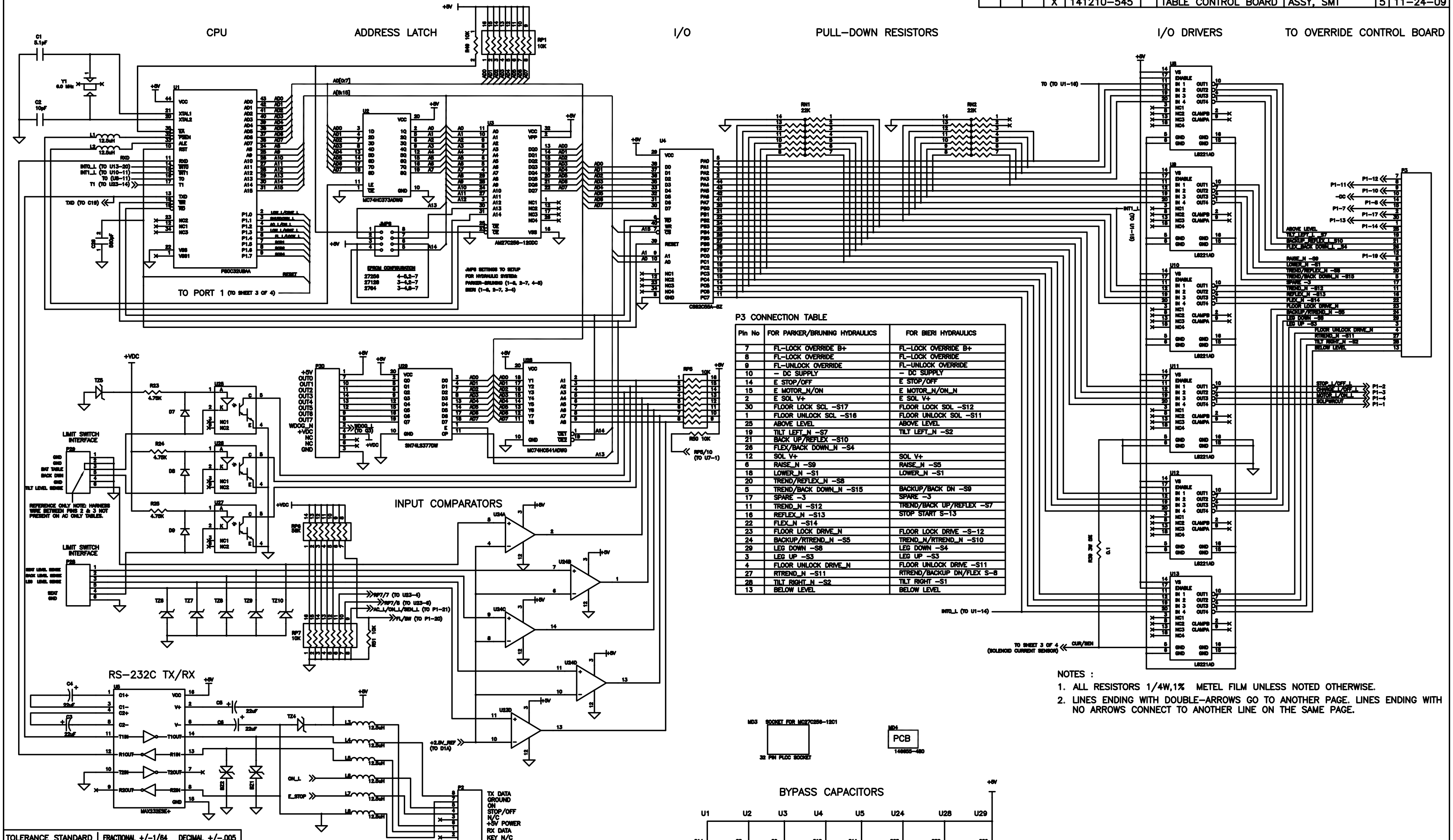
TOLERANCE STANDARD UNLESS OTHERWISE NOTED | FRACTIONAL +/-1/64 ANGULARITY +/-1° | DECIMAL +/-.005 MACH. SURF. 125

STERIS Corporation Mentor, OH

TITLE TABLE CONTROL BOARD ASSY, SMT

FIRST MADE FOR: 3085

QUANTITY				PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
			X	141210-545		TABLE CONTROL BOARD	ASSY, SMT	5	11-24-09



P3 CONNECTION TABLE

Pin No	FOR PARKER/BRUNING HYDRAULICS	FOR BIERI HYDRAULICS
7	FL-LOCK OVERRIDE B+	FL-LOCK OVERRIDE B+
8	FL-LOCK OVERRIDE	FL-LOCK OVERRIDE
9	FL-UNLOCK OVERRIDE	FL-UNLOCK OVERRIDE
10	- DC SUPPLY	- DC SUPPLY
14	E STOP/OFF	E STOP/OFF
15	E MOTOR_N/ON	E MOTOR_N/ON_N
2	E SOL V+	E SOL V+
30	FLOOR LOCK SCL -S17	FLOOR LOCK SOL -S12
1	FLOOR UNLOCK SCL -S16	FLOOR UNLOCK SOL -S11
25	ABOVE LEVEL	ABOVE LEVEL
19	TILT LEFT_N -S7	TILT LEFT_N -S2
21	BACK UP/REFLEX -S10	
26	FLEX/BACK DOWN_N -S4	
12	SOL V+	SOL V+
6	RAISE_N -S9	RAISE_N -S5
18	LOWER_N -S1	LOWER_N -S1
20	TREND/REFLEX_N -S8	
5	TREND/BACK DOWN_N -S15	BACKUP/BACK DN -S9
17	SPARE -3	SPARE -3
11	TREND_N -S12	TREND/BACK UP/REFLEX -S7
16	REFLEX_N -S13	STOP START S-13
22	FLEX_N -S14	
23	FLOOR LOCK DRIVE_N	FLOOR LOCK DRIVE -S-12
24	BACKUP/RTREND_N -S5	TREND_N/RTREND_N -S10
29	LEG DOWN -S8	LEG DOWN -S4
3	LEG UP -S3	LEG UP -S3
4	FLOOR UNLOCK DRIVE_N	FLOOR UNLOCK DRIVE -S11
27	RTREND_N -S11	RTREND/BACKUP DN/FLEX S-8
28	TILT RIGHT_N -S2	TILT RIGHT -S1
13	BELOW LEVEL	BELOW LEVEL

NOTES :

1. ALL RESISTORS 1/4W,1% METEL FILM UNLESS NOTED OTHERWISE.
2. LINES ENDING WITH DOUBLE-ARROWS GO TO ANOTHER PAGE. LINES ENDING WITH NO ARROWS CONNECT TO ANOTHER LINE ON THE SAME PAGE.

TOLERANCE STANDARD UNLESS OTHERWISE NOTED | FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH. SURF. 125

NO	DATE	ECA NUMBER	NO	DATE	ECA NUMBER

STERIS | STERIS Corporation Mentor, OH

TITLE TABLE CONTROL BOARD ASSY, SMT

FIRST MADE FOR: 3085

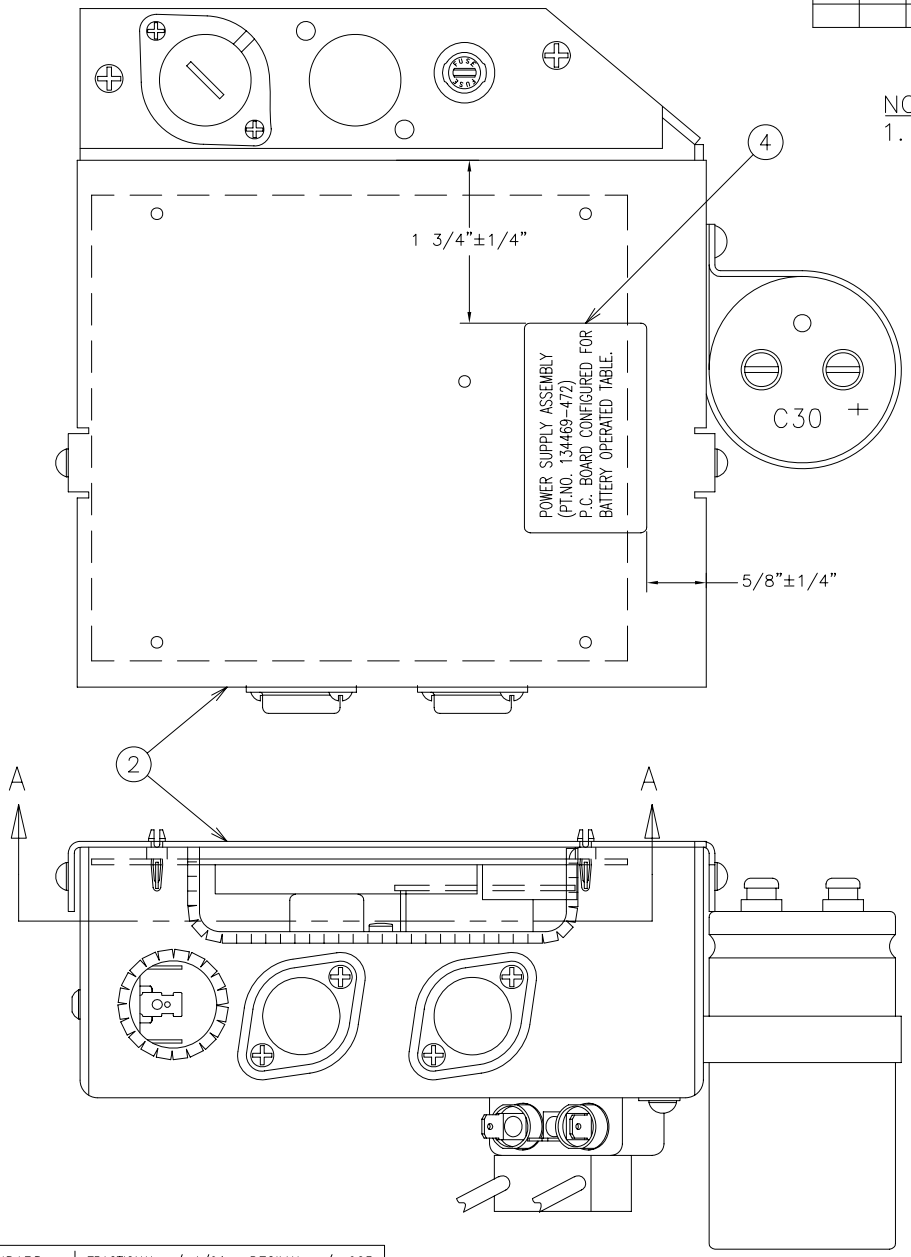
REF.

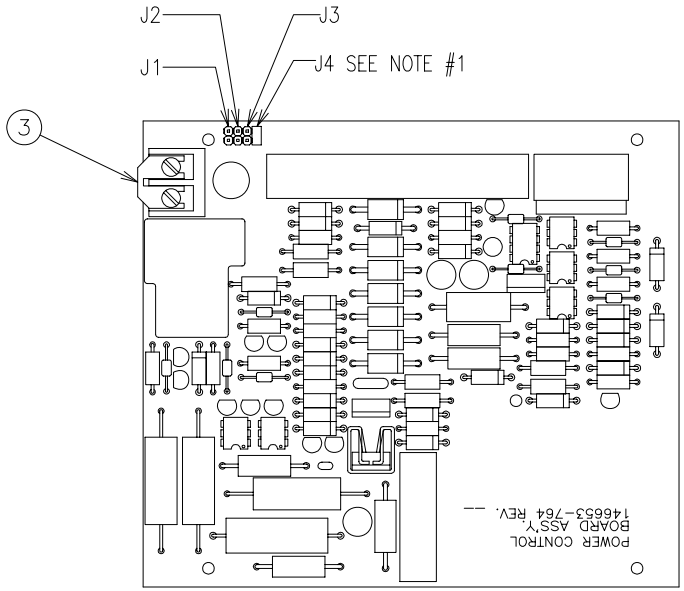
DWG. NO. 134469-472 | SHEET OF 1

QUANTITY	PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
XXX	134469-472	1	POWER SUPPLY	ASS'Y, BATTERY	2	11-30-07
1	134469-471	2	POWER SUPPLY	ASS'Y		
1	129360-518	3	JUMPER			
1	056397-865	4	LABEL, BATTERY	IDENTIFICATION		

NOTE:

1. CONFIGURE POWER SUPPLY FOR BATTERY OPERATED TABLE, BY REMOVING J1, J2, & J3 AND INSTALLING J5 (ITEM #3) AND J4 (USE OLD J1, J2, OR J3).





VIEW A- A

MADE OBSOLETE BY 134469-515

TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF. 125

NO.	DATE	E.C.A. NUMBER	NO.	DATE	E.C.A. NUMBER
2	11-30-07	074187			
1	06-01-06	064181			
0	04-20-02	024080			

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STERIS Corporation
Mentor, OH

DWN. DCW	CKD. DCW	ENG. SHM	MFG. RC	C.D.
DATE 04-12-02	DATE 04-12-02	DATE 04-12-02	DATE 04-12-02	DATE

TITLE POWER SUPPLY ASS'Y BATTERY TABLE

FIRST MADE FOR: 141210-327

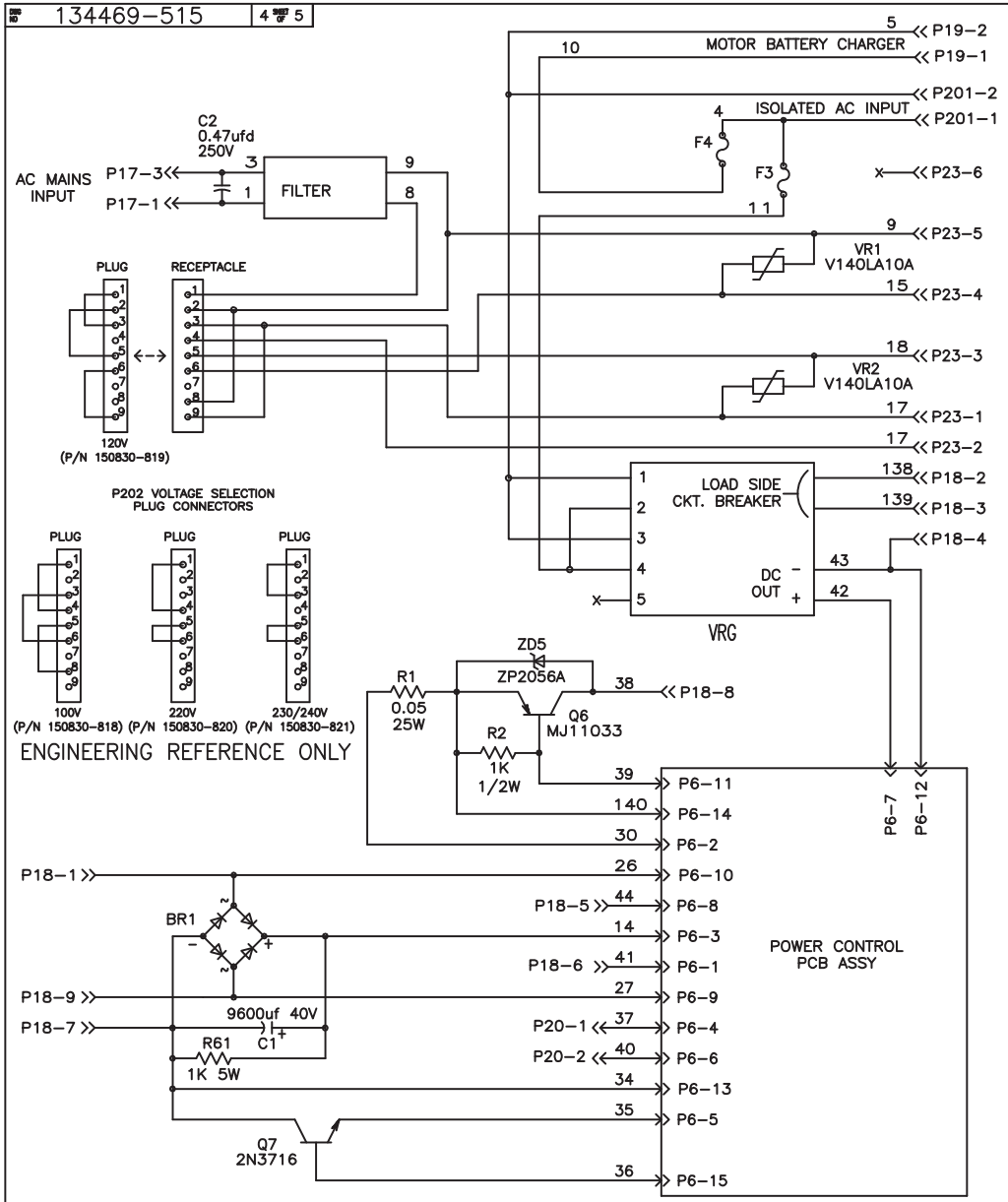
DWG. NO. 134469-472 | SHEET OF 1

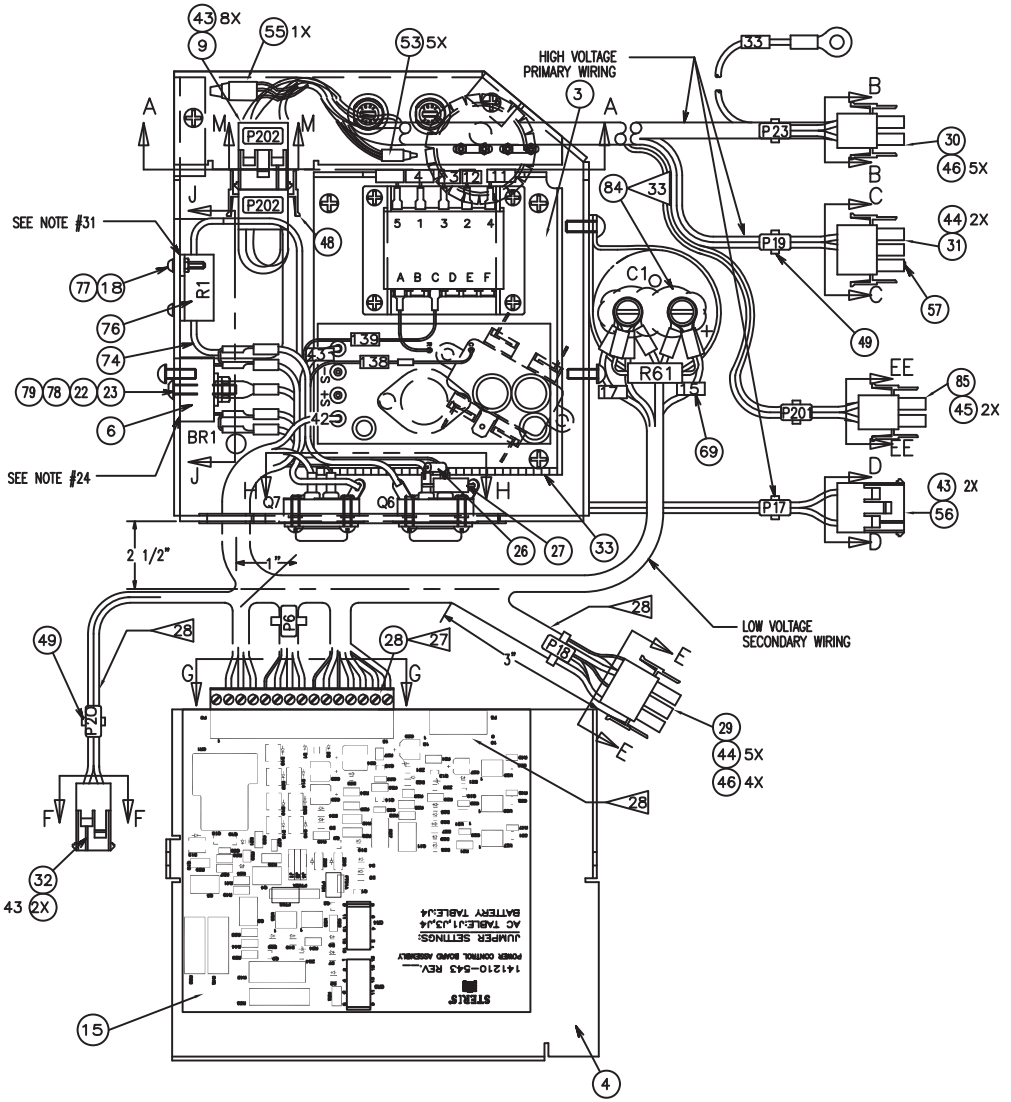
AUTOCAD DWG.

DWG NO 134469-515 | 4 SHEET OF 5

AUTOCAD DWG

QUANTITY	PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
XXX	134469-515	1	POWER SUPPLY ASSY,	BATT TABLE, SMT	8	03-16-10





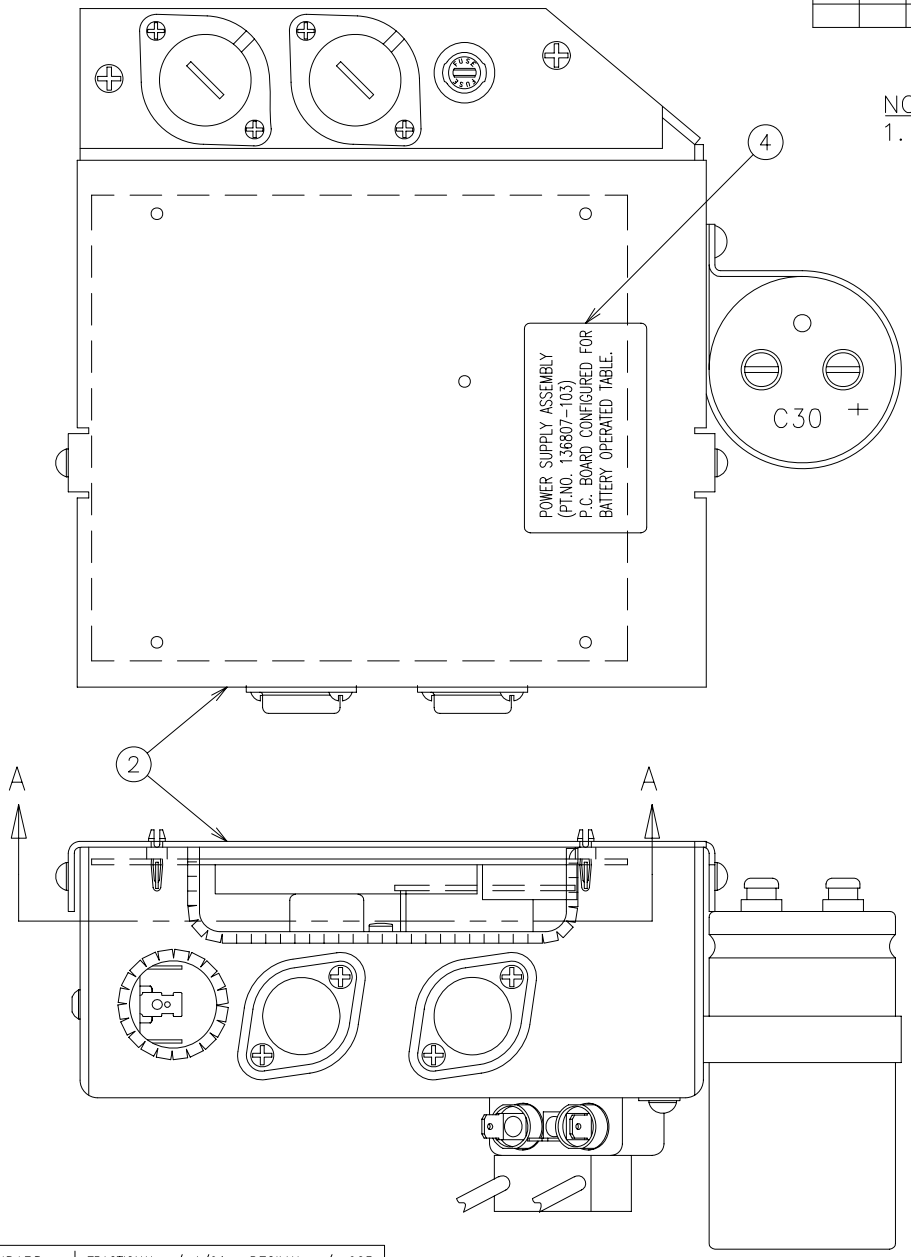
TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 ANGULARITY+/-1°	DECIMAL +/-.005 MACH. SURF. 125

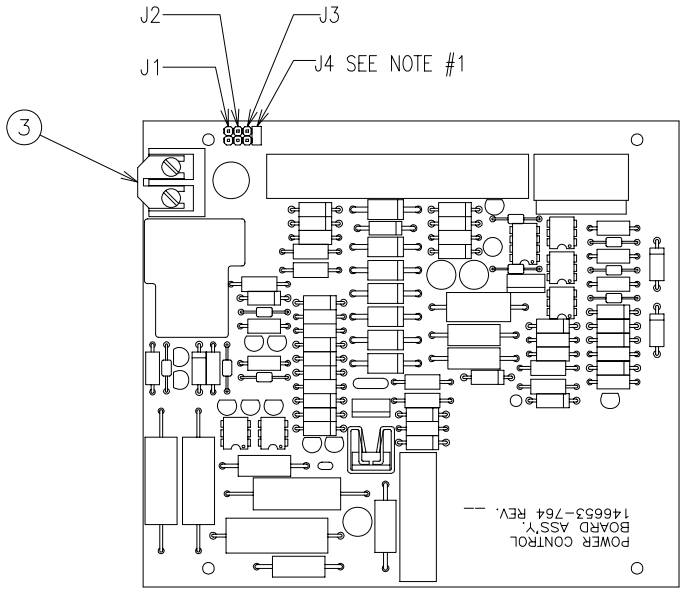
STERIS	STERIS Corporation Mentor, OH	TITLE: POWER SUPPLY ASSY, BATTERY TABLE, SMT
		FIRST MADE FOR:
		DWG NO 134469-515 | 4 SHEET OF 5

DWG. NO. 136807-103 | SHEET OF 1

QUANTITY	PART NUMBER	ITEM NO.	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
XXX	136807-103	1	POWER SUPPLY	ASS'Y, BATTERY	6	11-30-07
1	146653-775	2	POWER SUPPLY	ASS'Y		
1	129360-518	3	JUMPER			
1	093909-750	4	LABEL, BATTERY	IDENTIFICATION		

NOTE:
1. CONFIGURE POWER SUPPLY FOR BATTERY OPERATED TABLE, BY REMOVING J1, J2, & J3 AND INSTALLING J5 (ITEM #3) AND J4 (USE OLD J1, J2, OR J3).





VIEW A- A

MADE OBSOLETE BY 141210-552

TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 DECIMAL +/-.005 ANGULARITY+/-1° MACH.SURF. 125

NO.	DATE	E.C.A. NUMBER	NO.	DATE	E.C.A. NUMBER
2	04-24-89	890178	6	11-30-07	074187
1	03-22-88	880189	5	06-09-06	064181
1	03-22-88	RA#881	4	06-12-95	954136
0	02-23-88	PER#86	3	07-18-90	904185

REVISIONS

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DWN.	CKD.	ENG.	MFG.	C.D.
RAL	RAL	FJZ	SMS	
DATE 02-25-88	DATE 02-29-88	DATE 02-29-88	DATE 02-29-88	DATE

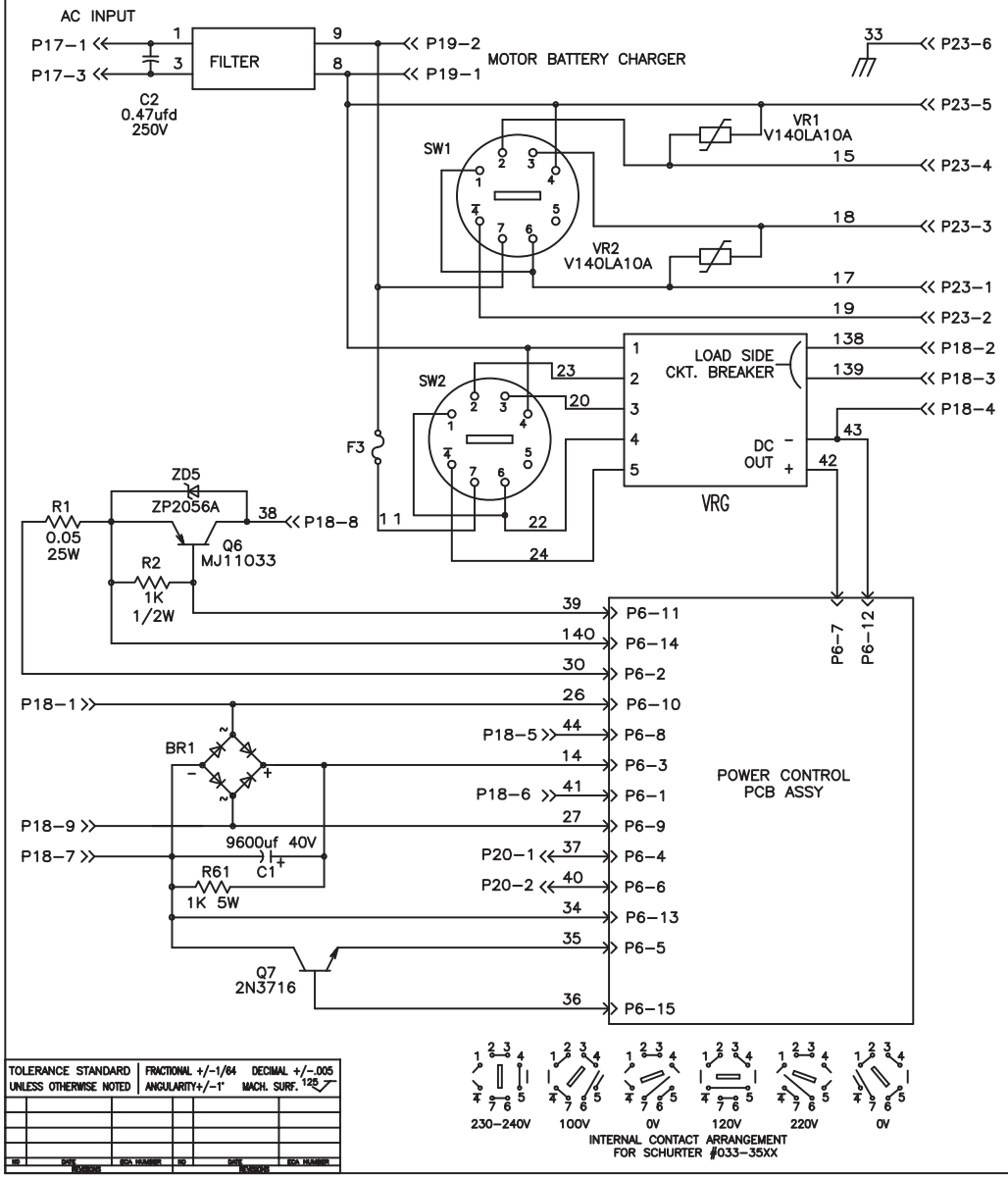
TITLE POWER SUPPLY ASS'Y BATTERY TABLE
FIRST MADE FOR: 146653-943

DWG. NO. 136807-103 | SHEET OF 1

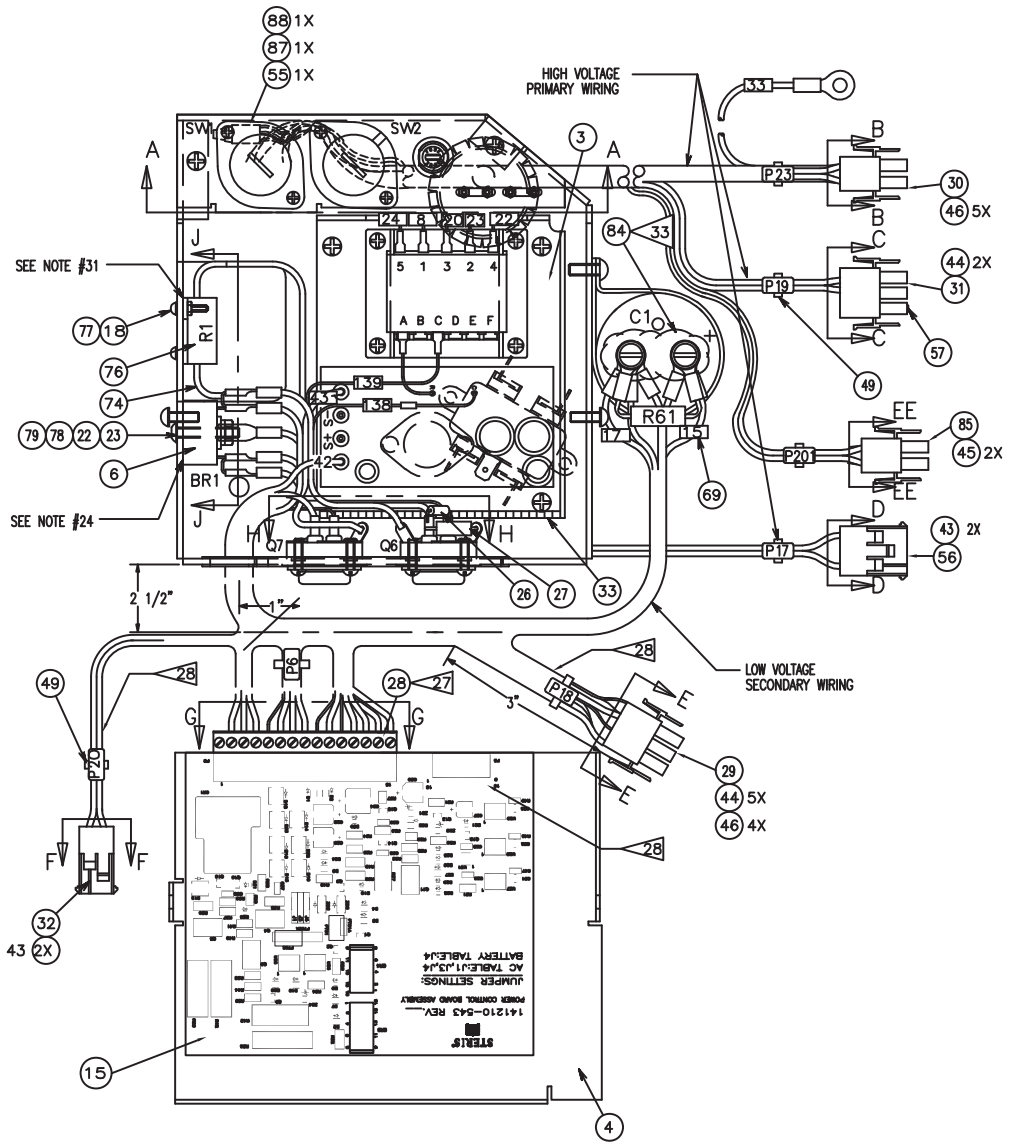
AUTOCAD DWG.

DWG NO	141210-552	SHEET 4 OF 5

QUANTITY	PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV	AUTOCAD DWG PROGRAM DATE
XXX	141210-552	1	PWR SUPPLY ASSY, 2SW	BATT TABLE, SMT	7	03-16-10



TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 ANGULARITY+/-1°	DECIMAL +/-.005 MACH. SURF. 125



STERIS	STERIS Corporation Mentor, OH	TITLE: POWER SUPPLY ASSY, 2 SWITCH, BATTERY TABLE, SMT
		FIRST MADE FOR:
		DWG NO 141210-552 SHEET 4 OF 5

AUTOCAD DWG

QUANTITY	PART NUMBER	ITEM NO	PART NAME	DESCRIPTION, MATERIAL	REV NO	REVISION DATE
X	141210-554	X	SCHEMATIC, P.S. ASSY,	SMT	2	04-20-10

NOTES:
1. ALL RESISTORS 1/4 WATT, 1% METAL FILM UNLESS OTHERWISE NOTED.
2. TO CONFIGURE AC ONLY TABLE INSTALL JUMPERS J1, J3 AND J4.
3. TO CONFIGURE AC/BATTERY TABLE INSTALL JUMPER J4.
4. ALL WIRE IS 18AWG UNLESS OTHERWISE NOTED.
5. THE MOTOR BATTERIES AND ASSOCIATED CHARGER ARE NOT PRESENT ON AC ONLY TABLES.
6. CR3 & CR4 RELAY CONTACTS SHOWN IN HAND CONTROL "ON" STATE.

LOOKING IN MATING END OF P5

LOOKING IN MATING END OF P6

POWER SUPPLY ASSY P/N 134469-515

POWER CONTROL P.C. BOARD P/N 141210-543

MAINS FUSES F1&F2
6A @ 100VAC, SLO-BLO
6A @ 120VAC, SLO-BLO
3A @ 220VAC, SLO-BLO
3A @ 230/240VAC, SLO-BLO

P202 VOLTAGE SELECTION CONNECTOR, (MALE)

100V 120V 220V 230/240V

TOLERANCE STANDARD UNLESS OTHERWISE NOTED	FRACTIONAL +/-1/64 ANGULARITY+/-1°	DECIMAL +/-.005 MACH. SURF. 125

NO	DATE	ECA NUMBER
2	04-20-10	104074
1	05-18-09	094165
0	8-17-07	074187

STERIS Corporation Mentor, OH

TITLE: SCHEMATIC, P.S. ASSY, SMT

FIRST MADE FOR: 3085

DWG NO 141210-554 | 1 SHEET OF 1