

SERVICE MANUAL

Hill-Rom® Transport, Procedural, and Specialty Stretchers



Product No. P8000, P8005, P8010, P8020, P8040, P8050

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To order additional copies of this manual (144386), refer to the back cover for contact information. For countries not listed on the back cover, contact your distributor.

NOTE:

The back cover is a comprehensive list of Technical Support contact information for Hill-Rom. The product discussed in this manual may not be available in all of the countries listed.

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Chapter 1

Introduction

Purpose

This manual contains instructions for the operation and maintenance of the Hill-Rom® Transport, Procedural, and Specialty Stretchers. It also includes parts lists (in chapter 5) for ordering replacement components.

Audience

This manual is intended for use by only facility-authorized persons. To ignore this restriction can cause severe injury to people and serious damage to equipment.

Reference Documents

For more information (such as operating instructions, features, and product symbols), refer to the *Hill-Rom® Transport Procedural, and Specialty Stretchers User Manual* (144385).

Document Symbols

This manual contains different typefaces and symbols to make the content easier to read and understand:

- Standard text—used for regular data.
- **Boldface text**—emphasizes a word or phrase.
- **NOTE:**—sets apart special data or important instruction clarification.
- WARNING or CAUTION



- A WARNING identifies situations or actions that may have an effect on patient or user safety. To ignore a warning could cause patient or user injury.
- A CAUTION identifies special procedures or precautions that persons must obey to help prevent equipment damage.

- CAUGHT HAZARD WARNING



- CHEMICAL HAZARD WARNING



- ELECTRICAL SHOCK HAZARD WARNING



Specifications

Physical Description

Feature	Dimension
Total Length	
P8000, P8020, and P8040	83" (2108 mm)
P8010	92" (2337 mm)
P8050	80.5" (2045 mm)
Maximum Width (siderails stored)	
P8000	29.25" (743 mm) or 33.25" (845 mm)
P8005	30.375" (771.53 mm) or 34.375" (873.13 mm)
P8010	29.25" (743 mm)
P8020 and P8050	33.25" (845 mm)
P8040	29.25" (743 mm)
Maximum Width (siderails up)	
P8000	32" (813 mm) or 36" (914 mm)
P8005	30.5" (775 mm) or 34.5" (876 mm)
P8010 and P8040	32" (813 mm)
P8020 and P8050	36" (914 mm)
Maximum Siderail Height above Sleep Deck	
P8000, P8010 and P8020	14.5" (368 mm)
P8005	14" (356 mm)
P8040	11" (279 mm)
P8050	13" (330 mm)
Siderail Length	
P8000, P8005, P8010, P8020, and P8040	47" (1194 mm)
P8050	37" (940 mm)
Minimum Under-Stretcher Clearance	3.5" (89 mm) nominal 1.125" (29 mm) under the hydraulic cylinders

Feature	Dimension
Wheel Base (foot print)	24" x 50.5" (610 mm x 1283 mm)
Mattress Dimensions	
P8000 and P8005	26" x 75" (660 mm x 1905 mm) or 29" x 73" (737 mm x 1854 mm)
P8010	26" x 78" (660 mm x 1981 mm)
P8020	30" x 75" (762 mm x 1905 mm)
P8040	26" x 75" (660 mm x 1905 mm)
P8050	30" x 72" (762 mm x 1829 mm)
Surface Thickness	3", 4", or 5" (76 mm, 102 mm, or 127 mm)
Mattress Weight	
3" (76 mm) mattress, standard	13.0 lb (5.9 kg)
3" (76 mm) mattress, wide	13.5 lb (6.1 kg)
4" (102 mm) mattress, standard	14.5 lb (6.6 kg)
4" (102 mm) mattress, wide	15.0 lb (6.8 kg)
5" (127 mm) Comfortline® Mattress, standard	12.0 lb (5.4 kg)
5" (127 mm) Comfortline® Mattress, wide	15.5 lb (7.0 kg)
OB/GYN mattress	14.0 lb (6.4 kg)
Caster Size	8" (203 mm) standard
Total Weight without Mattress, No Accessories	
P8000 and P8005	265.0 lb (120.2 kg)
P8010	285.0 lb (129.3 kg)
P8020	355.0 lb (161.0 kg)
P8040	290.0 lb (131.5 kg)
P8050	325.0 lb (147.4 kg)
Foot Section Inclination—P8020 (mini- mum)	90°
Foot Support Inclination—P8050	70°

Feature	Dimension
Head Section Inclination (maximum)	90° (65° for P8020 with patient controls; 80° for P8000 with Automatic Contour; 70° for P8010)
Knee Section Inclination (maximum)	
P8005 and some P8000	N/A
P8010, P8020, and some P8000	25°
Sleep Surface Height, Lowest Position	
P8000	20.5" (521 mm) with scale, without integrated oxygen tank storage system 22" (559 mm) with scale, with integrated oxygen tank storage system 20.7" (526 mm) without scale
P8005	23" (584 mm) (F and G models built before July 2008) 20.5" (521 mm) (F and G models built after June 2008)
P8010	21.5" (546 mm)
P8020	22.5" (572 mm)
P8040 and P8050	24.25" (616 mm)
Sleep Surface Height, Highest Position	
P8000, P8005, and P8020	34.25" (870 mm)
P8010	33.25" (845 mm)
P8040	37.5" (953 mm)
P8050	37" (940 mm)
Trendelenburg Position (maximum)	18°
Reverse Trendelenburg Position (maximum)	18°
Safe Working Load (includes patient weight, accessories, and mattress)	700 lb (317.5 kg)

Electrical Specification

Condition	Range
120 V (P8020) Stretchers	
Rated Voltage	120 V ~
Power/Input	7.0 A
Frequency	50/60 Hz
230 V Stretchers	
Rated Voltage	230 V ~
Power/Input	3.0 A
Frequency	50/60 Hz
Exam Light (P8050 Stretcher)	
Rated Voltage	120 V ~
Power/Input	400 mA
Frequency	50/60 Hz
Scale (P8000, P8020, and P8040 optional)	Three AA, 1.5 V, alkaline

Environmental Conditions

Classification	Standard
Transport and Storage—Stretchers	
Temperature	-40°F to 158°F (-40°C to 70°C)
Relative Humidity	20% to 95% non-condensing maximum
Atmospheric Pressure	500 hPa to 1060 hPa
Transport and Storage—Exam Light (P8050 Stretcher)	
Temperature	-4°F to 120°F (-20°C to 49°C)
Relative Humidity	95% non-condensing maximum
Atmospheric Pressure	500 hPa to 1060 hPa
Use—Stretchers	
Temperature	50°F to 95°F (10°C to 35°C) ambient temperature

Classification	Standard
Relative Humidity	30% to 70% non-condensing
Atmospheric Pressure	700 hPa to 1060 hPa
Use—Exam Light (P8050 Stretcher)	
Temperature	59°F to 104°F (15°C to 40°C) ambient temperature
Relative Humidity	75% non-condensing maximum
Atmospheric Pressure	500 hPa to 1060 hPa

Regulations, Standards, and Codes

The Stretchers and the Exam Light (for the P8050) are designed and manufactured in accordance with these equipment classifications and standards:

Classification	Standard
Stretchers	
Technical and Quality Assurance Standards	UL 60601-1 CSA® C22.2 No. 601.1 EN 60601-1 IEC 60601-1-2 (P8020) IEC 60601-2-38 IEC 60601-2-46 (P8010) ISO 13485 ISO 14971 ISO 10993-1 ISO 10993-5 ISO 10993-10
Equipment Classification per IEC 60601-1 (P8020)	Class I
Degree of Protection Against Electric Shock (P8020)	Type B
Classification according to EU Directive 93/42/EEC	Class I
Degree of Protection Against Ingress of Water (P8020 and the Scale enclosure)	IPX4 IEC 60529
Degree of Protection Against the Presence of Flammable Anaesthetic Mixtures	Not for use with flammable anaesthetics (P8020)
Mode of Operation (P8020)	Continuous operation with intermittent cooling 3 minutes On/15 minutes Off (120 V model) 3 minutes On/30 minutes Off (230 V model)
Sound Level (measured 1 meter from patient's ear)	< 52 dBA (P8020)
Exam Light (P8050 Stretcher)	
Technical and Quality Assurance Standards	IEC 60601-1 UL 60601-1 CAN/CSA® C22.2 No. 601.1 IEC 60601-1-2 (radiated and conducted emissions)
Equipment Classification per IEC 60601-1	Class I

Classification	Standard
Degree of Protection Against Electric Shock	Not applicable
Classification according to EU Directive 93/42/EEC	Not applicable
Degree of Protection Against Ingress of Water	IPX0, ordinary equipment not rated for fluid ingress
Degree of Protection Against the Presence of Flammable Anaesthetic Mixtures	Not for use with flammable anaesthetics
Mode of Operation	Continuous operation
Sound Level (measured 1 meter from patient's ear)	Not applicable

a. CSA® is a registered trademark of Canadian Standards Association, Inc.

Mattress Flammability Codes

Classification	Standard
United States	
P1430E, P1432E, P1433E, P1434E	<p>16 CFR 1632, <i>Standard for the Flammability of Mattresses and Mattress Pads</i> CAL TB-117, <i>Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Resilient Filling Materials Used in Upholstered Furniture (foam)</i> CAL TB-129, <i>Flammability Test Procedures for Mattresses for Use in Public Buildings</i> CAL TB-603, <i>Requirements and Test Procedure for Resistance of a Mattress/Box Spring Set to a Large Open Flame</i> BFD IX-II, <i>Boston Fire Department Mattress Fire Test</i></p>

Classification	Standard
Europe	
P1430I, P1432I, P1433I, P1434I	<p>BS EN 597-1: 1995, <i>Furniture - Assessment of the Ignitability of Mattresses and Upholstered Bed Bases; Part 1: Ignition Source: Smouldering Cigarette (Mattresses only)</i></p> <p>BS EN 597-2: 1995, <i>Furniture - Assessment of the Ignitability of Mattresses and Upholstered Bed Bases; Part 2: Ignition Source: Match Flame Equivalent (Mattresses only)</i></p> <p>BS 7177: 1996, <i>Specification for Resistance to Ignition of Mattresses, Divans and Bed Bases (Mattresses only)</i></p> <p>BS 6807: 1996, <i>Methods of Test for Assessment of the Ignitability of Mattresses, Upholstered Divans and Upholstered Bed Bases with Flaming Types of Primary and Secondary Sources of Ignition (Mattresses only)</i></p> <p>UNI 9175, <i>Reaction to fire of Upholstered Furniture Subjected to the Action of a Small Flame</i></p>

Electromagnetic Emissions and Immunity Guidance

The Hill-Rom® Transport, Procedural, and Specialty Stretchers are intended for use in the electromagnetic environment specified in the tables below. The customer or the user of the bed should make sure that it is used in such an environment.

Guidance and Manufacturer's Declaration—Electromagnetic Emissions		
The P8020 model is intended for use in the electromagnetic environment specified below. The customer or the user of the P8020 model should make sure it is used in such an environment.		
Emissions Test	Compliance	Electromagnetic Environment—Guidance
RF Emissions CISPR 11	Group 1	The model P8020 uses RF energy only for its internal functions. Therefore, its RF emissions are low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class A	The model P8020 is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic Emissions IEC 61000-3-2	Not applicable	
Voltage Fluctuations/ Flicker Emissions IEC 61000-3-3	Not applicable	

NOTE:

Immunity of light to EMC is not considered safety related.

NOTE:

The Exam Light (OB/GYN P8050 Stretcher) was not tested for EMC immunity.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity			
The P8020 model is intended for use in the electromagnetic environment specified below. The customer or the user of the P8020 model should make sure it is used in such an environment.			
Immunity Test	IEC60601 Test Level	Compliance Level	Electromagnetic Environment—Guidance
Electrostatic Discharge (ESD) IEC 61000-4-2	± 6 kV Contact ± 8 kV Air	± 6 kV Contact ± 8 kV Air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Radiated RF IEC 61000-4-3	3 Vrms 80 MHz to 2.5 GHz	3 Vrms 80 MHz to 2.5 GHz	Portable and mobile RF communications equipment should not be used at close distances to the P8020 stretcher. (See Note 2)
Electrical Fast Transient/Burst IEC 61000-4-4	± 2 kV on Power Supply Lines ± 1 kV on Input/Output Lines	± 2 kV on Power Supply Lines ± 1 kV on Input/Output Lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV Differential Mode (line-line) ± 2 kV Common Mode (Line-Ground)	± 1 kV Differential Mode (line-line) ± 2 kV Common Mode (Line-Ground)	Mains power quality should be that of a typical commercial or hospital environment.
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms 150 kHz to 80 MHz	Portable and mobile RF communications equipment (cell phones) should not be used at close distances to the P8020 stretcher. (See Note 2)
Power Frequency Magnetic Fields IEC 61000-4-8	3 A/m	3 A/m	The power frequency magnetic field should be measured in the intended installation location to assure it is sufficiently low.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity

The P8020 model is intended for use in the electromagnetic environment specified below. The customer or the user of the P8020 model should make sure it is used in such an environment.

Immunity Test	IEC60601 Test Level	Compliance Level	Electromagnetic Environment—Guidance
Voltage Dips, Short Interrupts, and Variations On Power Supply Lines IEC 61000-4-11	<p>< 5% U_T (95% dip in U_T for 0.5 cycles) < 40% U_T (60% dip in U_T for 5 cycles) < 70% U_T (30% dip in U_T for 25 cycles) < 5% U_T (95% dip in U_T for 5 seconds) (See Note 1)</p>	<p>< 5% U_T (95% dip in U_T for 0.5 cycles) < 40% U_T (60% dip in U_T for 5 cycles) < 70% U_T (30% dip in U_T for 25 cycles) < 5% U_T (95% dip in U_T for 5 seconds)</p>	Mains power quality should be that of a typical commercial or hospital environment. If operation is required during an extended power outage or interruption, the model P8020 should be switched to operate from the backup battery.

Note 1: U_T is the AC mains voltage prior to application of the test level.

Note 2: The compliance levels in the ISM frequency range 150 kHz to 2.5 GHz are intended to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into the patient area. However, emission limits, IEC 60601 test levels, and tests specified in IEC 60601-1-2:2001 do not address electromagnetic compatibility of electrical equipment at very close distances. Always use care when you use any electrical or RF equipment in the immediate patient area.

Recommended separation distances between portable and mobile RF communications equipment and the P8020 Model			
<p>The P8020 model is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the P8020 model can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the P8020 model as recommended below, according to the maximum output power of the communications equipment.</p>			
Immunity Test	IEC60601 Test Level	Compliance Level	Electromagnetic Environment—Guidance
Rated maximum output power of transmitter, W	Separation distance according to frequency of transmitter, m		
	80 MHz to 800 MHz	150 kHz to 80 MHz	800 MHz to 2.5 GHz
	$d = 1.2\sqrt{P}$	$d = 1.2\sqrt{P}$	$d = 2.33\sqrt{P}$
0.01	0.12	0.12	0.233
0.1	0.38	0.38	0.74
1	1.2	1.2	2.33
10	3.8	3.8	7.4
100	12	12	23.3
<p>For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.</p> <p>NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.</p> <p>NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p> <p>Calculations are based on $V_1=3V_{rms}$, $E_1=3V/m$.</p>			

Model Identification

Model Number^a	Description
P8000	Procedural Stretcher
P8005	Transport Stretcher
P8010	Surgical Stretcher
P8020	Electric Stretcher
P8040	Trauma Stretcher
P8050	OB/GYN Stretcher

- a. F and newer model stretchers have a 700 lb (318 kg) safe working load and offer an optional scale on the Procedural, Electric, and Trauma Stretchers.

Safety Tips

To help prevent the risk of hospital bed fires, make sure facility personnel follow the safety tips in the *FDA Public Health Notification: Safety Tips for Preventing Hospital Bed Fires*. (US only)



WARNING:

Evaluate patients for entrapment risk according to facility protocol, and monitor patients appropriately.



WARNING:

Evaluate patients for entrapment risk according to facility protocol, and monitor patients appropriately. Make sure that all siderails are fully latched when in the raised position. Failure to do either of these could cause serious injury or death.

NOTE:

Siderails are intended to be a reminder to the patient of the unit's edges, not a patient-restraining device. When appropriate, Hill-Rom recommends that medical persons determine the correct methods necessary to make sure a patient remains safely in bed.



WARNING:

Only facility-authorized persons should service Hill-Rom® Stretchers. Service done by unauthorized persons could cause personal injury or equipment damage.



WARNING:

Fuses F1 and F3 protect the stretcher's electrical system. For 120 V AC power, a 7 A UL 198G time-lag fuse should be used. For 230 V AC, a 3 A IEC 127.3 time-lag fuse should be used. Refer to the assembly drawing or schematic for the correct fuse. Failure to use the correct fuse could cause personal injury.



WARNING:

Make sure to use the hydraulic cylinder with the correct part number for the stretcher. The Surgical Stretcher uses a hydraulic cylinder that has a slower descent rate. Failure to do so could cause personal injury.

**WARNING:**

Failure to use correct lifting methods could cause personal injury and equipment damage.

**WARNING:**

With little or no weight on it, the back section could rise quickly. Make sure you fully control the lift of the back section. Failure to do so could cause personal injury.

**WARNING:**

Only facility-authorized persons should install a gas delivery system. Installation by unauthorized persons could cause personal injury or equipment damage.

**WARNING:**

Follow the product manufacturer's instructions when you use an approved hospital disinfectant. Failure to do so could cause personal injury or equipment damage.

**WARNING:**

Keep to applicable infection control policies and procedures. Failure to do so could cause the spread of infection.

**WARNING:**

Make sure the stretcher is in the low position when the patient is unattended. This may reduce the severity of any resultant injuries from patient falls.

**WARNING:**

Always set the brakes when the unit is occupied, except during transport. Reconfirm before any patient transfer. Failure to do so could cause personal injury or equipment damage.

**WARNING:**

Obey the product manufacturer's instructions. Failure to do so could cause personal injury or equipment damage.



WARNING:

Hydraulic fluid can be an irritant. Do not ingest, and keep away from eyes and mouth. Wear eye protection and gloves when pouring or handling. Failure to wash hands or clothing after contact could cause personal injury. For more information about this product, refer to its MSDS.



WARNING:

Do not work under an unsupported load. Install applicable temporary supports. Failure to do so could cause personal injury or equipment damage.



WARNING:

Before you disconnect hydraulic components, relieve hydraulic pressure. Failure to do so could cause personal injury.



WARNING:

Improper use or handling of the power cord may cause damage to the power cord. If damage has occurred to the power cord or any of its components, immediately remove the unit from service, and contact the appropriate maintenance persons. Failure to do so could cause electrical shock or other personal injury or equipment damage.



SHOCK HAZARD:

The potential for electrical shock exists with electrical equipment. Failure to follow facility protocols could cause death or serious personal injury.



SHOCK HAZARD:

Do not expose the unit to excessive moisture. Personal injury or equipment damage could occur.



CAUTION:

Be careful not to damage the base shroud when you remove or install the upper frame assembly.

**CAUTION:**

Do not attempt to switch the siderails on the Electric Stretcher. Equipment damage could occur.

**CAUTION:**

Do not spray wash the Electric (P8020) Stretcher or the OB/GYN (P8050) Stretcher with the optional exam light installed. Electronic components are not protected from fluid ingress. Equipment damage could occur.

**CAUTION:**

Do not exceed 1750 psi (12066 kPa) during the spray wash. Equipment damage could occur.

**CAUTION:**

Do not directly spray the hydraulic cylinders. Equipment damage could occur.

**CAUTION:**

Do not directly spray the scale components. Equipment damage could occur.

**CAUTION:**

Do not use harsh cleansers or detergents such as scouring pads and heavy-duty grease removers, or solvents such as toluene, xylene, and acetone. Equipment damage could occur.

**CAUTION:**

Do not use silicone-based lubricants. Equipment damage could occur.

**CAUTION:**

To help prevent component damage, make sure your hands are clean, and **only** handle the P.C. board by its edges.

**CAUTION:**

Failure to wear an antistatic strap when handling electronic components could cause component damage.



CAUTION:

For shipping and storage, put the removed P.C. board in an antistatic protective bag. Failure to do so could cause component damage.



CAUTION:

Before moving the unit, make sure the power cord, hoses, and other equipment are correctly stowed. Failure to do so could cause equipment damage.



CAUTION:

Do not push or pull the unit by IV poles, siderails, or other equipment. Use the transport handles, footboard, or other designated location. Failure to do so could cause equipment damage.



CAUTION:

Make sure the siderail is supported on both ends. Damage to the siderail bracket can occur if one end drops, and the other end is in position in the siderail bracket.



CAUTION:

The lower pivot bolt has self-tapping threads. Make sure you use a new lower pivot bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.



CAUTION:

The latch shoulder bolt has self-tapping threads. Make sure you use a new latch shoulder bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.



CAUTION:

Do not use a screwdriver to remove the top rail ratchet rivet. The upper pivot bracket is made of plastic. Damage to the bracket could occur.



CAUTION:

Use care when you remove the individual nurse control switch wires. Damage to the terminals could occur if care is not used.



CAUTION:

Do not turn the gas spring rod with a clamp device. Damage to the rod could occur.



CAUTION:

Use care when you remove the cable attachment screws. Keep the CPR release cable assembly together to aid in the installation. Equipment damage could occur.



CAUTION:

When you remove a load beam, make sure not to tap on the load beam cells or the cables that come from the load beams. Equipment damage could occur.

Warning and Caution Labels



**CAUTION: SECURE FOOT SECTION
WHEN RAISED**

CAUTION

ELECTRIC SHOCK HAZARD
DO NOT REMOVE COVER
REFER SERVICING TO
QUALIFIED SERVICE PERSONNEL



**CAUTION: USE OXYGEN ADMINISTERING EQUIPMENT OF THE
NASAL, MASK, OR VENTILATOR TYPE ONLY.**

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Chapter 2

Troubleshooting Procedures

2

Getting Started



WARNING:

Only facility-authorized persons should service Hill-Rom® Stretchers. Service by unauthorized persons could cause personal injury or equipment damage.

Begin each procedure in this chapter with step 1. Obey the sequence outlined (each step assumes the previous step has been completed). In each step, the normal operation of the product can be confirmed by a **Yes** or **No** answer to the statement. Your response will lead to another step in the procedure, a repair analysis procedure (RAP), or a component replacement. If more than one component is listed, replace them in the given order.

To collect data about the problem, start with **Initial Actions**.

To identify a problem and to make sure of the repair after you complete each corrective action (part replacement or adjustment, connector installation, etc.), do the **Function Checks**.

To make sure the repair corrected the problem, do the **Final Actions** after the Function Checks.

If troubleshooting procedures do not identify the problem, call Hill-Rom Technical Support. Refer to the back cover for contact information. For countries not listed on the back cover, contact your distributor.

Initial Actions

To gather data from operators about problems with the stretcher use Initial Actions. Make a note of symptoms or other data about the problem the operator describes. This data helps identify the probable cause.

1. Someone who can explain the problem is available.

Yes **No**



→ Go to “Function Checks” on page 2-3.

2. Ask that person to show or explain the problem. The problem can be duplicated.
Yes **No**
↓ → Go to “Function Checks” on page 2-3.
3. The problem is caused by incorrect operator action.
Yes **No**
↓ → Go to “Function Checks” on page 2-3.
4. Instruct the operator to refer to the procedures in the *Hill-Rom® Transport, Procedural, and Specialty Stretchers User Manual*. Do the “Function Checks” on page 2-3.

Scale—Problem and Solution Table

Table 1: Scale—Display Errors

Problem	Solution
The display does not come on	Go to RAP 2.12 on page 2-24.
The weight shown is not correct	Go to RAP 2.13 on page 2-25.
The weight shown is flashing	Go to RAP 2.14 on page 2-26.
The display flashes Hands Off, then CALC, and then ---- (four dashes)	Go to RAP 2.15 on page 2-27.
The display flickers or shows partial characters	Go to RAP 2.16 on page 2-28.
Err0	Go to RAP 2.28 on page 2-41.
Err1	Go to RAP 2.29 on page 2-42.
Err2	Go to RAP 2.30 on page 2-43.
Err3	Go to RAP 2.31 on page 2-44.
Err5	Go to RAP 2.32 on page 2-45.
Err6	Go to RAP 2.33 on page 2-46.

Function Checks

Brake/Steer

1. Initial Actions have been done.

Yes	No
↓	→ Go to “Initial Actions” on page 2-1.

2. Put the stretcher in the brake position. The brake pedal locks into position, and the four casters do not roll or turn.

Yes	No
↓	→ Go to page 2-12.

3. If the stretcher has the corner steer system, go to step 4. If the stretcher has the optional Steering Plus™ Steering System, go to step 6.

4. **Corner steer stretchers only.** Put the stretcher in the steer position. Only the patient left foot-end caster locks into a position parallel to the side of the bed, and all other casters spin freely.

Yes	No
↓	→ Go to page 2-13.

5. Go to step 7.

6. **Steering Plus™ Steering System only.** Put the stretcher in the steer position. The fifth wheel drops into position.

Yes	No
↓	→ Go to page 2-14.

7. Put the stretcher in the neutral position. The pedal locks into position, and all four casters turn and roll freely.

Yes	No
↓	→ Go to page 2-15.

Hilow and Trendelenburg/Reverse Trendelenburg

8. Lower the stretcher to the low position. Press the right-side **Hilow Up** pedal approximately 28 times to raise the stretcher to the high position. The stretcher rises evenly, and approximately 28 full pumps are necessary to reach the high position.

Yes	No
↓	→ Go to page 2-16.

9. Press the **Hilow Down** pedal, and lower the stretcher. The head and foot ends of the stretcher lower evenly.

Yes **No**
↓ → Go to page 2-16.

10. Raise the stretcher to the high position. Press the **Trendelenburg** pedal. The head end of the stretchers lowers smoothly.

Yes **No**
↓ → Go to page 2-17.

11. Raise the stretcher to the high position. Press the **Reverse Trendelenburg** pedal. The foot end of the stretchers lowers smoothly.

Yes **No**
↓ → Go to page 2-17.

12. Do step 8 through step 11 for the pedals on the left side of the stretcher and, if applicable, the optional foot-end pedals, and then go to step 13.

Siderail

13. Raise and lower the siderails. The latch locks into position.

Yes **No**
↓ → Go to page 2-19.

Back Section—Procedural (without the Auto Cotour™ Feature), Transport, Trauma, or OB/GYN Stretcher Only

NOTE:

The back section function for the Electric and Surgical stretchers is included in their specific sections.

14. Raise and lower the back section. The back section moves evenly without binding.

Yes **No**
↓ → Procedural, Transport, Trauma, and OB/GYN stretchers, go to page 2-20.

Push Handles (Optional)

15. Raise the push handles. The handles lock into position.

Yes **No**
↓ → Go to page 2-21.

16. Lift up on the push handle release latch. The push handles drop into the stored position.

Yes **No**
↓ → Go to page 2-21.

Active Brake System (Optional)

17. Make sure the brake/steer pedals are in either the neutral or steer position. As you push the stretcher, squeeze the Active Brake lever. The stretcher slows down or comes to a stop.

Yes **No**
 ↓ → Go to “Active Brake System—Reduced Braking Ability” on page 2-47.

Permanent IV Pole (Optional)

18. Raise and lower the IV pole. The IV pole locks into position at the different heights.

Yes **No**
 ↓ → Go to page 2-22.

Scale (Optional)

19. Put 250 lb (113 kg) of weight on the stretcher. and then press and hold the **Weigh** control for 1 second. The **Hands Off** indicator flashes and a weight shows.

Yes **No**
 ↓ → If the display does not come on, go to page 2-24. If the display shows Hands Off, then CALC, and then ----, go to page 2-27. If the display flickers or show partial characters, go to page 2-28.

20. The weight numbers are stable (not flashing).

Yes **No**
 ↓ → Go to page 2-26.

21. The weight is correct.

Yes **No**
 ↓ → Go to page 2-25.

22. Go to the applicable page for specific function checks for your stretcher:

- Procedural—page 2-6.
- Transport—go to “Final Actions” on page 2-11.
- Surgical—page 2-7.
- Electric—page 2-7.
- Trauma—page 2-11.
- OB/GYN—page 2-11.

Specific Function Checks—Procedural Stretcher

Knee Section (Optional)—Procedural Stretcher Only

1. Turn the knee crank handle. The knee section rises and lowers evenly without binding.

Yes **No**
↓ → Go to page 2-21.

Auto Contour™ Feature (Optional)—ON and Off (serial numbers (S/N) before those that start with K)

2. Lower the back section to the flat position, and make sure the lever for the Auto Contour™ feature lever is in the **On** position. Use the right-side handle to raise the back section. The back section moves evenly to the high position without binding, and the knee section rises.

Yes **No**
↓ → Go to page 2-29.

3. Do step 2 for the handle on the left side of the stretcher.
4. Lower the head section to the flat position, and make sure the lever for the Auto Contour™ feature lever is in the **Off** position. Use the left-side handle to raise the head section. As the head section rises, the seat section lowers slightly and the knee section rises slightly.

Yes **No**
↓ → Go to page 2-29.

5. Do step 2 for the handle on the right side of the stretcher.

Auto Contour™ (S/Ns that start with K and after) and BackSaver Fowler® Features (Optional)

6. Use the right-side handle to raise the head section. As the head section rises, the seat section lowers slightly and the knee section rises slightly.

Yes **No**
↓ → Go to page 2-30.

7. Do step 6 for the handle on the left side of the stretcher.
8. Go to “Final Actions” on page 2-11.

Specific Function Checks—Surgical Stretcher

Back Section

1. Lower the back section, and then use the left-side handle to raise the back section to the high position. As you raise the back section, engage and disengage the handle every 10° to 15°. The back section rises to the high position, the gas spring releases and locks throughout its full range of motion, and the handle engages and disengages completely. The handle returns to its original position without binding.

NOTE:

The PACU extenders can either be removed from the stretcher, in the armboard position, or in the extender position. If they are in the extender position (around the articulating head section), then the handle on the PACU extenders must be used to raise or lower the back section.

Yes	No
↓	→ Go to page 2-31.

2. Do step 1 for the handle on the right side of the stretcher.

Headrest

3. Use the thumb push handle to raise and lower the articulating headrest section, as well as turn in all directions (forward/backward, up/down). The articulating headrest moves freely with no evidence of binding along both axis. The gas spring releases and locks throughout its full range of motion, and the push handle engages and disengages completely. The handle returns to its original position without binding.

Yes	No
↓	→ Go to page 2-32.

4. Go to “Final Actions” on page 2-11.

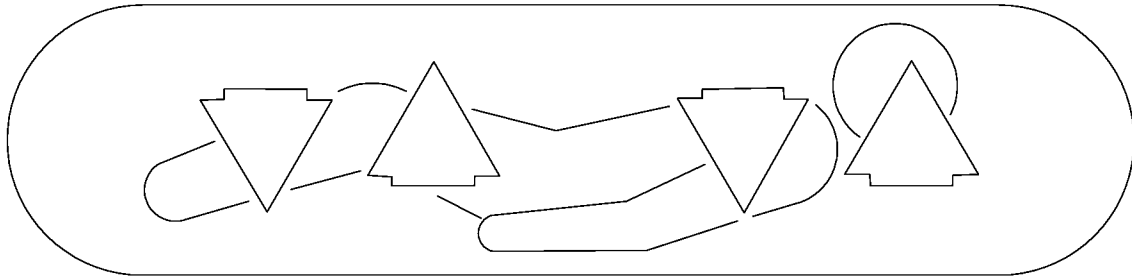
Specific Function Checks—Electric Stretcher

Patient Controls (located on the siderails)

1. Raise the siderails, and lock them into position. Press and hold the **Head Up** control (see figure 2-1 on page 2-8). The back section rises smoothly without binding.

Yes	No
↓	→ Go to page 2-33.

Figure 2-1. Patient Controls



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2. Release the **Head Up** control. The back section locks into position.
Yes **No**
↓ → Go to page 2-33.
3. Press and hold the **Head Down** control. The back section lowers smoothly without binding.
Yes **No**
↓ → Go to page 2-33.
4. Release the **Head Down** control. The back section locks into position.
Yes **No**
↓ → Go to page 2-33.
5. Press and hold the **Knee Up** control. The knee section rises smoothly without binding.
Yes **No**
↓ → Go to page 2-34.
6. Release the **Knee Up** control. The knee section locks into position.
Yes **No**
↓ → Go to page 2-34.
7. Press and hold the **Knee Down** control. The knee section lowers smoothly without binding.
Yes **No**
↓ → Go to page 2-34.
8. Release the **Knee Down** control. The knee section locks into position.
Yes **No**
↓ → Go to page 2-34.
9. Do step 1 through step 8 for the controls on the opposite siderail.

Nurse Controls (located at the foot end of the stretcher)

NOTE:

When the nurse control switches are in the **OFF** position, the patient controls located on the siderails are disabled for patient safety (see figure 2-2 on page 2-9).

10. Press the **Head On/Off** control to the **ON** position. Press and hold the **Head Up/Down** control in the **UP** position. The back section rises smoothly without binding.

Yes **No**
 ↓ → Go to page 2-33.

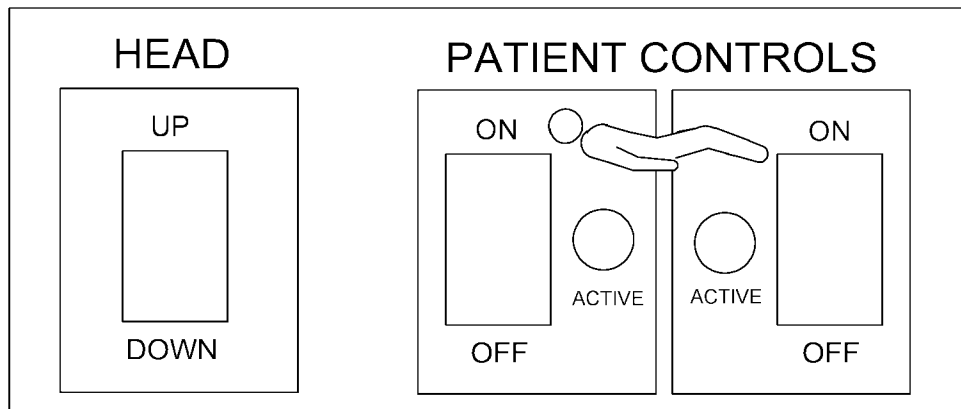
11. Release the head **Head Up/Down** control. The back section locks into position.

Yes **No**
 ↓ → Go to page 2-33.

12. Press the **Head On/Off** control to the **ON** position. Press and hold the **Head Up/Down** control in the **DOWN** position. The back section lowers smoothly without binding.

Yes **No**
 ↓ → Go to page 2-33.

Figure 2-2. Nurse Controls



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13. Release the head **Head Up/Down** control. The back section locks into position.

Yes **No**
 ↓ → Go to page 2-33.

Manual Back Section Articulation

14. Pull the crank handle out from the stretcher until it stops, and turn the handle clockwise. The back section rises smoothly without binding.

Yes **No**
↓ → Go to page 2-35.

15. As you hold the handle in the out position, turn the crank handle counterclockwise. The back section lowers smoothly without binding.

Yes **No**
↓ → Go to page 2-35.

16. Release the handle. The crank spins freely.

Yes **No**
↓ → Go to page 2-35.

Manual Knee Section Articulation

17. Pull the crank handle out from the stretcher until it stops, and turn the handle clockwise. The knee section rises smoothly without binding.

Yes **No**
↓ → Go to page 2-36.

18. As you hold the handle in the out position, turn the crank handle counterclockwise. The knee section lowers smoothly without binding.

Yes **No**
↓ → Go to page 2-36.

19. Release the handle. The handle locks into position.

Yes **No**
↓ → Go to page 2-36.

CPR Release

20. Raise the head section, and then pull and hold the CPR release handle. The back section goes into the full flat position. You may have to press down on an empty back section to move it to the full flat position.

Yes **No**
↓ → Go to page 2-33.

21. Go to “Final Actions” on page 2-11.

Trauma Stretcher Function Checks

Cassette Lift

1. At each side of the stretcher, pull the cassette lift handle, and turn it 180°. The cassette lift handles function correctly.

Yes **No**
↓ → Go to page 2-37.

2. Go to “Final Actions” on page 2-11.

OB/GYN Stretcher Function Checks

Foot Support

1. Press the release button underneath the foot supports to raise and lower the foot supports, and turn them in all directions (forward, backward, up, and down). The foot supports move freely with no evidence of binding along both axis. The gas spring for each support releases and locks throughout its full range of motion, and disengages completely. The gas spring returns to its original position with no evidence of binding.

Yes **No**
↓ → Go to page 2-33.

Foot Section

2. Squeeze the release handle underneath the foot section. The foot section releases and is easily stored under the sliding patient platform.

Yes **No**
↓ → Go to page 2-40.

3. Go to “Final Actions” on page 2-11.

Final Actions

1. Complete the preventive maintenance procedures. See “Preventive Maintenance” on page 6-5.
2. Make sure all wireforms and components are in position and correctly attached.
3. Complete all necessary administrative work.

2.1 Reduced Braking Ability

1. The brake/steer pedal locks into the brake position.

Yes **No**



→ Make sure the adjustment for the brake/steer link (A) at the head and foot ends of the stretcher is correct (see figure 2-3 on page 2-12). Adjust the brake/steer link (A) if necessary (refer to procedure 4.28). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 2.

2. All four casters lock in the brake position and do not turn or swivel.

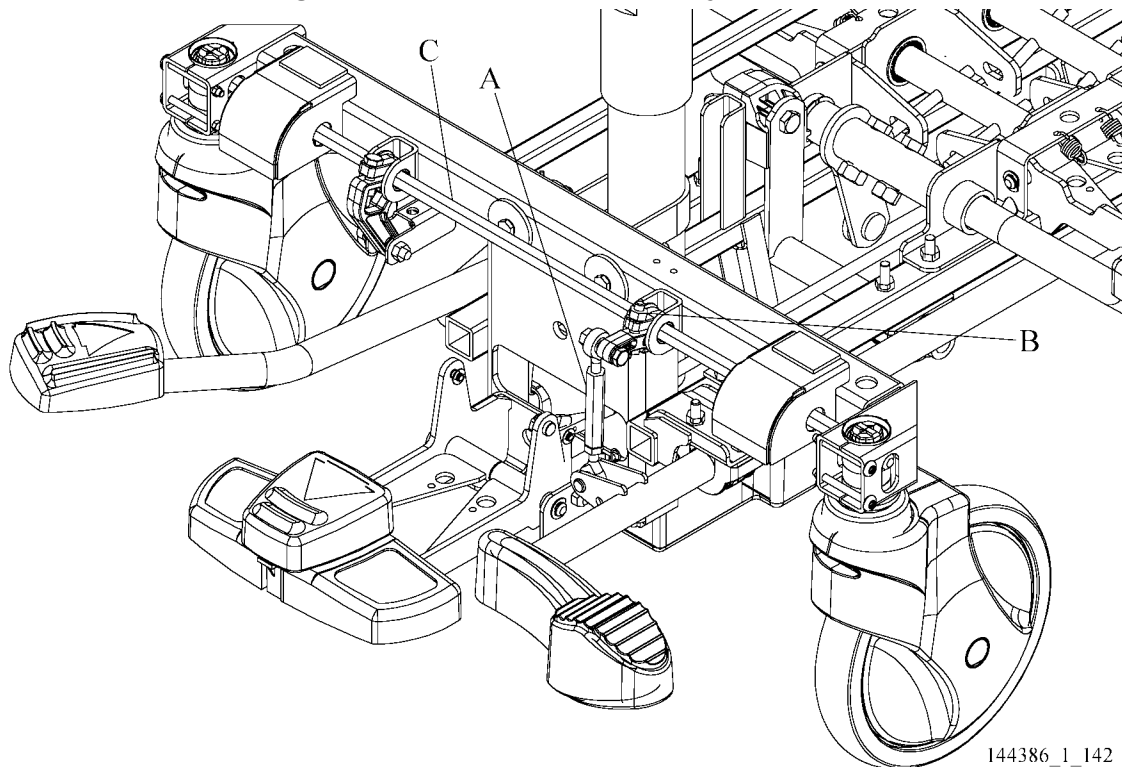
Yes **No**



→ Adjust the caster brake shoes (refer to procedure 4.27), or replace the defective caster(s) (refer to procedure 4.26). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. Go to “Final Actions” on page 2-11.

Figure 2-3. Brake/Steer Link Adjustment



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2.2 Loss of Corner Steer

1. The brake/steer pedal locks into the steer position.

Yes **No**

↓ → Tighten the brake/steer link screw (B) (see figure 2-3 on page 2-12). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

2. The corner steer caster locks into position.

Yes **No**

↓ → Replace the caster (refer to procedure 4.26). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. Go to “Final Actions” on page 2-11.

2.3 Steering Plus™ Steering System Does Not Operate Correctly

1. The brake/steer pedal locks into the steer position.
Yes **No**
↓ → Go to step 3.
2. The fifth wheel drops into position.
Yes **No**
↓ → Examine the fifth wheel pivot arms and pivot bracket for correct assembly (refer to procedure 4.30). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 3.
3. The pivot arms or pivot brackets are bent.
Yes **No**
↓ → Go to step 6.
4. Remove the Steering Plus™ Steering System assembly, and replace any damaged or inoperative parts (refer to procedure 4.30). This solves the problem.
Yes **No**
↓ → Go to step 6.
5. Go to “Final Actions” on page 2-11.
6. Replace the fifth wheel (refer to procedure 4.30). This solves the problem.
Yes **No**
↓ → Call Technical Support.
7. Go to “Final Actions” on page 2-11.

2.4 Stretcher Will Not Go into Neutral Position

1. The brake/steer pedal goes into the neutral position.

Yes **No**

↓

→ Look at the brake/steer link (A) at the head and foot ends of the stretcher for correct orientation (see figure 2-3 on page 2-12). Adjust the brake/steer link (A) orientation if necessary, and tighten the brake/steer link screw (A). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

2. The stretcher rolls freely in all directions.

Yes **No**

↓

→ Look at the each caster. Replace any defective casters (refer to procedure 4.26). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. When each brake/steer pedal is engaged, each hex rod (C) turns in either direction from neutral.

Yes **No**

↓

→ Look at the brake/steer link (A) at the head and foot ends of the stretcher for correct orientation. Adjust the brake/steer link (A) orientation if necessary, and tighten the brake/steer link screw (B). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

4. Go to “Final Actions” on page 2-11.

2.5 Reduced Pedal Pumps

1. The stretcher rises to the high position after approximately 28 presses of the Hilow Up pedal.

Yes	No
↓	→ Remove air from the hydraulic system (refer to procedure 4.29). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 2.

2. Lower the stretcher, and press the Hilow Up pedal approximately 28 times to raise the stretcher to the high position. Both the head and foot ends of the stretcher raise evenly.

Yes	No
↓	→ If the head end does not rise, replace the hydraulic cylinder at the head end of the stretcher. If the foot end does not rise, replace the hydraulic cylinder at the foot end of the stretcher (refer to procedure 4.29). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

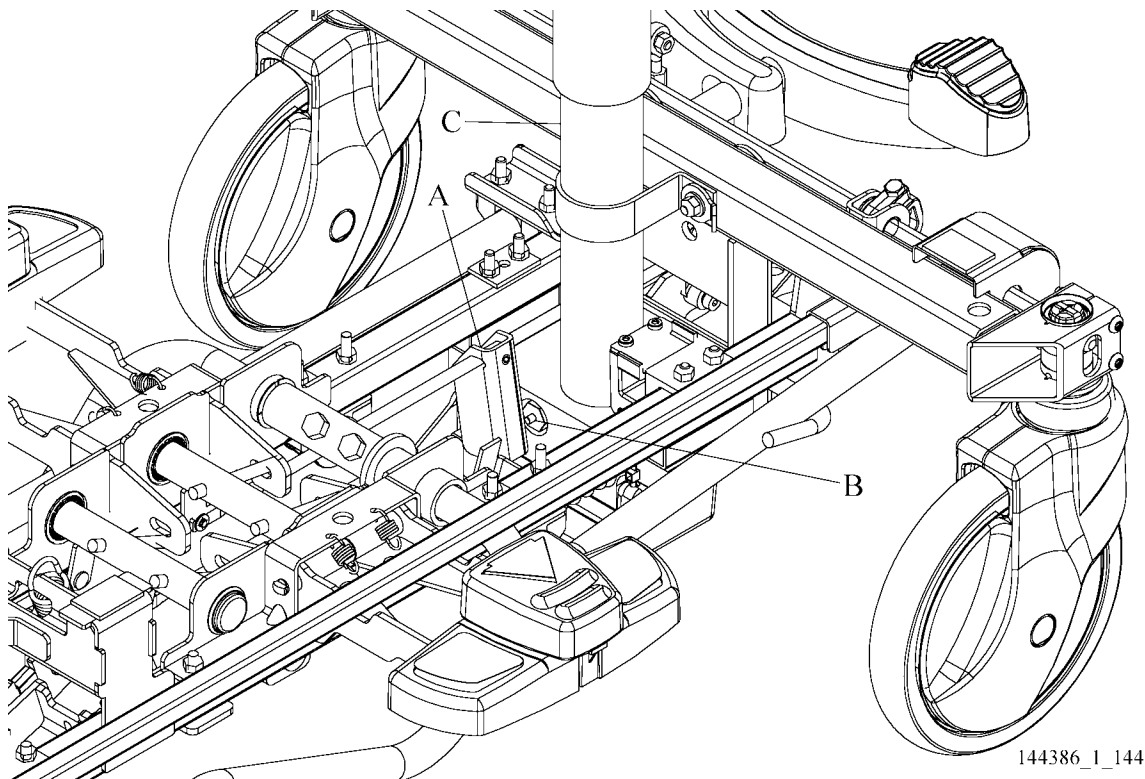
3. Go to “Final Actions” on page 2-11.

2.6 Stretcher Will Not Lower

- When you press the **Hilow** pedal, the hydraulic release plate (A) fully lowers the release pin (B) on the hydraulic cylinder (C) (see figure 2-4 on page 2-17).

Yes	No	
↓	→	Adjust the release mechanism (refer to procedure 4.29). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

Figure 2-4. Release Mechanism Location



144386_1_144

- Press the pump pedal approximately 28 times to raise the stretcher to the high position. Press the **Trendelenburg** pedal. The head end of the stretcher lowers.

Yes	No	
↓	→	Replace the hydraulic cylinder at the head end of the stretcher (refer to procedure 4.29). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 3.
- Press the pump pedal approximately 28 times to raise the stretcher to the high position. Press the **Reverse Trendelenburg** pedal. The foot end of the stretcher lowers.

Yes	No
↓	→ Replace the hydraulic cylinder at the foot end of the stretcher (refer to procedure 4.29). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

4. Go to “Final Actions” on page 2-11.

2.7 Siderail Does Not Operate Correctly

1. Raise the siderail. The siderail latch goes into the locked position.

Yes	No
↓	→

 Look for an obstruction. If there is an obstruction, remove it. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, go to step 3.
2. Go to “Final Actions” on page 2-11.
3. Replace the latch (refer to procedure 4.1) or (refer to procedure 4.3). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

2.8 Procedural (without the Auto Contour™ Feature), Transport, Trauma, or OB/GYN Stretcher—Back Section Does Not Raise or Lower Correctly

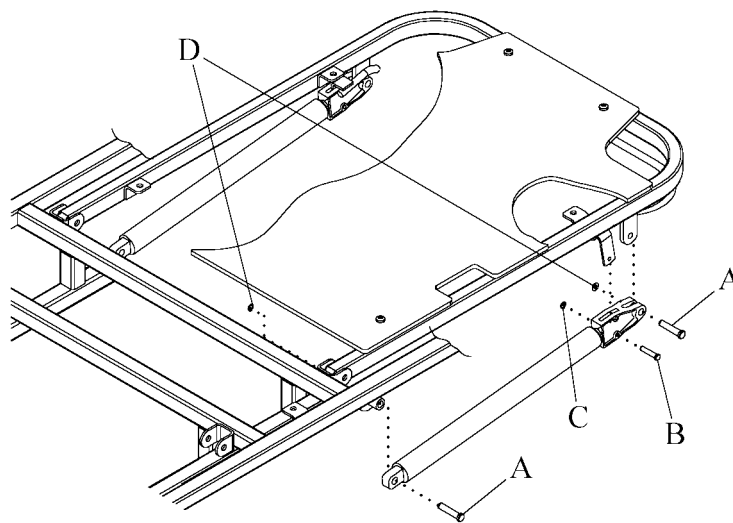
1. The headed pins (A), solid rivets (B), push nuts (C), and retaining rings (D) are installed (see figure 2-5 on page 2-20).

Yes **No**



→ Replace any missing hardware. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 2.

Figure 2-5. Back Section



144386_1_132

2. When the release handle is engaged, the back section rises without assistance.

Yes **No**



→ Replace the defective back section gas spring (refer to procedure 4.15). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. Go to “Final Actions” on page 2-11.

2.9 Push Handle Malfunction

1. Another part of the stretcher interferes with the push handle assembly.
Yes **No**
↓ → Go to step 4.
2. Remove the interference.
This solves the problem.
Yes **No**
↓ → Go to step 4.
3. Go to “Final Actions” on page 2-11.
4. The push handle falls into position when the release handle is engaged.
Yes **No**
↓ → Replace the push handle latch (refer to procedure 7.10). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 5.
5. The push handle locks into position.
Yes **No**
↓ → Replace the push handles (refer to procedure 7.10). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.
6. Go to “Final Actions” on page 2-11.

2.10 Permanent IV Pole Does Not Raise or Lower Correctly

1. Raise and lower the IV pole. The IV pole locks into position at the different heights.

Yes **No**

↓

→ Replace the IV pole (refer to procedure 7.2). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

2. Go to “Final Actions” on page 2-11.

2.11 Procedural or Surgical Stretcher—Knee Section Will Not Raise or Lower

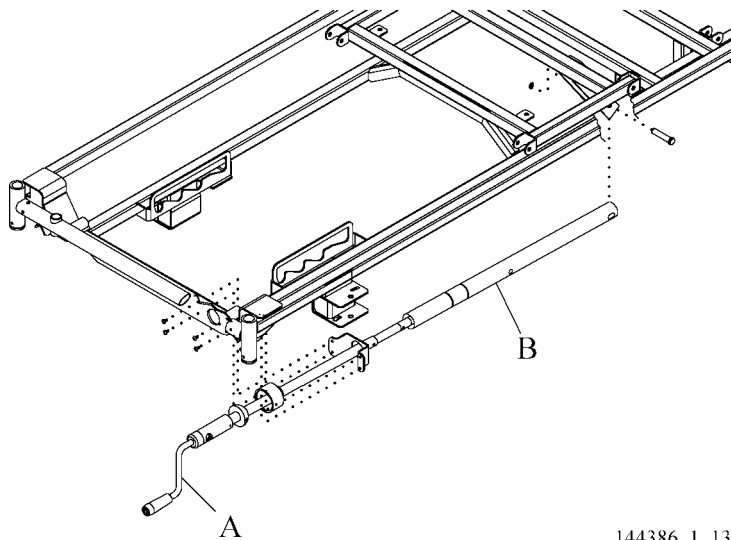
1. The crank handle (A) is attached to the knee screw assembly (B) (see figure 2-6 on page 2-23).

Yes **No**



→ Attach the crank handle (refer to procedure 4.18). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 2.

Figure 2-6. Knee Screw Assembly



144386_1_133

2. Another part of the stretcher interferes with the knee screw assembly.

Yes **No**



→ Go to step 5.

3. Remove the interference.

This solves the problem.

Yes **No**



→ Go to step 5.

4. Go to “Final Actions” on page 2-11.

5. Replace the knee screw assembly (refer to procedure 4.18).

This solves the problem.

Yes **No**



→ Call Technical Support.

6. Go to “Final Actions” on page 2-11.

2.12 Scale Display Does Not Come On

1. A check of the battery voltage at connector P4 shows the voltage is greater than 3.0 VDC.

Yes **No**

↓

→ Replace the batteries (refer to procedure 4.32). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, go to step 2.

2. Make a note of the connections for the load beam cables, and then disconnect the cables from the scale P.C. board. Press and hold the **Weigh** control for 1 second. The **Hands Off** indicator flashes and the display shows **Err3**.

Yes **No**

↓

→ Replace the display P.C. board (refer to procedure 4.34). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, go to step 3.

3. Connect one load beam cable to its correct connection on the scale P.C. board. Press and hold the **Weigh** control for 1 second. The **Hands Off** indicator flashes and the display shows a weight or **Err3**. Repeat this step for each load beam cable.

Yes **No**

↓

→ The load beam or one of its cables is damaged. Repair or replace as necessary (refer to procedure 4.33). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

4. Go to “Final Actions” on page 2-11.

2.13 The Weight Shown on the Scale Display Is Not Correct

1. Put 250 lb (113 kg) of calibration weight on the stretcher. Take a weight reading. The weight shown is correct.
Yes **No**
↓ → Go to step 3.
2. Instruct the operator to refer to the “Scale” procedures in the *Hill-Rom® Transport, Procedural, and Specialty Stretchers User Manual*, and then go to step 10.
3. Remove the weight and adjust the scale to zero. Put the weight on the stretcher. Take a weight reading. The weight shown is correct.
Yes **No**
↓ → Make sure you have removed all packing materials and shims, and then take a weight reading. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, go to step 5.
4. Go to step 10.
5. Look for interferences between the upper and lower frames. There is an interference.
Yes **No**
↓ → Go to step 8.
6. Remove the interference(s), and then take a weight reading. The weight shown is correct.
Yes **No**
↓ → Go to step 8.
7. Go to step 10.
8. Make sure the load beams cables are connected in the correct order (1, 2, 3, and 4) to the scale P.C. board. The load beams cables are connected correctly.
Yes **No**
↓ → Connect the load beam cables in the correct order, and then take a weight reading. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, go to step 9.
9. Calibrate the scale (see “Calibration” on page 4-107). Take a weight reading. The weight shown is correct.
Yes **No**
↓ → Call Technical Support.
10. Go to “Final Actions” on page 2-11.

2.14 The Weight Shown on the Scale Display Is Flashing

1. The weight on the stretcher is more than 699.9 lb (317.5 kg).

Yes	No
↓	→

Remove the excess weight, and take a weight reading. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, go to step 2.
2. Look for an interference between the upper and lower frames. There is an interference.

Yes	No
↓	→

Calibrate the scale (see “Calibration” on page 4-107). If this does not solve the problem, replace the scale P.C. board (refer to procedure 4.34). If either of these solve the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.
3. Remove the interference, and then take a weight reading. The weight shows correctly.

Yes	No
↓	→

Call Technical Support.
4. Go to “Final Actions” on page 2-11.

2.15 The Scale Display Flashes Hands Off, then CALC, and then ----

1. The frame is stable.

Yes **No**

↓

→ Make the frame stable, and take a weight reading. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

2. Replace the scale P.C. board (refer to procedure 4.34). The display operates correctly.

Yes **No**

↓

→ Call Technical Support.

3. Go to “Final Actions” on page 2-11.

2

2.16 The Scale Display Flickers or Shows Partial Characters

1. Look at both ribbon cables, and make sure they are connected correctly.
Both cables are connected correctly.

Yes **No**

↓

→ Connect the cables correctly. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, go to step 2.

2. Replace the display switch panel. The display operates correctly.

Yes **No**

↓

→ Call Technical Support.

3. Go to “Final Actions” on page 2-11.

2.17 Procedural Stretcher—Auto Contour™ Feature with On/Off Controls Does Not Raise or Lower Correctly

1. Lower the head section to the flat position. The head section lowers.

Yes	No
↓	→ Push and hold the button that is on the back, left side of the head section, and turn the Auto Contour™ feature Off . If this solves the problem, go to step 2. Otherwise, go to RAP 2.18.
2. Make sure the Auto Contour™ feature is **On**, and raise the head section. The knee section rises.

Yes	No
↓	→ Go to step 4.
3. Go to “Final Actions” on page 2-11.
4. Make sure the Mechlok®¹ device is operated by the cable. The cable does operate the device.

Yes	No
↓	→ Adjust or replace the cable. Or, if necessary, replace the Mechlok® device as necessary. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.
5. Go to “Final Actions” on page 2-11.

1. Mechlok® is a registered trademark of P. L. Porter Company.

2.18 Procedural Stretcher—Auto Contour™ Feature or BackSaver Fowler® Feature Does Not Raise or Lower Correctly

1. Make sure the cables are not bent or damaged. Both cables are in good condition.

Yes **No**

↓ → Replace the cables as necessary.

2. Make sure the head-end gas cylinder operates correctly. The gas cylinder operation is correct.

Yes **No**

↓ → Adjust the cables or replace the head-end gas cylinder as necessary. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. Go to “Final Actions” on page 2-11.

2.19 Surgical Stretcher Back Section—Release Handle/Gas Spring Malfunction

NOTE:

The PACU extenders can either be removed from the stretcher, in the armboard position, or in the extender position. If they are in the extender position (around the articulating head section), then the release handle on the PACU extenders must be used to raise or lower the back section.

1. The gas spring releases and locks (every 10° to 15°) throughout its full range of motion, and the handle engages and disengages approximately half-way through its full travel. The handle returns to its original position without binding.

Yes **No**

↓ → Adjust the surgical back section gas spring (refer to procedure 4.16). If this solves the problem, go to “Final Actions” on page 2-11.

2. When the handle is engaged approximately half-way through its full travel, the back section rises without assistance.

Yes **No**

↓ → Replace the surgical back section gas spring (refer to procedure 4.16). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. Go to “Final Actions” on page 2-11.

2.20 Surgical Stretcher Articulating Headrest—Push Handle Release/Gas Spring Malfunction

1. The gas spring releases and locks throughout its full range of motion, and the push handle engages and disengages completely. The handle returns to its original position without binding.

Yes **No**

↓

→ Adjust the articulating headrest gas spring (refer to procedure 4.17). If this solves the problem, go to “Final Actions” on page 2-11.

2. When the push handle is engaged, the articulating headrest is able to be moved without binding.

Yes **No**

↓

→ Replace the articulating headrest gas spring (refer to procedure 4.17). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

NOTE:

The cable for the Mechlok®¹ device and the gas spring cable are fixed length cables that actuate the gas spring and Mechlok® device. If maintenance was done internally to the headrest shroud, the cable routing may have been done incorrectly, which also could cause binding of the articulating headrest.

3. Go to “Final Actions” on page 2-11.

1. Mechlok® is a registered trademark of P. L. Porter Company.

2.21 Electric Stretcher—Back Section Does Not Raise or Lower Electrically

1. Turn the crank handle to put the back section in a low to mid-height position. This moves the unit off the limits of the potentiometer and will make sure the up or down electrical operations work correctly.
2. The stretcher has been connected to an external power supply and the power cord is not damaged.

Yes	No
↓	→ Go to “Initial Actions” on page 2-1.
3. On the nurse control, the **Head ON/OFF** control is in the **ON** position, and the indicators are on (see figure 2-2 on page 2-9).

Yes	No
↓	→ Go to step 6.
4. Push the **Head Up** or **Head Down** control on both siderails (see figure 2-1 on page 2-8). The head drive operates in both directions for both sides.

Yes	No
↓	→ Go to step 6.
5. Go to “Final Actions” on page 2-11
6. The plugs in the control board are all connected correctly.



SHOCK HAZARD:

Failure to unplug the stretcher from its power source could cause personal injury or equipment damage.



CAUTION:

Failure to wear an antistatic strap when handling electronic components could cause component damage.

- | | |
|------------|---|
| Yes | No |
| ↓ | → Unplug the stretcher from its power source. Put on an antistatic strap, and then connect the plugs firmly into position. Go to step 2. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support. |

7. Go to “Final Actions” on page 2-11.

2.22 Electric Stretcher—Knee Section Does Not Raise or Lower Electrically

1. The stretcher has been connected to an external power supply, and the power cord is not damaged.

Yes **No**

↓ → Go to “Initial Actions” on page 2-1.

2. On the nurse control, the **Head ON/OFF** control is in the **ON** position, and the indicators are on (see figure 2-2 on page 2-9).

Yes **No**

↓ → Go to step 5.

3. Push the **Head Up** or **Head Down** control on both siderails (see figure 2-1 on page 2-8). The knee drive operates in both directions for both sides.

Yes **No**

↓ → Go to step 5.

4. Go to “Final Actions” on page 2-11.

5. The plugs in the control board are all connected correctly.



SHOCK HAZARD:

Failure to unplug the stretcher from its power source could cause personal injury or equipment damage.



CAUTION:

Failure to wear an antistatic strap when handling electronic components could cause component damage.

Yes **No**

↓ → Unplug the stretcher from its power source. Put on an antistatic strap, and then connect the plugs firmly into position. Go to step 1. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

6. Go to “Final Actions” on page 2-11.

2.23 Electric Stretcher Back Section—Manual Articulation

1. The crank handle is attached to the back screw assembly and engages the shaft mechanism.

Yes **No**

↓ → Attach the crank handle, and go to “Final Actions” on page 2-11.

2. When you turn the crank handle, the back section rises or lowers as applicable.

Yes **No**

↓ → Another part of the stretcher interferes with the back screw assembly. Eliminate the interference, and go to “Final Actions” on page 2-11.

3. When you release the crank handle, the back section remains firmly in position.

Yes **No**

↓ → Replace the back screw assembly. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

4. Go to “Final Actions” on page 2-11.

2.24 Electric Stretcher Knee Section—Manual Articulation

1. The crank handle is attached to the knee screw assembly and engages the shaft mechanism.

Yes **No**

↓

→ Attach the crank handle, and go to “Final Actions” on page 2-11.

2. When you turn the crank handle, the knee section rises or lowers as applicable.

Yes **No**

↓

→ Another part of the stretcher interferes with the knee screw assembly. Eliminate the interference, and go to “Final Actions” on page 2-11.

3. When you release the crank handle, the knee section remains firmly in position.

Yes **No**

↓

→ Replace the knee screw assembly (refer to procedure 4.19). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

4. Go to “Final Actions” on page 2-11.

2.25 Trauma Stretcher Cassette Lift Handle Malfunction

1. The cassette lift cable and spring are attached correctly.

Yes	No
↓	→

 Make sure the round vinyl cap is attached to the open end of the spring. Move the spring so the open end that attaches to the cable link is towards the base of the stretcher.
2. The cassette lift mechanism is obstructed.

Yes	No
↓	→

 Go to step 4.
3. Remove the obstruction from the cassette lift mechanism or the upper frame cassette support surface. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.
4. Go to “Final Actions” on page 2-11.

2.26 OB/GYN Stretcher—Foot Supports Malfunction

The OB/GYN stretcher foot supports will not raise, lower or turn inward or outward correctly.

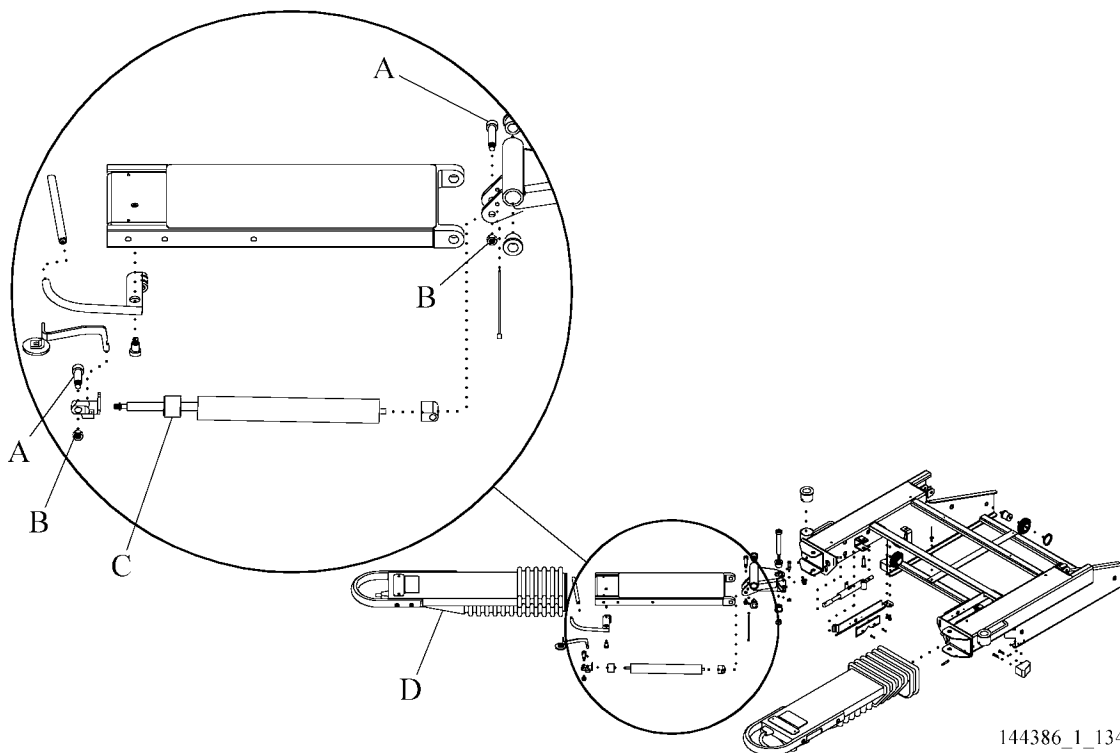
1. Shoulder bolts (A), locknuts (B), and gas spring spacer (C) are installed (see figure 2-7 on page 2-38).

Yes **No**



→ Replace any missing hardware. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 2.

Figure 2-7. Foot Supports



2. When you engage the release button, the foot support (D) rises without assistance.

Yes **No**



→ Replace the defective foot support gas spring (refer to procedure 4.25). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. The foot support (D) rises without the release button engaged and does not lock into position along its travel.

Yes **No**



→ Go to step 5.

4. Replace the defective foot support gas spring (refer to procedure 4.25). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.
5. The foot support (D) turns outward and inward when the release button is engaged.

Yes	No
↓	→

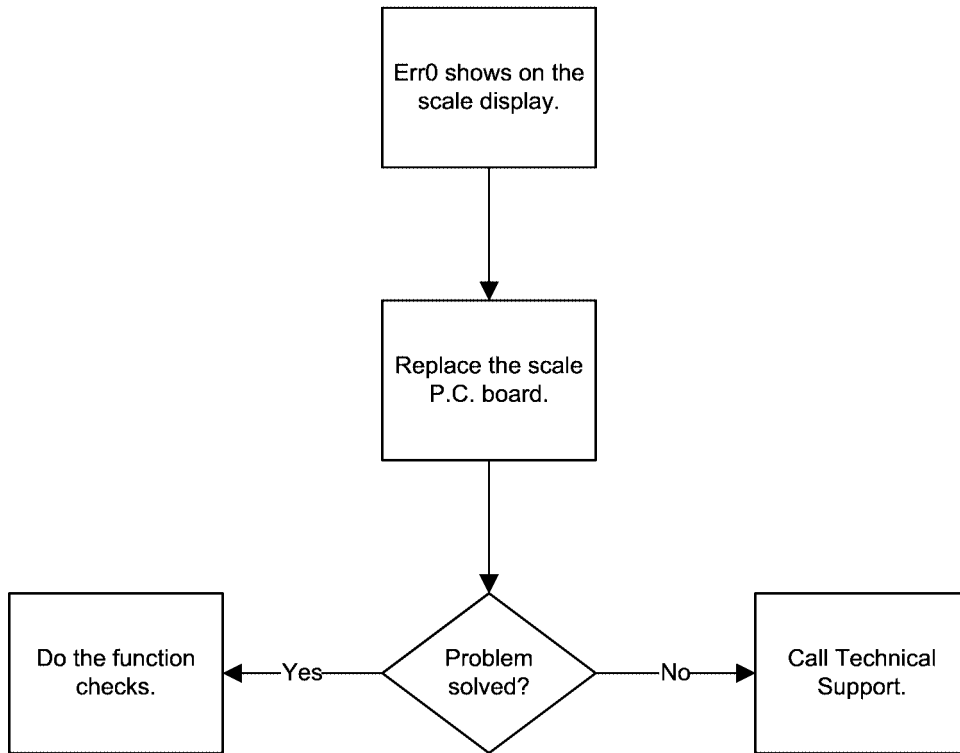
Replace the defective foot support Mechlok®¹ device. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.
6. Go to “Final Actions” on page 2-11.

1. Mechlok® is a registered trademark of P. L. Porter Company.

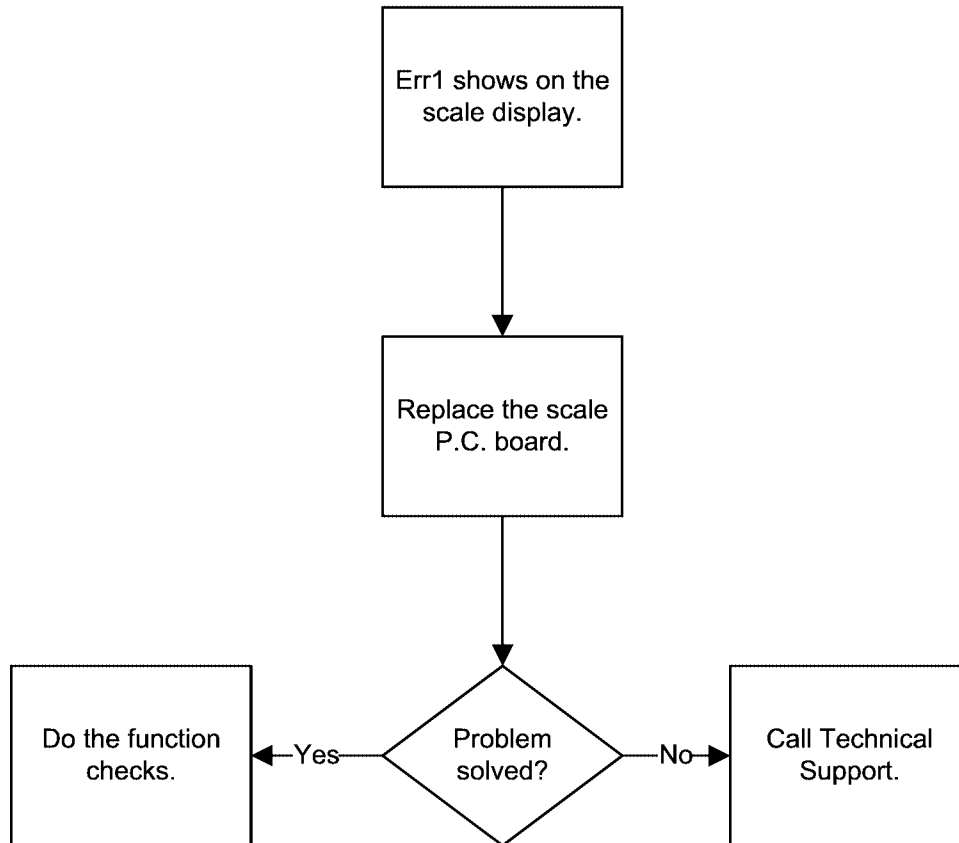
2.27 OB/GYN Stretcher—Foot Section Does Not Release Correctly

1. Another part of the stretcher interferes with the foot section assembly.
Yes **No**
↓ → Go to step 4.
2. Remove the interference.
This solves the problem.
Yes **No**
↓ → Go to step 4.
3. Go to “Final Actions” on page 2-11.
4. The stretcher is in the standard position (non-examination).
Yes **No**
↓ → Move the patient platform into the standard position. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 5.
5. Make sure the release handle and cable function operate correctly. All mechanisms work correctly.
Yes **No**
↓ → Adjust the cable assembly for the release handle. If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 6.
6. Replace the foot section assembly. The foot section operates correctly.
Yes **No**
↓ → Call Technical Support.
7. Go to “Final Actions” on page 2-11.

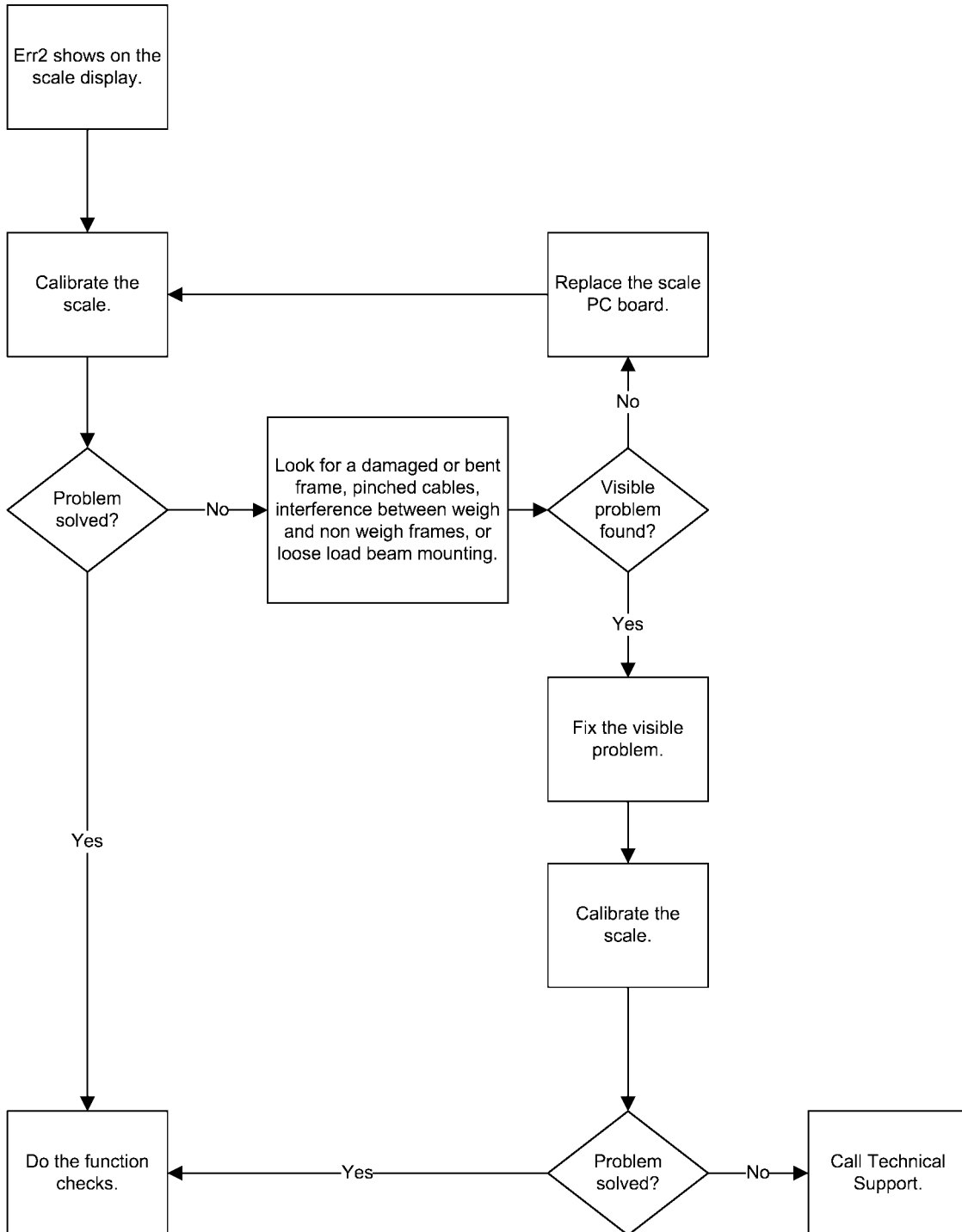
2.28 Error 0 Shows on the Scale Display



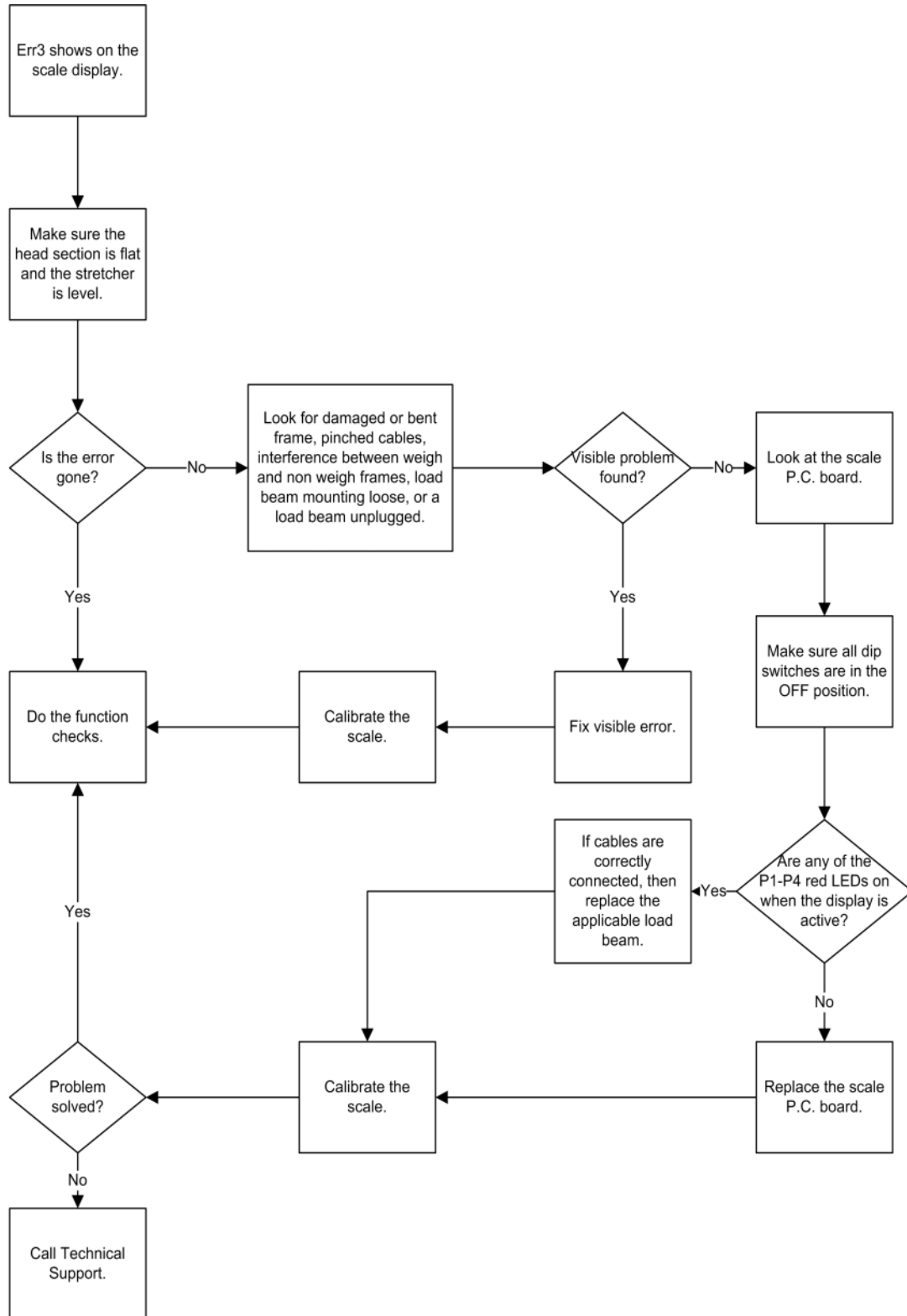
2.29 Error 1 Shows on the Scale Display



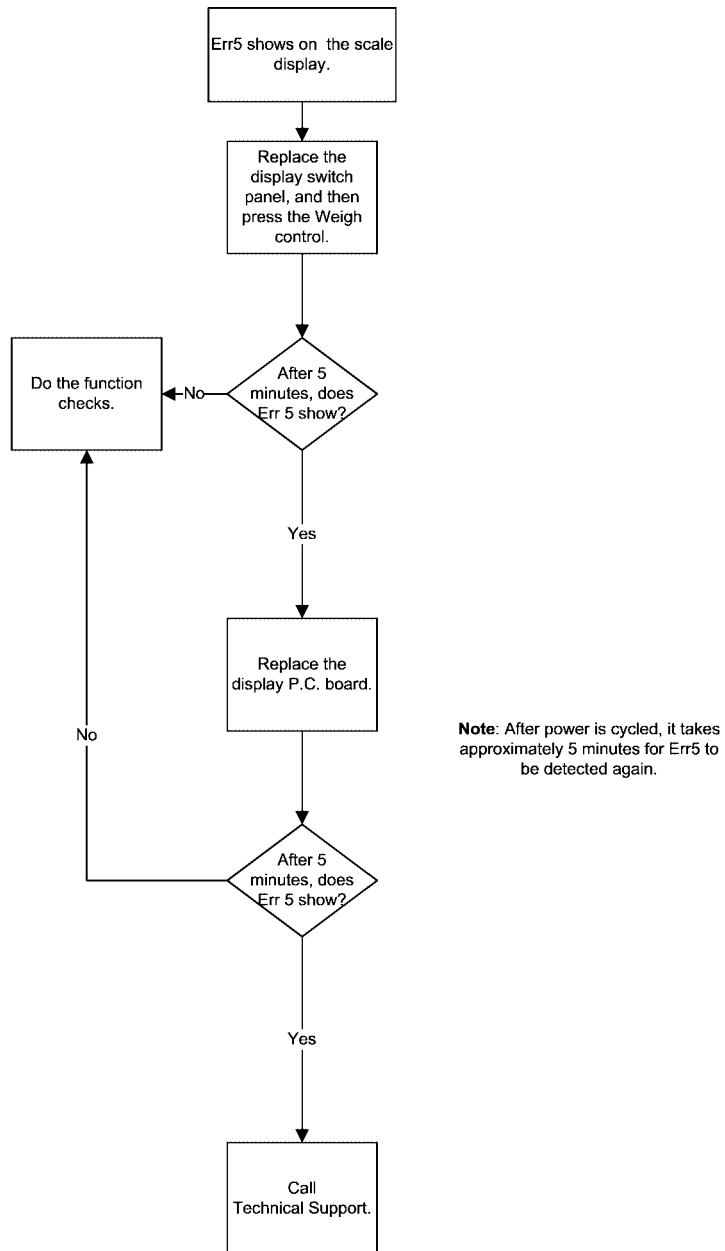
2.30 Error 2 Shows on the Scale Display



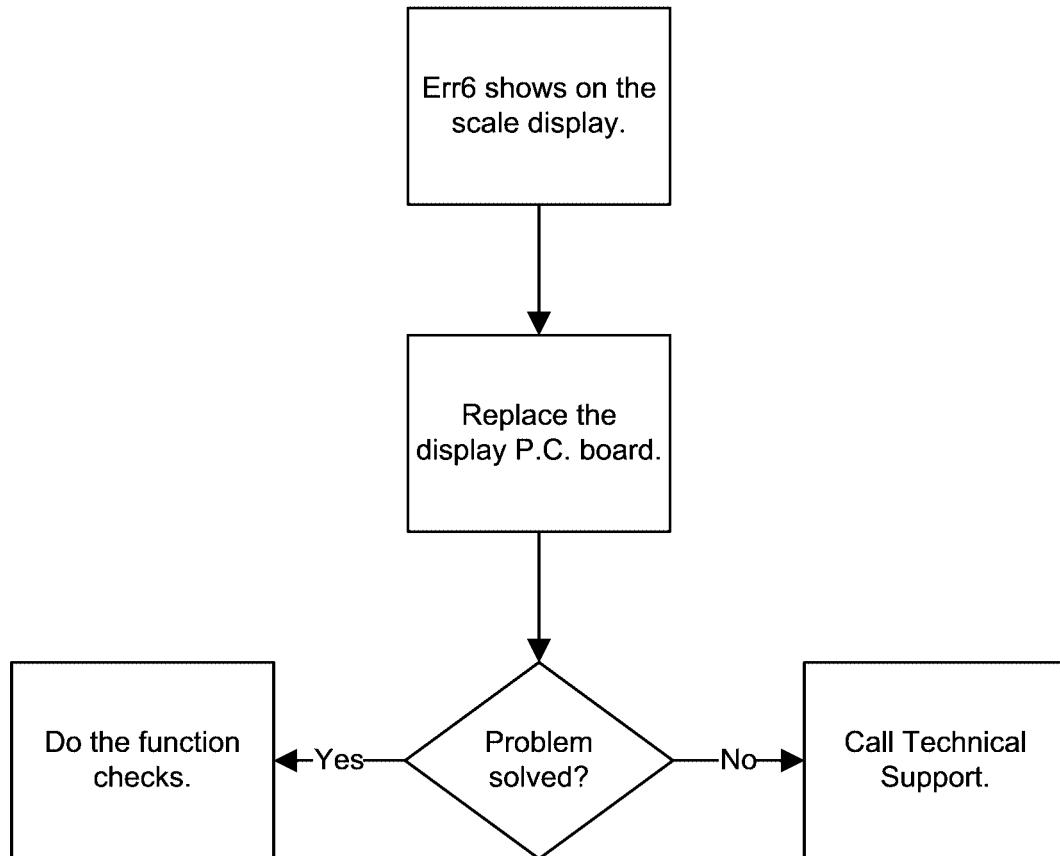
2.31 Error 3 Shows on the Scale Display



2.32 Error 5 Shows on the Scale Display



2.33 Error 6 Shows on the Scale Display



2.34 Active Brake System—Reduced Braking Ability

1. Lift the shroud and squeeze the Active Brake lever. The hex rod turns.

Yes	No
↓	→

 Replace the cable (refer to “Active Brake System” on page 4-111). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, continue to step 2.

2. Release the Active Brake lever. The hex brake lever moves to the neutral position.

Yes	No
↓	→

 Adjust the cable (refer to “Active Brake Adjustment” on page 4-113). If this solves the problem, go to “Final Actions” on page 2-11. Otherwise, call Technical Support.

3. Call Technical Support.

NOTES:

Chapter 3

Theory of Operation

Electrical System (Electric Stretcher)

Control Board

The control board contains the necessary analog and digital circuitry to control powered bed movement as outlined in this manual.

Power Supply

Connector P5 is the AC power input.



WARNING:

Fuses F1 and F3 protect the stretcher's electrical system. For 120 V AC power, a 7 A UL 198G time-lag fuse should be used. For 230 V AC, a 3 A IEC 127.3 time-lag fuse should be used. Refer to the assembly drawing or schematic for the correct fuse. Failure to use the correct fuse could cause personal injury.

Resistors R37, R39, and R40 are used to configure the primary coils of the transformer (T1) for series or parallel connection. R37 and R40 supply parallel connection for a 120 V AC input. Only R39 supplies series connection for a 230 V AC input.

The transformer full load rated output (as configured for this supply) is 15 V rms at 670 mA rms.

The PTC overcurrent protection device, R38, protects the secondary circuit and raw supply from overloads. This component is necessary for regulatory approval.

Diodes CR21 - CR24 and capacitor C21 rectify and filter the transformer's secondary output.

Q1 regulates +12 +/- 0.5 V DC. Maximum output current for this application is approximately 250 mA. Q1 can maintain regulation with an input voltage down to 14.6 V DC.

The transient voltage suppressor, CR20, protects the load from overvoltage conditions.

The capacitor, C11, filters out noise.

Input Circuit

The transient voltage suppressors, CR8, CR10 - CR13, protect the logic from overvoltage conditions.

The input resistors, R4 - R7, R9, serve two purposes. They act as current limiting resistors for the associated CMOS logic gates, and with capacitors, C6 - C10, create a delay to filter out any switch bounce.

The delay created by the resistors and capacitors along with the diodes, CR6, CR7, CR14, CR17, CR18, and circuit logic prevent rapid switching from an up function to a down function. This protects the switching components in the motor drive circuitry.

Logic

The CMOS logic gates are configured to get the desired functionality of the stretcher.

Schmitt NAND gates are used at any point where there is a slow rising input signal. This makes sure there are clean logic levels and sharp transitions for the remainder of the logic circuit.

U7 supplies sufficient drive current for the relays, K1 - K6.

Comparator Circuit

The potentiometer position sensor rotates counterclockwise as the back section of the stretcher articulates up, clockwise as the back section articulates down.

The resistance of the potentiometer decreases linearly as the back section articulates up. The opposite is true for articulating down.

The resistor, R1, limits the input current to the comparators.

The resistor, R41, makes sure the input to the comparators is pulled low when the connector, P1, is disconnected.

The comparator circuit monitors the voltage output of the potentiometer calibration board. This voltage represents the angle of inclination of the back section of the stretcher.

The resistors, R22 - R25, R32 divide the regulated DC supply voltage to set the trip points of the comparators. The trip points of the comparators are set to get the desired electrical limits of the bed functions.

LED Outputs

The function power LEDs are on when patient and caregiver controls are active.

When the controls are active, the regulated DC supply voltage is supplied to the current limiting resistors, R10 and R11, by the patient control switches and approximately 2.1 V DC is dropped across the LEDs to supply the desired illumination.

Relay Outputs

Under the correct input conditions the relays K2 - K6 switch the AC supply voltage to the motors to articulate the stretcher sections.

When the back section of the stretcher articulates, the relay K1 switches the AC supply voltage to release the brake on the back section motor. When the head function up or down control or switch is released, the relay opens, and back section motion stops.

The spark quenchers, SQ1 - SQ4, protect the relay contacts from excessive damage by arcing when they are opened and closed.

Potentiometer Calibration Board

The potentiometer calibration board tunes the output voltage of the position sensor. This permits the comparator circuit on the control board to accurately set the articulation limits of the stretcher independent of the position sensor's tolerance.

The calibration procedure for the board is completed at the factory. The output voltage, which can be monitored on pin 2 of P1 on the control board, should be approximately 10.8 V DC at the head down limit, 5.25 V DC at the patient head up limit, and 3.15 V DC at the caregiver head up limit.

If it is necessary to replace the potentiometer calibration board, the entire potentiometer cable assembly must be replaced.

Electric Stretcher Wiring Diagrams

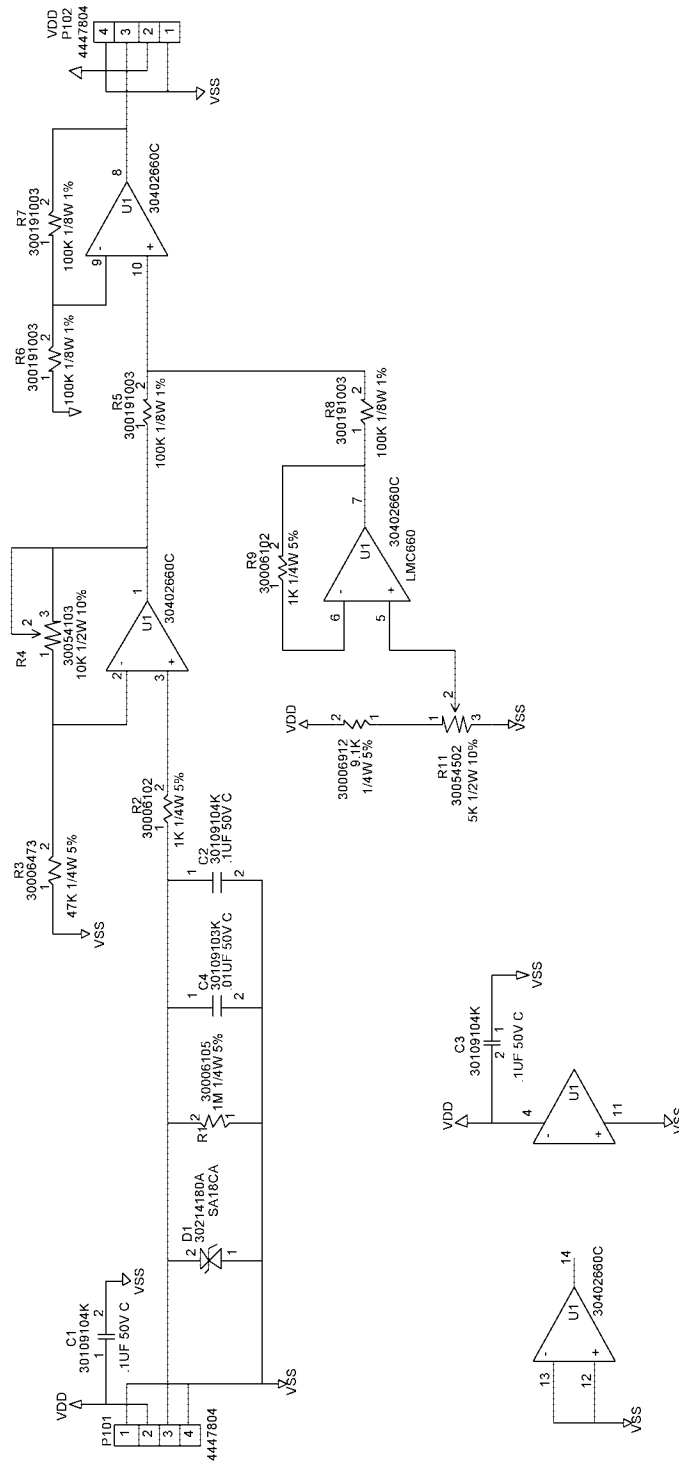
Figure 3-1. Control Board Schematic Wiring Diagram—P/N 49603

Refer to the fold-out FO 3-1 at the rear of this manual.

Figure 3-2. Electric Stretcher Wiring Diagram 120 V and 230 V—P/N 60389

Refer to the fold-out FO 3-2 at the rear of this manual.

Figure 3-3. Electric Stretcher Potentiometer Calibration P.C. Board



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Scale System (Optional for the Procedural, Electric, and Trauma Stretchers)

The scale has four load beam cells that are attached to the stretcher frame (see figure 3-4 on page 3-9). These load beam cells detect the weight on the stretcher and send a signal to the scale assembly which contains the rest of the scale electronics.

The signals are relayed to the scale P.C. board which acts as the central control unit for the scale system. This microprocessor based P.C. board does control, mathematical, memory, and several other functions.

The scale user interface is a membrane switch panel with a color display. It is part of an integrated service item which also includes the scale assembly cover and the display driver board.

The scale interface P.C. board connects the scale P.C. board to the switch/display panel. It also accepts battery input power and contains the power supply circuitry for the scale system.

Load Beams

The four load beam cells are located near the four corners of the stretcher and support the complete upper frame. They are resistive bridge sensors excited by a regulated DC voltage (5 V DC) and output a microvolt signal, thus requiring a shielded cable. The load beams must always be connected to the scale P.C. board in a particular order so that the correct calibration constants are used when a weight is calculated. For this reason the beams are numbered and connected as such: 1 is left head, 2 is left foot, 3 is right foot, and 4 is right head.

Scale P.C. Board

The load beam cell inputs are connected to differential inputs on an A/D converter. The A/D converter digitizes the weight signals and sends them to the microprocessor. The system has the ability to detect open or shorted sensors. In order to conserve power, the load beam cells are only powered when a reading is taken. Calibration constants for each cell are used to accurately calculate a weight reading. To make sure the correct constants are used, the beams must be plugged into the P.C. board as such: 1 to P1 (far left), 2 to P2, 3 to P3, and 4 to P4 (far right).

There is a piezo speaker on this board to supply feedback to the user (such as when a weight reading is initiated, when a weight reading is complete, etc.).

The scale P.C. board communicates with the display P.C. board via connector P11. It sends and receives signals using a SPI protocol. It also receives regulated power (5 V DC) on pin 8 of this connector.

The Dip switches are tied in parallel to the red LEDs (DS1 to DS4). These should always be in the off position.

There are 10 diagnostic LEDs on the P.C. board for service and troubleshooting. They are separated into two categories: red for fault conditions, and green to show correct operation. The LEDs are as follows:

- Load cell defective (RED; DS1, DS3, DS4, DS5) located by each load beam connector will come on if a load beam cell is defective or if too little or too much weight is applied to that load cell. Lifting up on a corner of the stretcher will usually turn on one of these LEDs.
- CAN error (RED; DS9) shows that the CAN bus is defective. This LED should never come on in a stretcher scale.
- Analog error (RED; DS11) shows that the analog voltage is in over-current mode. Controlled by the TPS2020 OC line, this LED will blink until the over-current condition is fixed (unplug the load beams one at a time until the LED stays off).
- Watch dog reset (RED; DS2) shows a problem with the +5 V power supply or a microprocessor issue. It is generated by the ADM706 RST/ line.
- Power LED (GRN; DS10), will come on if +5 V Primary Power is present.
- BAS LED (GRN; DS13), should never come on in a stretcher scale.
- ALARM LED (GRN; DS12), should never come on in a stretcher scale.

Display P.C. Board

The display P.C. board serves three main functions: to convert battery power to a usable voltage for the scale P.C. board, the display, and itself; to convert switch inputs from the user interface to serial data for the scale P.C. board; and supply a pass through connection for communication with the display.

Power is supplied to the scale system by three AA alkaline batteries (connected in series) which supply 4.5 volts nominally to the display P.C. board at connector P4. A PTC (RT1) supplies over-current protection and MOSFET Q1 supplies reverse battery protection for the circuitry.

The switching regulator U10 and its surrounding circuitry take the battery input and step it up to supply regulated 5 volt output to Vbr and VCC. This supply powers the display P.C. board, the scale P.C. board, and the user interface panel and circuitry (drawing from 15 to 50 mA). Starting from sleep mode, regulator U10 is enabled through diode D30 by any switch closure.

When the processor wakes up, it latches U10 on with the regulator_EN signal via D3. To power down, the scale releases the regulator_EN line. U10 also has low battery detection and signals the processor when a low battery condition is detected.

Switching regulator U8 and associated circuitry produces -20 V DC from VCC. The -20 V DC supply powers the display (which only draws about 1 to 3 mA).

The display P.C. board supplies power (both VCC and Vbat) to and accepts data from the switches via connector P5. Vbat is used for enabling U10 (wakes up the scale) while the switch returns, powered by VCC, are shifted into shift register U4 and read by the processor in a serial format.

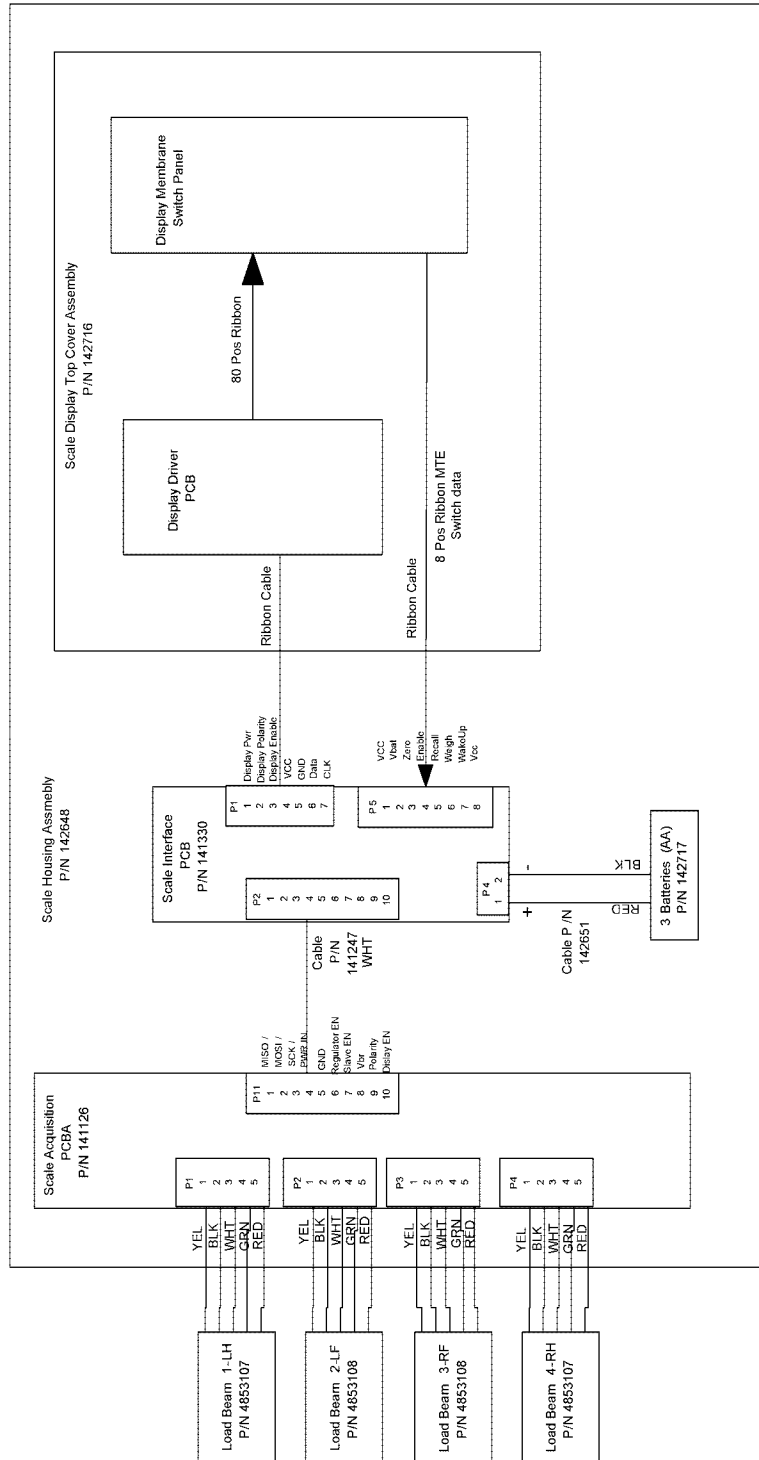
The display P.C. board powers and communicates with the display via connector P1. This communication is initiated by the processor on the scale P.C. board so the display P.C. board acts essentially as a pass through. The display data contains 70 segments (nine seven-segment characters, three decimal points, and four symbol segments: lb, kg, hands off, and low battery). Five volts is supplied on pin 4 of P1 and -20 volts on pin 1.

Display Membrane Switch Panel

A display/switch assembly is used for a user interface. This unit employs NCAP technology (a type of LCD) and displays both pounds and kilograms simultaneously. It contains double pole membrane switches so that it can operate on battery power and wake up the processor when any one of the switches is pressed.

Figure 3-4. Scale Wiring Diagram

Stretcher Scale Wiring Diagram



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NOTES:

Chapter 4

Removal, Replacement, and Adjustment Procedures

Tool and Supply Requirements

To service the Hill-Rom® Stretchers, these tools and supplies are necessary:

- Ratchet
- Torque wrench 0-250 in-lb (0 to 28.2 N•m)
- Torx®¹ head bit sizes T20, T25, and T30
- Sockets sizes 1/8" to 1" in 1/16" increments
- 13 mm socket
- Hex head bits, sizes 1/8" to 5/16" in 1/32" increments
- Adjustable wrench
- Open end and box end wrenches, 1/8" to 1" in 1/16" increments
- 17 mm open end wrench
- Allen™² wrench, sizes 1/8" to 5/16" in 1/32" increments
- Phillips head screwdriver
- Slotted head screwdriver
- Pliers
- Retaining ring removal/installation tool
- Side cutters
- Rubber mallet
- Hammer
- Pin punch sizes 1/8", 3/16", and 5/16"
- Drill
- Drill bits, sizes 1/16" to 1" in 1/32" increments
- Extraction tool (P/N 429022)

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

2. Allen™ is a trademark of Industrial Fasteners, Inc.

- 6" straight edge
- Jack stands
- Lithium-base grease (P/N SA3351)
- Blue Loctite®¹ (P/N SA3618) adhesive
- Antistatic strap
- Marker

1. Loctite® is a registered trademark of Loctite Corporation.

4.1 Procedural (P8000), Surgical (P8010), Trauma (P8040), or OB/GYN (P8050) Stretcher—Siderail

Tools required: Ratchet $\frac{1}{2}$ " socket
 $\frac{1}{2}$ " open end wrench
Torque wrench 0-250 in-lb (0 to 28.2 N•m)

Removal

1. Lower the siderail.
2. Remove the two swing pivot nuts (C) and washers (E) from the swing pivot bolts (A) that attach the siderail to the swing arms (D) (see figure 4-1 on page 4-3) or (see figure 4-2 on page 4-4).

Figure 4-1. Procedural, Surgical, or Trauma Stretcher—Siderail

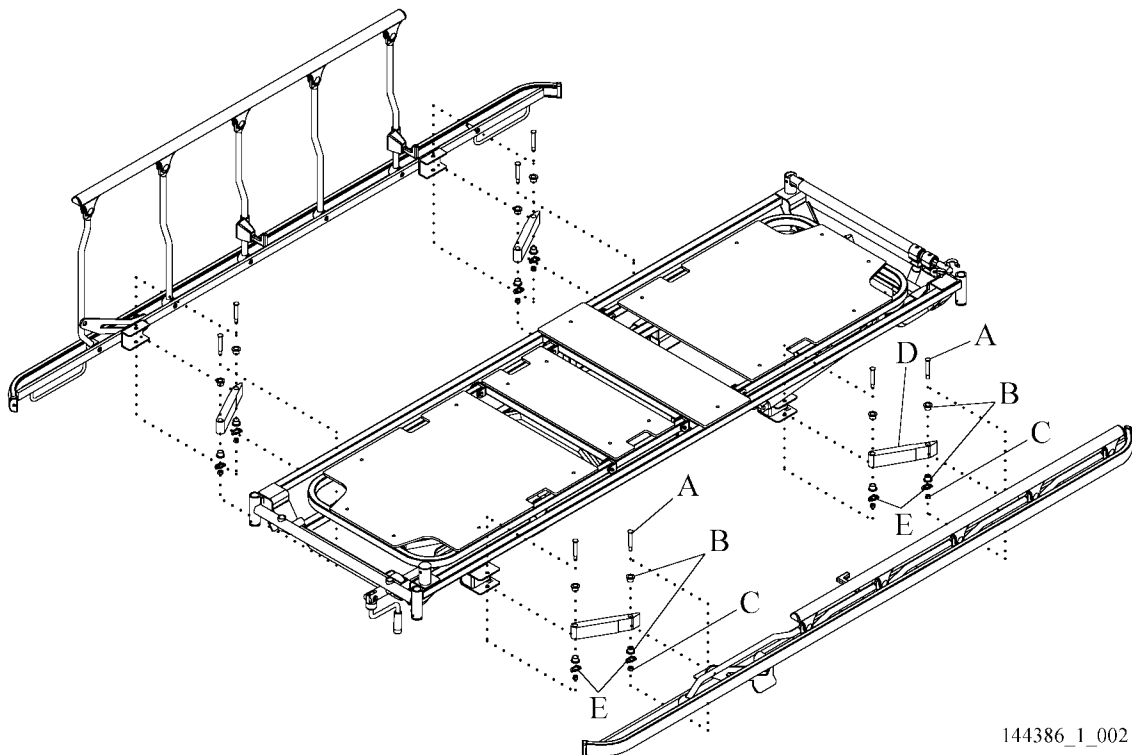
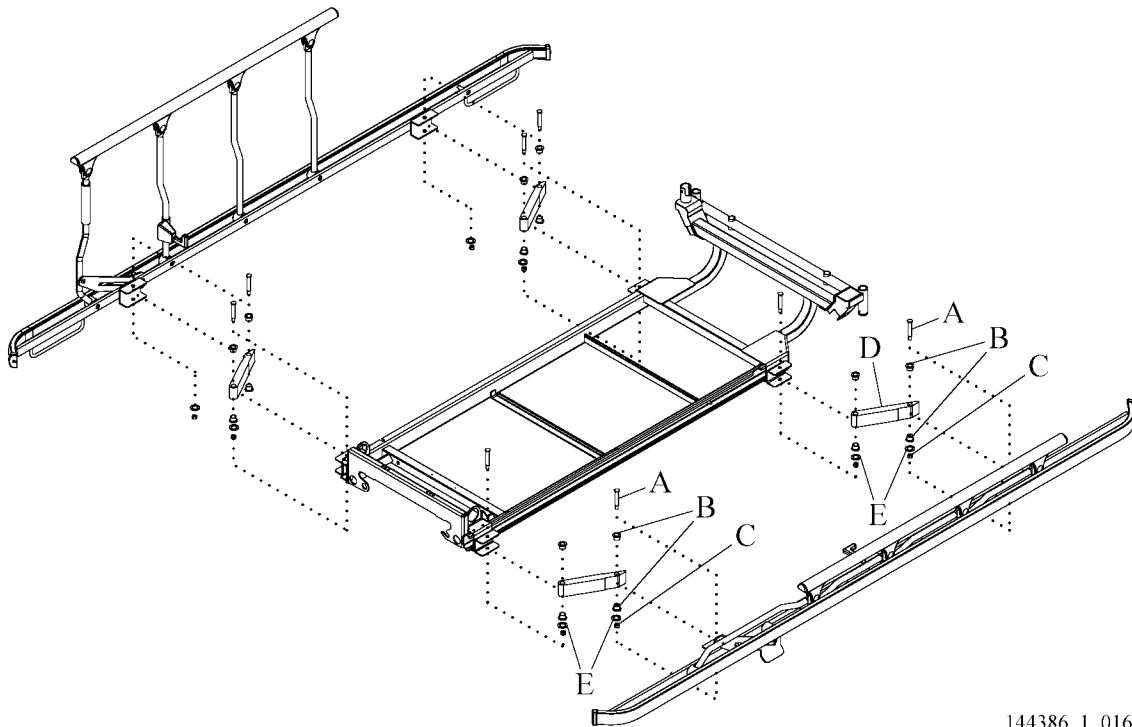


Figure 4-2. OB/GYN Stretcher—Siderail



144386_1_016



CAUTION:

Make sure the siderail is supported on both ends. Damage to the siderail bracket can occur if one end drops, and the other end is in position in the siderail bracket.

3. Support the siderail, and remove the swing pivot bolts (A).
4. Remove the siderail from the swing arms (D).
5. Remove the four Oilite®¹ bushings (B) from the swing arms (D).

Replacement

1. Install the two Oilite® bushings (B) on each swing arm (D).
2. Align the siderail swing arm bracket with the swing arm (D).
3. Insert the swing pivot bolts (A) through the siderail bracket and swing arm (D).

1. Oilite® is a registered trademark of Beemer Precision, Incorporated.

4. Install a swing pivot nut (C) and washer (E) on each swing pivot bolt (A).
5. Tighten the nuts (C) to 40 ± 6 in-lb (4.5 ± 0.7 N·m) of torque.
6. Do the “Function Checks” on page 2-3.

4.2 Switch the Procedural (P8000) or Trauma (P8040) Stretcher Siderail to the Opposite Side of the Stretcher

Tools required:	Ratchet	T30 Torx® ¹ head bit
	½" socket	1/8" pin punch
	½" open end wrench	Drill
	Hammer	3/16" drill bit
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	



CAUTION:

Do not attempt to switch the siderails on the Electric Stretcher. Equipment damage can occur.

The gap at the head or foot end of the siderail can be switched to the opposite end of the stretcher. To do this, switch the siderails to the opposite side of the stretcher as follows:

1. Remove both siderails from the stretcher (refer to procedure 4.1).
2. Install the siderails on the opposite side of the stretcher (refer to procedure 4.1).
3. Make sure the siderails operate correctly. If necessary, adjust the swing arm pivot bolts.
4. Do the “Function Checks” on page 2-3.

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

4.3 Electric (P8020) Stretcher—Siderail

Tools required:	Ratchet	T25 Torx® ¹ head bit
	½" socket	Side cutters
	½" open end wrench	5/16" Allen™ ² wrench
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	

Removal



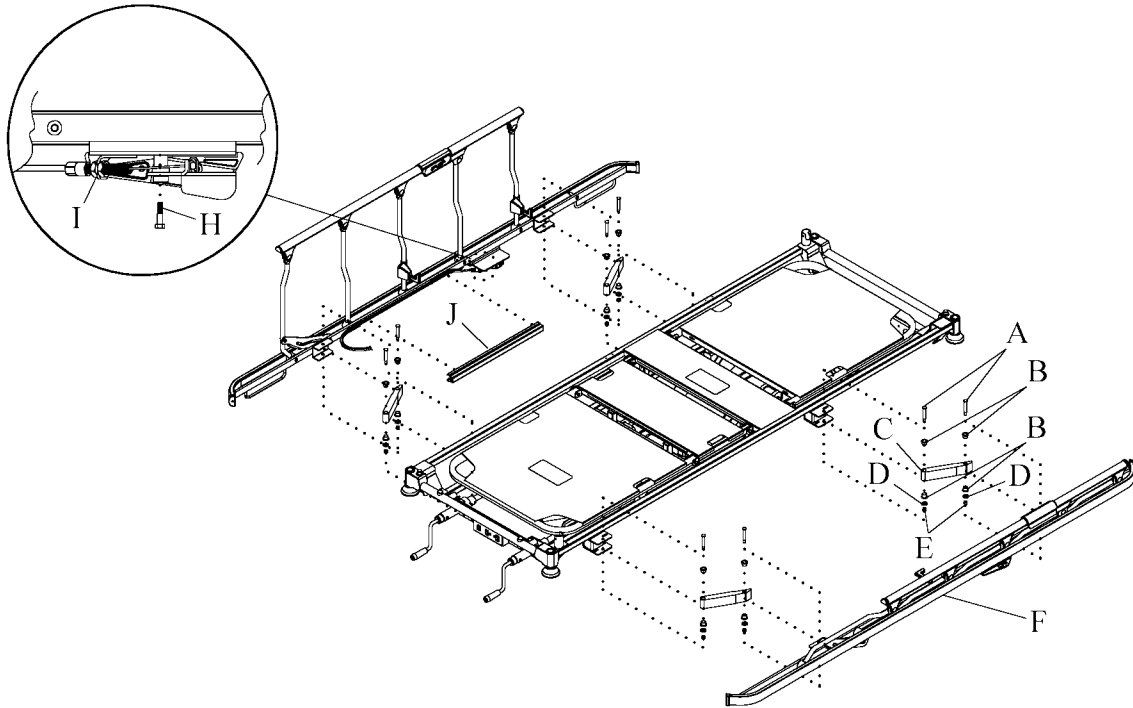
SHOCK HAZARD:

Failure to unplug the stretcher from its power source could cause personal injury or equipment damage.

1. Unplug the stretcher from its power source.
2. Remove the snap wire cover (J) from the bottom of the siderail (F) (see figure 4-3 on page 4-8).
3. Make a note of the wire routing at the bottom of the siderail. This will aid in the installation.
4. Lower the head and knee sections to the full flat position.
5. Remove the shoulder bolt (H).
6. Remove the cable adjusting nut (I).
7. Cut the cable ties (M) that attach the cable assembly (K) and the CPR cable (L) to the upper frame assembly (see figure 4-4 on page 4-9).
8. Remove the two screws (P) and cable clamps (N) from the upper frame assembly.

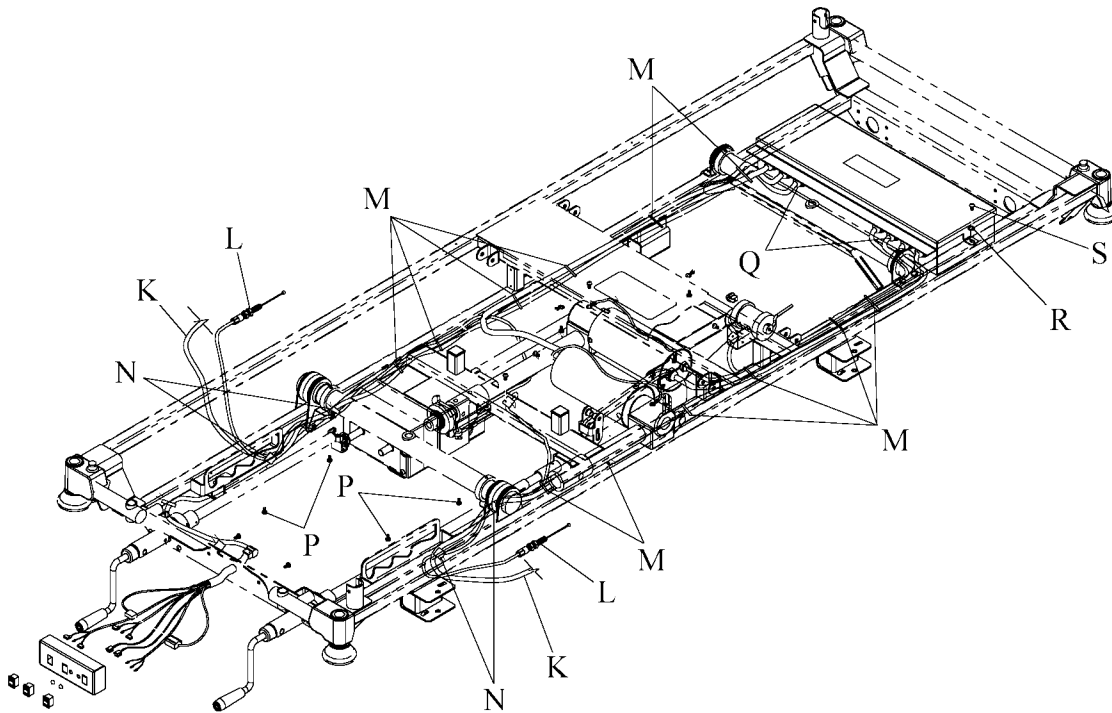
1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.
2. Allen™ is a trademark of Industrial Fasteners, Inc.

Figure 4-3. Siderail



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9. Raise the head section of the stretcher. Remove the two screws (S) and lockwashers (R) that attach the electrical box cover.
10. Loosen the strain relief nut (Q) at the electric box that attaches the siderail cable assembly.
11. Remove the left siderail wiring assembly connector (A) from P2 on the control board (H) (see figure 4-17 on page 4-32).
12. Remove the right siderail wiring assembly connector (F) from P3 on the control board (H).
13. Pull the cable assembly (K) and connector through the strain relief nut (Q) (see figure 4-4 on page 4-9).

Figure 4-4. Siderail Cable Routing

144386_1_135

4

14. Remove the two swing pivot nuts (E) and washers (D) from the swing pivot bolts (A) that attach the siderail to the swing arms (C) (see figure 4-3 on page 4-8).

**CAUTION:**

Make sure the siderail is supported on both ends. Damage to the siderail bracket can occur if one end drops, and the other end is in position in the siderail bracket.

15. Support the siderail as you remove the swing pivot bolts (A).
16. Remove the siderail (F) from the swing arms (C).
17. Remove the four Oilite®¹ bushings (B) from the swing arms (C).

Replacement

1. Install the four Oilite® bushings (B) on each swing arm (C).
2. Align the siderail swing arm bracket with the swing arm (C).

1. Oilite® is a registered trademark of Beemer Precision, Inc.

3. Insert the swing pivot bolts (A) through the siderail bracket and swing arm (C).
4. Install a swing pivot nut (E) and washer (D) on each swing pivot bolt (A).
5. Tighten the nuts (E) to 40 ± 6 in-lb (4.5 ± 0.7 N·m) of torque.
6. Make sure the siderails operate correctly.
7. Put the CPR cable (L) in position (see figure 4-4 on page 4-9), and loosely install the cable adjusting nut (I) (see figure 4-3 on page 4-8). Make sure the cable and ball are installed correctly in the CPR handle weldment.
8. Install the shoulder bolt (H) that attaches the CPR handle weldment.
9. Adjust the cable adjusting nut (I) on the threaded stud so that the handle on the CPR handle weldment just touches the plastic CPR handle when the CPR latch is fully extended.
10. Pull the siderail cable assembly (K) and connector through the strain relief nut (Q) (see figure 4-4 on page 4-9).
11. Connect the left siderail cable assembly connector (A) to P2 on the control board (H) (see figure 4-17 on page 4-32).
12. Connect the right siderail cable assembly connector (F) to P3 on the control board (H).
13. Tighten the strain relief nut (Q) at the electric box that attaches the siderail cable assembly (see figure 4-4 on page 4-9).
14. Install the two screws (S) and lockwashers (R) that attach the electrical box cover.
15. Install the two screws (P) and cable clamps (N) along the upper frame assembly.
16. Install the cable ties (M) that attach the siderail cable assembly (K) and the CPR cable (L) along the upper frame assembly.
17. Install the snap wire cover (J) (see figure 4-3 on page 4-8).
18. Cycle the siderail from the stored to the up position several times. Plug the stretcher into an applicable power source.
19. Do the “Function Checks” on page 2-3.

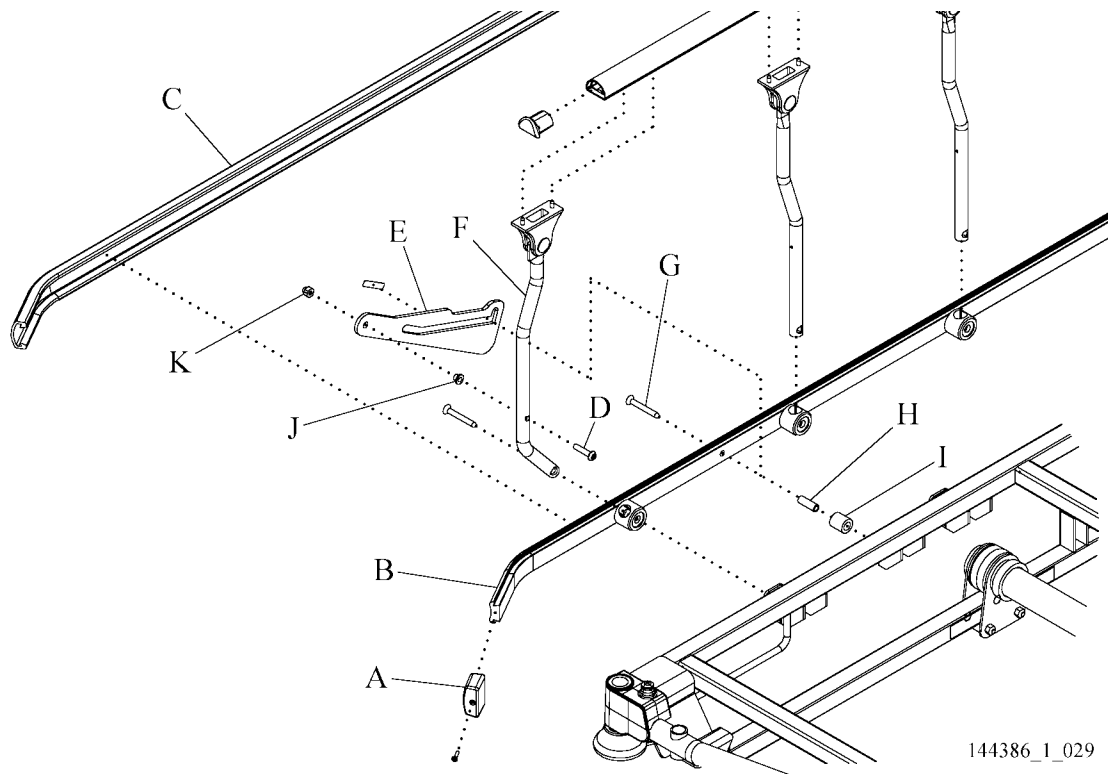
4.4 Transport (P8005) Stretcher—Siderail Latch

Tools required: Ratchet T30 Torx®¹ head bit
Torque wrench 0-250 in-lb (0 to 28.2 N•m)

Removal

1. Remove the bottom rail end caps (A) from the bent bottom rail extension (B) (see figure 4-5 on page 4-11).
2. Remove the side rail trim strip (C) from the bent bottom rail extension (B).
3. Remove the bushing (J), nut (K), and latch shoulder bolt (D), that attach the latch (E) to the end tube (F). Discard the latch shoulder bolt (D).

Figure 4-5. Siderail Latch



4. Remove the lower pivot bolt (G), roller guide (H), latch bushing (I), and latch (E) from the rail assembly. Discard the lower pivot bolt and any damaged parts.

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Replacement

1. Align the latch (E), the roller guide (H), and the latch bushing (I) with the bolt holes in the bent bottom rail extension (B) and the upper frame.



CAUTION:

The lower pivot bolt has self-tapping threads. Make sure you use a new lower pivot bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

2. Insert the **new** lower pivot bolt (G) through them and turn it by hand.
3. Carefully tighten the new lower pivot bolt (G) to attach the latch (E) to the siderail.
4. Tighten the lower pivot bolt (G) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) of torque.



CAUTION:

The latch shoulder bolt has self-tapping threads. Make sure you use a new latch shoulder bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

5. Insert the **new** latch shoulder bolt (D) through the latch (E) and end tube (F).
6. Install the bushing (J) and nut (K) on the new latch shoulder bolt (D) to attach the latch (E) to the end tube (F).
7. Install the siderail trim strip (C) on the bent bottom rail extension (B).
8. Install the bottom rail end caps (A) on the bent bottom rail extension (B).
9. Do the “Function Checks” on page 2-3.

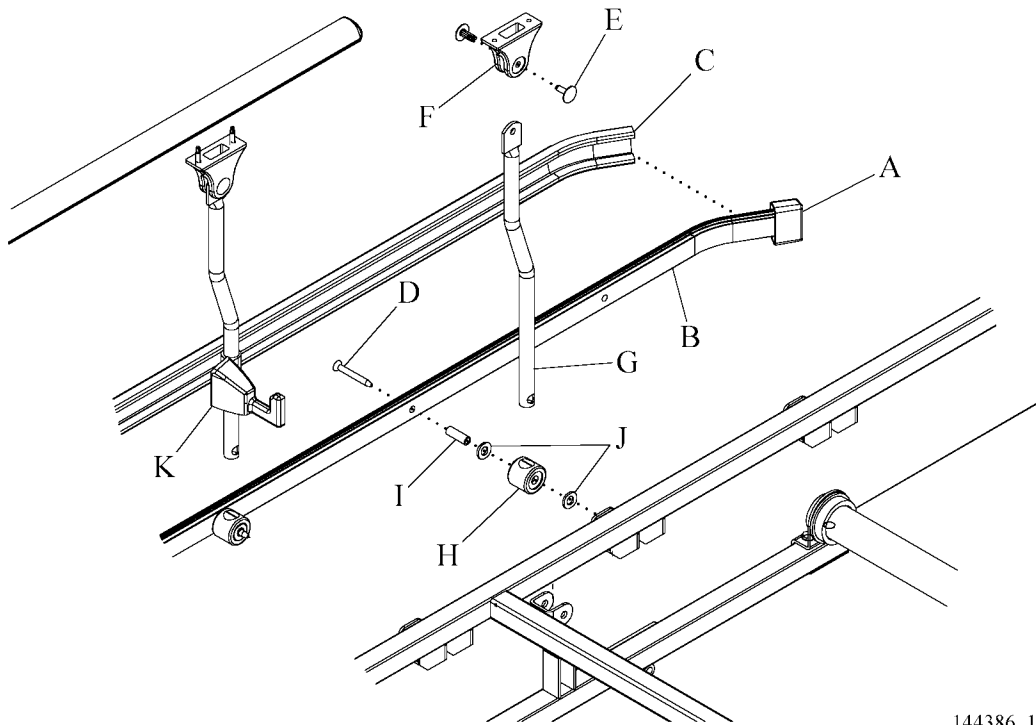
4.5 Transport (P8005) Stretcher—Siderail Tube

Tools required:	Ratchet	T30 Torx® ¹ head bit
	1/8" pin punch	Drill
	3/16" drill bit	Hammer
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	

Removal

1. Remove the bottom rail end caps (A) from the bent bottom rail extension (B) (see figure 4-6 on page 4-13).

Figure 4-6. Transport Stretcher—Siderail Tube



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2. Remove the siderail trim strip (C) from the bent bottom rail extension (B).
3. Remove the lower pivot bolt (D), the two wave washers (J), the roller guide (I), and the lower pivot block (H) from the siderail tube (G) that is to be replaced. Discard the lower pivot bolt.
4. If necessary, remove the transfer stop (K) from the tube (G).

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.



CAUTION:

Do not use a screwdriver to remove the top rail ratchet rivet. The upper pivot bracket is made of plastic. Damage to the bracket could occur.

5. Drill through the two top rail ratchet rivets (E). Remove the rivets from the upper pivot (F), and discard them.
6. Remove and discard the siderail tube (G).

Replacement

1. If necessary, install the transfer stop (K).
2. Insert the new siderail tube (G) into the lower pivot block (H).
3. Align the roller guide (I), the lower pivot block (H), the two wave washers (J), and the siderail tube (G) with the bolt holes in the bent bottom rail extension (B) and the upper frame.



CAUTION:

The lower pivot bolt has self-tapping threads. Make sure you use a new lower pivot bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

4. Carefully install a **new** lower pivot bolt (D) to attach the end tube to the bottom rail.
5. Tighten the lower pivot bolt (D) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) of torque.
6. Install the new siderail tube into the upper pivot (F).
7. Install the new ratchet rivets (E) into the upper pivot (F).
8. Install the siderail trim strip (C) on the bent bottom rail extension (B).
9. Install the bottom rail end caps (A) on the bent bottom rail extension (B).
10. Do the “Function Checks” on page 2-3.

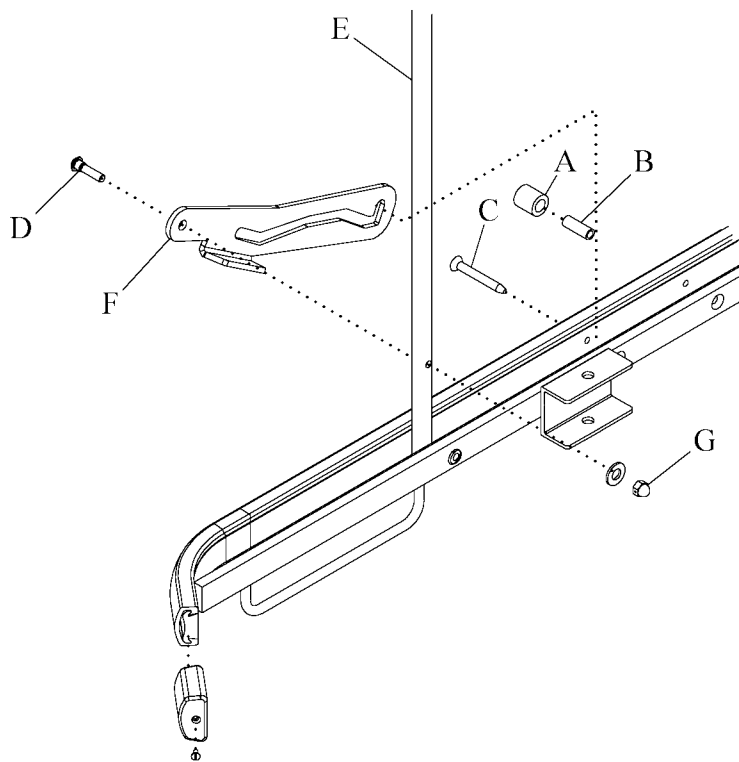
4.6 Procedural (P8000), Surgical (P8010), Electric (P8020), Trauma (P8040), or OB/GYN (P8050) Stretcher—Siderail Latch

Tools required: Ratchet T30 Torx®¹ head bit
Torque wrench 0-250 in-lb (0 to 28.2 N•m)

Removal

1. Remove the latch shoulder bolt (D) and nut (G) that attach the latch plate (F) to the end tube (E) (see figure 4-7 on page 4-15).

Figure 4-7. Siderail Latch



144386_1_003

2. Remove the lower pivot bolt (C), roller guide (B), latch bushing (A), and latch plate (F) from the rail assembly. Discard the lower pivot bolt and any damaged parts.

Replacement

1. Align the latch plate (F), the roller guide (B), and the latch bushing (A) with the bolt holes in the rail assembly.

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Chapter 4: Removal, Replacement, and Adjustment Procedures



CAUTION:

The lower pivot bolt has self-tapping threads. Make sure you use a new lower pivot bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

2. Carefully install a **new** lower pivot bolt (C) and nut (G) to attach the latch plate (F) to the siderail.
3. Tighten the lower pivot bolt (C) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) of torque.



CAUTION:

The latch shoulder bolt has self-tapping threads. Make sure you use a new latch shoulder bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

4. Install a **new** latch shoulder bolt (D) to attach the latch plate (F) to the end tube (E).
5. Tighten the latch shoulder bolt (D) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) of torque.
6. Do the “Function Checks” on page 2-3.

4.7 Procedural (P8000), Surgical (P8010), Electric (P8020), Trauma (P8040), or OB/GYN (P8050) Stretcher—Siderail Tubes

Tools required:	Ratchet	T30 Torx® ¹ head bit
	1/8" pin punch	Drill
	3/16" drill bit	Hammer
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	

Removal

1. To remove a **common** tube, go to step 2. For an **end** tube, remove the latch shoulder bolt (B) that attaches the latch (M) to the end tube (G).
 - **Procedural, Surgical, or Trauma** Stretcher (see figure 4-8 on page 4-18)
 - **Electric** Stretcher (see figure 4-9 on page 4-18)
 - **OB/GYN** Stretcher (see figure 4-10 on page 4-19)



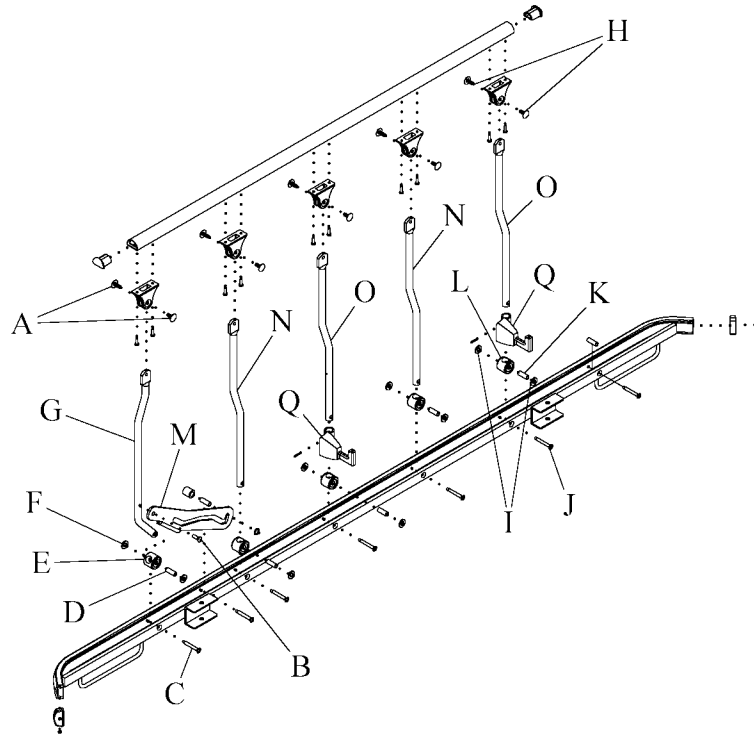
CAUTION:

Do not use a screwdriver to remove the top rail ratchet rivet. The upper pivot bracket is made of plastic. Damage to the bracket could occur.

2. Drill through the two top rail ratchet rivets (A), and then remove the rivets (A).
3. Remove the lower pivot bolt (C) that attaches the tube (G) to the bottom rail.
4. Remove the tube (G), roller guide (D), lower pivot block (E), and the two wave washers (F) from the siderail assembly.
5. If necessary, remove the transfer stop (Q) from the tube (G).

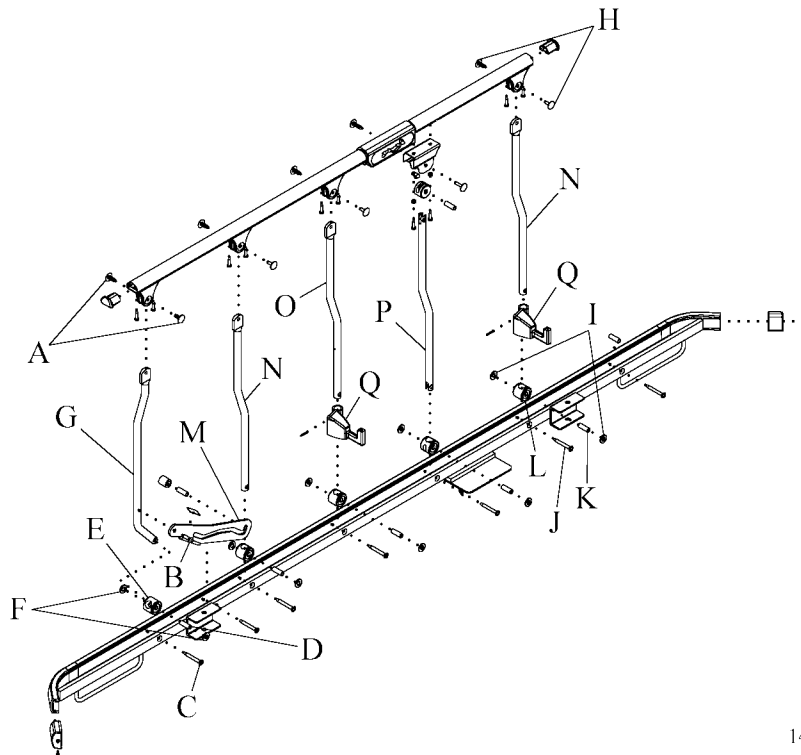
1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Figure 4-8. Procedural, Surgical, or Trauma Stretcher—Siderail Tubes



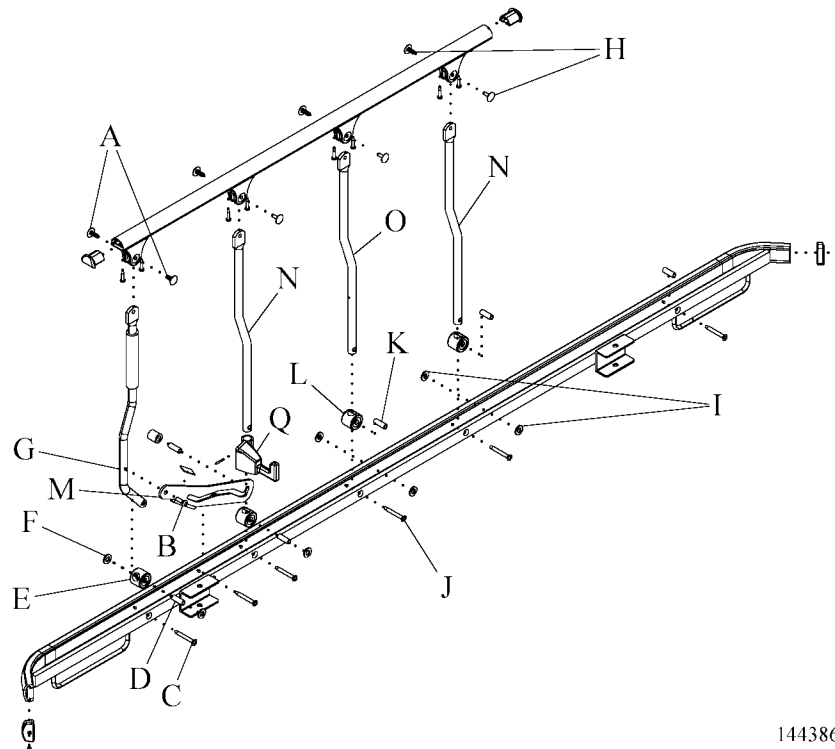
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Figure 4-9. Electric Stretcher—Siderail Tubes



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Figure 4-10. OB/GYN Stretcher—Siderail Tubes



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Replacement

1. If necessary, install the transfer stop (Q).
2. Align the roller guide (D), the lower pivot block (E), the two wave washers (F), and the tube (G) with the bolt holes in the bottom rail.



CAUTION:

The lower pivot bolt has self-tapping threads. Make sure you use a new lower pivot bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

3. Carefully install a **new** lower pivot bolt (C) to attach the tube (G) to the bottom rail.
4. Tighten the lower pivot bolt (C) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) of torque.
5. Install two **new** top rail ratchet rivets (A) to attach the tube (G) to the upper pivot bracket.

Chapter 4: Removal, Replacement, and Adjustment Procedures



CAUTION:

The latch shoulder bolt has self-tapping threads. Make sure you use a new latch shoulder bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

6. For an **end** tube, install a **new** latch shoulder bolt (B) to attach the latch (M) to the end tube (G).
7. Tighten the latch shoulder bolt (B) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) of torque.
8. Do the “Function Checks” on page 2-3.

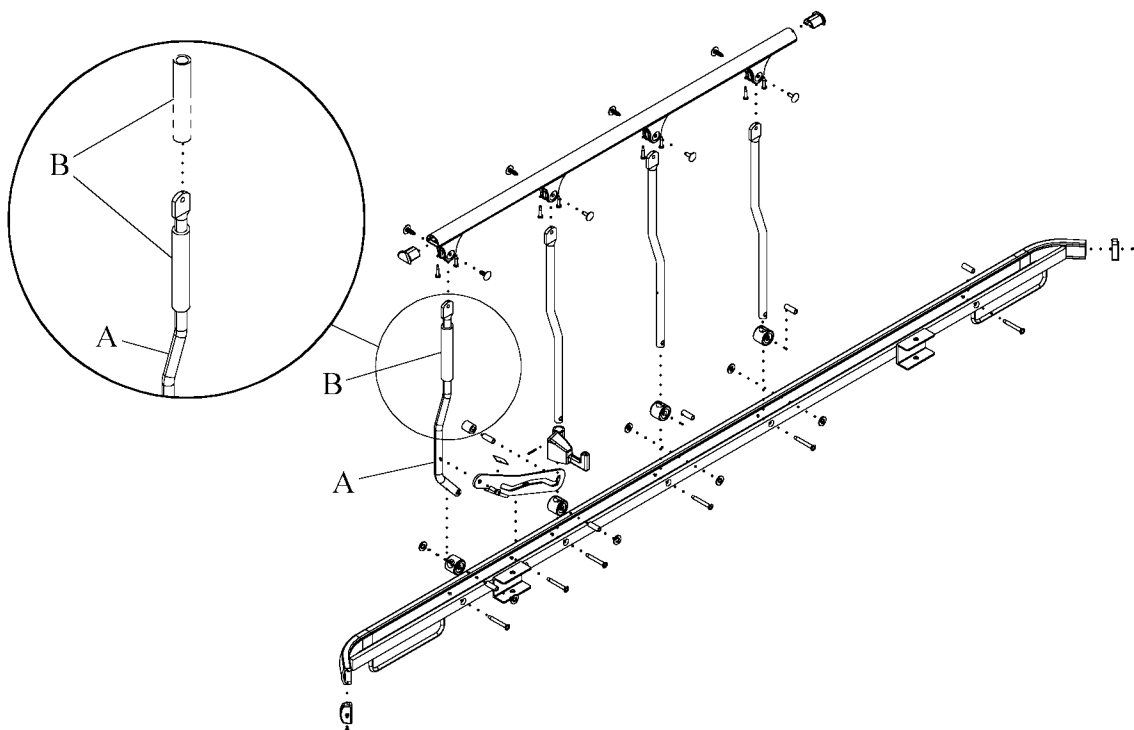
4.8 OB/GYN (P8050) Stretcher—Patient Grip Handle

Tools required:	Ratchet	T30 Torx® ¹ head bit
	1/8" pin punch	Drill
	3/16" drill bit	Hammer
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	

Removal

1. Remove the end tube. Refer to procedure 4.7.
2. For easy access to the patient grip handle, put the end tube (A) at an angle toward the foot end of the bed (see figure 4-11 on page 4-21).
3. Remove the damaged patient grip handle (B) from the end tube (A).

Figure 4-11. Patient Grip Handle



144386_1_159

Replacement

1. Gently slide the patient grip handle on to the end tube (A).

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NOTE:

You may have to turn the patient grip handle in opposite directions.

2. Install the end tube. Refer to procedure 4.7.
3. Do the “Function Checks” on page 2-3.

4.9 Electric (P8020) Stretcher—Left or Right Siderail Cable Assembly and Upright Tube

Tools required:	Ratchet	½" socket
	T30 Torx® ¹ head bit	Hammer
	T25 Torx® head bit	1/8" pin punch
	½" open end wrench	Drill
	3/16" drill bit	
	1/8" pin punch	

Removal



SHOCK HAZARD:

Failure to unplug the stretcher from its power source could cause personal injury or equipment damage.

1. Unplug the stretcher from its power source.
2. Remove the snap wire cover (J) from the bottom rail (F) (see figure 4-3 on page 4-8).
3. Make a note of the wire routing at the top and bottom of the siderail. This will aid in the installation.
4. Cut the cable ties (M) that attach the cable assembly (K) and the CPR cable (L) along the upper frame assembly (see figure 4-4 on page 4-9).
5. Remove the two screws (P) and cable clamps (N) along the upper frame assembly.
6. Raise the head section of the stretcher. Remove the two screws (S) and lockwashers (R) that attach the electrical box cover.
7. Loosen the strain relief nut (Q) at the electric box that attaches the siderail cable assembly.
8. Remove the left siderail wiring assembly connector (A) from P2 on the control board (H) (see figure 4-17 on page 4-32).
9. Remove the right siderail wiring assembly connector (F) from P3 on the control board (H).
10. Pull the cable assembly (K) and connector through the strain relief nut (Q) (see figure 4-4 on page 4-9).

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11. Remove the two screws (N) that attach the cover housing (O) under the patient control switch (R). Remove the cover housing, and disconnect the connector (see figure 4-12 on page 4-24).
12. Remove the screw (M) and washer (P) that attach the cable clamp (Q) to the cable assembly (L).

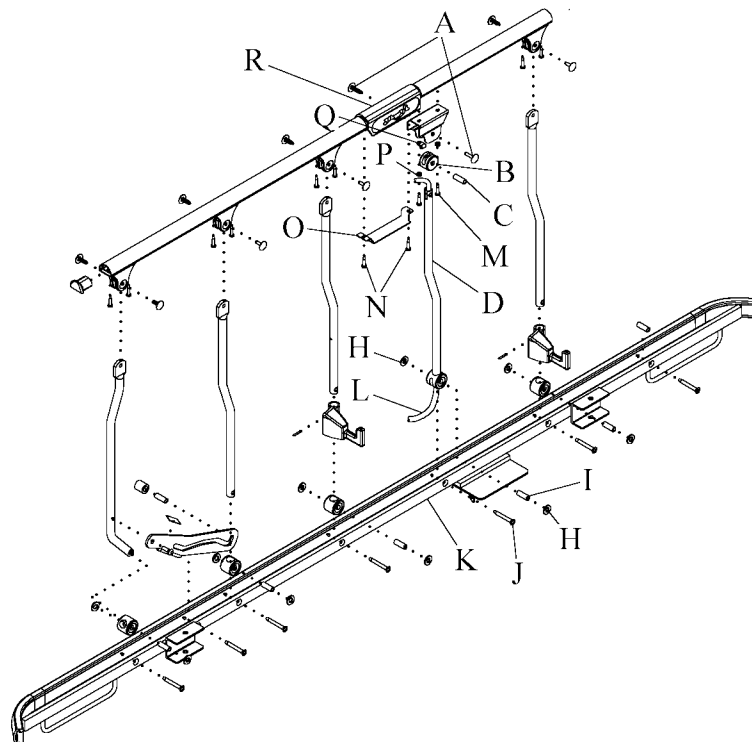


CAUTION:

Do not use a screwdriver to remove the top rail ratchet rivet. The upper pivot bracket is made of plastic. Damage to the bracket could occur.

13. Drill a hole through the two top rail ratchet rivets (A). Remove the rivets.
14. Remove the upper roller guide (C) and the plastic upper pivot (B) from the top of the upright tube (D).
15. Remove the lower pivot bolt (J) that attaches the upright tube (D) to the bottom rail.
16. Remove the cable assembly (L) with upright tube (D), roller guide (I), and the two wave washers (H) from the siderail assembly.

Figure 4-12. Left or Right Siderail Cable Assembly and Upright Tube



144386_1_008

Replacement

1. Install the upper roller guide (C) and the plastic upper pivot (B) on the top of the upright tube (D) (see figure 4-12 on page 4-24).

NOTE:

Make sure the wiring routing is correct.

2. Align the roller guide (I), the two wave washers (H), and the upright tube (D) with the bolt holes in the bottom rail.



CAUTION:

The lower pivot bolt has self-tapping threads. Make sure you use a new lower pivot bolt for the installation procedure, and hand start it. Failure to do so could cause damage to the bolt hole threads.

3. Carefully install a **new** lower pivot bolt (J) to attach the tube to the bottom rail.
4. Tighten the lower pivot bolt (J) to 140 ± 10 in-lb (15.8 ± 1.1 N·m) of torque.
5. Align the upper roller guide (C) and the plastic upper pivot (B) with the hole in the upper pivot.
6. Install the two **new** ratchet rivets (A) to attach the upright tube (D) to the upper pivot on the top rail.
7. Connect the wire connector at the patient control switch (R).
8. Install the screw (M) and washer (P) with the cable clamp (Q) that attaches the electric wire. Make sure the individual wires will not be seen once the cover housing (O) is installed.
9. Install the two screws (N) that attach the cover housing (O) to the patient control switch (R).
10. Pull the siderail cable assembly (K) and connector through the strain relief nut (Q) (see figure 4-4 on page 4-9).
11. Connect the left siderail wiring assembly connector (A) to P2 on the control board (H) (see figure 4-17 on page 4-32).
12. Connect the right siderail wiring assembly connector (F) to P3 on the control board (H).

13. Tighten the strain relief nut (Q) at the electric box that attaches the siderail cable assembly (see figure 4-4 on page 4-9).
14. Install the two screws (S) and lockwashers (R) that attach the electrical box cover.
15. Install the two screws (P) and cable clamps (N) along the upper frame assembly.
16. Install the cable ties (M) that attach the cable assembly (K) and the CPR cable (L) along the upper frame assembly.
17. Install the snap wire cover (J) (see figure 4-3 on page 4-8).
18. Operate the siderail several times to make sure it operates correctly.
19. Plug the stretcher into an applicable source.
20. Do the “Function Checks” on page 2-3.

4.10 Electric (P8020) Stretcher—Patient Control Switch

Tools required: T25 Torx®¹ head bit Ratchet

Removal

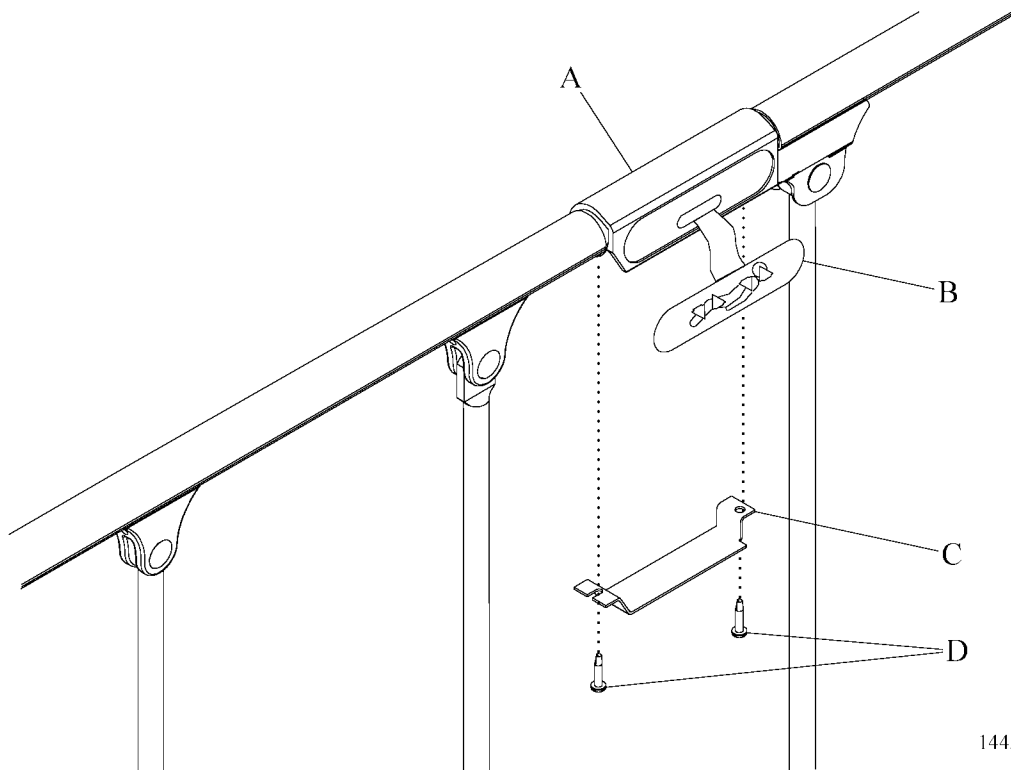


SHOCK HAZARD:

Failure to unplug the stretcher from its power source could cause personal injury or equipment damage.

1. Unplug the stretcher from its power source.
2. Remove the two screws (D) that attach the cover housing (C) under the patient control unit (A) (see figure 4-13 on page 4-27).
3. Remove the cover housing (C), and disconnect the patient control switch connector.

Figure 4-13. Patient Control Switch



144386_1_091

4. Remove the patient control switch (B) from the patient control unit (A).

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Replacement



SHOCK HAZARD:

Failure to unplug the stretcher from its power source could cause personal injury or equipment damage.

1. Clean any adhesive from the patient control unit (A).
2. Remove the adhesive back from the new patient control switch.

NOTE:

The head symbol on the patient control switch should be at the head end of the stretcher.

3. Insert the wiring of the new patient control switch (B) through the patient control unit (A), and install the switch into position.
4. Connect the patient control switch (B) to the connector.
5. Put the cover housing (C) into position, and install the two screws (D) to attach it to siderail.
6. Plug the stretcher into an applicable power source.
7. Do the “Function Checks” on page 2-3.

4.11 Electric (P8020) Stretcher—Nurse Control Switch

Tools required: T25 Torx®¹ head bit Ratchet

Removal

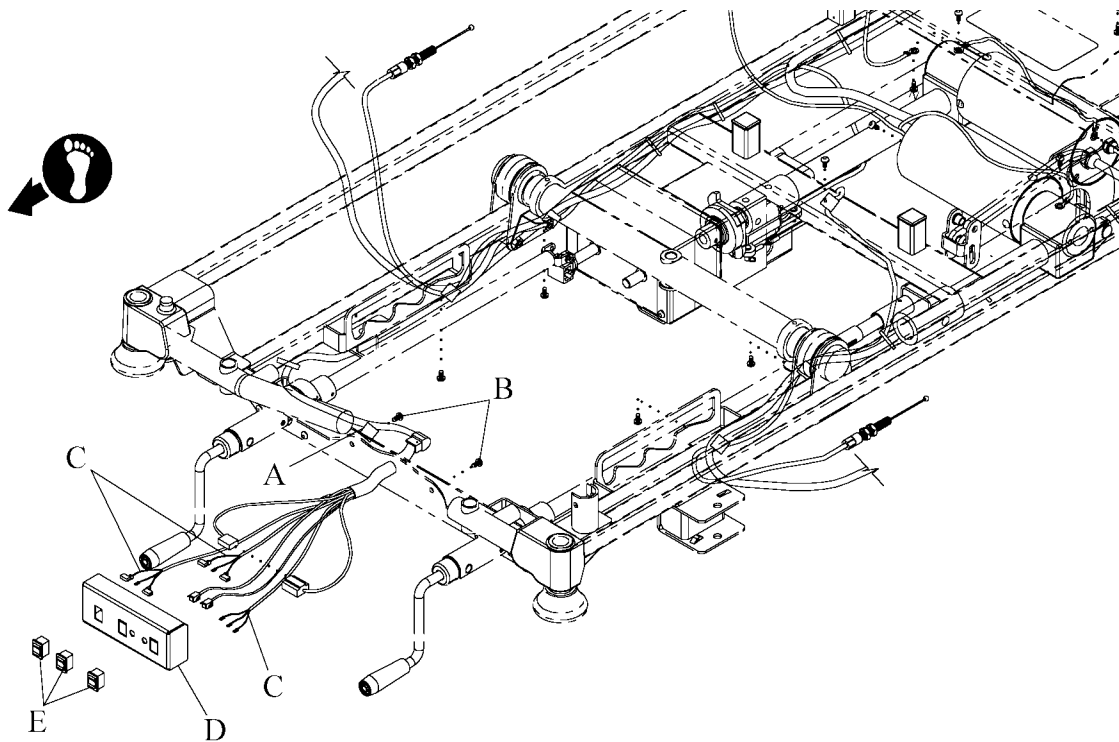


SHOCK HAZARD:

Failure to unplug the unit from its power source could cause personal injury and equipment damage.

1. Unplug the stretcher from its power source.
2. Remove the two screws (B) and cable clamp (A) that attach the nurse control unit (D) to the frame (see figure 4-14 on page 4-29).
3. Make a note of the wire routing at the faulty switch. This will aid in the installation.

Figure 4-14. Nurse Control Switch



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**CAUTION:**

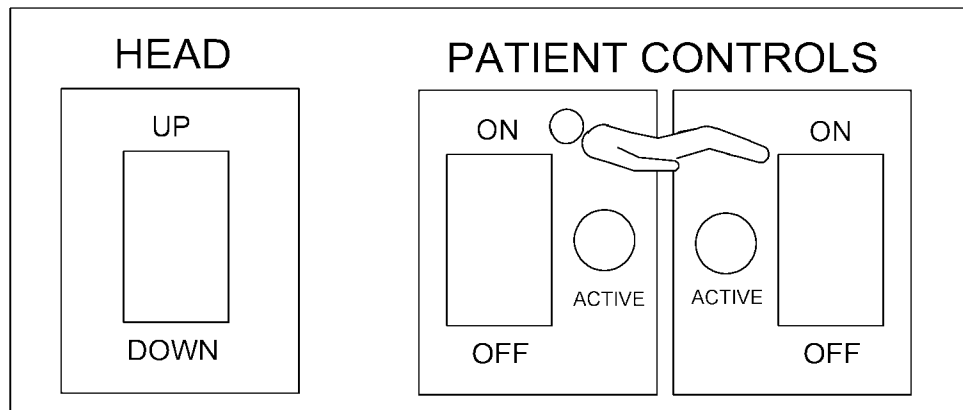
Use care when you remove the individual nurse control switch wires. Damage to the terminals could occur if care is not used.

4. Remove the nurse control unit (D), and remove the individual nurse control switch wires (C) from the defective switch.
5. Squeeze the inside grips and pop the switch (E) from the faceplate to remove any defective nurse control switch (two types).

Replacement

1. Press the new switch (E) into the opening on the faceplate of the nurse control unit (D) to replace any defective nurse control switch.
2. Connect the individual nurse control switch wires (C) (see figure 4-14 on page 4-29) to the new switch as shown (see figure 4-15 on page 4-30).

Figure 4-15. Nurse Control Switch Wire Diagram



144386_1_090

Violet
Brown
Gray

Red/White
Blue
Brown/Brown

Red/Red
Green
Brown/Brown

3. Install the two screws (B) and the cable clamp (A) to attach the nurse control unit (D) to the frame (see figure 4-14 on page 4-29).
4. Plug the stretcher into an applicable power source.
5. Do the “Function Checks” on page 2-3.

4.12 Electric (P8020) Stretcher—Control Board

Tools required: T25 Torx®¹ head bit Ratchet
Side cutters

Removal

1. Raise and secure the head section to get access to the electric box.

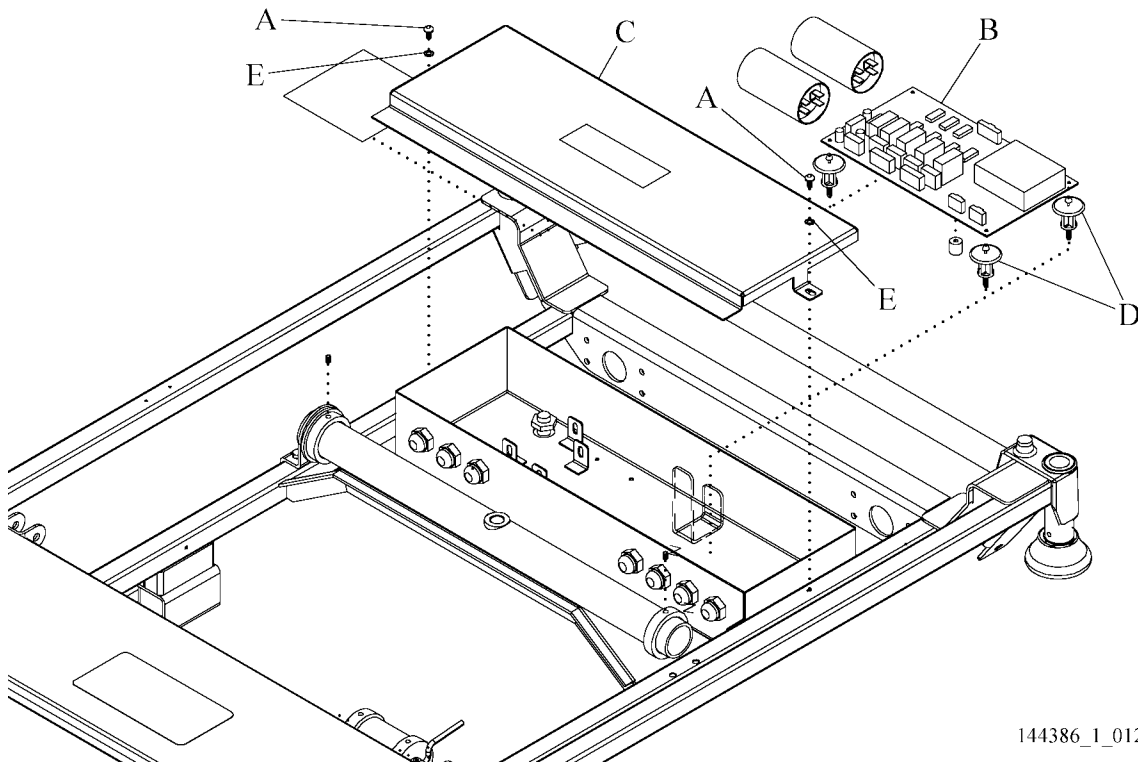


SHOCK HAZARD:

Failure to unplug the unit from its power source could cause personal injury and equipment damage.

2. Unplug the stretcher from its power source.
3. Remove the two screws (A) and lockwashers (E) that attach the electric box cover to the electric box (see figure 4-16 on page 4-31).
4. Remove the electric box cover (C).

Figure 4-16. Control Board



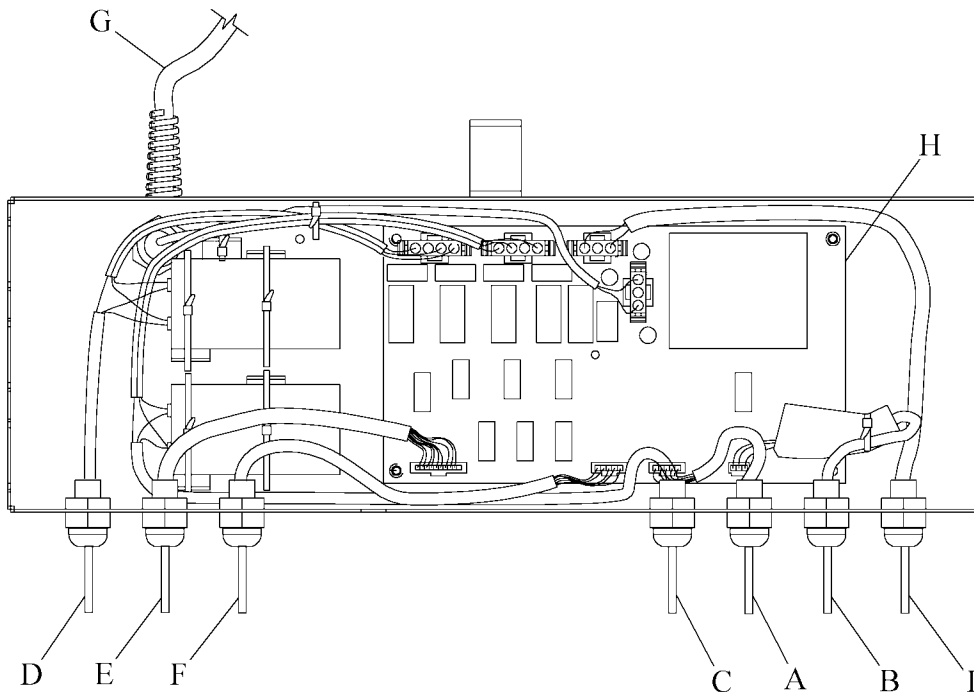
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5. Remove the electric box cover (C).

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6. Cut the cable ties that attach the wiring assemblies to the inside of the electric box.
7. Remove the potentiometer cable assembly connector (B) from P1 on the control board (H) (see figure 4-17 on page 4-32).
8. Remove the left siderail wiring assembly connector (A) from P2 on the control board (H).
9. Remove the right siderail wiring assembly connector (F) from P3 on the control board (H).
10. Remove the nurse control wiring assembly connector (E) from P4 on the control board (H).
11. Remove the power cord assembly connector (G) from P5 on the control board (H).
12. Remove the head drive brake wiring assembly connector (I) from P6 on the control board (H).

Figure 4-17. Control Board Wiring Assembly Diagram



144386_1_151

13. Remove the head drive wiring assembly connector (C) from P7 on the control board (H).

14. Remove the knee drive wiring assembly connector (D) from P8 on the control board (H).
15. Squeeze the standoffs (D) at each corner and the middle of the control board (B), and lift the board off the standoffs (D) (see figure 4-16 on page 4-31).

Replacement

1. Put the new control board (B) over the standoffs (D), and press down gently until the board snaps onto the standoffs (D) (see figure 4-16 on page 4-31).
2. Connect the potentiometer cable assembly connector (B) to P1 on the control board (H) (see figure 4-17 on page 4-32).
3. Connect the left siderail wiring assembly connector (A) to P2 on the control board (H).
4. Connect the right siderail wiring assembly connector (F) to P3 on the control board (H).
5. Connect the nurse control wiring assembly connector (E) to P4 on the control board (H).
6. Connect the power cord assembly connector (G) to P5 on the control board (H).
7. Connect the head drive brake wiring assembly connector (I) to P6 on the control board (H).
8. Connect the head drive wiring assembly connector (C) to P7 on the control board (H).
9. Connect the knee drive wiring assembly connector (D) to P8 on the control board (H).
10. Install cable ties to attach the wiring assemblies to the other wiring assemblies inside the electric box.
11. Install the two screws (A) and lockwashers (E) (see figure 4-16 on page 4-31) that attach the electric box cover (C).
12. Plug the stretcher into an applicable power source.
13. Do the “Function Checks” on page 2-3.

4.13 Electric Stretcher—Potentiometer

Tools required:	Ratchet	T25 Torx® ¹ head bit
	¼" Allen™ ² wrench	½" open end wrench
	Side cutters	6" straight edge

Removal

1. Raise and secure the head section to get access to the electric box.

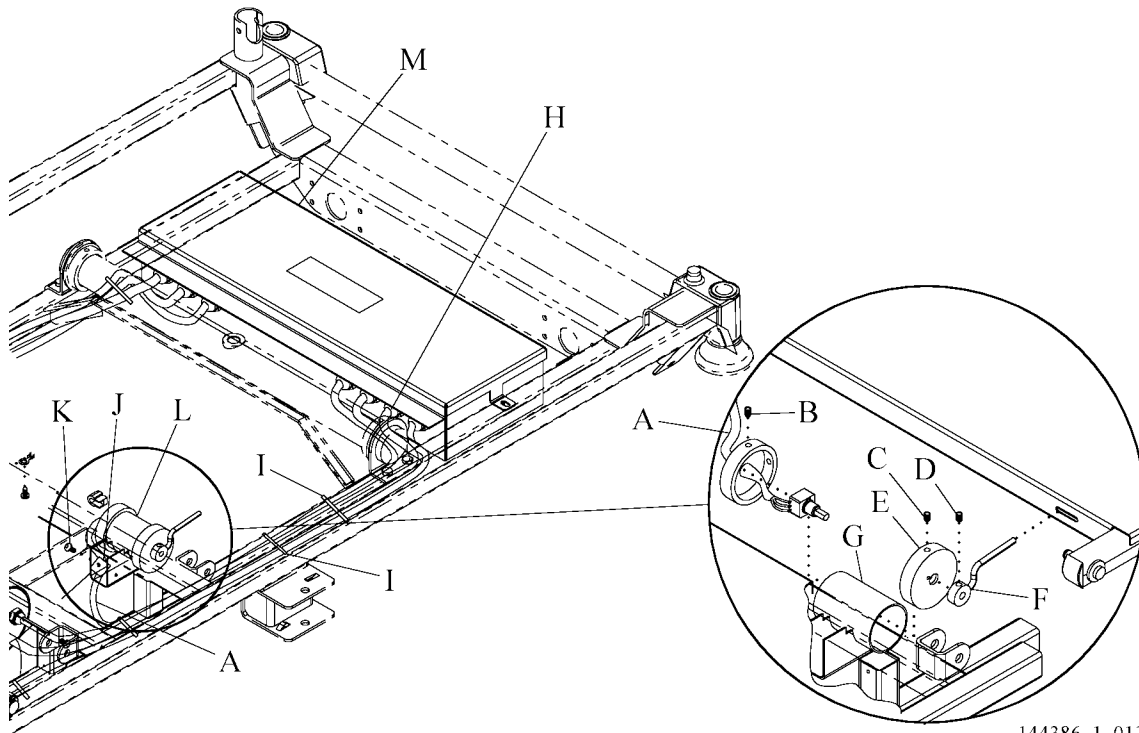


SHOCK HAZARD:

Failure to unplug the unit from its power source could cause personal injury and equipment damage.

2. Unplug the stretcher from its power source.
3. Remove the two screws (A) and lockwashers (E) that attach the electric box cover (C) (see figure 4-16 on page 4-31).
4. Remove the electric box cover (C).
5. Remove the potentiometer cable assembly connector (B) from P1 on the control board (H) (see figure 4-17 on page 4-32).
6. Remove the nut (H) that attaches the potentiometer cable assembly (A) to the electric box (M). The nut will stay with the wiring assembly (see figure 4-18 on page 4-35).
7. Remove the potentiometer cable assembly (A) from the electric box (M).
8. Cut the cable ties (I) that attach the potentiometer cable assembly (A) along the left side of the upper frame.

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2. Allen™ is a trademark of Industrial Fasteners, Inc.

Figure 4-18. Potentiometer

144386_1_013

9. Use the CPR release handle to lower the head section and get access to the potentiometer (L).
10. Remove the screw (K) and cable clamp (J).
11. Remove the setscrew (B) from the side of the potentiometer cable assembly (A).
12. Remove the setscrew (D) from the potentiometer weldment (F).
13. Remove the setscrew (C) from the potentiometer can (E).
14. Pull the potentiometer can back that has the wiring assembly going through, and disconnect the potentiometer cable assembly (A).
15. Remove the potentiometer cable assembly (A), the potentiometer weldment (F), and the potentiometer can (E) from the potentiometer tube (G).

NOTE:

The potentiometer tube is welded on the upper frame.

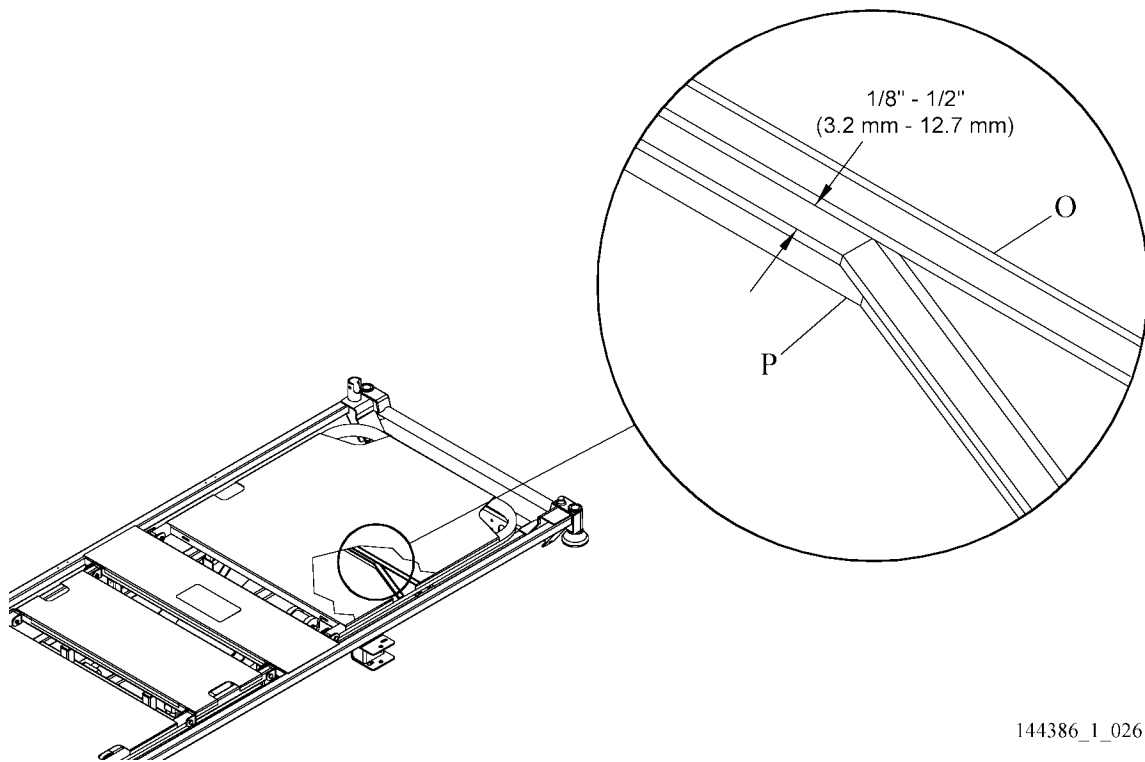
Replacement

Do the removal procedure in reverse order.

Adjustment

1. Plug the stretcher into an applicable power source, and lower the back section.
2. Measure the gap between the bottom surface of the back section (O) and the top of the head section support bracket (P) (see figure 4-19 on page 4-36). The gap must be $\frac{1}{8}$ " (3.2 mm) to $\frac{1}{2}$ " (12.7 mm). If the measurement is $\frac{1}{8}$ " (3.2 mm) to $\frac{1}{2}$ " (12.7 mm), no further adjustment is necessary. If not, go to step 3.

Figure 4-19. Electric Stretcher Potentiometer Adjustment



144386_1_026

3. Loosen the setscrew (C) from the potentiometer can (E) (see figure 4-18 on page 4-35).
4. Move the potentiometer can (E) to adjust the potentiometer. If the stretcher stops too soon, the gap is larger than $\frac{1}{2}$ " (12.7 mm). Turn the potentiometer can (E) clockwise (from side-view with back section to the right). Turn the

potentiometer can (E) counterclockwise if the gap is smaller than 1/8" (3.2 mm).

5. Do step 2. If the measurement is correct, tighten the setscrew (C).
6. Do the “Function Checks” on page 2-3.

4.14 Electric Stretcher—Power Cord Assembly

Tools required: T25 Torx®¹ head bit Ratchet
7/16" open end wrench Side cutters
Extraction tool (P/N 429022)

Removal

1. Raise and secure the head section to get access to the electric box.



SHOCK HAZARD:

Failure to unplug the unit from its power source could cause personal injury and equipment damage.

2. Unplug the stretcher from its power source.
3. Remove the two screws (A) that attach the electric box cover (C) (see figure 4-16 on page 4-31).
4. Remove the electric box cover (C).
5. Cut the cable ties that attach the power cord assembly to the inside of the electric box.
6. Remove the power cord assembly connector (G) from P5 on the control board (H) (see figure 4-17 on page 4-32).
7. Loosen the strain relief (A) from the bottom of the electric box (inside) (see figure 4-20 on page 4-39).
8. Remove the ground screw (D) and the self-locking nut (C) that attach the power cord assembly's ground strap (E).
9. Use the extraction tool to remove the terminals from the power cord assembly connector housing.

NOTE:

The power cord assembly connector will not fit through the hole in the electric box unless the terminals are removed from the connector.

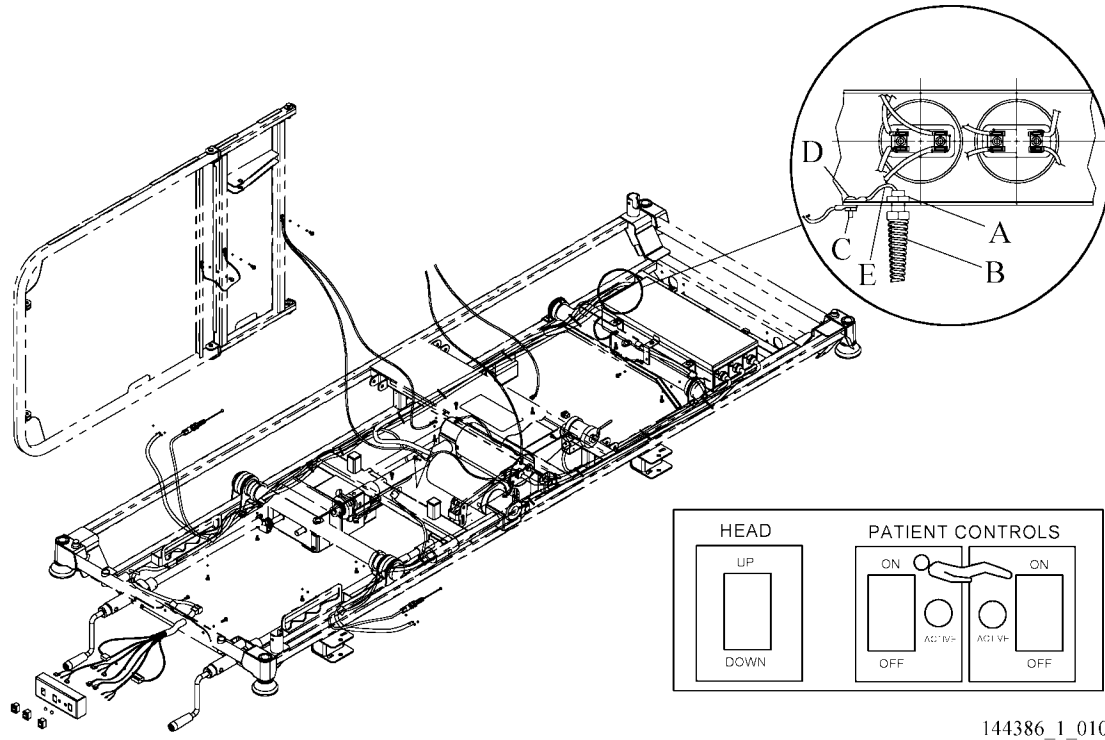
10. Pull the power cord assembly (B) out through the bottom of the electric box.

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Replacement

1. Install the new power cord assembly through the bottom of the electric box.

Figure 4-20. Electric Stretcher Power Cord Assembly



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2. Install (loosely) the strain relief (A) to attach the power cord assembly (B) to the electric box.
3. Install the terminals into the power cord assembly connector housing.
4. Connect the power cord assembly connector (G) to P5 on the control board (H) (see figure 4-17 on page 4-32).
5. Tighten the strain relief (A) firmly in position (see figure 4-20 on page 4-39).
6. Install the ground screw (D), the ground strap (E), and the self-locking nut (C) to the electric box.
7. Install cable ties to attach the power cord assembly to the other wiring assemblies inside the electric box.
8. Put the electric box cover (C) in position, and install the two screws (A) to attach the cover (C) to the frame (see figure 4-16 on page 4-31).

9. Plug the stretcher into an applicable power source.
10. Do the “Function Checks” on page 2-3.

Figure 4-21. Procedural/Trauma Stretcher Back Section Gas Spring

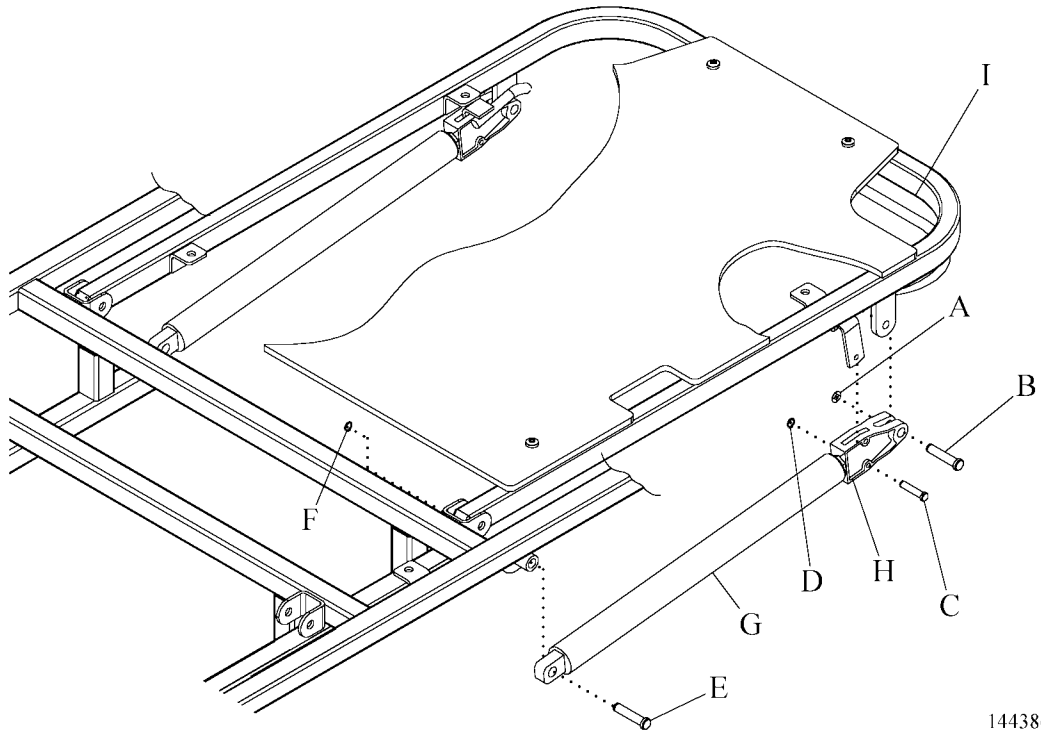
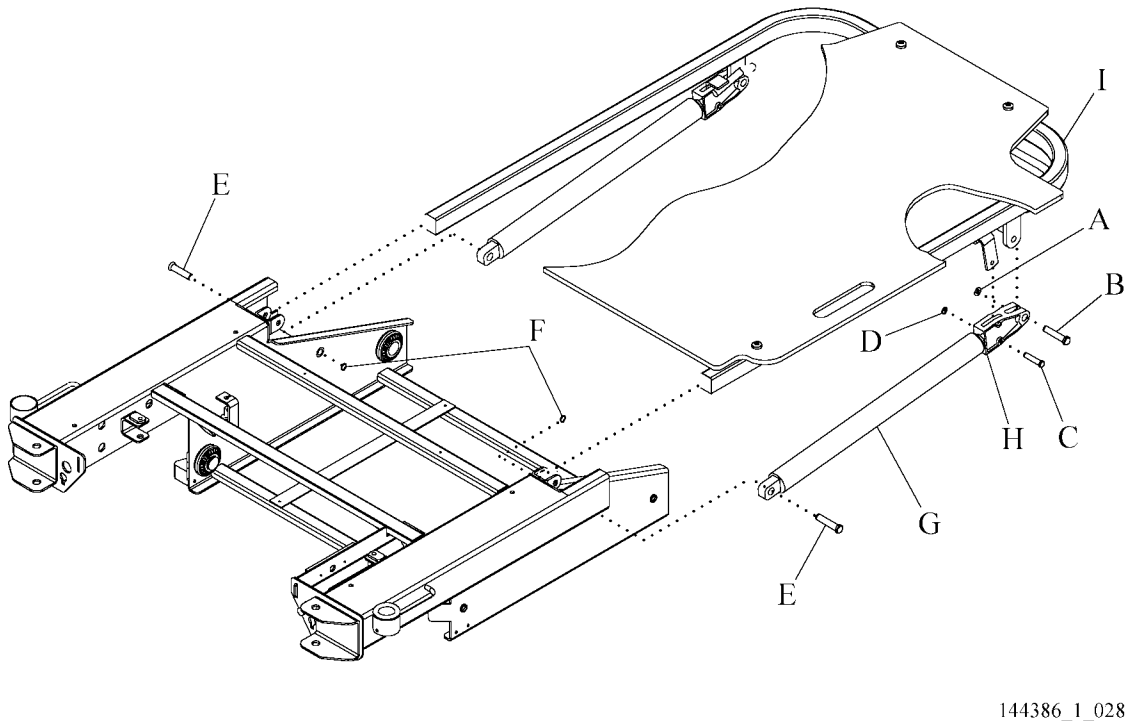


Figure 4-22. OB/GYN Stretcher Back Section Gas Spring



Replacement



WARNING:

With little or no weight on it, the back section could rise quickly. Make sure you fully control the lift of the back section. Failure to do so could cause personal injury.

1. Raise the back section, put the **new** gas spring (G) into position, and install the top headed pin (B).
2. Lower the back section to the horizontal position, and install the bottom headed pin (E) through the gas spring (G) and frame bracket.



WARNING:

Do not use retaining rings that are overextended. Personal injury and equipment damage could occur.

3. Install the retaining rings (A) and (F) into the grooves of the top and bottom headed pins (B) and (E).
4. Install the solid rivet (C) that secures the release handle to the gas spring (G).
5. Install the push nut (D) onto the solid rivet (C).
6. Do a check on the adjustment of the release handle (see “Adjustment” on page 4-43).

Adjustment

1. Raise the back section to approximately 45°, and apply a downward pressure on the side of the back section that requires the adjustment.
2. Squeeze the back section release handle (I) located under the back section (see figure 4-21 on page 4-42) or (see figure 4-22 on page 4-42). The back section release handle (I) should activate before the handle comes in contact with the back section frame.
3. Make sure the back section release handle (I) operates correctly. If adjustment to the gas spring is necessary, loosen the jam nut (H) at the top of the gas spring.

Chapter 4: Removal, Replacement, and Adjustment Procedures



CAUTION:

Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Failure to do so could cause equipment damage.

4. Remove the retaining ring (F) and the bottom headed pin (E) at the bottom of the gas spring.
5. Turn the gas spring clockwise or counterclockwise to adjust.



WARNING:

Do not use retaining rings that are overextended. Personal injury and equipment damage could occur.

6. Install the bottom headed pin (E) and the retaining ring (F) on the bottom of the gas spring.
7. Make sure the back section release handle (I) operate correctly, and if necessary, adjust the gas spring again.
8. Tighten the jam nut (H).
9. Do the “Function Checks” on page 2-3.

4.16 Surgical (P8010) Stretcher—Back Section Gas Spring

Tools required: 17 mm open end wrench 7/16" open end wrench
5/32" Allen™ wrench

Removal

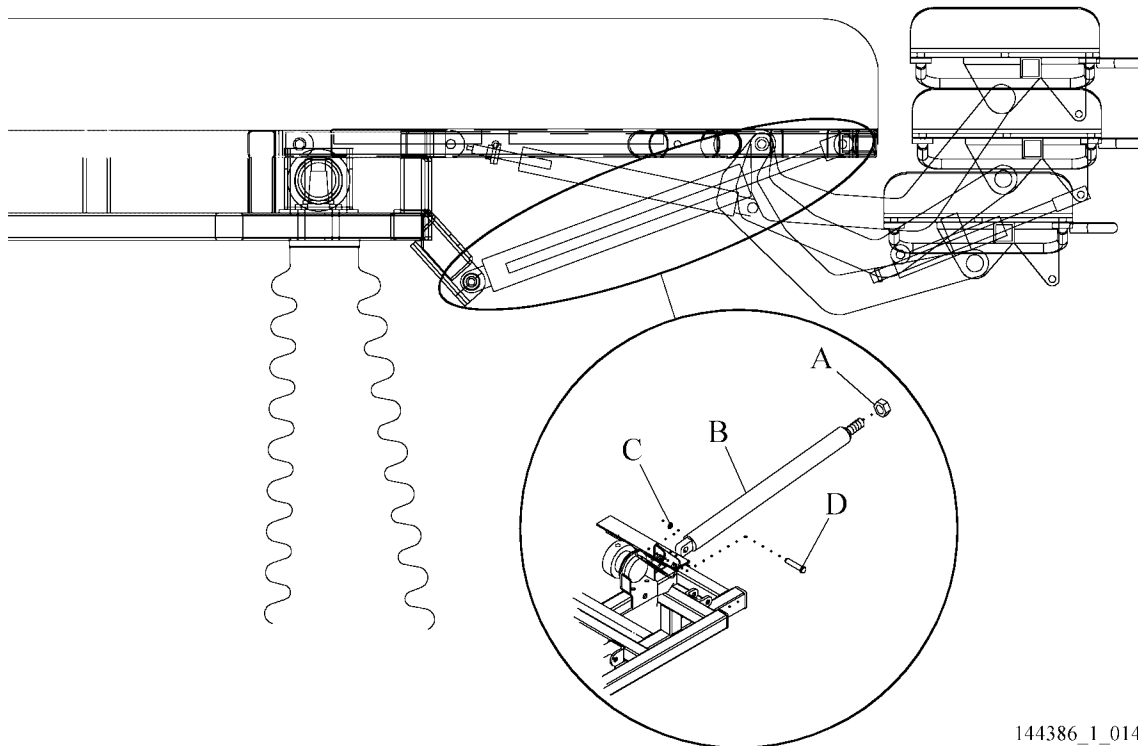


WARNING:

With little or no weight on it, the back section could rise quickly. Make sure you fully control the lift of the back section. Failure to do so could cause personal injury.

1. Loosen the jam nut (A) on the top of the gas spring (B) (see figure 4-23 on page 4-45).
2. Remove the locknut (C) and the shoulder bolt (D) on the bottom of the gas spring (B).

Figure 4-23. Surgical Stretcher—Back Section Gas Spring



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Replacement



WARNING:

With little or no weight on it, the back section could rise quickly. Make sure you fully control the lift of the back section. Failure to do so could cause personal injury.

1. Raise the back section, put the **new** gas spring (B) into position, and loosely install the jam nut (A).
2. Lower the back section to the horizontal position, and install the locknut (C) and shoulder bolt (D).
3. Check the adjustment of the gas spring (B) and the release handles (see “Adjustment” on page 4-46). Check both release handles individually, and check with and without the PACU extenders installed.
4. Tighten the locknut (C) and the shoulder bolt (D).
5. Tighten the jam nut (A).

Adjustment

1. Put the stretcher in the full flat position.

NOTE:

Adjust the gas spring so that when the release handle is engaged approximately half-way through its full travel, the gas spring releases; and when the release handle is disengaged, the gas spring is locked. Make sure the release handle operates correctly, and it returns to its original position.

2. Squeeze the **left** release handle at the top of the back section (hand cut-out).

NOTE:

The PACU extenders can either be removed from the stretcher, in the armboard position, or in the extended position. If they are in the extended position (around the articulating head section), then the release handle on the PACU extenders must be used to raise or lower the back section.



CAUTION:

Do not turn the gas spring rod with a clamp device. Damage to the rod could occur.

3. If adjustment to the gas spring is necessary, loosen the jam nut (A) on the top of the gas spring (B) (see figure 4-23 on page 4-45).

4. Remove the locknut (C) and the shoulder bolt (D) on the bottom of the gas spring (B).
5. Turn the gas spring (B) clockwise or counterclockwise in half-turn increments to adjust.
6. Loosely install the shoulder bolt (D).
7. Make sure the release handle operates correctly, and if necessary, adjust the gas spring for the **right** release handle, the left PACU release handle, and the right PACU release handle.
8. When all release handles are operate correctly, install the locknut (C) on the bottom of the gas spring.
9. Tighten the jam nut (A).
10. Do the “Function Checks” on page 2-3.

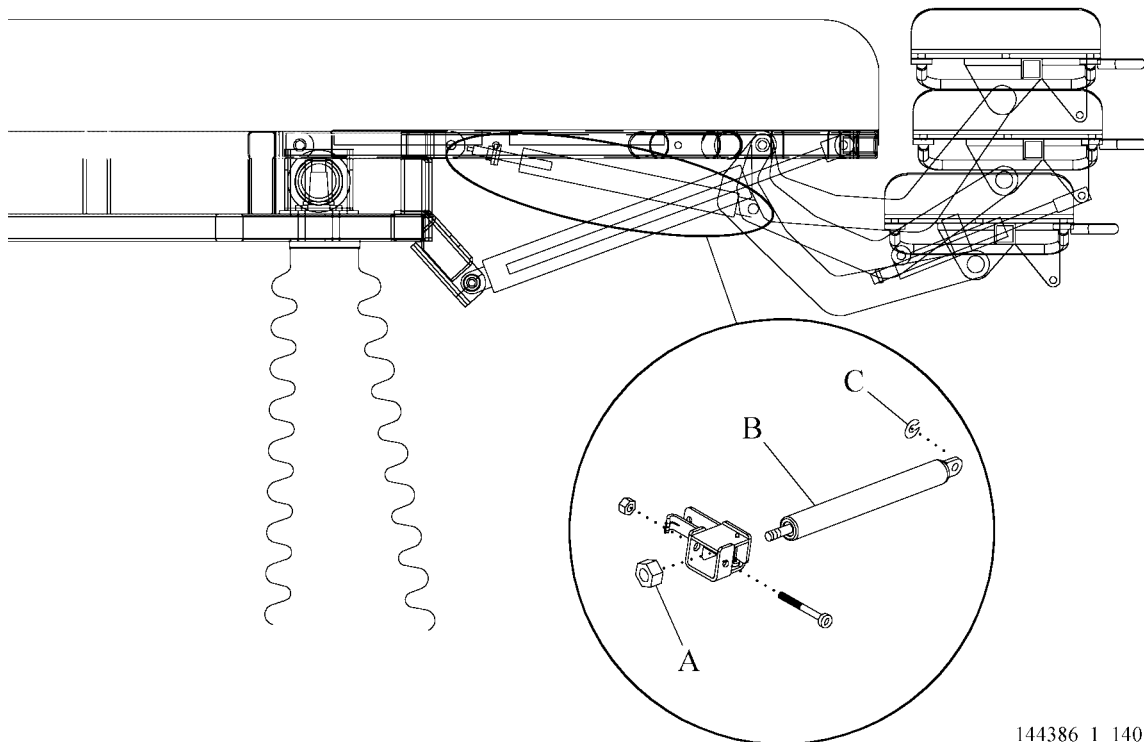
4.17 Surgical (P8010) Stretcher—Articulating Headrest Gas Spring

Tools required: ½" open end wrench
Retaining ring removal/installation tool

Removal

1. Loosen the jam nut (A) on the gas spring (B) (see figure 4-24 on page 4-48).

Figure 4-24. Surgical Stretcher Articulating Headrest Gas Spring



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CAUTION:

Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Failure to do so could cause equipment damage.

2. Remove the retaining ring (C) from the gas spring (B).

Replacement

1. Raise the headrest, put the **new** gas spring (B) into position, and loosely install the jam nut (A).



WARNING:

Do not use a retaining ring that is overextended. Personal injury could occur.

2. Lower the headrest (if necessary).
3. Install the retaining ring (C).
4. Make sure the articulating headrest operates correctly. If necessary, adjust the gas spring (see “Adjustment” on page 4-49).
5. Tighten the jam nut (A).

Adjustment

1. Engage the push handle release to actuate the articulating headrest. Adjust the gas spring so that when the push handle release is engaged, the gas spring and the Mechlok®¹ device release at the same time.



CAUTION:

Do not turn the gas spring rod with a clamping device. Damage to the rod could occur.

2. If adjustment is necessary, loosen the jam nut (A) on the gas spring (B) (see figure 4-24 on page 4-48).



CAUTION:

Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Failure to do so could cause equipment damage.

3. Remove the retaining ring (C) from the gas spring (B).
4. Turn the gas spring (B) clockwise or counterclockwise to adjust.



WARNING:

Do not use a retaining ring that is overextended. Personal injury could occur.

5. Make sure the retaining ring is not overextended.

1. Mechlok® is a registered trademark of P. L. Porter Company.

6. Install the retaining ring (C).
7. Make sure the articulating headrest operates correctly, and if necessary, adjust the gas spring again.
8. Tighten the jam nut (A).
9. Do the “Function Checks” on page 2-3.

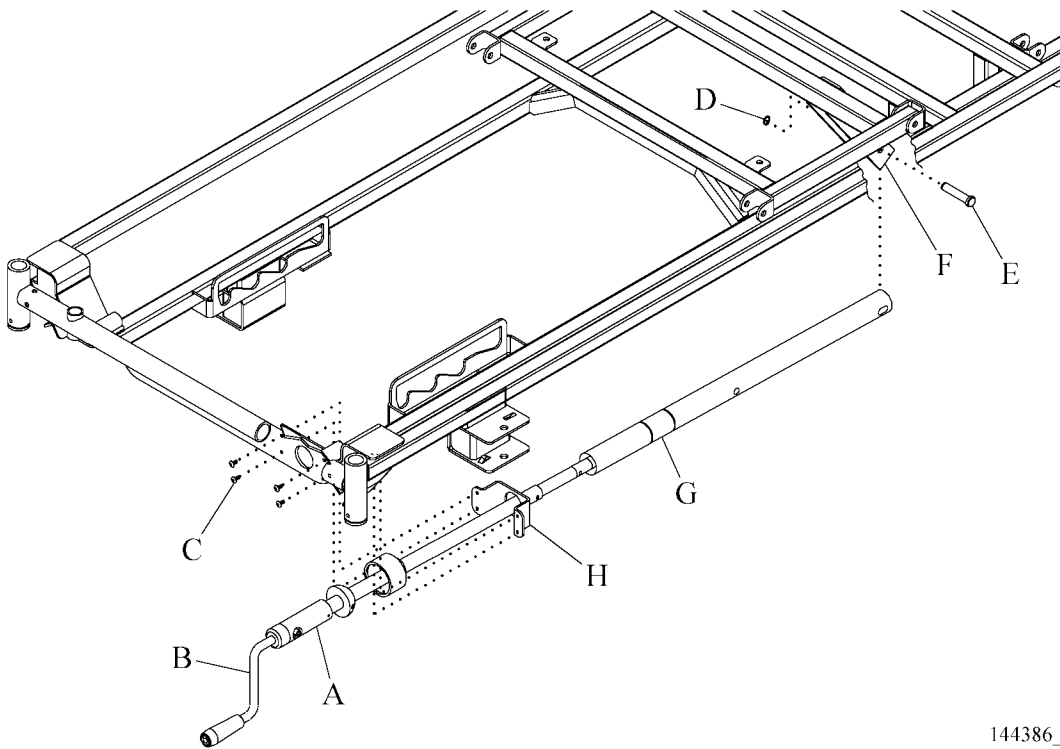
4.18 Procedural (P8000) or Surgical (P8010) Stretcher—Knee Screw Assembly

Tools required: Ratchet Hammer
T25 Torx®¹ head bit 3/16" pin punch
Torque wrench 0-250 in-lb (0 to 28.2 N•m)
Retaining ring removal/installation tool
Lithium-base grease (P/N SA3351)

Removal

1. Crank the knee gatch assembly to the horizontal position (see figure 4-25 on page 4-51).

Figure 4-25. Knee Screw Assembly



144386_1_034

2. Remove the roll pin (A) that attaches the crank handle (B) to the knee screw assembly (G).
3. Remove the four screws (C) that attach the knee screw assembly (G) to the upper frame.

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CAUTION:

Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Failure to do so could cause equipment damage.

4. Remove the retaining ring (D) from the headed pin (E) at the head end of the knee screw assembly (G).
5. Remove the headed pin (E) from the knee screw assembly (G).
6. Remove the knee screw assembly (G).

Replacement

1. Use lithium grease to lightly grease the knee screw assembly (G) threads.
2. Slide the knee screw assembly (G) through the foot end of the stretcher.
3. Install the headed pin (E) through the knee screw assembly (G) and the base frame bracket (F).



WARNING:

Do not use retaining rings that are overextended. Personal injury and equipment damage could occur.

4. Install the retaining ring (D) onto the headed pin (E).
5. Install the four screws (C) into the crank bracket (H) located at the foot of the upper frame assembly.
6. Tighten the four screws (C) to 50 ± 8 in-lb (5.7 ± 0.9 N·m) of torque.
7. Put the crank handle (B) on to the knee screw assembly (G).
8. Align the hole in the crank handle (B) with the hole in the knee screw assembly (G). Install the roll pin (A) through the crank handle (B) and knee screw assembly (G).
9. Do the “Function Checks” on page 2-3.

4.19 Electric (P8020) Stretcher—Knee Drive Assembly

Tools required: Ratchet T25 Torx®¹ head bit
½" socket Hammer
Phillips head screwdriver 3/16" pin punch
Retaining ring removal/installation tool
Blue Loctite®² (P/N SA3618) adhesive

Removal

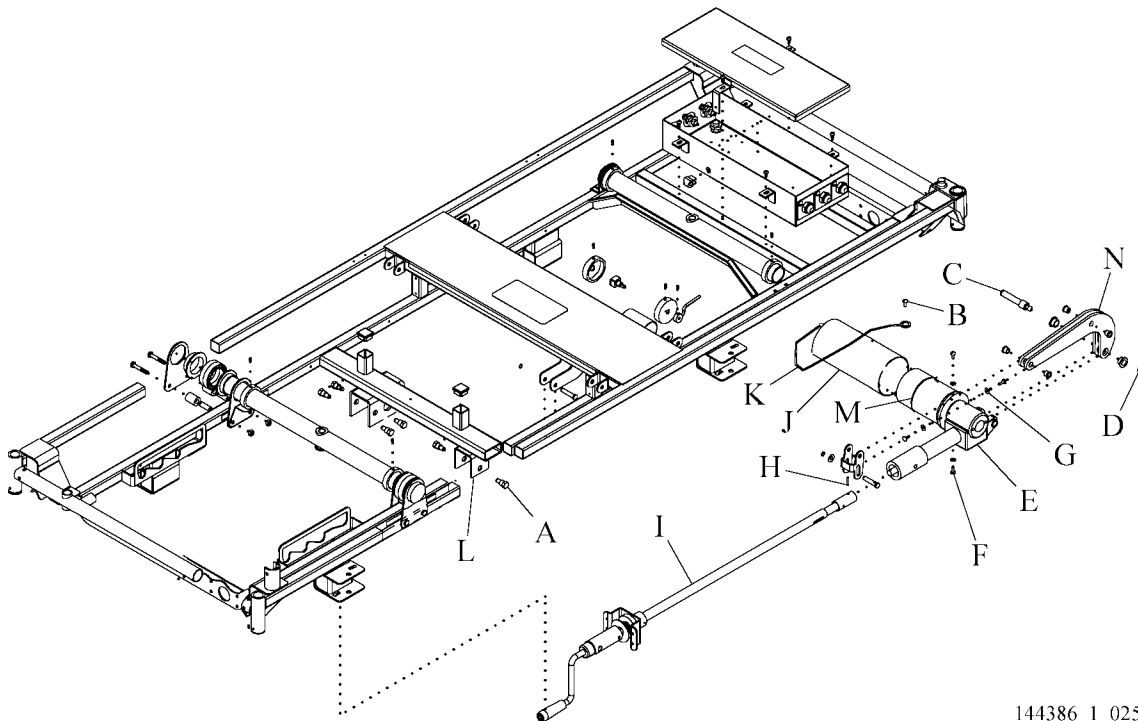


SHOCK HAZARD:

Failure to unplug the unit from its power source could cause personal injury and equipment damage.

1. Unplug the stretcher from its power source.
2. Remove the roll pin (H) that attaches the crank handle (I) to the knee drive assembly (E) (see figure 4-26 on page 4-53).

Figure 4-26. Knee Drive Assembly



144386_1_025

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.
2. Loctite® is a registered trademark of Loctite Corporation.

3. Remove the two actuator mounting bolts (A). Make sure you support the knee drive assembly (E).
4. Remove the ground screw (B) that attaches the ground strap (K) to the knee drive assembly (E).
5. Remove the four screws (F) and washers (G) that attach the knee motor housing (J).
6. Remove the knee motor housing (J), and disconnect the electrical connector.
7. Remove the O-ring (M) from the knee drive assembly (E).



CAUTION:

Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Failure to do so could cause equipment damage.

8. Remove the retaining ring (D) from the actuator mounting pin (C).
9. Remove the actuator mounting pin (C).
10. Remove the knee drive assembly (E).

Replacement

1. Install the actuator mounting pin (C) through the knee drive assembly (E) and the dogleg weldment (N).



WARNING:

Do not use retaining rings that are overextended. Personal injury and equipment damage could occur.

2. Install the retaining ring (D) on the actuator mounting pin (C).
3. Install the O-ring (M) on the knee drive assembly (E). Make sure the O-ring is in position against the flange of the knee drive assembly (E).
4. Connect the electrical connector, and install the knee motor housing (J).
5. Install the four screws (F) and washers (G) that attach the knee motor housing (J).

6. Install the ground screw (B) that attaches the ground strap (K) to the knee drive assembly (E).
7. Support the knee drive assembly (E), and put the crank handle (I) in the knee drive assembly.
8. Align the hole in the crank handle (I) with the hole in the knee drive assembly (E). Install the roll pin (H) through the crank handle (I) and the knee drive assembly (E).
9. Apply blue Loctite®¹ 242 adhesive to the threads of the actuator mounting bolts (A).
10. Tighten the two actuator mounting bolts (A) that attach the knee drive assembly (E) to the base frame bracket (L).
11. Plug the stretcher into an applicable power source.
12. Do the “Function Checks” on page 2-3.

1. Loctite® is a registered trademark of Loctite Corporation.

4.20 Electric (P8020) Stretcher—Head Drive Assembly

Tools required:	T25 Torx® ¹ head bit	Ratchet
	Hammer	3/16" pin punch
	½" socket	Phillips head screwdriver
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	
	Retaining ring removal/installation tool	
	Blue Loctite® ² (P/N SA3618) adhesive	

Removal



SHOCK HAZARD:

Failure to unplug the unit from its power source could cause personal injury and equipment damage.

1. Unplug the stretcher from its power source.
2. Put the stretcher in this configuration: the back section down, the thigh section up, the foot section up, and the hilow up.
3. Remove the two screws (I) that hold the gearbox cover (K) to the gearbox (see figure 4-27 on page 4-57).
4. Remove the roll pin (H) that attaches the head drive assembly (O) to the gearbox linkage.
5. Pull the gearbox shaft out of the head drive assembly (O).



CAUTION:

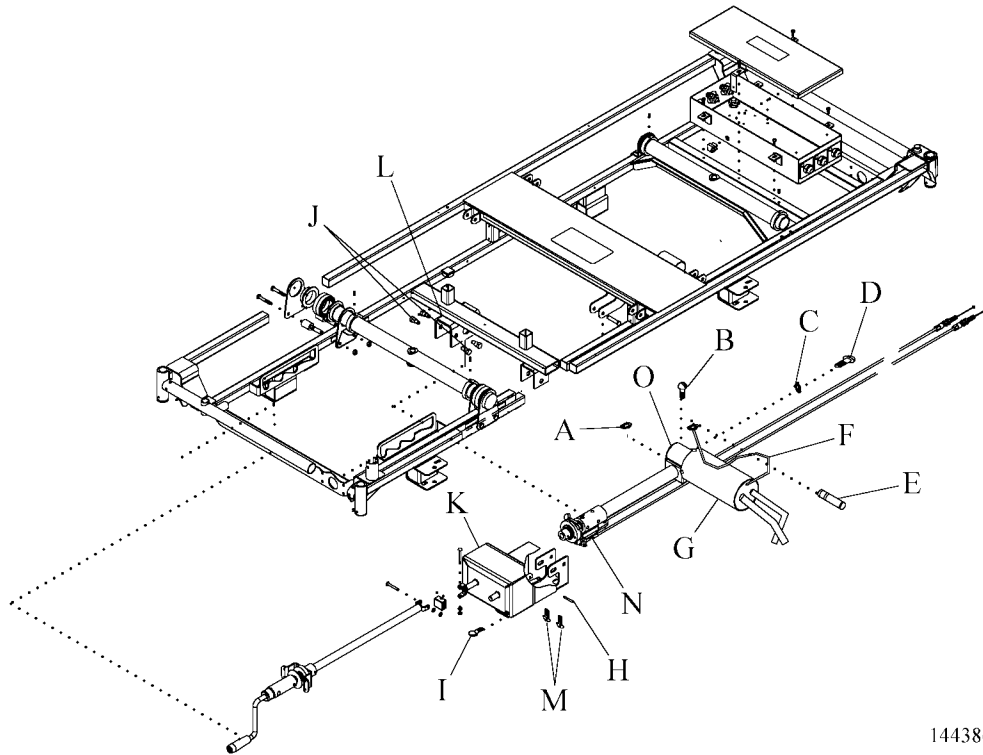
Use care when you remove the cable attachment screws. Keep the CPR release cable assembly together to aid in the installation. Equipment damage could occur.

6. Remove the two cable attachment screws (M) that attach the CPR release cable assembly (N) to the bottom of the head drive assembly (O).
7. Remove the four actuator mounting bolts (J).

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

2. Loctite® is a registered trademark of Loctite Corporation.

Figure 4-27. Head Drive Assembly



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CAUTION:

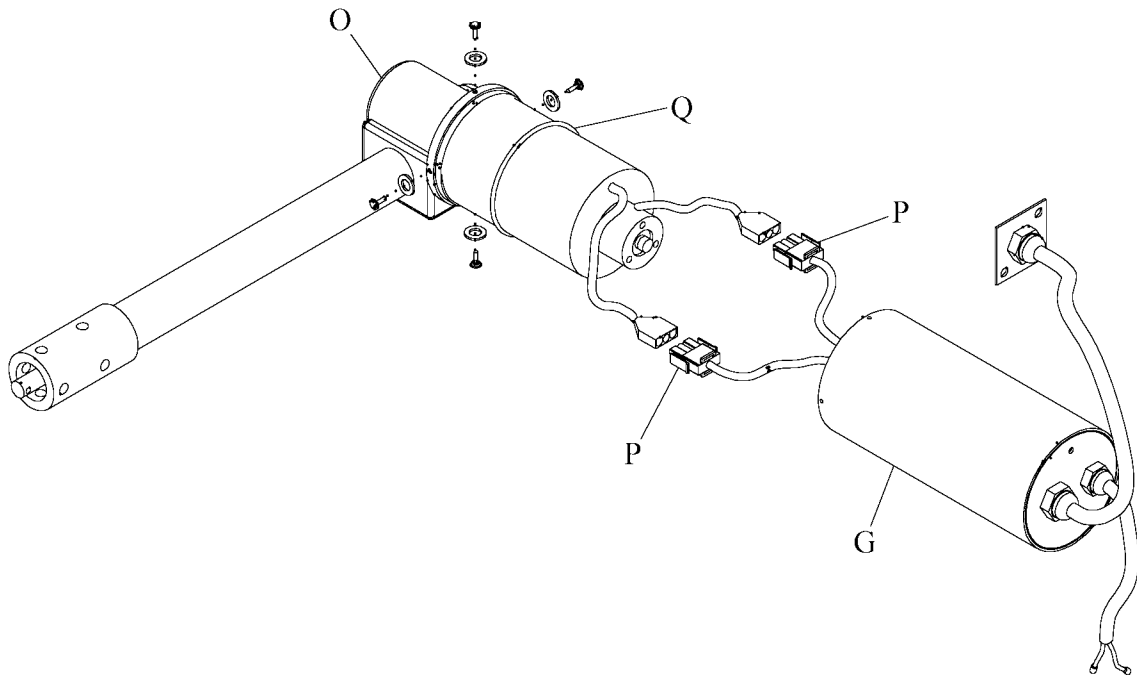
Do not overextend the retaining rings. If the retaining rings are overextended, use new ones for the installation. Failure to do so could cause equipment damage.

8. Remove the retaining ring (A) from the actuator mounting pin (E).
9. Support the head drive assembly (O), and remove the actuator mounting pin (E).
10. Remove the ground screw (B) that attaches the ground strap (F) to the head drive assembly (O).

NOTE:

It is not necessary to remove the dampener when the actuator mounting pin is removed.

Figure 4-28. Head Motor Housing



144386_1_005

11. While you support the head drive assembly (O), remove the four screws (D) and washers (C) that attach the head motor housing (G).
12. Pull the head motor housing (G) back, and disconnect the two electrical connectors (P) (see figure 4-28 on page 4-58).
13. Remove the head motor housing (G).
14. Remove the O-ring (Q) from the head drive assembly (O).
15. Remove the head drive assembly (O) (see figure 4-27 on page 4-57).

Replacement

1. Install the actuator mounting pin (E) through the head drive assembly (O).



WARNING:

Do not use retaining rings that are overextended. Personal injury and equipment damage could occur.

2. Install the retaining ring (A) on the actuator mounting pin (E).

3. Install the O-ring (Q) on the head drive assembly (O). Make sure the O-ring is correctly installed against the flange of the head drive assembly (see figure 4-28 on page 4-58).
4. Connect the two electrical connectors (P), and install the head motor housing (G).
5. Install the four screws (D) and washers (C) that attach the head motor housing (G) (see figure 4-27 on page 4-57).
6. Install the ground screw (B) that attaches the ground strap (F) to the head drive assembly (O).
7. Support the head drive assembly (O), and put the gearbox shaft in the head drive assembly.
8. Apply blue Loctite®¹ 242 adhesive to the threads of the cable attachment screws (M) and actuator mounting bolts (J).
9. Install the two cable attachment screws (M) that attach the head drive assembly (O) and the CPR cable assembly (N).
10. Tighten the two cable attachment screws (M) to 210 ± 30 in-lb (23.7 ± 3.4 N·m) of torque.
11. Tighten the four actuator mounting bolts (J) that attach the head drive assembly (O) to the base frame bracket (L).
12. Align the hole in the gearbox shaft with the hole in the head drive assembly (O). Install the roll pin (H) through the gearbox shaft and the head drive assembly (O).
13. Plug the stretcher into an applicable power source.
14. Do the “Function Checks” on page 2-3.

1. Loctite® is a registered trademark of Loctite Corporation.

4.21 Electric (P8020) Stretcher—CPR Release Cable Assembly

Tools required:	Ratchet	T25 Torx® ¹ head bit
	½" socket	½" open end wrench
	¼" socket	5/16" Allen™ ² wrench
	Side cutters	
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	

Removal

1. Lower the head and knee sections to the full flat position.



SHOCK HAZARD:

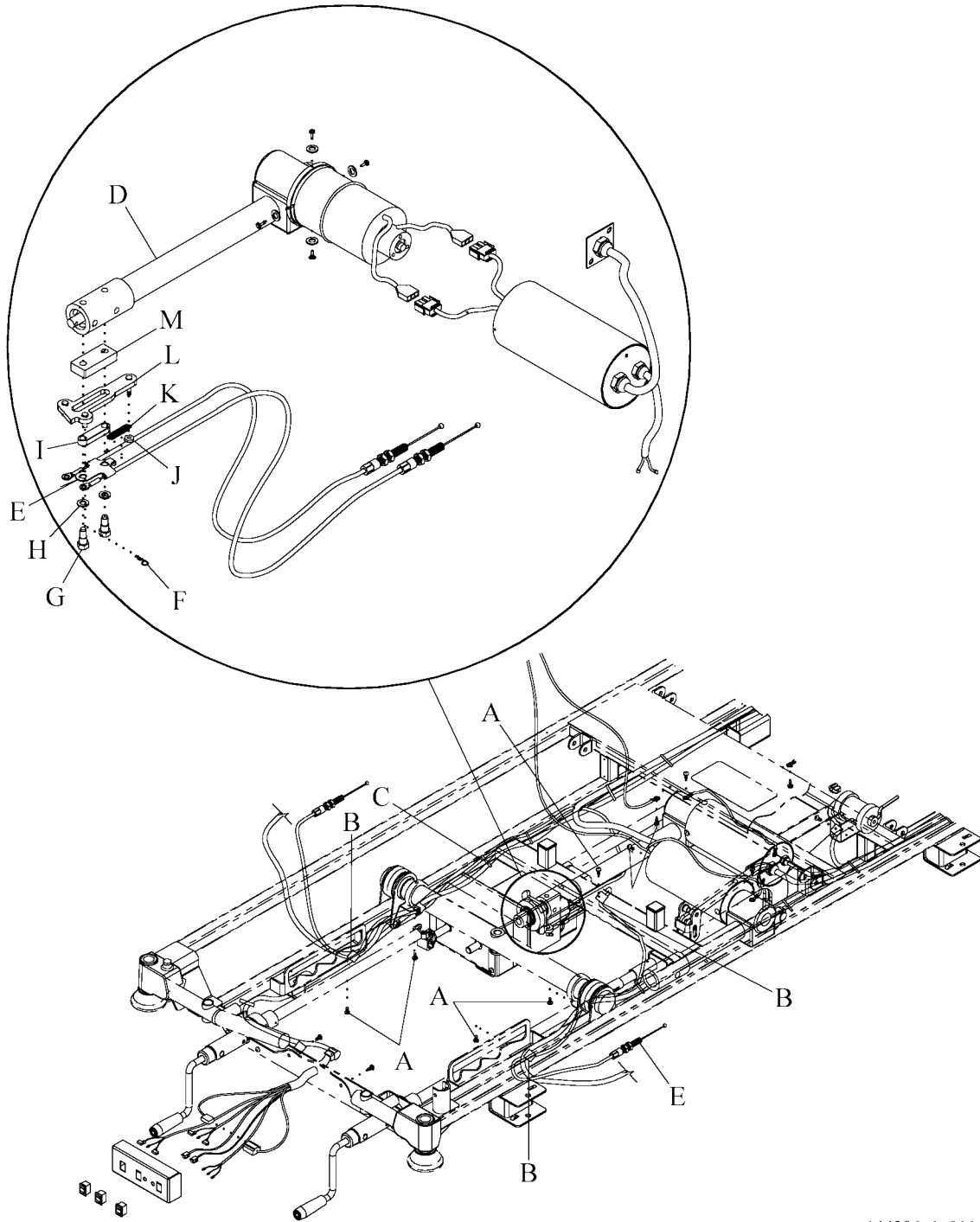
Failure to unplug the unit from its power source could cause personal injury and equipment damage.

2. Unplug the stretcher from its power source.
3. Make a note of the wire/cable routing at the bottom of the siderail and along the upper frame. This will aid in the installation.
4. Remove the snap wire cover (J) from the bottom rail (F) (see figure 4-3 on page 4-8).
5. Remove the shoulder bolt (H).
6. Remove the cable adjusting nut (I).
7. Cut the cable ties that attach the siderail cable assembly (K) and the CPR cable (L) (see figure 4-4 on page 4-9) to the bottom rail (F) (see figure 4-3 on page 4-8).
8. Cut the cable ties (C) along the upper frame (see figure 4-29 on page 4-61).
9. Remove the five screws (A) and cable clamps (B) that attach the CPR release cable assembly (E) to the upper frame.
10. Remove the pin (F) from the latch (L).
11. Remove the two cable attachment screws (G) and lockwashers (H).
12. Remove the nut (J) and spring (K).
13. Remove the CPR release cable assembly (E), the latch guide (I), the latch (L), and the main bushing release spacer (M).

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

2. Allen™ is a trademark of Industrial Fasteners, Inc.

Figure 4-29. CPR Release Cable Assembly



144386_1_011

Replacement

1. Install the spring (K) and nut (J) on the latch (L). Tighten the nut.
2. Assemble the main bushing release spacer (M), latch (L), latch guide (I), CPR release cable assembly (E), and the spring (K) as shown.
3. Attach the end of the spring (K) to the CPR release cable assembly (E).
4. Install the two cable attachment screws (G) and lockwashers (H) that attach the above assembly to the head drive assembly (D).
5. Tighten the two cable attachment screws (G) to 210 ± 30 in-lb (23.7 ± 3.4 N·m) of torque.
6. Install the pin (F) on the latch (L).
7. Put the CPR release cable assembly (E) in position along the upper frame and along the bottom of the siderail. Make sure the cable and ball are installed correctly in the CPR handle weldment.
8. Loosely install the cable adjusting nut (I) (see figure 4-3 on page 4-8).
9. Install the shoulder bolt (H) that attaches the CPR handle weldment.
10. Install the five screws (A) and cable clamps (B) that attach the CPR release cable assembly (E) to the upper frame (see figure 4-29 on page 4-61).
11. Install the cable ties (C) along the upper frame. Cut the excess off of the cable ties.
12. While the siderail is in the down position, install a cable tie approximately $\frac{3}{4}$ " (19.1 mm) from the wire jacket on both sides of the connector, and pull the cable tie. Make sure a service loop of $\frac{1}{2}$ " (12.7 mm) exists in the electric wire (K) before you tighten the cable tie (see figure 4-3 on page 4-8).
13. Cut the excess off of the cable tie.
14. Install the snap wire cover (J).

Adjustment

Adjust the cable adjusting nut (I) (see figure 4-3 on page 4-8) on the threaded stud so the handle on the CPR handle weldment just touches the plastic CPR handle when the CPR latch (L) (see figure 4-29 on page 4-61) is fully extended.

Do the “Function Checks” on page 2-3.

4.22 Upper Frame and Base Shroud

Tools required: Rubber mallet/hammer Ratchet
9/16" socket
Blue Loctite®¹ (P/N SA3618) adhesive
Torque wrench 0-250 in-lb (0 to 28.2 N•m)

Removal

1. Raise the stretcher to the high position.
2. If the stretcher is an OB/GYN stretcher, remove the upper frame catch shroud (refer to procedure 4.23).
3. Remove the bolt (A), lockwasher (B), and washer (D) that attach the round crosstube or load beam (stretchers with scale) (C) to the hydraulic cylinder (see figure 4-30 on page 4-65) or (see figure 4-31 on page 4-66) or (see figure 4-32 on page 4-66).



WARNING:

Two people are necessary for this procedure. Failure to do so could cause personal injury and equipment damage.



CAUTION:

Be careful not to damage the base shroud when you remove the upper frame assembly.



CAUTION:

When you remove a load beam, make sure not to tap on the load beam cells or the cables that come from the load beams. Equipment damage could occur.

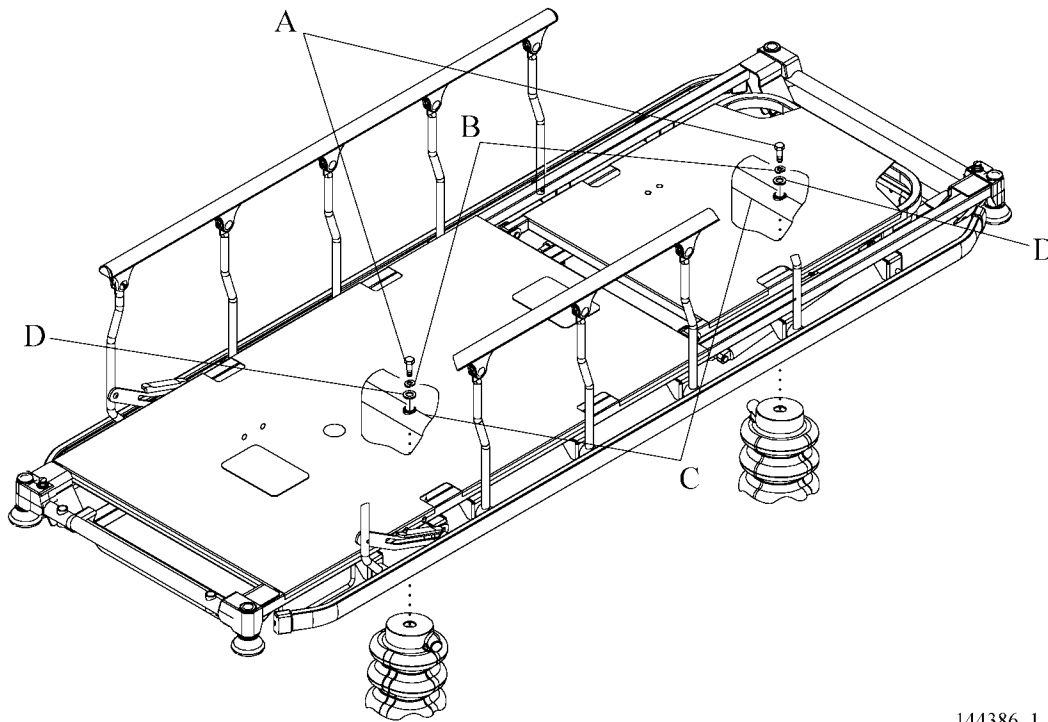
4. While you tap on the underside of the load beam or round crosstube (C) with a rubber mallet/hammer, lift the upper frame assembly until the frame separates from the hydraulic cylinder shaft.
5. Lift the frame from the hydraulic cylinders, and set the frame aside.

1. Loctite® is a registered trademark of Loctite Corporation.

6. If necessary, remove the base shroud (E), bellows (F), and bellows attachment plate (G) from the lower frame assembly (see figure 4-33 on page 4-67).

NOTE:

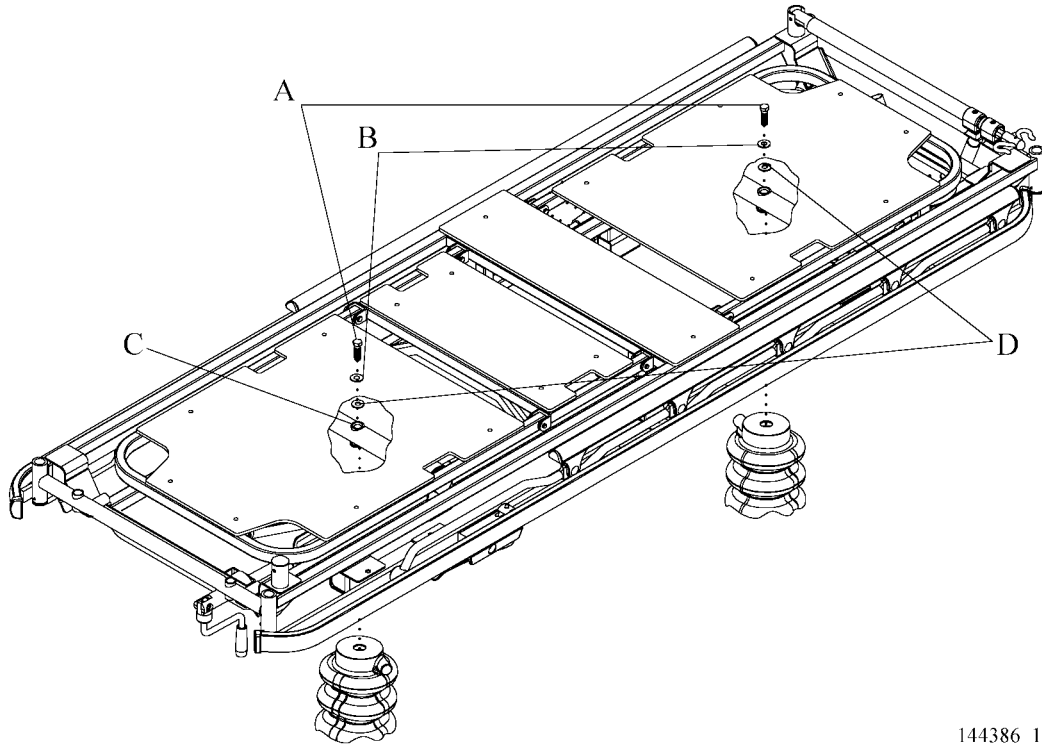
The base shroud is held in position with Velcro®¹ strips.

Figure 4-30. Transport Stretcher—Upper Frame

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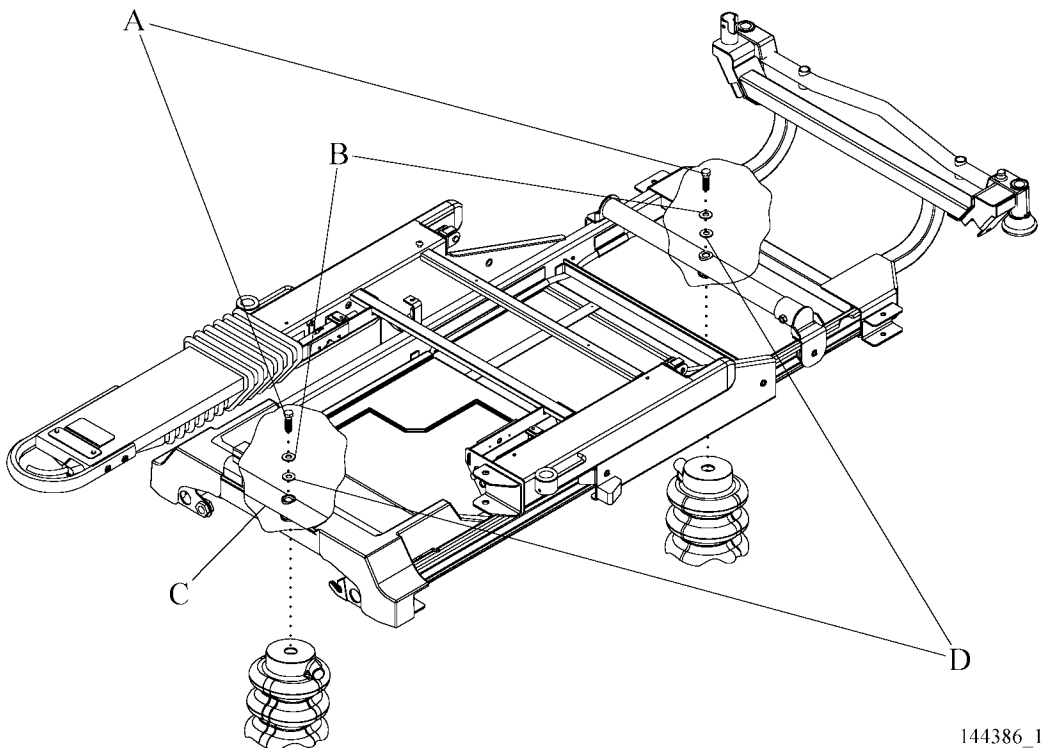
1. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

Figure 4-31. Procedural/Electric/Trauma/Surgical Stretcher—Upper Frame

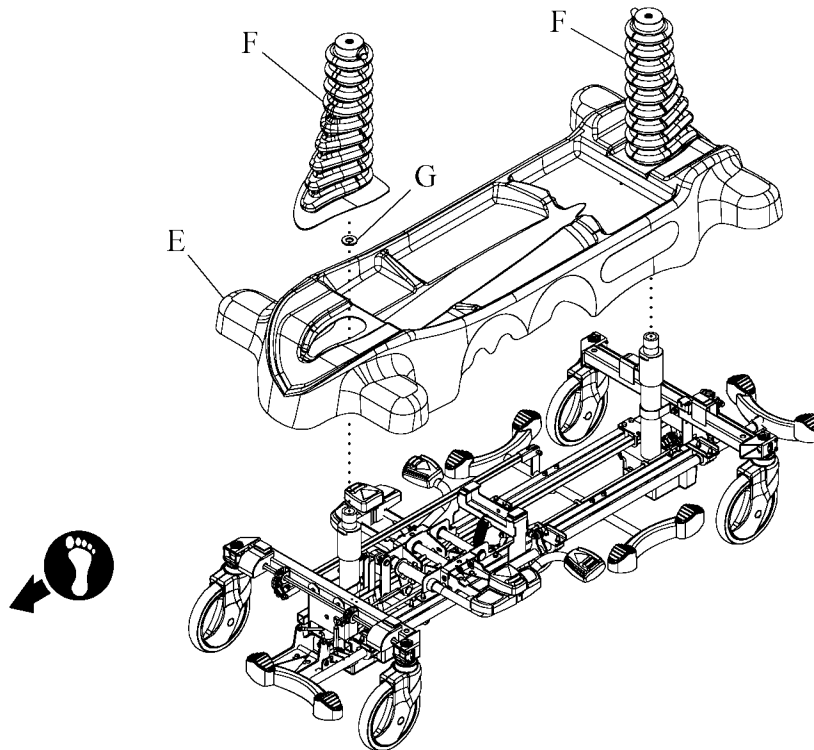


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Figure 4-32. OB/GYN Stretcher—Upper Frame



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Figure 4-33. Base Shroud and Bellows

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4

Replacement

1. Install the base shroud (E), bellows (F), and bellows attachment plate (G) (see figure 4-33 on page 4-67). Make sure the base shroud (E) is in the correct position and connects firmly with all Velcro®¹ strips.



WARNING:

Two people are necessary for this procedure. Failure to do so could cause personal injury and equipment damage.



CAUTION:

Be careful not to damage the base shroud when you install the upper frame assembly.

2. Lift the upper frame, and put the load beam or round crosstube (C) of the upper frame on to the hydraulic cylinders. Make sure the frame is in position on both hydraulic cylinders.

1. Velcro® is a registered trademark of Velcro Industries, BV.

3. Install the washer (D), lockwasher (B), and bolt (A) to attach the upper frame to the hydraulic cylinder.
4. Tighten the bolt (A) to 125 ± 19 in-lb (14.1 ± 2.1 N·m) of torque.
5. If the stretcher is an OB/GYN Stretcher, replace the upper frame catch shroud (refer to procedure 4.23).
6. Do the “Function Checks” on page 2-3.

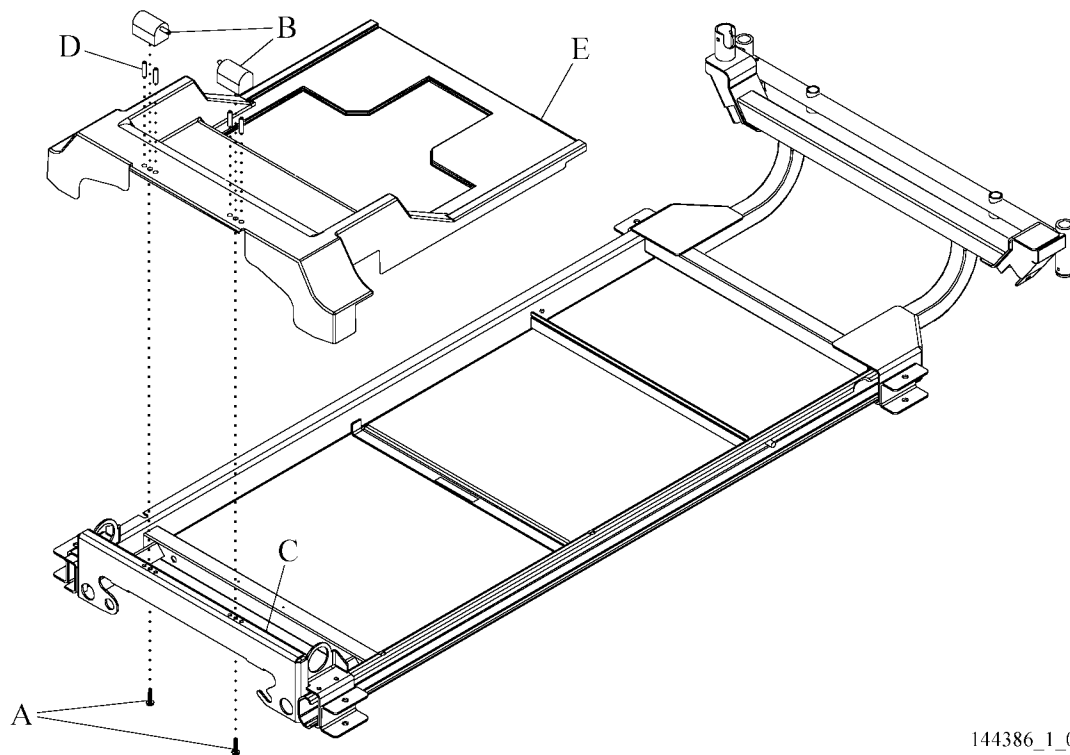
4.23 OB/GYN (P8050) Stretcher—Upper Frame Catch Shroud

Tools required: Rubber mallet/hammer Screwdriver

Removal

1. Remove the two screws (A) that attach the foot section rest blocks (B) to the upper frame fixed weldment (C) (see figure 4-34 on page 4-69)

Figure 4-34. Upper Frame Catch Shroud



144386_1_020

2. Use the rubber mallet/hammer to tap on the underside of the catch shroud to loosen the roll pins (D) that attach the foot section rest blocks (B) to the upper frame fixed weldment (C).

NOTE:

The back of the catch shroud is held in position with a Velcro®¹ strip.

3. Remove the catch shroud (E) from the stretcher.

1. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

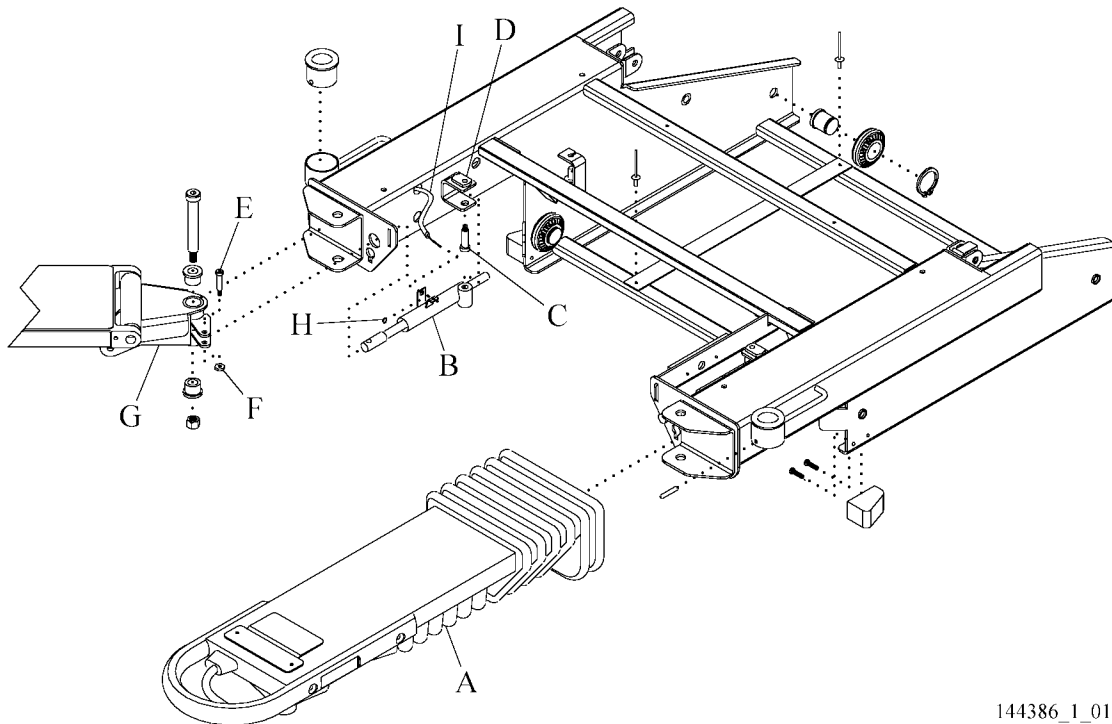
Replacement

1. Do the removal procedure in reverse order to replace the catch shroud (E).
2. Make sure the catch shroud (E) is in the correct position and connects firmly with all Velcro®¹ strips
3. Do the “Function Checks” on page 2-3.

1. Velcro® is a registered trademark of Velcro Industries, BV.

5. Slide the foot section guide (K) toward the head end of the stretcher, and remove it from the stretcher.
6. Pull the foot support bellows (A) back and towards the foot end of the stretcher to expose the foot support Mechlok® device (B) (see figure 4-36 on page 4-72).

Figure 4-36. Foot Support Mechlok® Device



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7. Remove the shoulder bolt (C) that attaches the foot support Mechlok®¹ device (B) to the upper frame carriage weldment (D).
8. Remove the shoulder bolt (E) and locknut (F) that attaches the foot support Mechlok® device (B) to the foot support base weldment (G).
9. Remove the retaining ring (H) that attaches the foot support angle cable (I) to the foot support Mechlok® device (B).
10. Remove the foot support Mechlok® device (B) from the stretcher.

1. Mechlok® is a registered trademark of P.L. Porter Company.

Replacement

Reverse the removal procedure to install the replacement foot support Mechlok®¹ device.

Do the “Function Checks” on page 2-3.

1. Mechlok® is a registered trademark of P.L. Porter Company.

4.25 OB/GYN Stretcher—Foot Support Gas Spring

Tools required:	Ratchet	T30 Torx® ¹ head bit
	Adjustable wrench	T25 Torx® head bit
	Phillips head screwdriver	5/32" hex head bit
	Screwdriver	Side cutters

Removal

1. Remove the mattress assembly from the stretcher.

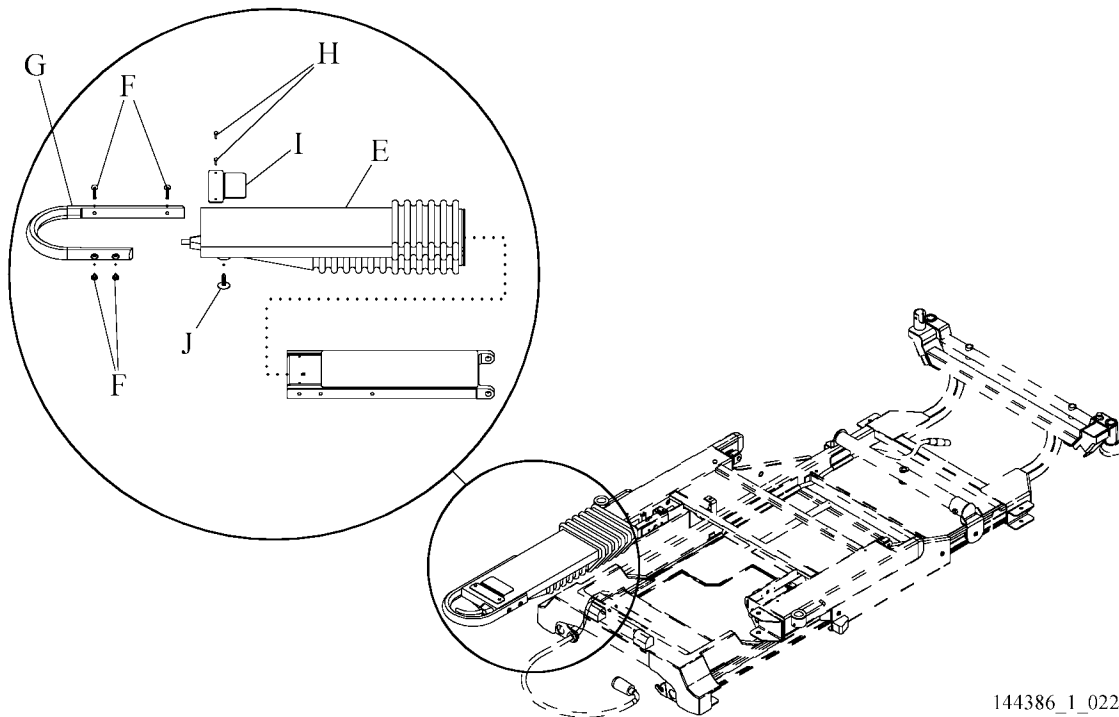


WARNING:

Make sure the stretcher is in the full flat position, and the brake/steer pedal is in the brake position. Failure to do so could cause personal injury or equipment damage.

2. Put the stretcher in the full flat position.
3. Remove the foot section from the stretcher.
4. Remove the foot support bellow as follows (see figure 4-37 on page 4-74):

Figure 4-37. Foot Support Bellows

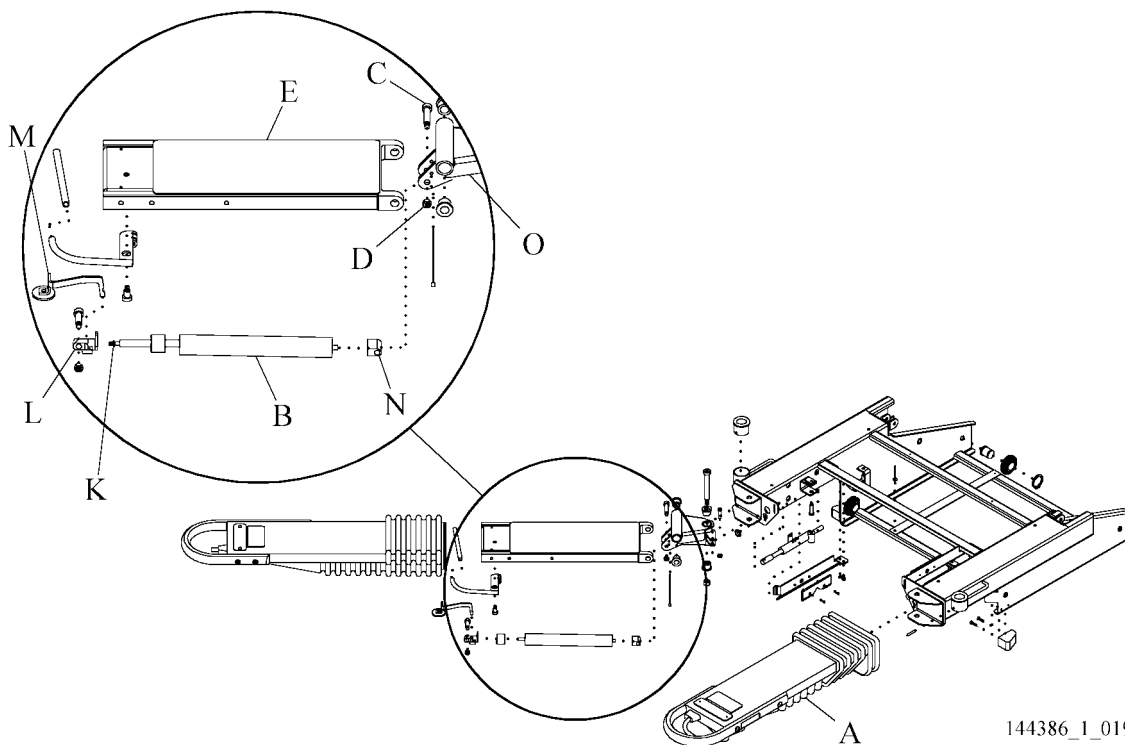


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1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

- a. Remove the four screws (F) that attach the foot support bumper/handle (G) to the footrest weldment (E).
 - b. Remove the foot support bumper/handle (G) from the foot support assembly.
 - c. Remove the two screws (H) that attach the mattress retainer (I) to the footrest weldment (E).
 - d. Remove the mattress retainer (I) from the foot support assembly.
 - e. Cut the ratchet fastener (J) off of the foot support assembly.
5. Pull and remove the foot support bellow (A) back, and towards the foot end of the stretcher to expose the foot support gas spring (B) (see figure 4-38 on page 4-75)

Figure 4-38. Foot Support Gas Spring



6. Remove and discard the remaining ratchet fastener from the release lever.
7. Loosen the jam nut (K) on the foot support gas spring (B).
8. Remove the shoulder bolt (C), and locknut (D) that attach the foot support gas spring (B) to the footrest weldment (E).
9. Unscrew the foot support gas spring (B) from the release casting (L).

10. Remove the foot support gas spring (B) from the stretcher.

Replacement



CAUTION:

Do not turn the gas spring rod with a clamping device. Damage to the rod could occur.

1. Screw the foot support gas spring (B) into the release casting (L) until the foot support release weldment (M) does not move.
2. When the foot support gas spring (B) is snug, give it a half-turn clockwise, or until the hole in the rod end (N) lines up with the hole in the foot support base weldment (O) to complete the installation.
3. Loosely install the shoulder bolt (C) and locknut (D) that attach the foot support gas spring (B) to the foot support base weldment (O).
4. Do as follows to do a check on the operation of the foot support gas spring (B) and the foot support push release lever:
 - a. Operate the foot support push release lever.

NOTE:

Adjust the foot support gas spring so that when the foot support push release lever is engaged approximately half-way through its full travel, the foot support gas spring releases. And, when the foot support push release lever is disengaged, the foot support gas spring is locked. Make sure the foot support push release lever operates correctly, and that it moves to its original position.

- b. If adjustment to the foot support gas spring (B) is necessary, make sure the jam nut (K) is installed loosely.
 - c. Remove the shoulder bolt (C) and locknut (D) that attach the foot support gas spring (B) to the footrest weldment (E).
 - d. Turn the foot support gas spring (B) clockwise or counterclockwise in half-turn increments to adjust.
 - e. Loosely install the shoulder bolt (C).
 - f. Operate the foot support push release lever, and if necessary, adjust the foot support gas spring (B) again.
 - g. When the foot support push release lever is functioning correctly, install the locknut (D) on the bottom of the foot support gas spring (B).
 - h. Tighten the jam nut (K).
5. Put the foot support bellow (A) into position.

6. Install the two screws (H) that attach the mattress retainer (I) to the footrest weldment (E) (see figure 4-37 on page 4-74).
7. Install the four screws (F) that attach the foot support bumper/handle (G) to the footrest weldment (E).
8. Install the new ratchet fastener (J).
9. Install the foot section and mattress assembly to complete the replacement procedure.
10. Do the “Function Checks” on page 2-3.

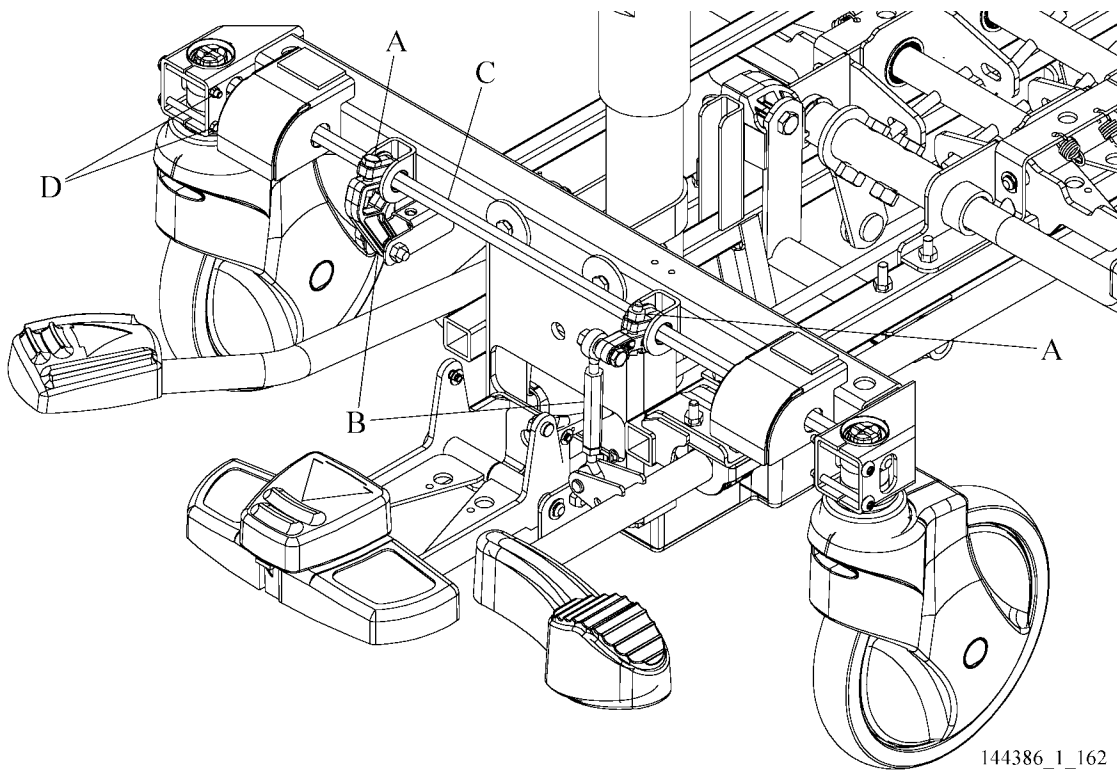
4.26 Caster

Tools required:	Ratchet	7/16" socket
	T25 Torx® ¹ head bit	Hammer
	Phillips head screwdriver	5/16" pin punch
	3/8" wrench	
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	

Removal

1. Pull the base shroud free from the Velcro®² strips, and attach the base shroud to the upper frame.
2. Put the brake/steer pedal in the neutral position.
3. Loosen the 7/16" nut(s) (A)—head and foot end pedals have one nut; the optional side pedals have two—that connect the brake/steer link (B) to the hex rod (C) (see figure 4-39 on page 4-78).

Figure 4-39. Caster Replacement



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4. Gently tap the hex rod (C) out from the applicable caster.

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

2. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

5. Loosen the two 3/8" nuts (D) that hold the caster stem together.

**WARNING:**

Failure to use correct lifting methods could cause personal injury and equipment damage.

6. Lift the corner of the stretcher, and remove the caster.

Replacement

1. Align the color mark (red, green, or black) on the caster stem towards the inside of the stretcher.

NOTE:

The color mark (red is for a brake caster, green is for a corner steer caster, and black is for an Active Brake caster) is on top of the caster stem.

2. Slide the caster into the base of the stretcher.
3. Tap the hex rod (C) into position so that the hole in the hex rod aligns with the screw hole in the brake/steer link (B).
4. Tighten the two 3/8" nuts (D) that hold the caster stem together.
5. Tighten the 7/16" nut(s) (A) that connect the brake/steer link (B) to the hex rod (C).
6. Unfasten the base shroud and return it to its normal position. Make sure the base shroud is in the correct position and connects firmly with all Velcro®¹ strips.
7. Do the "Function Checks" on page 2-3.

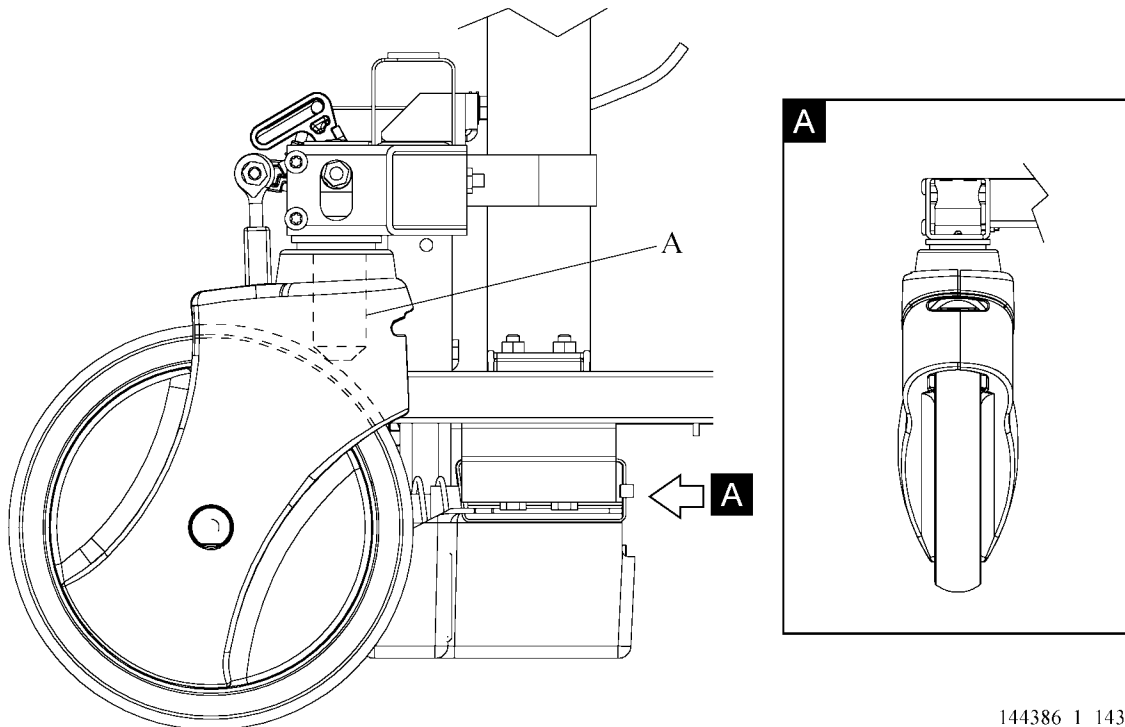
1. Velcro® is a registered trademark of Velcro Industries, BV.

4.27 Caster Brake Adjustment

Tools required: Hammer 3/16" pin punch
0.070" feeler gauge

1. Make sure the brake/steer pedal is in the neutral position.
2. Adjust the brake shoe (A) to the left to tighten or to right to loosen (see figure 4-40 on page 4-80).
3. If additional adjustment is necessary, adjust the gap between the brake shoe and the wheel to $0.073" \pm 0.023"$ (1.85 mm \pm 0.58 mm). Use the 0.070" feeler gauge to make sure the distance between the brake shoe and the wheel is correct.
4. Make sure the metal teeth above the brake shoe are not worn. If the teeth are worn, replace the caster (refer to procedure 4.26).
5. Do the "Function Checks" on page 2-3.

Figure 4-40. Caster Brake Adjustment

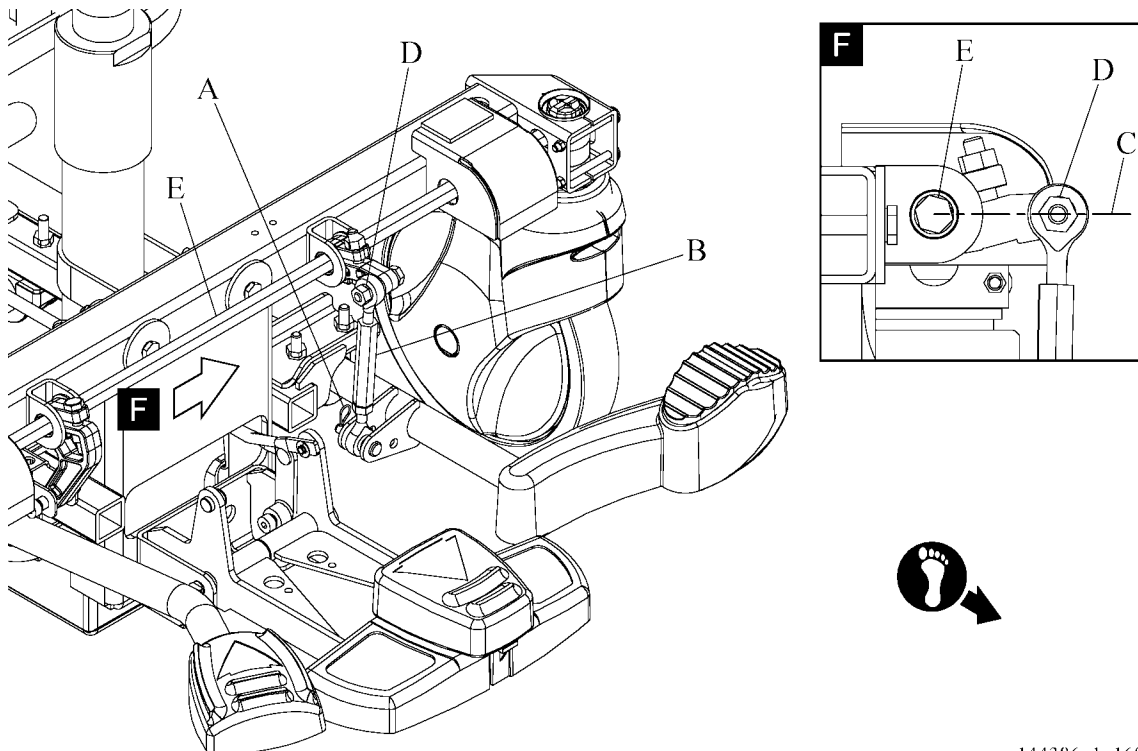


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4.28 Brake/Steer Pedal Adjustment

1. At the head end of the stretcher, remove the hair pin (A) that connects the brake/steer link (B) to the frame.
2. At the foot end, remove the hair pin (A) that connects the brake/steer link (B) to the frame.
3. Adjust the brake/steer link (B) so that if you draw a horizontal line (C) from the center of the nut (D) at the top of the brake/steer link (B) to the hex rod (E), the line (C) would be at the center of the hex rod (E).
4. Install the hair pin (A) to connect the brake/steer link (B) to the frame. Make sure the brake/steer link (B) keeps its adjustment.
5. Do step 3 and step 4 for the brake/steer link (B) at the head end of the stretcher.
6. Do the “Function Checks” on page 2-3.

Figure 4-41. Brake/Steer Pedal Adjustment



144386_1_169

4.29 Hydraulic Cylinder

Tools required:	Ratchet	9/16" socket
	7/16" open end wrench	7/16" socket
	5/32" Allen™ ¹ wrench	1/8" hex head bit
	9/16" open end wrench	Rubber mallet/hammer
	Torque wrench 0-250 in-lb (0 to 28.2 N•m)	

Removal

NOTE:

If the stretcher will not raise, use the Trendelenburg/Reverse Trendelenburg feature (lift).

1. Raise the stretcher to the high position, and remove the upper frame, bellows, and base shroud (refer to procedure 4.22).
2. If applicable, remove the spacer(s) from the hydraulic cylinder.
3. Remove the four locknuts (C), bolts (E), and spacers (F) that attach the hydraulic cylinder (I) to the side tubes of the lower frame.
4. Remove the two locknuts (A), washers (B), screws (G), plates (H), and one end plate (D) that attach the hydraulic cylinder (I) to the crosstube of the lower frame.



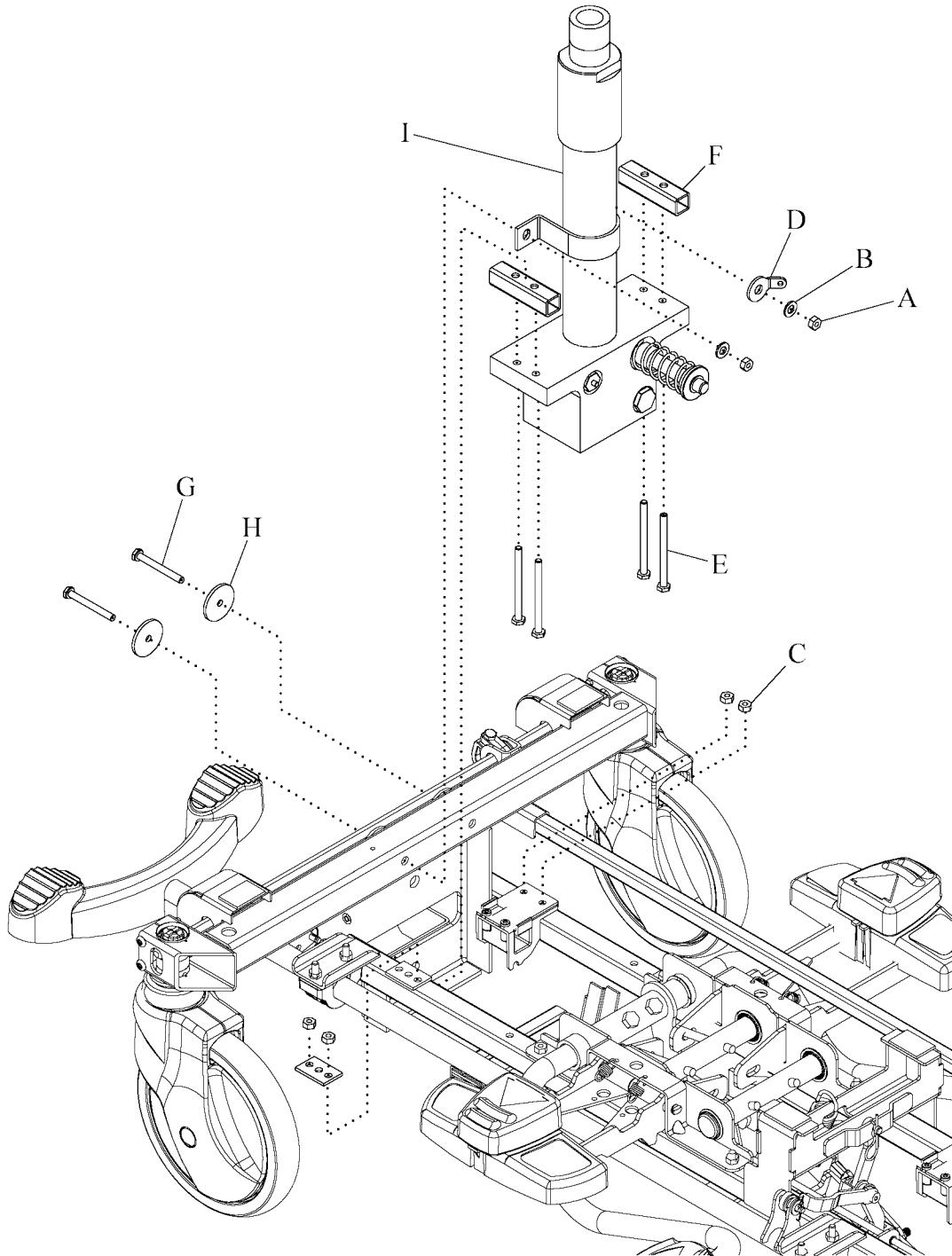
WARNING:

Failure to use correct lifting methods could cause personal injury and equipment damage. The weight of the lower frame will act as counterweight during the lifting process. One person can safely do this procedure.

5. Lift the lower frame, and remove the hydraulic cylinder (I) from under the base frame.

1. Allen™ is a trademark of Industrial Fasteners, Inc.

Figure 4-42. Hydraulic Cylinder



144386_1_146

Replacement



WARNING:

Failure to use correct lifting methods could cause personal injury and equipment damage. The weight of the lower frame will act as counterweight during the lifting process. One person can safely do this procedure.



WARNING:

Make sure you use the hydraulic cylinder with the correct part number for this product. The surgical stretcher uses a hydraulic cylinder that has a slower descent rate, but the replacement procedure is the same. Be sure to use the correct hydraulic cylinder. Failure to do so could cause personal injury.



CAUTION:

Leave the cylinder rod hold-down assembly in position until the hydraulic cylinder is attached to the frame assembly. Failure to do so could cause equipment damage.

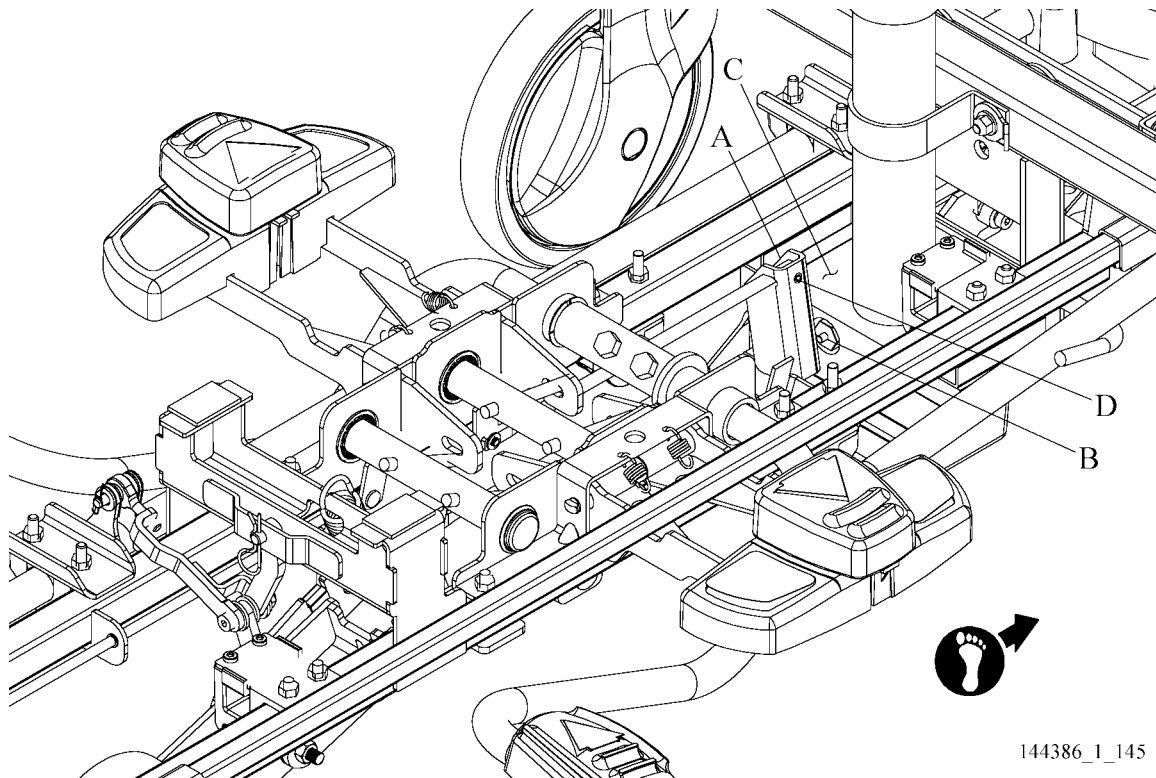
1. Lift the lower frame, and put the new hydraulic cylinder (I) into position.
2. Install the four bolts (E), locknuts (C), and four spacers (F) to attach the hydraulic cylinder (I) to the side tubes of the lower frame.
3. Install the two screws (G), plates (H), washers (B), locknuts (A), and one end plate (D) to attach the hydraulic cylinder (I) to the crosstube of the lower frame.
4. If necessary, install the spring on the bolt.
5. Tighten the nuts (A) and (C) to 65 ± 10 in-lb (7.3 ± 1.1 N·m) of torque.
6. Remove the cylinder rod hold-down assembly from the hydraulic cylinder (I).
7. Make sure the u-bracket pushes the release pin to the stop. If it does not, adjust the cylinder release (see “Adjustment” on page 4-85).
8. If one or more spacers were removed in step 2 of the Removal procedure, install the spacer(s) on the hydraulic cylinder.
9. Install the base shroud, bellows, and upper frame (refer to procedure 4.22).

10. Raise the stretcher to the high position. If more than 30 pumps are necessary to raise the stretcher to the high position, remove air from the hydraulic cylinders as follows:
 - a. Press the **Hilow Down** pedal to lower the stretcher to the low position.
 - b. Hold the **Hilow Down** pedal down, and press the **Hilow Up** pedal approximately 30 times.
11. Raise the stretcher to the high position. If more than 30 pumps are necessary to raise the stretcher to the high position, repeat step 10a and 10b until the stretcher can be raised to the high position with 30 pumps or less.
12. Lower the stretcher to the low position, and make sure the hydraulic cylinders lower at the same rate.

Adjustment

Side Pedals

1. Press the corresponding release pedal until the pedal stop comes in contact with the base frame.
2. As you press the pedal, slide the plunger (A) toward the hydraulic cylinder until the cylinder release pin (B) is fully engaged, and the plunger (A) is flush with the cylinder pump housing (C) (see figure 4-43 on page 4-86).

Figure 4-43. Cylinder Release Mechanism

144386_1_145

3. Make sure the plunger (A) is centered on the cylinder release pin (B). Tighten the screw (D) that holds the plunger (A) in position.
4. Tighten the screw (D) to 40 ± 6 in-lb (4.5 ± 0.7 N·m) of torque.
5. Repeat step 1 through step 4 for the other plunger (A).
6. Do the “Function Checks” on page 2-3.

Foot-End Trendelenburg Pedal (optional)

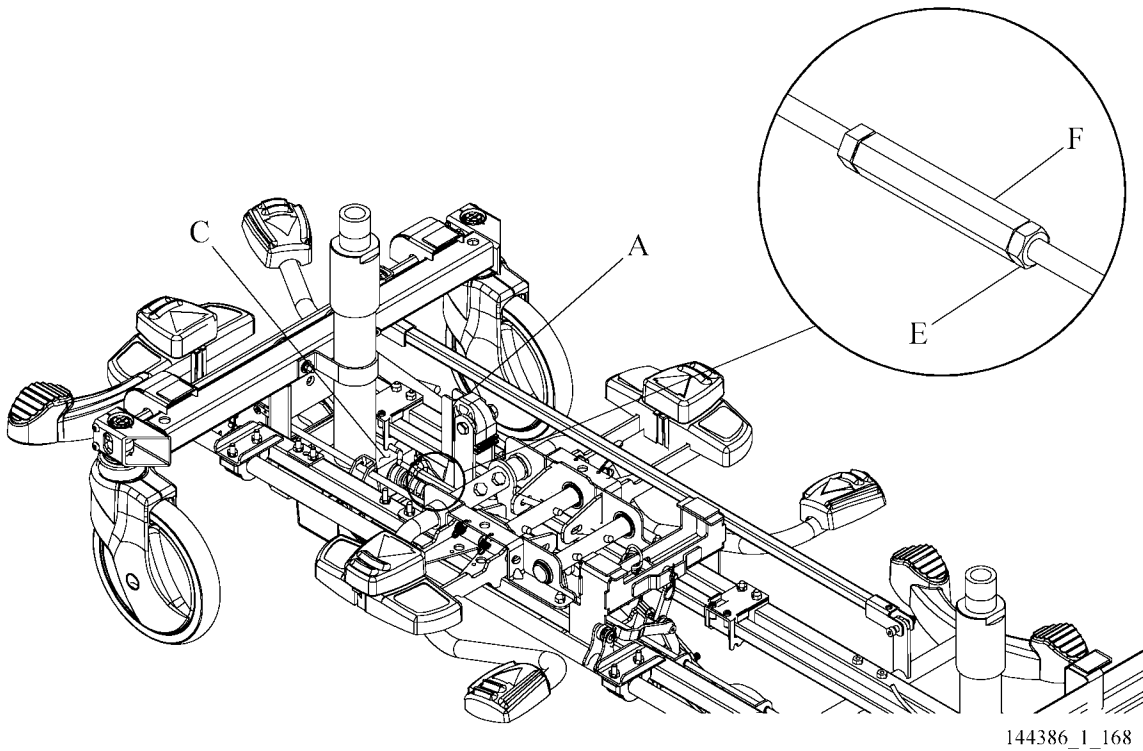
NOTE:

Only the Trendelenburg pedal can be adjusted from the foot end.

NOTE:

Adjust the side pedals before you adjust the foot-end Trendelenburg pedal.

1. As you press the foot-end Trendelenburg pedal, make sure the plunger (A) is flush with the cylinder pump housing (C) (see figure 4-43 on page 4-86).
2. If adjustment is necessary, do as follows:
 - a. Loosen the jam nut (E) that locks the turnbuckle (F) in position (see figure 4-44 on page 4-87).

Figure 4-44. Foot-End Trendelenburg Pedal Adjustment

- b. Push the foot-end Trendelenburg pedal down until the pedal stop comes in contact with the base frame.
 - c. With the pedal pressed, adjust the turnbuckle (F) until the cylinder release pin is fully engaged, and the plunger (A) is flush with the cylinder pump housing (C).
 - d. Tighten the jam nut (E) that locks the turnbuckle (F) in position.
3. Do the “Function Checks” on page 2-3.

4.30 Steering Plus™ Steering System Assembly

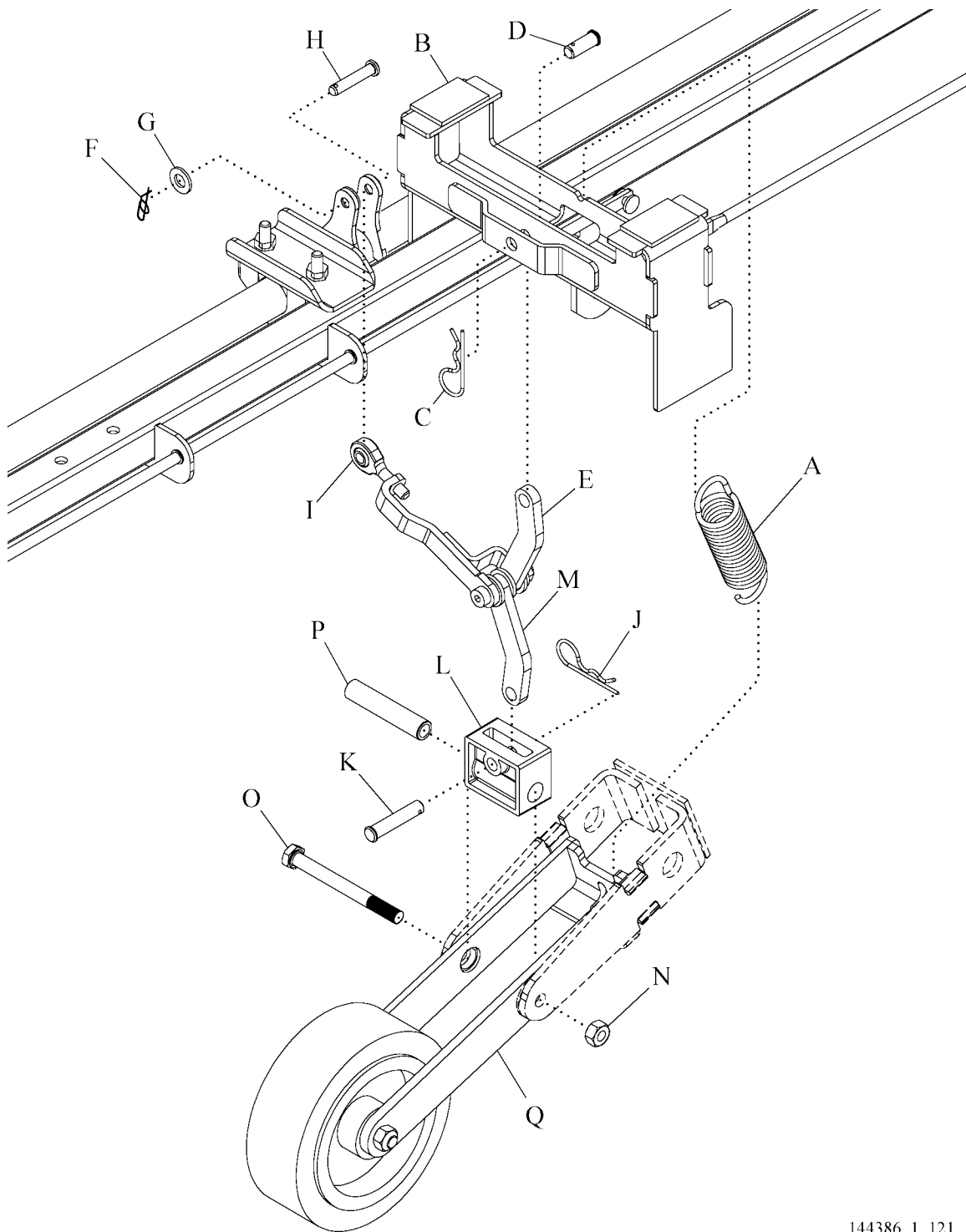
Tools required: Pliers 3/8" open end wrench
1/8" Allen™¹ wrench 6" straight edge
Retaining ring removal/installation tool

Removal

1. Raise the stretcher to the high position.
2. Attach the base shroud to the upper frame to get access to the fifth wheel assembly.
3. Disconnect the spring (A) from the frame (B) (see figure 4-45 on page 4-89).

1. Allen™ is a trademark of Industrial Fasteners, Inc.

Figure 4-45. Steering Plus™ Steering System Assembly



144386_1_121

4. Remove the hair clip pin (C) from the pin (D) that attaches the pivot arm (E) to the stretcher frame (B).
5. Remove the rue ring (F) and washer (G) from the pin (H) that attaches the rod end (I) to the frame (B).
6. Remove the hair clip pin (J) from the pin (K) that holds the bracket (L) to the tie rod (M).
7. Remove the nut (N), bolt (O), and spacer (P) that attach the bracket (L) to the fifth wheel assembly (Q).
8. Remove the fifth wheel assembly (Q).

Replacement

1. Do the removal procedure in reverse order.
2. Make sure the alignment of the center steer caster is correct (see “Adjustment” on page 4-90).
3. Do the “Function Checks” on page 2-3.

Adjustment

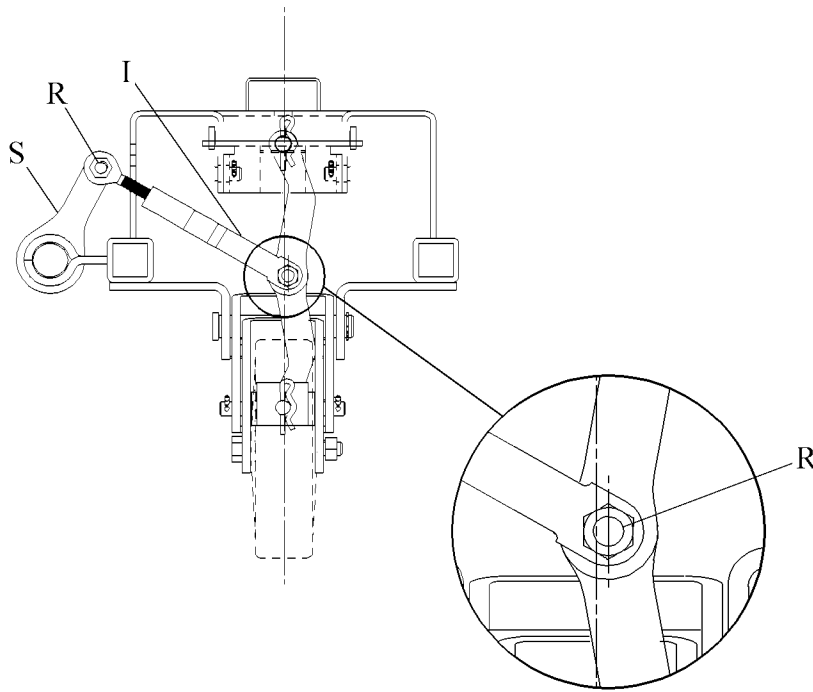


WARNING:

Failure to keep the stretcher in its location while the brake/steer pedal is in the steer position could cause personal injury or equipment damage.

1. Use chocks to make sure the stretcher is secure in its location.
2. Put the brake/steer pedal in the steer position.
3. Use a 6" (15 cm) straight edge to make sure the center line of the linkage pivot (R) is past the center line of the fifth wheel caster.
4. If necessary, adjust the rod end as follows:
 - a. Remove the rue ring, washer, and pin from the pivot bracket (S).
 - b. Turn the rod end (I) clockwise or counterclockwise to adjust the link alignment.

Figure 4-46. Fifth Wheel Adjustment



144386_1_120

5. Install the pin, washer, and rue ring in the pivot bracket (S).
6. Use a 6" (15 cm) straight edge to make sure the linkage pivot (R) is past the center of the fifth wheel caster.
7. Put the brake/steer pedal in the brake position, and make sure the fifth wheel caster does not touch the floor.
8. Make sure the stretcher operates correctly in the brake and steer positions.

4.31 Electric Stretcher—Fuse

Tools required: T25 Torx®¹ screwdriver

Removal

1. Raise the head section to the full up position.



SHOCK HAZARD:

Failure to unplug the stretcher from its power source could cause personal injury or equipment damage.

2. Unplug the stretcher.
3. Remove the two screws (A) that attach the cover (B) to the stretcher (see figure 4-47 on page 4-93).
4. Remove the cover (B).
5. Remove the fuses (C).

Replacement



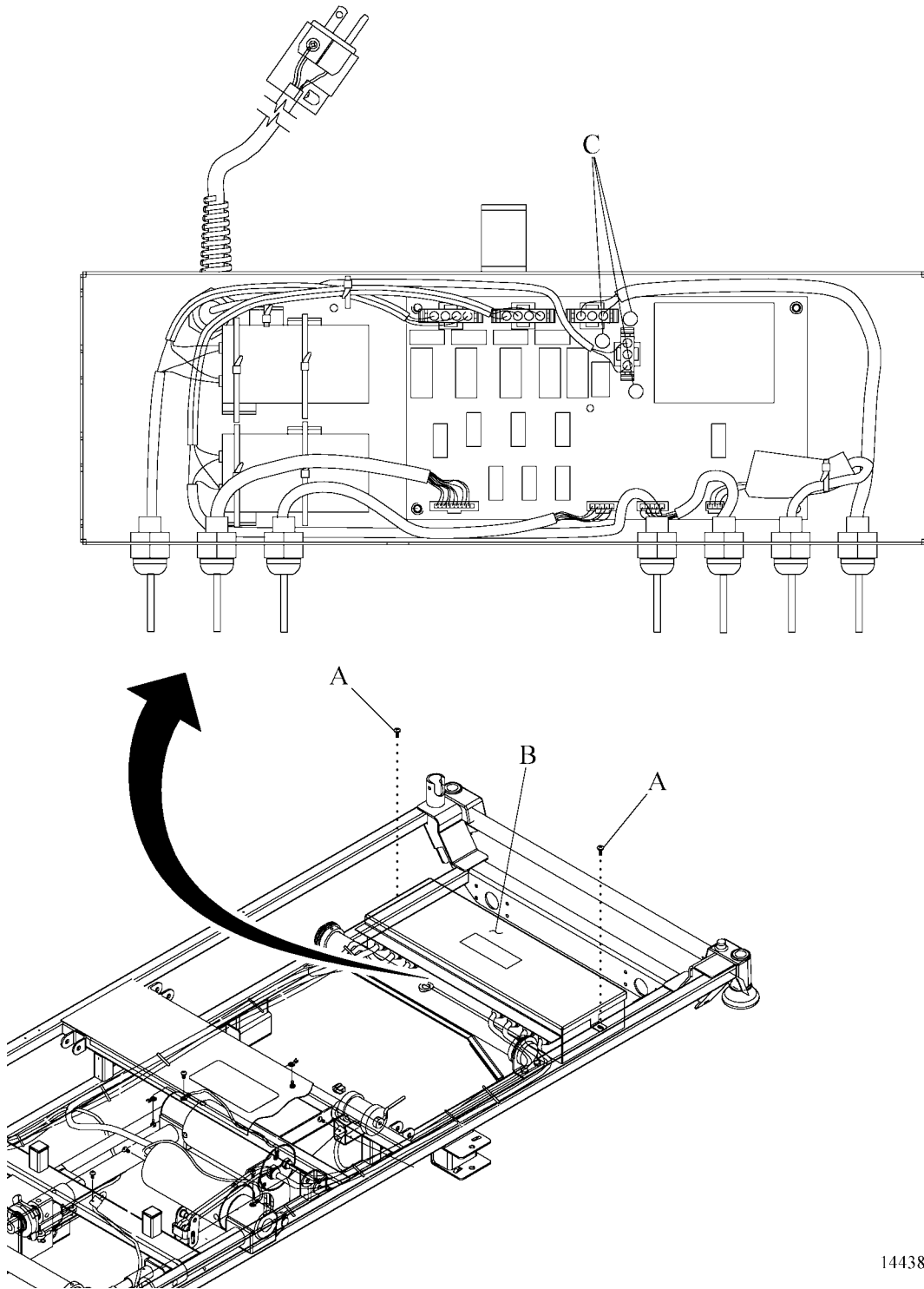
CAUTION:

Make sure the correct fuse is installed. Failure to do so could cause equipment damage.

1. Install the new fuses (C).
2. Install the cover (B) on the stretcher.
3. Install the two screws (A) to attach the cover (B) to the stretcher.
4. Do the “Function Checks” on page 2-3.

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Figure 4-47. Fuse Replacement



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4.32 Scale—Batteries

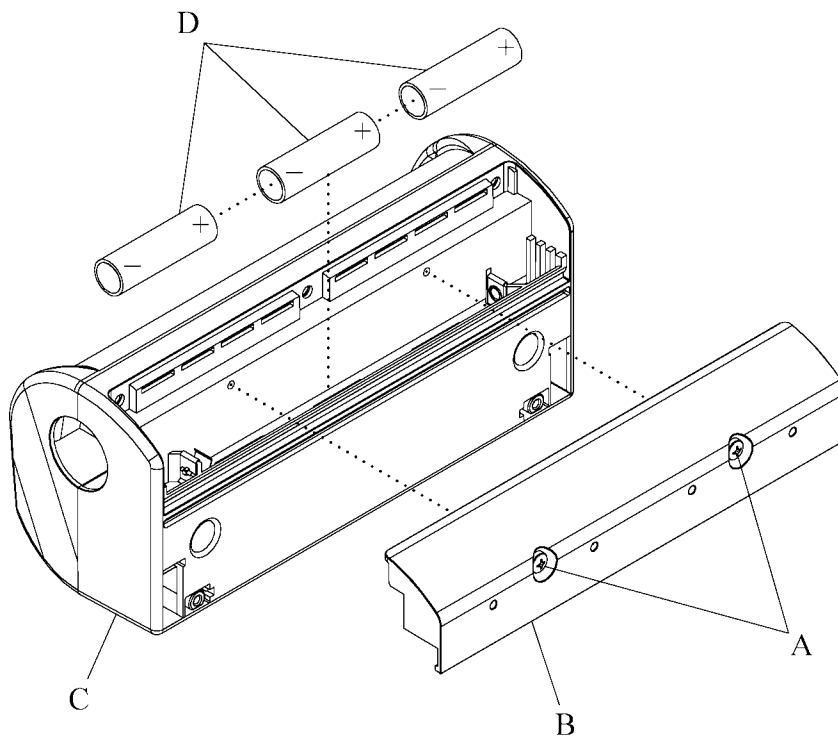
Tools required: #2 phillips head screwdriver

Parts required: 3 AA alkaline batteries

Removal

1. Raise the stretcher to the high position and put it in the Trendelenburg position.
2. Loosen, but do not remove, the two screws (A) that attach the battery cover (B) to the scale display (C).
3. Remove the battery cover (B).
4. Remove the batteries (D), and discard them in accordance with local regulations.

Figure 4-48. Batteries (bottom view shown)



144386_1_165

Replacement

1. Install the new batteries (D) as shown on the battery compartment.
2. Install the battery cover (B).

3. Tighten the two screws (A) to attach the battery cover (B) to the scale display (C).
4. Make sure the scale operates correctly.

4.33 Scale—Load Beam

Tools required:	T25 Torx® ¹ screwdriver	T20 Torx® screwdriver
	Hammer/rubber mallet	Wire cutters
	Antistatic strap	Phillips head screwdriver
	Jack stands	1/8" hex wrench
	7/16" socket	9/16" socket
	275 lb (125 kg) of weight in 25 lb (10 and 5 kg) increments	

Removal

1. Set the brakes.



WARNING:

Failure to unplug the Electric Stretcher from its power source could cause personal injury or equipment damage.

2. **Electric Stretcher**—unplug the stretcher from its power source.
3. Raise the stretcher to the high position.
4. Raise the applicable head or foot section or for a **Trauma** Stretcher, raise the x-ray tray.
5. For a head-end load beam, remove the cover (A) from the load beam (see figure 4-54 on page 4-105).



CAUTION:

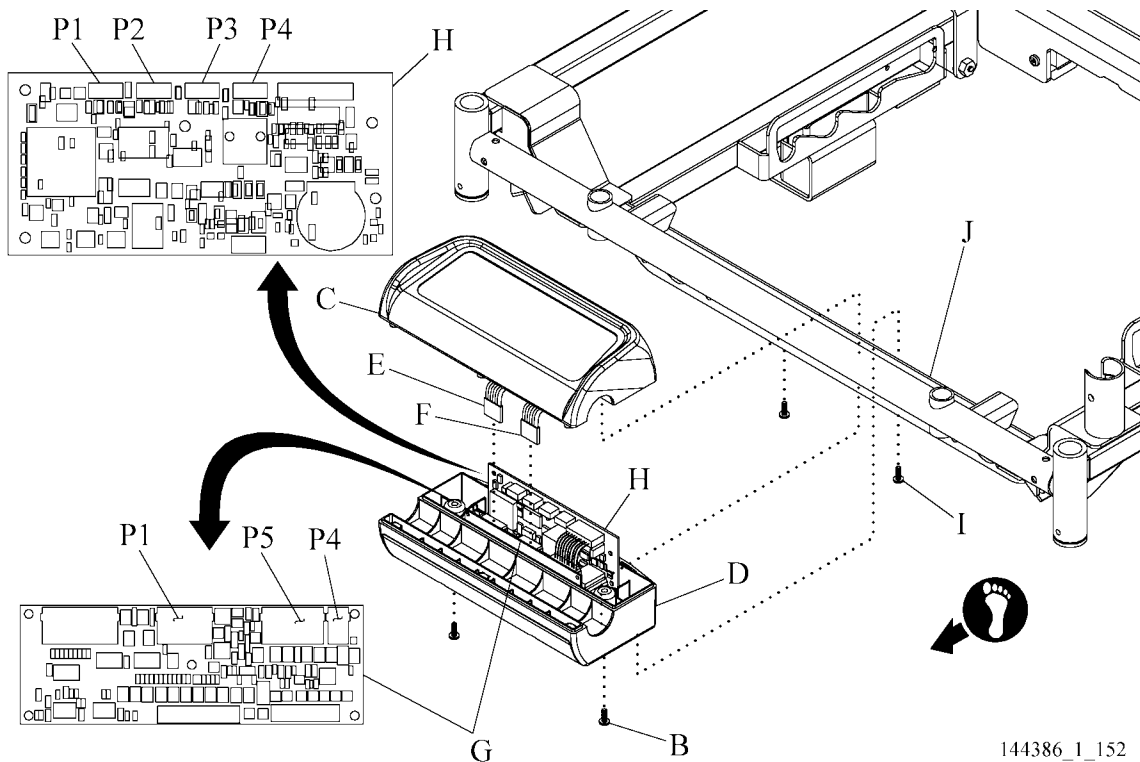
Failure to wear an antistatic strap when handling electronic components could cause component damage.

6. Put on the antistatic strap.
7. Remove the two screws (B) that attach the scale enclosure top (C) to the scale enclosure bottom (D) (see figure 4-49 on page 4-97).
8. Open the scale enclosure, and disconnect the two ribbon cables (E and F) from P1 and P5 on the display P.C. board (G).
9. Set the scale enclosure top (C) aside.
10. Disconnect the battery cable from P4 on the display P.C. board (G).
11. Disconnect the applicable load beam cables from the scale P.C. board (H).

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12. Remove the two screws (I) that attach the scale enclosure to the foot-end support bracket (J).
13. Pull the applicable cables out through the rectangular openings at the bottom of the scale enclosure.

Figure 4-49. Scale Assembly and Connections



144386_1_152

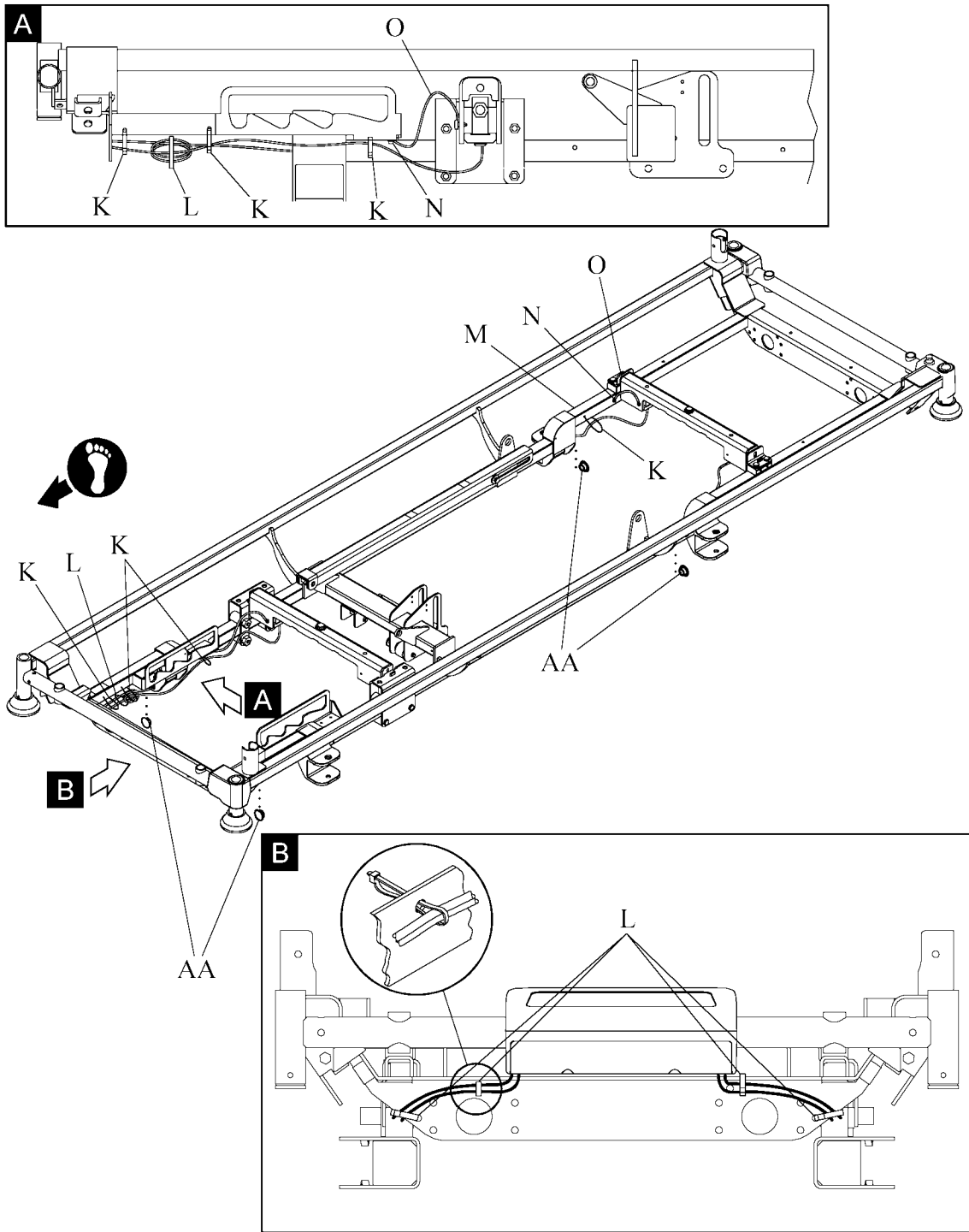
14. For a **Procedural Stretcher with the Auto Contour™** feature, if you are to remove the head-end load beam, remove the plugs (AA) from each end of the upper frame.
15. Cut all cable ties (K and L) that hold the applicable cables on the upper frame (M). Refer to the applicable figure:

NOTE:

Two types of cable ties are used: push-in (K) and standard (L). Make a note of which cable ties are used where.

- **Procedural Stretcher with the Auto Contour™ feature** (see figure 4-50 on page 4-99)
- **Procedural Stretcher without the Auto Contour™ feature** (see figure 4-51 on page 4-100)
- **Procedural Stretcher with the Auto Contour™ feature** (see figure 4-50 on page 4-99)
- **Procedural Stretcher without the Auto Contour™ feature** (see figure 4-51 on page 4-100)
- **Trauma Stretcher** (see figure 4-52 on page 4-101)
- **Electric Stretcher** (see figure 4-53 on page 4-102)

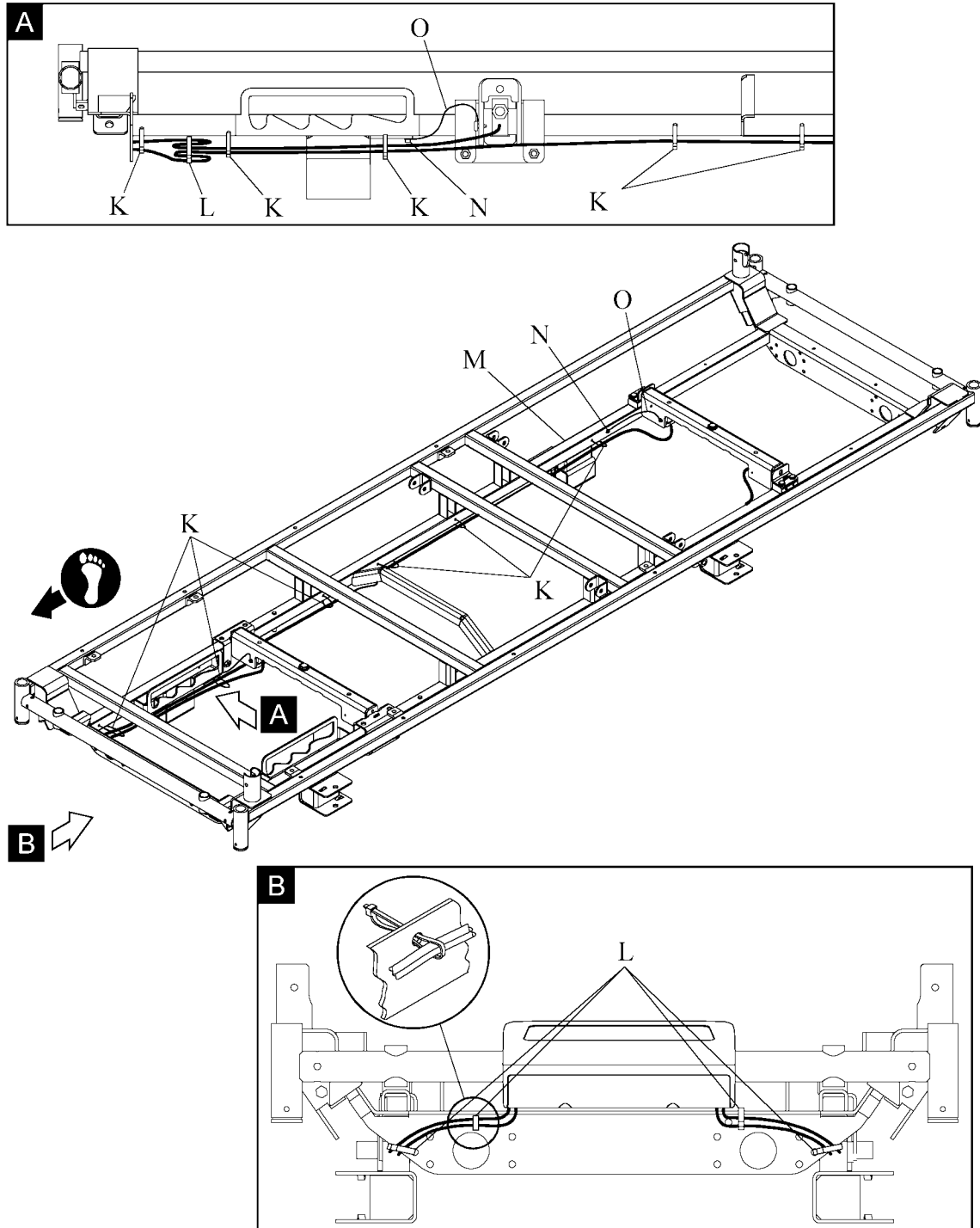
Figure 4-50. Procedural Stretcher with Auto Contour™—Cable Routing



4

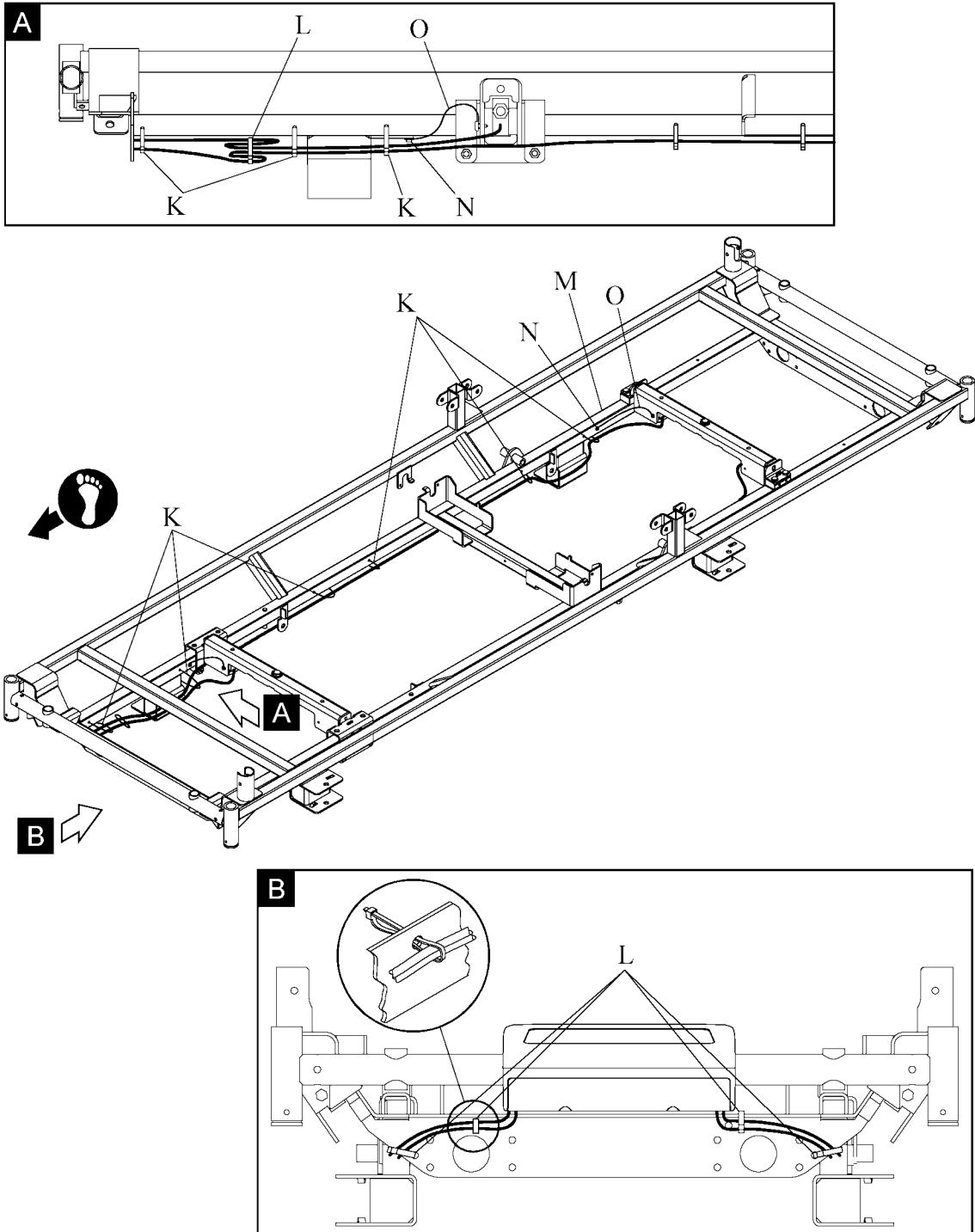
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Figure 4-51. Procedural Stretcher without Auto Contour™—Cable Routing



144386_1_156

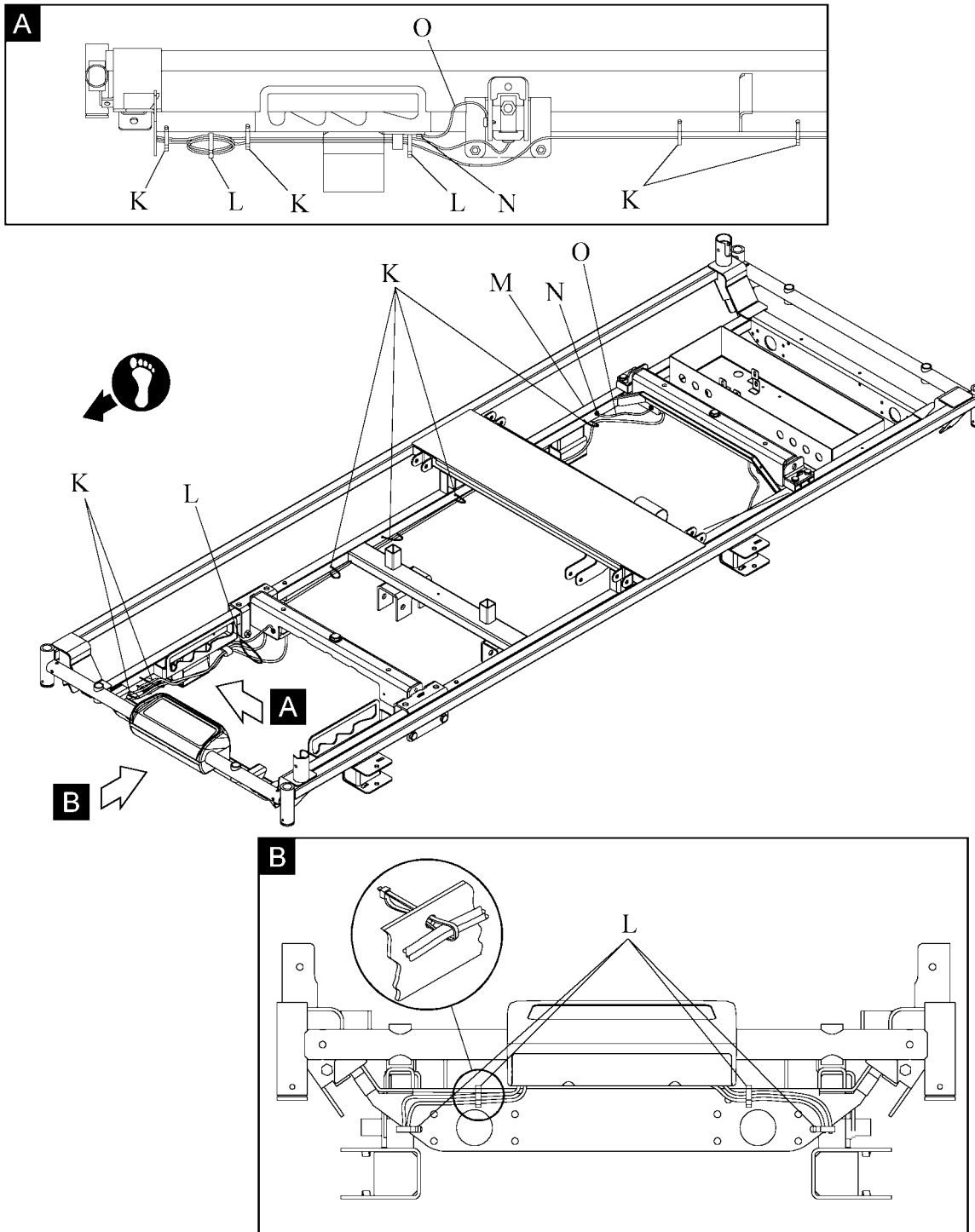
Figure 4-52. Trauma Stretcher—Cable Routing



4

144386_1_154

Figure 4-53. Electric Stretcher—Cable Routing



144386_2_155

16. Remove the screw (N) that attaches the ground strap (O) to the upper frame (M).

**WARNING:**

Do not work under an unsupported load. Install applicable temporary supports. Failure to do so could cause personal injury or equipment damage.

17. Put jack stands under the frame at the applicable end of the stretcher.
18. Remove and keep the bolt (P), lockwasher (Q), and washer (R) that attach the load beam (S) to the hydraulic cylinder. Refer to the applicable figure:
 - **Procedural Stretcher with the Auto Contour™ feature** (see figure 4-54 on page 4-105)
 - **Procedural Stretcher without the Auto Contour™ feature, Trauma Stretcher, or Electric Stretcher** (see figure 4-55 on page 4-106)
19. At each end of the load beam (S), remove the bracket that attaches the load beam to the upper frame (M):
 - Head-end load beam—loosen the setscrew, and remove the nuts (T), screws (U), block (V), and bracket (W).
 - Foot-end load beam—remove the nuts (T), screws (U), spacers (X) roller guides (Y), and brackets (Z).

**CAUTION:**

When you remove a load beam, make sure not to tap on the load beam cells or the cables that come from the load beams. Equipment damage could occur.

20. Remove the load beam (S). To loosen the load beam from the hydraulic cylinder, it may be necessary to tap on the underside of the load beam with a rubber mallet/hammer. Make sure not to tap on the load beam cells or load beam cables.

Replacement

1. Do the removal procedure in reverse order.

NOTE:

The load beam cables are specific to the ports they connect to on the scale P.C. board. On the yellow sleeve of each load beam cable there are numbers 1 through 4. Put a circle around the port number for the particular cable:

- Left head-end cable—1
 - Left foot-end cable—2
 - Right foot-end cable—3
 - Right head-end cable—4
2. Calibrate the scale. Go to “Calibration” on page 4-107.

Figure 4-54. Procedural Stretcher with Auto Contour™—Load Beam Installation

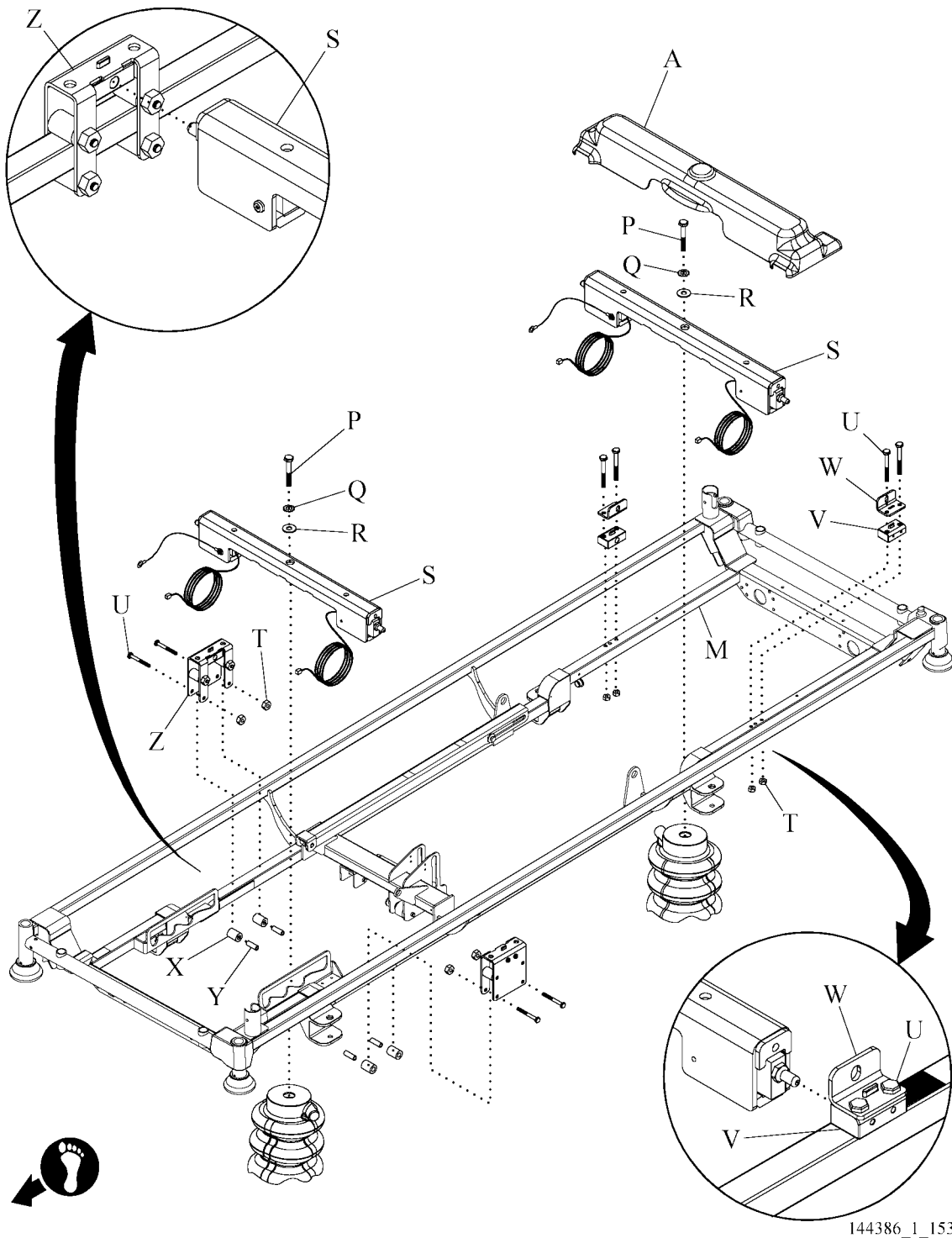
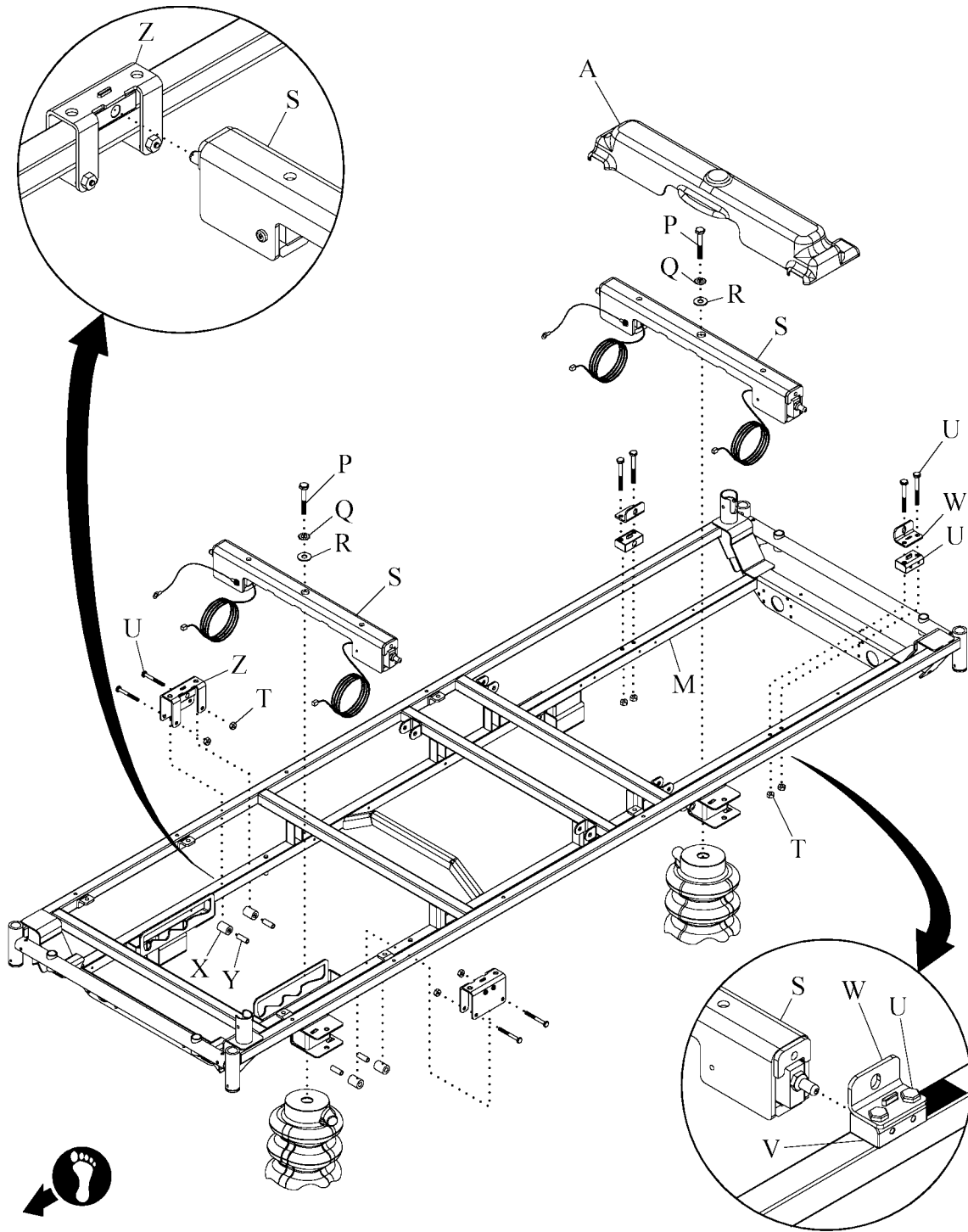


Figure 4-55. Procedural Stretcher without Auto Contour™ (shown), Trauma Stretcher, and Electric Stretcher—Load Beam



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Calibration

NOTE:

Calibrate the scale whenever you replace a load beam, scale P.C. board, or scale enclosure.

NOTE:

If the load beam cables are not connected correctly, an alarm will sound. You must stop the calibration process and fix the problem. To stop the process, either remove the batteries, or disconnect P4 (battery cable) from the display P.C. board.

1. Raise the stretcher to the highest position, and make sure the sleep deck is flat.
2. Remove the mattress.
3. Put 25 lb (10 kg) of weight on the center of the sleep deck.
4. If a load beam was replaced, do as follows, or go to step 3:
 - a. Put the 250 lb (113 kg) weight over the load beam.
 - b. Wait 1 minute, and then remove the weight.
5. Press and hold the **Weigh** and **Enable** controls for 5 seconds. This puts the scale into the diagnostic mode. A number from 0.0 to 8.0 will show on the display.
6. Use the **Last Weight** or **0.0** controls to move to the necessary option, and then press and hold the **Enable** control until you hear a beep.
 - Option 6 is for calibration with a weight measured in pounds.
 - Option 7 is for calibration with a weight measured in kilograms.
7. Use the **Last Weight** or **0.0** controls to move to **1**, and then press the **Enable** control. Calibration will begin, and the display will show a weight.
8. Use the **Last Weight** and **0.0** controls to move to a calibration weight that is approximately 100 lbs (45 kg), and then press the **Enable** control.

The scale will adjust to zero, and the display will show **CAL0**. **Do not** touch the stretcher while the scale adjusts to zero. When the scale has adjusted to zero, the display will show **CAL1**, and one tone will sound.



CAUTION:

Do not touch the stretcher during calibration. To do so could cause inaccurate weight readings.

9. Put 100 lb (45 kg) of weight over the load beam cell at the left head. After approximately 30 seconds, the display will show **CAL2**, and two tones will sound.

NOTE:

For the best results, put the weight directly over the load beam cell.

10. Remove the weight. **Do not** touch the stretcher. After approximately 30 seconds, the display will show **CAL3** and three tones will sound.
11. Put the weight over the load beam cell at the left foot. **Do not** touch the stretcher. After approximately 30 seconds, the display will show **CAL4**, and four tones will sound.
12. Remove the weight. **Do not** touch the stretcher. After approximately 30 seconds, the display will show **CAL5** and five tones will sound.
13. Put the weight over the load beam cell at the right foot. **Do not** touch the stretcher. After approximately 30 seconds, the display will show **CAL6**, and six tones will sound.
14. Remove the weight. **Do not** touch the stretcher. After approximately 30 seconds, the display will show **CAL7** and seven tones will sound.
15. Put the weight over the load beam cell at the right head. **Do not** touch the stretcher. After approximately 30 seconds, the display will go blank.
16. Put the calibration weight in the middle of the stretcher.
17. Press and hold the **Weigh** control until the **Hands Off** indicator flashes.
18. Make sure the weight shown on the display matches the calibration weight.
19. Remove the calibration weight.
20. Do the “Function Checks” on page 2-3.

4.34 Scale—Display or Scale P.C. Board

Tools required: T25 Torx®¹ screwdriver T20 Torx® screwdriver
 Phillips head screwdriver Antistatic strap

Removal

1. If you are replacing the scale P.C. board, make a note of the current configuration (such as, the display shows the weight in pounds only).

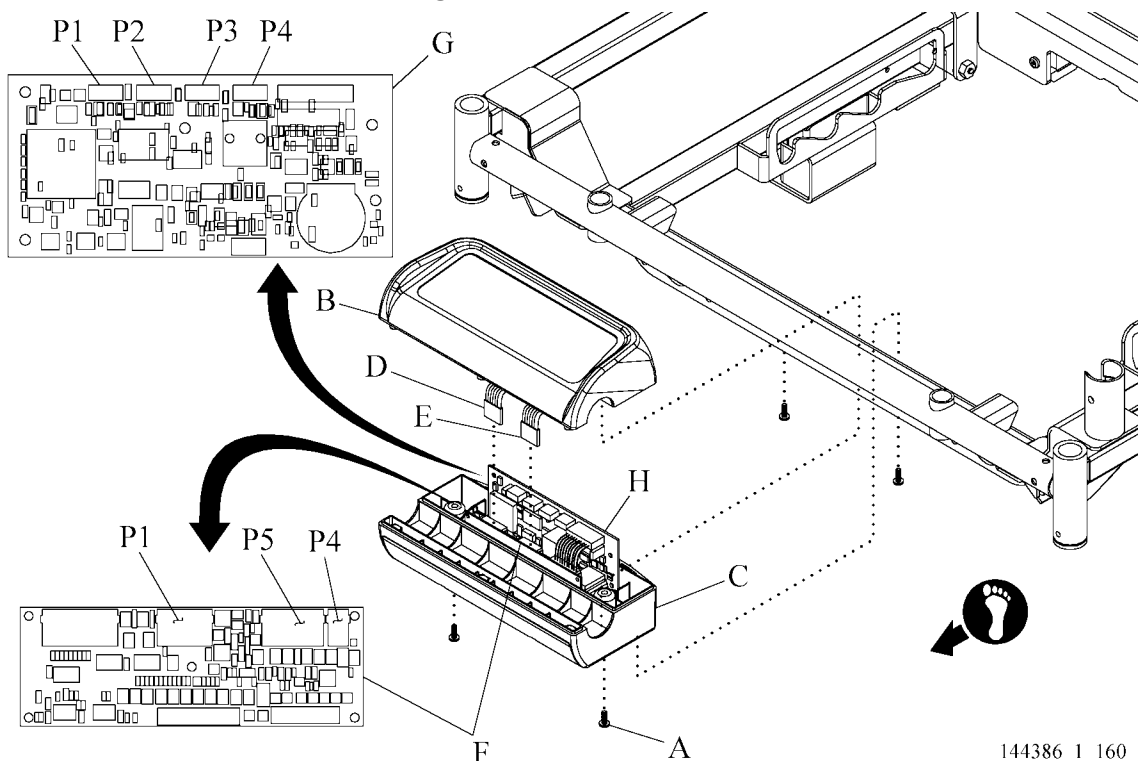


CAUTION:

Failure to wear an antistatic strap when handling electronic components could cause component damage.

2. Put on the antistatic strap.
3. Remove the two screws (A) that attach the scale enclosure top (B) to the scale enclosure bottom (C) (see figure 4-56 on page 4-109).

Figure 4-56. P.C. Board



144386_1_160

4. Open the scale enclosure, and disconnect the two ribbon cables (D and E) from P1 and P5 on the display P.C. board (F).

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5. Set the scale enclosure top (B) aside.
6. Disconnect the battery cable from P4 on the display P.C. board (F).
7. Make a note of the cable connections, and then disconnect all cables from the applicable P.C. board (F or G).
8. Remove the P.C. board (F or G).

Replacement

1. Do the removal procedure in reverse order.
2. If the scale P.C. board was replaced, do as follows:
 - a. Configure the new board to the original configuration (see table 1 on page 4-110).

Table 1: Diagnostic Menu

Menu Option	Function
0	Engages Diagnostic mode
1	Exits Diagnostic mode
2	Engages test mode and a continuous display
3	Shows weight in kilograms and pounds
4	Shows weight in kilograms only
5	Shows weight in pounds only
6	Engages calibration mode in pounds
7	Engages calibration mode in kilograms
8	Engages or disengages the Enable control (If you hear one beep, the Enable control is disengaged; if you hear two beeps, the Enable control is engaged).

- b. Calibrate the scale (see “Calibration” on page 4-107).

4.35 Active Brake System

Tools required: (2) 7/16" open end wrench T25 Torx®¹ screwdriver

Removal

1. Raise the stretcher to the high position.
2. Attach the base shroud to the upper frame to get access to the Active Brake system.
3. Loosen the jamnut (A) on the cable assembly (B) (see figure 4-57 on page 4-112).
4. Remove the end of the cable assembly (B) from the hex brake lever (C).
5. Remove the cable assembly (B) from the bracket (D).
6. Pull the cable assembly (B) up through the bellow (E) and out the hole (F) at the top of the bellow (E).

NOTE:

Make a note of the cable routing through the bellow.

7. Remove the screw (G) and cable clamp (H) that hold the cable assembly (B) on the upper frame.
8. Remove the clevis pin (I) and hitch pin (J) from the bracket on the upper frame and the Active Brake tube (K).
9. Remove the Active Brake tube (K) and cable assembly (B).

Replacement



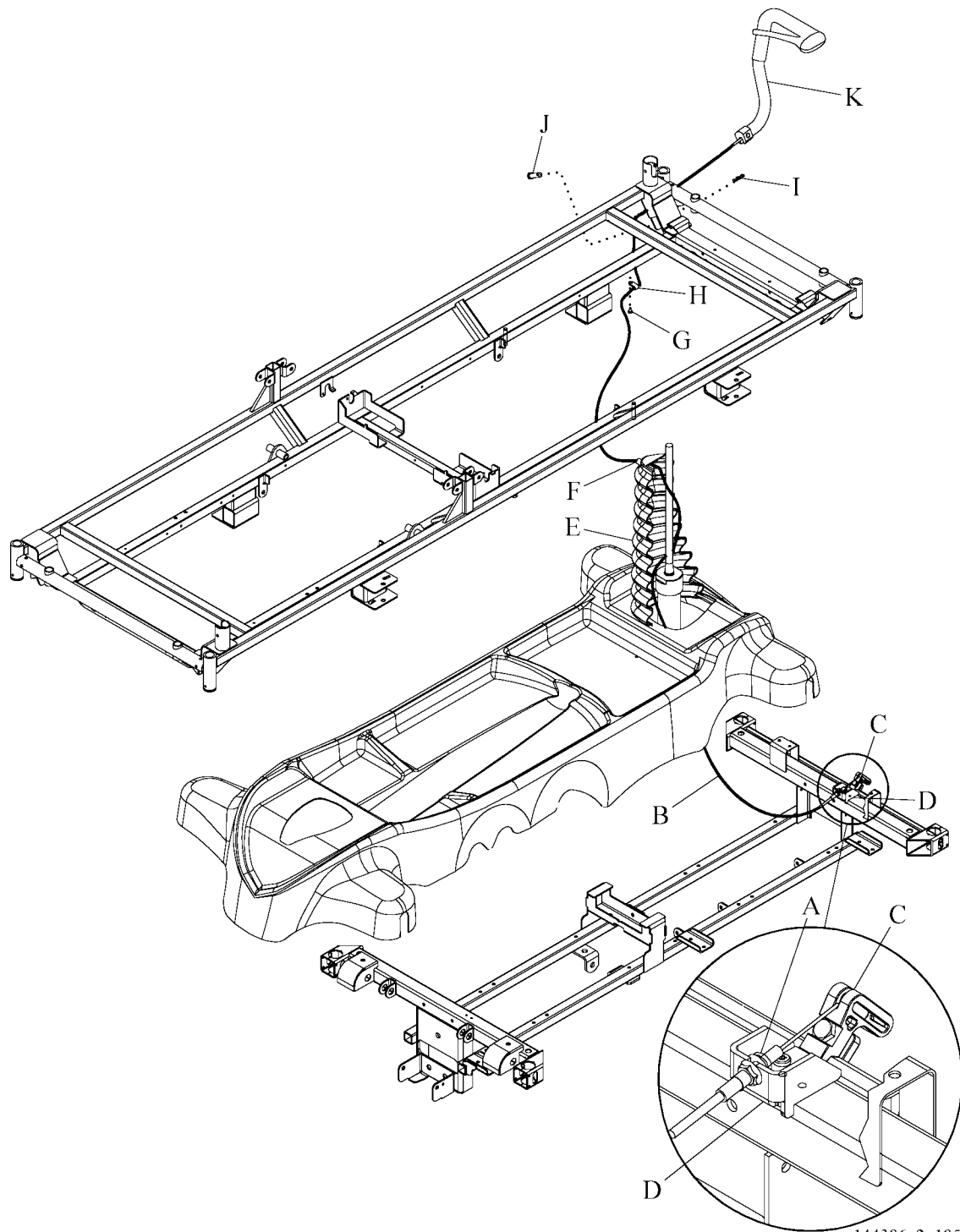
CAUTION:

When you install the cable assembly, take care that the cable does not get kinked. A kinked cable could cause the Active Brake system to operate incorrectly.

1. Do the removal procedure in reverse order.
2. Adjust the cable. Refer to “Active Brake Adjustment” on page 4-113.

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Figure 4-57. Active Brake—Cable Assembly Removal



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Active Brake Adjustment

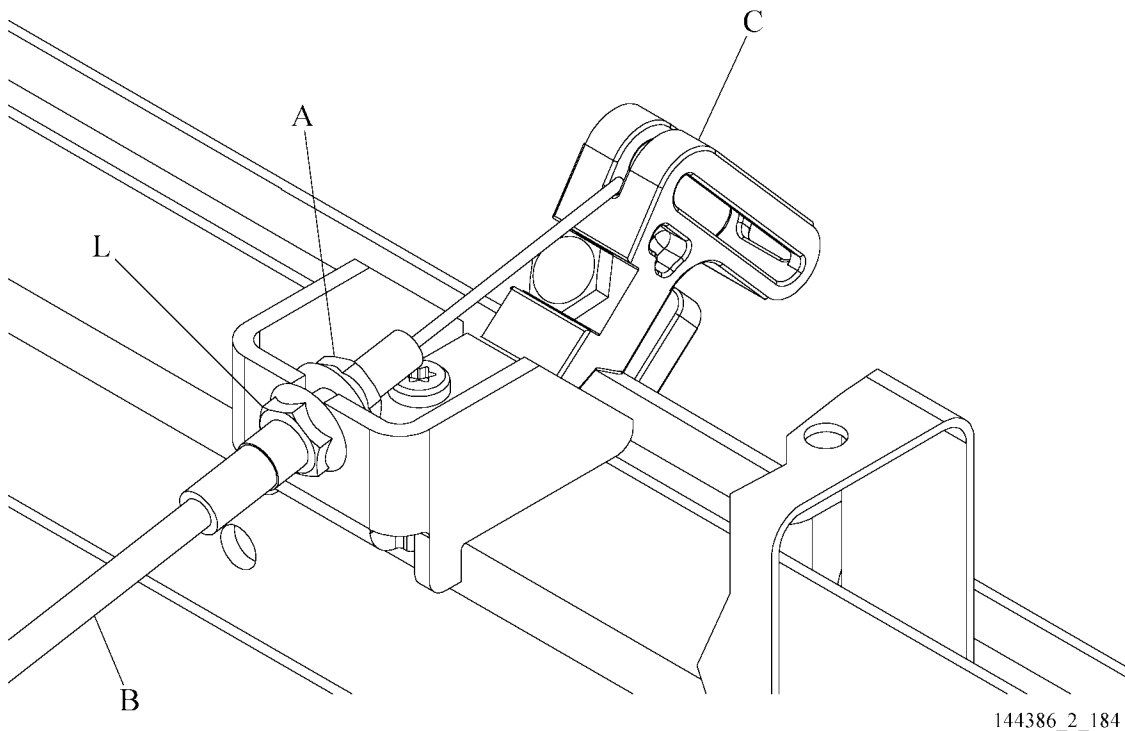
1. Attach the base shroud to the upper frame to get access to the Active Brake system.
2. Make sure the brake/steer pedals are in the neutral position.
3. Loosen the two jamnuts (A and L) on the cable assembly (B) (see figure 4-58 on page 4-113).
4. Tighten the inside jamnut (L) to remove any slack in the cable assembly (B) from the hex brake lever (C) to the jamnut (L).

NOTE:

Do not adjust the cable assembly too tight. To do so could cause the brake system to operate incorrectly.

5. While you hold the inside jamnut (L), tighten the outside jamnut (A) enough to lock the cable assembly (B) in position.
6. Make sure the hand brake operates correctly. If necessary, repeat step 2 through step 5.
7. Do the “Function Checks” on page 2-3.

Figure 4-58. Active Brake Adjustment



144386_2_184

4.36 Active Brake System—Neutral Detent

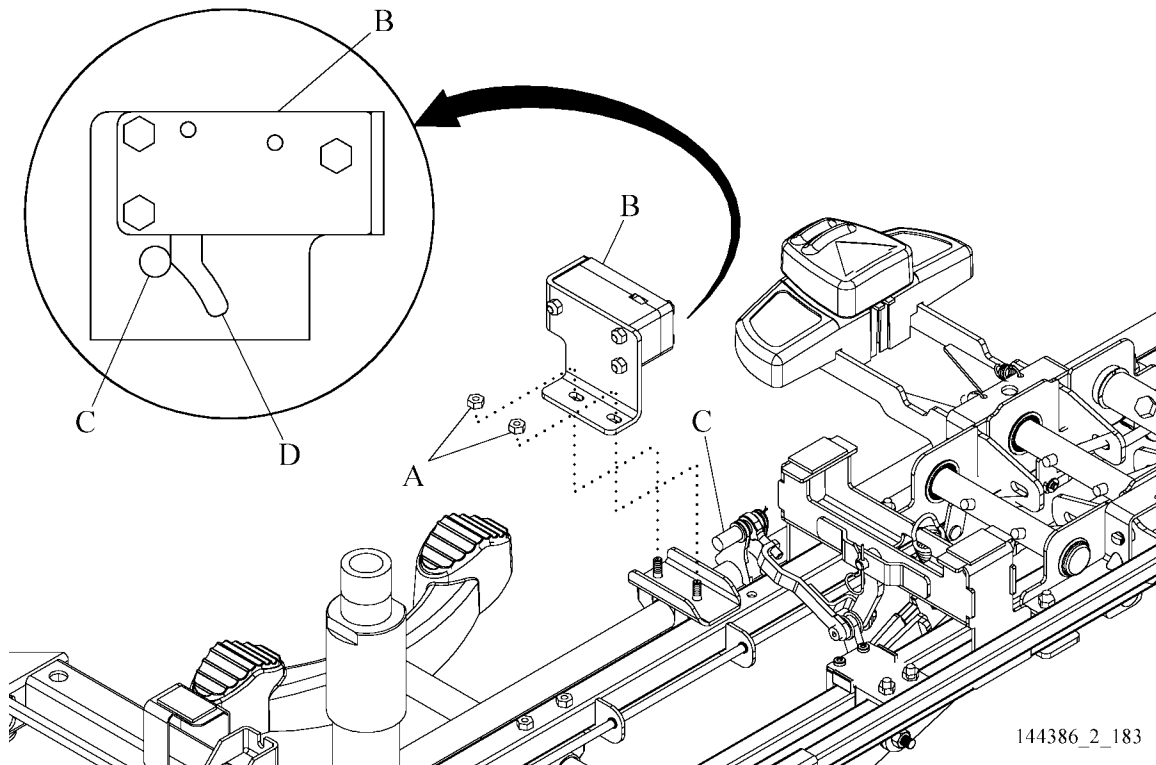
Tools required: 7/16" socket
Wheel blocks

Ratchet with an extension

Removal

1. Install the wheel blocks.
2. Make sure the brake/steer pedals are in the neutral position.
3. Attach the base shroud to the upper frame to get access to the neutral detent.
4. Remove the two nuts (A) that attach the neutral detent assembly (B) to the stretcher.
5. Remove the neutral detent assembly (B).

Figure 4-59. Neutral Detent Removal



Replacement

1. Do the removal procedure in reverse order.
2. Adjust the neutral detent assembly. Refer to “Adjustment” on page 4-115.

Adjustment

1. Make sure the brake/steer pedals are in the neutral position.
2. Loosen the two nuts (A) that attach the neutral detent assembly (B) to the stretcher (see figure 4-59 on page 4-114).
3. Slide the neutral detent assembly (B) inward until the fifth wheel pin (C) touches the lever arm (D).
4. Tighten the two nuts (A) that attach the neutral detent assembly (B) to the stretcher.
5. Make sure the brake/steer pedals operate correctly.
6. Do the “Function Checks” on page 2-3.

4.37 Stow-Away Push Handle (Stretchers with the Integrated Oxygen Tank Storage)

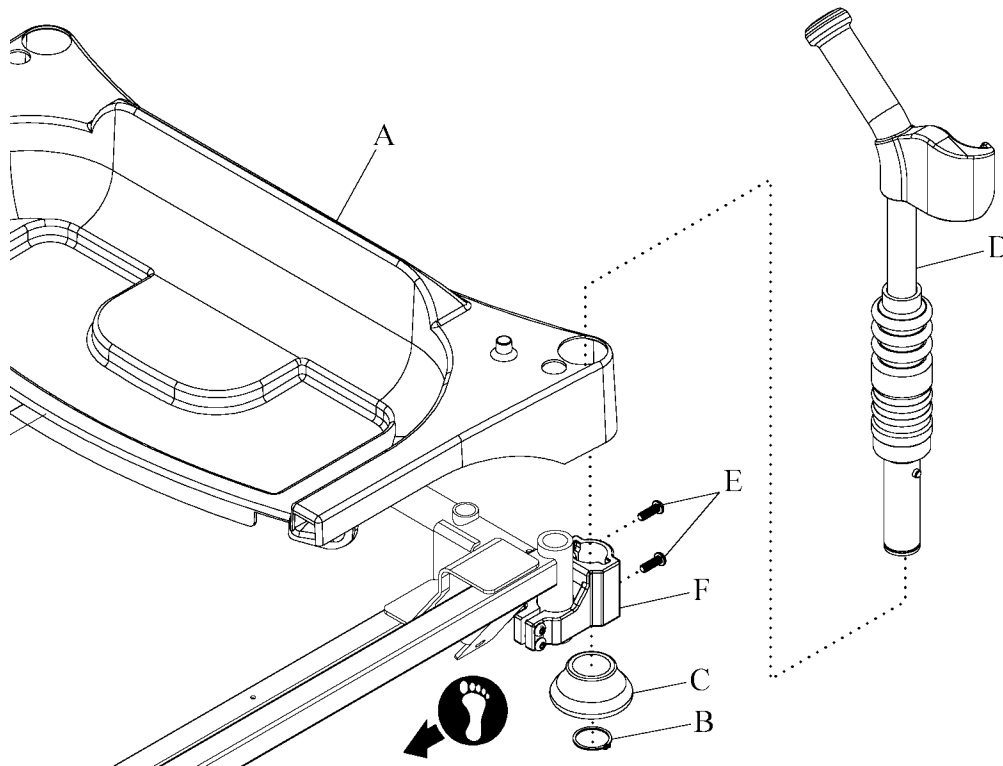
Tools required: T27 Torx®¹ screwdriver
Retaining ring removal and installation tool

Removal

1. Make sure the brakes are set.
2. Raise the head section to its highest position.
3. Remove the utility tray (A) (see figure 4-60 on page 4-116).

Figure 4-60. Removal

(Note: The push handle shown includes the optional integrated IV pole handle.)



144386_2_182

4. Remove the retaining ring (B) and bumper (C) from the handle (D).
5. Loosen the two screws (E) that hold the handle (D) in the adapter (F).
6. Remove the handle (D).

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Replacement

Do the removal procedure in reverse order.

NOTES:

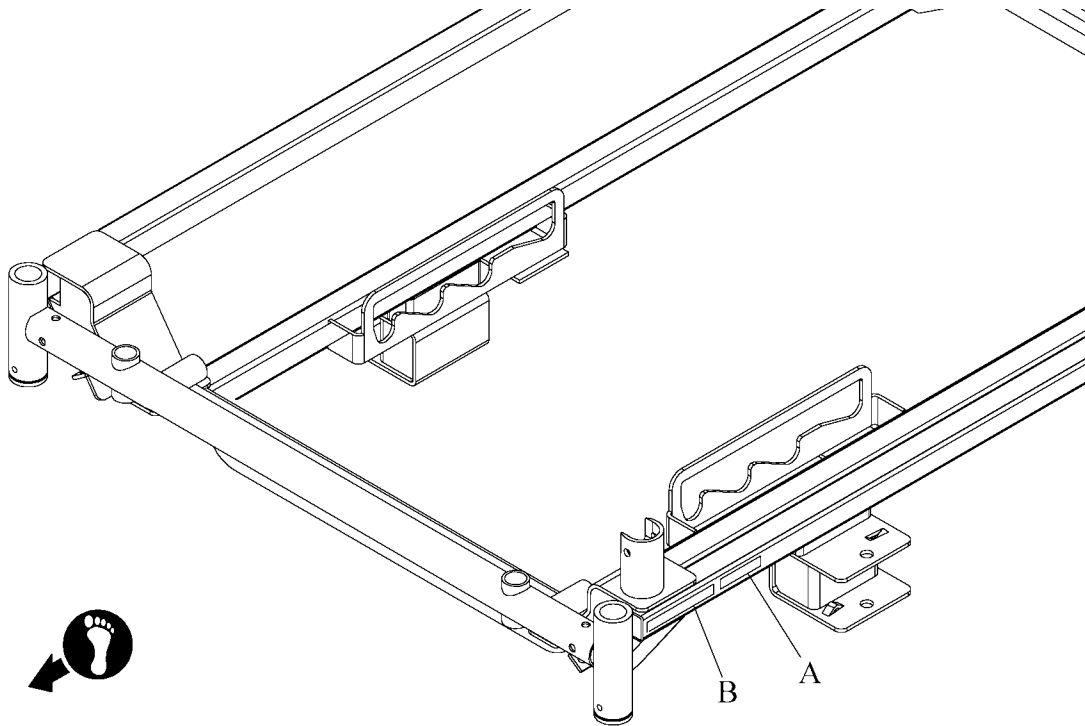
Chapter 5

Parts List

Service Parts Ordering

Using the parts lists in this manual, identify the part number(s) you require. You will find the product number on the model number label (B) and the serial number label (A) (see figure 5-1 on page 5-1). For the OB/GYN stretcher, you will find the product number on the model number label (C) and the serial number label (D) (see figure 5-2 on page 5-2).

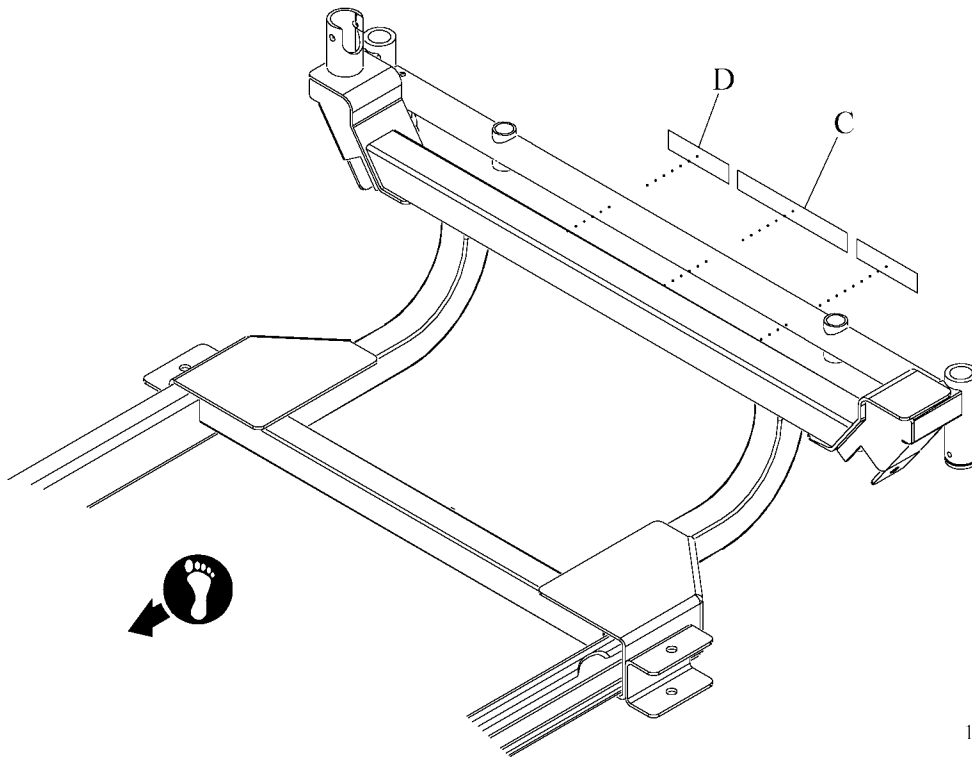
Figure 5-1. Identification Label Location



144386_1_150

5

Figure 5-2. OB/GYN Stretcher Identification Label Location



144386_1_148

Call Hill-Rom Technical Support at (800) 445-3720 with the following information:

- Six-digit customer account number
- Purchase order number
- Product number
- Serial number
- Part number(s)

To promptly order parts, request part prices and availability, or follow up on a service order, use the following Hill-Rom fax number:

(812) 934-8472

Terms:

- Net 30 days
- F.O.B. Batesville, IN
- Prepaid shipping charges added to invoice
- All orders shipped UPS ground unless specified

Address all inquiries to:

ATTN TECHNICAL SUPPORT—PARTS
HILL-ROM, INC.
1069 STATE ROUTE 46 E
BATESVILLE IN 47006-9167

Address all return goods to:

ATTN SERVICE STORES
DISTRIBUTION CENTER DOOR D23
HILL-ROM, INC.
COUNTY ROAD 300E
BATESVILLE IN 47006-9167

NOTE:

To eliminate possible delays or incorrect billings, **do not** return any items without a Return Material Authorization (RMA) number. When a return is requested, an RMA packet is included with each order. This packet includes an RMA number, instructions, and a shipping label. If an RMA number is not available, obtain one by phoning Hill-Rom Technical Support at (800) 445-3720.

Exchange Policy

The following are Hill-Rom's policies for in-warranty and out-of-warranty exchanges.

In-Warranty Exchanges

In some cases, Hill-Rom will request that parts/products be returned for inspection. When this occurs, you are expected to return parts/products within 30 days of receipt of the exchange part. If you fail to return the inoperative parts/products within the 30 day period, Hill-Rom will invoice your facility for the full selling price of the parts/products.

NOTE:

The preceding billing procedure pertains **only** to parts/products that Hill-Rom requests to be returned.

In some cases, the invoice accompanying the parts will show the full selling price (only for Hill-Rom's internal use). Do not confuse this price with your price.

Do not return any parts without an RMA number. When parts/products have been requested to be returned, Hill-Rom will include an RMA packet with the parts/products shipment. If an RMA number is not available, obtain one by phoning Hill-Rom Technical Support at (800) 445-3720.

Out-of-Warranty Exchanges

You are expected to return the inoperative parts/products within 30 days of receipt of the exchange part. Hill-Rom will include an RMA packet with the parts/products shipment. If an RMA number is not available, obtain one by phoning Hill-Rom Technical Support at (800) 445-3720. Hill-Rom will invoice your facility for the full selling price of the parts/products. Upon return of the inoperative parts/products, Hill-Rom will issue a credit to your facility for the difference between the exchange price and the full selling price of the parts/products.

Warranty

HILL-ROM COMPANY, INC. HILL-ROM® STRETCHER(S) LIMITED WARRANTY

Hill-Rom Company, Inc. (Hill-Rom) has a long tradition of providing superior products and service to our customer. Our goal is “Total Customer Satisfaction”. In that spirit, Hill-Rom is proud to offer the following warranty.

GENERAL WARRANTY (APPLICABLE UNLESS A SPECIFIC WARRANTY IS LISTED)

Hill-Rom warrants to the original purchaser that its Hill-Rom® Stretcher(s) shall be free from defects in material and workmanship for a period of three (3) years from date of delivery. In addition, during the first year of the warranty period, Hill-Rom shall provide service free of charge. Hill-Rom’s obligation under this warranty is expressly limited to supplying replacement parts and/or service for, or replacing, at its option, any product which is, in the sole discretion of Hill-Rom, found to be defective. In addition to the foregoing warranty, Hill-Rom warrants to the original purchaser that the frame and welds on its products will be free from structural defects for the life of the product. Any product upgrade or modification initiated by Hill-Rom does not affect the original product warranty.

SPECIFIC WARRANTIES**MATTRESS WARRANTIES**

Hill-Rom warrants to the original purchaser that its mattress product shall be free from defects in material and workmanship for a period of two (2) years from date of delivery.

EXPENDABLES WARRANTIES

A sixty (60) day limited warranty from date of delivery applies to expendable parts such as cushions, coverlets, software diskettes, locator badge batteries, dome light incandescent bulbs, overhead fluorescent tubes, heating elements, temperature probes, filter sheets, and microspheres. This warranty is limited to replacement of the parts covered.

TO OBTAIN PARTS AND SERVICE

In the United States, call Hill-Rom Technical Support Department at (800) 445-3720, Monday through Friday. In Canada, call Hill-Rom Technical Support Department at (800) 267-2337, Monday through Friday. Outside the United States and Canada, call your authorized Hill-Rom Distributor. In order to expedite service, we request you furnish the following information: customer identification number, product model number, serial number, and description of problem. A qualified specialist will provide, via telephone (United States and Canada), or FAX (Outside the United States and Canada), troubleshooting assistance for facility personnel and provide necessary parts to make repairs. If troubleshooting determines the need for on-site technical service, a qualified service representative will be dispatched. Replacement of non-technical items will be the responsibility of the customer. If requested by Hill-Rom, products or parts for which a warranty claim is made shall be returned prepaid to Hill-Rom’s factory.

OUT OF WARRANTY EXCHANGE POLICY

After the expiration of the original warranty, upon request, Hill-Rom will ship as a replacement, components such as selected motors and printed circuit boards, for like units returned to Hill-Rom by the original purchaser at a substantial savings. Please call Hill-Rom Technical Support Department for current pricing.

PARTS AVAILABILITY POLICY

Hill-Rom will offer parts for new and remanufactured products for ten (10) years from date of sale.

Note: Some original component parts and assemblies may not be available; functional equivalents may be substituted.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS OF PURPOSE. HILL-ROM’S OBLIGATION UNDER THESE WARRANTIES SHALL NOT INCLUDE ANY LIABILITY FOR LOSS OF PROFITS, DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES OR DELAYS.

Some states, provinces, or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply. Any improper or negligent use, any alterations or repairs not in accordance with Hill-Rom’s manuals or performed by others in such manner as in Hill-Rom’s sole judgment affects the product materially and adversely, shall void these warranties. These warranties do not cover failures due to misuse, abuse, neglect, or lack of routine maintenance. No employee or representative of Hill-Rom is authorized to change these warranties in any way or grant any other warranty unless in writing and signed by a Hill-Rom officer. These warranties provide specific legal rights; but, there may be other available rights, which vary from state to state, province to province, or country to country.

Revised January 5, 2007

WAR016 REV 2

Hill-Rom Company, Inc., 1069 State Route 46 E, Batesville, IN 47006-9167

NOTES:

Recommended Spare Parts

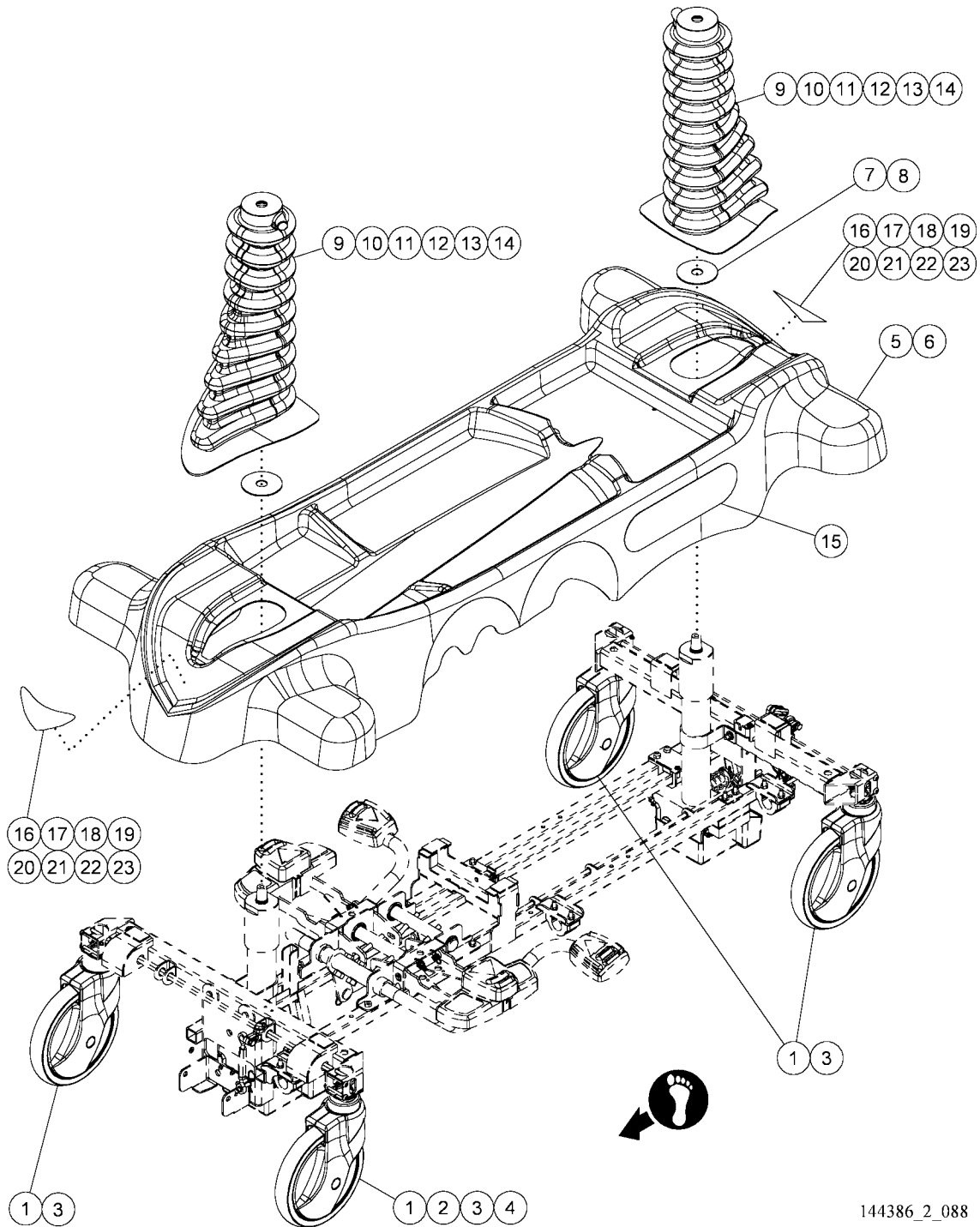
For a recommended spare parts list to service five or more units, see table 5-1 on page 5-7.

Table 5-1. Recommended Spare Parts

Part Number	Quantity	Description
145852	1	Hydraulic cylinder assembly, head
145853	1	Hydraulic cylinder assembly, foot
46363	5	Zero transfer stop "A" (for siderails)
46378	5	Zero transfer stop "B" (for siderails)
37275	10	Roll pin
4610302	10	Ratchet rivet
SA8894	2	Wheel, 8"
17291	20	Push nut
48650	10	Headed pin
143347	2	Pad, foot (green)
143348	2	Pad, foot (orange)
143344	2	Pedal, butterfly
140264	1	Head panel gas spring

Caster and Base Shroud

Figure 5-3. Caster and Base Shroud



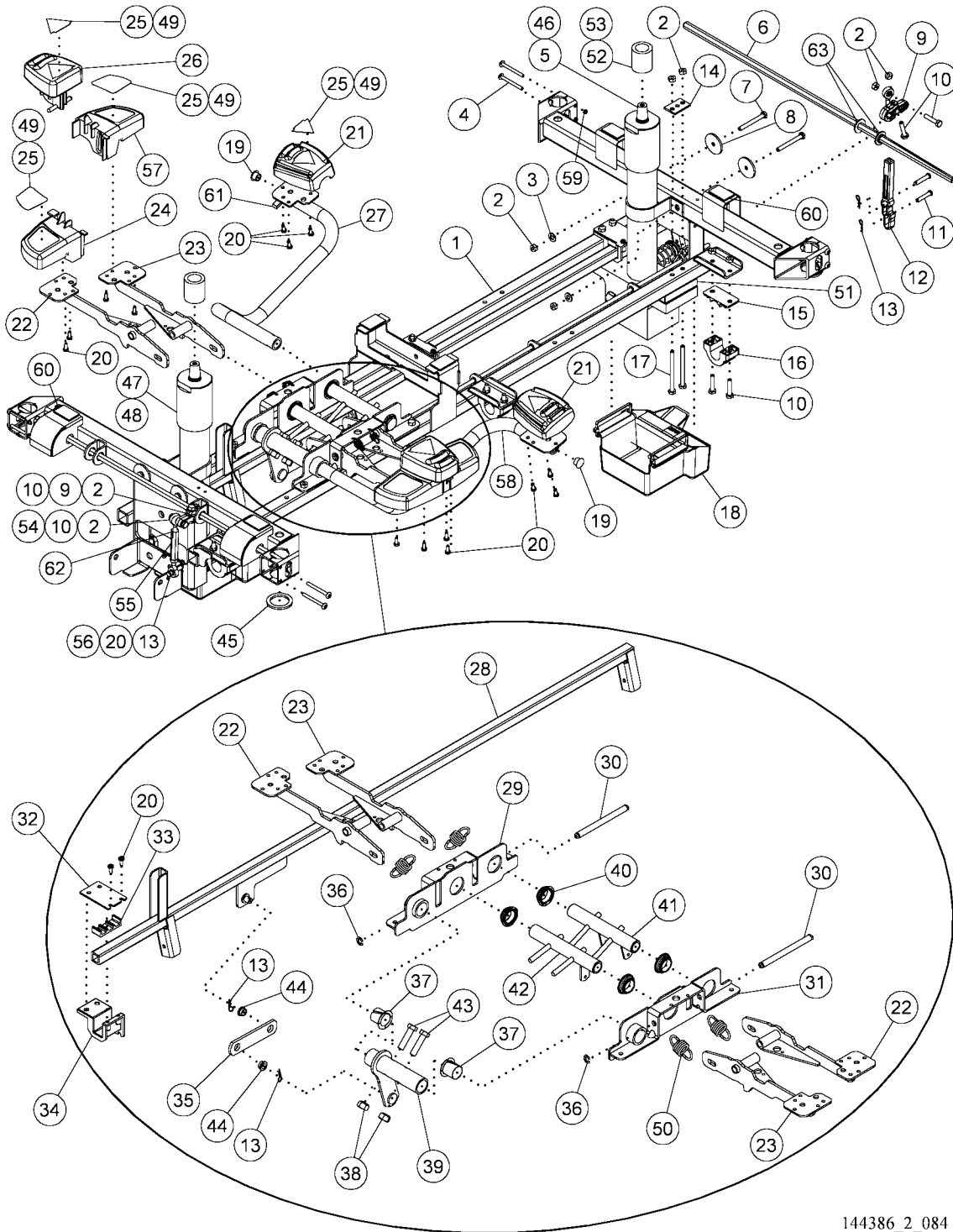
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Table 5-2. Caster and Base Shroud

Item Number	Part Number	Quantity	Description
1	14307301	1	Caster, brake, non-ESD
2	14307302	1	Caster, brake/steer, non-ESD
3	14307303	1	Caster, brake, ESD
4	14307304	1	Caster, brake/steer, ESD
5	144148	1	Shroud (P8005, F and G models built before July 2008)
	153180	1	Shroud (F and G model stretchers built after June 2008)
6	142902	1	Shroud (F and G model stretchers built before July 2008)
7	65513PLS	2	Plate, bellow attachment plate (P8005)
8	46122	2	Plate, bellow attachment
9	14338904	2	Bellows, red
10	14338903	2	Bellows, teal
11	14338902	2	Bellows, purple
12	14338901	2	Bellows, blue
13	14338905	2	Bellows, neutral
14	65105	2	Bellows (P8005)
15	14402202	2	Label, Hill-Rom, large
16	14401901	2	Label, Procedural
17	14401902	2	Label, Trauma
18	14401903	2	Label, Surgical
19	14401904	2	Label, OB/GYN
20	14401905	2	Label, Electric
21	14401906	2	Label, international
22	14402201	2	Label, P8005
23	144931	2	Label, P8005, international

Base Assembly—Side Pedal

Figure 5-4. Base Assembly—Side Pedals



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Table 5-3. Base Assembly—Side Pedals

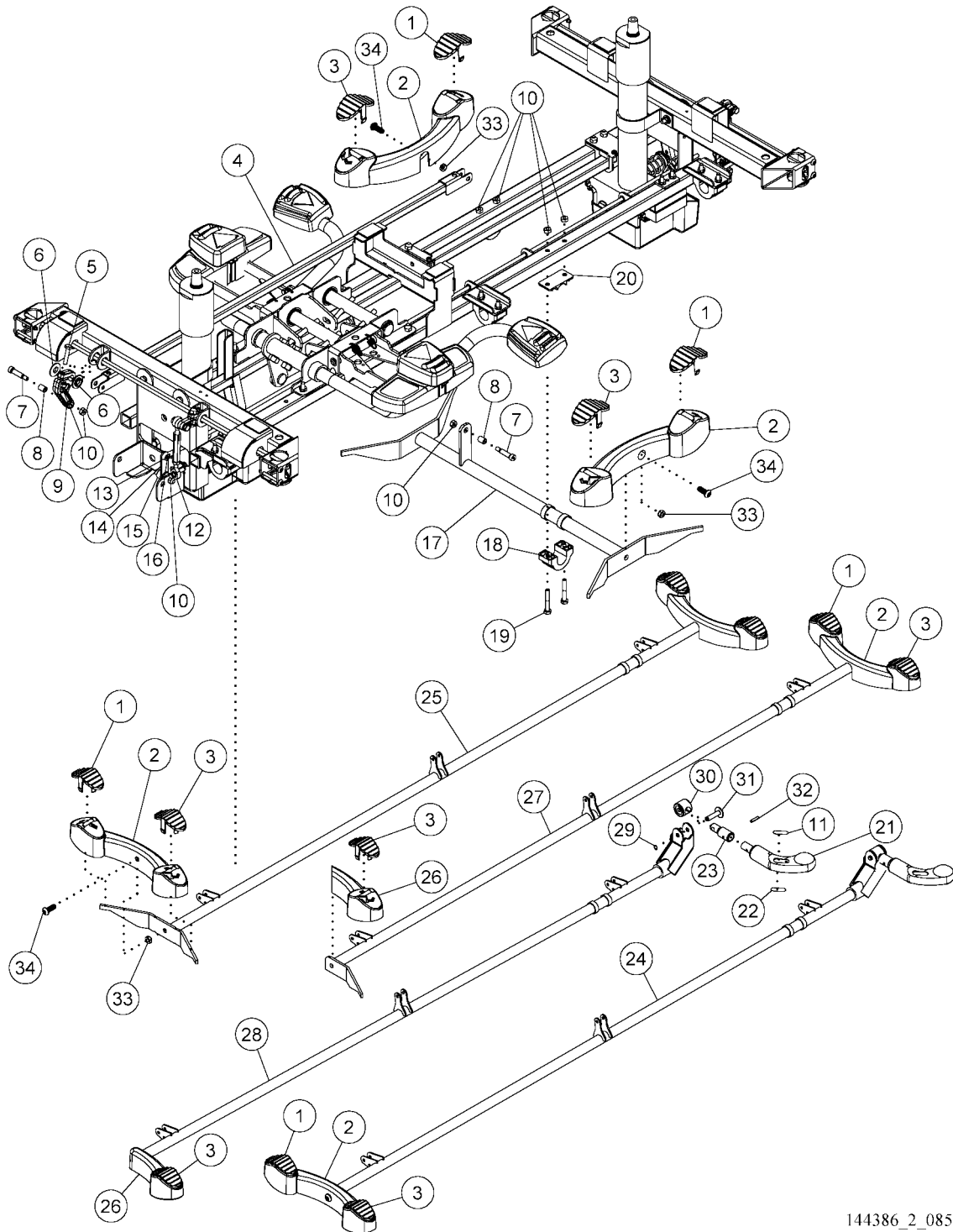
Item Number	Part Number	Quantity	Description
1	14736048S	1	Weldment, base, stretcher
2	4435	28	Nut
3	1012	4	Washer, flat
4	143368	8	Screw
5	145852	1	Hydraulic cylinder assembly, head
6	143072PLS	2	Shaft
7	9001836	4	Screw
8	143743PLS	4	Plate
9	143552	2	Clamp, hex rod
10	9001820	10	Screw, cap
11	65024	3	Clevis pin
12	143648	1	Brake link
13	6029403	5	Pin, hair
14	4609201PLS	2	Washer, flat
15	142918	3	Cap, pivot block
16	143554	3	Block, pivot
17	129337	8	Screw
18	70794	2	Drip guard
19	3815602	2	Plug, hole
20	42142	20	Screw, hilow
21	143398	2	Cover, pump pedal
22	14287301PLS	2	Weldment, arm, foot release control
23	14287302PLS	2	Weldment, arm, foot release control
24	14439701	2	Trend pedal, right
25	143719	1	Label kit, trend, hilow, right side
26	144452	2	Trend pedal, center
27	1429040248S	1	Weldment, foot pump, hilow
28	142834PLS	1	Weldment, pump linkage
29	14285401PLS	1	Weldment, release hilow
30	4727111PLS	2	D-pin
31	14285402PLS	1	Weldment, release, hilow
32	143075PLS	3	Plate, pump guide retainer
33	143074	3	Linkage guide cap

Item Number	Part Number	Quantity	Description
34	142911	3	Guide, hilow pump linkage
35	144021PLS	1	Link, hilow pump activation
36	35325	2	E-ring
37	46338	2	Bushing, split
38	9023428	2	Nut, lock
39	142841PLS	1	Weldment, hilow connection
40	142886	4	Bushing, release tube end
41	142874PLS	1	Weldment, rev Trend conn tube
42	142875PLS	1	Weldment, Trend conn tube
43	9001724	2	Screw
44	36570	2	Bushing
45	142817PLS	4	Spacer, caster
46	145854	1	Surgical hydraulic cylinder, head
47	145853	1	Hydraulic cylinder assembly, foot
48	145855	1	Surgical hydraulic cylinder, foot
49	143350	1	Label kit, trend, hilow, left side
50	143085	4	Spring
51	142818PLS	4	Tube, hilow jack spacer, base
52	13028301	2	Spacer, .75" (19 mm) (P8010 and P8050)
53	6504702	2	Spacer, 1.75" (44.4 mm) (P8005 and P8020)
54	143081	1	Heim joint, lh, threaded
55	143082	1	Turnbuckle
56	143080	2	Heim joint, rh, threaded
57	14438702	2	Trend pedal, lh
58	14290401	1	Weldment, foot pump, hilow
59	755	8	Nut, lock
60	4640202	6	Dual lock
61	4965348S	2	Bumper
62	46486	1	Nut, jam
63	46416	6	Bushing

NOTES:

Base Assembly—Side Pedals with End Brake and Steer

Figure 5-5. Base Assembly—Side Pedals with End Brake and Steer



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Table 5-4. Base Assembly—Side Pedals with End Brake and Steer

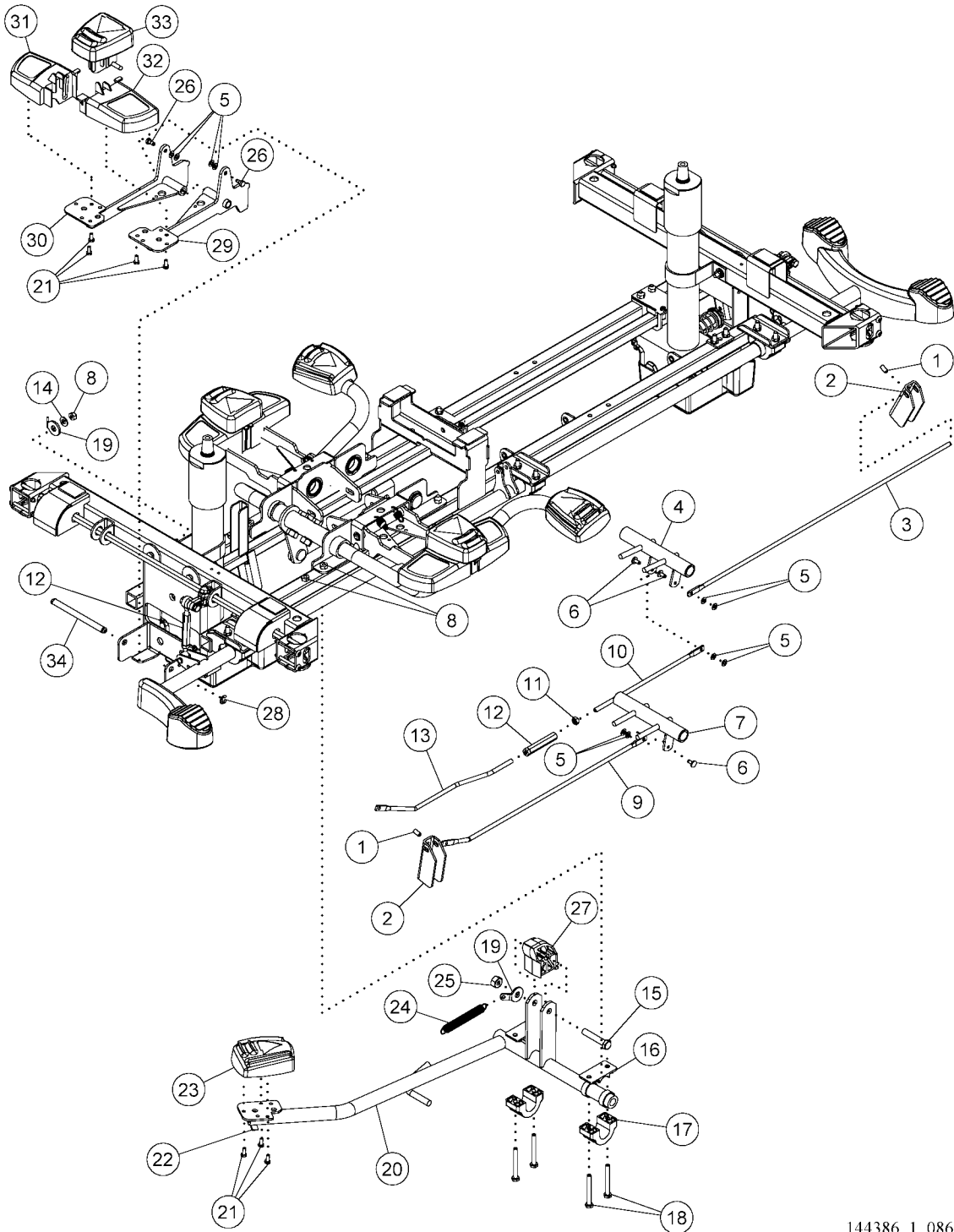
Item Number	Part Number	Quantity	Description
1	143347	2	Footpad, green
2	143344	2	Pedal, butterfly
3	143348	2	Footpad, orange
4	142844PLS	1	Weldment, side brake/steer link
5	9001820	1	Screw
6	46416	6	Bushing
7	9025816	2	Screw, shoulder
8	144935	2	Bearing
9	143497	1	Clamp, hex shaft to side pedal
10	4435	7	Nut, lock
11	61765	1	Label, brake
12	143048	1	Rod, rev Trend release
13	48650	1	Pin, groove
14	46053	1	Reverse Trend rod support guide
15	9025816	1	Screw, shoulder
16	17291	4	Push nut
17	14291348S	1	Weldment, side brake/steer (F and G model stretchers built before July 2008)
	149295	1	Weldment, side brake/steer (F and G model stretchers built after June 2008)
18	143554	2	Block, pivot
19	9001828	4	Screw, cap, hex
20	142918	2	Cap, pivot block
21	4398401	1	Steer pedal
22	61674	1	Label, steer
23	61755	1	Pedal, adapter
24	14438148S	1	Weldment, brake/steer, surgical, half pedal
25	14437848S	1	Weldment, brake/steer shaft
26	143395	1	Pedal, foot end, half
27	14437948S	1	Weldment, brake/steer shaft, half pedal
28	14438048S	1	Weldment, brake/steer, surgical
29	36957	1	Retaining ring
30	46041	1	Block, lower pivot

Item Number	Part Number	Quantity	Description
31	60792	1	Headed pin
32	128	1	Pin, roll
33	60494	1	Nut (stretchers built after January 2009)
34	0010360028	1	Screw (stretchers built after January 2009)

NOTES:

Base Assembly—End Pedals

Figure 5-6. Base Assembly—End Pedals



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Table 5-5. Base Assembly—End Pedals

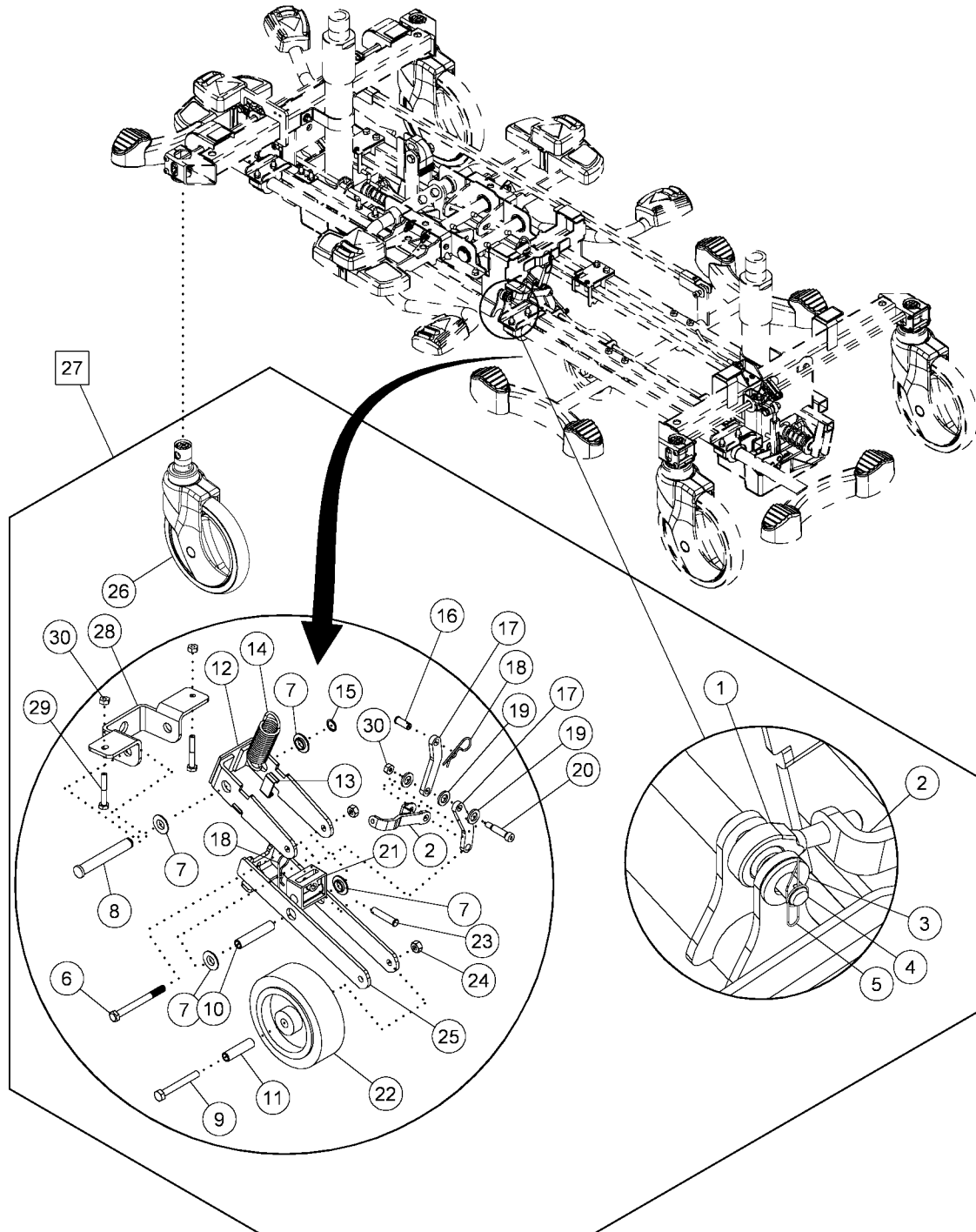
Item Number	Part Number	Quantity	Description
1	4648502	2	Screw
2	143400PLS	2	Bracket, hilow plunger release
3	142945	1	Rod, Trend release
4	142874PLS	1	Weldment, rev Trend conn tube
5	17291	6	Push nut
6	48650	2	Pin, groove
7	142875PLS	1	Weldment, Trend conn tube
8	4435	28	Nut, lock
9	142943	1	Rod, rev Trend release
10	142944	1	Rod, rev Trend, extension
11	46486	1	Nut, jam
12	143082PLS	1	Turnbuckle
13	142946	1	Rod, rev Trend, release extension
14	1012	4	Washer, flat
15	9001732	1	Screw, hex
16	142918	2	Cap, pivot block
17	143554	2	Block, pivot
18	9001836	4	Screw
19	144508PLS	2	Plate, end foot pump
20	14293048S	1	Weldment, foot end pump
21	42142	7	Screw, hilow
22	48653	1	Bumper
23	143398	1	Cover, hydraulic pump pedal
24	6100401	1	Spring, handle retract
25	9023428	1	Nut, lock
26	144253PLS	2	Pin, foot controls
27	142856	1	Slider, foot pump bar
28	35325	1	E-ring
29	14292602PLS	1	Weldment, foot end pedal, rh
30	14292601PLS	1	Weldment, foot end pedal, lh
31	14439702	1	Cover, Trend pedal, lh
32	14439701	1	Cover, Trend pedal, rh
33	144452	1	Trend pedal assembly, center

Item Number	Part Number	Quantity	Description
34	4727111PLS	1	D-pin

NOTES:

Base Assembly—Steering Plus™ Steering System

Figure 5-7. Base Assembly—Steering Plus™ Steering System



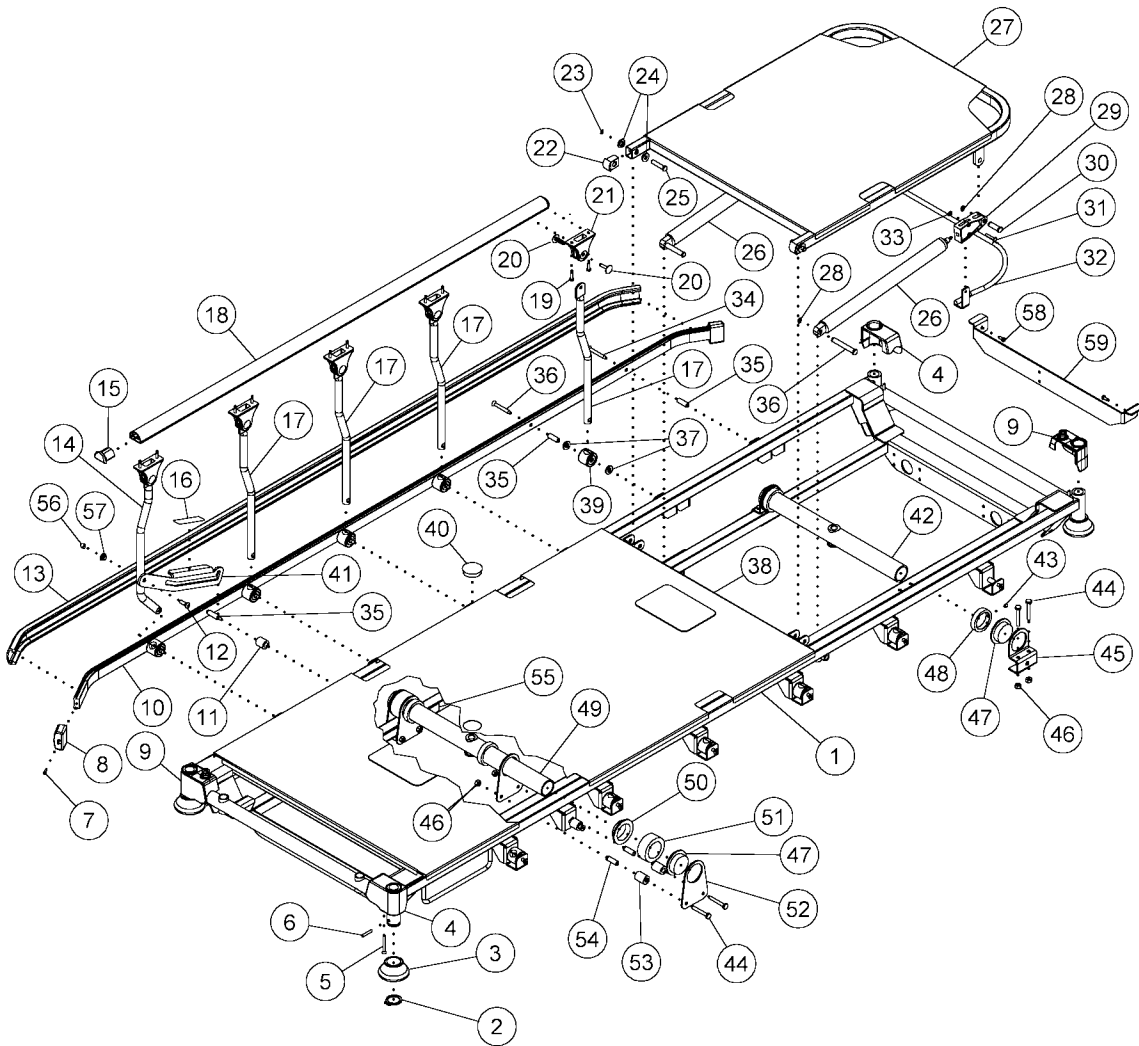
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Table 5-6. Base Assembly—Steering Plus™ Steering System

Item Number	Part Number	Quantity	Description
1	36291	1	Rod end
2	135574PLS	1	Weldment, 5th wheel arm
3	1012	1	Washer, flat
4	65024	1	Pin, clevis
5	62050	1	Rue ring
6	9001652	1	Screw, hex
7	4630	4	Bushing
8	143083PLS	1	Pin, headed
9	9001640	1	Screw, hex
10	14316902	1	Spacer, 5th wheel
11	14316901	1	Spacer, 5th wheel
12	145145	1	Bracket, outer 5th wheel
13	145004	2	Glide, 5th wheel
14	143631	1	Spring, 5th wheel
15	37652	1	Retaining ring
16	4618702PLS	1	Pin, clevis
17	144530PLS	2	Arm, 5th wheel
18	6029403	2	Pin, hair
19	46487	3	Washer
20	9025816	1	Screw, shoulder
21	143150	1	Block, U-joint, 5th wheel
22	143076	1	Wheel
23	4618703PLS	1	Pin, clevis
24	831	2	Nut, hex
25	143000PLS	1	Weldment, 5th wheel, link
26	14307301	1	Caster, brake, non-ESD
27	145924S	1	5th wheel upgrade kit
28	149288	1	Base bracket
29	9001828	2	Screw
30	4435	3	Nut

Upper Frame Assembly—Transport (P8005) Stretcher

Figure 5-8. Upper Frame Assembly—Transport (P8005) Stretcher



144386_2_072

Table 5-7. Upper Frame Assembly—Transport (P8005) Stretcher

Item Number	Part Number	Quantity	Description
1	145101	1	Upper frame weldment
2	46361	4	Retaining ring
3	4603801	2 or 4	Bumper, upper frame (foot end only on stretchers with the integrated oxygen tank storage)
4	46019	1 or 2	Corner shroud, rh (foot end only on stretchers with the integrated oxygen tank storage)
5	48621	2 or 4	Screw (foot end only on stretchers with the integrated oxygen tank storage)
6	40766	4	Roll pin
7	46015	4	Screw, bottom rail end cap
8	46372	4	Bottom rail end cap
9	46029	1 or 2	Corner shroud, lh (foot end only on stretchers with the integrated oxygen tank storage)
10	6510348S	2	Bent bottom rail extrusion
11	48643	2	Latch bushing
12	140920	2	Latch shoulder bolt
13	4637013	2	Bent bottom rail extrusion
14	65046	2	Siderail tube end
15	4637156	4	Top rail end cap
16	144006	2	Labels
17	65045	8	Siderail tube
18	4606601	2	Top rail assembly
19	43879	20	Screw, Torx® button head
20	4610302	20	Latch ratchet rivet
21	4610656	10	Upper pivot bracket
22	46113	2	Tube plug
23	43059	2	Retaining ring
24	46045	4	Surface pivot bushing
25	4645404PLS	2	Pin, 1.313"
26	46191	2	Gas spring
27	14518801	1	Head/foot tube welded assembly (head end, standard width, non-radiolucent)

Item Number	Part Number	Quantity	Description
28	36957	4	Retaining ring
29	38741	2	Release, gas spring
30	4637503PL	2	Headed pin
31	9001216	2	Truss head rivet
32	129945	1	Head release handle welded assembly
33	17291	2	Push nut
34	4637504PL	2	Headed pin
35	46022PL	12	Roller guide
36	46362	14	Lower pivot bolt
37	46116	20	Wave washer
38	46334	2	Mattress attachment Velcro® ^b
39	46041	10	Lower pivot block
40	6815603	1	Disk, reinforcing
41	48641	1	Siderail latch
42	46197PL	1	Head support tube weldment
43	4648501	4	Setscrew, cup point
44	9001828	8	Screw, hex head cap
45	4602748	2	Trendelenburg pivot bracket
46	4435	8	Locknut
47	46110	4	Trendelenburg outer foot bushing
48	49017PL	4	Anti-sway collar
49	46196	1	Foot support tube weldment
50	46109	2	Trendelenburg inner foot bushing
51	46172	2	Trendelenburg upper roller
52	4611148	4	Trendelenburg pivot plate
53	46023	4	Roller bushing
54	46339PL	4	Roller guide, upper frame
55	46332	4	Protective tape
56	72553	2	Nut
57	144916	2	Flanged bushing
58	63166	2	Screw (F and G model stretchers built after June 2008, without the integrated oxygen tank storage)

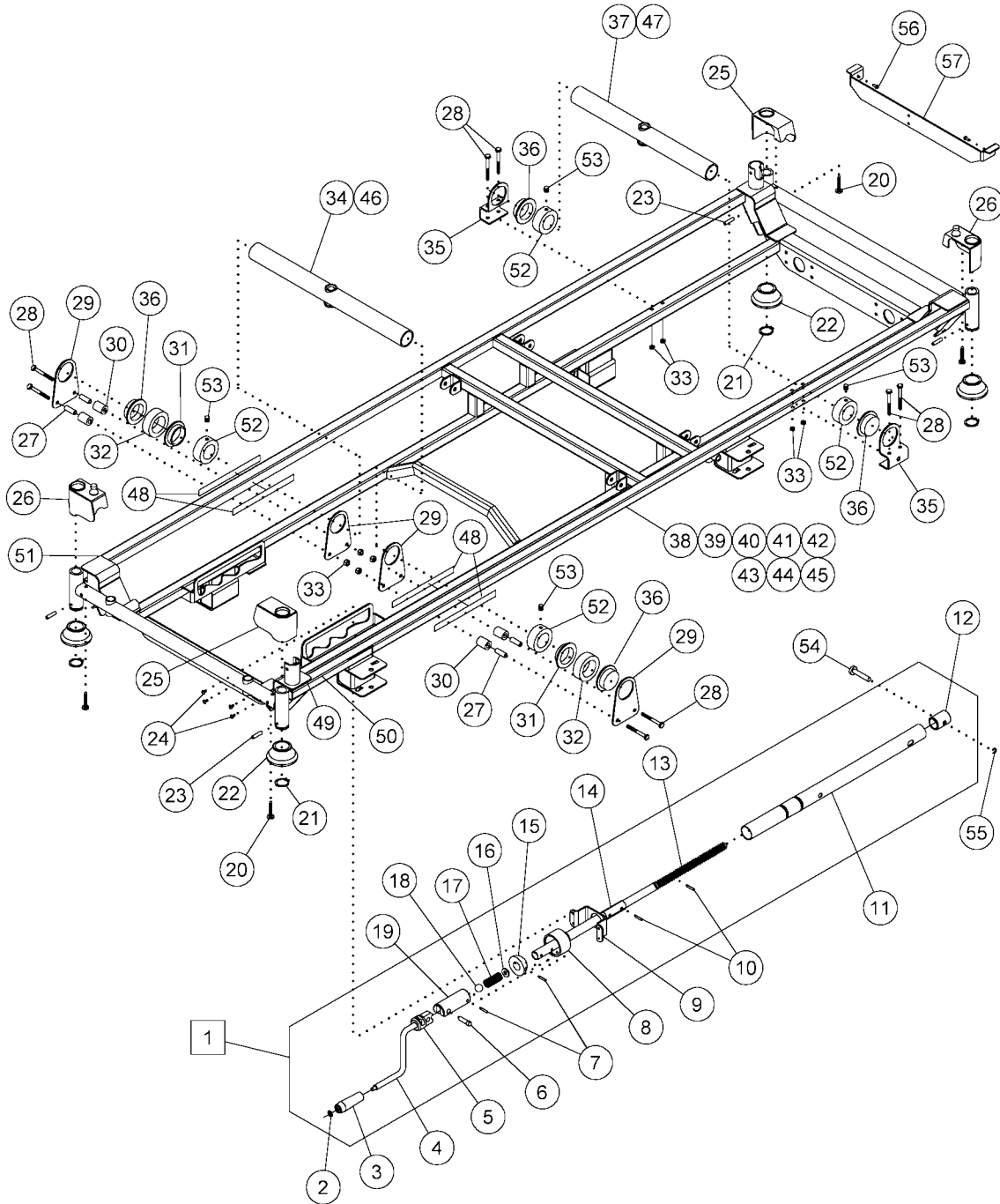
Item Number	Part Number	Quantity	Description
59	153268	1	Bracket, end support, narrow (F and G model stretchers built after June 2008, without the integrated oxygen tank storage)
	153269	1	Bracket, end support, wide (F and G model stretchers built after June 2008, without the integrated oxygen tank storage)

a. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

b. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

Upper Frame Assembly—Procedural (P8000) Stretcher

Figure 5-9. Upper Frame Assembly—Procedural (P8000) Stretcher



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Table 5-8. Upper Frame Assembly—Procedural (P8000) Stretcher

Item Number	Part Number	Quantity	Description
1	14368001	1	Knee gatch assembly
2	36800	1	Push nut
3	24519	1	Knob
4	46310PL	1	Crank handle welded assembly
5	4647503	1	Labels
6	46479	1	Pin
7	3517	2	Roll pin
8	46302	1	Knee crank socket
9	143284	1	Knee crank support bracket
10	128	2	Roll pin
11	3973201	1	Tube and nut assembly, knee
12	40734	1	Damper plug
13	31644	1	Knee screw, manual
14	46304PL	1	Knee screw tube
15	46301	1	Knee crank pivot
16	35667	1	Washer
17	46308	1	Knee crank spring
18	46309	1	Detent ball
19	46307PL	1	Crank hinge, female
20	48621	2 or 4	Twin thread screw (foot end only on stretchers with the integrated oxygen tank storage)
21	46361	4	Retaining ring
22	46038	2 or 4	Corner bumper (foot end only on stretchers with the integrated oxygen tank storage)
23	40766	4	Roll pin
24	43878	4	Screw, Torx® button head
25	46019	1 or 2	Corner shroud, rh (foot end only on stretchers with the integrated oxygen tank storage)
26	46029	1 or 2	Corner shroud, lh (foot end only on stretchers with the integrated oxygen tank storage)
27	46339PL	4	Roller guide, upper frame

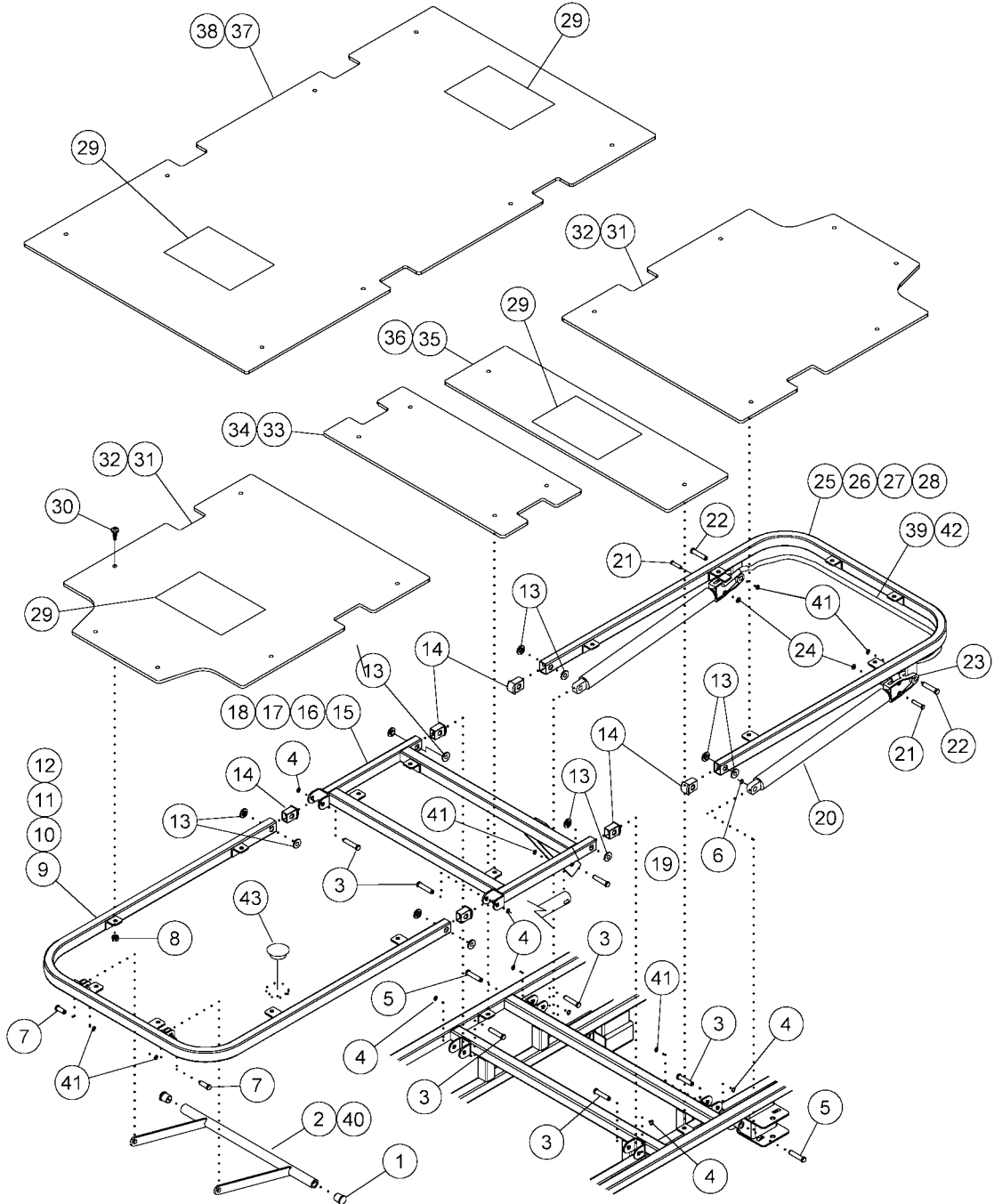
Item Number	Part Number	Quantity	Description
28	9001828	8	Screw, hex head cap
29	4611148	4	Trendelenburg pivot plate
30	46023	4	Roller bushing
31	46109	2	Inner foot Trendelenburg bushing
32	46172	2	Upper Trendelenburg roller
33	4435	8	Locknut
34	4619601PLS	1	Foot support tube welded assembly, standard
35	4602748	2	Trendelenburg pivot bracket
36	46110	4	Outer foot Trendelenburg bushing
37	4619701PLS	1	Head support tube welded assembly (standard width, knee gatch, non-radiolucent)
38	14510101	1	Upper frame welded assembly (standard width, knee gatch, non-radiolucent)
39	14510102	1	Upper frame welded assembly (standard width, knee gatch, radiolucent)
40	14510103	1	Upper frame welded assembly (wide width, knee gatch, non-radiolucent)
41	14510104	1	Upper frame welded assembly (wide width, knee gatch, radiolucent)
42	14510105	1	Upper frame welded assembly (standard width, no knee gatch, non-radiolucent)
43	14510106	1	Upper frame welded assembly (standard width, no knee gatch, radiolucent)
44	14510107	1	Upper frame welded assembly (wide width, no knee gatch, non-radiolucent)
45	14510108	1	Upper frame welded assembly (wide width, no knee gatch, radiolucent)
46	4619601PL	1	Foot support tube welded assembly (wide width)
47	4619701PL	1	Head support tube welded assembly (wide width)
48	46332	4	Protective tape
49	4647504	1	Labels
50	4647506	1	Labels
51	4647505	1	Labels

Item Number	Part Number	Quantity	Description
52	49017PL	4	Anti-sway collar
53	4648501	4	Setscrew, cup point
54	4637501PL	1	Headed pin, 1.625"
55	36957	1	Retaining ring
56	63166	2	Screw (F and G model stretchers built after June 2008, without the integrated oxygen tank storage)
57	153268	1	Bracket, end support, narrow (F and G model stretchers built after June 2008, without the integrated oxygen tank storage)
	153269	1	Bracket, end support, wide (F and G model stretchers built after June 2008, without the integrated oxygen tank storage)

a. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Upper Frame Panel Assembly—Procedural (P8000) Stretcher

Figure 5-10. Upper Frame Panel Assembly—Procedural (P8000) Stretcher



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Table 5-9. Upper Frame Panel Assembly—Procedural (P8000) Stretcher

Item Number	Part Number	Quantity	Description
1	2945748	2	Hole plug
2	4644648	1	Foot rack welded assembly
3	4645404PLS	6	Headed pin, 1.313"
4	43059	6	Retaining ring
5	4637504PL	2	Headed pin
6	36959PLS	2	Trendelenburg pivot rod
7	4637502PL	2	Headed pin, 0.688"
8	20802	14 or 18	Nut, keps
9	14518805	1	Head/ foot tube welded assembly (foot end, standard width, non-radiolucent)
10	14518806	1	Head/ foot tube welded assembly (foot end, standard width, radiolucent)
11	14518807	1	Head/ foot tube welded assembly (foot end, wide width, non-radiolucent)
12	14518808	1	Head/ foot tube welded assembly (foot end, wide width, radiolucent)
13	46045	12	Surface pivot bushing
14	46113	6	Tube plug
15	461980148	1	Thigh panel welded assembly (standard width, non-radiolucent)
16	461980248	1	Thigh panel welded assembly (standard width, radiolucent)
17	461980348	1	Thigh panel welded assembly (wide width, non-radiolucent)
18	461980448	1	Thigh panel welded assembly (wide width, radiolucent)
19	4637501PL	1	Headed pin, 1.625"
20	4619101	2	Gas spring
21	9001216	2	Truss head rivet
22	4637503PL	2	Headed pin
23	38741	2	Release, gas spring
24	17291	2	Push nut
25	14518801	1	Head/foot tube welded assembly (head end, standard width, non-radiolucent)

Item Number	Part Number	Quantity	Description
26	14518802	1	Head/foot tube welded assembly (head end, standard width, radiolucent)
27	14518803	1	Head/foot tube welded assembly (head end, wide width, non-radiolucent)
28	14518804	1	Head/foot tube welded assembly (head end, wide width, radiolucent)
29	46334	2	Mattress attachment Velcro® ^a
30	40522	14 or 18	Step bolt
31	46435	2	Resiten® ^b head/foot panel (standard width)
32	4643501	2	Resiten® head/foot panel (wide width)
33	46438	1	Resiten® thigh panel (standard width)
34	4643801	1	Resiten® thigh panel wide
35	46437	1	Resiten® seat panel (standard width)
36	4643701	1	Resiten® seat panel (wide width)
37	46439	1	Resiten® foot panel, no knee (standard width)
38	4643901	1	Resiten® foot panel, no knee (wide width)
39	129945	1	Head release handle welded assembly (standard width)
40	464460148	1	Foot rack welded assembly (wide width)
41	36957	7	Retaining ring
42	4619001PL	1	Head release handle welded assembly (wide width)
43	3815603	1	Hole plug, 1.672" black

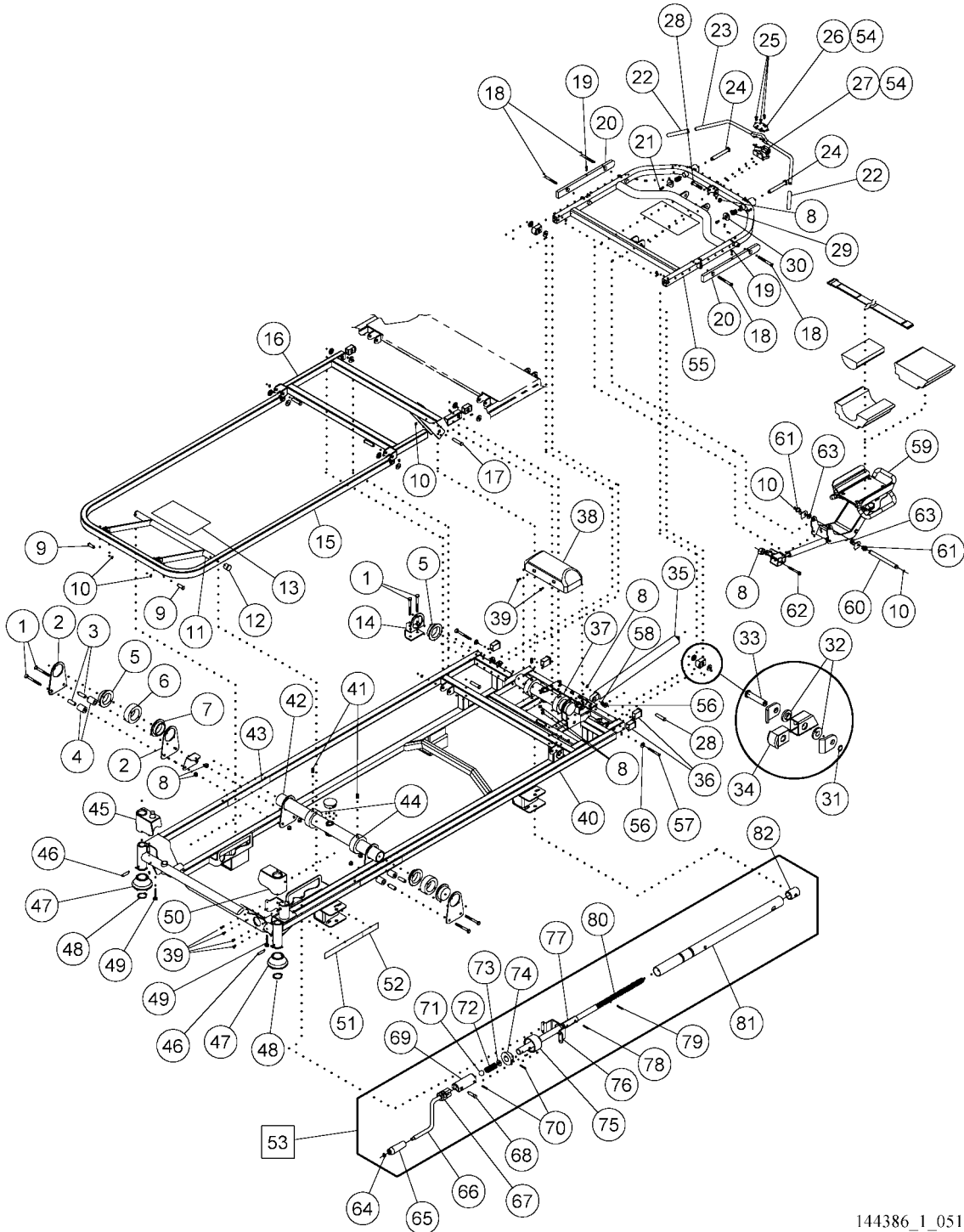
a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

b. Resiten® is a registered trademark of L.C. Industries, Inc.

NOTES:

Upper Frame Assembly—Surgical (P8010) Stretcher

Figure 5-11. Upper Frame Assembly—Surgical (P8010) Stretcher



144386_1_051

Table 5-10. Upper Frame Assembly—Surgical (P8010) Stretcher

Item Number	Part Number	Quantity	Description
1	9001828	6	Screw, hex head cap
2	4611148	4	Trendelenburg pivot plate
3	46023	4	Roller bushing
4	46339PL	4	Roller guide, upper frame
5	46110	4	Outer foot Trendelenburg bushing
6	46172	2	Upper Trendelenburg roller
7	46109	2	Inner foot Trendelenburg bushing
8	4435	7	Locknut
9	4637502PL	2	Headed pin, 0.688"
10	36957	5	Retaining ring
11	4644648	1	Foot rack welded assembly
12	2945748	2	Hole plug
13	46334	2	Mattress attachment Velcro® ^a
14	61684	1	Head end pivot bracket
15	4637448	1	Extended foot panel weldment
16	461980148	1	Thigh panel welded assembly
17	4637501PL	1	Headed pin, 1.625"
18	60806	4	Screw, phillips flat head
19	6078601	2	Screw, socket head cap
20	49063	2	Equipment (accessory) rail
21	14995	2	Screw
22	3972301	2	Pedal sleeve
23	46003	1	Release weldment, Fowler adjustment
24	46379	2	Screw, socket head cap
25	371	3	Screw
26	48639PL	1	Cover, gas spring release
27	48637	1	Gas spring release
28	9025824	2	Screw, hex socket head shoulder
29	60831	2	Fowler plunger spring
30	46393	2	Fowler plunger head
31	43059	6	Retaining ring
32	46045	12	Surface pivot bushing
33	4645404PLS	6	Headed pin, 1.313"

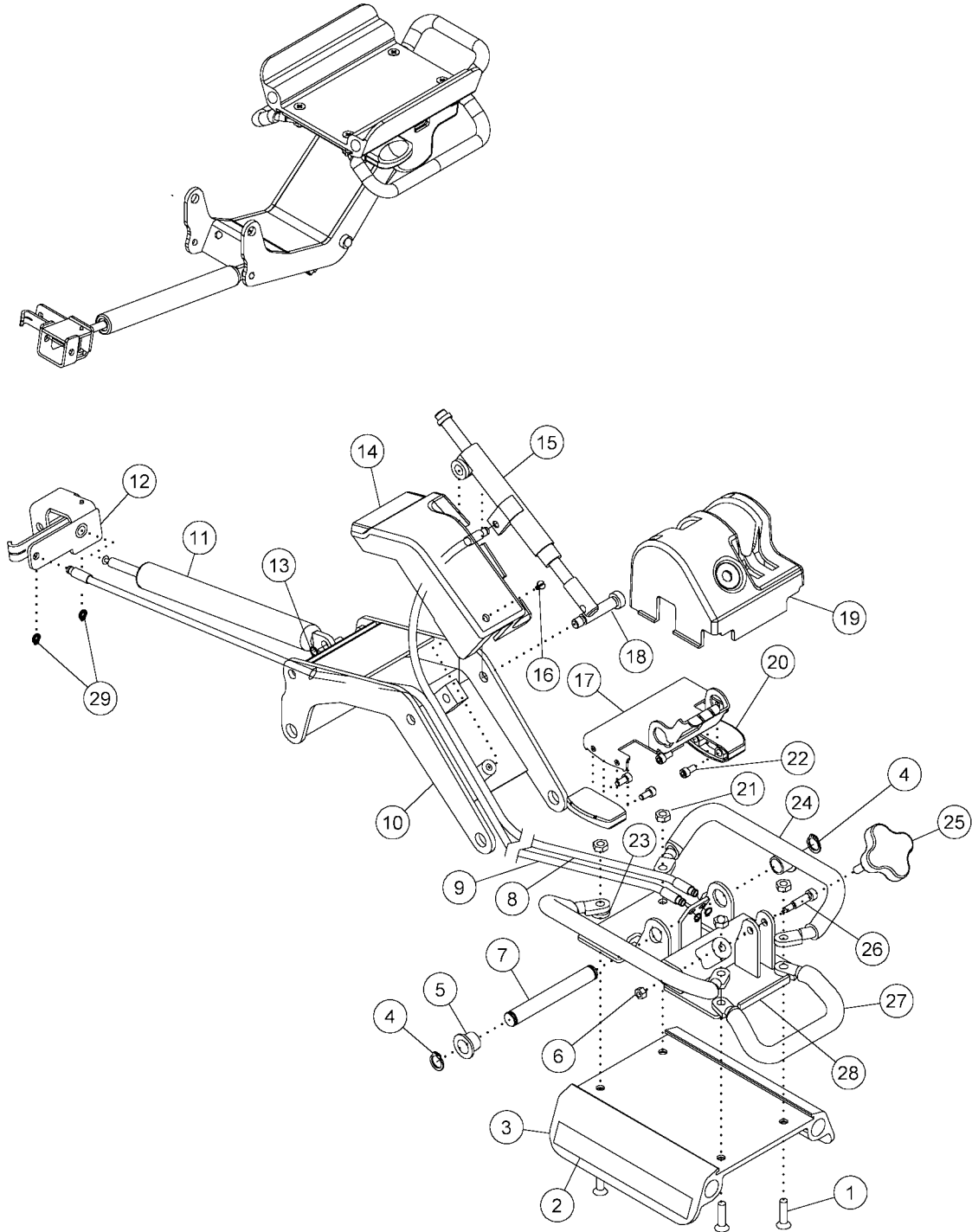
Item Number	Part Number	Quantity	Description
34	46113	6	Tube plug
35	60816	1	Surgical back section gas spring
36	49699	4	Knee standoff plug
37	4619702PLS	1	Head support tube weldment
38	46376	1	Trendelenburg axle cover
39	43878	6	Screw, Torx® button head
40	48660	1	Weldment, upper frame, surgical
41	4648501	4	Setscrew, cup point
42	46196PL	1	Foot support tube welded assembly
43	46332	4	Protective tape
44	49017PL	4	Anti-sway collar
45	46029	1	Corner shroud, lh
46	40766	2	Roll pin
47	46038	2	Corner bumper
48	46361	2	Retaining ring
49	48621	2	Twin threaded screw
50	46019	1	Corner shroud, rh
51	4903405	1	Labels—surgical model
52	4647506	1	Labels
53	14368004	1	Knee screw assembly
54	SA3351	As required	4 oz. lithium grease
55	6449448S	1	Weldment, backrest frame
56	35667	4	Washer
57	42574	2	Screw
58	831	2	Lock nut
59	60823S	1	Articulating head rest
60	49665	1	Shaft, lift arm attachment
61	3657001	2	Oilite® bearing
62	9025832	1	Screw, hex socket head shoulder
63	60818	2	Washer
64	36800	1	Push nut
65	24519	1	Knob
66	46310	1	Crank handle weldment
67	4647503	1	Labels

Item Number	Part Number	Quantity	Description
68	46479	1	Pin
69	46307	1	Crank hinge, female
70	3517	2	Roll pin
71	46309	1	Detent ball
72	46308	1	Knee crank spring
73	35667	1	Washer
74	46301	1	Knee crank pivot
75	46302	1	Knee crank socket
76	143284	1	Knee crank support bracket
77	4630401PLS	1	Surgical knee screw tube
78	128	1	Roll pin
79	124	1	Roll pin
80	31644	1	Knee screw manual
81	3973201	1	Tube and nut assembly, knee
82	40734	1	Damper plug
Not shown	46155	1	Head positioning strap
Not shown			Headrest (see “Mattresses” on page 5-162)

- a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).
- b. Torx® is a registered trademark of Acument Intellectual Properties, LLC.
- c. Oilite® is a registered trademark of Beemer Precision, Inc.

Surgical (P8010) Stretcher—Articulating Headrest

Figure 5-12. Surgical (P8010) Stretcher—Articulating Headrest



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Table 5-11. Surgical (P8010) Stretcher—Articulating Headrest

Item Number	Part Number	Quantity	Description
1	9006116	4	Screw, flat head
2	61548	4	Velcro® ^a strip
3	4967948S	1	Headrest plate
4	36826	2	Retaining ring
5	36889	2	Oilite® ^b bushing
6	755	1	Locknut
7	49663	1	Head rest pivot shaft
8	6051901	1	Mechlok® ^c cable
9	6051902	1	Gas spring cable
10	4965648S	1	Lift arm weldment
11	60807	1	Gas spring
12	60817PLS	1	Gas spring actuator assembly
13	43059	1	Retaining ring
14	60828	1	Lift arm, shroud
15	49032	1	Mechlok® device
16	46015	1	Screw, end cap
17	49664	1	Release/cable draw
18	9025924	1	Screw, hex socket head shoulder
19	60827	1	Head shroud
20	46108	2	Push handle release
21	4435	4	Locknut
22	9026706	4	Cap screw
23	25283	2	Washer
24	46167	2	Side handle
25	61549	1	Release knob
26	9033812	1	Shoulder screw
27	60830	1	Top handle
28	6449548S	1	Bracket weldment
29	37255	4	Retaining ring

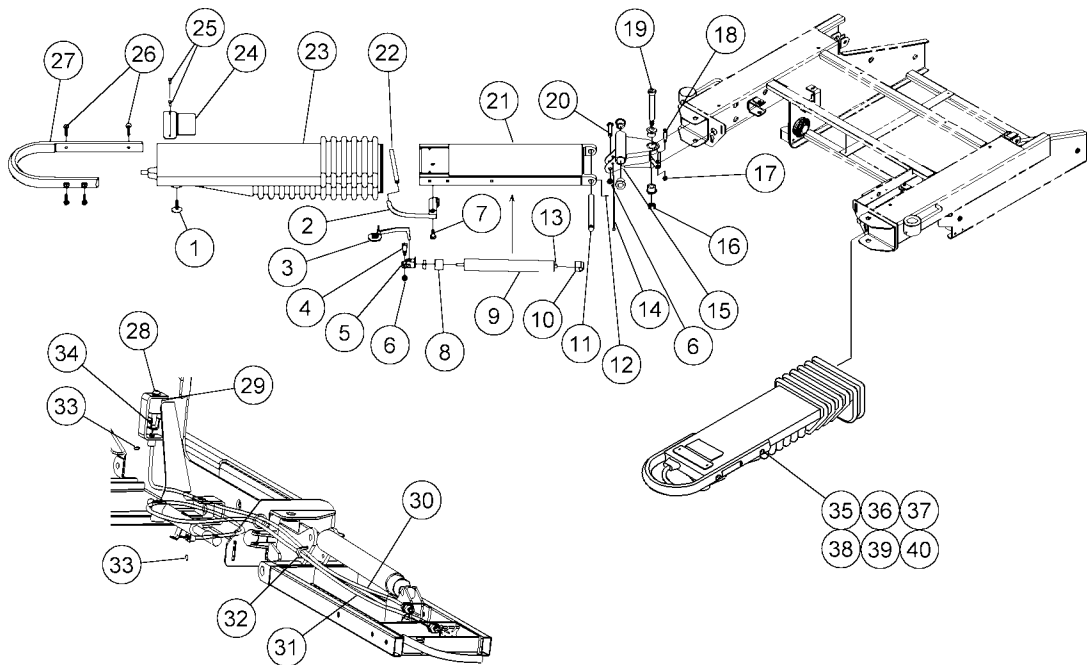
a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

b. Oilite® is a registered trademark of Beemer Precision, Inc.

c. Mechlok® is a registered trademark of P. L. Porter Company.

Upper Frame Assembly—OB/GYN (P8050) Stretcher (Sheet 1 of 2)

Figure 5-13. Upper Frame Assembly—OB/GYN (P8050) Stretcher (Sheet 1 of 2)



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Table 5-12. Upper Frame Assembly—OB/GYN (P8050) Stretcher (Sheet 1 of 2)

Item Number	Part Number	Quantity	Description
1	60826	2	Ratchet fastener
2	6296001PLS	1	Release handle weldment, rh
3	6297601PLS	1	Foot support weldment, rh
4	9025812	2	Screw, hex socket head shoulder
5	61285	2	Trendelenburg gas spring release head
6	9023404	4	Nut
7	9025806	2	Screw, hex socket head shoulder
8	62926	2	Gas spring spacer
9	61184	2	Gas spring
10	62965	2	Rod end
11	62990PLS	2	Pivot pin
12	9033005	2	Setscrew
13	SA4841	As required	Loctite® (red #262)
14	19124	2	Large cable tie
15	6117801	1	Foot support base weldment, rh
16	9023428	2	Locknut
17	60620	2	Nut
18	9033812	2	Shoulder screw
19	9026044	2	Shoulder screw
20	9025824	2	Screw, hex socket head shoulder
21	628930148S	1	Foot rest weldment, rh
22	62919	2	Vinyl dipped cap, release handle
23	6296801	1	Foot support bellows, rh
24	62989PLS	2	Mattress retainer
25	43878	8	Screw, Torx® ^b button head
26	64466	8	Screw, Torx® flat head
27	62959	2	Foot support bumper/handle
28	6081902PLS	2	OB/GYN latch pin
29	61293	2	Flat control spring
30	62987	2	Carriage cable
31	62988	2	Foot angle cable
32	4649101	2	Split bushing
33	37255	4	Retaining ring

Item Number	Part Number	Quantity	Description
34	6124701		Blind rivets
35	6297602PLS	1	Foot support weldment, lh
36	6296002PLS	1	Release handle weldment, lh
37	6117802	1	Foot support base weldment, lh
38	628930248S	1	Foot rest weldment, lh
39	6296802	1	Foot support bellows, lh
40	60825	1	Glide slide
Not shown	6291005	2	Label, calf support storage
Not shown	6291004	2	Label, side pivot
Not shown	6291003	1	Label, foot support lift
Not shown	6291002	1	Label, foot support lift
Not shown	6291001	1	Label, OB product
Not shown	4647506	1	Labels (serial number)

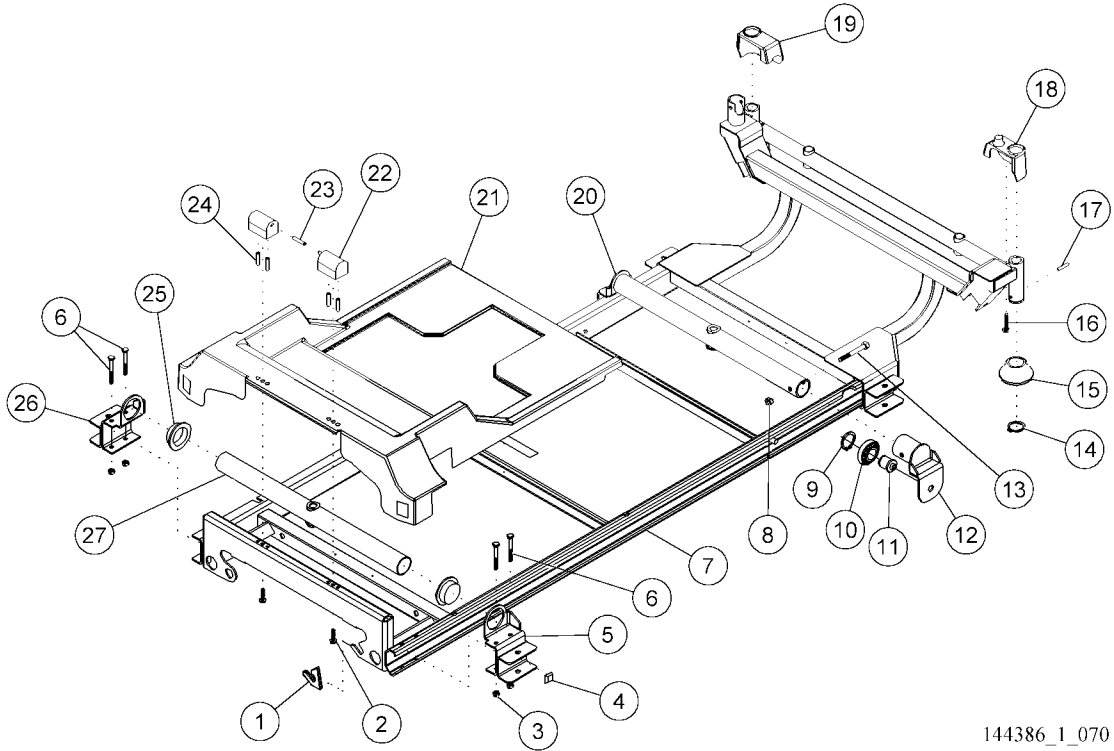
a. Loctite® is a registered trademark of Loctite Corporation.

b. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

NOTES:

Upper Frame Assembly—OB/GYN (P8050) Stretcher (Sheet 2 of 2)

Figure 5-14. Upper Frame Assembly—OB/GYN (P8050) Stretcher (Sheet 2 of 2)



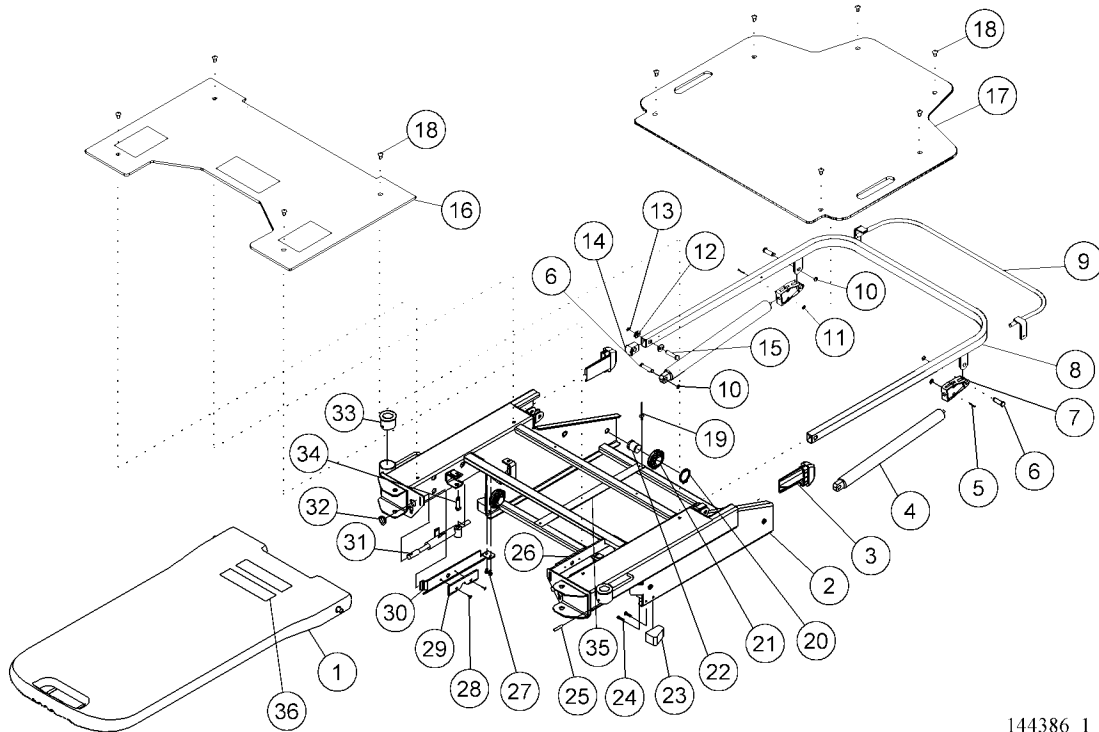
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Table 5-13. Upper Frame Assembly—OB/GYN (P8050) Stretcher (Sheet 2 of 2)

Item Number	Part Number	Quantity	Description
1	62916	1	Light head sleeve
2	60408	2	Screw, phillips pan head
3	4435	4	Locknut
4	62970	2	Bumper
5	629790248S	1	Weldment, foot Trendelenburg pivot
6	9001848	4	Screw, hex head cap
7	62891	1	Upper frame fixed weldment
8	831	3	Locknut
9	49091	2	Retaining ring
10	62986	2	Retracting roller
11	62978PLS	2	Roller boss
12	49631S	1	Head cross tube cap weldment
13	9001636	1	Screw
14	46361	2	Retaining ring
15	46038	2	Corner bumper
16	48621	2	Twin thread screw
17	40766	2	Roll pin
18	46029	1	Corner shroud (with nipple), lh
19	46019	1	Corner shroud, rh
20	62981S	1	Head Trendelenburg tube weldment
21	62958	1	Upper frame catch shroud
22	61498	2	Guide block
23	61452	2	Dowel pin
24	39839	4	Roll pin
25	46110	2	Outer foot trend bushing
26	629790148S	1	Weldment, foot trendelenburg pivot
27	4619602PLS	1	Foot support tube welded assembly

Upper Frame Panel Assembly—OB/GYN (P8050) Stretcher

Figure 5-15. Upper Frame Panel Assembly—OB/GYN (P8050) Stretcher



144386_1_074

Table 5-14. Upper Frame Panel Assembly—OB/GYN (P8050) Stretcher

Item Number	Part Number	Quantity	Description
1	49100	1	Foot section assembly
2	6289248S	1	Carriage weldment
3	49675	2	Carriage plug
4	46191	2	Gas spring
5	9001216	2	Truss head rivet
6	4637503PL	4	Headed pin, 1.045"
7	38741	2	Release, gas spring
8	145189	1	Head tube weldment
9	62929PL	1	Head panel release weldment
10	36957	4	Retaining ring
11	17291	2	Push nut
12	46045	4	Surface pivot bushing
13	43059	2	Retaining ring
14	46113	2	Tube plug
15	4645404PLS	2	Headed pin, 1.313"
16	62927	1	Seat panel, Resiten® ^a
17	62930	1	Back panel, Resiten®
18	61073	10	Drive rivet
19	49075	4	Pop rivet
20	49091	6	Retaining ring
21	62986	6	Retracting roller
22	62978PLS	6	Roller boss
23	49635	2	Cattle catcher
24	45809	4	Screw
25	49086	2	Roll pin
26	6293702PLS	1	Foot section guide, lh
27	43878	8	Screw, Torx® ^b button head
28	40601	4	Screw, phillips pan head
29	60825	2	Glide slide
30	6293701PLS	1	Foot section guide, rh
31	62969	2	Mechlok® ^c device
32	4649101	2	Split bushing
33	62915	2	Calf support insert

Item Number	Part Number	Quantity	Description
34	9025921	2	Screw, hex socket head shoulder
35	62906	1	Carriage strap
36	49608	2	Velcro® ^d , foot section

a. Resiten® is a registered trademark of L.C. Industries, Inc.

b. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

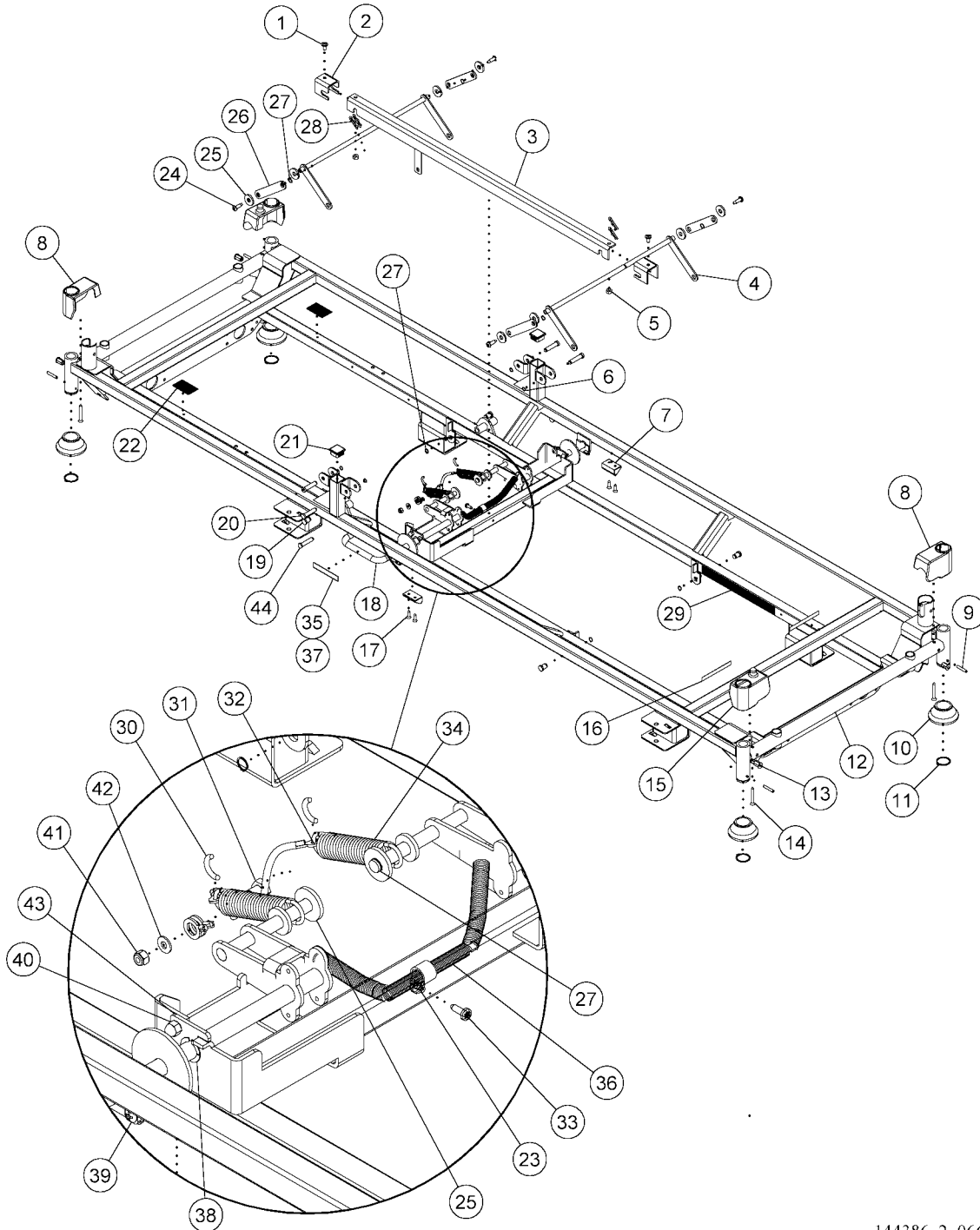
c. Mechlok® is a registered trademark of P. L. Porter Company.

d. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

NOTES:

Upper Frame Assembly—Trauma (P8040) Stretcher

Figure 5-16. Upper Frame Assembly—Trauma (P8040) Stretcher



144386_2_066

Table 5-15. Upper Frame Assembly—Trauma (P8040) Stretcher

Item Number	Part Number	Quantity	Description
1	60480	2	Screw
2	6382848	2	Link, connecting flange
3	14511848S	1	Cassette pan
4	6383348S	2	Weldment, rod link
5	4435	2	Nut, self locking
6	43059	4	Retaining ring
7	65956	2	Strike plate
8	46019	2	Cover, corner, right-hand
9	40766	4	Pin, roll
10	46038	4	Bumper, upper frame
11	46361	4	Retaining ring
12	14483448S	1	Weldment, upper frame Trauma
13	66292	4	Threaded insert
14	48621	4	Screw
15	46029	2	Cover, corner, left-hand
16	4633202	2	Tape, protective
17	9028210	4	Screw
18	61072PL	2	Weldment, handle tube
19	4637507PL	4	Pin, headed
20	4645404PLS	4	Pin, headed
21	49699	2	Plug, knee standoff
22	4633203	2	Protective tape
23	26797	1	Clamp, cable
24	43880	4	Screw
25	43314	10	Celcon® spacer
26	6381648	2	Lift link, Trauma tray
27	36957	12	Retaining ring
28	60839	4	Pin, hitch
29	46322	4	Protective tape
30	62018	2	Round vinyl cap
31	61891PLS	1	Bolt, cable lift
32	61890	2	Cable, Trauma lift
33	63166	1	Screw

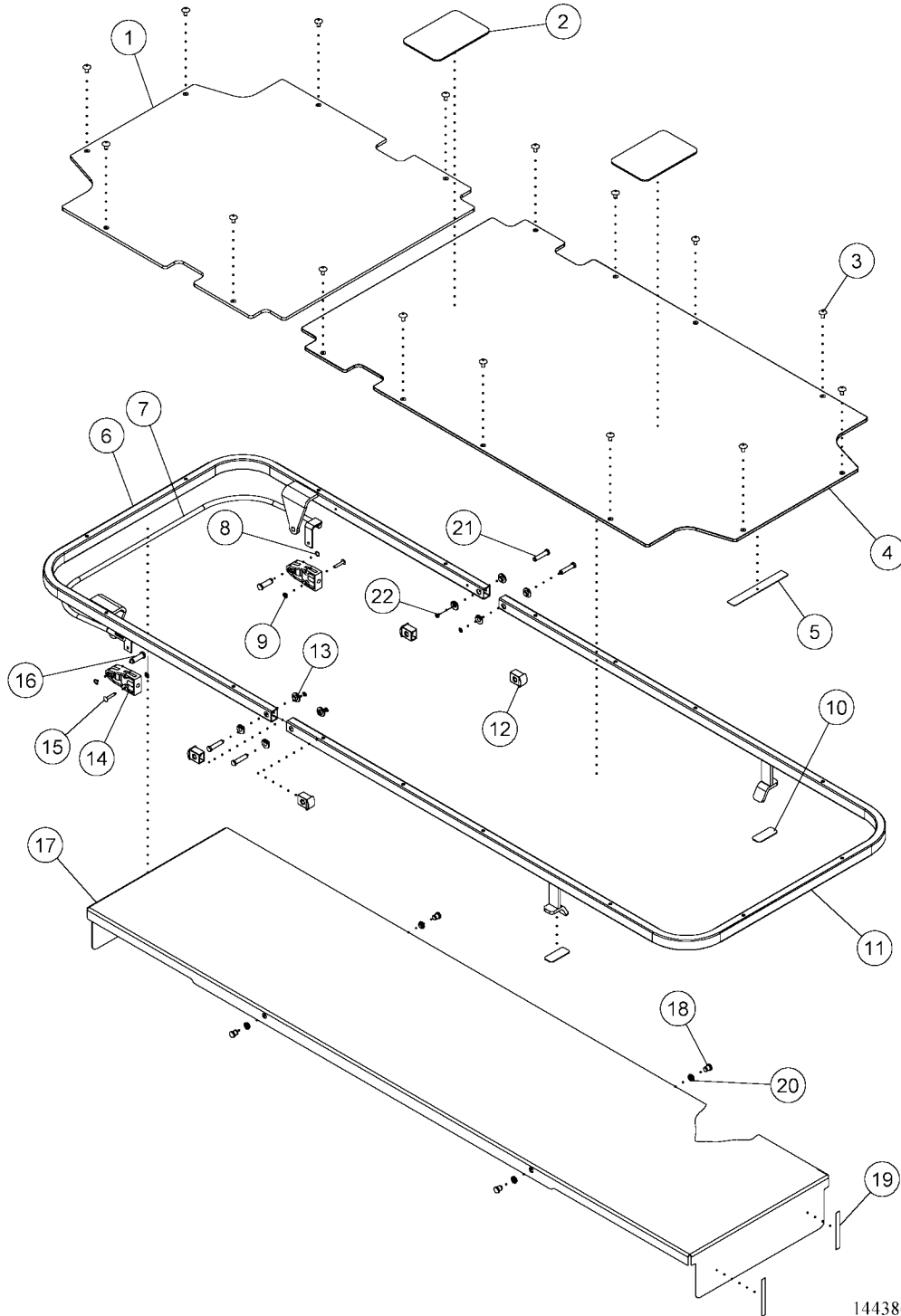
Item Number	Part Number	Quantity	Description
34	61006	2	Spring, trend return
35	6084802	1	Label, x-ray lift, left-hand
36	6100401	1	Spring, handle retract
37	6084801	1	Label, x-ray lift, right-hand
38	4633801	4	Bushing, split
39	9712	4	Screw
40	60634	4	Nut, nylon cap
41	33680	1	Nut, self locking
42	2449	1	Washer
43	6062748	4	Plate, handle bushing
44	4637505	2	Pin

a. Celcon® is a registered trademark of Hoechst Celanese Corporation.

NOTES:

Upper Frame Panel Assembly—Trauma (P8040) Stretcher

Figure 5-17. Upper Frame Panel Assembly—Trauma (P8040) Stretcher



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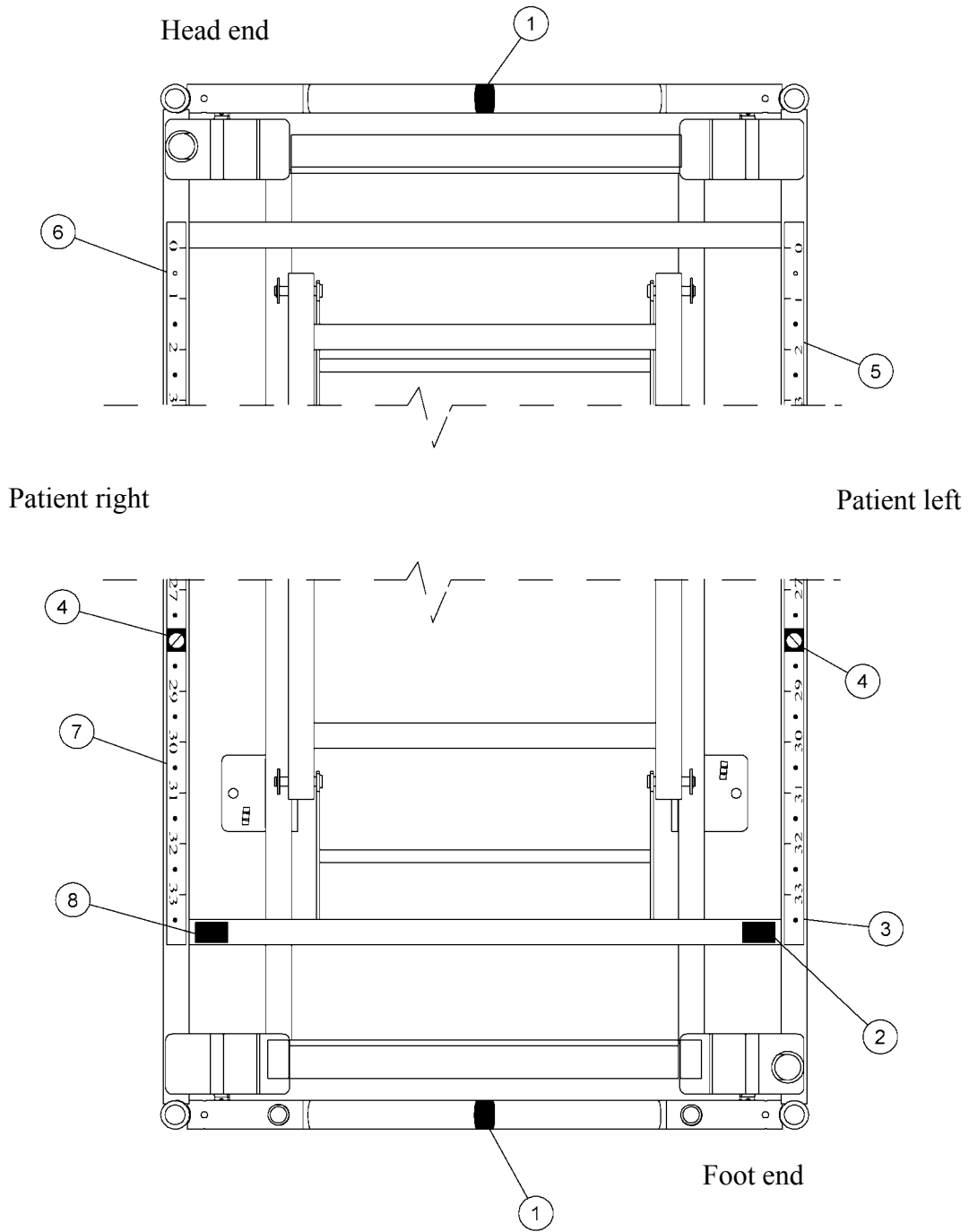
Table 5-16. Upper Frame Panel Assembly—Trauma (P8040) Stretcher

Item Number	Part Number	Quantity	Description
1	4643502	1	Head/foot panel, upper frame
2	46334	2	Mattress attachment, Velcro® ^a
3	61073	16	Drive rivet
4	60879	1	Foot panel
5	60631	1	Foot section caution label
6	6083448S	1	Head section weldment
7	130659	1	Trauma fowler release weldment
8	36957	2	Retaining ring
9	17291	2	Push nut
10	6064701	2	Non-skid pad
11	6088048S	1	Foot deck weldment
12	46113	4	Plug, end, upper frame tube
13	46045	8	Surface pivot bushing
14	38741	2	Release, gas spring
15	9001216	2	Truss head rivet
16	4637503PL	2	Headed pin
17	14511648S	1	Cassette pan
18	4637506PL	4	Headed pin
19	4633202	2	Tape, protective
20	4649103	4	Bushing, split
21	4645404	4	Headed Pin
22	43059	4	Retaining Ring

a. Velcro® is a registered trademark of Velcro Industries, BV.

Upper Frame Labels—Trauma (P8040) Stretcher

Figure 5-18. Upper Frame Labels—Trauma (P8040) Stretcher



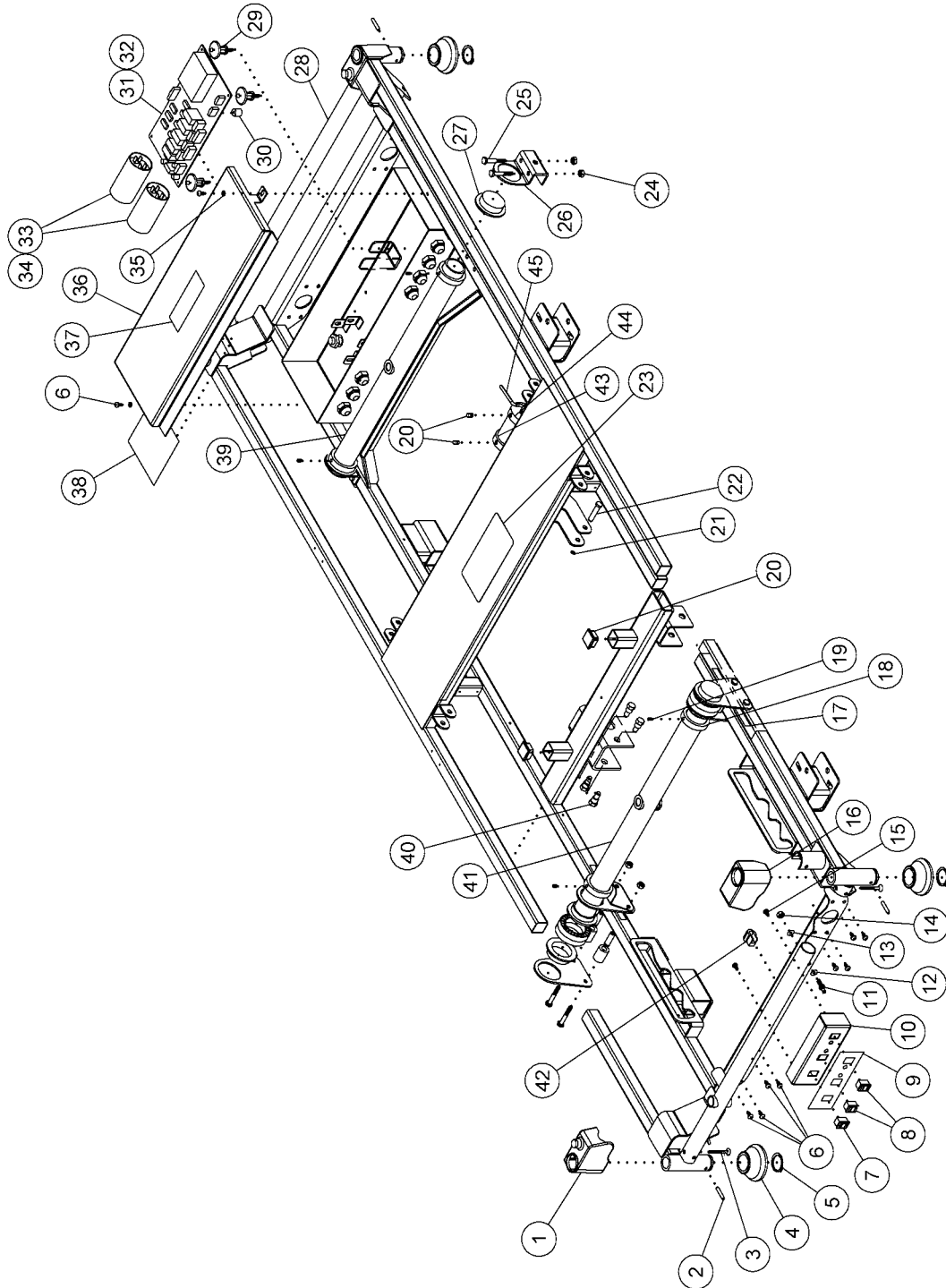
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Table 5-17. Upper Frame Labels—Trauma (P8040) Stretcher

Item Number	Part Number	Quantity	Description
1	61093	2	Centerline locator label
2	6121402	1	Ankle restraint label, lh
3	6111002	1	Foot x-ray indexing label, lh
4	61553	2	Hand indicator label
5	6086402	1	Head x-ray indexing label, lh
6	6086401	1	Head x-ray indexing label, rh
7	6111001	1	Foot x-ray indexing label rh
8	6121401	1	Ankle restraint label, rh

Upper Frame Assembly—Electric (P8020) Stretcher

Figure 5-19. Upper Frame Assembly—Electric (P8020) Stretcher



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Table 5-18. Upper Frame Assembly—Electric (P8020) Stretcher

Item Number	Part Number	Quantity	Description
1	46029	2	Corner shroud, lh
2	40766	4	Roll pin
3	48621	4	Twin thread screw
4	46038	4	Corner bumper
5	46361	4	Retaining ring
6	63166	23	Screw
7	4274201	1	Rocker switch, momentary
8	4143703	2	Switch, rocker
9	4901401	1	Label
10	4901248	1	Lockout and x-ray switchbox
11	44125	1	Plug (used on 230V AC version only)
12	44127	1	Washer color code green/yellow (used on 230V AC version only)
13	44128	1	Washer, serrated lock (used on 230V AC version only)
14	44126	1	Nut (used on 230V AC version only)
15	43879	2	Screw, Torx® button head
16	46019	2	Corner shroud, rh
17	46332	4	Protective tape
18	49017PL	4	Anti-sway collar
19	4648501	4	Setscrew, cup point
20	49699	2	Knee standoff plug
21	43059	2	Retaining ring
22	49996PL	3	Headed pin
23	46334	2	Mattress attachment Velcro®
24	4435	8	Locknut
25	9001828	8	Screw, hex head cap
26	4602748	2	Trendelenburg pivot bracket
27	46110	4	Outer foot Trendelenburg bushing
28	142940	1	Electric upper frame weldment
29	35663	4	Standoff
30	369732	1	Standoff, ¼"
31	4960301	1	Electric stretcher control board (120 V AC)

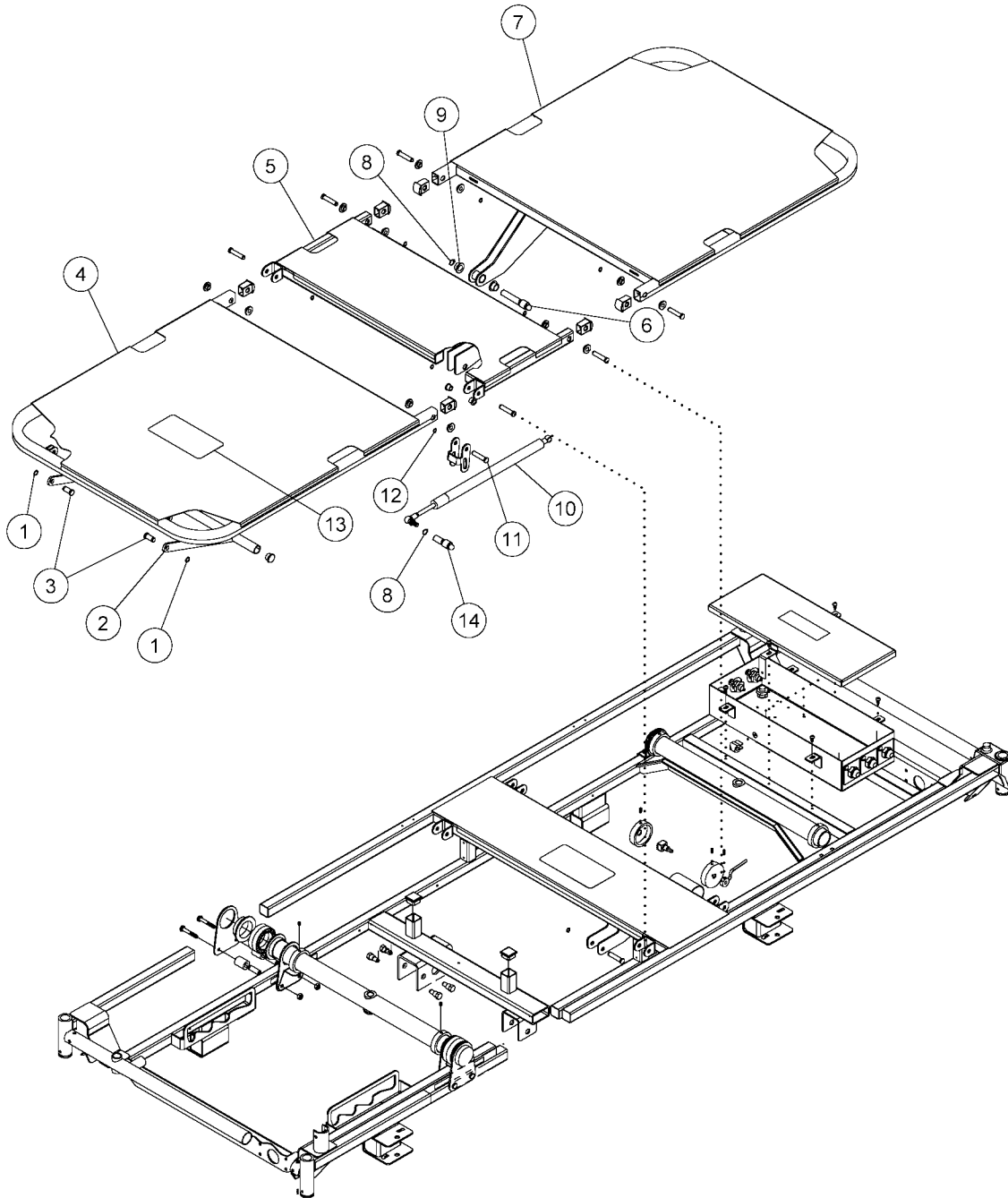
Item Number	Part Number	Quantity	Description
32	4960302	1	Electric stretcher control board (230 V AC)
33	30148	2	Motor capacitor (120 V AC)
34	44532	2	Motor capacitor (230 V AC)
35	23208	2	Lockwasher
36	61188	1	Electrical box cover
37	22247	1	Caution label
38	60389	1	Wiring diagram label
39	4619701PL	1	Head support tube welded assembly
40	49044PLS	6	Actuator mounting bolt
41	4619601PL	1	Foot support tube welded assembly
42	4964301	1	Ninety-degree strain relief
43	49633	1	Potentiometer cable assembly
44	4998601	1	Potentiometer can
45	49989PL	1	Potentiometer weldment

a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

NOTES:

Electric (P8020) Stretcher—Mattress Weldment

Figure 5-20. Electric (P8020) Stretcher—Mattress Weldment



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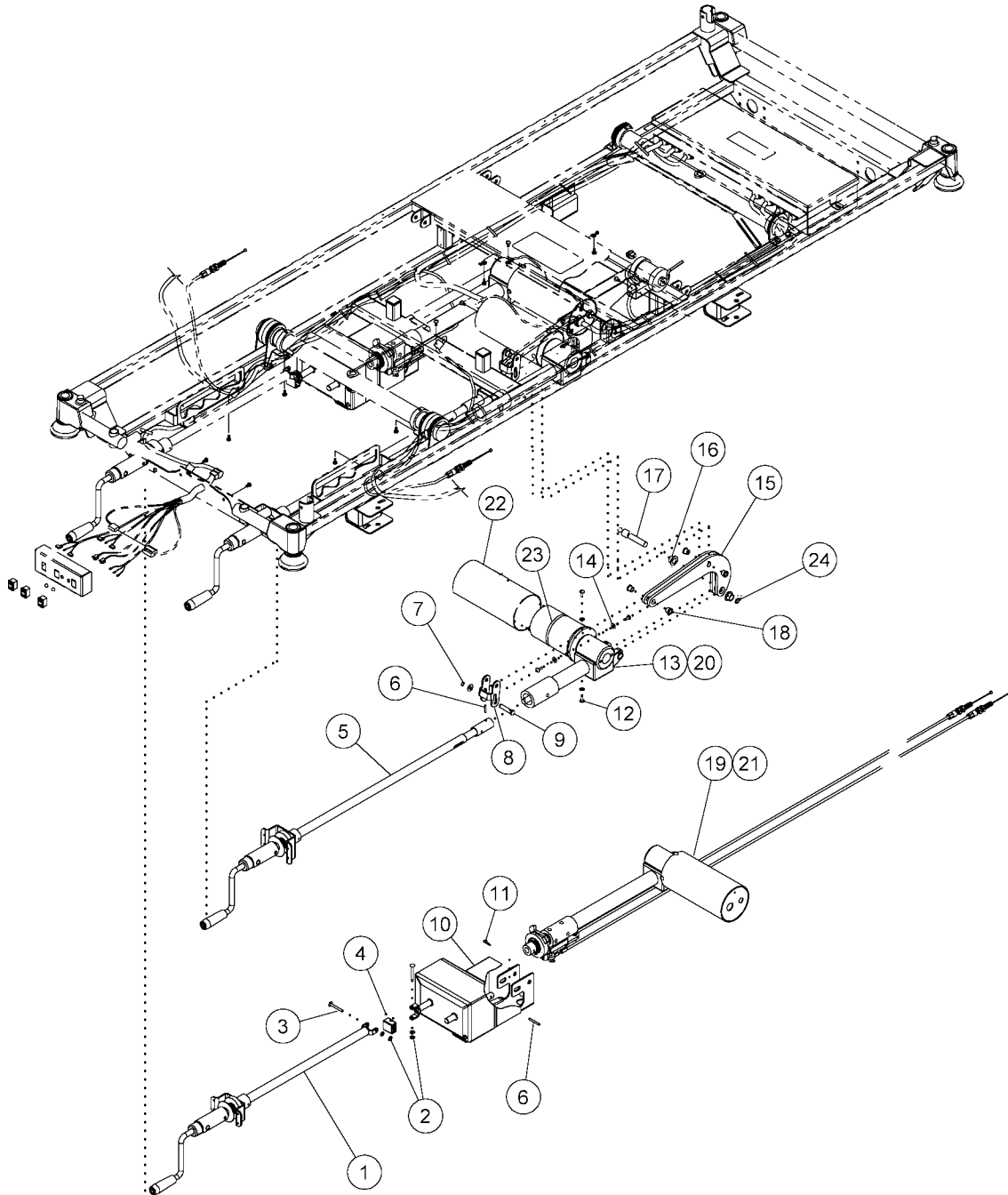
Table 5-19. Electric (P8020) Stretcher—Mattress Weldment

Item Number	Part Number	Quantity	Description
1	36957	2	Retaining ring
2	464460148	1	Foot rack welded assembly (wide width)
3	4637502PL	2	Headed pin, 0.688"
4	145185	1	Foot section weldment
5	461980548	1	Electric thigh panel weldment
6	49043PLS	1	Actuator mounting pin
7	145186	1	Electric head/foot tube weldment
8	49081	2	Retaining ring
9	49995	2	Bushing, bronze
10	49655	1	CPR dampener
11	49996PL	1	Headed pin
12	43059	1	Retaining ring
13	46334	1	Mattress attachment Velcro® ^a
14	61108PLS	1	Dampener mounting pin

a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

Electric (P8020) Stretcher—Head and Knee Drive Assembly

Figure 5-21. Electric (P8020) Stretcher—Head and Knee Drive Assembly



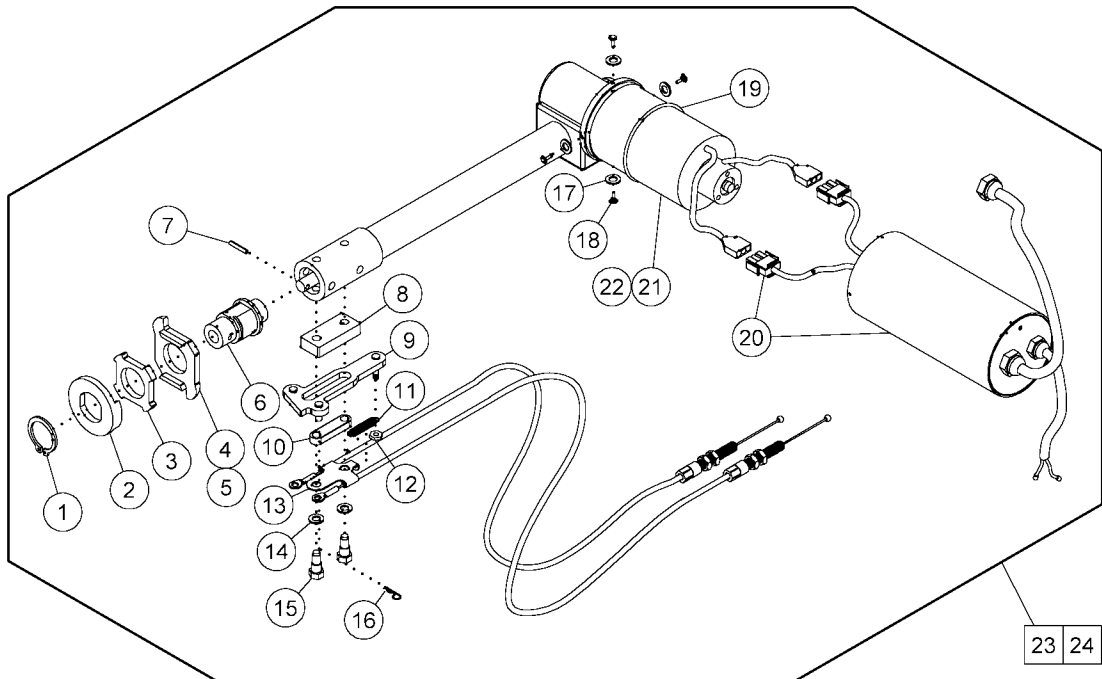
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Table 5-20. Electric (P8020) Stretcher—Head and Knee Drive Assembly

Item Number	Part Number	Quantity	Description
1	4639002	1	Back crank assembly
2	17291	2	Push nut
3	24544	2	Rivet
4	24549	1	Universal joint
5	4639001	1	Knee crank assembly, electric
6	35373	3	Roll pin
7	43059	1	Retaining ring
8	48618PL	1	Foot drive short linkage
9	49996PL	1	Headed pin
10	49055	1	Gear box assembly
11	62050	1	Hairpin
12	9007306	4	Screw, phillips pan head
13	4966901	1	Actuator assembly, knee drive 120V AC
14	41667	4	Washer
15	4903748	1	Dogleg weldment
16	49995	2	Bushing, bronze
17	49043PLS	1	Actuator mounting pin
18	49994	6	Bushing, bronze
19	4964901	1	Head drive assembly 120 V AC
20	4966902	1	Actuator assembly, knee drive (230 V AC)
21	4964902	1	Head drive assembly (230 V AC)
22	61181	1	Knee drive cable assembly
23	60585	1	O-ring
24	49081	1	Retaining ring

Electric (P8020) Stretcher—Head Drive/CPR Assemblies

Figure 5-22. Electric (P8020) Stretcher—Head Drive/CPR Assemblies



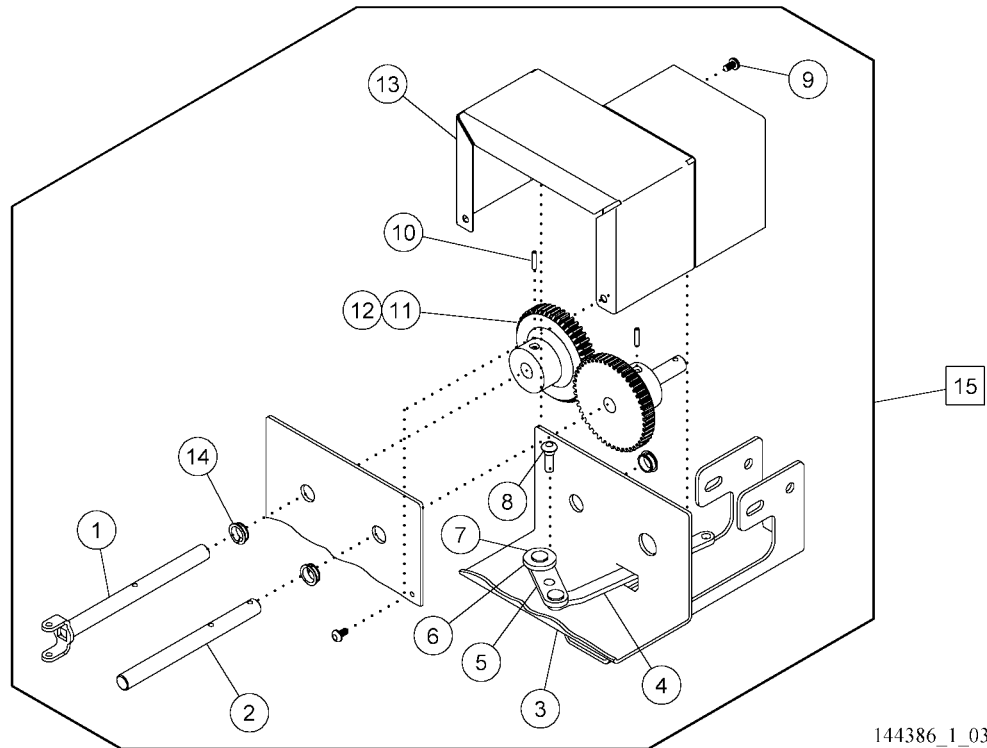
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Table 5-21. Electric (P8020) Stretcher—Head Drive/CPR Assemblies

Item Number	Part Number	Quantity	Description
1	34326	1	Retaining ring
2	33611	1	Hub
3	33613	1	Lock pad
4	41142	1	Lock hub
5	SA3351	As required	4 oz. lithium grease
6	48611PL	1	CPR release adapter
7	35373	1	Roll pin
8	48610PL	1	Release spacer, main bushing
9	49993	1	Latch assembly
10	33835	1	Latch guide
11	60406	1	Spring
12	33680H	1	Self-locking nut
13	49015	1	Release cable assembly
14	25204	2	Lockwasher
15	9014420	2	Bolt
16	62050	1	Hair pin
17	41667	4	Washer
18	9007306	4	Pan head machine screw
19	60585	1	O-ring
20	61181	1	Knee drive cable assembly
21	4966801	1	Actuator assembly, head (120 V AC)
22	4966802	1	Actuator assembly, head (230 V AC)
23	4964901	1	Head drive assembly (120 V AC)
24	4964902	1	Head drive assembly (230 V AC)

Electric (P8020) Stretcher—Gearbox Assembly

Figure 5-23. Electric (P8020) Stretcher—Gearbox Assembly



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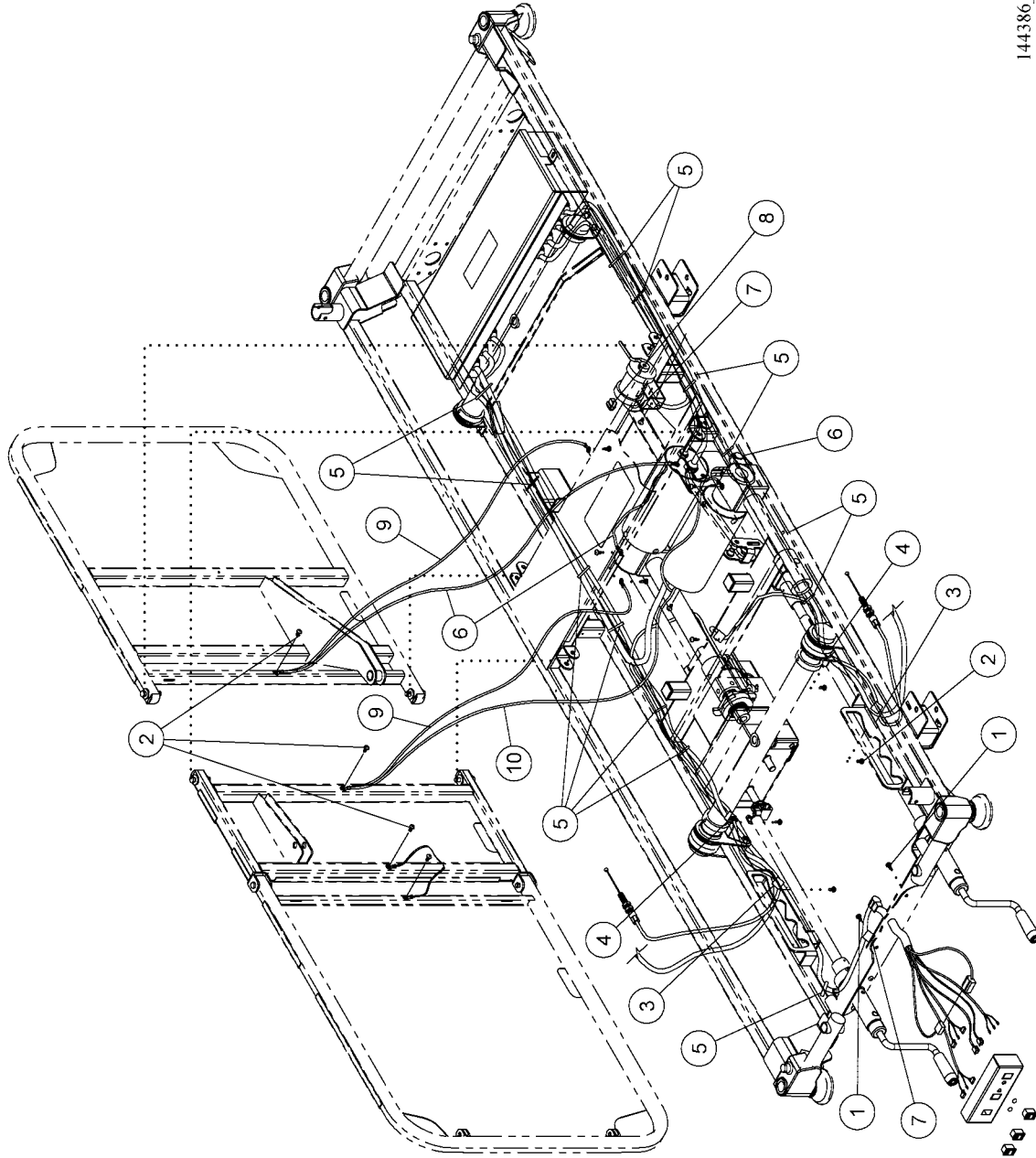
Table 5-22. Electric (P8020) Stretcher—Gearbox Assembly

Item Number	Part Number	Quantity	Description
1	49087PL	1	Gear shaft weldment
2	49058PL	1	Gear shaft, actuator
3	49052	1	Gear box weldment
4	49066	1	Kickout arm, CPR gearbox
5	49067	1	Lever arm, CPR gearbox
6	49068	1	Roller, lever arm
7	49053PLS	2	Rivet, gear box
8	48645	1	Shoulder bolt latch
9	63166	4	Screw, Torx® ^a button head
10	1963601	2	Roll pin
11	SA3351	As required	4 oz. lithium grease
12	49640	2	Gear
13	49056	1	Cover weldment
14	4649101	3	Split bushing
15	49055	1	Gear box assembly

a. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Electric (P8020) Stretcher—Cable/Wire Routing

Figure 5-24. Electric (P8020) Stretcher—Cable/Wire Routing



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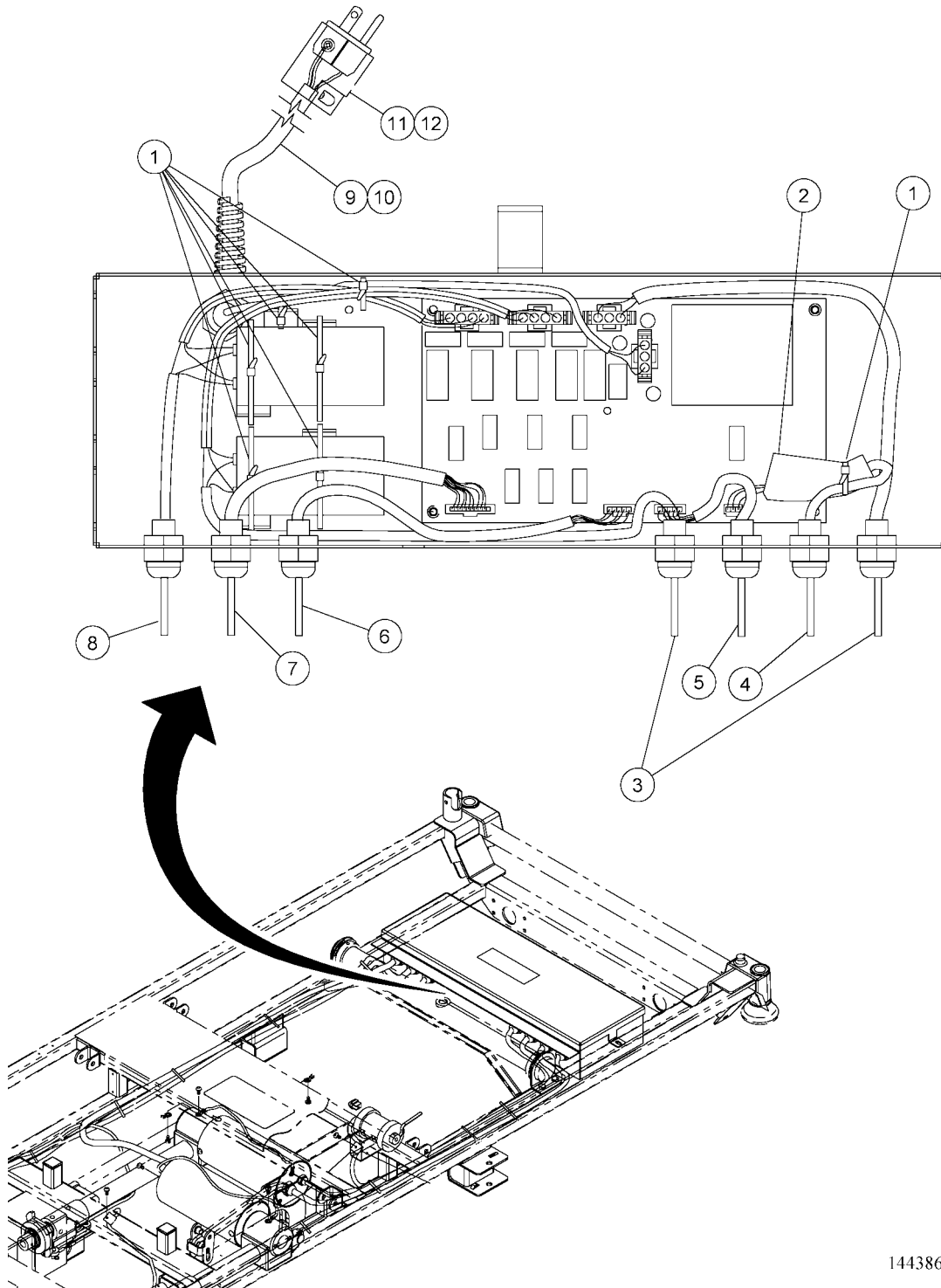
Table 5-23. Electric (P8020) Stretcher—Cable/Wire Routing

Item Number	Part Number	Quantity	Description
1	43879	2	Screw, Torx® ^a button head
2	43878	13	Screw, Torx® button head
3	4966701	2	Cable clamp, 7/16"
4	4966702	2	Cable clamp, 5/8"
5	49936	13	Self-mounting wire tie
6	3924001	3	Ground strap
7	17292	3	Cable clamp
8	4964302	1	Ninety degree strain relief
9	3924006	3	Ground strap assembly, 6½"
10	3924008	1	Ground strap assembly, 9"

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Electric (P8020) Stretcher—Cable/Wire Assemblies

Figure 5-25. Electric (P8020) Stretcher—Cable/Wire Assemblies



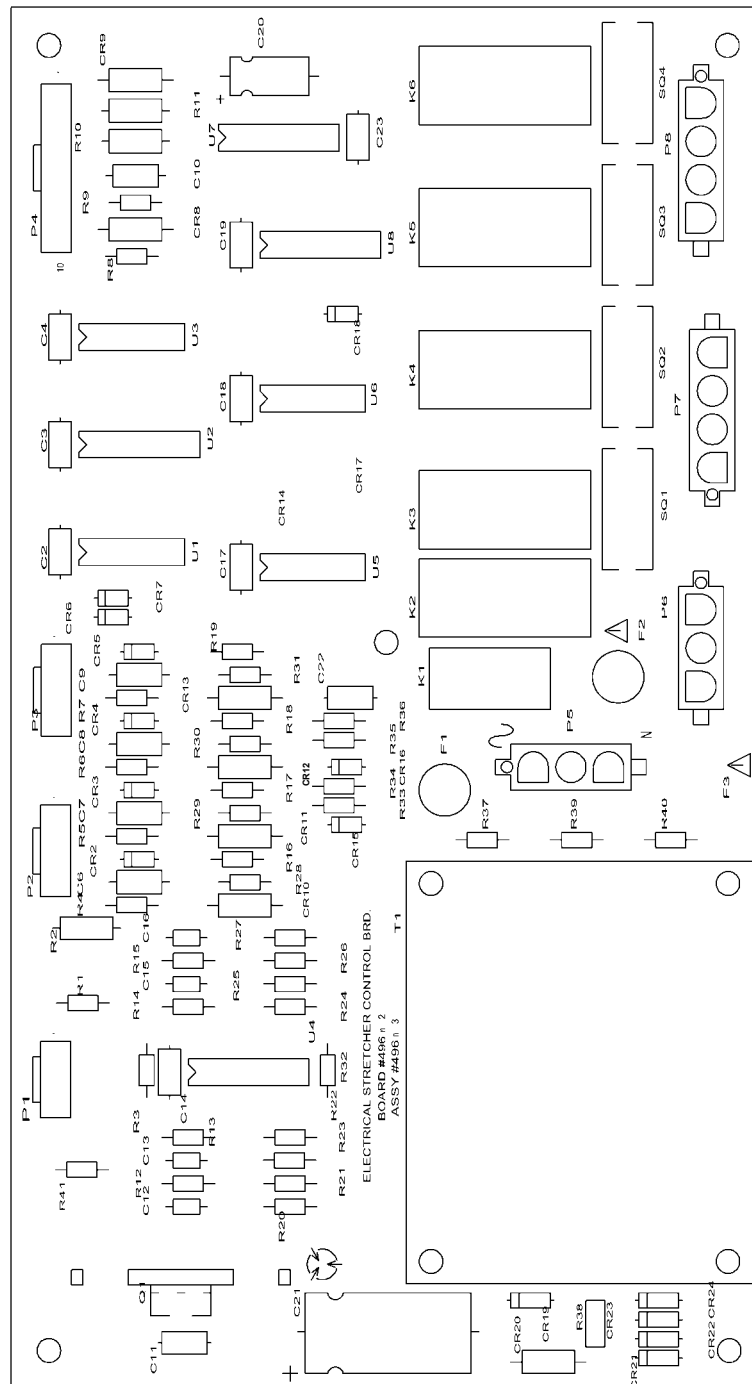
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Table 5-24. Electric (P8020) Stretcher—Cable/Wire Assemblies

Item Number	Part Number	Quantity	Description
1	19124	9	Large cable tie
2	9000212	1	Tubing
3	61179	1	Head drive cable assembly
4	61183	1	Potentiometer cable assembly
5	61182	1	Left siderail cable assembly
6	61180	1	Right siderail cable assembly
7	61185	1	Nurse control cable assembly
8	61181	1	Knee drive cable assembly
9	4962001	1	Power cord assembly (120 V AC)
10	4962002	1	Power cord assembly (230 V AC)
11	38537	1	Plug power cord (120 V AC)
12	18829	1	Plug (230 V AC)

Electric (P8020) Stretcher—Control Board Assembly (120 V AC and 230 V AC)

Figure 5-26. Electric (P8020) Stretcher—Control Board Assembly (120 V AC and 230 V AC)



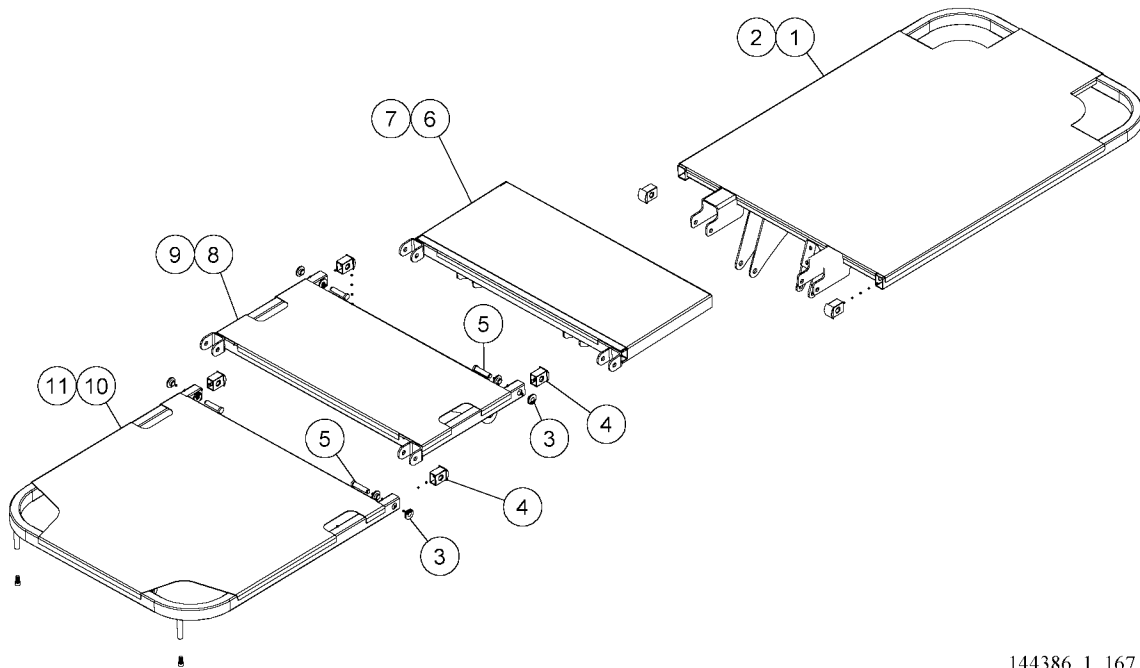
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**Table 5-25. Electric (P8020) Stretcher—Control Board Assembly
(120 V AC and 230 V AC)**

Component Symbol	Part Number	Description
R22	300191372B	Resistor
R23	300192801B	Resistor
R24	300199310	Resistor
R25	300191621	Resistor
R32	300196340	Resistor
R34	30006474	Resistor
R35	30006473	Resistor
R37, R39, R40	30016	Resistor
R38	4382103	PTC
R41	30006105	Resistor
SQ1 through SQ4	42819	Capacitor
T1	30608	Transformer
U1, U6	304004093B	Integrated circuit
U2, U8	304104049B	Integrated circuit
U3	304004081B	Integrated circuit
U4	30402LM339	Integrated circuit
U5	304004071B	Integrated circuit
U7	304112004A	Integrated circuit

Upper Frame—Auto Contour™ and BackSaver Fowler® Features (S/Ns before J134AN7176 (sheet 1 of 2))

Figure 5-27. Upper Frame—Auto Contour™ and BackSaver Fowler® Features



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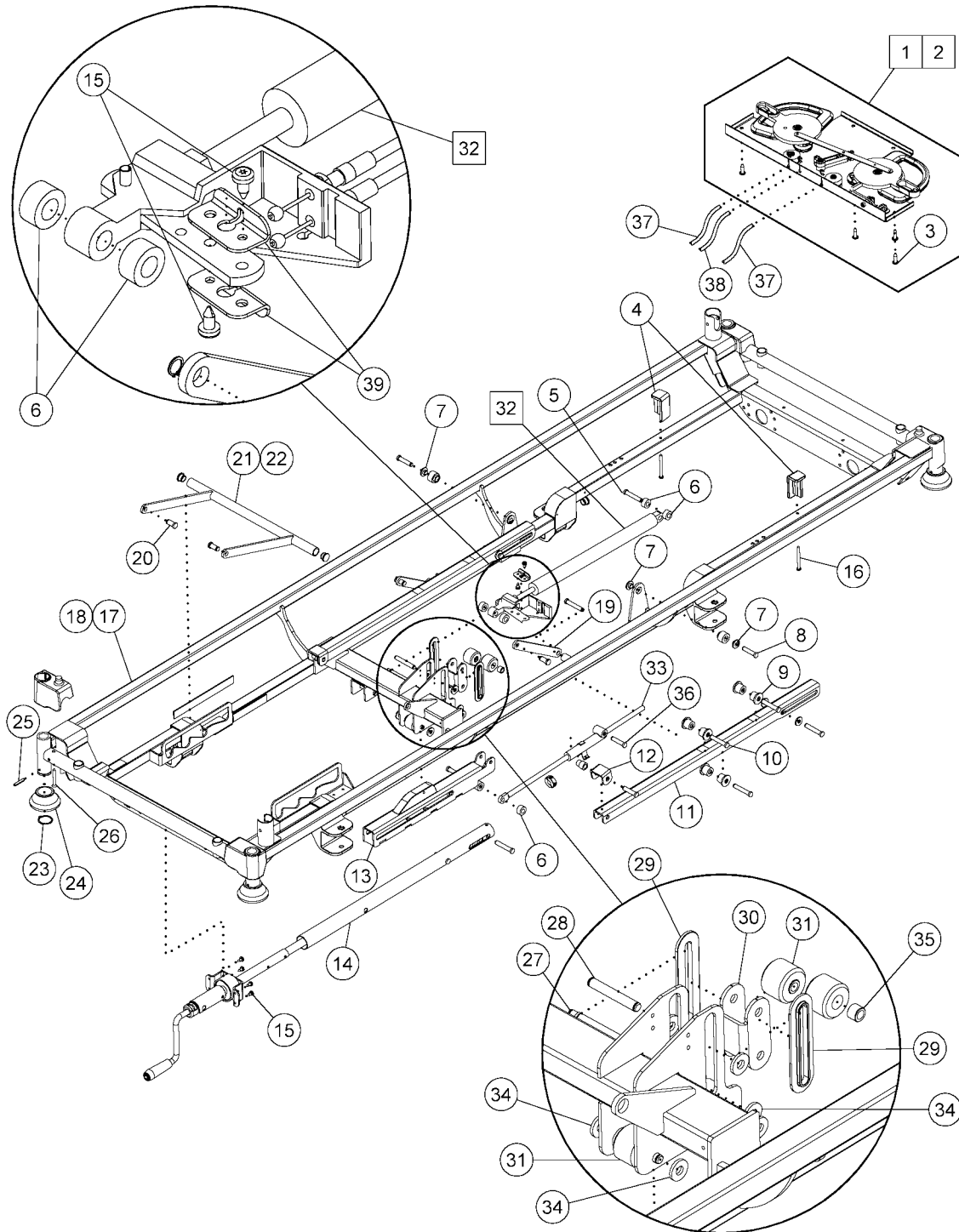
Table 5-26. Upper Frame—Auto Contour™ and BackSaver Fowler® Features

Item Number	Part Number	Quantity	Description
1	1431110148S	1	Weldment, head deck, narrow
2	1431110248S	1	Weldment, head deck, wide
3	4637501	5	Headed pin
4	143168PLS	2	Link, seat extension
5	4637502	5	Headed pin
6	1431250148S	1	Weldment, seat, narrow
7	1431250248S	1	Weldment, seat, wide
8	1431200148S	1	Weldment, thigh, narrow
9	1431200248S	1	Weldment, thigh, wide
10	1431300148S	1	Weldment, foot, narrow
11	1431300248S	1	Weldment, foot, wide

NOTES:

Upper Frame—Auto Contour™ and BackSaver Fowler® Features (S/Ns before J134AN7176 (sheet 2 of 2))

Figure 5-28. Upper Frame—Auto Contour™ and BackSaver Fowler® Features



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Table 5-27. Upper Frame—Auto Contour™ and BackSaver Fowler® Features

Item Number	Part Number	Quantity	Description
1	14329701S	1	Control assembly, auto contour, narrow
	14329702S	1	Control assembly, auto contour, wide
2	14329703S	1	Control assembly, lift assist, narrow
	14329704S	1	Control assembly, lift assist, wide
3	43880	4	Screw
4	143165	2	Pad, standoff, lockout
5	143167	12	Roller seat
6	143616	6	Spacer, gas spring
7	46045	12	Surface pivot bushing
8	4645404PLS	7	Pin, headed
9	4637501PLS	5	Headed pin
10	143167	12	Roller seat
11	14316648S	2	Drop frame
12	143624	2	Spacer, thigh section
13	143829S	1	Cam channel assembly
14	14368005S	1	Knee screw assembly
15	43878	7	Screw, machine, pan
16	45796	2	Screw
17	1430330148S	1	Weldment, upper frame, narrow
18	1430330248S	1	Weldment, upper frame, wide
19	143168PLS	2	Link, seat extension
20	4637502PLS	4	Headed pin
21	46446	1	Weldment, foot rack, narrow
22	464460148S	1	Weldment, foot rack, wide
23	46361	4	Retaining ring
24	46038	4	Bumper, upper frame
25	40766	4	Pin, roll
26	48621	4	Screw, twin
27	143162PLS	4	Pin, spring
28	143161PLS	3	Pin
29	143274	2	Slide
30	143261PLS	1	Link

Chapter 5: Parts List

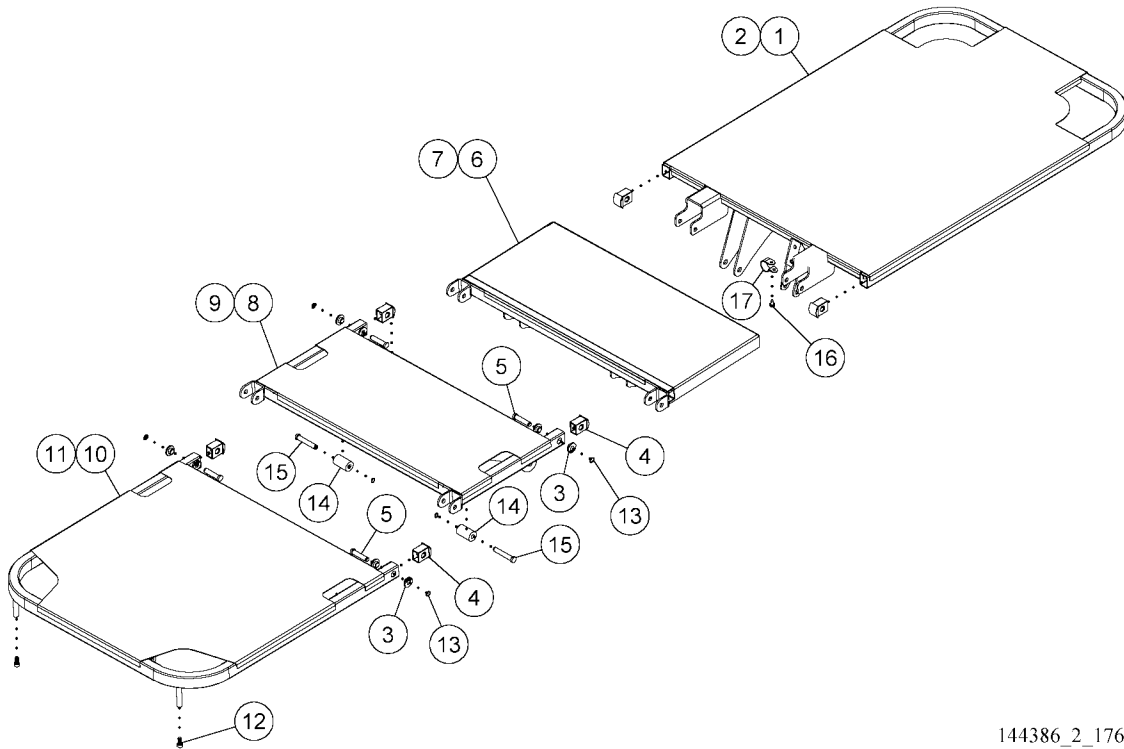
Item Number	Part Number	Quantity	Description
31	143147	4	Roller
32	143621S	1	Gas cylinder assembly
33	143149	1	Mechlok® ^a device
34	143158	4	Spacer
35	43279	8	Needle, roller bearing
36	4637509	3	Pin, headed
37	143266	2	Cable, back section
38	143267	1	Cable, auto contour
39	41689	1	Release lever bracket

a. Mechlok® is a registered trademark of P.L. Porter Company.

NOTES:

Upper Frame—Auto Contour™ and BackSaver Fowler® Features (S/Ns J134AN7176 and after (sheet 1 of 2))

Figure 5-29. Upper Frame—Auto Contour™ and BackSaver Fowler® Features



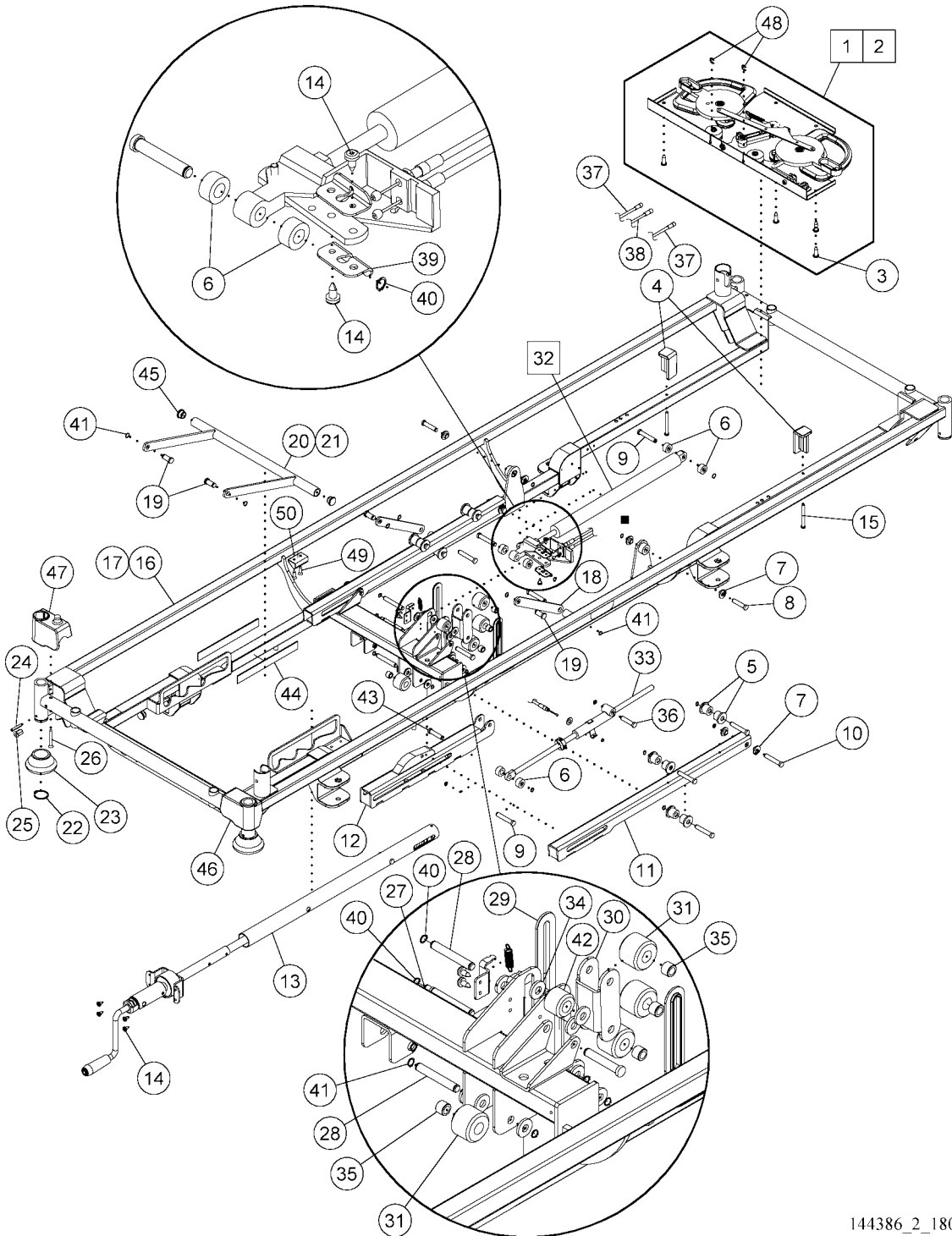
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Table 5-28. Upper Frame—Auto Contour™ and BackSaver Fowler® Features

Item Number	Part Number	Quantity	Description
1	1431110148S	1	Weldment, head deck, narrow
2	1431110248S	1	Weldment, head deck, wide
3	46045	8	Surface pivot bushing
4	46113	6	Tube plug
5	4645404	4	Headed pin
6	1431250148S	1	Weldment, seat, narrow
7	1431250248S	1	Weldment, seat, wide
8	1431200148S	1	Weldment, thigh, narrow
9	1431200248S	1	Weldment, thigh, wide
10	1431300148S	1	Weldment, foot, narrow
11	1431300248S	1	Weldment, foot, wide
12	36842	2	Levelizer button
13	43059	6	Retaining ring
14	152367	2	Thigh roller
15	4645406	2	Headed pin
16	43878	1	Screw
17	144176	1	Cable clamp

Upper Frame—Auto Contour™ and BackSaver Fowler® Features (S/Ns J134AN7176 through those that start with K (sheet 2 of 2))

Figure 5-30. Upper Frame—Auto Contour™ and BackSaver Fowler® Features



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Table 5-29. Upper Frame—Auto Contour™ and BackSaver Fowler® Features

Item Number	Part Number	Quantity	Description
1	14329701S	1	Control assembly, auto contour, narrow
	14329702S	1	Control assembly, auto contour, wide
2	14329703S	1	Control assembly, lift assist, narrow
	14329704S	1	Control assembly, lift assist, wide
3	43880	4	Screw
4	143165	2	Pad, standoff, lockout
5	143167	12	Roller seat
6	143616	6	Spacer, gas spring
7	46045	12	Surface pivot bushing
8	4645404PLS	12	Pin, headed
9	4637501PLS	5	Headed pin
10	4645406	8	Headed pin
11	153433	2	Drop frame
12	143829S	1	Cam channel assembly
13	14368005S	1	Knee screw assembly
14	43878	6	Screw, machine, pan
15	45796	2	Screw
16	1430330148S	1	Weldment, upper frame, narrow
17	1430330248S	1	Weldment, upper frame, wide
18	143168PLS	2	Link, seat extension
19	4637502PLS	4	Headed pin
20	4644648S	1	Weldment, foot rack, narrow
21	464460148S	1	Weldment, foot rack, wide
22	46361	4	Retaining ring
23	46038	2 or 4	Bumper, upper frame (foot-end only on stretchers with the integrated oxygen tank storage)
24	40766	4	Pin, roll
25	66292	4	Hex rivnut
26	48621	2 or 4	Screw, twin (foot-end only on stretchers with the integrated oxygen tank storage)
27	143162PLS	4	Pin, spring
28	143161PLS	3	Pin

Chapter 5: Parts List

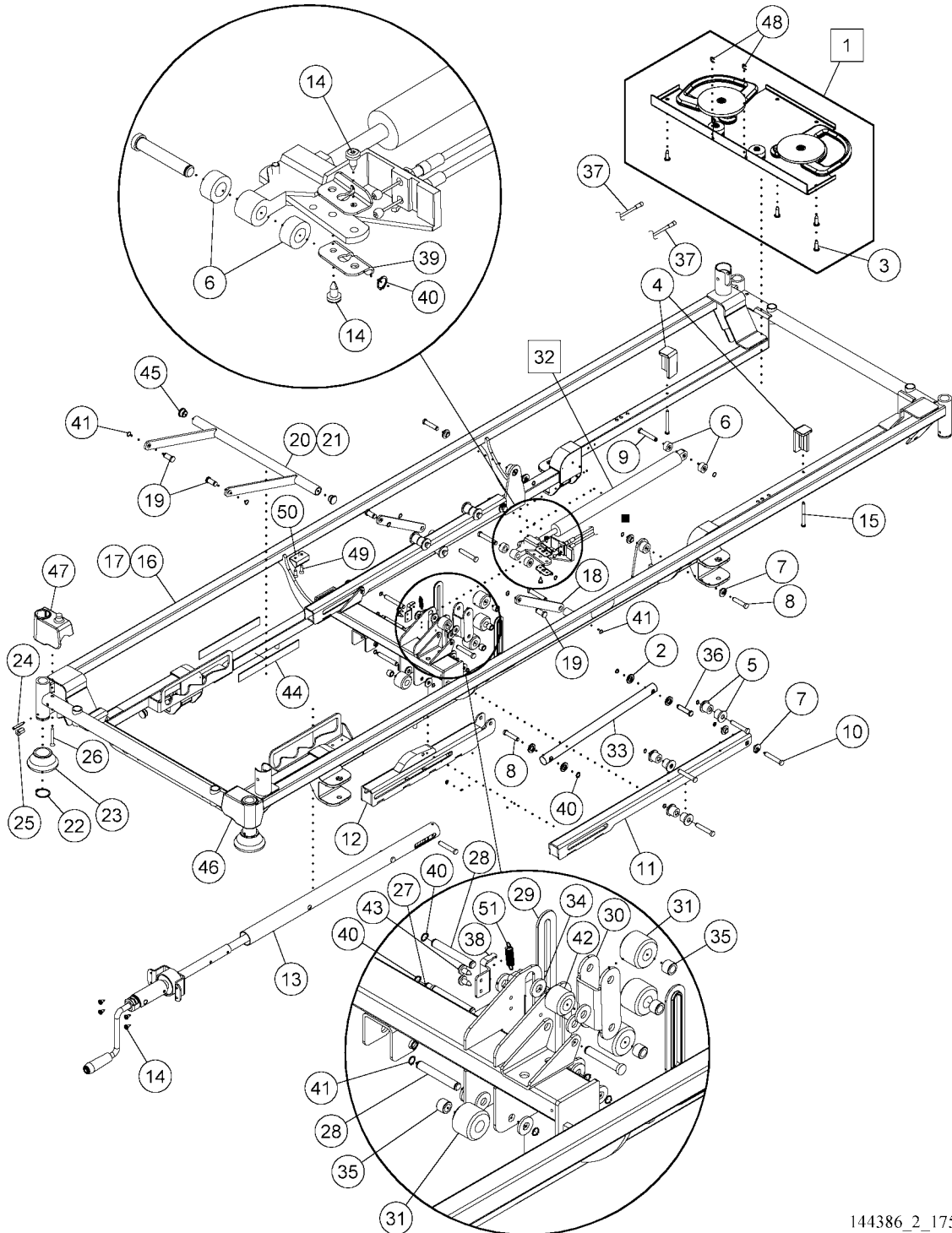
Item Number	Part Number	Quantity	Description
29	152920	2	Slide
30	143261PLS	1	Link
31	143147	4	Roller
32	143621S	1	Gas cylinder assembly
33	143149	1	Mechlok® ^a device
34	143158	2	Spacer
35	43279	4	Needle, roller bearing
36	4637509	2	Pin, headed
37	143266	2	Cable, back section
38	143267	1	Cable, auto contour
39	41689	1	Release lever bracket
40	43059	18	Retaining ring
41	36957	11	Retaining ring
42	143160	2	Roller, drop frame
43	4645404	2	Headed pin
44	46332	4	Protective tape
45	29457	6	Hole plug
46	46019	1 or 2	Corner shroud, rh (foot end only on stretchers built after June 2008)
47	46029	1 or 2	Corner shroud, lh (foot end only on stretchers built after June 2008)
48	61778	2	E-ring
49	9028210	4	Screw
50	65956	2	Strike plate
Not shown	14625902	1	Label, hip locator, rh
Not shown	14625901	1	Label, hip locator, lh

a. Mechlok® is a registered trademark of P.L. Porter Company.

NOTES:

Upper Frame—Auto Contour™ and BackSaver Fowler® Features (S/Ns that start with K and after)

Figure 5-31. Upper Frame—Auto Contour™ and BackSaver Fowler® Features



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Table 5-30. Upper Frame—Auto Contour™ and BackSaver Fowler® Features

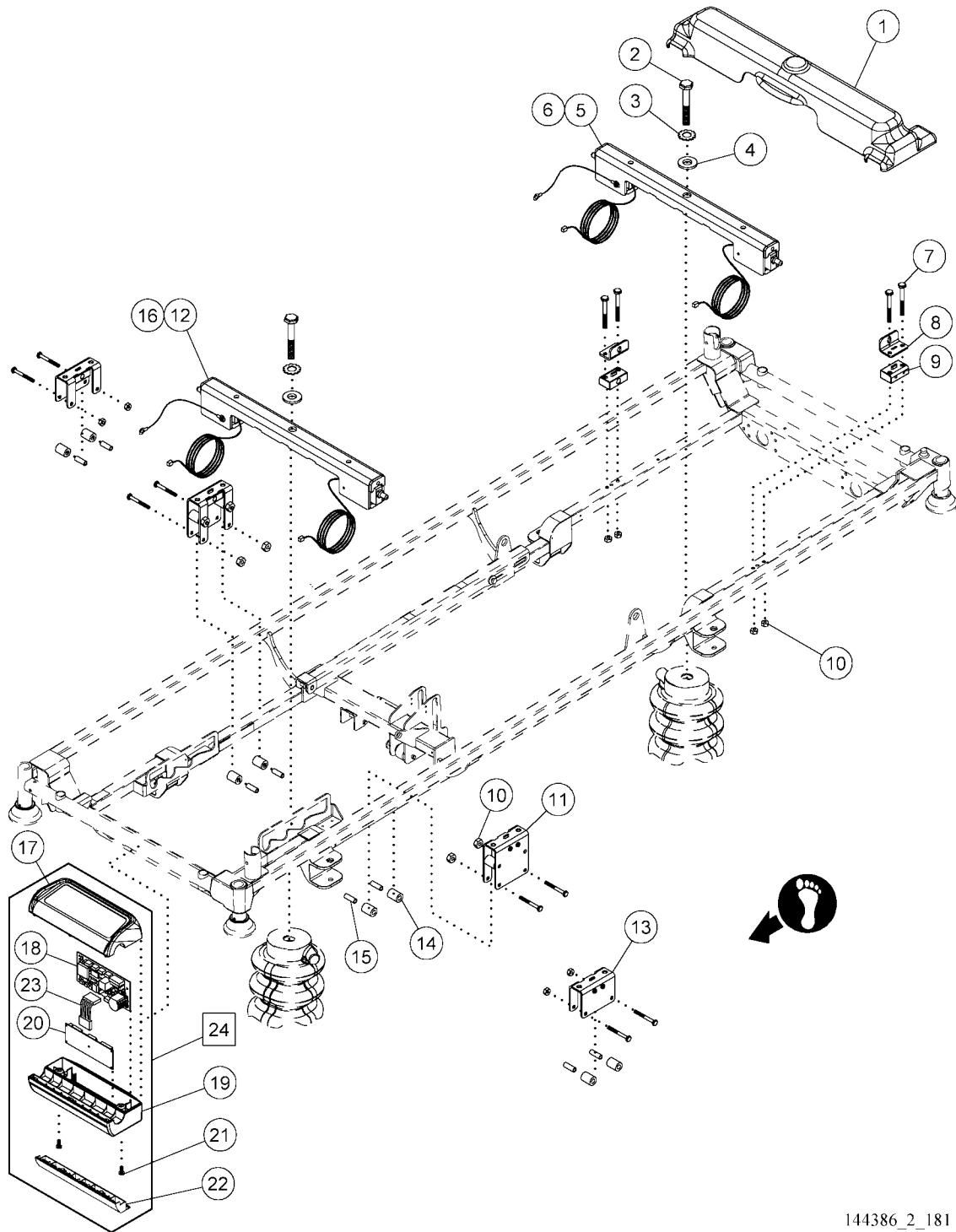
Item Number	Part Number	Quantity	Description
1	14329703S	1	Control assembly, lift assist, narrow
	14329704S	1	Control assembly, lift assist, wide
2	46487	4	Washer
3	43880	4	Screw
4	143165	2	Pad, standoff, lockout
5	143167	12	Roller seat
6	143616	6	Spacer, gas spring
7	46045	12	Surface pivot bushing
8	4645404PLS	3	Pin, headed
9	4637501PLS	5	Headed pin
10	4645406	12	Headed pin
11	153433	2	Drop frame
12	155286	1	Cam channel assembly
13	14368005S	1	Knee screw assembly
14	43878	6	Screw, machine, pan
15	45796	2	Screw
16	1430330148S	1	Weldment, upper frame, narrow
17	1430330248S	1	Weldment, upper frame, wide
18	143168PLS	2	Link, seat extension
19	4637502PLS	4	Headed pin
20	4644648S	1	Weldment, foot rack, narrow
21	464460148S	1	Weldment, foot rack, wide
22	46361	4	Retaining ring
23	46038	2 or 4	Bumper, upper frame (foot-end only on stretchers with the integrated oxygen tank storage)
24	40766	4	Pin, roll
25	66292	4	Hex rivnut
26	48621	2 or 4	Screw, twin (foot-end only on stretchers with the integrated oxygen tank storage)
27	143162PLS	1	Pin, spring
28	143161PLS	3	Pin
29	152920	2	Slide

Item Number	Part Number	Quantity	Description
30	143261PLS	1	Link
31	143147	4	Roller
32	143621S	1	Gas cylinder assembly
33	155212	1	Rigid link
34	143158	20	Spacer
35	43279	12	Needle, roller bearing
36	4637509PLS	1	Pin, headed
37	143266	2	Cable, back section
38	143107	1	Bracket, spring return
39	41689	2	Release lever bracket
40	43059	18	Retaining ring
41	36957	10	Retaining ring
42	143160	2	Roller, drop frame
43	49075	2	Rivet
44	46332	4	Protective tape
45	29457	6	Hole plug
46	46019	1 or 2	Corner shroud, rh (foot end only on stretchers built after June 2008)
47	46029	1 or 2	Corner shroud, lh (foot end only on stretchers built after June 2008)
48	61778	2	E-ring
49	9028210	4	Screw
50	65956	2	Strike plate
51	143260	1	Spring, Auto Contour return
Not shown	14625902	1	Label, hip locator, rh
Not shown	14625901	1	Label, hip locator, lh

NOTES:

Scale System

Figure 5-32. Scale System



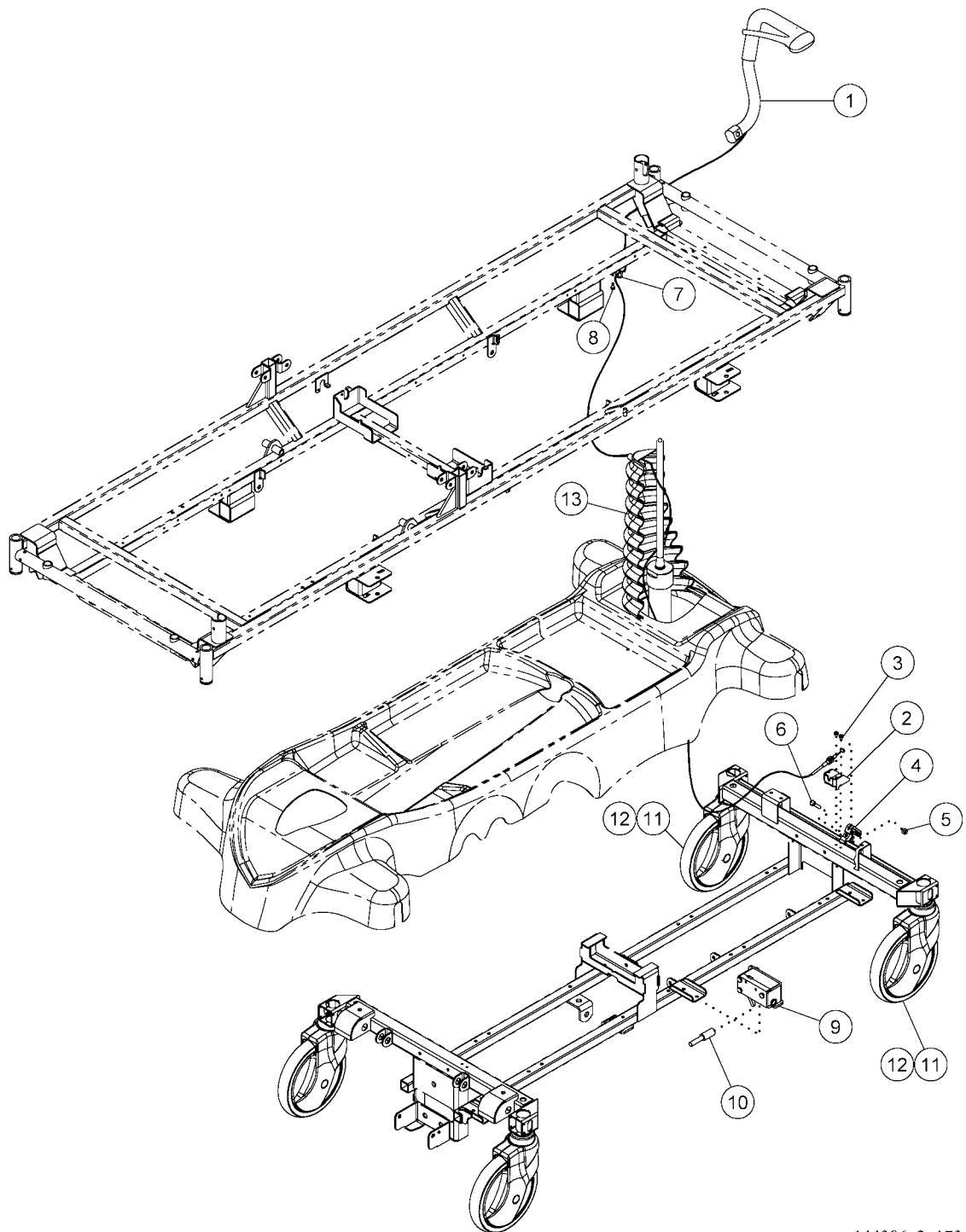
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Table 5-31. Scale System

Item Number	Part Number	Quantity	Description
1	14521701	1	Cover, narrow
	14521702	1	Cover, wide
2	9001716	2	Bolt
3	41459	2	Washer, lock
4	4540	2	Washer, flat
5	14470603S	1	Load beam, narrow, head
6	14470601S	1	Load beam, wide, head
7	9001828	8	Screw
8	14289848S	2	Bracket, head end
9	142897	2	Block, weigh point
10	4435	8	Nut
11	1429010248S	2	Bracket, foot end, auto-contour
12	14470602S	1	Load beam, wide, foot
13	1429010148S	2	Bracket, foot end, non-auto-contour
14	46023	4	Roller bushing
15	46022PLS	4	Roller guide
16	14470604S	1	Load beam, narrow, foot
17	142716	1	Scale, top cover assembly
18	141126	1	Scale, P.C. board
19	142650	1	Cover, bottom
20	141330	1	Display P.C. board
21	142984	4	Screw
22	142652	1	Battery cover
23	141247	1	Cable assembly
24	142648	1	Assembly, scale housing
Not shown	63892	3	AA 1.5 volt battery

Active Brake System

Figure 5-33. Active Brake System



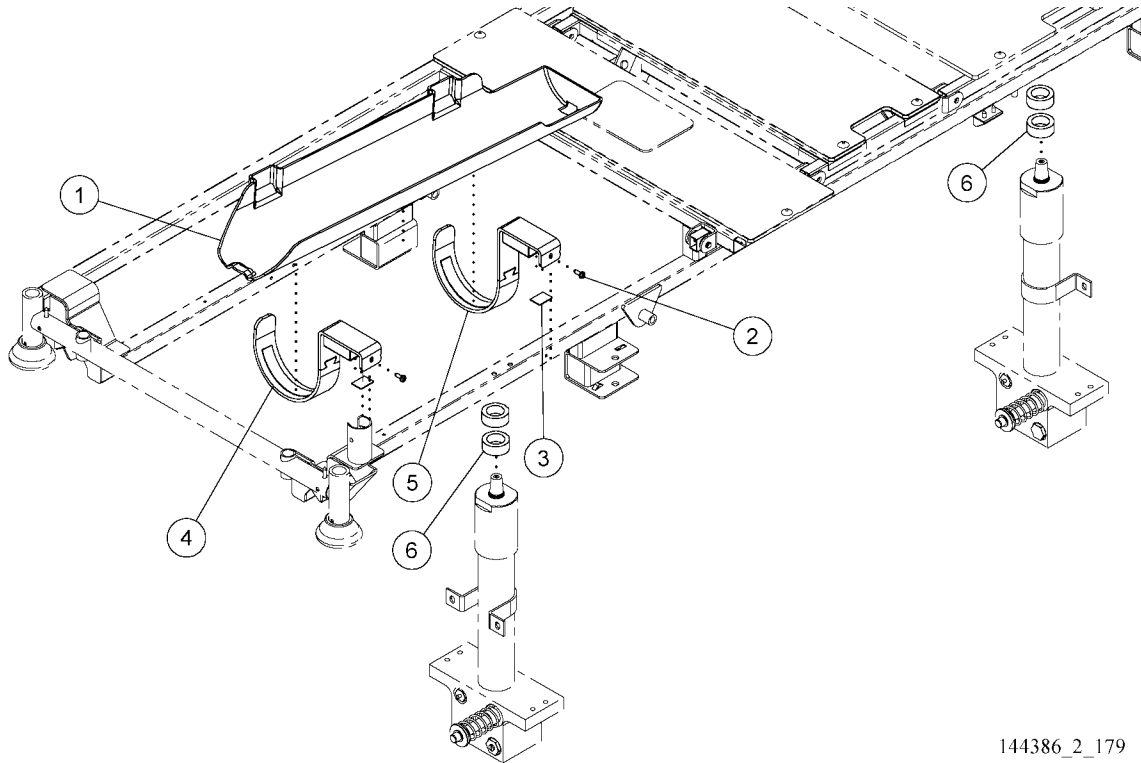
144386_2_173

Table 5-32. Active Brake System

Item Number	Part Number	Quantity	Description
1	142988S	1	Assembly, brake, right-hand push
2	14323848S	1	Bracket, hand brake
3	43878	2	Screw
4	143237	1	Lever, brake, hex
5	4435	1	Nut, hex, lock
6	9001820	1	Screw
7	27873	1	Cable clamp
8	63166	1	Screw
9	146276	1	Neutral detent assembly
10	146277	1	Pin, fifth wheel, neutral detent
11	14307305	2	Caster, Active Brake, non-ESD
12	14307306	2	Caster, Active Brake, ESD
13	14626801S	1	Bellow, Active Brake, royal blue
	14626802S	1	Bellow, Active Brake, purple
	14626803S	1	Bellow, Active Brake, teal
	14626804S	1	Bellow, Active Brake, red
	14626805S	1	Bellow, Active Brake, neutral

Integrated Oxygen Tank Storage System

Figure 1. Integrated Oxygen Tank Storage System



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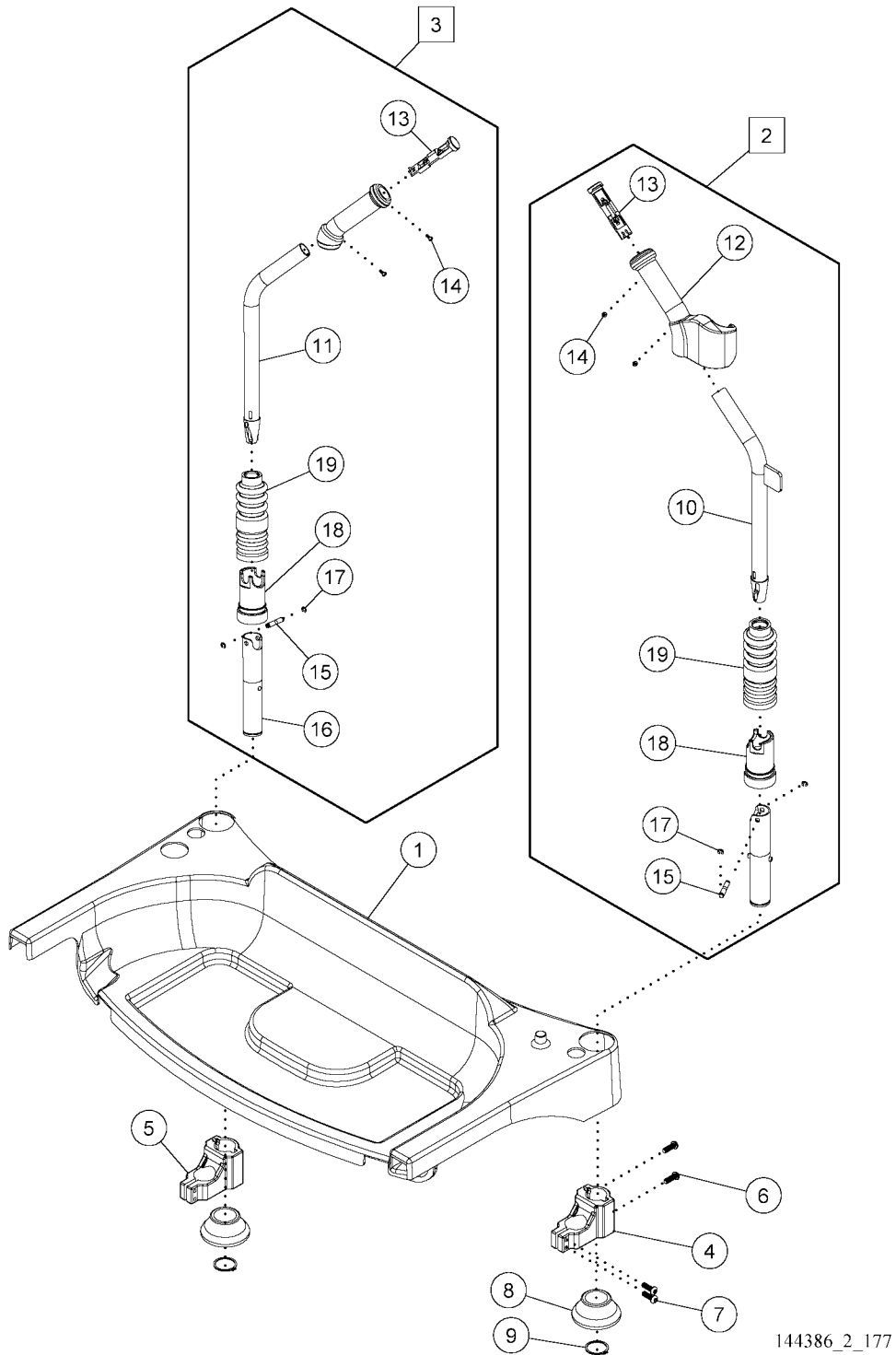
Table 1: Integrated Oxygen Tank Storage System

Item Number	Part Number	Quantity	Description
1	153304	1	Holder assembly
2	63166	2	Screw
3	40827	0.166 lft	Dual sided adhesive tape
4	15323602	1	Front J hook, wide, with scale
	15323601	1	Front J hook, wide, without scale
	15323402	1	Front J hook, narrow, with scale
	15323401	1	Front J hook, narrow, without scale
5	15323702	1	Rear J hook, wide, with scale
	15323701	1	Rear J hook, wide, without scale
	15323502	1	Rear J hook, narrow, with scale
	15323501	1	Rear J hook, narrow, with scale
6	13028301	4	Spacer, hilow cylinder (with scale)

NOTES:

Stow-Away Push Handles and Utility Tray (stretchers with the Integrated Oxygen Tank Storage)

Figure 5-34. Push Handles and Utility Tray



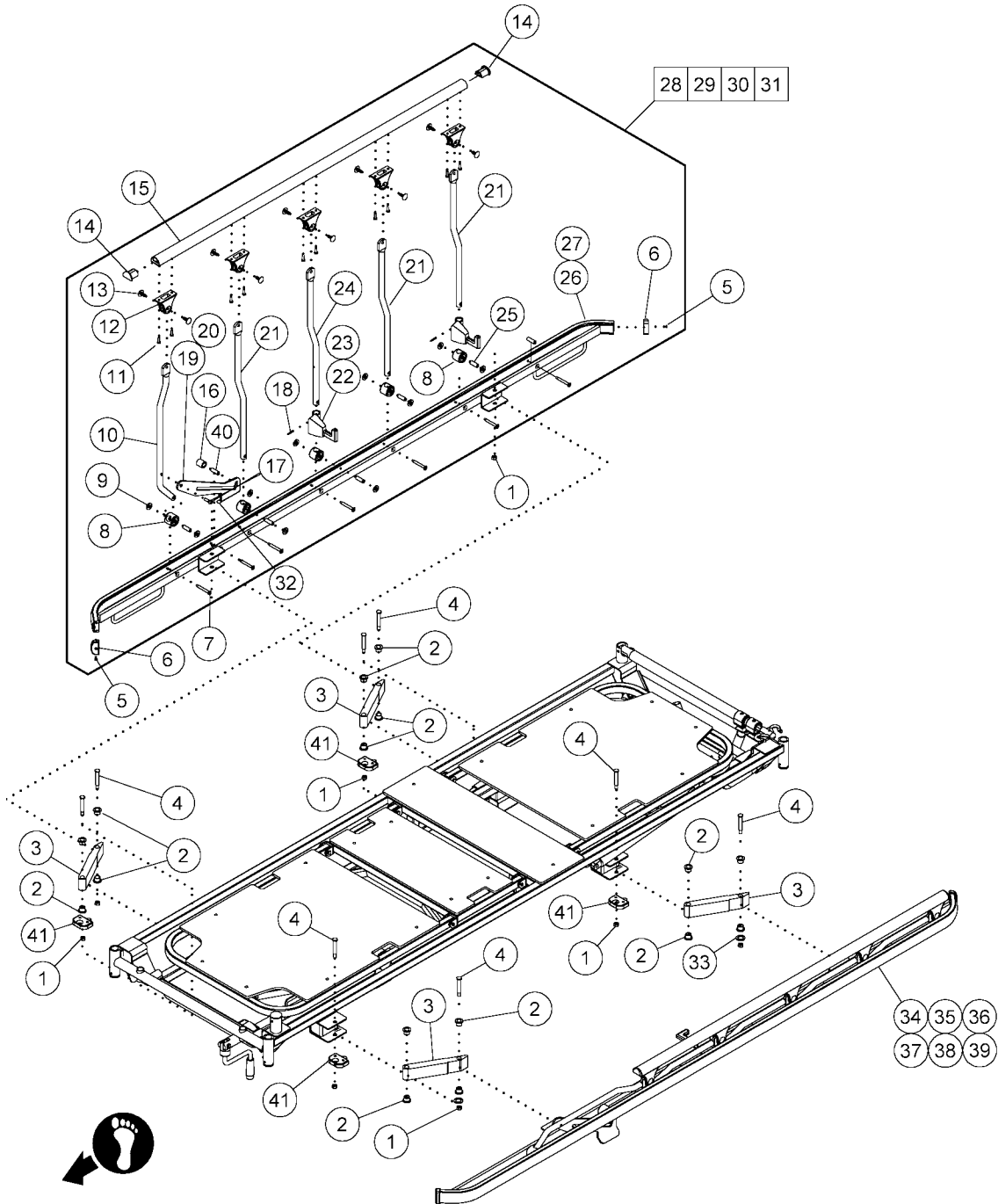
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Table 5-33. Stow-Away Push Handles and Utility Tray

Item Number	Part Number	Quantity	Description
1	150767	1	Intermediate shroud assembly, narrow
	150768	1	Intermediate shroud assembly, wide
2	153007	1	Handle assembly, lh, with IV grip
	153005	1	Handle assembly, lh, without IV grip
3	153008	1	Handle assembly, rh, with IV grip
	153006	1	Handle assembly, rh, without IV grip
4	145573	1	Handle adapter, lh
5	145574	1	Handle adapter, rh
6	148083	2	Screw
7	148084	2	Screw
8	46038	1	Bumper
9	46361	1	Retaining ring
10	153030	1	Handle tube weldment, lh, with IV grip
	153028		Handle tube weldment, lh, without IV grip
11	153031	1	Handle tube weldment, rh, with IV grip
	153029	1	Handle tube weldment, rh, without IV grip
12	152996	1	IV grip, lh
	152997	1	IV grip, rh
13	68351	1	Switch housing
14	69346	2	Screw
15	151253	1	Pivot pin
16	153026	1	Pivot tube assembly
17	151399	2	E-ring
18	68301	1	Coupler shield
19	69130	1	Bellows, handle

Procedural (P8000) and Trauma (P8040) Stretchers—Siderail Assembly

Figure 5-35. Procedural (P8000) and Trauma (P8040) Stretchers—Siderail Assembly



144386_1_057

Table 5-34. Procedural (P8000) and Trauma (P8040) Stretchers—Siderail Assembly

Item Number	Part Number	Quantity	Description
1	831	8	Locknut
2	36570	16	Oilite® bushing
3	4606248	4	Siderail swing arm, aluminum
	6095748S	4	Siderail swing arm, powder coated
4	36802PL	8	Pivot pin
5	46015 (Not used on P8000 Europe)	4	Bottom rail end cap screw
6	46372 (Not used on P8000 Europe)	2	Bottom rail end cap
7	46362	7	Lower pivot bolt
8	46041	5	Lower pivot block
9	46116	10	Wave washer
10	46176PL	1	Siderail end tube
11	43879	10	Screw, Torx® button head
12	46106	5	Upper pivot
13	4610302	10	Top rail ratchet rivet
14	46371	2	Top rail end cap
15	46066	1	Top rail assembly
16	48643	1	Latch bushing
17	48645	1	Shoulder bolt latch
18	37275	1	Roll pin
19	48640	1	Latch plate “A” (lh)
20	48641	1	Latch plate “B” (rh)
21	46043PL	3	Tube, siderail
22	46363	1	Zero transfer stop “A” (lh)
23	46378	1	Zero transfer stop “B” (rh)
24	46067PL	1	Siderail tube, transfer stop
25	46022PL	6	Roller guide
26	4617748 60959 (P8000 Europe)	1	Siderail welded assembly A

Item Number	Part Number	Quantity	Description
27	4617848 60958 (8000 Europe)	1	Siderail welded assembly B
28	14531401	1	Left siderail with foot coverage or right siderail with head coverage (does not include trim strip)
29	14531402	1	Right siderail with foot coverage or left siderail with head coverage (does not include trim strip)
30	14531902	1	KX1 siderail, patient right
31	14531901	1	KX1 siderail, patient left
32	144006	1	Label
33	35667	4	Washer
34	4637001	1	Trim strip—royal blue
35	4637002	1	Trim strip—purple
36	4637003	1	Trim strip—teal
37	4637004	1	Trim strip—green
38	4637005	1	Trim strip—red
39	4637006	1	Trim strip—gray
40	144713	1	Roller guide, latch (plastic)
41	144404	4	Skid plate

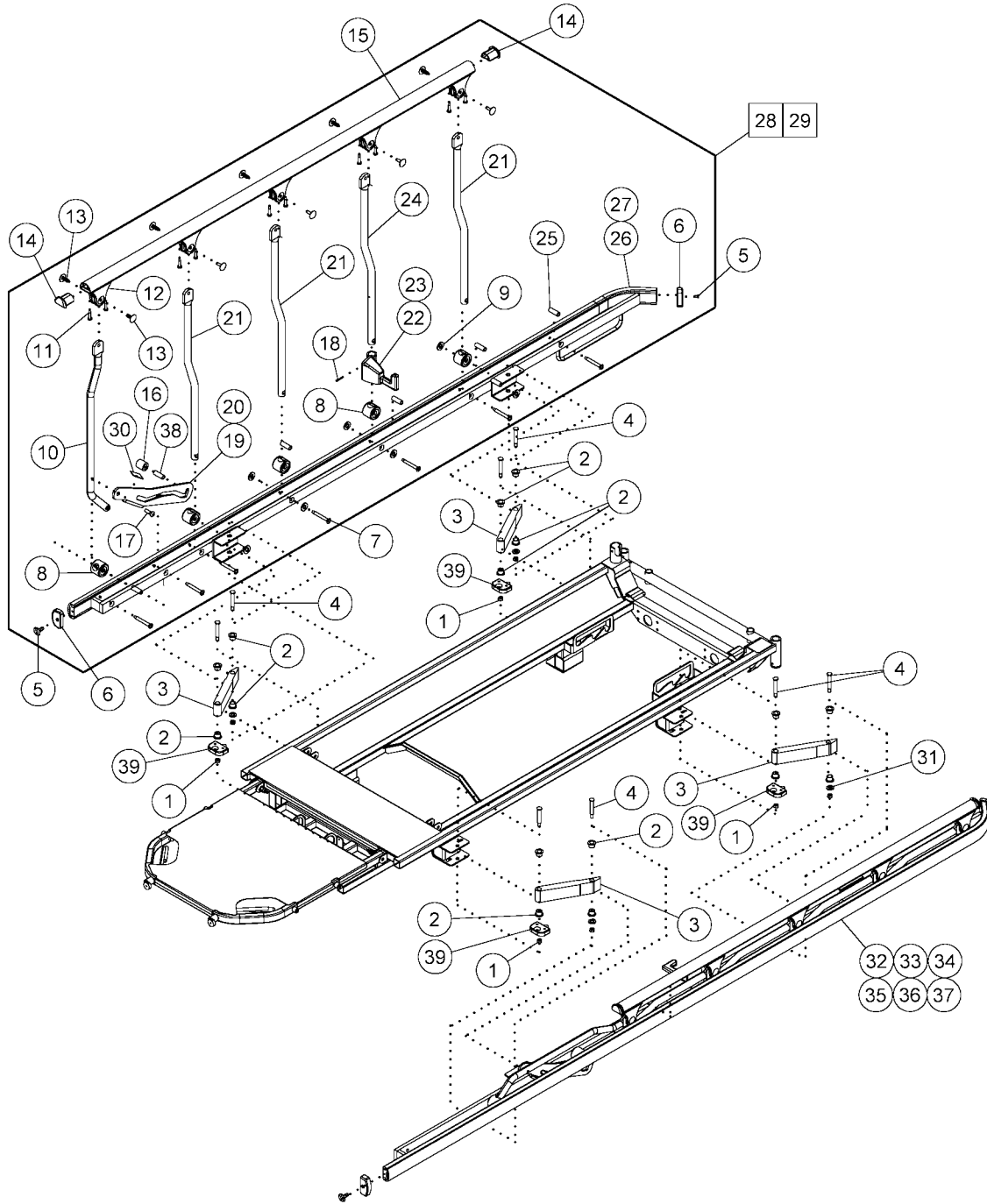
a. Oilite® is a registered trademark of Beemer Precision, Inc.

b. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

NOTES:

Surgical (P8010) Stretcher—Siderail Assembly

Figure 5-36. Surgical (P8010) Stretcher—Siderail Assembly



144386_1_052

Table 5-35. Surgical (P8010) Stretcher—Siderail

Item Number	Part Number	Quantity	Description
1	831	8	Locknut, triple center
2	36570	16	Oilite® bushing
3	4606248	4	Siderail swing arm
4	36802PL	8	Pivot pin
5	46015	4	Bottom rail end cap screw
6	46372	2	Bottom rail end cap
7	46362	7	Lower pivot bolt
8	46041	5	Lower pivot block
9	46116	8	Wave washer
10	46176PL	1	Siderail end tube
11	43879	10	Screw, Torx® button head
12	46106	5	Upper pivot
13	4610302	10	Top rail ratchet rivet
14	46371	2	Top rail end cap
15	46066	1	Top rail assembly
16	48643	1	Latch bushing
17	48645	1	Shoulder bolt latch
18	37275	1	Roll pin
19	48640	1	Latch plate “A” (lh)
20	48641	1	Latch plate “B” (rh)
21	46043PL	3	Tube, siderail
22	46363	1	Zero transfer stop “A” (lh)
23	46378	1	Zero transfer stop “B” (rh)
24	46067PL	1	Siderail tube, transfer stop
25	46022PL	7	Roller guide
26	14531701	1	Siderail assembly, surgical, lh
27	14531702	1	Siderail assembly, surgical, rh
28	4617005S	1	Right rail with head coverage
29	4617006S	1	Left rail with head coverage
30	144006	1	Label
31	35667	8	Washer
32	4637001	1	Trim strip—royal blue
33	4637002	1	Trim strip—purple

Item Number	Part Number	Quantity	Description
34	4637003	1	Trim strip—teal
35	4637004	1	Trim strip—green
36	4637005	1	Trim strip—red
37	4637006	1	Trim strip—gray
38	144713	1	Roller guide, latch
39	144404	4	Skid plate

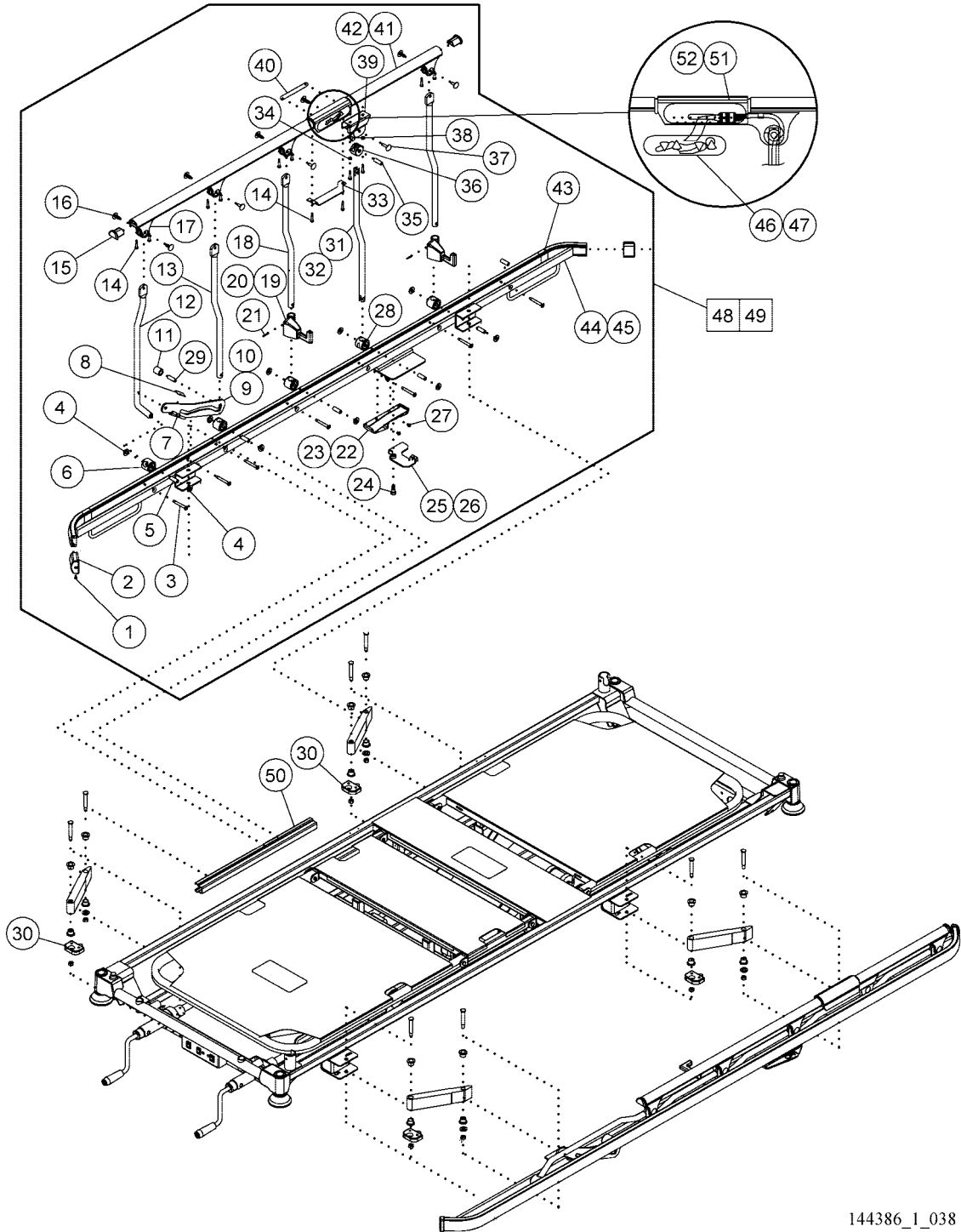
a. Oilite® is a registered trademark of Beemer Precision, Inc.

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NOTES:

Electric (P8020) Stretcher—Siderail Assembly

Figure 5-37. Electric (P8020) Stretcher—Siderail Assembly



144386_1_038

Table 5-36. Electric (P8020) Stretcher—Siderail Assembly

Item Number	Part Number	Quantity	Description
1	46015	2	Bottom rail end cap screw
2	46372	2	Bottom rail end cap
3	46362	7	Lower pivot bolt
4	46116	10	Wave washer
5	46022PL	7	Roller guide
6	46041	4	Lower pivot block
7	48645	1	Shoulder bolt latch
8	144006	1	Label
9	48640PL	1	Latch plate “A” (lh)
10	48641p1	1	Latch plate “B” (rh)
11	48643	1	Latch bushing
12	46176PL	1	Siderail end tube
13	46043PL	2	Tube, siderail
14	43879	12	Screw, Torx® button head
15	46371	2	Top rail end cap
16	4610302	8	Top rail ratchet rivet
17	46106	4	Upper pivot
18	46067PL	1	Siderail tube, transfer stop
19	46363	1	Zero transfer stop “A” (lh)
20	46378	1	Zero transfer stop “B” (rh)
21	37275	1	Roll pin
22	4128556	1	CPR handle, rh
23	4128456	1	CPR handle, lh
24	9025806	1	Screw, hex socket head shoulder
25	4902601PL	1	CPR handle weldment, rh
26	4902602PL	1	CPR handle weldment, lh
27	9002804	2	Screw
28	49005	1	Electric rail lower pivot
29	144713	1	Roller guide, latch
30	144404	4	Skid plate
31	61180	1	Right siderail cable assembly
32	61182	1	Left siderail cable assembly
33	4901048	1	Patient control wire cover

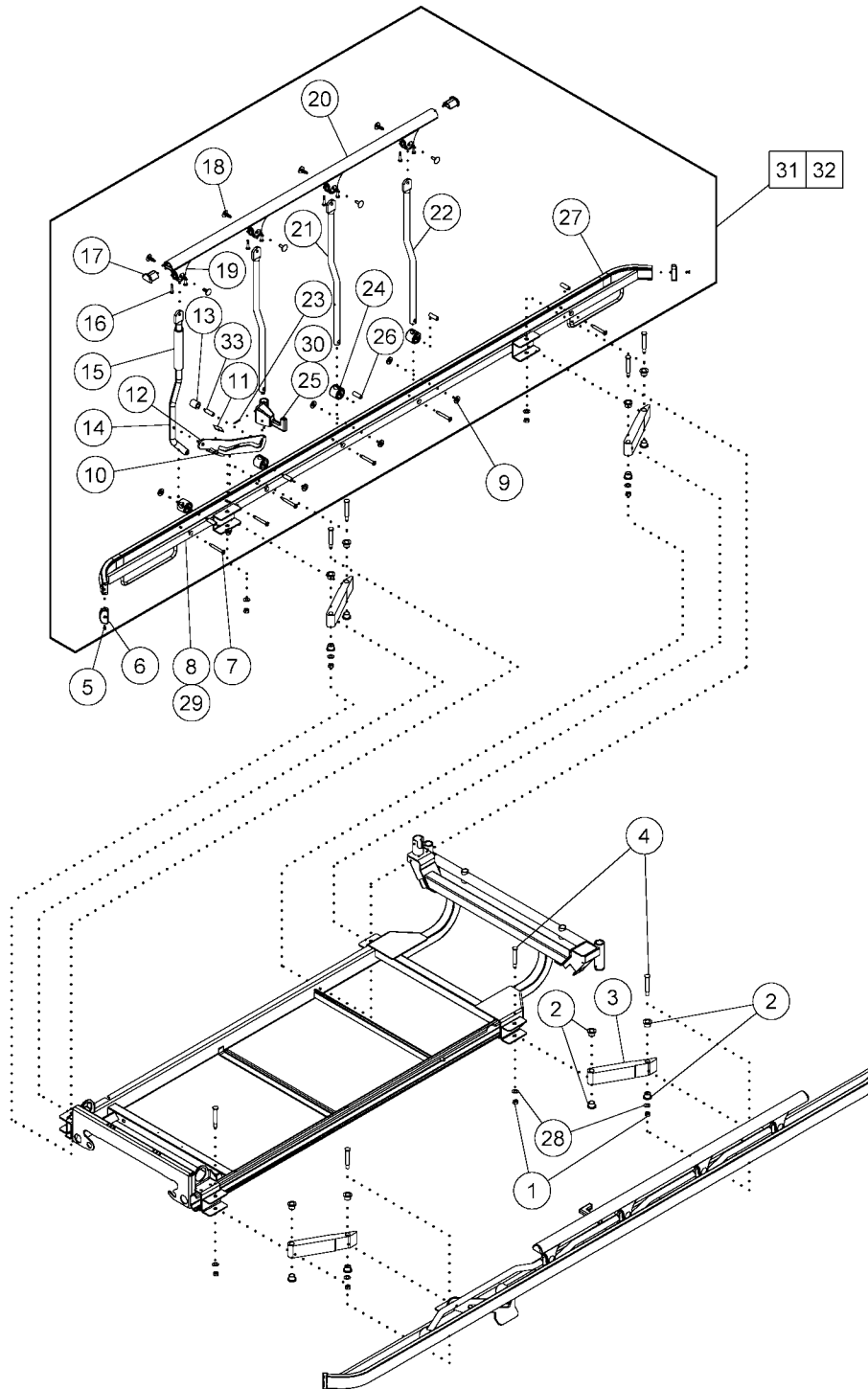
Item Number	Part Number	Quantity	Description
34	49625	2	Plastic washer
35	49006PL	1	Roller guide electric upper pivot
36	49009	1	Electric rail upper pivot
37	4610302	2	Latch ratchet rivet
38	27873	1	Cable clamp
39	4909748S	1	Upper pivot weldment
40	4901405	1	Label
41	4901101	1	Electric top rail assembly, rh
42	4901102	1	Electric top rail assembly, lh
43	Reference only	As required	Tape, polypropylene
44	490240148	1	Electric siderail weldment, rh
45	490240248	1	Electric siderail weldment, lh
46	4962301	1	Switch, membrane, 4 position, rh
47	4962302	1	Switch, membrane, 4 position, lh
48	14531601	1	Siderail assembly, electric, rh
49	14531602	1	Siderail assembly, electric, lh
50	49644	1	Wire cover snap bracket
51	4642501	1	Patient control housing, rh
52	4642502	1	Patient control housing, lh

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NOTES:

OB/GYN (P8050) Stretcher Siderail—Assembly

Figure 5-38. OB/GYN (P8050) Stretcher—Siderail Assembly



144386_1_069

Table 5-37. OB/GYN (P8050) Stretcher—Siderail Assembly

Item Number	Part Number	Quantity	Description
1	2332	8	Locknut, double center
2	36570	16	Bushing
3	4606248	4	Siderail swing arm
4	36802PL	8	Pivot pin
5	46015	2	Bottom rail end cap screw
6	46372	2	Bottom rail end cap
7	46362	6	Lower pivot bolt
8	629070148S	1	Siderail weldment rh
9	46116	8	Wave washer
10	48645	1	Shoulder bolt latch
11	144006	1	Label
12	48641	1	Latch plate “B” (rh)
13	48643	1	Latch bushing
14	4617601PLS	1	Siderail tube, end
15	62911	1	Siderail handgrip
16	43879	8	Screw, Torx® button head
17	46371	2	Top rail end cap
18	4610302	8	Top rail ratchet rivet
19	46106	4	Upper pivot
20	46066	1	Top rail assembly
21	46067PL	1	Siderail tube, transfer stop
22	46043PL	1	Tube, siderail
23	37275	1	Roll pin
24	46041	4	Lower pivot block
25	46363	1	Zero transfer stop “A” (lh)
26	46022PL	6	Roller guide
27	Reference only	As required	Tape, polypropylene
28	35667	8	Washer
29	629070248S	1	Siderail weldment, lh
30	46378	1	Zero transfer stop “B” (rh)
31	14531801	1	Siderail assembly, ob/gyn, lh
32	14531802	1	Siderail assembly, ob/gyn, rh

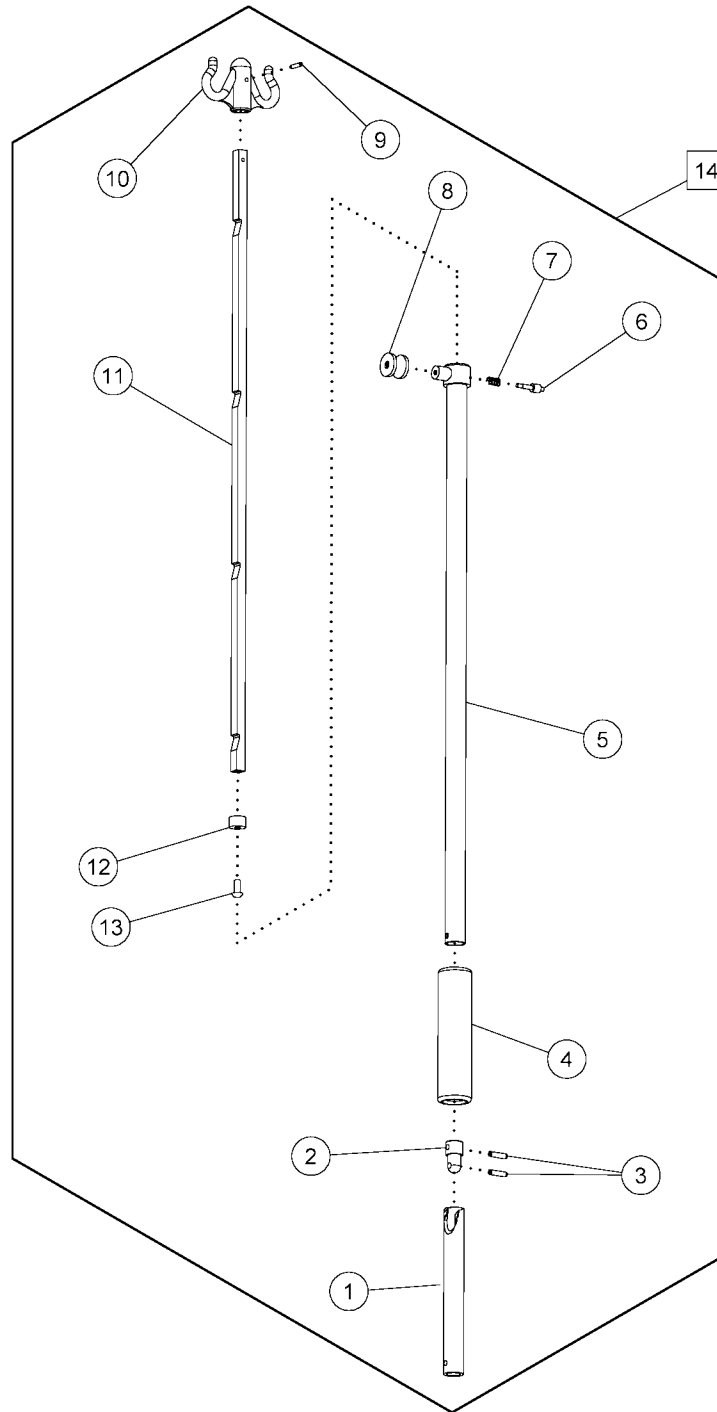
Item Number	Part Number	Quantity	Description
33	144713	1	Roller guide, latch

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NOTES:

IV Pole Module

Figure 5-39. IV Pole Module



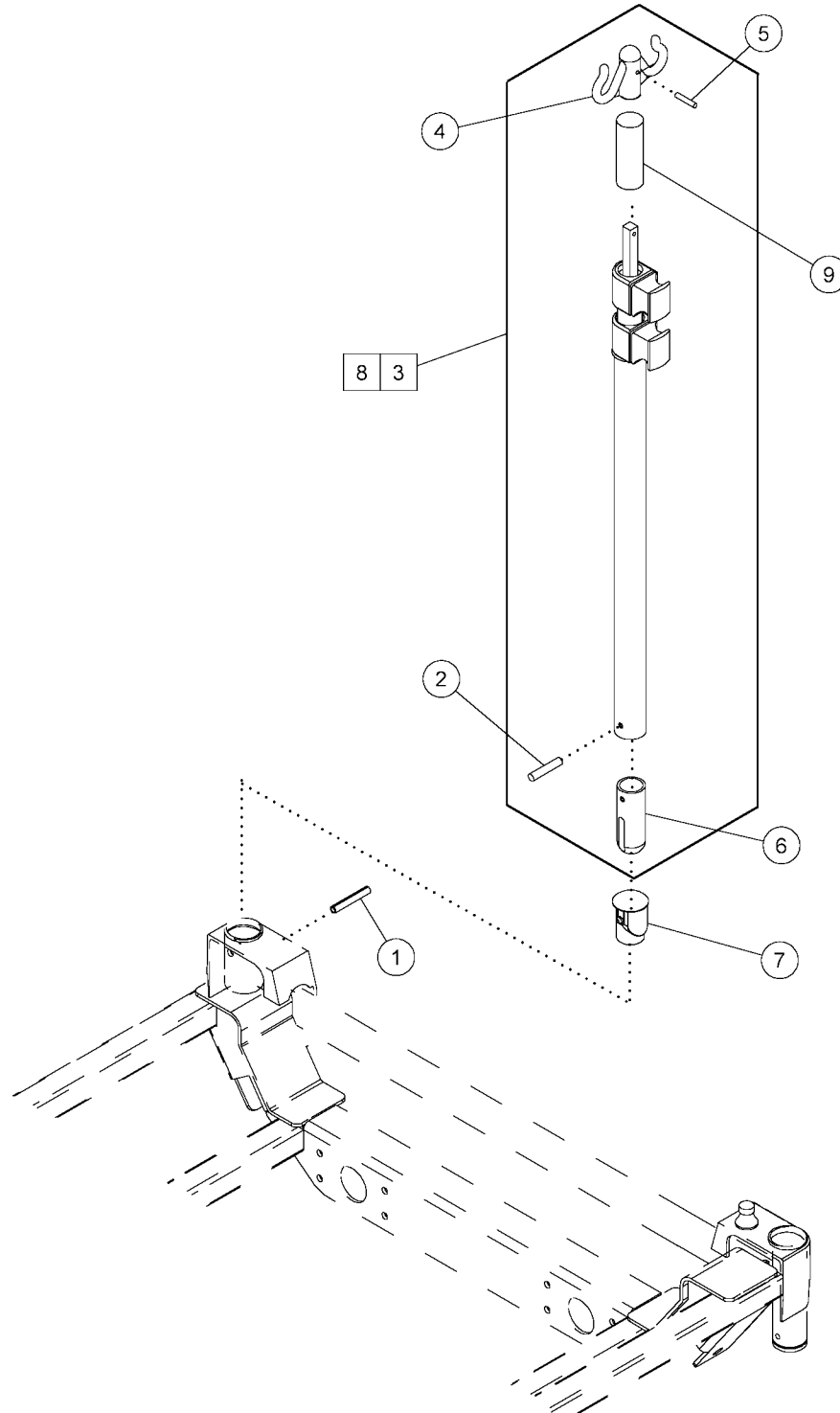
144386_1_073

Table 5-38. IV Pole Module

Item Number	Part Number	Quantity	Description
1	65235PLS	1	Tube
2	65236PLS	1	Pin
3	9685	2	Roll pin
4	65288	1	Sleeve
5	65237PLS	1	Outer tube guide assembly
6	35775	1	Stop pin
7	2374	1	Lock spring
8	35776PLS	1	Stop pin knob
9	42469	1	Roll pin
10	46398	1	IV hook
11	65234PLS	1	Extension rod
12	32202	1	Nylon guide
13	10866	1	Screw
14	65238	1	IV Pole Module

IV Pole

Figure 5-40. IV Pole



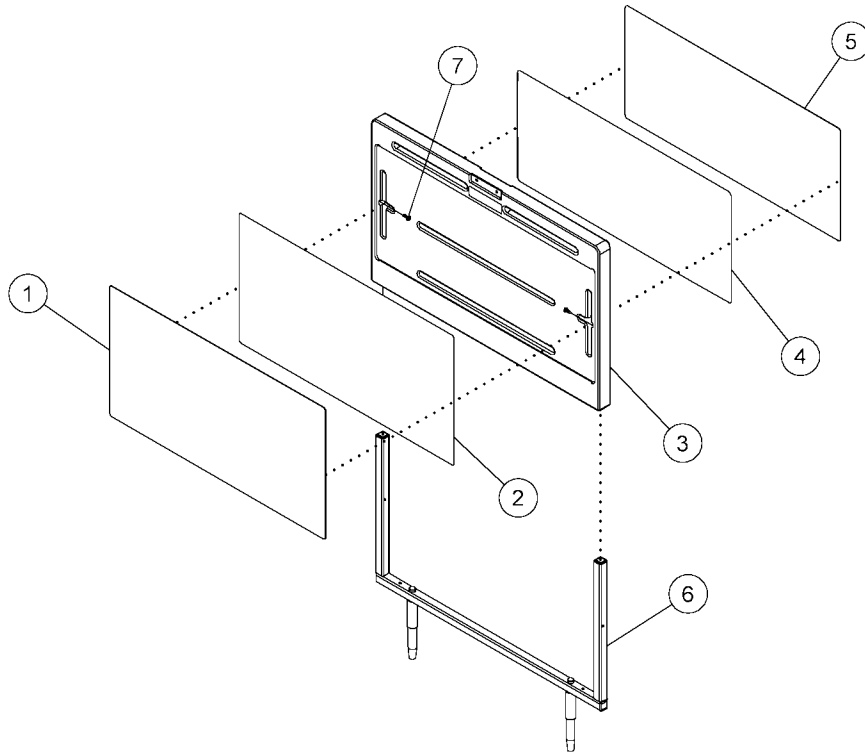
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Table 5-39. IV Pole

Item Number	Part Number	Quantity	Description
1	4604602	1	Spring pin
2	42539	1	Spiral pin
3	127372	1	IV pole assembly
4	46398	1	IV hook
5	42469	1	Roll pin
6	4135602	1	IV pole extension
7	126821	1	IV socket plug
8	127373	1	IV pole assembly wide
9	48616	1	IV pole wide spacer

Head/Footboard—P4120CT

Figure 5-41. Head/Footboard—P4120CT



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Table 5-40. Head/Footboard—P4120CT

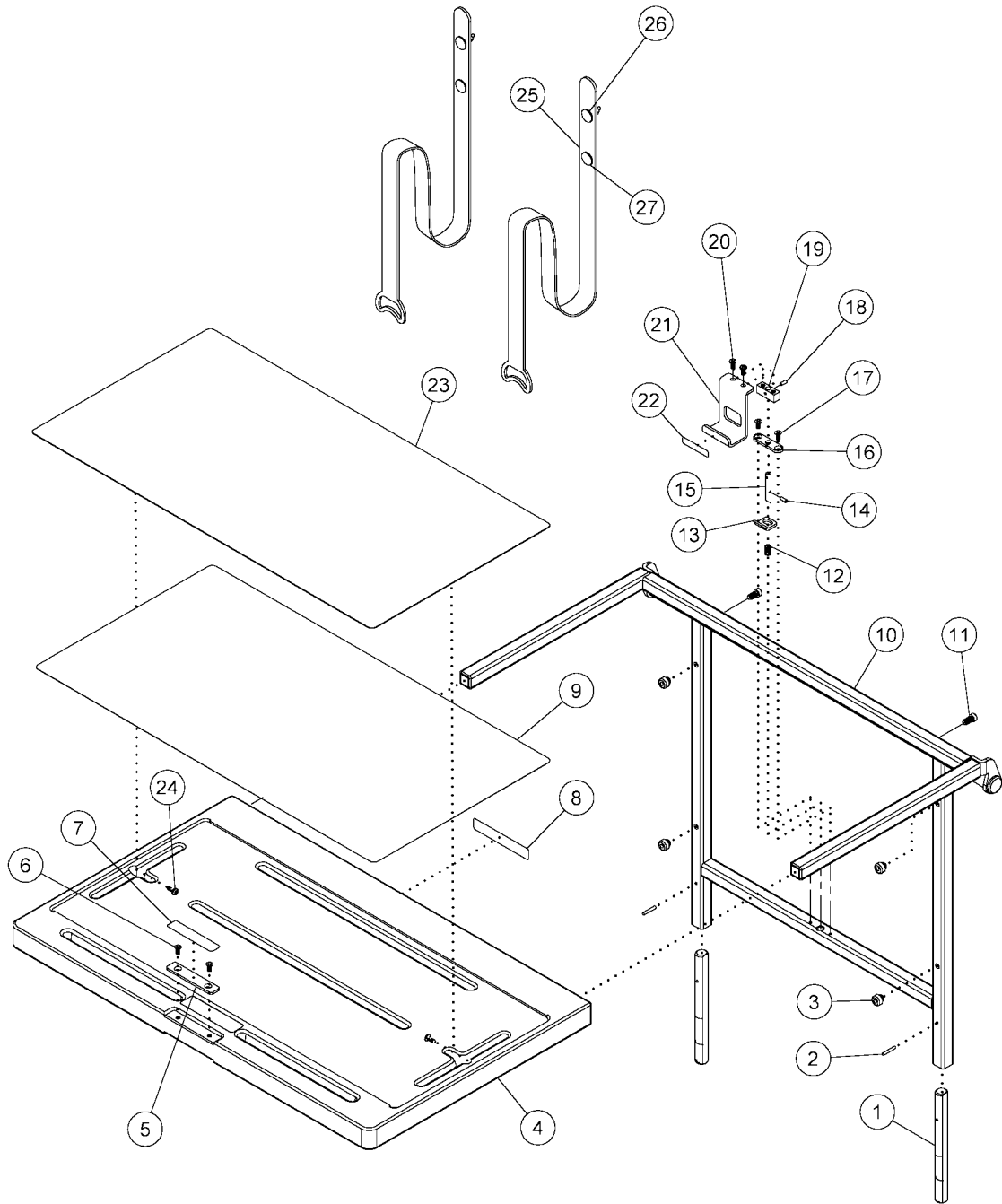
Item Number	Part Number	Quantity	Description
1	39970 *	1	HPL fascia
2	39969	As required	Adhesive tape
3	39047	1	Table
4	39034	As required	Adhesive tape
5	39033 *	1	HPL fascia
6	46495PL	1	Support frame welded assembly
7	4403	2	Screw

* Specify high pressure laminate color.

NOTES:

Convertible Footboard—P350CT

Figure 5-42. Convertible Footboard—P350CT



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Table 5-41. Convertible Footboard—P350CT

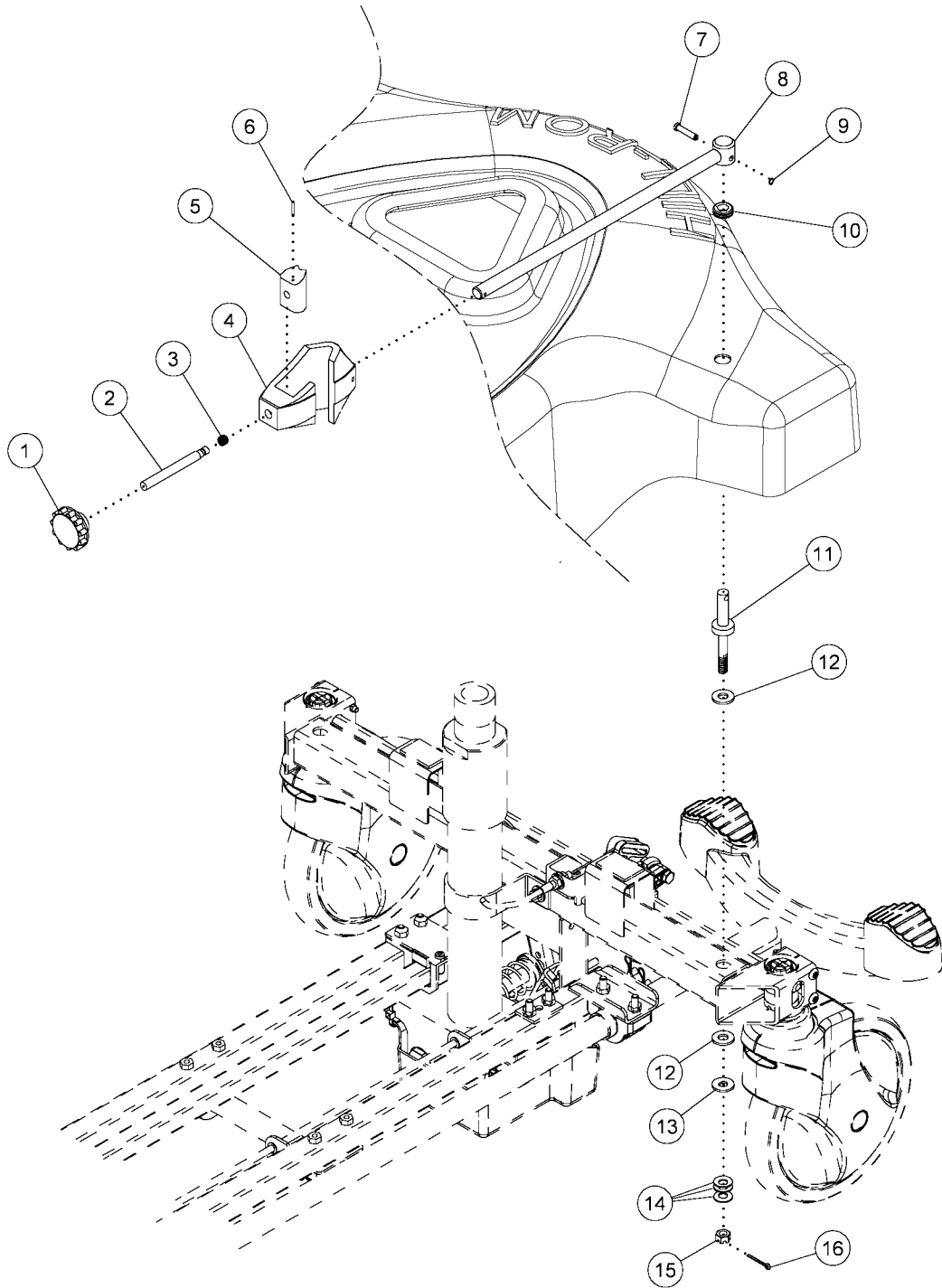
Item Number	Part Number	Quantity	Description
1	46114PL	2	Round post
2	10640	2	Roll pin
3	37346	4	Button
4	48624	1	Table
5	37132PL	1	Latch plate
6	9004004	2	Screw
7	4865102	1	Label (“lift”)
8	36081	1	Label, utility shelf caution
9	39034	As required	Adhesive tape
10	4617348	1	Assembly
11	3684248	2	Levelizer bumper
12	37278	1	Compression spring
13	37131	1	Latch catch
14	38677	1	Roll pin
15	38727	1	Latch pin
16	38678PLS	1	Plate
17	27671	2	Screw
18	38677	1	Roll pin
19	38729PLS	1	Pin plate
20	17017	2	Screw
21	38732PLS	1	Latch handle
22	4865101	1	Label (“to release latch”)
23	39033 *	1	HPL fascia
24	43878	2	Screw, Torx® ^a button head
25	37238	2	Equipment strap
26	37290	2	Snap, male
27	37291	2	Snap, female

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* Specify high pressure laminate color.

IV Transporter—P491

Figure 5-43. IV Transporter—P491



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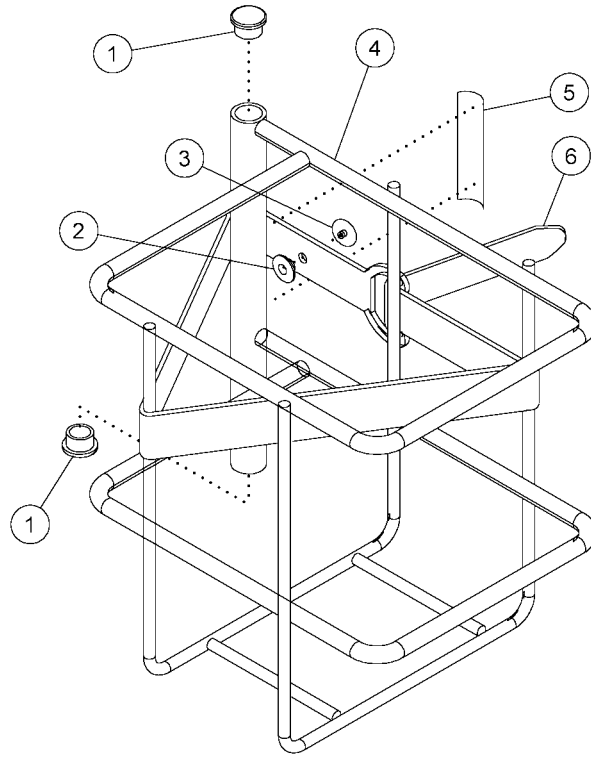
Table 5-42. IV Transporter—P491

Item Number	Part Number	Quantity	Description
1	48648	1	Plastic knob
2	48649PL	1	Threaded post, knob
3	48652	1	Threaded insert
4	48646	1	Clamp housing
5	48647	1	Notched block, clamp
6	37275	1	Roll pin
7	4645404PLS	1	Headed pin, 1.313"
8	4615448	1	Tow arm welded assembly
9	43059	1	Retaining ring
10	46468	1	Rubber grommet
11	46324PL	1	Tow bar post welded assembly
12	46385	2	Oilite® bushing
13	46387	1	D-washer
14	46399	3	Belleville washer
15	46469	1	Locknut
16	43077	1	Cotter pin

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Liquid Oxygen Tank Holder—P273

Figure 5-44. Liquid Oxygen Tank Holder—P273



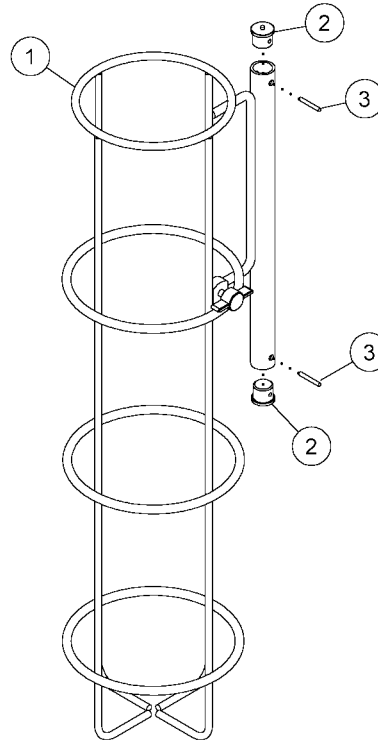
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Table 5-43. Liquid Oxygen Tank Holder—P273

Item Number	Part Number	Quantity	Description
1	2945748	2	Hole plug
2	37291	1	Grommet, female
3	37290	1	Grommet, male
4	6055148	1	Liquid oxygen tank holder weldment
5	6515302	1	Label, product
6	37238	1	Equipment strap

Oxygen Tank Holder—P276

Figure 5-45. Oxygen Tank Holder—P276



144386_1_076

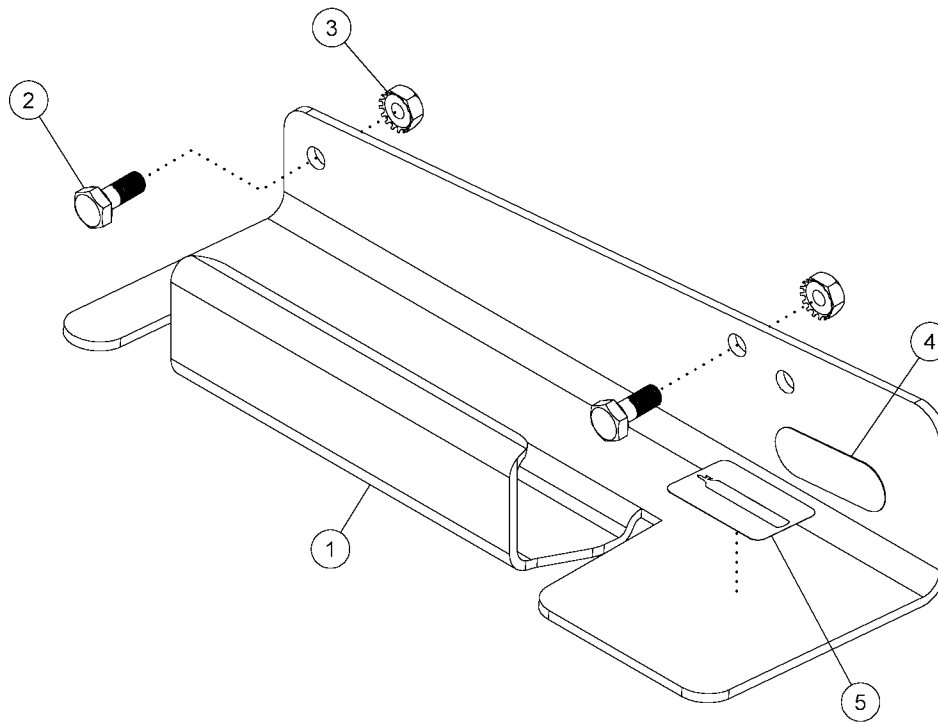
Table 5-44. Oxygen Tank Holder—P276

Item Number	Part Number	Quantity	Description
1	42703	1	Oxygen tank holder
2	36339PLS	2	Tube end
3	9685	2	Roll pin

5

Oxygen Tank Holder Bracket—P27604

Figure 5-46. Oxygen Tank Holder Bracket—P27604



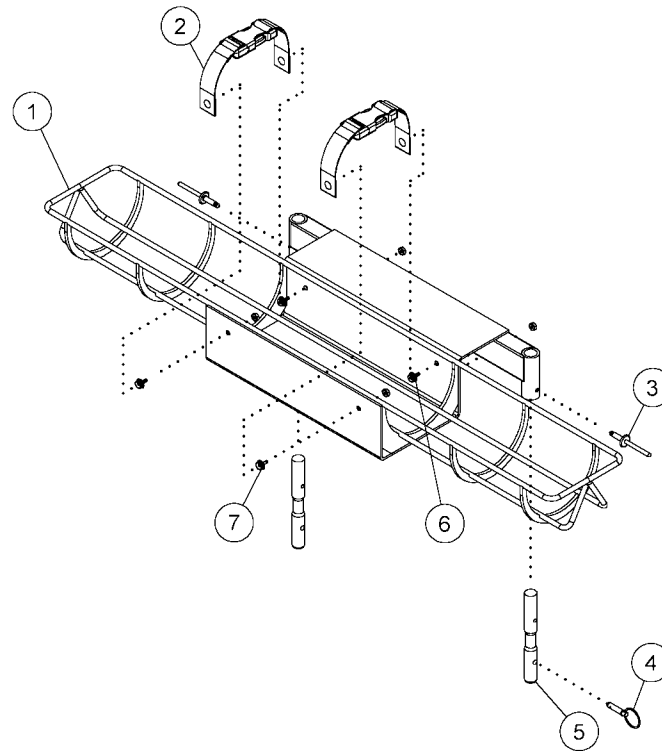
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Table 5-45. Oxygen Tank Holder Bracket—P27604

Item Number	Part Number	Quantity	Description
1	152654	1	Bracket
2	9001810	2	Screw
3	20802	2	Nut
4	6709009	1	Label, SWL
5	152903	1	Label, diagram

Horizontal Oxygen Tank Holder—P27603

Figure 5-47. Horizontal Oxygen Tank Holder—P27603



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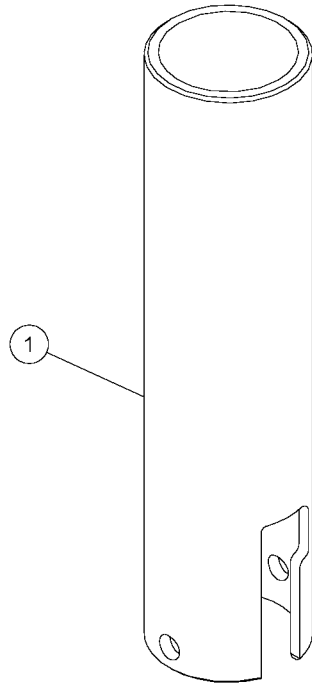
Table 5-46. Horizontal Oxygen Tank Holder—P27603

Item Number	Part Number	Quantity	Description
1	147562	1	Weldment
2	153149	2	Strap with snap
3	150979	2	Rivet
4	130842	1	Release pin
5	147569	2	Pin
6	15250H	4	Nut
7	44768	4	Screw

5

ISS Socket Adapter—P163

Figure 5-48. ISS Socket Adapter—P163



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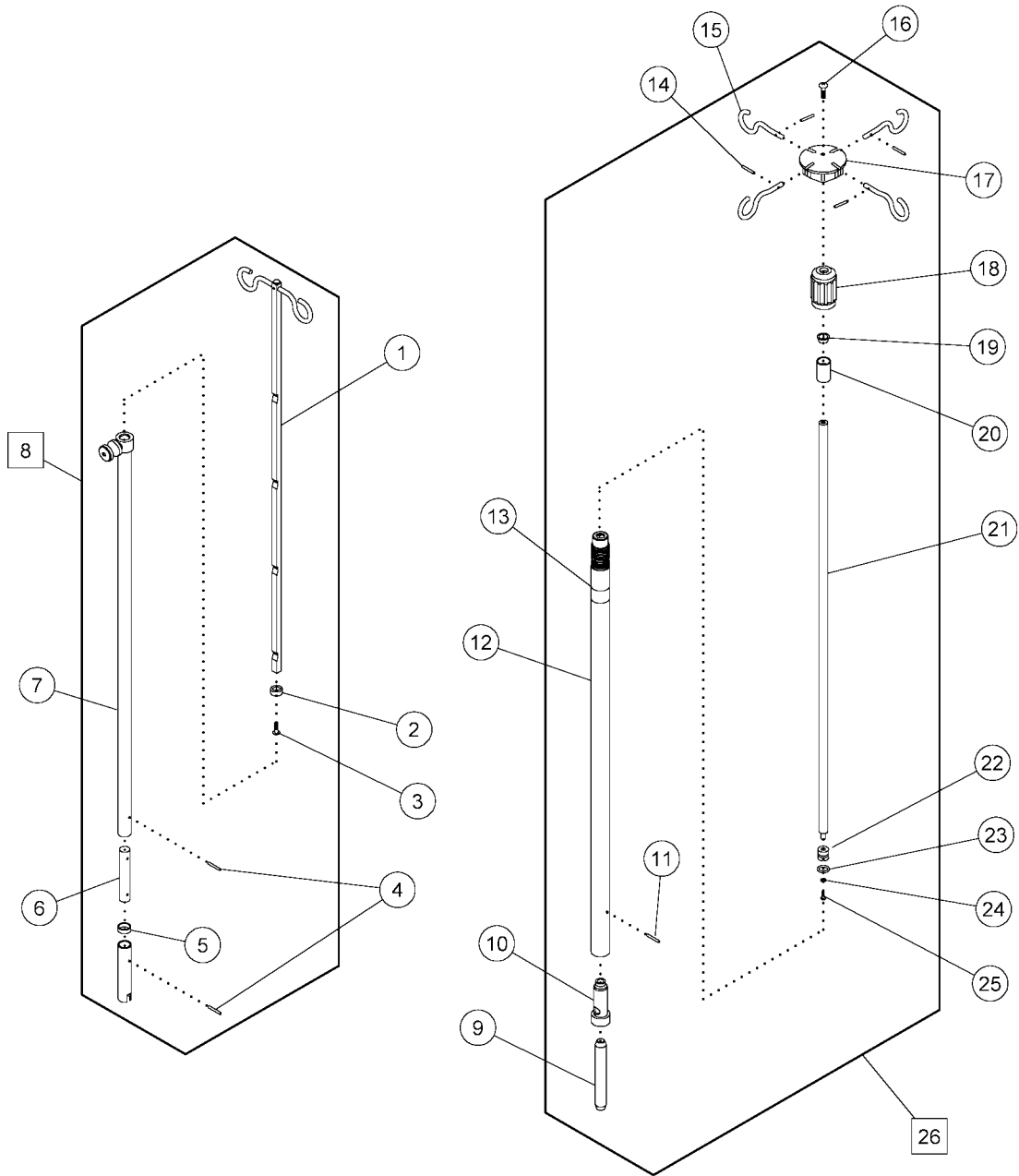
Table 5-47. ISS Socket Adapter—P163

Item Number	Part Number	Quantity	Description
1	42518PL	1	Socket adapter

NOTES:

IV Pole—P2217 and ISS Transfer Pole—P158

Figure 5-49. IV Pole—P2217 and ISS Transfer Pole—P158



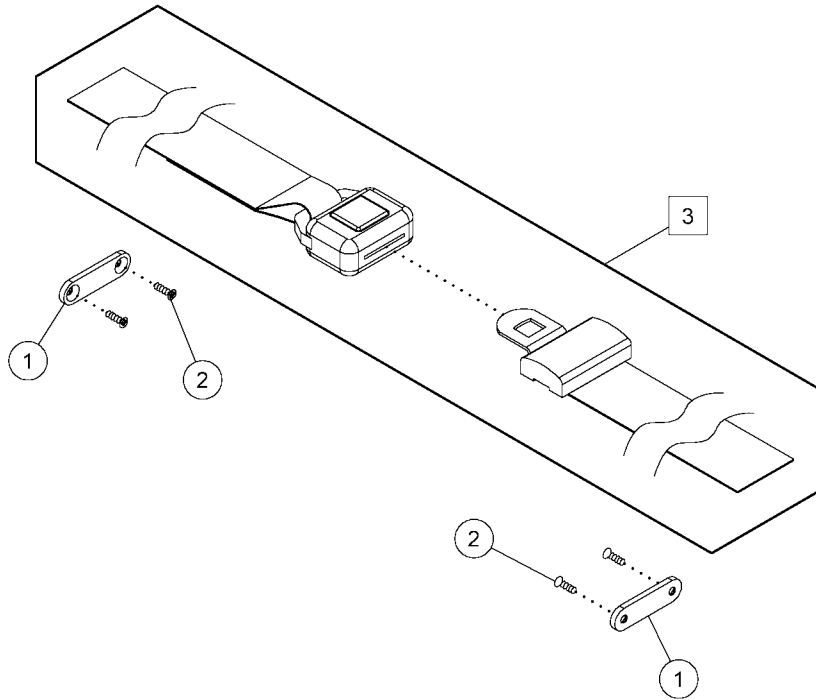
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Table 5-48. IV Pole—P2217 and ISS Transfer Pole—P158

Item Number	Part Number	Quantity	Description
1	32534PLS	1	Extension rod assembly
2	32202	2	Nylon guide
3	10866	1	Screw
4	10640	2	Roll pin
5	32201	1	Extension
6	20858	1	Coupling
7	32199	1	Outer tube assembly
8	P2217	1	IV pole
9	35005	1	Locator
10	35022	1	Inner insulator
11	35334	2	Spring pin
12	35021	1	Transfer pole
13	35044	1	Label
14	35018	4	Roll pin
15	35003	4	IV hook
16	17290	1	Screw
17	35001	1	Hub
18	35002	1	Collet
19	35007	1	Ferrule complete
20	35004	1	Insert
21	35026	1	Telescoping tube
22	35020	1	End cap
23	35019	1	O-ring
24	864H	1	Washer
25	17232	1	Screw
26	P158	1	Transfer pole

Security Straps—P349

Figure 5-50. Security Straps—P349



144386_1_077

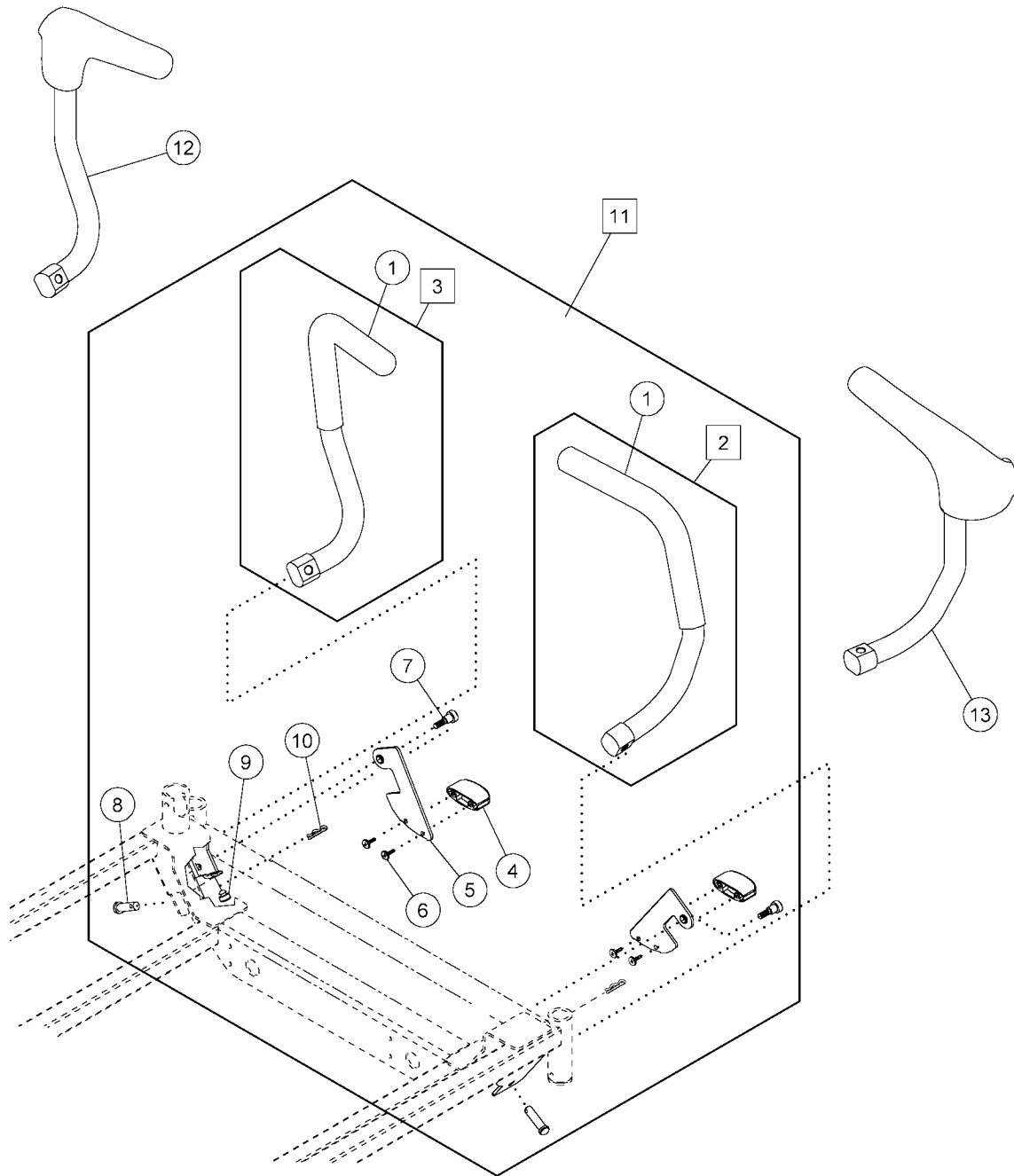
Table 5-49. Security Straps—P349

Item Number	Part Number	Quantity	Description
1	36979PLS	2	Security strap bracket
2	14995	4	Screw
3	37090	1	Security strap

NOTES:

Push Handles

Figure 5-51. Push Handles



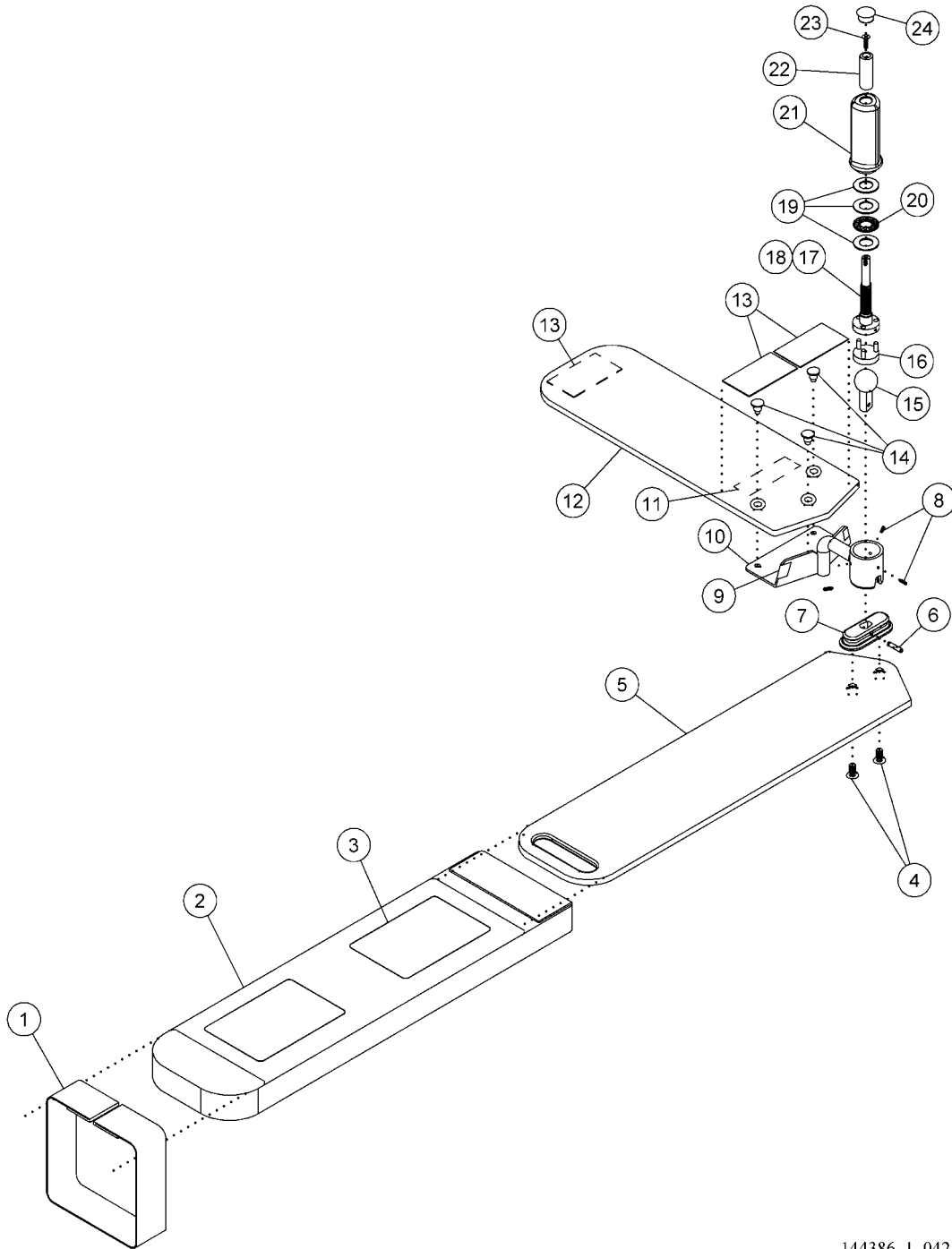
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Table 5-50. Push Handles

Item Number	Part Number	Quantity	Description
1	46395	2	Cover
2	14586802S	1	Handle, lh (includes cover)
3	14586801S	1	Handle, rh (includes cover)
4	46108	2	Push handle release
5	66350PL	2	Push handle latch assembly
6	9712	4	Screw
7	9025806	2	Screw, hex socket head shoulder
8	60837	2	Clevis pin
9	46350	2	Bumper
10	60839	2	Hitch pin
11	145869S	1	Handles, lh and rh (complete assembly)
12	14454101	1	Handle, push, IV, rh
13	14454102	1	Handle, push, IV, lh

Armboard—P344AT

Figure 5-52. Armboard—P344AT



144386_1_042

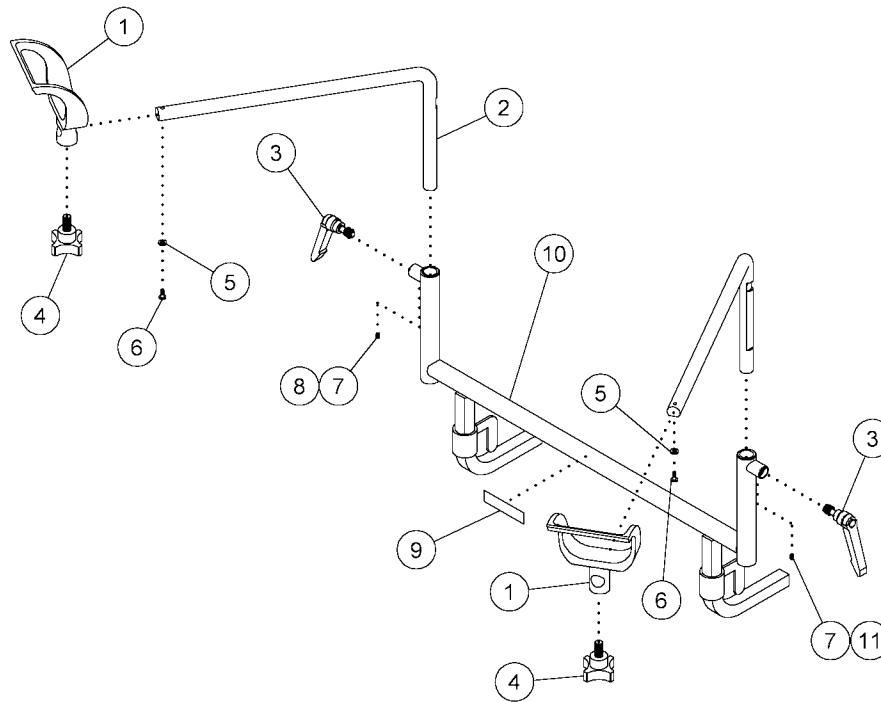
Table 5-51. Armboard—P344AT

Item Number	Part Number	Quantity	Description
1	60645	1	Armboard restraint strap
2	37246	1	Armrest pad
3	46334	2	Mattress attachment Velcro® ^a
4	60653	2	Hex socket
5	60516	1	Upper panel
6	128	1	Roll pin
7	41259	1	Calf support bracket
8	41185	3	Groove pin
9	46332	1	Protective tape
10	60587	1	Mounting weldment
11	60451	1	Label, armboard product
12	60517	1	Lower panel
13	60647	3	Non-skid pad
14	60595	3	Mounting rivet
15	60962	1	Ball and rod
16	SA1634	1	Ball socket repair kit
17	60590PL	1	Shaft insert weldment
18	37929	As required	Anti-seize
19	40741	3	Thrust race
20	11578	1	Thrust bearing
21	60661	1	Armboard handle
22	60589PL	1	Armboard support tube
23	9005110	1	Flat screw
24	38156	1	Hole plug

a. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

Stirrup Assembly—P347AT

Figure 5-53. Stirrup Assembly—P347AT



144386_1_048

Table 5-52. Stirrup Assembly—P347AT

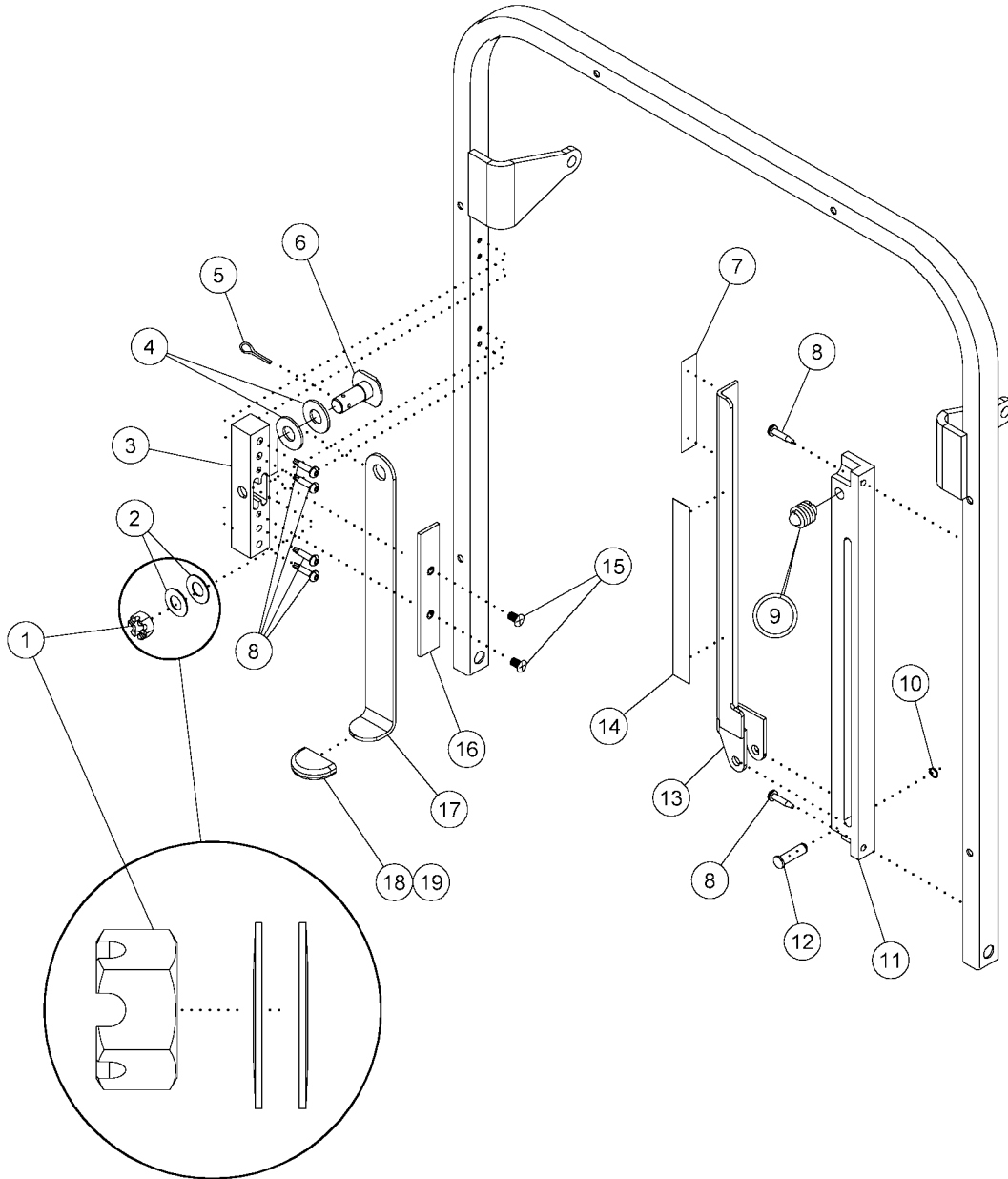
Item Number	Part Number	Quantity	Description
1	4207933	2	Stirrup
2	42056	1	Right rod
3	42081	2	Right handle assembly
4	41665	2	Thumb knob
5	15244	2	Fiber washer
6	9003706H	2	Screw
7	1215	2	Allen™ screw
8	SA3618	As required	Loctite® (blue #242)
9	60749	1	Product label
10	64732	1	Stirrup weldment
11	42090	1	Left rod

a. Allen™ is a trademark of Industrial Fasteners, Inc.

b. Loctite® is a registered trademark of Loctite Corporation.

Trauma Stretcher Upright Chest Assembly—P279AT

Figure 5-54. Trauma Stretcher Upright Chest Assembly—P279AT



144386_1_055

Table 5-53. Trauma Stretcher Upright Chest Assembly—P279AT

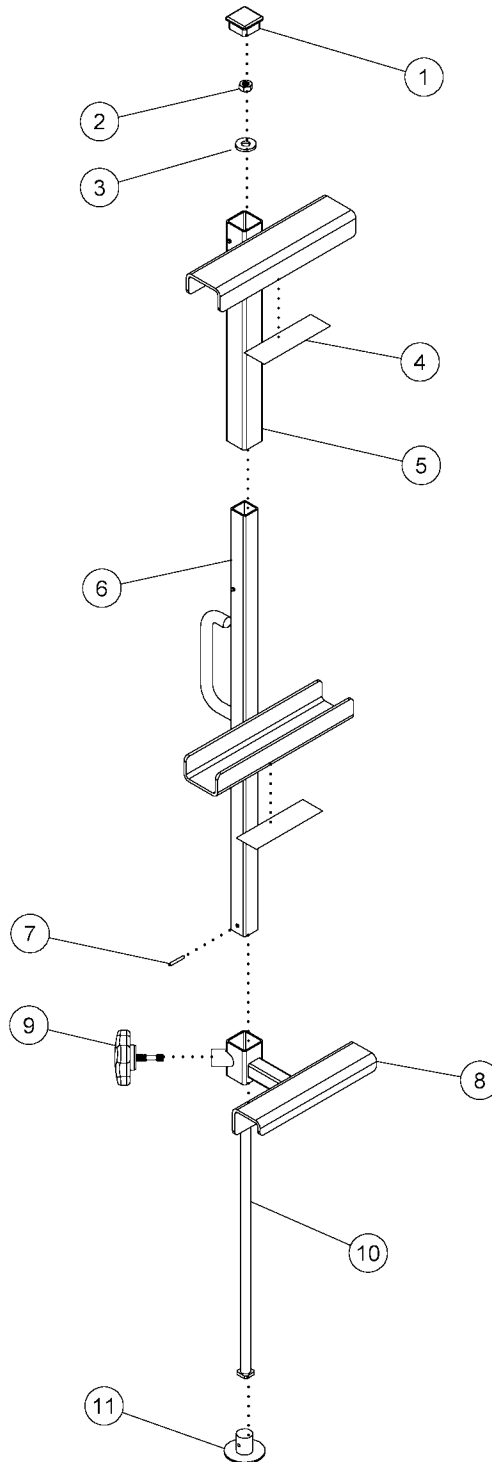
Item Number	Part Number	Quantity	Description
1	46469	1	Locknut
2	46399	2	Belleville washer
3	62177	1	Keeper bracket
4	46385	2	Oilite® ^a bushing
5	17405	1	Cotter pin
6	62178PLS	1	Spring arm bolt
7	61562	1	Product label
8	43879	6	Screw, Torx® ^b button head
9	61095	1	Ball plunger
10	43059	1	Retaining ring
11	61083	1	Slider bracket
12	4645405PL	1	Headed pin
13	6109448S	1	Cassette support weldment
14	46332	1	Protective tape
15	40999	2	Screw
16	62176PLS	1	Cover plate
17	6217548	1	Spring arm
18	60843	1	Spring arm sleeve
19	37997	As required	Adhesive

a. Oilite® is a registered trademark of Beemer Precision, Inc.

b. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Trauma Stretcher Lateral Cassette Holder—P264

Figure 5-55. Trauma Stretcher Lateral Cassette Holder—P264



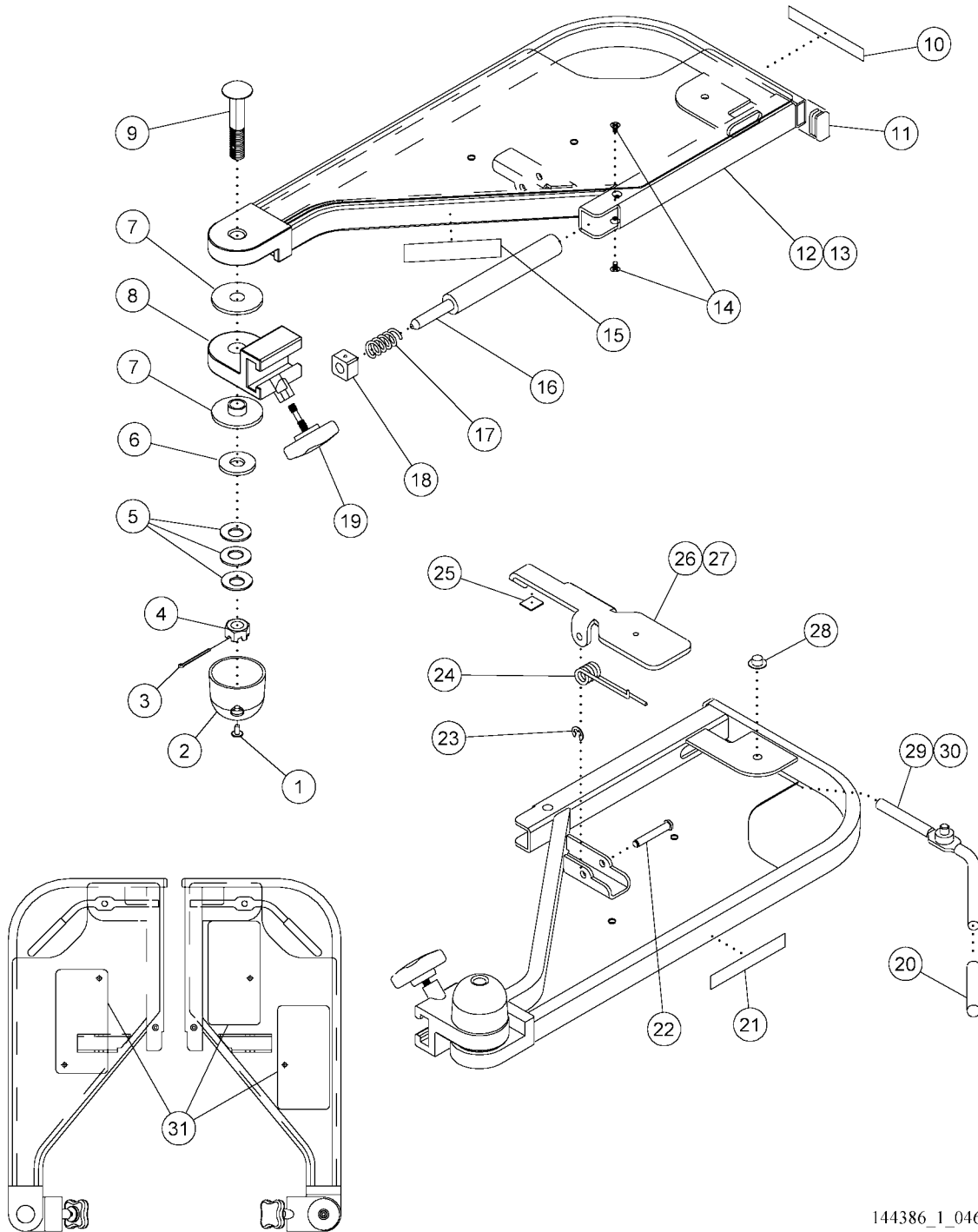
144386_1_065

Table 5-54. Trauma Stretcher Lateral Cassette Holder—P264

Item Number	Part Number	Quantity	Description
1	4969901	1	Knee standoff plug
2	4435	1	Locknut
3	1012	1	Washer
4	6064702	1	Non-skid pad
5	61163PL	1	Outer tube weldment
6	61166PL	1	Inner tube weldment
7	10640	1	Roll pin
8	61175PL	1	Mounting arm weldment
9	6086301	1	Mounting knob
10	61171PL	1	Extension rod weldment
11	61681PL	1	Inner tube stop

Surgical Stretcher PACU Extender—P261

Figure 5-56. Surgical Stretcher PACU Extender—P261



144386_1_046

Table 5-55. Surgical Stretcher PACU Extender—P261

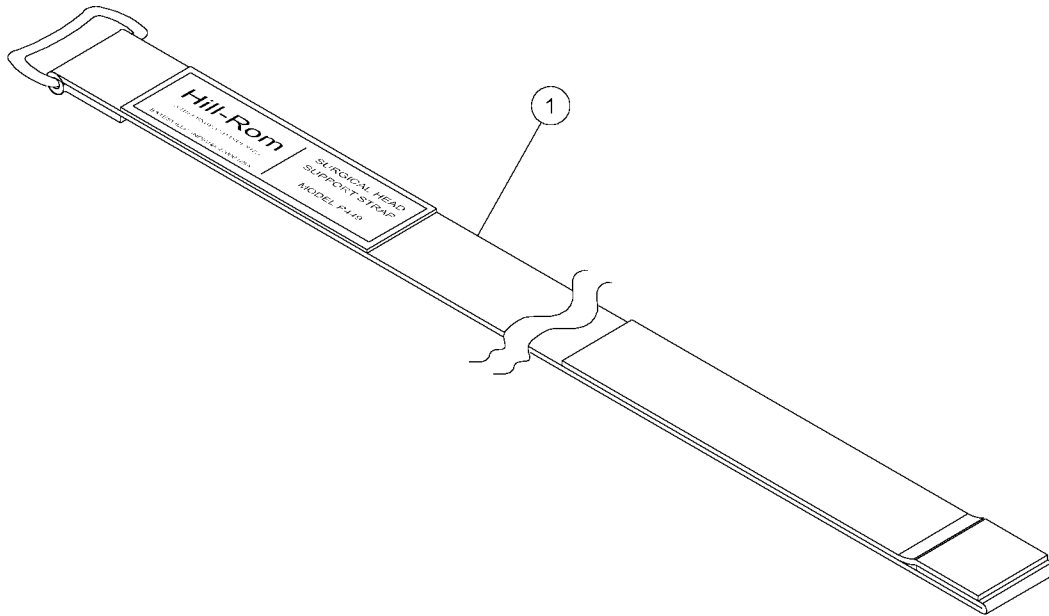
Item Number	Part Number	Quantity	Description
1	43878	1	Screw, Torx® button head
2	60847	1	Plastic cover
3	17405	1	Cotter pin
4	46469	1	Locknut
5	46399	3	Belleville washer
6	46387	1	D washer
7	60852	2	Oilite® bushings
8	49070	1	Extender knuckle
9	49684PLS	1	Bolt
10	46410	1	Label, weight warning
11	60841	1	Tube cap
12	490790148S	1	Extender weldment, lh
13	490790248S	1	Extender weldment, rh
14	9004008	2	Screw
15	4903401	1	Product label
16	49077	1	Extender release plunger
17	60831	1	Plunger spring
18	49605	1	Plunger keeper
19	6086301	1	Mounting knob
20	3972301	1	Pedal sleeve
21	4903408	1	Arm board release label
22	60846	1	Pivot pin
23	37255	1	Retaining ring
24	60855	1	Arm board release paddle spring
25	6064703	1	Non-skid pad
26	6084001	1	Arm board release paddle, rh
27	6084002	1	Arm board release paddle, lh
28	60821	1	Push nut
29	608150148	1	Extender release handle weldment, rh
30	608150248	1	Extender release handle weldment, lh
31	4633401	3	Mattress attachment Velcro®

Item Number	Part Number	Quantity	Description
Not shown	60645	2	Armboard restraint strap

- a. Torx® is a registered trademark of Acument Intellectual Properties, LLC.
- b. Oilite® is a registered trademark of Beemer Precision, Inc.
- c. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

Surgical Stretcher Head Positioning Strap—P449

Figure 5-57. Surgical Stretcher Head Positioning Strap—P449



144386_1_047

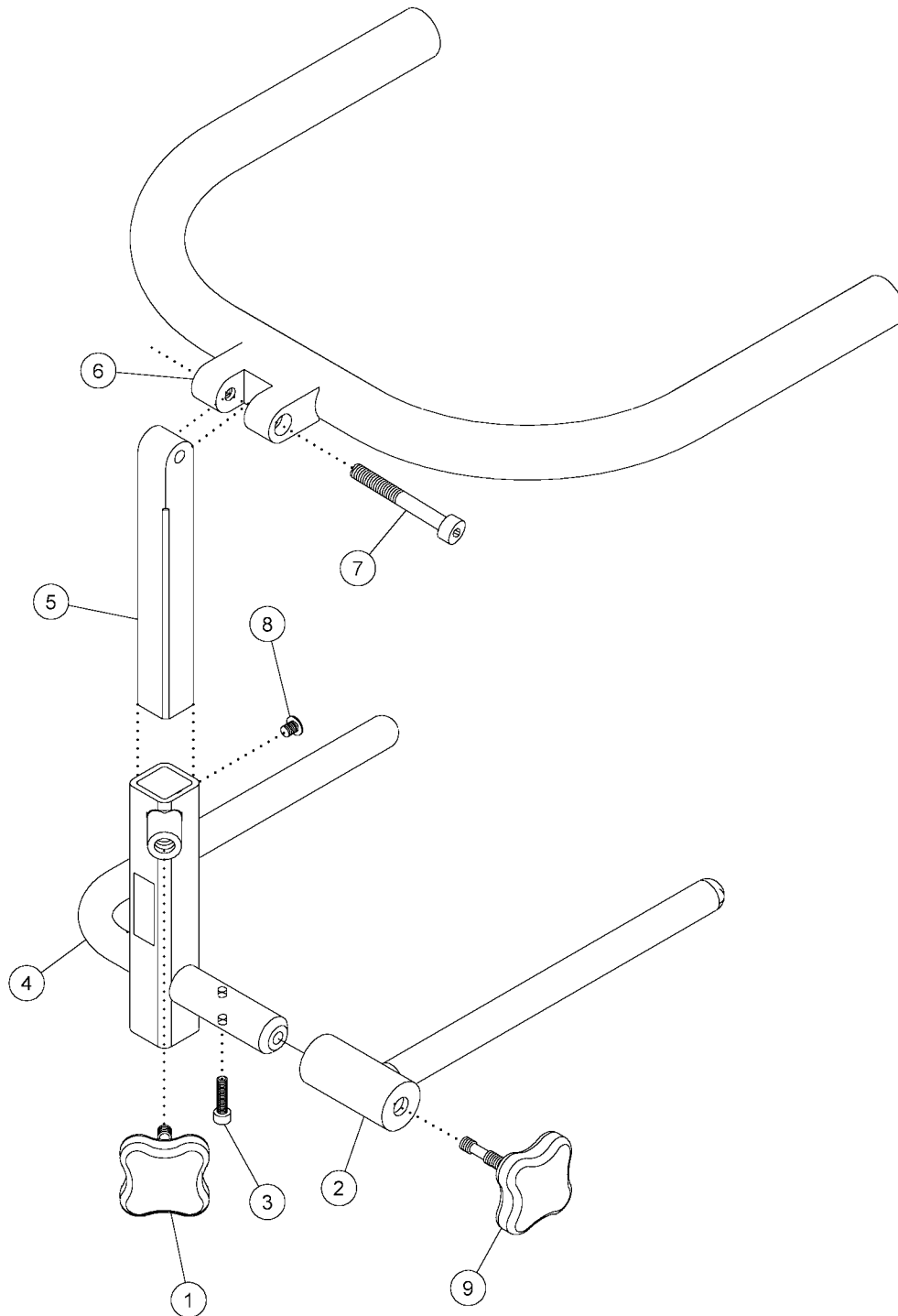
Table 5-56. Surgical Stretcher Head Positioning Strap—P449

Item Number	Part Number	Quantity	Description
1	46155	1	Head positioning strap

5

Surgical Stretcher Superior Wrist Rest—P262A01

Figure 5-58. Surgical Stretcher Superior Wrist Rest—P262A01



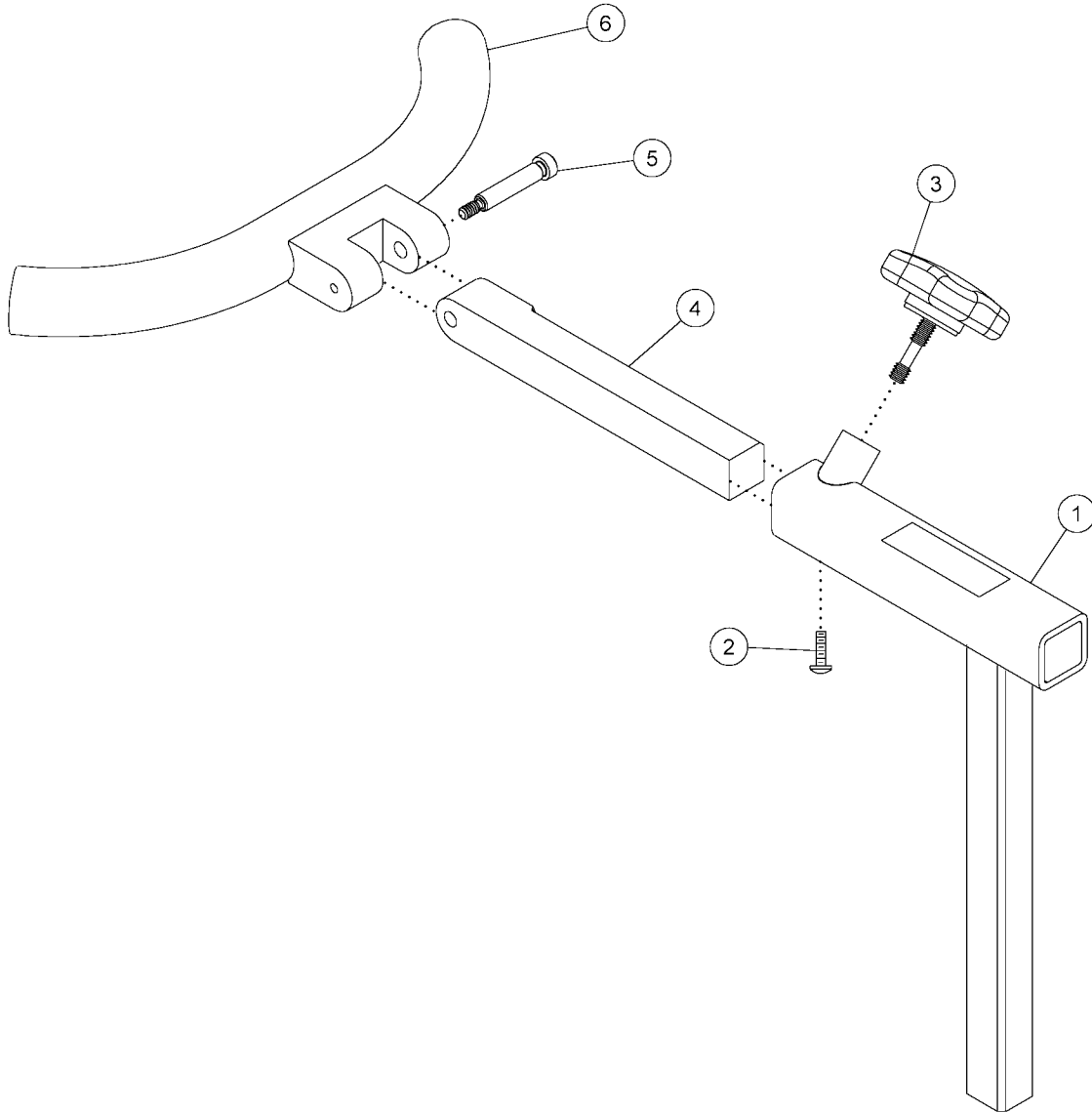
144386_1_067

Table 5-57. Surgical Stretcher Superior Wrist Rest—P262A01

Item Number	Part Number	Quantity	Description
1	6086301	1	Mounting knob
2	60860PLS	1	Superior locking weldment
3	60786	1	Screw, socket head cap
4	60859PLS	1	Superior height adjustment weldment
5	46331	1	Height adjustment bar
6	49613PLS	1	Superior wrist rest weldment
7	9033820	1	Shoulder bolt
8	5701804H	1	Tri-lobular panhead screw
9	61549	1	Temporal adjustment knob

Surgical Stretcher Temporal Wrist Rest—P262A02

Figure 5-59. Surgical Stretcher Temporal Wrist Rest—P262A02



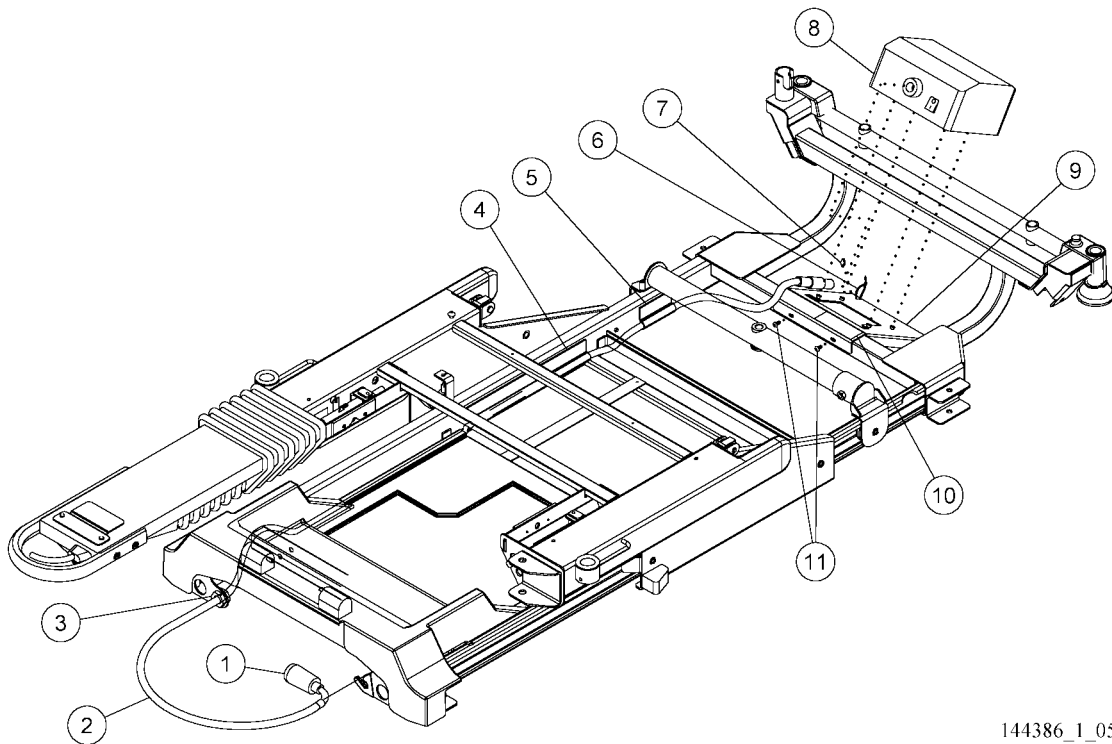
144386_1_068

Table 5-58. Surgical Stretcher Temporal Wrist Rest—P262A02

Item Number	Part Number	Quantity	Description
1	60861PLS	1	Temporal wrist mounting bar weldment
2	5701804	1	Tri-lobular screw
3	61549	1	Temporal adjustment knob
4	46331	1	Height adjustment bar
5	9033820	1	Shoulder screw
6	46186PLS	1	Small horseshoe wrist weldment

OB/GYN Stretcher Integrated Fiber Optic Exam Light—P7915AT

Figure 5-60. OB/GYN Stretcher Integrated Fiber Optic Exam Light—P7915AT



144386_1_053

Table 5-59. OB/GYN Stretcher Integrated Fiber Optic Exam Light—P7915AT

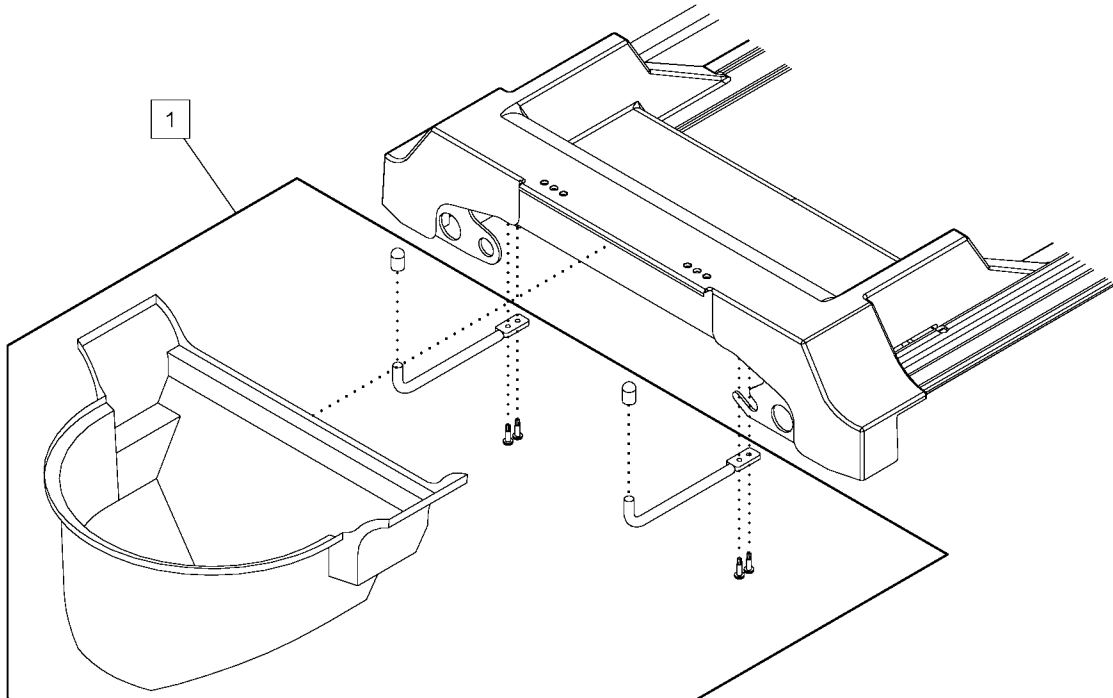
Item Number	Part Number	Quantity	Description
1	49042	1	Focusing sleeve
2	49003	1	Goose neck assembly
3	SA3618	As required	Loctite® ^a (blue #242)
4	4960701	1	Fiber optic shroud—long
5	4960702	1	Fiber optic cable shroud—short
6	19124	1	Large cable tie
7	62918	2	Vinyl dipped cap
8	49004	1	Illuminator box
9	6742448	1	Mounting plate, exam light
10	49033	1	Label wipe down
11	43878	2	Screw, Torx® ^b button head
Not shown	65051	1	Lamp
Not shown	17AZ100	1	Power cord

a. Loctite® is a registered trademark of Loctite Corporation.

b. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

OB/GYN Stretcher Placenta Basin—P265

Figure 5-61. OB/GYN Stretcher Placenta Basin—P265



144386_1_054

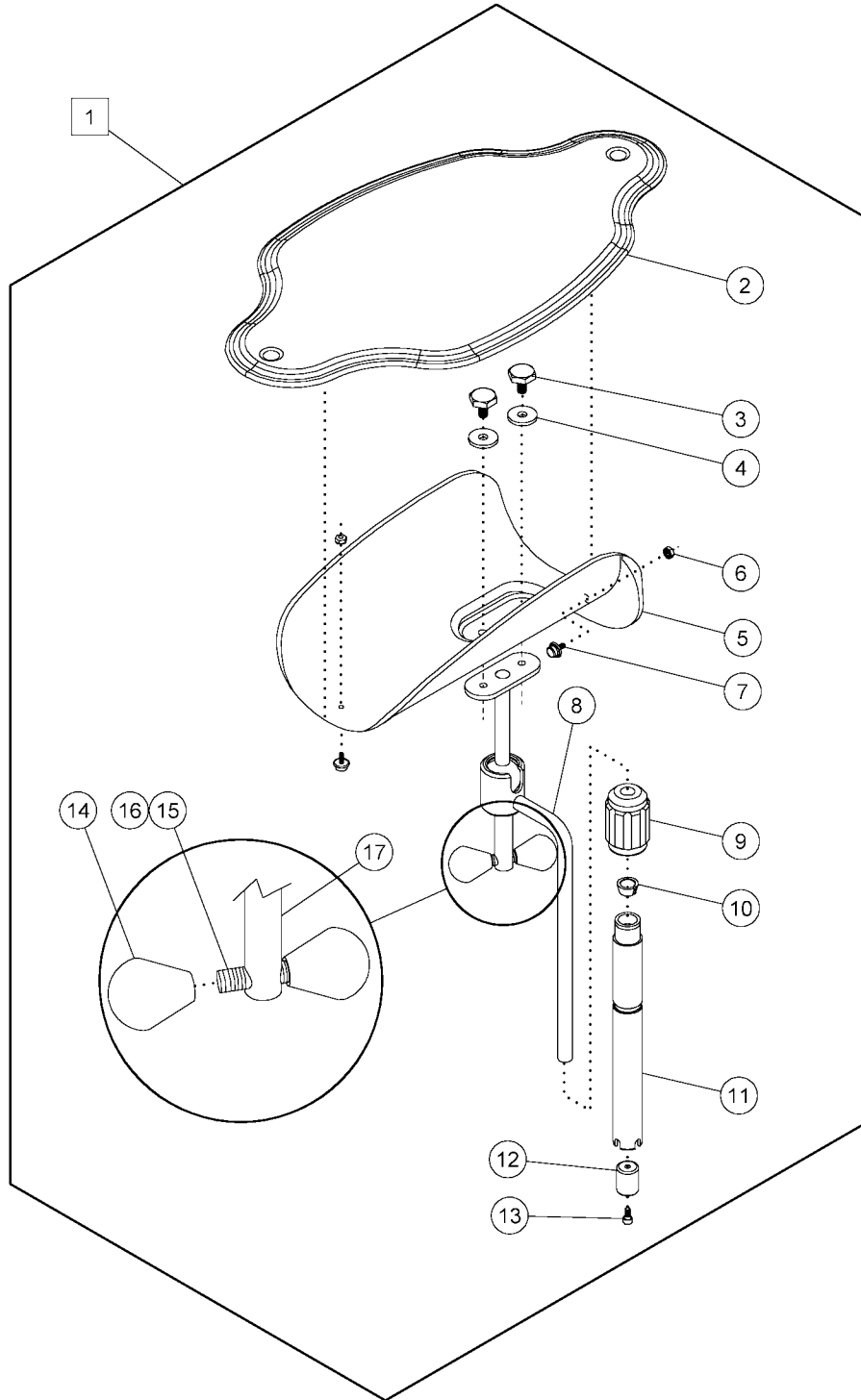
Table 5-60. OB/GYN Stretcher Placenta Basin—P265

Item Number	Part Number	Quantity	Description
1	P265	1	Placenta basin assembly

NOTES:

OB/GYN Stretcher Telescoping Calf Support—P35745AT

Figure 5-62. OB/GYN Stretcher Telescoping Calf Support—P35745AT



144386_1_071

Table 5-61. OB/GYN Stretcher Telescoping Calf Support—P35745AT

Item Number	Part Number	Quantity	Description
1	62914	2	Calf support assembly
2	41097	1	Cover assembly
3	19224	2	Bolt, hex head, 5/16-18 x 5/8
4	19918	2	Washer
5	4126048	1	Calf support shell
6	15250	2	Nut, hex lockwasher, #8-32
7	44768	2	Durable screw stud
8	60382	1	Calf support swivel weldment
9	3500201	1	Collet
10	35007	1	Ferrule
11	49682	1	Calf support tube weldment
12	49098	1	Calf support bushing
13	9026706	1	Cap screw, socket head, #10-24 x 3/8
14	37144	2	Knob
15	37146	1	Knob stud
16	SA4841	As required	Loctite® ^a (red #262)
17	37145	1	Lock stud

a. Loctite® is a registered trademark of Loctite Corporation.

Mattresses
Table 5-62. Mattresses

Part Number	Description
P1430ECS3	3" mattress, 26" wide (US)
P1430ECS4	4" mattress, 26" wide (US)
P1432ECS3	3" mattress, 30" wide (US)
P1432ECS4	4" mattress, 30" wide (US)
P1433ECS	5" mattress, 26" wide (US)
P1434ECS	5" mattress, 30" wide (US)
P1430IBU3	3" mattress, 26" wide (UK)
P1430IBU4	4" mattress, 26" wide (UK)
P1432IBU3	3" mattress, 30" wide (UK)
P1432IBU4	4" mattress, 30" wide (UK)
P1433IBU	5" mattress, 26" wide (UK)
P1434IBU	5" mattress, 30" wide (UK)
P1431ECCP	Surgical mattress with contoured head pad and head pad insert
P1431ECFP	Surgical mattress with flat head pad
P1435EC	OB/GYN mattress

Chapter 6

General Procedures

Cleaning and Care



SHOCK HAZARD:

Follow the product manufacturer's instructions. Failure to do so could cause personal injury or equipment damage.



SHOCK HAZARD:

The potential for electrical shock exists with electrical equipment. Failure to follow facility protocol could cause death or serious injury.



SHOCK HAZARD:

Unplug the stretcher from its power source. Failure to do so could cause personal injury or equipment damage.



SHOCK HAZARD:

Do not expose the stretcher to excessive moisture. Personal injury or equipment damage could occur.



CAUTION:

Do not use harsh cleansers, solvents, or detergents. Equipment damage could occur.



CAUTION:

Do not clean the mattress with high alkaline cleansers. To do so could cause the surface to deteriorate and the warranty to be voided.

General Cleaning

We recommend that you clean the stretcher with detergent and warm water. Do not use excessive liquid or harsh or high alkaline cleansers.

Steam Cleaning

Do not use any steam cleaning device on the stretcher. Excessive moisture can damage mechanisms in this stretcher.

Cleaning Hard to Clean Spots

To remove difficult spots or stains, we recommend that you use standard household cleansers and a soft bristle brush. To loosen heavy, dried-on soil, you may first need to saturate the spot.

Disinfecting

When there is visible soil and also between patient use, we recommend that you disinfect the stretcher with an EPA registered (US only), tuberculocidal disinfectant.

Dilute and use the disinfectant as specified on the manufacturer's label.

Spray Wash (Not applicable to Electric (P8020) Stretcher, OB/GYN (P8050) Stretcher with the optional exam light installed)

**CAUTION:**

Do not spray wash the Electric (P8020) Stretcher or the OB/GYN (P8050) Stretcher with the optional exam light installed. Electronic components are not protected from fluid ingress. Equipment damage could occur.

**CAUTION:**

Do not directly spray the hydraulic cylinders. Equipment damage could occur.

**CAUTION:**

Do not directly spray the scale components. Equipment damage could occur.

**CAUTION:**

Do not exceed 1750 psi (12066 kPa) during the spray wash. Equipment damage could occur.

The stretcher can be spray washed as necessary. Use a **maximum** nozzle pressure of 1750 psi (12066 kPa) at 24" (61 cm). **Do not** use a pencil point spray. The temperature of a spray wash that is water only should not be more than 180°F (82°C). The temperature of a spray wash that contains detergent or solvents (**no bleach**) should not be more than 120°F (50°C). **Do not** spray under the base shroud. After the spray wash, prepare and paint over any exposed or chipped steel parts or oxidized areas.

Mattress Draping (OB/GYN Stretcher)



CAUTION:

Mattress damage caused by incorrect draping and/or cleaning procedures is not covered by the warranty.



CAUTION:

Standard OB packs and paper drapes will not keep the sheets dry. Mattress damage could occur.

Correct draping procedures are necessary to help to prevent damage to the mattress. Drapes must be fluid repellent. The full size labor and delivery drape sufficiently covers the lower three-quarters of the bedding throughout labor. Put additional pads or towels under the patient so fluid does not reach the edges of the drape. This keeps the sheets clean and dry and helps prevent fluid exposure to the mattress.

Mattress materials that are soaked and scrubbed repeatedly have accelerated wear and eventually destroyed mattress seals, which cause fluids to leak into the cushions.

Component Handling (Electric Stretcher and Stretchers with the Scale Option)



CAUTION:

To prevent component damage, make sure your hands are clean, and **only** handle the P.C. board by its edges.



CAUTION:

Failure to wear an antistatic strap when handling electronic components could cause component damage.



CAUTION:

For shipping and storage, put the removed P.C. board in an antistatic protective bag. Equipment damage can occur.

P.C. Boards

Be careful with a P.C. board when you service it, or these problems may occur:

- P.C. board damage
- Shortened P.C. board life
- Unit malfunctions

When you service a P.C. board, do as follows:

- Make sure hands are clean and free of moisture, oily liquids, etc.
- **Only** touch a P.C. board by its outer edges.
- Do not touch the P.C. board components. Finger contact with the board surface and/or with its components can leave a deposit that will cause board (and component) deterioration.
- When you work with electronics, wear an applicable antistatic strap, and make sure it is correctly grounded.
- Service the removed P.C. board at a static-free workstation that is correctly grounded.
- For shipping and storage, put the removed P.C. board in an antistatic protective bag.

Preventive Maintenance



WARNING:

Only facility-authorized persons should service Hill-Rom® Stretchers. Service by unauthorized persons could cause personal injury or equipment damage.

It is necessary for Hill-Rom® Stretchers to have an effective maintenance program. We recommend that you do annual preventive maintenance (PM) and testing for Joint Commission on Accreditation of Healthcare Organizations (JCAHO). PM and testing not only meet JCAHO requirements but will help to make sure of a long, operative life for Hill-Rom® Stretchers. PM will minimize downtime due to excessive wear.

The PM schedule that follows guides you through a normal PM procedure on Hill-Rom® Stretchers. During this PM process, examine each item on the schedule, and make the necessary adjustments.

Follow the PM schedule with the corresponding PM checklist. This checklist is designed to keep a running maintenance history and subsequent repair costs for one Hill-Rom® Stretcher. However, your facility can modify this checklist or design another to fit your needs. Two effective ways to reduce downtime and make sure the patient remains comfortable are to keep close records and maintain the stretcher.

Preventive Maintenance Schedule

Table 6-1. Preventive Maintenance Schedule

Function	Procedure
All Stretchers	
Overall condition, frame and welded assemblies	<p>Do a check for the overall condition of the bed.</p> <p>Make sure the structure and welded assemblies are in good condition—no dents, twisted parts, corrosion, or loose or missing hardware (such as screws, nuts, bolts, E-clips, etc.).</p> <p>Observe the symmetry of the bed and examine that the bed frame and base are not twisted. Do any necessary repairs or paint retouches.</p> <p>Make sure all labels are installed and can be read.</p> <p>Do any necessary repairs or paint retouches, replace parts if necessary.</p> <p>Check for lose or missing hardware, replace or adjust as necessary.</p>
Casters	<p>Check for cuts, wear and quality of the tread, etc.</p> <p>Replace if necessary.</p>

Function	Procedure
Brake and steer function	<p>Apply the brake, and make sure the stretcher does not move. If there is movement, look at the brake components for wear.</p> <p>Apply the steer, and make sure the stretcher steers correctly. Look at the steer components for wear.</p> <p>Put the stretcher in neutral. Make sure all four casters rotate and roll freely.</p> <p>Adjust or replace components if necessary.</p>
Steering Plus™ Steering System	<p>Inspect for proper operation and tracking.</p> <p>Using a 6" straight edge, check to see if the three linkage mechanism pivots are slightly over center when steering is engaged. Check for any interferences.</p> <p>With the brake set, check for 3 ½" (89 mm) clearance between the floor and the Steering Plus™ Steering System wheel.</p>
Pedals	<p>Look for wear or missing pads.</p> <p>Repair or replace if necessary</p>
Pump pedal	<p>Inspect the pump pedals. Also check for any linkage interferences. Repair or replace if necessary</p>
Trendelenburg/Reverse Trendelenburg	<p>Activate the Trendelenburg and Reverse Trendelenburg. Inspect for proper operation.</p>
Hilow	<p>Test the pump action of the stretcher. It should not exceed 28 pumps to achieve maximum height.</p> <p>Test the smoothness of lowering.</p>
Hydraulics	<p>Look around the hydraulic cylinders and make sure there are no oil leaks.</p> <p>Repair or replace components if necessary.</p>

Function	Procedure
Siderails	<p>Make sure the siderails are not bent or twisted.</p> <p>Make sure the latch mechanism operates correctly. You must hear an audible click when the siderail is raised to the up position.</p> <p>Check for loose or missing hardware. Tighten or replace as necessary.</p> <p>Repair or replace if necessary.</p>
Sleep deck	<p>Fully raise and lower the head and, if an Electric Stretcher, knee sections.</p> <p>If the stretcher has manual cranks, make sure they operate correctly.</p> <p>Repair or replace components if necessary.</p>
Knee screw assembly	<p>Inspect for proper operation and lubrication.</p>
Pivot points	<p>Lubricate all pivot points on the stretcher.</p>
Back section gas spring	<p>Make sure that the locknut on the shoulder bolt at the upper frame interface is installed flush and fully seated with the mating part.</p> <p>At its highest position, inspect the gas spring rod for scratches, nicks, or dents.</p> <p>Inspect the gas spring jam nut to make sure it is flush and fully seated.</p>
Articulating headrest gas spring	<p>Make sure that the retaining ring is fully seated in the groove of the attachment headed pin.</p> <p>At its highest position, inspect the gas spring rod for scratches, nicks, or dents.</p> <p>Inspect the gas spring jam nut to make sure it is flush and fully seated.</p>
Push handles	<p>Inspect for proper up/down operation and latching.</p> <p>Inspect the shoulder bolts. Tighten until the shoulder is fully seated, if required.</p> <p>Lubricate pivots, if required.</p>
Thigh section manual crank	<p>Inspect for proper operation and lubrication.</p>

Function	Procedure
Cassette lift mechanism	<p>Pull the handle and rotate 180°. Check to see that the cassette support surface is raising and lowering properly without binding.</p> <p>Check for proper spring tension in the handle.</p>
Automatic Contour	<p>Make sure the knee section rises up to mid-height when the head section is raised from the low position, and that it lowers automatically when the head section lowers and the head section reaches the low position.</p> <p>Replace or repair as necessary.</p>
Mattress inspection	<p>Inspect the ticking for punctures or any other type of compromise.</p> <p>Inspect the interior of the mattress for any contaminants.</p> <p>For a PrimeAire® ARS Pressure Redistribution Mattress, refer to the <i>PrimeAire® ARS Pressure Redistribution Mattress User Manual (USR137)</i> for calibration and inspection details.</p>
Scale Control	<p>Replace the scale control batteries.</p> <p>Put different amounts of weight on the stretcher. With each weight change, make sure the scale display shows the correct weight.</p> <p>Replace parts as necessary.</p>
Active Brake	<p>Examine the handle, cable, and hardware. Replace parts as necessary. Adjust the brake cable. Make sure the brake operates correctly.</p>
Electric Stretchers	
CPR release	<p>Inspect the handles, cables and CPR mechanism on the head motor.</p> <p>Raise the head section to the high position, then activate one of the CPR releases. Make sure the head section lowers. Adjust the CPR cable as necessary. Do the same tests on the other side of the stretcher.</p> <p>Check for wear on the lock hub. Replace if worn.</p> <p>Check to see that the hex nuts on the CPR cable and the shoulder screw on the CPR handle are tight.</p>
Wiring harness	<p>Inspect for nicks, cuts, and breaks.</p>

Function	Procedure
Motor mounts	Inspect for cracks in weldments.
AC power cord	<p>Examine the plug for damage. Make sure the plug is a one-piece molded plug assembly. If it is not, replace the plug cord assembly. Replace any plug cord assembly that shows any of these:</p> <ul style="list-style-type: none"> • Discoloration of the plug molding around the plug blades; this could occur if the plug blades have overheated or arced. • Any signs of cracking; this could occur if the plug has been bent and straightened to a point past its useful life. • Loose fit of the plug blade (the plug blade moves in the molding); this could occur if the molding has overheated or the blades have been bent and straightened to a point past their useful life. <p>Replace the power cord, if damaged.</p>
Nurse controls	<p>Test all the bed function switches on the nurse control panel for proper operation and function.</p> <p>Check for the head section to raise max 90° using the nurse control.</p>
Patient controls (both siderails)	<p>Test all the bed function switches on the patient control panel for proper operation and function.</p> <p>Check for the head section to raise max 65° using the patient control.</p>
Back section manual crank	Inspect for proper operation and lubrication.

Function	Procedure
Leakage current	<p>Unplug the stretcher from its power source.</p> <p>Connect the stretcher to the safety tester and connect this device to the power outlet.</p> <p>Check that the stretcher is correctly supplied by the test device: control unit LEDs lit (unlock the functions if necessary).</p> <p>Measure the leakage current measures without operating any function.</p> <p>The value must be less than 100 μA.</p> <p>Check the AC power cable and power supply unit if the value is outside of the specifications (0.2 Ohms).</p> <p>Replace the AC power cable or power supply unit if necessary.</p> <p>Assign an inspection sticker to the stretcher.</p>
Control board mounts	Make sure the board mounts are secure and in place.
OB/GYN Stretchers	
Store-away foot section	<p>Inspect for proper operation and latching after removal, and storage.</p> <p>Inspect the foot section latch/release mechanism for proper operation.</p>
Gliding litter	<p>Inspect for proper slide engagement of the carriage along the upper frame.</p> <p>Inspect the foot support release handles for proper operation.</p> <p>Verify that the carriage locks in both the exam and procedural positions.</p>
Integrated fiber optic exam light	<p>Inspect the power cord for nicks, cuts, and breaks.</p> <p>Check the gooseneck for proper positioning and stability.</p> <p>Check the fiber optic light for proper illumination.</p>

Function	Procedure
Telescoping calf supports	Check the tightening/release mechanism for proper operation. Verify free rotation to make sure that there is no binding. Verify when the grip is rotated to the right, the ball joint is tightened. Repair or replace as required.
Foot support gas spring	Perform the following: Make sure the locknuts on the shoulder bolts at the foot rest weldment interface are installed flush and fully seated with the mating part.
Patient grip handles	Inspect for cuts, wear, etc. Replace if necessary.
Accessories	Check the proper operation of any accessories installed on the bed. Replace any missing or damaged parts.

Preventive Maintenance Checklist

Table 6-2. Preventive Maintenance Checklist

Date												Function
Hill-Rom, Inc.	Manufacturer											Overall condition
												Casters
												Brake and Steer
												Steering Plus™ Steering System
												Pedals
												Pump pedals
												Trend/Rev Trend
	Model Number											Hilow
												Hydraulics
												Siderails
												Sleep deck
												Knee screw
												Pivot points
												Back section gas springs
												Articulating headrest
												Push handles
	Serial Number											Trendelenburg
												Thigh section manual crank
												Cassette lift mechanism
												Automatic Contour
												Mattress
												Scale control
												Active Brake
Total Cost for This Page												Labor Time:
												Repair Cost:
												Inspected By:
										Remarks:	Legend L=Lube C=Clean A=A dust R=Repair or Replace O=Okay N=Not Applicable	



Table 6-2. Preventive Maintenance Checklist

Date																		Function
Hill-Rom, Inc.	Manufacturer																	CPR release
																		Wiring harness
																		Motor mounts
																		Power cord
																		Nurse controls
																		Patient controls
																		Back section manual crank
	Model Number																	Leakage current
																		Control board mounts
																		OB/GYN stretcher foot section
																		OB/GYN gliding litter
																		OB/GYN exam light
																		OB/GYN calf supports
																		OB/GYN foot support gas spring
	Serial Number																	OB/GYN grip handles
																		Accessories
Total Cost for This Page																		Labor Time:
																		Repair Cost:
																		Inspected By:
																		Legend I=Lube C=Clean A=Adjust R=Repair or Replace O=Okay N=Not Applicable Remarks:

Chapter 7

Accessories

Stretcher Accessories

Table 7-1. Accessories List

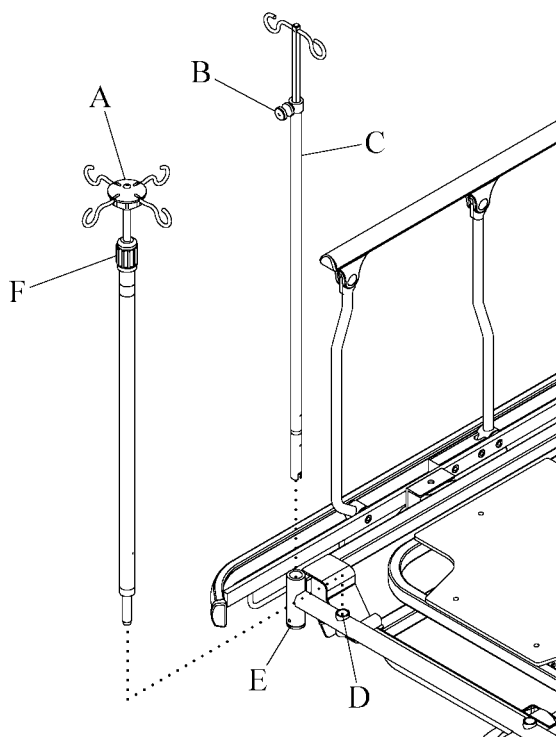
Product Number	Description
P158	ISS transfer pole
P2217	IV pole
P490	Patient tray
P4120CT	Footboard
P350CT	Convertible footboard
P491	IV transporter
P27601	Oxygen tank holder (vertical)
P361	Chart holder
P349	Transport straps
P931BT	Siderail covers
P163	ISS socket adapter
P297B/01/02	Utility tray
P273	Liquid oxygen tank holder
P344CT	Armboard
P279AT	Upright chest cassette holder
P264	Lateral cassette holder
P347AT	Ankle stirrups
P261EC	PACU extender
P262A01	Superior wrist rest
P262A02	Temporal wrist rest
P263	Gas delivery system
P449	Head positioning strap
P265	Catch/fluid basin
P35745AT	Telescoping calf supports
P7915AT	Integrated fiber optic exam light

Product Number	Description
P929G1/2	Foot extender pad
P1425C	Pillow
P4120CT	Head/foot board
P364AT01/02	Paper roll dispenser
P27603	Horizontal oxygen tank holder
P27604	Bracket, oxygen tank holder (horizontal)

7.1 Infusion Support System (ISS) Transfer Pole (P158)

The ISS transfer pole (A) mounts in the sockets (D) located at each corner of the stretcher (see figure 7-1 on page 7-3). The ISS transfer pole can also be mounted in the IV socket by using the ISS socket adapter.

Figure 7-1. IV Pole and ISS Pole



144386_1_111

Installation

1. To extend the upper portion of the ISS pole (A), turn the black collar (F) counterclockwise, and manually raise the upper section of the pole.
2. Turning the black collar (F) clockwise until it stops to lock the pole in position.
3. To lower the ISS pole, hold the upper section of the pole, turn the black collar (F) counterclockwise, and manually lower the pole.

7.2 IV Pole (P2217)

The IV pole (C) mounts in any of the four IV sockets (E) located at each corner of the stretcher.

Installation

1. Put the IV pole (C) in one of the four IV sockets (E), and twist the IV pole clockwise to secure it in place.
2. Extend the IV pole (C) by pulling up on the upper section of the pole until it locks into position.

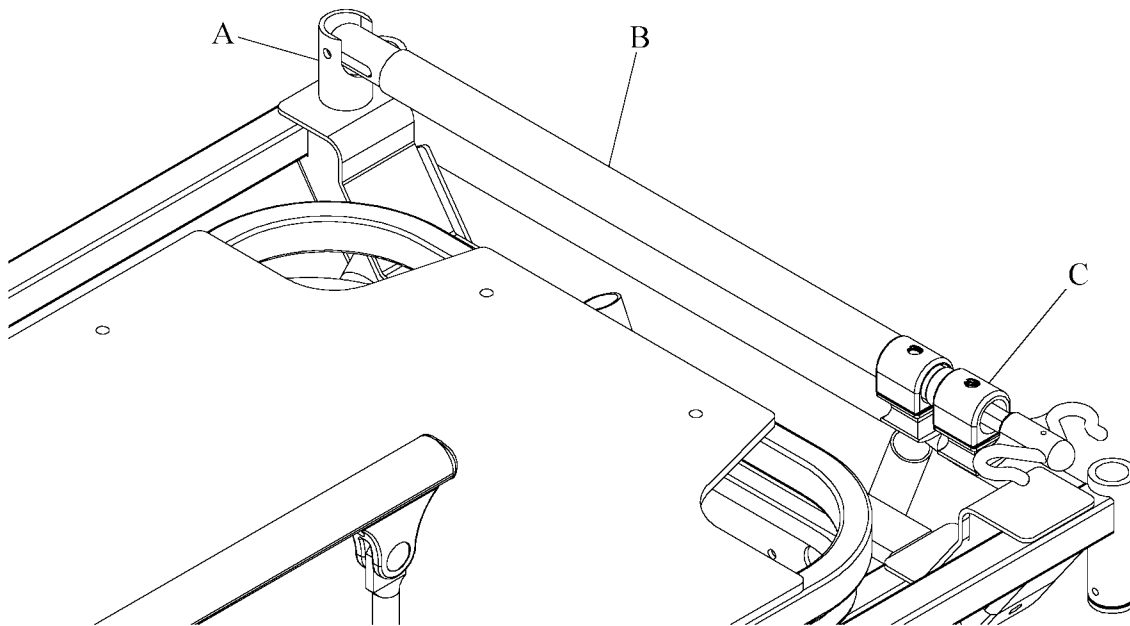
Removal

1. Release the IV pole (C) by pulling out on the release knob (B) and manually lowering the pole.
2. Twist the IV pole counterclockwise, and remove it from the IV socket (E).

7.3 Permanent IV Pole

The permanent IV pole mounts either at the head or foot end of the stretcher (see figure 7-2 on page 7-5).

Figure 7-2. Permanent IV Pole



144386_1_137

Raise

1. Hold the stored IV pole (B) and lift up.
2. Before you extend the pole, make sure the IV pole is securely positioned in its support bracket (A).
3. To extend the pole, hold the top section (C) of the pole, and raise it to one of the four positions available. The top middle section will click in place when the applicable position is reached.

Lower

1. While you pull on the release knob, manually lower the top and middle section of the IV pole until it is fully collapsed.
2. Once fully lowered, lift and lower the IV pole.
3. Store the IV pole on the pin located on the upper frame.

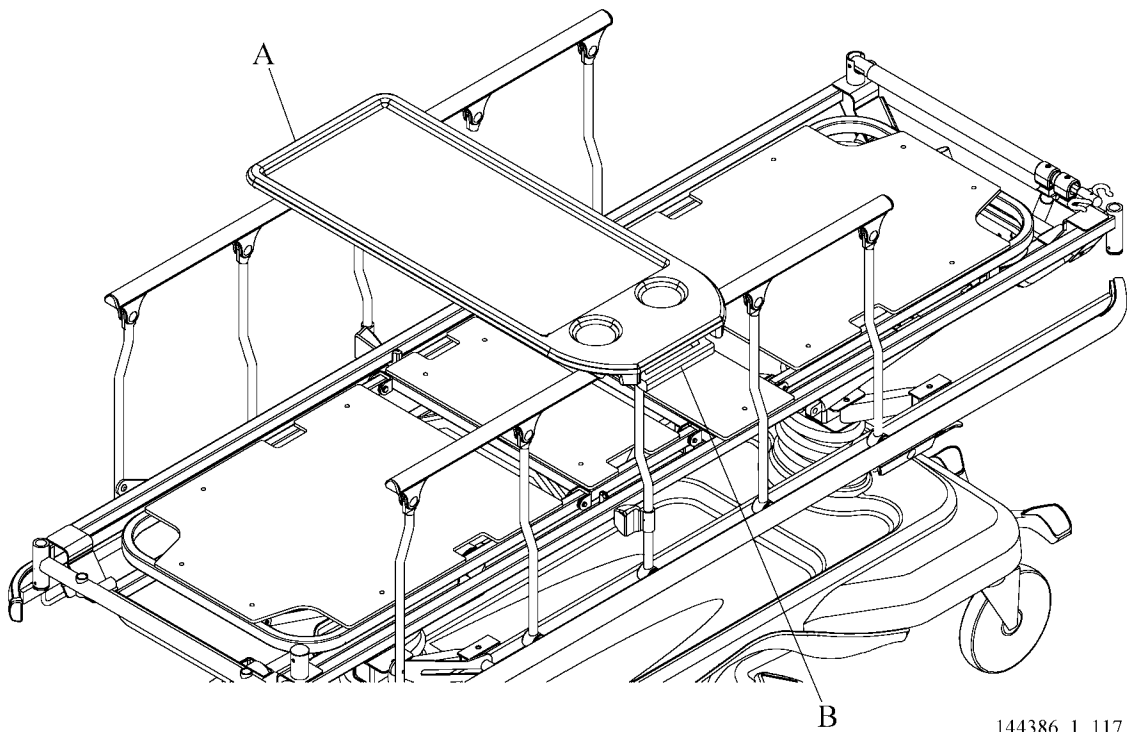
7.4 Patient Tray (P490)

The patient tray mounts on the top of the siderails when they are in the up and locked position. When correctly installed, the patient tray can support up to 45 pounds.

Installation

1. Put the siderails in the up and locked position (see figure 7-3 on page 7-6).

Figure 7-3. Patient Tray Installation



144386_1_117

2. Slide the stationary hook (A) end of the tray on to one of the siderail top rails.
3. Turn the handle end (B) of the tray down toward the other siderail until the handle snaps over the top of the siderail.

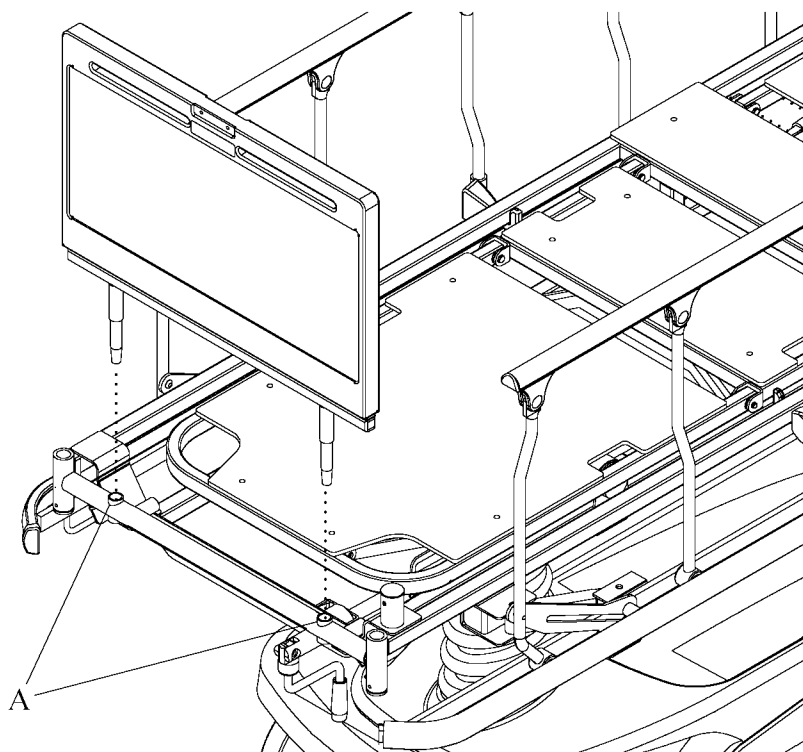
Removal

1. Pull up on the handle (B), releasing one side of the tray from the top of the siderail.
2. Lift the tray off of the siderails.

7.5 Footboard (P4120CTM07)

The footboard mounts in the ISS sockets located at the foot end of the stretcher (see figure 7-4 on page 7-7). The footboard can also be used as a stretcher extension.

Figure 7-4. Footboard



144386_1_118

Using the Footboard as a Stretcher Extender

Installation

The footboard can be used as a 15" (381 mm) stretcher extender.

1. Remove the footboard assembly from its mounting sockets.
2. Put the footboard in the horizontal position, and slide its mounting posts into the extender brackets (A) located under the sleep surface.
3. Push the footboard toward the head end until it is fully engaged.

Removal

Do installation steps 1 through 3 in reverse order.

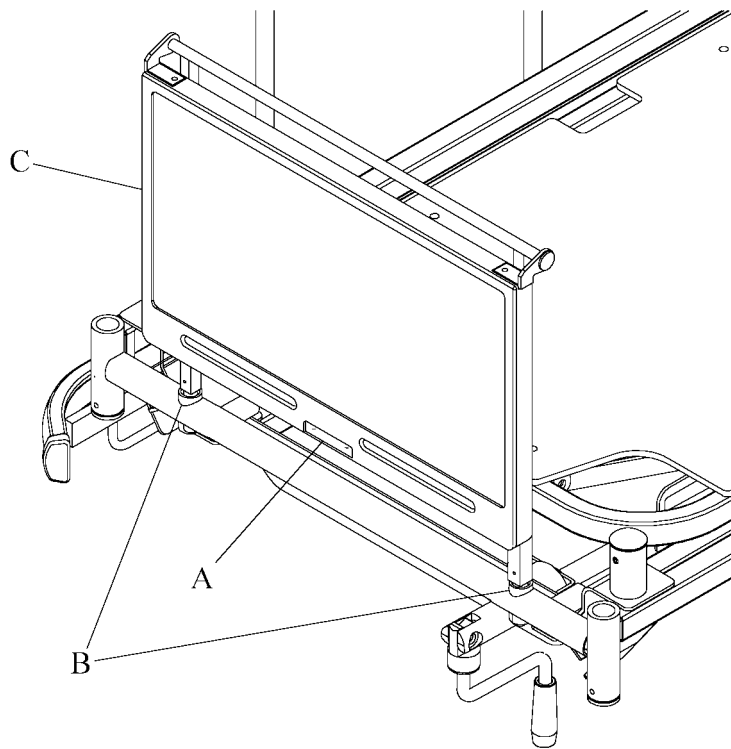
7.6 Convertible Footboard (P350CT)

The convertible footboard can be used as a footboard, a transport shelf, or as a 15" (381 mm) stretcher extender. When correctly installed, it can hold up to 45 lb (20 kg).

Installation as a Footboard

1. Put the convertible footboard (C) in the ISS mounting sockets (B) located at the foot end of the stretcher (see figure 7-5 on page 7-8).

Figure 7-5. Convertible Footboard



144386_1_116

Installation as a Transport Shelf/Charting Area



WARNING:

Before you put the footboard into the transport shelf position, remove the chart holder from the convertible footboard. Injury to the patient could occur.

2. Release the convertible footboard (C) by lifting up on the **Lift latch (A)** located on the lower center of the convertible footboard.

3. Hold the lower portion of the convertible footboard, and pivot up toward the head of the stretcher until the shelf is in a horizontal position.
4. Use the securing straps to tie down equipment during transport.

Store

1. Hold the top of the transport shelf and swing back toward the foot end of the stretcher.
2. Make sure the convertible footboard is securely locked by tugging gently on the shelf.

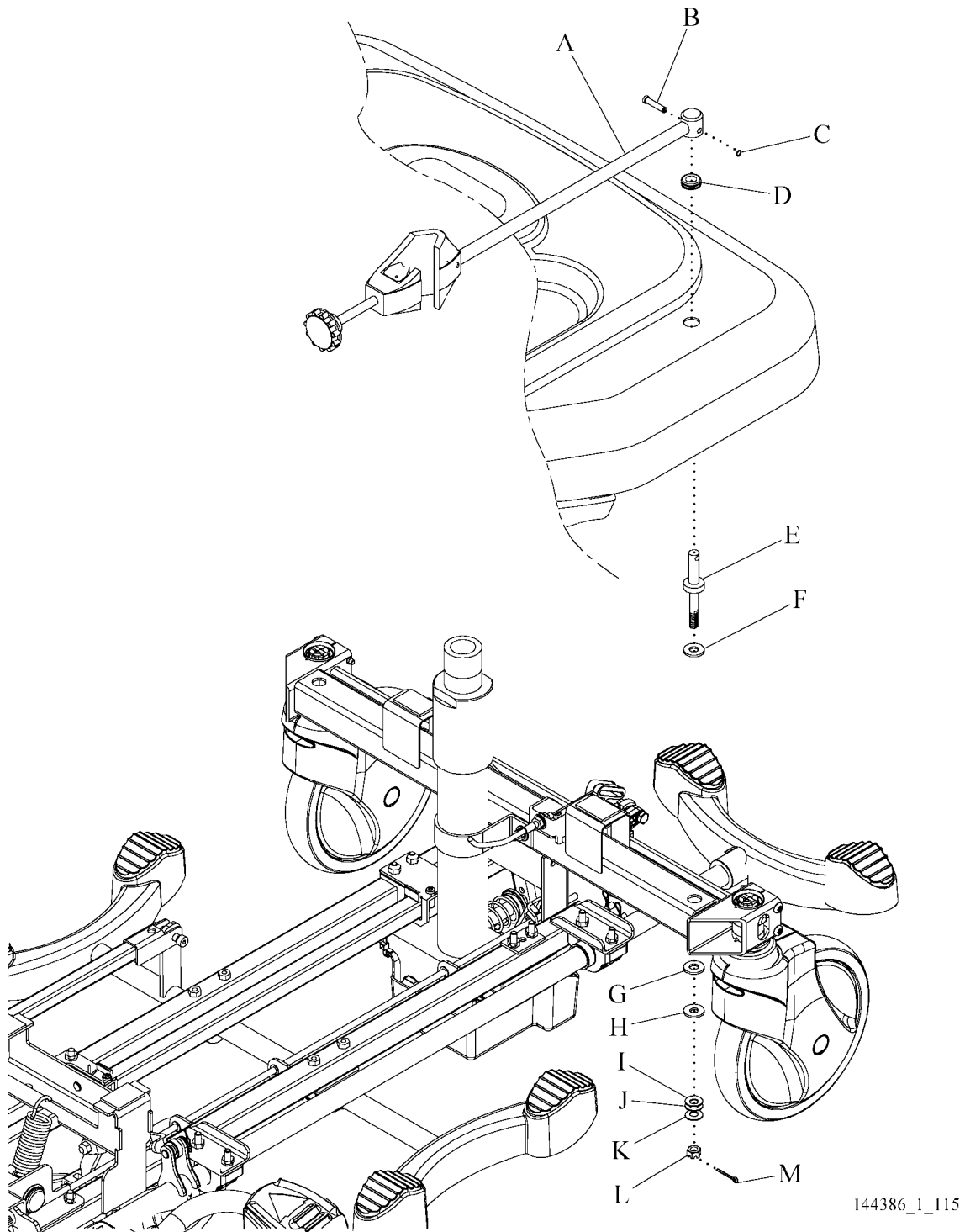
Installation as a Foot Extender

1. Remove the convertible footboard (C) from the ISS mounting sockets (B).
2. Put the convertible footboard in the horizontal position. Make sure the **Lift** latch (A) side of the convertible footboard is up, and the mounting posts are pointed toward the head end of the stretcher.
3. Slide the convertible footboard mounting posts into the extender brackets located under the sleep surface.
4. Push the convertible footboard toward the head end until it is fully engaged.

Removal

1. Pull the convertible footboard out of the extender brackets.
2. Swing back to a vertical position and mount into the ISS sockets (B).

Figure 7-6. IV Transporter Installation



7. Put one Oilite®¹ bushing (F) on the threaded end of the tow bar post weldment (E).
8. Install threaded end of tow bar post weldment (E) through the hole in the base frame.
9. Install one Oilite® bushing (G), D-washer (H), one belleville washer (I) (concave up), one belleville washer (J) (concave down), one belleville washer (K) (concave up), and castle nut (L) to secure the tow bar post weldment (E) to the base frame.
10. Tighten the castle nut (L) to 200 in-lb (22.6 N·m) of torque.
11. Swing the arm through a full range of motion. Make sure the tow arm does not make a squeaking noise. If you hear a squeaking noise, loosen the castle nut until the squeaking stops.
12. Install a portable IV pole into the transporter. Make sure the transporter arm stays in position when the stretcher is moved.
13. See if the slot in the castle nut (L) aligns with the hole in the tow bar post weldment (E). If the hole and slot do not line up, tighten or loosen the castle nut (L) just enough to align the slots.
14. Insert the cotter pin (M) through the castle nut (L) and the tow bar post weldment (E).
15. Bend the cotter pin (M) around the castle nut (L).
16. Put the tow arm assembly (A) over the tow bar post weldment (E), and insert the headed pin (B) through the tow arm assembly (A) and tow bar post weldment (E).
17. Install the retaining ring (C) to secure the headed pin (B).

1. Oilite® is a registered trademark of Beemer Precision, Incorporated.

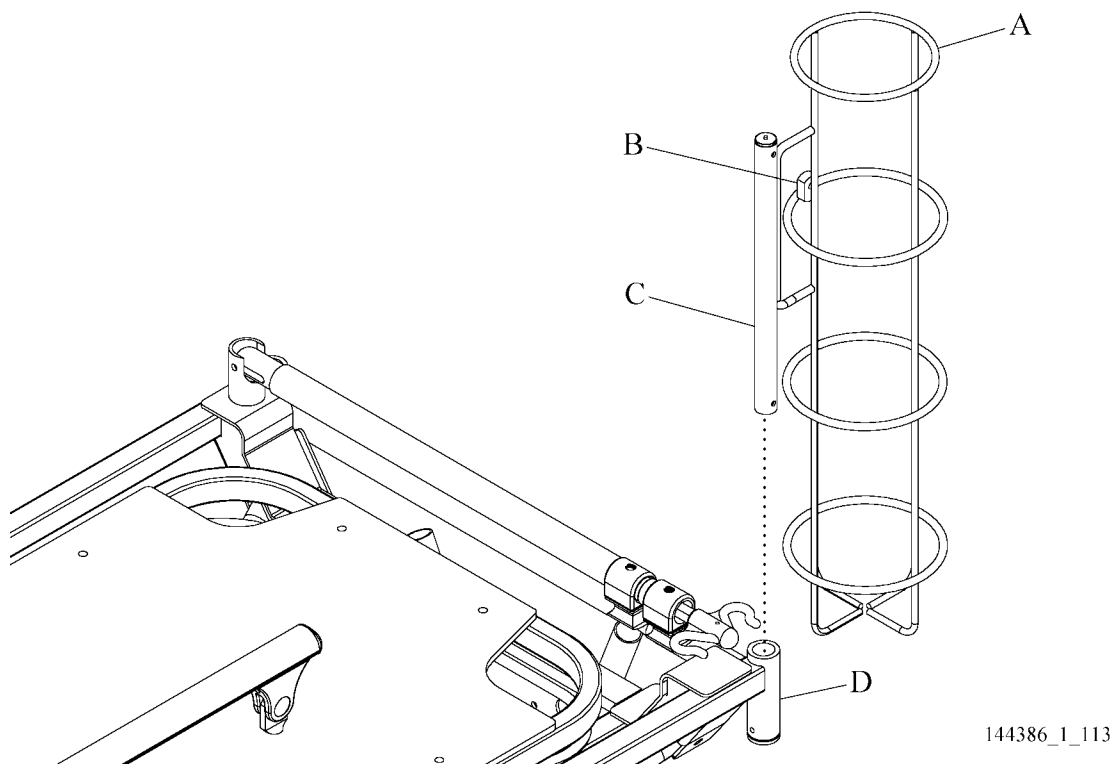
7.8 Oxygen Tank Holder (P27601)

The oxygen tank holder will hold an E size tank.

Installation

1. Put the oxygen tank holder's mounting bar (C) into one of the four IV sockets (D) located at all four corners of the stretcher (see figure 7-7 on page 7-13).

Figure 7-7. Oxygen Tank Holder



2. Put the oxygen tank in the oxygen tank holder (A).
3. Turn the thumbscrew (B) clockwise until it stops to hold the oxygen tank in the oxygen tank holder (A).

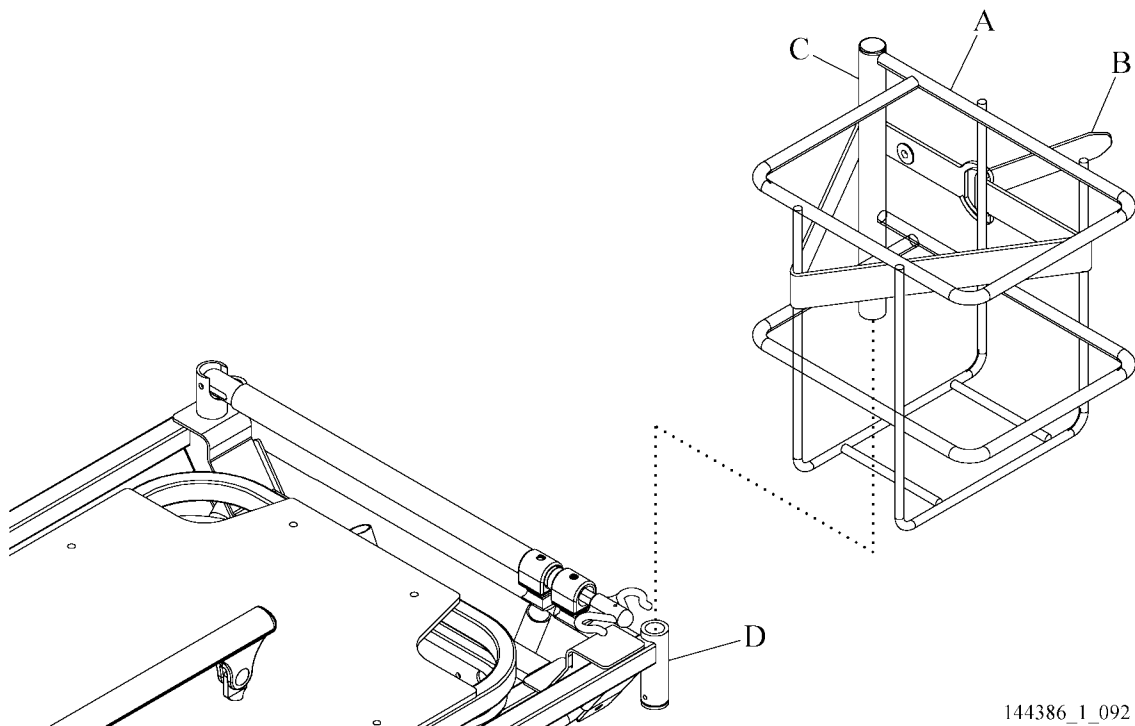
7.9 Liquid Oxygen Tank Holder (P273)

The liquid oxygen tank holder will hold a tank varying in different sizes in any one of the four IV sockets located at all four corners of the stretcher.

Installation

1. Put the liquid oxygen tank holder's mounting bar (C) into one of the four IV sockets (D) (see figure 7-8 on page 7-14).

Figure 7-8. Liquid Oxygen Tank Holder



144386_1_092

2. Put the oxygen tank in the liquid oxygen tank holder (A).
3. Tighten the Velcro®¹ strap (B) around the oxygen tank.

1. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

7.10 Push Handles

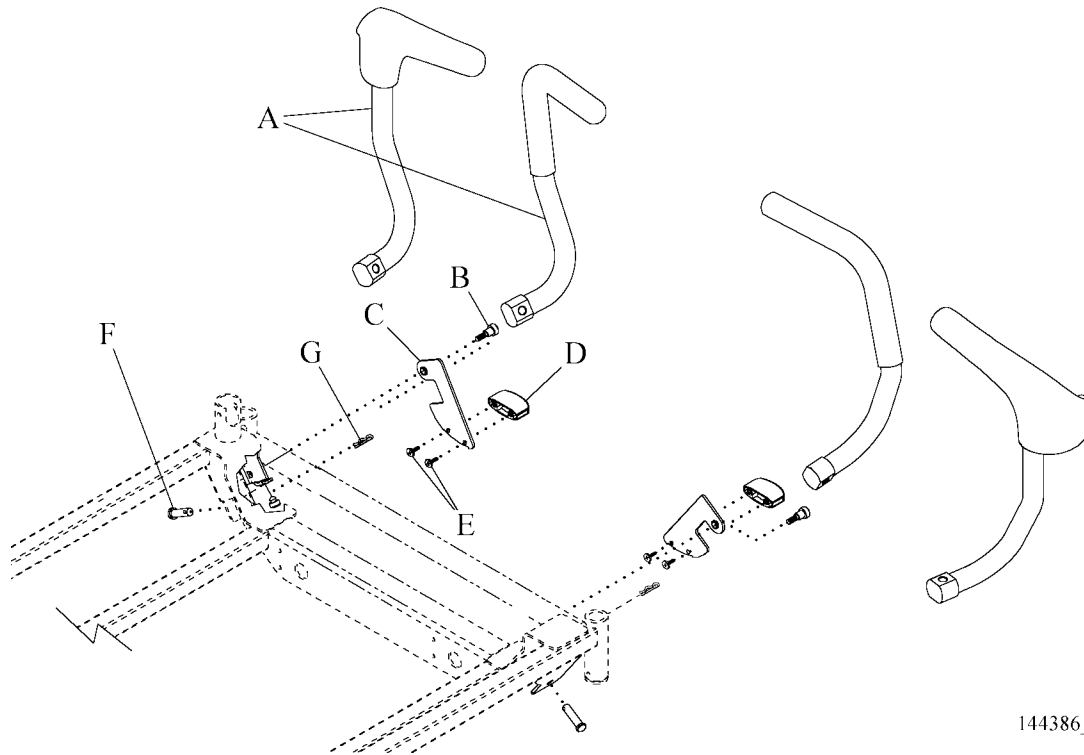
The push handles are located at the head end of the stretcher. They increase the caregiver's control over the stretcher during transport. The push handles fold down and out of the way when not in use.

Installation

Tools required: Ratchet 3/16" hex head bit
Torque wrench 0-250 in-lb (0 to 28.2 N•m)
Phillips head screwdriver

1. Install two screws (E) to secure the push release handle (D) to the right-hand push handle latch assembly (C) (see figure 7-9 on page 7-15).

Figure 7-9. Push Handle Installation



144386_1_096

2. Install the shoulder screw (B) through the right-hand push handle latch assembly (C) and into the upper frame.
3. Tighten the shoulder screw (B) to 100-140 in-lb (11.3-15.8 N•m) of torque.
4. Put the right push handle tube (A) in position on the upper frame and align the holes in the right push handle tube (A) with the holes in the bracket on the upper frame.

5. Install the clevis pin (F) and hitch pin (G) through the bracket on the upper frame and the right push handle tube (A).
6. Repeat steps 1 through 5 for the left-hand push handle.

7.11 Chart Holder (P361)

The chart holder mounts on the footboard or the convertible footboard.

Installation

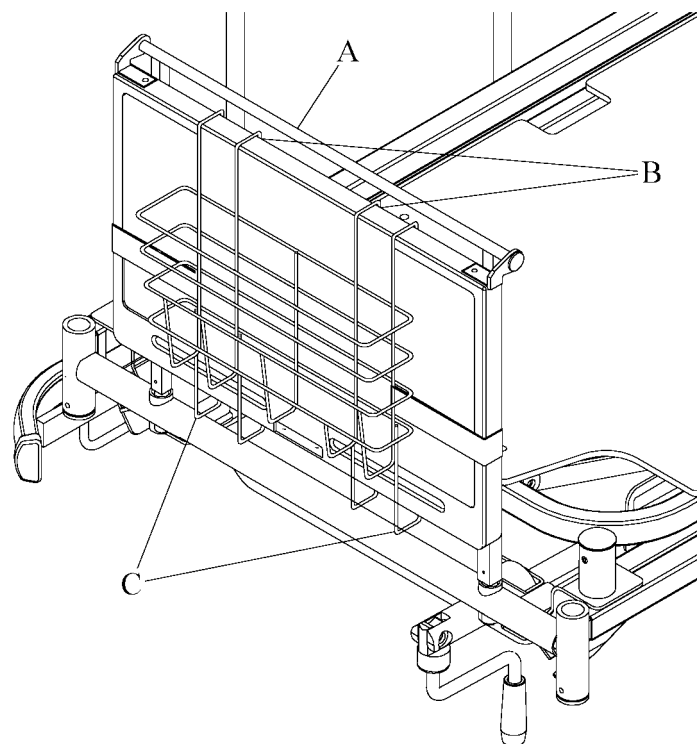


WARNING:

Before you put the footboard into the transport shelf position, remove the chart holder from the convertible footboard. Injury to the patient could occur.

1. Slide the bottom wire hooks (C) of the chart holder (D) under the bottom of the convertible footboard (A) and lift up (see figure 7-10 on page 7-17).

Figure 7-10. Chart Holder



144386_1_114

2. Slide the top wire hooks (B) of the chart holder over the top of the convertible footboard.
3. Push down to lock the chart holder into position.

Removal

Do installation steps 1 and 2 in reverse order.

7.12 Transport Straps (P349)

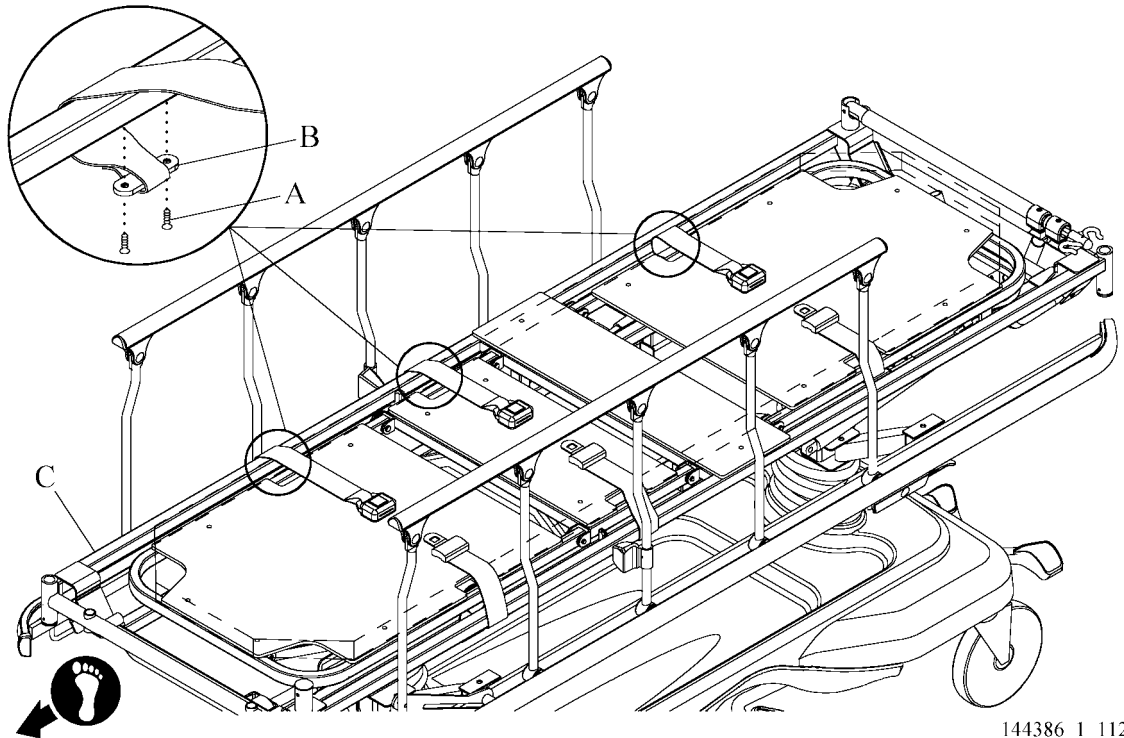
The stretcher has three transport strap attachment areas. They are located at the back, thigh, and foot sections. The straps store under the mattress when not in use.

Installation

Tools required: Phillips head screwdriver

1. Find the holes on the underside of the upper frame outside weldment (C) (see figure 7-11 on page 7-18).

Figure 7-11. Transport Straps



144386_1_112

2. Install the two screws (A) through the transport strap bracket (B) and into the holes in the upper frame using the phillips head screwdriver.
3. Repeat steps 1 and 2 for all remaining transport straps.

Removal

Do installation steps 1 through 3 in reverse order.

7.13 Utility Tray (P297A01/A02)

The Procedural Stretcher utility tray is used for the placement of items or books for the benefit of the patient.

Installation

1. Raise the head section to the high position.
2. Make sure the frame surface is clean and dry.
3. Remove the paper from the adhesive strips located on the bottom side of the utility tray.
4. Put the tray (A) against the flange (C) on the upper frame with the adhesive facing down and the weight restriction label (B) facing toward the head end of the stretcher (see figure 7-12 on page 7-20).

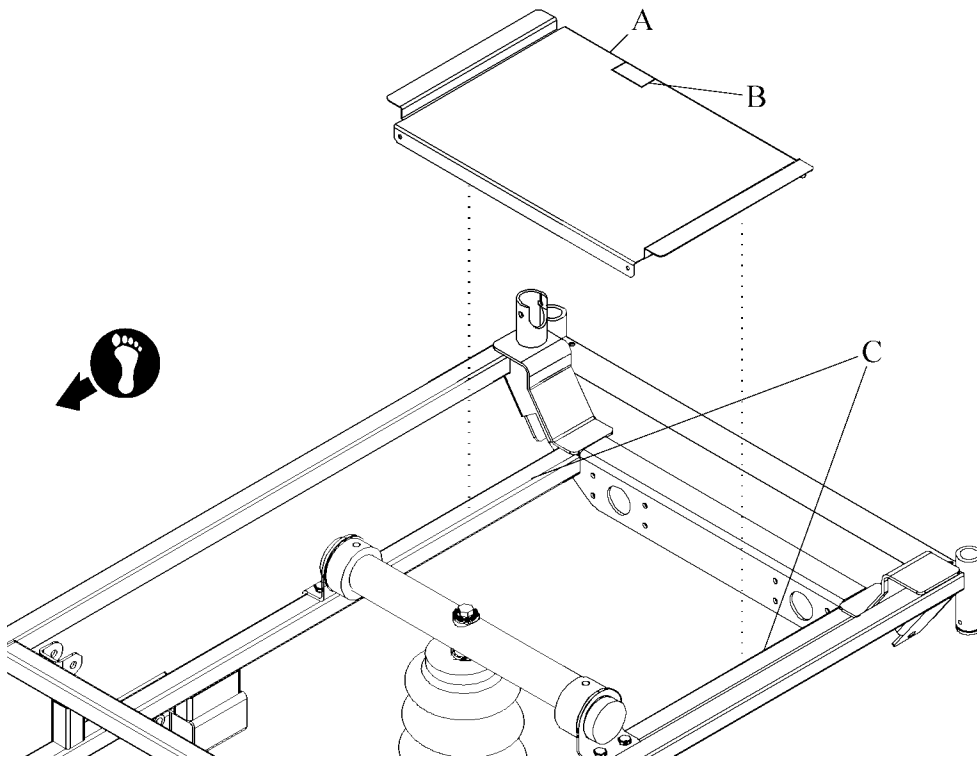
NOTE:

If the tray is not placed all the way to the head end, it may interfere with the Trendelenburg function of the stretcher.

Removal

Pull up on the tray with sufficient force to break the adhesive bond.

Figure 7-12. Utility Tray Installation



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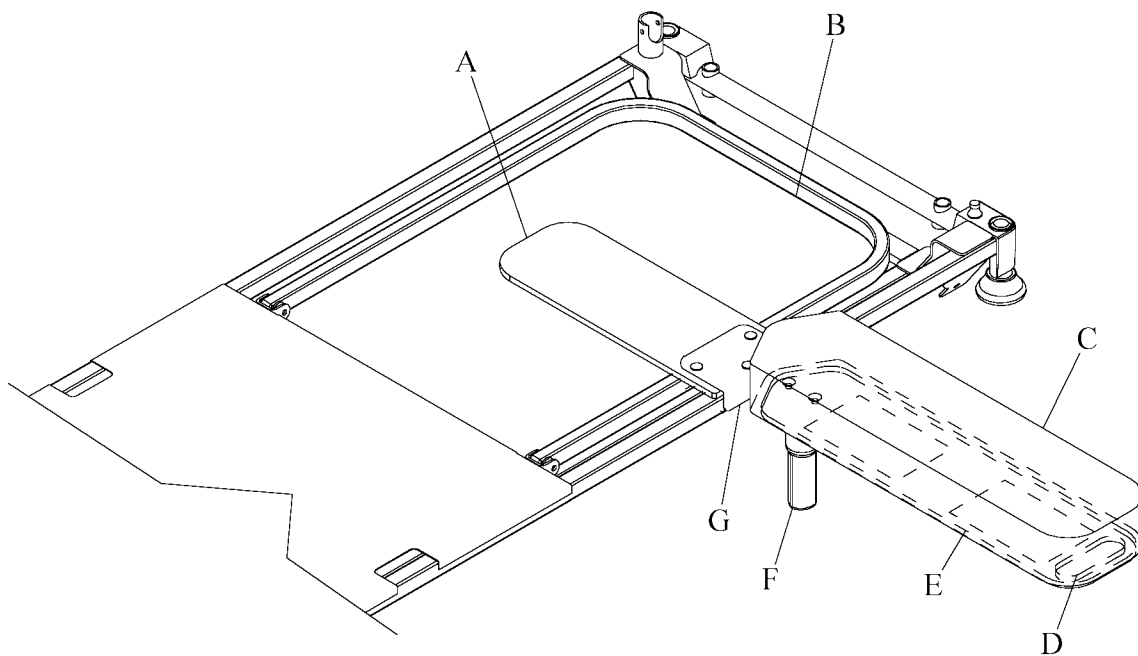
7.14 Armboard (P344BT)

The armboard is slid under the stretcher mattress while the patient occupies the stretcher and is used as a support for the patient's arm to rest on.

Installation

1. Slide the mattress pad (C) over the upper armboard panel (E) until the mattress pad fits the contour of the panel (see figure 7-13 on page 7-21).

Figure 7-13. Armboard



144386_1_093

2. Turn the upper armboard panel (E) 180° away from the lower armboard panel (A). And, turn the handle lock mechanism (F) in a clockwise direction tighten it (as shown on the mechanism housing).
3. Slide the lower armboard panel (A) between the stretcher mattress and the head panel (B) until the armboard stop tab (G) reaches the upper frame tube.
4. With the lower armboard panel (A) under the stretcher mattress, turn the handle lock mechanism (F) counterclockwise to loosen it (as shown on the mechanism housing).

5. Use the upper armboard panel slot cutout (D) as a handle to put the upper armboard panel (E) in the applicable angle.
6. Turn the handle lock mechanism (F) clockwise direction to tighten it (as shown on the mechanism housing).
7. To reposition the upper armboard panel (E), repeat step 4 through step 6 above.

7.15 Upright Chest Cassette Holder (P279AT)

The Trauma/OB/GYN Stretcher upright chest cassette holder attaches to the back section of the stretcher and allows for x-ray shots of the patient's chest/back. It will support a cassette with a maximum weight of 12 lb (5 kg).

Installation

Tools required:	Ratchet	T25 Torx® ¹ head bit
	Screwdriver	Phillips head screwdriver

1. Raise the head section to the high position.
2. Install the screws (A) that secure the slider bracket (B) to the head section weldment (C) (see figure 7-14 on page 7-24).
3. Adjust the ball plunger (D) in the slider bracket (B) until the ball is approximately 1/8" (3.2 mm) from the back section.

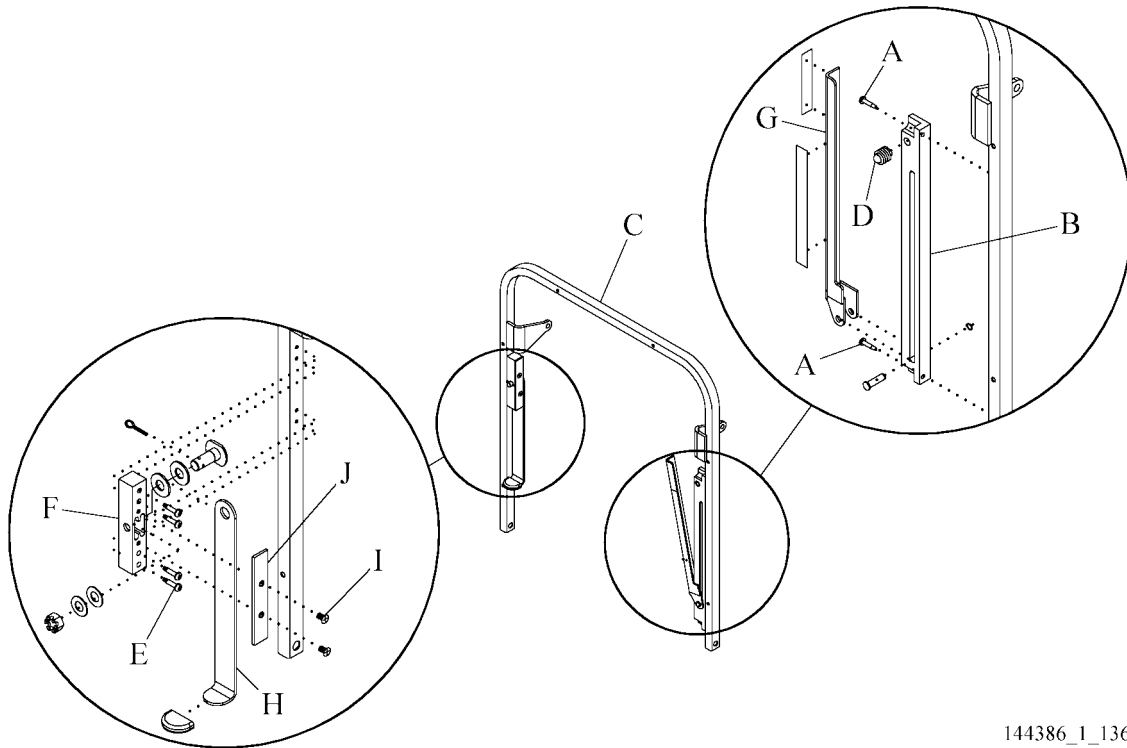
NOTE:

Make sure the ball plunger (D) supports the cassette support weldment (G) in the stored position with limited force being applied. Adjust the ball plunger (D) if necessary (see "Adjustment" on page 7-25).

4. Install the four screws (E) that secure the cassette keeper bracket (F) to the head section weldment (C).
5. Install the two screws (I) that secure the cover plate (J) to the cassette keeper bracket (F). The upright chest cassette holder is ready for use.

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Figure 7-14. Upright Chest Cassette Holder Assembly (New Style)



144386_1_136

6. Pull the cassette support weldment (G) down from the stored position.
7. Slightly lift up on the cassette support weldment (G) to change position along the slider bracket (F).
8. Put the cassette on the cassette support weldment (G), and slide the cassette support weldment (G) and cassette up to the applicable position.
9. Turn the cassette keeper weldment (H) to hold the cassette against the back section.
10. Make sure the back section operates correctly and that the upright chest cassette holder assembly does not create an obstruction or restrict the movement of the back section.

Removal

Do the installation procedure in reverse order to remove the upright chest cassette holder assembly from the stretcher.

Adjustment

To adjust the ball plunger (D), do the following:

1. Turn the ball plunger (D) $\frac{1}{4}$ turn clockwise if the cassette support weldment is not held securely enough.
2. Test the ball plunger (D), and make sure it can support the cassette support weldment (G) in the stored position.
3. If necessary, again adjust the ball plunger (D) $\frac{1}{4}$ turn clockwise until it can support the cassette support weldment (G).

7.16 Lateral Cassette Holder (P264)

The Trauma Stretcher lateral cassette holder will rest on the longitudinal upper frame tube on the side of the stretcher. It allows for side view x-ray shots of the patient while on the stretcher. It will support a cassette with a maximum weight of 12 lb (5 kg).

Installation

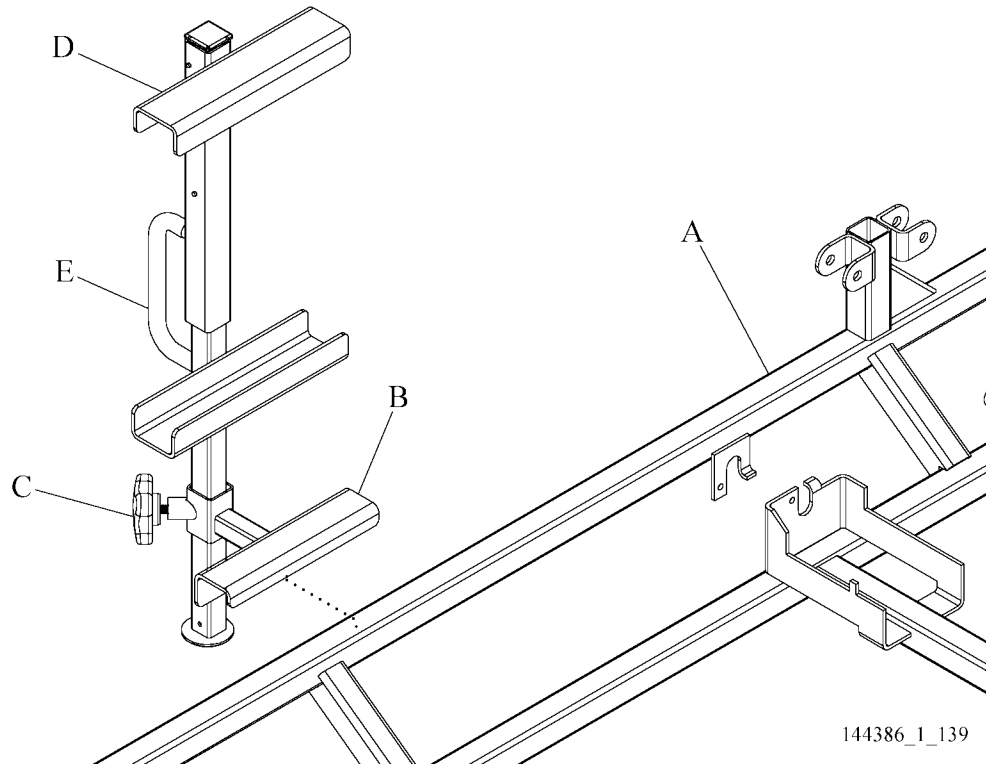
1. Put the siderails down and in the stored position.

NOTE:

The siderail is not usable when the lateral cassette holder is in position.

2. Hold the handle (E), and put the lateral cassette holder (B) in its position on the longitudinal upper frame tube (A) (see figure 7-15 on page 7-26).

Figure 7-15. Lateral Cassette Holder



144386_1_139

3. Raise the upper portion of the lateral cassette holder (D) enough to put the cassette in. Put the cassette on the lateral cassette holder, and adjust the height if needed using the adjustment knob (C). If necessary, use the handle (E) to change the location of the lateral cassette holder.

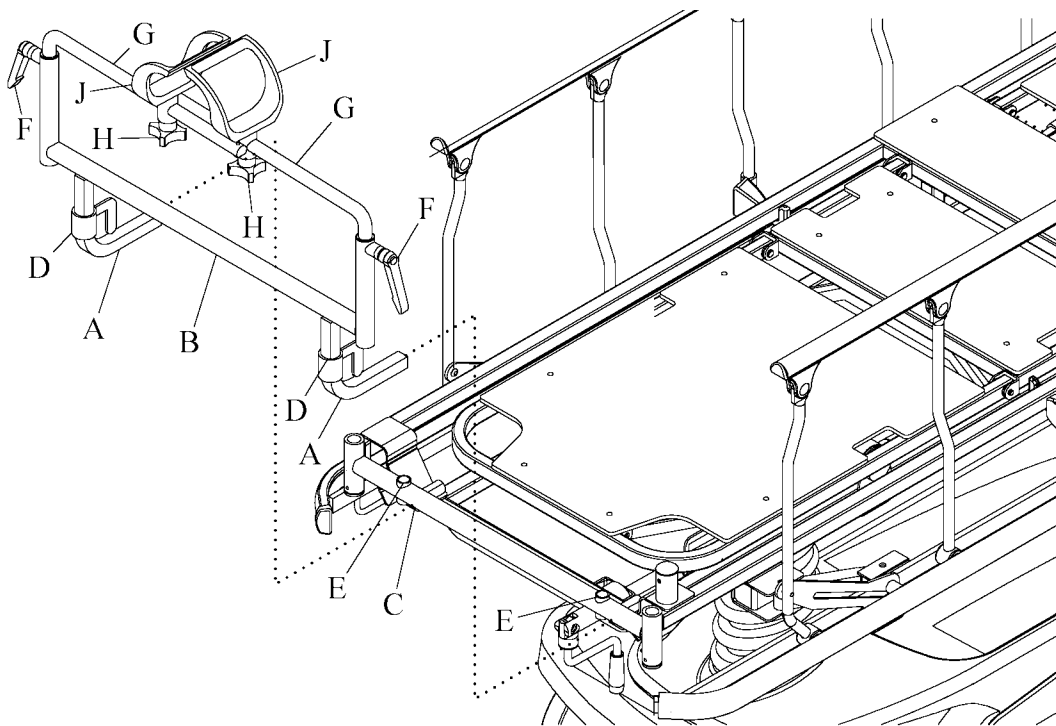
7.17 Ankle Stirrups (P347AT)

The ankle stirrups will attach to the foot end of the stretcher (that has the square mounting brackets) for use during gynecological exams.

Installation

1. Put the mounting posts (A) of the ankle stirrup assembly (B) against the extender brackets (C) located under the stretcher's sleep surface at the foot section (see figure 7-16 on page 7-27).

Figure 7-16. Ankle Stirrups Installation



144386_1_102

2. Hold the locking tabs (D) up, and slide the mounting posts (A) into the extender brackets (C).
3. Push the ankle stirrup assembly (B) against the foot section until the locking tabs (D) can be inserted into the mounting sockets (E).
4. Put the locking tabs (D) into the mounting sockets (E).
5. Do these steps to adjust the ankle stirrups:

- a. Turn either handle (F) counterclockwise to loosen it, and then turn the support bar (G) to the applicable angle.
- b. Turn the handle (F) clockwise to tighten it.
- c. Turn the thumb knob (H) counterclockwise to loosen it, and then move the stirrup weldment (J) to the applicable location along the support bar (G).
- d. Turn the thumb knob (H) clockwise to tighten it.
- e. If it is necessary to adjust the support bar (G) angle, repeat step a and step b.
- f. If it is necessary to adjust the stirrup weldment (J) position, repeat step c and step d.
- g. Repeat step a through step f for the other stirrup.

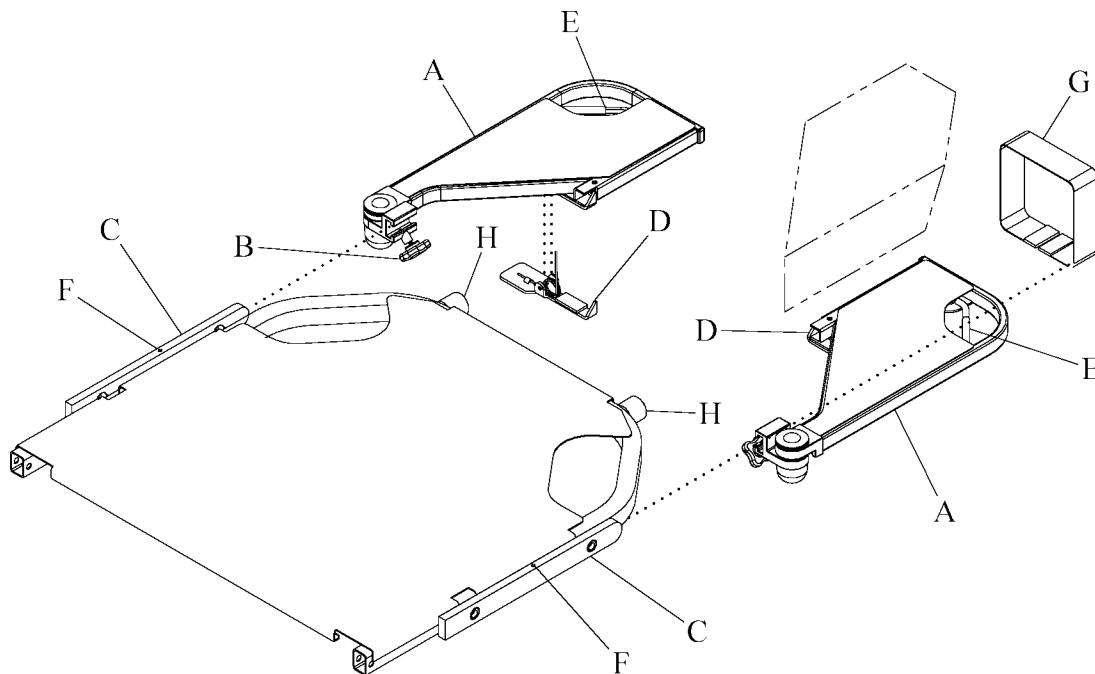
7.18 PACU Extender (P261)

The PACU Extenders attach to the surgical rail along the side of the back section. They can be positioned in the extender position (around the head section) or in the armboard position.

Installing the PACU Extender

1. Loosen the knob (B) on the PACU extender (A) (see figure 7-17 on page 7-29).

Figure 7-17. PACU Extender



144386_1_097

2. Slide the PACU extender (A) on the head end of the surgical rail (C) until it rests against the stop (F). Make sure you start from the head end of the surgical rail and slide towards the foot end.

NOTE:

The PACU extender is left and right-hand specific. Make sure the correct PACU extender is installed on the applicable side.

3. Tighten the knob (B) to secure the PACU extender (A) to the stretcher.

4. If it is not already in position, make sure the end of the release handle (D), located underneath the PACU extender (A), is latched to the back section (H) of the stretcher. If necessary, turn the PACU extender (A) until this is done.
5. If it is necessary to raise the back section of the stretcher while the PACU extender (A) is installed, squeeze the back section release handle (E) until the applicable position is reached, then release the handle.

NOTE:

Each PACU extender is equipped with a back section release handle located in the corner. The handle on either PACU extender will release the back section.

Using the PACU Extender as an Armboard



WARNING:

Do not put any other part of the body or any equipment on the PACU extender, or apply any unnecessary forces when it is in the armboard position. Damage to equipment and personal injury could occur.

1. If necessary, lower the siderail.
2. Push upward on the release handle (D) located underneath the PACU extender (A).
3. Turn the PACU extender (A) to the applicable armboard position.

NOTE:

Some force will be necessary to turn the PACU extender after the release handle has been released.

4. Put the patient's arm in position, and secure it with the Velcro®¹ strap (G).

Returning the PACU Extender from the Armboard Position to Extender

1. Remove the Velcro® strap (G) from the patient's arm.
2. Move the patient's arm off of the PACU extender (A).
3. Turn the PACU extender (A) until the release handle (D) is latched to the back section (H) of the stretcher.

1. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

7.19 Superior Wrist Rest (P262A01)

The superior wrist rest attaches to the top of the articulating headrest, and is used to support the caregiver's wrist during the procedure.

Installation

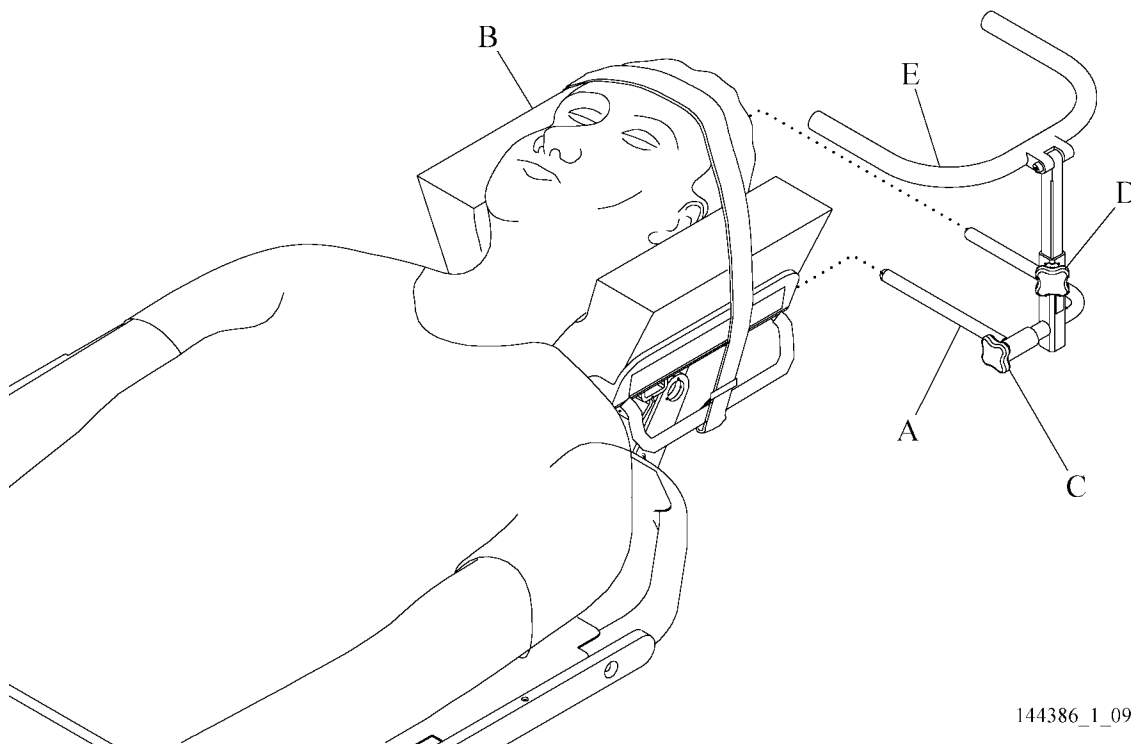


WARNING:

Do not transport the stretcher with the superior wrist rest installed. Remove the superior wrist rest before you transport the stretcher. Damage to equipment and personal injury could occur.

1. Slide the mounting bar (A) into the two slots on the head end of the head rest (B) (see figure 7-18 on page 7-31).

Figure 7-18. Superior Wrist Rest Installation



144386_1_098

2. Tighten the mounting knob (C).
3. Loosen the height adjustment knob (D).
4. Put the superior wrist rest (E) in a satisfactory position, and tighten the height adjustment knob (D).

NOTE:

The top of the superior wrist rest can be turned away from the patient for increased patient access when required.

Removal

1. Loosen the mounting knob (C).
2. Remove the superior wrist rest (E) from the headrest (B).

7.20 Temporal Wrist Rest (P262A02)

The temporal wrist rest attaches to either side of the articulating headrest, and is used to support the caregiver's wrist during the procedure.

Installation

**WARNING:**

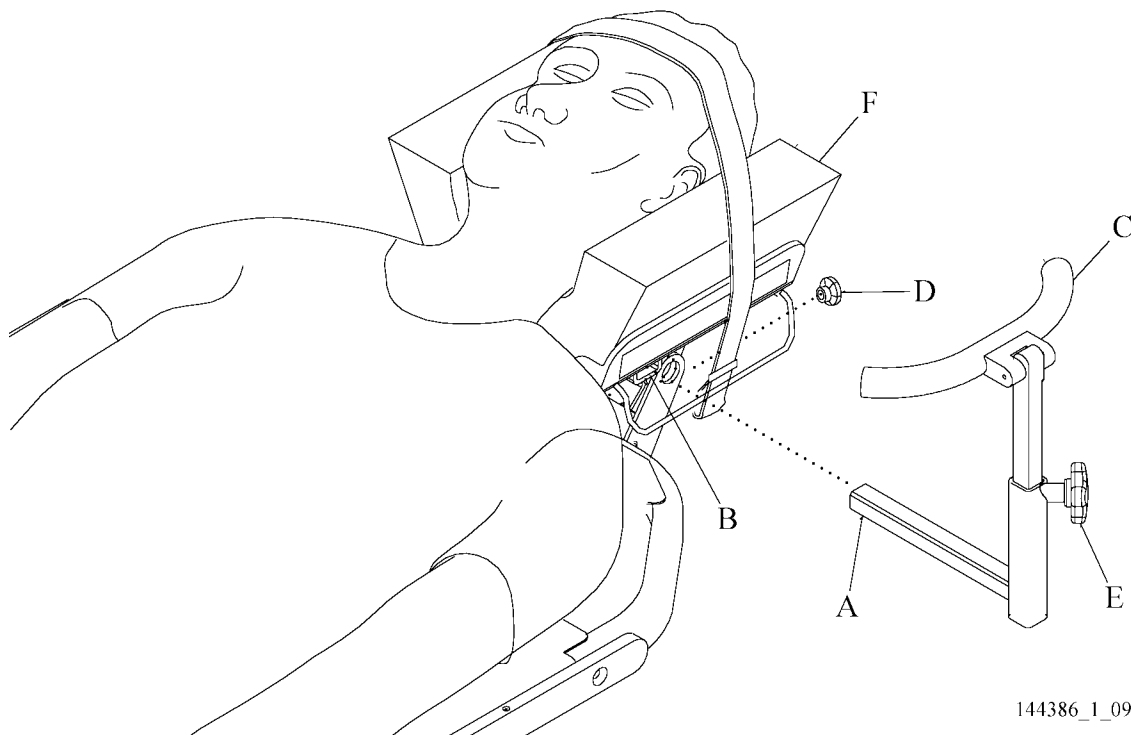
Do not transport the stretcher with the temporal wrist rest installed. Remove the temporal wrist rest before you transport the stretcher. Damage to equipment and personal injury could occur.

1. Slide the mounting bar (A) into the slot (B) on the side of the headrest (F) (see figure 7-19 on page 7-33).

NOTE:

The temporal wrist rest (C) can be installed on either side of the headrest (F).

Figure 7-19. Temporal Wrist Rest Installation



2. Tighten the mounting knob (D) located under the headrest (F).
3. Loosen the height adjustment knob (E).

4. Put the temporal wrist rest (C) in a satisfactory position, and tighten the height adjustment knob (E).

NOTE:

The top of the temporal wrist rest can be turned away from the patient for increased patient access when required.

Removal

1. Loosen the mounting knob (D) located under the headrest (F).
2. Remove the temporal wrist rest (C) from the headrest (F).

7.21 Gas Delivery System (P263)

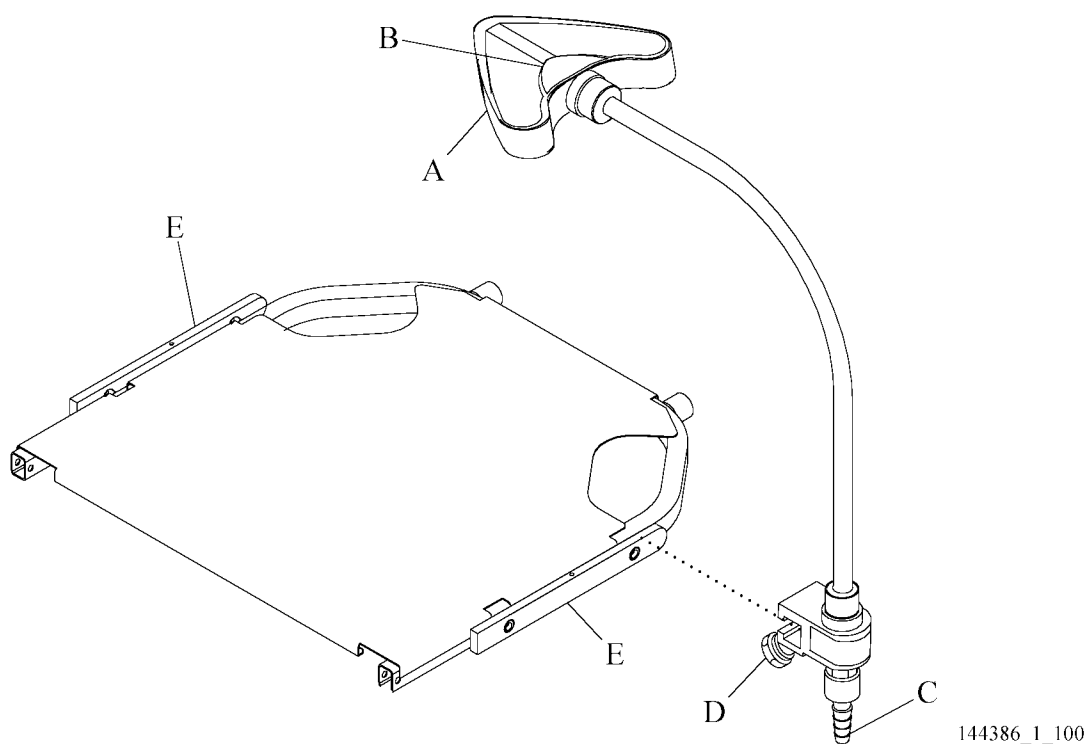
The gas delivery system attaches to the surgical rail located on either side of the stretcher, providing gas supply to the patient, and also as a drape support during the procedure.

Installation

Parts required: Clean cloth
 Approved hospital disinfectant

1. Loosen the mounting knob (D) on the gas delivery system (see figure 7-20 on page 7-35).

Figure 7-20. Gas Delivery System Installation



2. Slide the gas delivery system on the surgical rail (E).

NOTE:

The gas delivery system can be installed from the head end of the surgical rail if the PACU extender is in the extended mode, or from the foot end of the surgical rail if it is not.

3. Determine the position of the gas delivery system on the surgical rail (E). Tighten the mounting knob (D) when a satisfactory position on the surgical rail is found.

NOTE:

When determining the position of the gas delivery system, consider the following:

- The location of the oxygen supply for the patient, which comes from the hose connector.
 - The drape that will go around the patient. The gas delivery system will support the drape to keep it off of the patient's facial area.
4. Install the facility supplied medical gas hose to the hose connector (C) on the gas delivery system.
 5. Move the flexible tube to put the gas delivery system in an applicable location for support of the drapes that go around the patient.
 6. Turn the medical gas **On**, and check for correct flow.
 7. Put the drapes around the patient and the gas delivery system.

Cleaning



WARNING:

Only facility-authorized personnel should install the gas delivery system. Installation by unauthorized personnel could cause personal injury or equipment damage.



WARNING:

Follow the product manufacturer's instructions when using approved hospital disinfectant. Failure to do so could cause personal injury or equipment damage.

1. Using an approved hospital disinfectant with a clean cloth, clean the gas delivery system as follows:
 - a. Immerse the gas delivery cap (B) and deflector (A) in an approved hospital disinfectant according to the manufacturer's instructions.
 - b. Steam autoclave the gas delivery cap (B).
 - c. The gas delivery cap (B) and deflector (A) screw into the end of the supply tube. If needed, unscrew these from the supply tube to clean, and then attach thereafter.

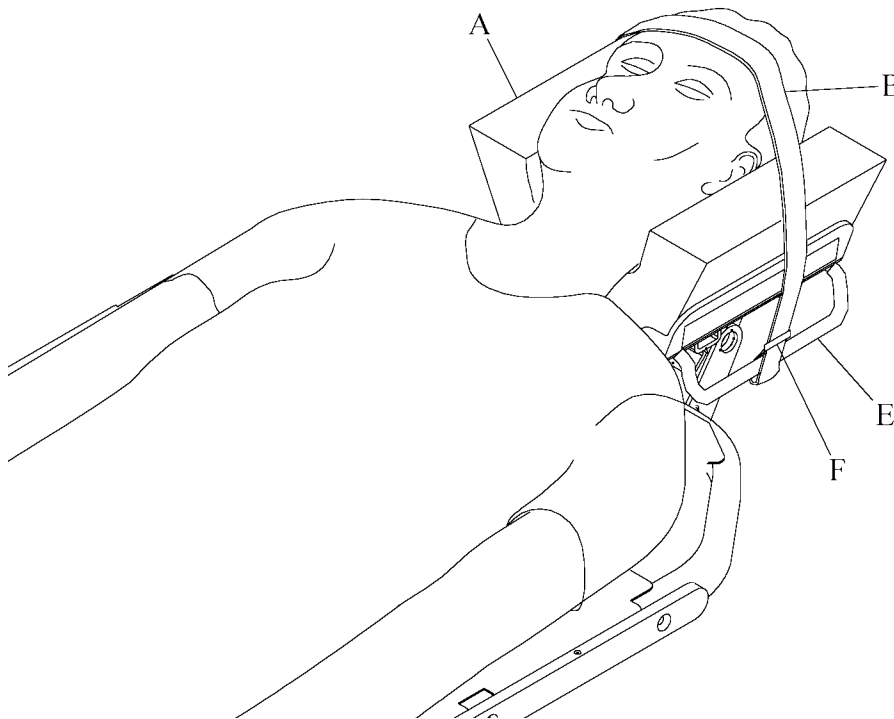
7.22 Head Positioning Strap (P449)

The head positioning strap can be attached to the Velcro®¹ strip and the integrated pull handle on the sides of the articulating headrest.

Installation

1. Remove the head positioning strap (B) from the shipping bag (see figure 7-21 on page 7-37).

Figure 7-21. Head Positioning Strap Installation



144386_1_101

2. Determine the position of the patient's head in the headrest pad (A).
- NOTE:**
Make sure the patient's head remains still in the headrest pad (A).
3. Put the end of the head positioning strap (B) around the handle (E) and secure with the self-locking buckle (F).
 4. Put the head positioning strap (B) over the center of the patient's forehead.

1. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

NOTE:

The purpose of the head positioning strap is to remind the patient to remain still in that position; not as a patient restraint. If patient restraint is necessary, it is the caregiver's protocol to determine the type of restraint necessary.

5. Attach the other end of the head positioning strap (B) with a Velcro®¹ strip to the other side of the headrest pad (A).

1. Velcro® is a registered trademark of Velcro Industries, BV (a Dutch corporation).

7.23 Placenta Basin (P265)

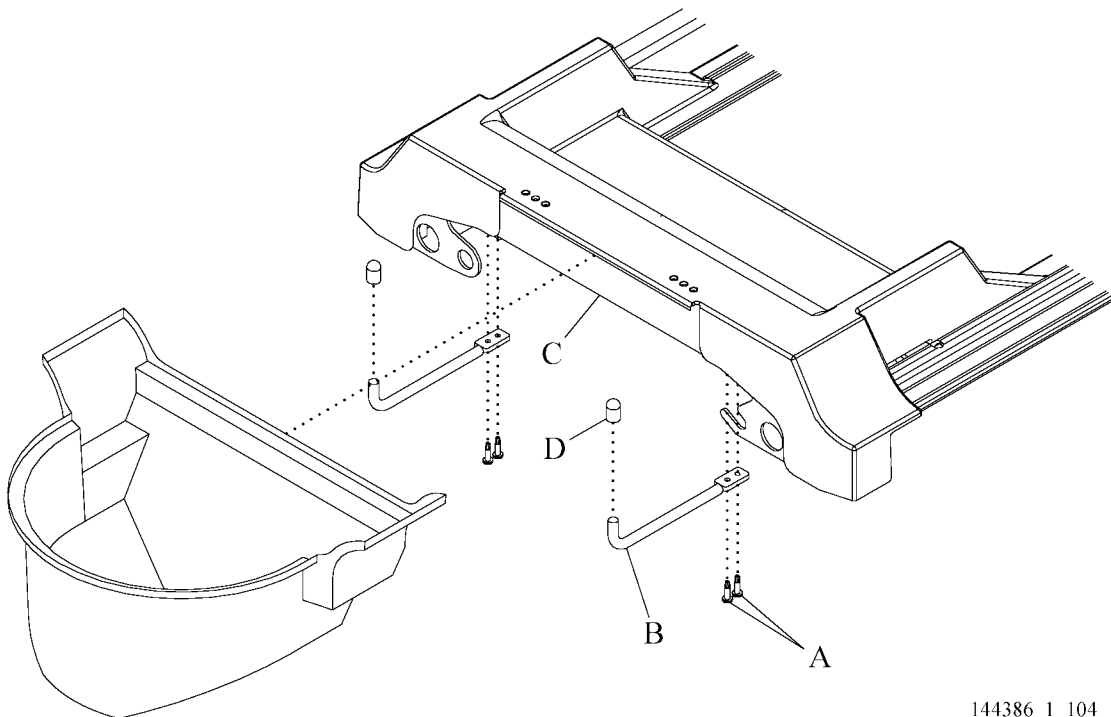
The OB/GYN Stretcher placenta basin is located below the foot section, between the foot supports, and is easily removed for cleaning.

Installation

Tools required: Ratchet T25 Torx®¹ head bit

1. Put the stretcher into the brake position.
2. Raise the stretcher to its highest position.
3. Install the two support bars (B) to the underside of the upper frame assembly (C) at the foot end of the stretcher with the four screws (A) provided (see figure 7-22 on page 7-39).
4. Install the protective plastic caps (D) on the end of the two support bars (B).

Figure 7-22. Placenta Basin Assembly

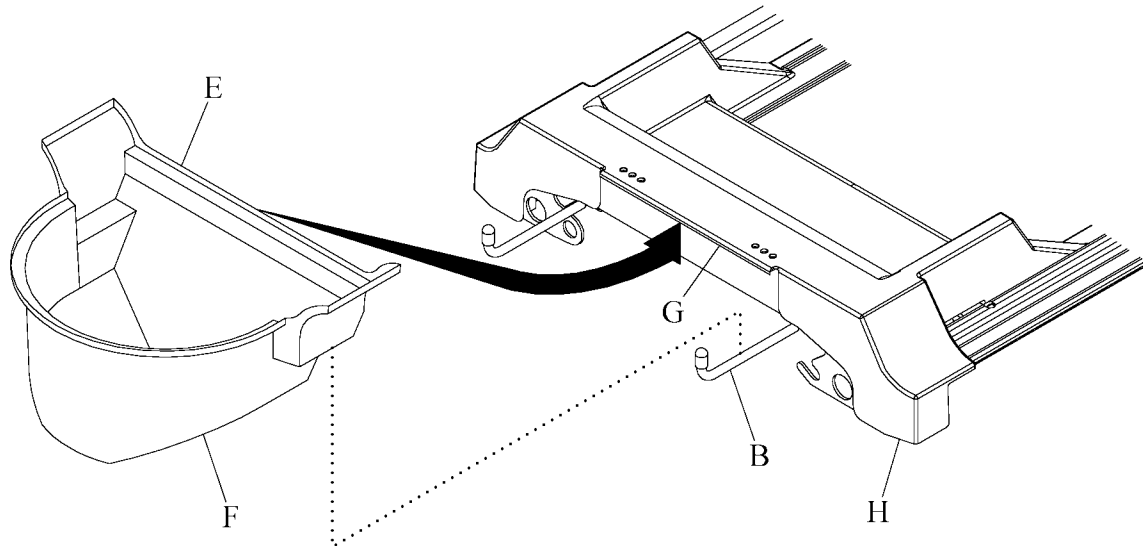


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5. Tilt the straight edge (E) of the placenta basin (F) downward (see figure 7-23 on page 7-40).

1. Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Figure 7-23. Placenta Basin Installation



144386_1_105

6. Put the straight edge (E) of the placenta basin (F) under the lip (G) of the upper frame catch shroud (H) between the two support bars (B).
7. Lower the placenta basin (F) onto the support bars (B).
8. Make sure the placenta basin (F) is secure by giving a small downward push on the outer edge of the placenta basin (F).

Removal

1. Lift the placenta basin (F) off of the support bars (B).
2. Slide the placenta basin (F) out from under the lip (G) of the stretcher.
3. Remove the placenta basin (F) from the stretcher.

7.24 Telescoping Calf Supports (P35745AT)

The OB/GYN Stretcher telescoping calf supports can be implemented when the stretcher is in the birthing position. The Telescoping Calf Supports are located in their respective positions at the foot end of the stretcher.

Installation

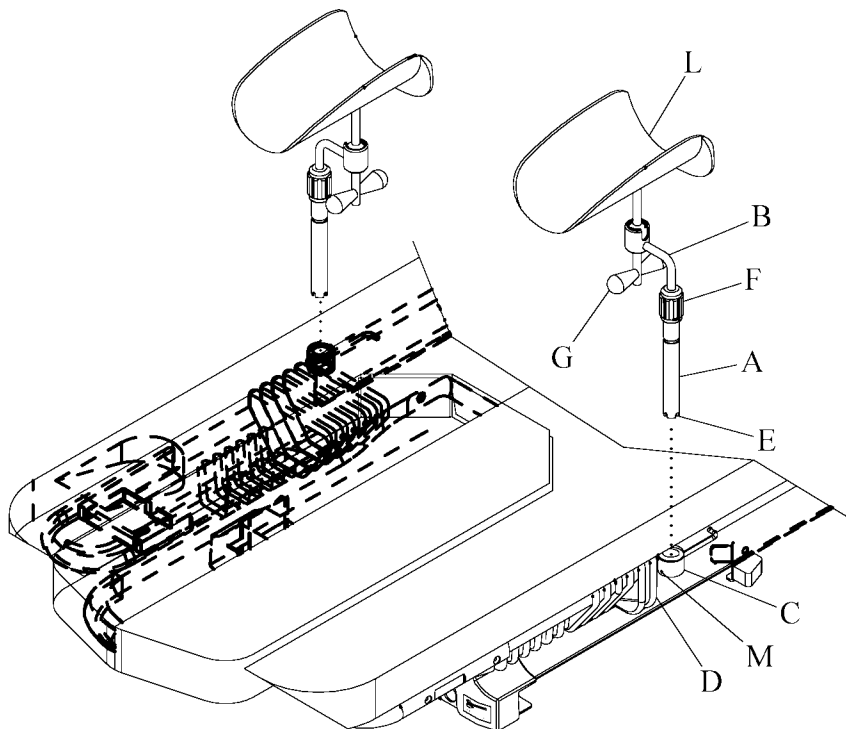


WARNING:

The telescoping calf supports are intended to be used in the prescribed manner only. Failure to use this product as outlined could cause personal injury or equipment damage.

1. Set the brake.
2. Raise the stretcher to the applicable level position.
3. Install the telescoping calf support stem (A) of the telescoping calf support assembly (B) into the calf support accessory socket (C) located on either side of the upper frame (D) (see figure 7-24 on page 7-41).

Figure 7-24. Telescoping Calf Support Installation



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4. Make sure the notch (E) located on the end of the telescoping calf support stem (A) is fully seated correctly over the pin (M), and in the applicable indexed position.

NOTE:

The telescoping calf supports can be indexed inward or outward for different sized patients.

Adjustment

1. Turn the black knob (F) counterclockwise to loosen it, and then adjust the calf support higher or lower and inward or outward to the applicable position.



WARNING:

Insufficient tightening will allow the calf supports to slip and lose their original position. Personal injury could occur.

2. Turn the black knob (F) clockwise to tighten it, and then lock the calf support into the applicable position.
3. Turn the twin black knob (G) clockwise to loosen it, and then adjust the calf support cradle (L) to the applicable multiple angular position.



WARNING:

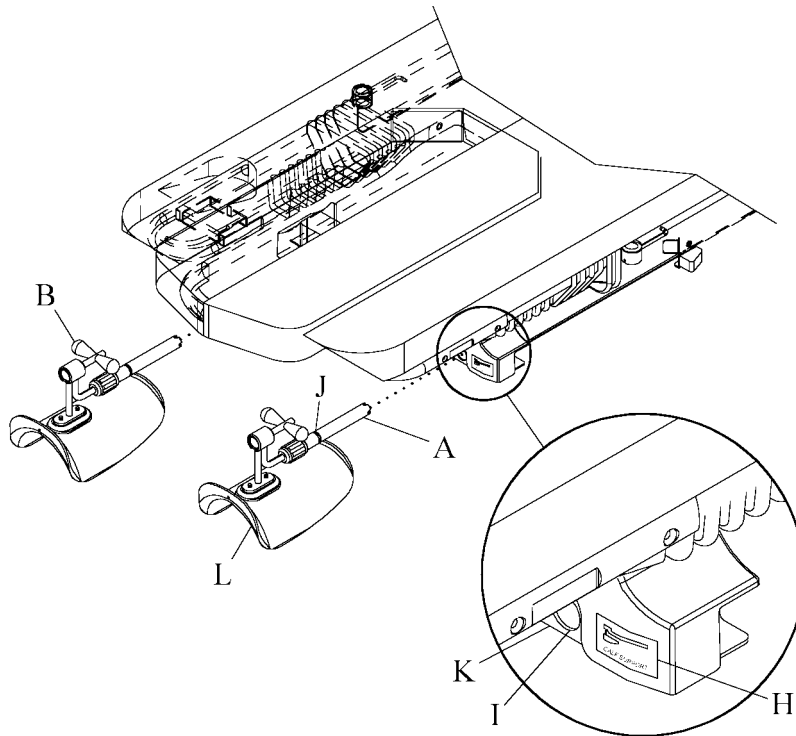
Insufficient tightening will allow the calf support cradles to slip and lose their original position. Personal injury could occur.

4. Turn the twin black knob (G) counterclockwise to tighten it, and then lock the calf support cradle (L) into its angular position.

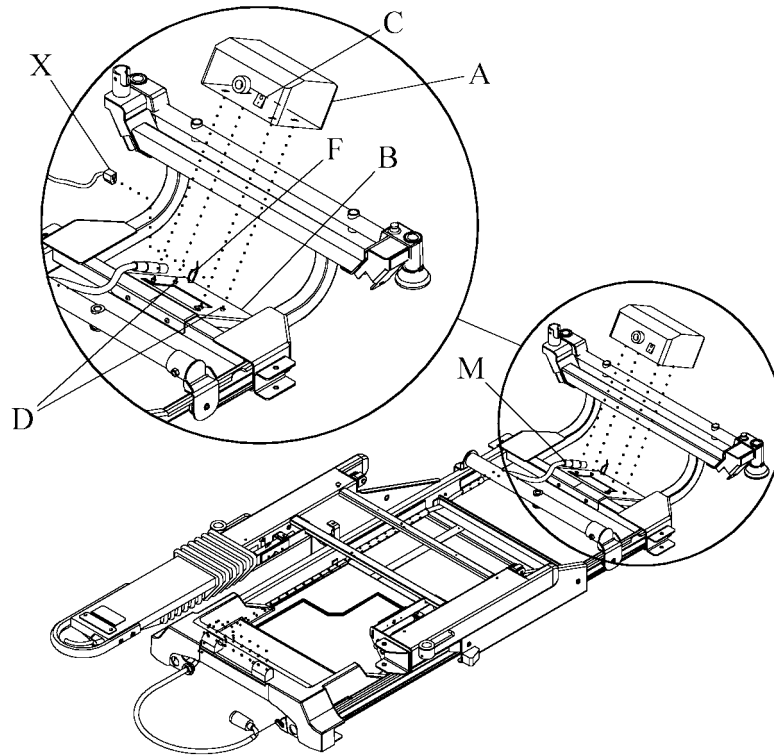
Storage

1. Loosen the twin black knob (G), and adjust the calf support cradles (L) into the storage position (see figure 7-25 on page 7-43).
2. Note the telescoping calf support storage label (H) for correct orientation.
3. Slide the telescoping calf support into the telescoping calf support accessory storage hole (I) located on either side of the placenta basin.
4. Make sure the groove (J) located on the calf support stem (A), is seated securely on the edge (K) of the calf support accessory storage hole (I). This will stabilize the telescoping calf supports during stretcher transport.

Figure 7-25. Telescoping Calf Support Storage Location



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Figure 7-26. Illuminator Box Installation

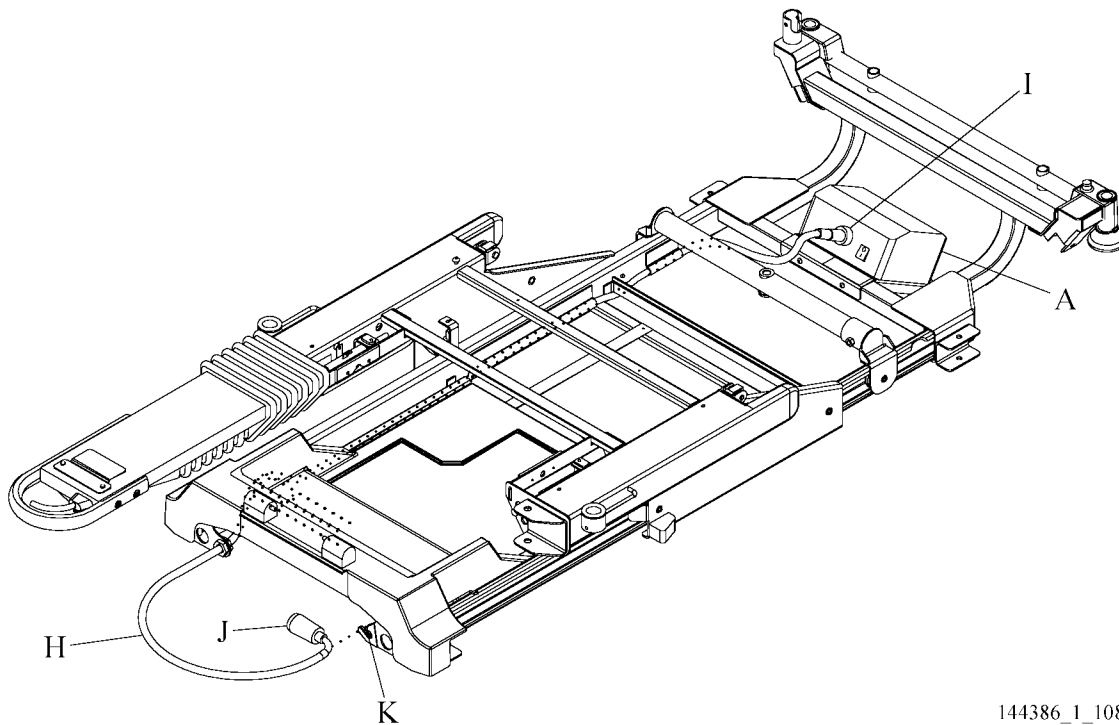
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**CAUTION:**

Make sure the power cord is not pulled too tightly. Tension on the power cord connection could cause equipment damage.

11. Tighten the cable tie (F), and secure the power cord (X) to the light mounting plate (B).
12. Cut the excess cable tie that holds the fiber optic cable connector (M) to the stretcher.
13. Connect the fiber optic cable connector (M) to the applicable connection (I) on the illuminator box (A) (see figure 7-27 on page 7-46).

Figure 7-27. Fiber Optic Cable Assembly

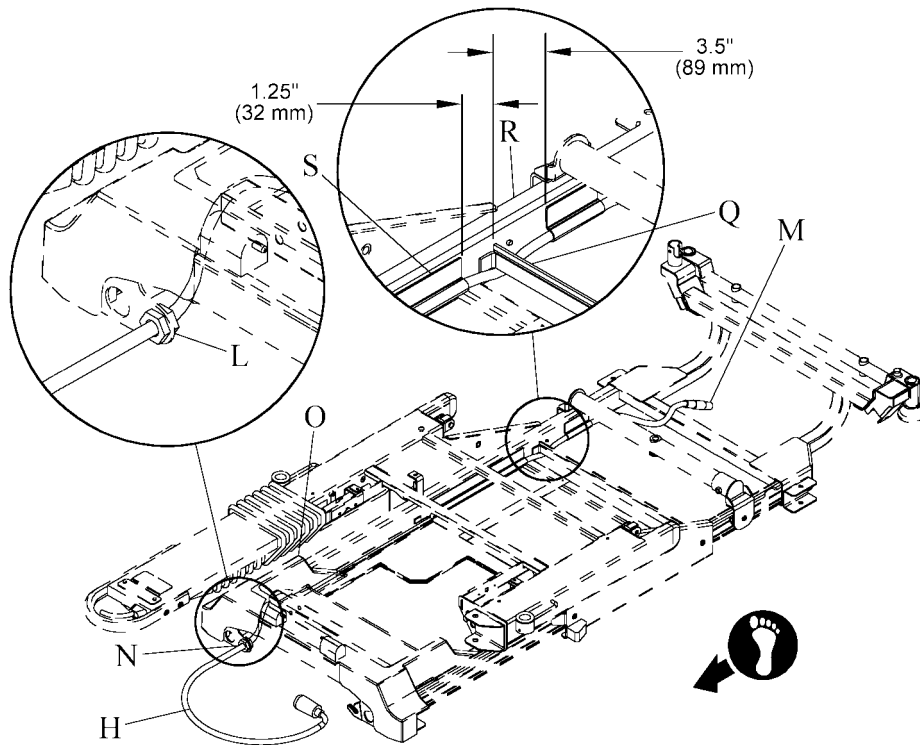


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14. Cut and remove the cable tie that holds the focusing sleeve (J) on the stretcher.
15. Put the gooseneck assembly (H) into its storage slot (K).
16. Plug the fiber optic exam light into an applicable power source.
17. Turn the power switch to the **ON** position, and make sure the fiber optic exam light works correctly.

Complete (Non-Factory Installed) Installation

1. Set the brake.
2. Raise the stretcher to the applicable level position.
3. Squeeze the back section release handle, and raise the back section to approximately 90°.
4. Remove the fiber optic light assembly from its packaging container.
5. Remove the nut (L) from the gooseneck assembly (H) (see figure 7-28 on page 7-47).

Figure 7-28. Gooseneck Assembly

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6. Insert the fiber optic cable connector (M) through the available hole (N) at the foot end of the stretcher.
7. Slide the nut (L) over the fiber optic cable connector (M), and hand tighten the nut temporarily to secure the gooseneck assembly (H) to the stretcher.
8. Route the fiber optic cable assembly over the first crossmember and under the catch shroud (O) toward the head end of the stretcher.
9. Measure 1¼" (32 mm) from the top edge of the welded crossmember (Q) toward the foot end of the stretcher.
10. Write the correct measurement on the inside of the upper frame fixed weldment (R).



CAUTION:

Make sure the bottom edge of the adhesive shroud is not lower than the bottom edge of the upper frame fixed weldment. Failure to do so could cause equipment damage.

11. Install the long adhesive shroud (S) over the fiber optic cable, and align the left edge on the pencil mark and make sure the bottom is flush with the upper frame fixed weldment (R).
12. Measure 3½" (89 mm) from the top edge of the welded crossmember (Q) toward the head end of the stretcher.
13. Write the correct measurement on the inside of the upper frame fixed weldment (R).



CAUTION:

Make sure the bottom edge of the adhesive shroud is not lower than the bottom edge of the upper frame fixed weldment. Failure to do so could cause equipment damage.

14. Install the short adhesive shroud (T) over the fiber optic cable, and align the right edge on the pencil mark and the bottom flush with the upper frame fixed weldment (R).
15. Complete the routing of the fiber optic cable to the head end of the stretcher.
16. Apply the blue Loctite®¹ adhesive 242 provided to the nut (L) threads, and tighten the nut (L) to secure the gooseneck assembly (H) to the stretcher.
17. Pull the slack in the fiber optic cable toward the head end of the stretcher.
18. Install the two Torx® head screws (U) supplied. Install the light mounting plate (B) to the two holes (W) on the upper frame fixed weldment (V) at the head end of the stretcher (see figure 7-29 on page 7-49).

1. Loctite® is a registered trademark of Loctite Corporation.

25. Cut the excess cable tie that holds the fiber optic cable connector (M) on the stretcher.
26. Connect the fiber optic cable connector (M) to the applicable connection (I) on the illuminator box (A) (see figure 7-27 on page 7-46)
27. Put the gooseneck assembly (H) into its storage slot (K).
28. Plug the fiber optic exam light into an applicable power source.
29. Turn the power switch to the **On** position, and make sure the fiber optic exam light works correctly.

Cleaning

See “Cleaning and Care” on page 6-1 for cleaning instructions.



CAUTION:

Remove the integrated fiber optic exam light assembly before you spray wash the stretcher. Failure to do so could cause equipment damage.

7.26 Headboard Assembly (P4120CT)

The headboard assembly mounts in the headboard mounting sockets located at the head end of the stretcher. The headboard assembly is removable.

Installation

1. Set the headboard vertically, and slide its mounting post into the ISS sockets.
2. Push the headboard downward until it is fully engaged.

Removal

Do the installation procedure in reverse order to remove the headboard assembly from the stretcher.

7.27 Foot Extender Pad (P929G1/2)



WARNING:

The foot extender does not fully lock into position. Use caution when you use the foot extender during transfers. Personal injury or equipment damage could occur.

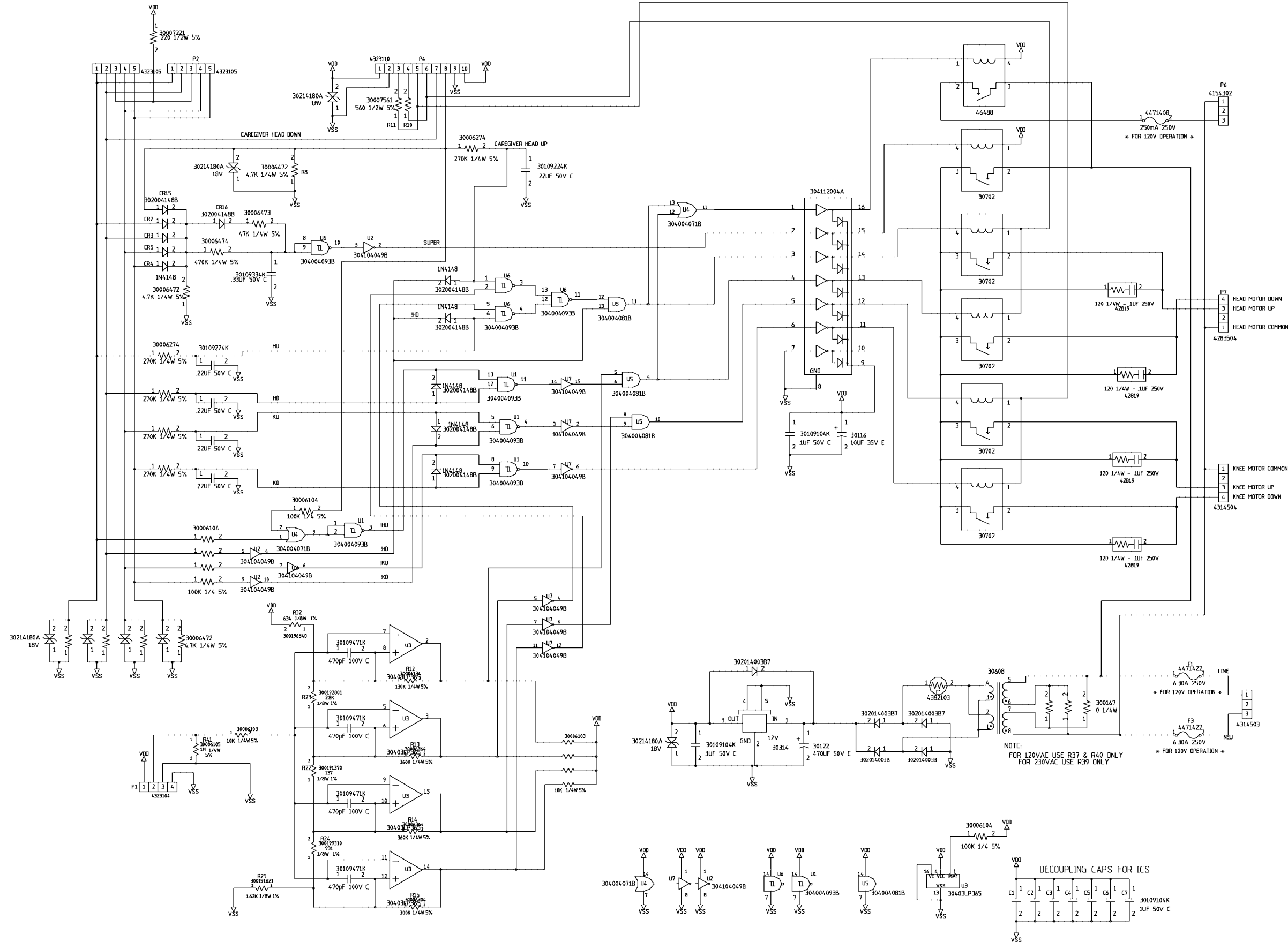
Setup

1. Lift the convertible footboard out of the ISS mounting sockets.
2. Put the convertible footboard in the horizontal position. Make sure the **Lift** latch side of the convertible footboard is up and the mounting posts are toward the head end of the stretcher.
3. Put the footboard mounting posts into the extender brackets under the sleep deck
4. Push the convertible footboard toward the head end of the stretcher until it is fully engaged.

Remove

1. Pull the convertible footboard out of the extender brackets.
2. Put the convertible footboard in the vertical position, and install it into the ISS mounting sockets.

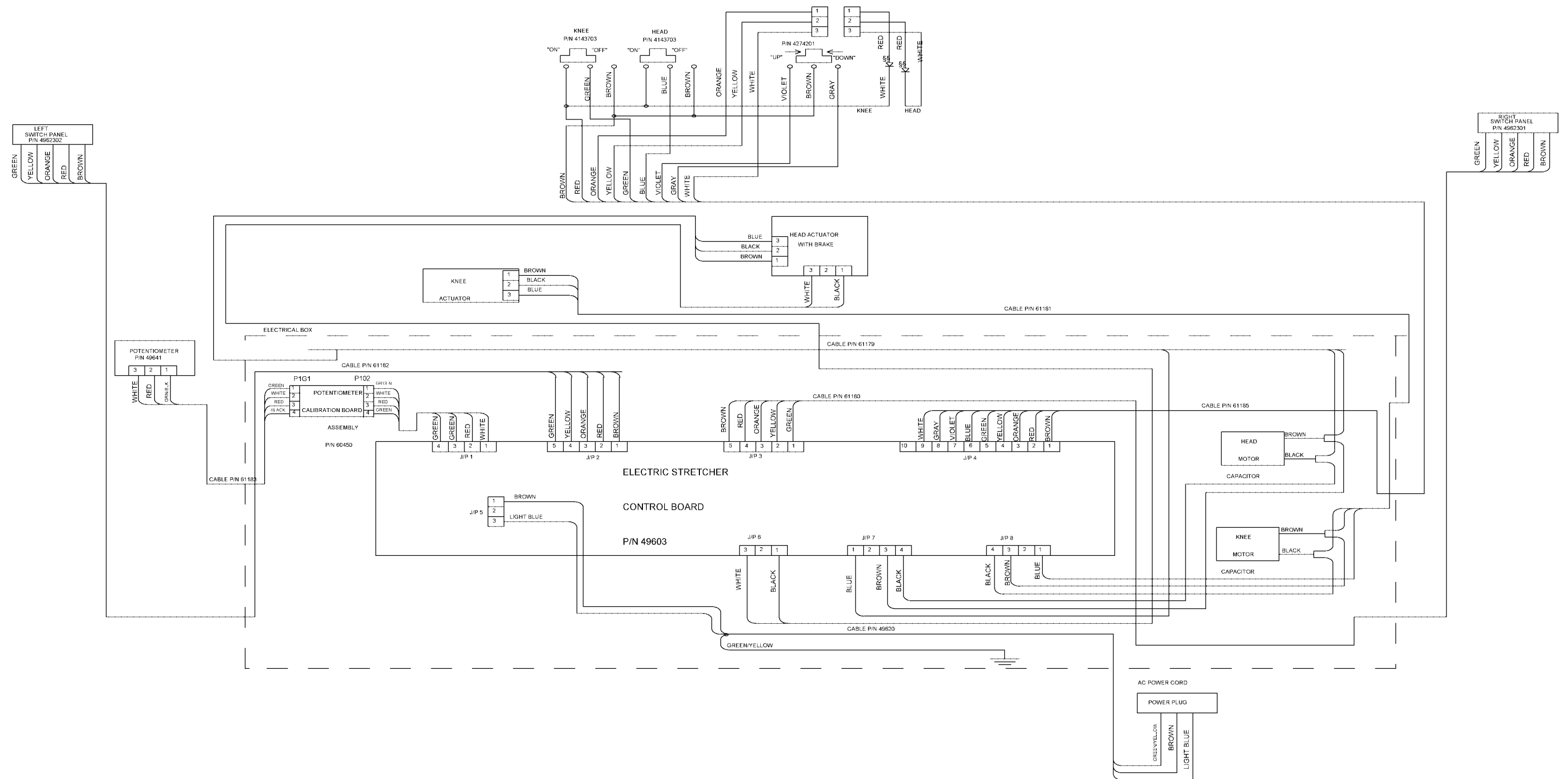
Schematic Wiring Diagram—Control Board P/N 49603



*** FUSES FOR 230V OPERATION ***

F1	4471519, 250A, 250V
F2	4471505, 100mA, 250V
F3	4471519, 250A, 250V

Schematic Wiring Diagram—Electric Stretcher P/N 60389



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