CHG®

HOSPITAL BEDS

REF 5600

The Spirit Plus™ *Bed*

1-70-008 – I

User Manual

Contact Information	
Customer Service or Technical Service	1 (800) 327-0770 USA Toll Free: 1 (800) 668-8323 Canada
Mailing Address	CHG Hospital Beds 1020 Adelaide Street South London, Ontario N6E 1R6 Canada

To ensure prompt and accurate attention to your concerns please have the following information available before you call:

Spirit Plus™ Service Call Information	
Your facility's **phone number**:	
Your facility's **fax number**:	
Bed(s) **Model**:	
Bed(s) **Serial Number**	
Date of Purchase:	
List of **defective part(s)**:	
List of deficiencies or **type of problem**:	

Spirit Plus™ Bed – Quick Reference Guide

To Operate the Bed:

Use the footboard staff control, rail controls, or the pendant to raise or lower the head section, the knee section, or the entire bed.

To Operate Electronic CPR:

PRESS and HOLD the CPR button to flatten both the head and knee sections simultaneously.

To Operate Trendelenburg:

PRESS and HOLD the TREND (Trendelenburg) or rev.TREND (Reverse Trendelenburg) button on the footboard control to achieve either function. To level the bed, PRESS and hold the opposite function until the bed automatically stops in the horizontal position.

To Operate 'Chair':

PRESS and HOLD the CHAIR button. Green LED illuminates when full CHAIR position is achieved. **PRESS and HOLD** CHAIR button again to level bed. If Green LED is not illuminated **PRESS and HOLD** the CPR button to flatten both the head and knee sections and **PRESS and HOLD** the TREND button until the bed automatically stops in the horizontal position.

To Operate 'Auto Contour':

Press the CONTOUR button so that the green light is on. Knee section will raise automatically when head section is raised. (NOTE: KNEE lock-out will override Auto Contour).

Lock-Outs:

The side rail controls and pendant can be locked or unlocked (to restrict patient use). Lock-outs for each bed function are located on the footboard staff control underneath each function. When the LOCK button LED is illuminated, patient control of that particular function with the side rail controls or pendant is restricted. If the LOCK button LED is not illuminated, then patient control of that function is permitted.

Master Lock-Out:

To restrict all side rail, pendant, ***and*** footboard controls, press all three LOCK buttons simultaneously (the LOCK button LED's will sequentially flash). When Master Lock-Out has been activated, the Electronic CPR function and Nurse Call remains operable.

To Operate Plastic Siderails:

To lower the rails, gently depress the green PRESS button, then rotate the rail down. Head rails rotate toward the headboard, foot rails rotate toward the footboard. The rail will automatically lock in the UP position.

To Move and Lock the Bed:

Use the Central "Lock & Steer" system:

BRAKE: All four wheels are locked in "BRAKE" mode
STEER: Foot-end wheels are locked in "STEER" mode, head-end wheels swivel freely
NEUTRAL: All four wheels swivel freely in "NEUTRAL" mode

Power Status Indication:

LED is solid GREEN:	Bed is plugged into an AC power outlet and the battery is fully charged
LED is flashing GREEN:	Bed is plugged into an AC power outlet and the battery is charging
LED is solid RED:	Bed is running on battery power
LED is flashing RED:	Bed is running on battery power but has used up the battery power. Plug bed into an AC power outlet and allow battery to charge for 24 hr
LED is alternating flashing GREEN and RED:	Bed is plugged into an AC power outlet but there is a problem with the battery or another component. Service bed immediately

Spirit Plus™ Bed User Instruction Manual Content

Page

Spirit Plus™ Bed – Quick Reference Guide 3
Section 1: 8
Specifications & Precautions 8
1.1 Full Bed Warranty 9
1.2 Intended Use 10
1.3 Standard Conventions Used in this Manual 10
1.3.1 Patient Left & Patient Right Determination 10
1.4 Symbols Used on the Spirit™ Bed 11
1.5 Technical Specifications 12
1.6 Important Electrical Precautions 14
1.6.1 Battery Back-up 16
1.6.2 Grounding 17
1.7 Important Mechanical Precautions 18
1.8 Mattress Specifications 19
1.9 General Precautions 20
1.10 Standard & Optional Features 23
1.11 Siderail Assemblies 24
1.12 Optional Accessories 24
1.13 Detachable Components 25
1.14 Applied Parts 25
1.15 Storage & Transport 25
1.16 Ultra-Low Feature 26
Section 2: 27
Set-Up Instructions 27
2.1 Unpacking Instructions 28
Section 3: 40
Bed Operation 40
3.1 Central "Lock & Steer" System 41
3.1.1 Bed Mobilization & Stabilization 42
3.2 Footboard Locking Mechanism 43
3.3 Bed Control 44
3.3.1 Patient Handheld Control (Pendant) 44
3.4 Bed Positioning 46
3.4.1 Bed Elevation – HI-LO Operation 46
3.4.2 Head Deck (Back Rest) Elevation - Head Actuator Operation 46
3.4.3 Knee Deck Elevation - Foot Actuator Operation 47
3.4.4 Auto Contour Mode 47
3.4.5 Chair Positioning 48
3.5 Emergency & Staff Functions 48
3.5.1 Electronic CPR (Cardiopulmonary Resuscitation) Function 48
3.5.2 Trendelenburg Operation 49
3.5.3 Reverse Trendelenburg Operation 49
3.6 Patient Lock-Out Functions 50
3.6.1 Regular Patient Lock-Outs 50
3.6.2 Master Lock-Out 50
3.6.3 Security Lock-Out 51
3.7 Other Bed Functions & Features 54
3.7.1 Nurse Call 54

3.7.2 Standard 37 Pin Connector 54
3.7.3 Spirit Plus™ Power Status Indicator 55
3.8 Siderail Operation 56
3.8.1 Intended Application/Use of Spirit™ Bed Siderail Assemblies 56
3.8.2 Plastic High Siderails 57
3.8.3 Integrated Features of High Siderails 58
3.8.4 Other Optional Siderails 59
3.9 Optional Underbed Light on Spirit Plus™ Beds 59
3.10 Optional Underbed Obstruction Sensors 60
3.11 Optional "Easy Bed" Extension System 61
3.12 Optional Auxiliary AC Power Outlet 63
Section 4: 64
Care & Maintenance 64
4.1 Regular Maintenance & Cleaning 65
4.1.1 Cleaning & Disinfection 65
4.1.2 Semi Annual Inspections 66
4.1.3 Yearly Inspections & Maintenance 66
4.2 Controls Servicing 68
4.2.1 Soft Reset of Controls 68
4.2.2 Hard Reset of Controls 68
4.3 Mattress Deck Removal 69
4.3.1 Mattress Deck Removal - Foot Section 69
4.3.2 Accessing the CB10 Control Box 69
4.3.3 Mattress Deck Removal - Knee Section 69
4.3.4 Mattress Deck Removal - Head Section (Back Rest) 70
4.3.5 Mattress Deck Removal - Seat Section 70
4.4 Rail Measurements 71
4.5 Before Calling The Factory 72
4.6 Colour Information 72
4.7 Troubleshooting Guide 73
4.8 Schematics & Technical 76
4.8.1 Spirit Wiring Schematic 76
4.8.2 Electrical Connections – Overview 78
4.8.3 Spirit Plus™ CB10Lite Control Box – Overview 79
4.9 Electromagnetic Compatibility (EMC) 80
4.10 Service Parts 85

Section 1:

Specifications & Precautions

1.1 Full Bed Warranty

Warranty

Stryker Medical, a division of Stryker Corporation, warrants to the original purchaser the Stryker Model 5600 Spirit Plus, to be free from defects in material and workmanship for a period of one year after date of delivery. Stryker's obligation under this warranty is expressly limited to supplying replacement parts and labor for, or replacing at its option, any product which is, in the sole discretion of Stryker, found to be defective. If requested by Stryker, product or parts for which a warranty claim is made shall be returned prepaid to the factory. Any improper use or any alteration or repair by others in such a manner as in Stryker's judgment affects the product materially and adversely, shall void this warranty. Any repair of Stryker products using parts not provided or authorized by Stryker shall void this warranty. No employee or representative of Stryker is authorized to change this warranty in any way.

Stryker Medical products have a five year expected service life under normal use, conditions, and with appropriate periodic maintenance as described in the maintenance manual for each device.

The above noted warranty periods apply only to the original purchaser of the Spirit Plus and begin on the date of delivery to such original purchaser.

Warranty exclusion and damage limitations

The express warranty set forth herein is the only warranty applicable to the product. **Any and all other warranties, whether express or implied, including any implied warranty of merchantability or fitness for a particular purpose are expressly excluded by Stryker**. In no event shall Stryker be liable for incidental or consequential damages.

To obtain parts and service

Stryker products are supported by a nationwide network of dedicated Stryker Field Service Representatives. These representatives are factory trained, available locally, and carry a substantial spare parts inventory to minimize repair time. Simply call your local representative or call Stryker Customer Service at 1-800-327 -0770 (USA) or 1-800-668-8323 (Canada).

Return authorization

Product cannot be returned without prior approval from the Stryker Customer Service Department. An authorization number will be provided which must be printed on the returned product. Stryker reserves the right to charge shipping and restocking fees on returned product. Special, modified, or discontinued products are not subject to return.

Damaged product

ICC Regulations require that claims for damaged product must be made with within fifteen (15) days of receipt of the product. Do not accept damaged shipments unless such damage is noted on the delivery receipt at the time of receipt. Upon prompt notification, Stryker will file a freight claim with the appropriate carrier for damages incurred. Claims will be limited in amount to the actual replacement cost. In the event that this information is not received by Stryker within the fifteen (15) day period following the delivery of the product, or the damage was not noted on the delivery receipt at the time of receipt, the customer will be responsible for payment of the original invoice in full within thirty (30) days of receipt. Claims for any incomplete shipments must be made within thirty (30) days of invoice.

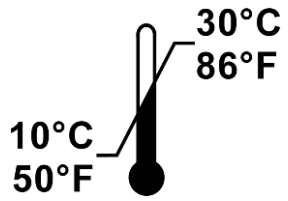
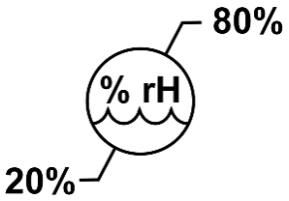
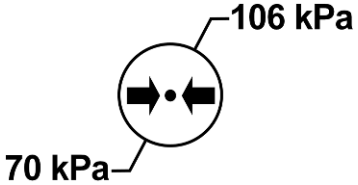
International warranty clause

This warranty reflects U.S. domestic policy. Warranty outside the U.S. may vary by country. Contact your local Stryker Medical representative for additional information.

1.2 Intended Use

The Spirit™ bed is intended for low to moderate acuity patients in the medical and/or surgical area of the hospital. The Spirit™ bed is also intended for use as a general-purpose variable height hospital bed for general care, post-operative and general medicine wards. The Spirit™ bed is intended for used in Application Environments 1-3, 5 as described in IEC 60601-2-52, Clauses 201.3.201 - 205.

Application Environment		**Use of Spirit™ Bed**
No.	**Description**	
1	Intensive/critical care provided in a hospital where 24 hour medical supervision and constant monitoring is required and the provision of life support system/equipment used in medical procedures is essential to maintain or improve the vital functions of the patient.	Suitable
2	Acute care provided in a hospital or other medical facility where medical supervision and monitoring is required and medical equipment used in medical procedures is often provided to help maintain or improve the condition of the patient.	Suitable
3	Long-term care in a medical area with medical supervision is required and monitoring is provided if necessary and medical equipment used in medical procedures may be provided to help maintain or improve the condition of the patient.	Suitable
4	Care provided in a domestic area where medical equipment is used to alleviate or compensate for an injury, disability, or disease.	Not Suitable
5	Outpatient (ambulatory) care which is provided in a hospital or other medical facility, under medical supervision where medical equipment is provided for the need of persons with illness, injury, or disability for treatment, diagnosis, or monitoring.	Suitable

Environmental Conditions for Normal Use		
		
Ambient Temperature Range	Ambient Humidity Range (Non Condensing)	Atmospheric Pressure Range

1.3 Standard Conventions Used in this Manual

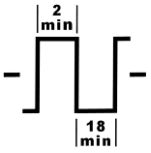
This manual includes information essential to the safety of the patient, staff, and equipment during the normal operation of the Spirit™ bed. Before operating the Spirit™ bed be sure you have read and understood the contents of this manual. It is important that you use this equipment in accordance with the procedures outlined in this manual. As you read through this manual be alert to the four signal words.

⚠ DANGER	Information appearing under the **DANGER** caption concerns the protection of patient, staff and others from the immediate and imminent hazards that, if not avoided, will result in immediate, serious personal injury or loss of life in addition to equipment damage.
⚠ WARNING	Information appearing under the **WARNING** caption concerns the protection of patient, staff, and others from potential hazards that can result in personal injury or loss of life in addition to equipment damage.
⚠ CAUTION	Information appearing under the **CAUTION** caption concerns the protection of patient, staff and others from potential hazards that can result in minor personal injury or equipment damage.
NOTE:	Information appearing in a **NOTE** caption provides additional information which is helpful in understanding the item being explained.

1.3.1 Patient Left & Patient Right Determination

CHG Hospital Beds' determination of the "Patient Left" and the "Patient Right" side of the bed is made from the patient's point of view while positioned normally on the bed facing up.

1.4 Symbols Used on the Spirit™ Bed

	PROTECTIVE EARTH GROUND		ELECTRONIC CARDIOPULMONARY RESUSCITATION (CPR) FUNCTION PRESS AND HOLD TO LOWER ALL SECTIONS OF MATTRESS DECK FLAT TO BED FRAME		CHAIR FUNCTION PRESS AND HOLD TO BRING PATIENT TO SITTING POSITION
	POTENTIAL EQUALIZATION (EQUIPOTENTIAL POINT)		TRENDELENBURG FUNCTION PRESS AND HOLD TO MOVE THE BED INTO TRENDELENBURG POSITION		CONTOUR FUNCTION TOGGLE TO INITIATE AUTOMATIC ACTION OF KNEE-FOOT SECTION WHEN ACTION IS INITIATED TO HEAD SECTION OF MATTRESS DECK
	SAFE WORKING LOAD THE MAXIMUM ALLOWABLE LOAD THAT CAN BE PLACE ON THE BED		REVERSE TRENDELENBURG FUNCTION PRESS AND HOLD TO MOVE THE BED INTO REVERSE TRENDELENBURG POSITION		FUNCTION LOCK-OUT ACTIVATE TOGGLE SWITCH TO RESTRICT FUNCTION OF PATIENT AND PENDANT
	MAXIMUM PATIENT WEIGHT THE MAXIMUM ALLOWABLE WEIGHT OF PATIENT THAT CAN BE PLACE ON THE BED		INITIATE ACTION TO HEAD SECTION OF MATTRESS DECK		UP CONTROL ELEVATES THE CORRESPONDING SECTION OF THE MATTRESS DECK
	READ OWNER'S MANUAL BEFORE USE		INITIATE ACTION TO ENTIRE MATTRESS DECK (HI-LO)		DOWN CONTROL LOWERS THE CORRESPONDING SECTION OF THE MATTRESS DECK
	SYMBOL TO DRAW USER ATTENTION TO AN IDENTIFIED DANGER, WARNING, OR CAUTION		INITIATE ACTION TO KNEE-FOOT SECTION OF MATTRESS DECK		POWER STATUS INDICATOR
CLASS I	ELECTRICAL EQUIPMENT IN WHICH PROTECTION AGAINST ELECTRIC SHOCK DOES NOT RELY ON *BASIC INSULATION* ONLY, BUT WHICH INCLUDES AN ADDITIONAL SAFETY PRECAUTION IN THAT MEANS ARE PROVIDED FOR *ACCESSIBLE PARTS* OF METAL OR INTERNAL PARTS OF METAL TO BE *PROTECTIVELY EARTHED*.		ALTERNATING CURRENT (AC) POWER		DUTY CYCLE 2 MINUTES ON 18 MINUTES OFF
IPX4	INGRESS PROTECTION CODE (IP RATING)		TYPE B EQUIPMENT		CONSULT INSTRUCTIONS FOR USE INDICATES THE NEED FOR THE USER TO CONSULT THE INSTRUCTIONS FOR USE
	CATALOGUE NUMBER INDICATES THE MANUFACTURER'S CATALOGUE NUMBER SO THAT THE MEDICAL DEVICE CAN BE IDENTIFIED		SERIAL NUMBER INDICATES THE MANUFACTURER'S SERIAL NUMBER SO THAT A SPECIFIC MEDICAL DEVICE CAN BE IDENTIFIED		CAUTION INDICATES THE NEED FOR THE USER TO CONSULT THE INSTRUCTIONS FOR USE FOR IMPORTANT INFORMATION
	MANUFACTURER INDICATES THE MEDICAL DEVICE MANUFACTURER				

1.5 Technical Specifications

Certifications

Siderail Configuration	Market	Standard	Build Date
Standard/ Long Rails	US/CAN	ANSI/AAMI ES 60601-1:2005/A2:2010 CAN/CSA C22.2 No. 60601-1:08 IEC 60601-1:2005/C2:2007 CAN/CSA C22.2 No. 60601-2-52:2011 IEC 60601-2-52/C1:2010	1/2/2013 – Present
		CAN/CSA C22.2 NO. 601.1-M90 (R2005) UL 60601-1:2003 IEC 60601-1 Amd. 2 Ed 2.0 b:1995 IEC 60601-2-38 Amd 1. Ed 1.0 en:1999 CAN/CSA C22.2-No. 60601-2-38-03(R2007)	Prior to 1/2/2013
High	US/CAN	ANSI/AAMI ES 60601-1:2005/A2:2010 CAN/CSA C22.2 No. 60601-1:08 IEC 60601-1:2005/C2:2007 CAN/CSA C22.2 No. 60601-2-52:2011 IEC 60601-2-52/C1:2010	3/19/2018 – Present
		CAN/CSA C22.2 NO. 601.1-M90 (R2005) UL 60601-1:2003 IEC 60601-1 Amd. 2 Ed 2.0 b:1995 IEC 60601-2-38 Amd 1. Ed 1.0 en:1999 CAN/CSA C22.2-No. 60601-2-38-03(R2007)	Prior to 3/19/2018
All	UK	ANSI/AAMI ES 60601-1:2005/A2:2010 CAN/CSA C22.2 No. 60601-1:08 IEC 60601-1:2005/C2:2007 CAN/CSA C22.2 No. 60601-2-52:2011 IEC 60601-2-52/C1:2010	2/18/2013 – Present
		CAN/CSA C22.2 NO. 601.1-M90 (R2005) UL 60601-1:2003 IEC 60601-1 Amd. 2 Ed 2.0 b:1995 IEC 60601-2-38 Amd 1. Ed 1.0 en:1999 CAN/CSA C22.2-No. 60601-2-38-03(R2007)	Prior to 2/18/2013

Articulation Range

Head Section Angle		0° to 60°	
Knee Section Angle		0° to 25°	
Foot Section Angle		0° to 10°	
Trendelenburg		0° to MAX 14°	
Reverse Trendelenburg		0° to MAX -14°	
Mattress Deck Height - Lowest Elevation	Ø5″ (125 mm) Casters	10 ¾″	273 mm
Mattress Deck Height - Highest Elevation		34″	863 mm
Minimum Deck Height Required to Accommodate Patient Lift Clearance 48″ x 5″ (1219 mm x 127 mm)		23 ½″	597 mm

Electrical Specifications

Mode of Operation - Intermittent Operation	Duty: 10% (2 Minutes ON, 18 Minutes OFF)	
Mains Input Voltage	120 Volts AC	
Mains Input Current	4.0 Amps	
Mains Input Current (Beds with Auxiliary Mains AC Outlet)	9.0 Amps	
Mains Input Current Frequency	60 Hertz	
Auxiliary Mains AC Outlet - Maximum Output Power	120 Volts, 5 A	
Control Locations		
Footboard Staff Control	Standard	
Siderail Controls (Patient and Staff)	Standard	
Six Function Handheld Pendant	Optional	
Safety Features		
Dual Foot Pedal – Lock & Steer Feature	Standard	
On-Board Battery Back-up	Standard	
Safety & Convenience Features on Footboard Staff Control		
PRESS and Hold Electronic CPR Function	Standard	
Trendelenburg/ Reverse Trendelenburg Capability	Standard	
Chair Positioning	Standard	
Auto Contour Mode	Standard - Toggle Button with LED	
Security		
Patient Lock-Outs - Bed Elevation, Head Section, and Knee/Foot Section (Patient Controls only)	Standard – Individual Toggle Button with LED's	
Master Lock-Out - All Patient and Staff Control Locations (including Footboard Staff Control)	Standard – Requires deactivation of Master Lock-out to operate bed	
Security Lock-Out - All Patient and Staff Control Locations (including Footboard Staff Control)	Standard – Requires facility-set user passcode to operate bed	
Dimensions & Weight		
Length (Overall Bed Length)	MAX 91 ¾"	MAX 2331 mm
Length - Between Head & Footboards	81"	2057 mm
Length - Mattress Deck (in 80" Mattress Position)	79¾"	2026 mm
Length - Mattress Deck (in 84" Mattress Position)	83¾"	2127 mm
Width - Between Outer Edges of Siderails	40"	1016 mm
Width - Mattress Deck	35"	889 mm
Load Capacity (Safe Working Load)	500 lbs	227 kg
Weight of Bed (Bed, Accessories, Options and Mattress)	MAX 570 lbs	MAX 258.5 kg
Sound Pressure Level (Measured 1m from Device)		
Bed Operation - at Maximum Load (Safe Working Load)	< 54 dBA	

**All dimensions are nominal and have approximate manufacturing tolerances of ± ½" (12.7 mm) for length/height and ± 2° for angular dimensions. Exception Specification of Head Section Angle to 0° to 60° +2°/-4°.*

1.6 Important Electrical Precautions

AC Power Outlet Requirements	
120 VAC models	Plug the three prong power supply cord **ONLY** into a properly grounded 120 VAC, 60 Hz power outlet that is rated to at least 10 A.

⚠ DANGER

Possible **ELECTROCUTION Hazard**

DO NOT expose the AC power supply cord or other electrical components to water.

DO NOT allow the power supply cord, AC power outlet, auxiliary AC outlet socket (if equipped), actuators, control boxes or pendant (if equipped) to become wet or submerged during normal bed operation or when performing cleaning.

DO NOT submerge the bed frame or electrical parts. **DO NOT** allow liquids to enter electrical components. If a liquid is spilled in or around the bed, unplug the bed before cleaning. Clean up the spill and allow the bed and/or the area around the bed to dry thoroughly before using the controls again.

DO NOT open assemblies such as actuators, control boxes, battery, and pendant (if equipped). These parts are not serviceable. Only service technicians, specifically trained to service CHG Hospital Beds Spirit™ beds, should attempt to service bed and/or replace electrical components.

DO NOT use the auxiliary AC outlet socket (if equipped) if the socket receptacles appear to be damaged and/or if the plug (of the device that you are connecting the bed to) does not remain connected when inserted in the outlet socket receptacles.

⚠ DANGER

Possible **EXPLOSION Hazard**

DO NOT use near explosive gases. **DO NOT** operate this bed in the presence of a flammable anaesthetic mixture with air or with nitrous oxide.

DO NOT use this bed in Active Treatment "Ether Environments".

⚠ DANGER

Possible **FIRE Hazard** exists when connecting (plugging in) the power supply cord to an AC power outlet if oxygen administering equipment is in use.

Use either a patient nasal mask or half-length tent, ensuring the tent **NEVER** extends below the mattress deck, when administering oxygen.

⚠ DANGER

Possible **FIRE Hazard** exists if the pendant is not disabled when oxygen administering equipment is in use. If bed is equipped with a pendant, disconnect the pendant from the port at the side of the bed and insert pendant into its holster or attach pendent to bed linen using the included linen clip when not in use.

⚠ WARNING

DO NOT operate the bed if any actuator has malfunctioned or has been damaged in any manner.

DO NOT open assemblies such as actuators, control boxes, battery, and pendant (if equipped). These parts are not serviceable.

⚠ WARNING

Possible **ELECTRIC SHOCK Hazard** exists when servicing bed and/or replacing electrical components.

ALWAYS disconnect bed from the AC power outlet and ensure that the capacitor inside the CB09 control box has been fully discharged before servicing bed and/or replacing any electrical components. After the bed has been disconnected (unplugged) from the AC power outlet, fully discharge the CB09 control box by sequentially depressing the UP and DOWN buttons on one of the siderail controls or on the pendant (depending upon how bed is equipped) at least 20 times.

Only service technicians, specifically trained to service CHG Hospital Beds Spirit™ beds, should attempt to service bed and/or replace electrical components.

⚠ WARNING

All Spirit™ beds are equipped with a power supply cord storage device located at the head end of the bed. **ALWAYS** keep the power supply cord clear of any moving bed parts or mechanisms. The power supply cord should **ALWAYS** be stowed whenever moving, transporting, or storing the bed.

DO NOT allow the power supply cord and/or pendant cord to become entangled around other objects. A pinched power supply cord and/or pendant cord can become damaged and could be dangerous. Be aware of the power supply cord and/or pendant cord location especially when moving the bed.

DO NOT roll the bed over the power supply cord or pendant cord. **DO NOT** operate the bed if the power supply cord and/or pendant cord is damaged. **ALWAYS** keep power supply cord and/or pendant cord clear of moving equipment. The power supply cord is a replaceable component by service personnel. Contact Stryker Medical Technical Service at toll free 1-800-327-0770 (USA) or 1-800-668-8323 (Canada) for further assistance.

DO NOT position the bed so that it is difficult to disconnect the power supply cord should the need ever arise. **DO NOT** use an extension cord.

⚠ WARNING

Some versions of CB10 control box are **NOT** interchangeable and **MUST NOT** be installed on some beds. Bed may not operate as intended if incorrect version of the CB10 control box is used.

ALWAYS confirm replacement part numbers and/or control box circuit board revisions are the same prior to installation. Contact Stryker Medical Technical Service at toll free 1-800-327-0770 (USA) or 1-800-668-8323 (Canada) for further assistance.

⚠ CAUTION

Connecting electrical equipment to auxiliary mains AC outlet effectively leads to creating a medical equipment system and can result in a reduced level of safety. When connecting devices, the system shall be evaluated in end use application to ensure compliance to medical device standard 60601-1.

⚠ CAUTION

A safety feature of this product includes protection against overheating caused by excessive or extended periods of operation. Depending on the duration, this includes multiple or repeated adjustments or the use of multiple functions at once.

To ensure trouble free operation, **ALWAYS** allow a slight pause between multiple adjustments. **DO NOT** exceed the maximum continuous mode of operation. Refer to page 12 for complete technical specifications.

If thermal protection activation should occur, the bed will not respond to staff commands from any control location and the CB09 control box will need to be service and/or replaced.

⚠ WARNING

Always keep the footboard installed and locked when a patient is left unattended. When removing the footboard, if the mating spring-return connector cover on the bed is damaged or does not return to properly to cover the terminals, reinstall and lock the footboard then have the bed serviced. Never touch an exposed terminal and the patient simultaneously.

1.6.1 Battery Back-up

Battery Location

All Spirit™ beds are equipped with a rechargeable, back-up battery. The battery is located under the knee section of the mattress deck mounted to the bed frame cross member of the patient left side of the bed on all Spirit™ beds. Refer to pages 76 for battery location.

Battery Charging and Operation Characteristics

The battery is continuously charged when connected to the CB10 control box and the bed is plugged into an AC power outlet. When the bed is unplugged from the AC power outlet, the bed is powered by the battery. Refer to pages 78 to ensure proper battery cable connection.

The footboard staff control on Spirit™ beds has an integrated power status indicator. When the ATTN light is flashing, the battery requires inspection. Refer to page 55 for power status indication.

The battery is maintenance free, however battery life is not indefinite, and thus semi-annual inspection is required to verify operation. Refer to page 66 for details. In the event the battery is deemed to be faulty, does not hold a charge, will not operate the functions of the bed while the bed is disconnected (unplugged) from the AC power outlet, or if the battery case or mounting hardware has been damaged in any way, replace the battery.

⚠ WARNING

After connecting a battery to the CB10 control box, the bed **MUST** be plugged into an AC power outlet to energize the battery circuit and enable bed operation under battery power. This **MUST** be performed regardless of the battery charge condition.

⚠ WARNING

Emergency bed functions cannot be guaranteed under abnormal operating conditions.

ALWAYS be aware of the power status indicator and take appropriate action when the ATTN light is flashing. **ALWAYS** perform periodic battery inspection.

⚠ WARNING

Potential **ELECTROCUTION, EXPLOSION,** and/or **FIRE HAZARD**

These potential hazards could occur resulting in injury or loss of life in addition to equipment damage can occur if battery is replaced with components other than those approved for use on the Spirit™ bed by CHG Hospital Beds.

⚠ WARNING

EXPLOSION or FIRE HAZARD

DO NOT expose the battery to heat. Keep away from flames and sparks

⚠ WARNING

DO NOT connect battery to CB09 control box. The battery may overheat causing it to swell, leak acid, and/or explode.

Connect battery only to CB10 control box. If you have to replace your CB09 control box call Stryker Medical Technical Service to ensure that you have the correct version of this component at toll free 1-800-327-0770 (USA) or 1-800-668-8323 (Canada).

⚠ WARNING

If a sulphuric odour (smells like a burnt match) is detected, or if any residual leakage is found on or around the area of the battery, **ALWAYS** replace the battery immediately.

Battery is **NOT** a serviceable item. **DO NOT** attempt to open the battery. In the event that the battery enclosure has been compromised, avoid contact with internal components. Internal components are primarily lead oxide and electrolyte (sulphuric acid).

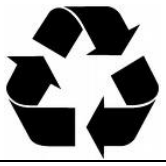
In the event a person is exposed to sulphuric acid, flush contacted area with large amounts of water for at least 15 minutes. Remove contaminated clothing and seek medical attention if necessary. An eye wash station and emergency shower should be readily available. If swallowed, give large amounts of water. **DO NOT** induce vomiting. Seek medical attention immediately.

Lead-acid batteries can be **HAZARDOUS** to your health. Short-term exposure – Sulphuric acid may cause irritation of eyes, nose and throat. Prolonged contact may cause severe burns. Long term exposure – repeated contact causes irritation and skin burns. Repeated exposure to mist may cause erosion of teeth, chronic eye irritation and/or chronic inflammation of the nose, throat, and bronchial tubes.

If a sulphuric acid spill is found under the bed, dilute the spill cautiously with five to six volumes of water and gradually neutralize with sodium bicarbonate, soda ash or lime. When exposure level is not known, wear NIOSH approved positive pressure self-contained breathing apparatus. Reference North American Emergency Response Guidebook #154 (or equivalent current documentation). Be sure to wear acid resistant gloves, safety glasses, and acid resistant clothing when cleaning a sulphuric acid spill.

⚠ CAUTION

ALWAYS unplug the bed from the AC power outlet before connecting or disconnecting the battery.



⚠ CAUTION

ALWAYS dispose of faulty batteries or batteries that have reached the end of their service life according to local laws and regulations. Lead acid batteries are completely recyclable.

1.6.2 Grounding

This electric bed must be grounded. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current, thereby reducing the risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounded plug. The plug must be inserted into an appropriate AC power outlet that is properly installed and grounded in accordance with all local electrical codes and ordinances.

⚠ DANGER

Improper connection of the equipment-grounding conductor can result in electrocution. Check with a qualified electrician or service person if you are doubtful that the electrical outlet is properly grounded.

DO NOT modify the three prong plug provided. If it will not fit into the AC power outlet, have a proper AC power outlet installed by a qualified electrician.

Grounding reliability can only be achieved when bed is connected to an equivalent receptacle marked "**HOSPITAL ONLY**" or "**HOSPITAL GRADE**".

1.7 Important Mechanical Precautions

⚠ WARNING

Safe Working Load of Bed

227 kg (500 lbs)

DO NOT overload the bed. The total combined weight of patients, visitors, mattress, additional equipment/accessories, and bedding **MUST NOT** exceed 227 kg (500 lbs)

⚠ WARNING

Maximum Patient Weight

162 kg (357 lbs)

Patient weight is based on a typical bed setup (20 kg mattress + 45 kg additional accessories)

⚠ WARNING

Safe Working Load of Siderails

80 kg (176 lbs)

DO NOT exceed a 80 kg (176 lbs) load on any siderail

⚠ WARNING

Minimum Patient Weight

22.7 kg (50 lbs)

⚠ WARNING

Minimum Patient Age

2 years old

⚠ WARNING

DO NOT use headboards or footboards from other manufacturers on any Spirit™ bed. Spirit™ beds are specifically designed and manufactured for use in conjunction with CHG Hospital Beds accessories. Accessories designed by other manufacturers have not been tested by CHG Hospital Beds and are not recommended for use on Spirit™ beds.

On Spirit™ beds, **ALWAYS** ensure that the headboard and footboard brackets are properly attached to the frame before use.

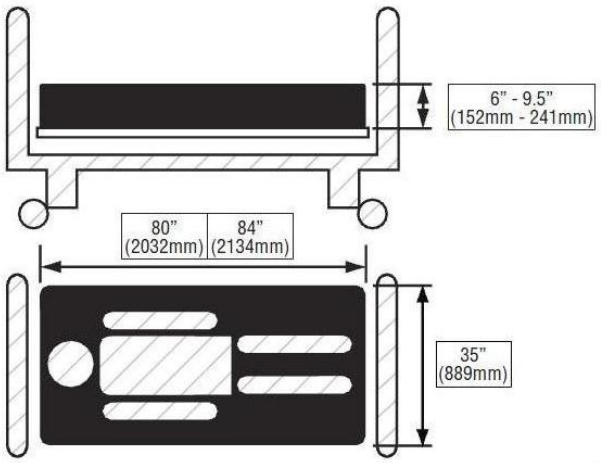
1.8 Mattress Specifications

A mattress is not included with the Spirit™ bed. A CHG Hospital Beds mattress is recommended.

Any mattress that is used on the Spirit™ bed must suitably fit on the mattress deck and fit snugly within the confines of the 4 corner mattress keepers having a width of 35” (889mm).

The length and width of the mattress **MUST** suitably fit on the mattress deck in either the 80” (2032 mm) or 84” (2134 mm) configuration.

DO NOT use the bed without a mattress having a thickness of at least 6" (152 mm) but not more than 9-1/2” (241 mm).



⚠ WARNING

For mattress cleaning instructions, please see the tag on the mattress, IFU document (2710-009-001) or contact the mattress manufacturer.

⚠ WARNING

The mattress **MUST** entirely rest upon the mattress deck. The mattress **MUST** fit snugly within the 4 corner mattress keepers.

Incompatible mattresses can create hazards. **DO NOT** use this bed without a special mattress specifically designed to bend and conform to the shape of the bed. **DO NOT** use water filled or gel filled mattress on this bed.

⚠ WARNING

Possible patient **ENTRAPMENT Hazard** or **FALL RISK** if using non-specified mattress.

Patient entrapment may result in injury or death. Use only a mattress of recommended specifications with this bed. CHG Hospital Beds will not be responsible for any injury to patient and/or staff and/or damage to bed that may result with use of non-specified mattress.

⚠ WARNING

CHG Hospital Beds recommends that the customer perform a thorough patient assessment to determine if the bed system and mattress selection is appropriate for the patient on the basis of their clinical needs, fall risk, and mental capacity. CHG Hospital Beds is of the belief that to ensure maximum patient safety, there is simply no substitute for frequent patient monitoring by qualified healthcare practitioners. CHG Hospital Beds also recommends that the customer conduct and document a patient entrapment risk assessment for every mattress combination that is intended for use on the Spirit™ bed in both the flat (horizontal) and articulated positions to identify and address any exposure to areas of potential patient entrapment and/or fall risk as part of a comprehensive and proactive bed safety program.

⚠ WARNING

A potential increase in **FALL RISK** may result when using the Spirit™ bed with a mattress having a thickness greater than 6" (152mm). All patients should be monitored closely and CHG Hospital Beds recommends that when a patient is to be left unattended the bed should **ALWAYS** be lowered to the lowest position.

1.9 General Precautions

⚠ WARNING

Close supervision by trained healthcare practitioners is **ALWAYS** necessary when this product is used by or near children and/or people with disabilities.

DO NOT let any person climb/crawl underneath the bed, between the bed legs and/or the raised bed frame components at any time.

⚠ WARNING

DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as owner's manuals, service manuals, or instruction sheets supplied with this product or optional equipment.

If you are unable to understand the warnings, cautions or instructions contact a healthcare professional, your Spirit™ bed dealer, or a service technician, specifically trained to service CHG Hospital Beds Spirit™ beds, before attempting to install and/or use this equipment, otherwise injury to the patient and/or staff and equipment damage may occur.

⚠ WARNING

DO NOT drop the bed. **DO NOT** allow patients to fall onto and/or jump on the bed.

These types of activity can cause impact loads that can permanently damage the actuators and/or other bed components resulting in an inoperable bed.

In the case of an inoperable bed due to a damaged actuator, replace the actuator immediately. If left unattended, a damaged actuator could result in injury to the patient and/or staff and additional equipment damage.

⚠ WARNING

Check all parts for shipping damage and test bed to confirm proper operation before putting the bed into active service.

DO NOT use bed if any component damage is discovered or a service technician suspects that damage has occurred. A damaged bed may expose staff and/or patients to unforeseen safety hazards. Contact your Spirit™ bed dealer or a service technician, specifically trained to service CHG Hospital Beds Spirit™ beds, for further instruction.

Before the bed is returned to active service after any adjustment, repair, and/or service have been performed, **ALWAYS** ensure that all attaching hardware is tightened securely.

⚠ WARNING

NEVER allow patients to use trapeze or traction units as a total individual weight support.

Traction units are to be only used for immobilizing a patient in various, therapeutic, traction set ups and/or positions that have been clinically prescribed by a trained healthcare practitioner. Trapeze units (lifting poles) are to be only used to assist patient when repositioning and/or transferring into or out of the bed.

⚠ WARNING

Unauthorized modifications to the equipment can result in **HAZARDS**. **DO NOT** modify the Spirit™ bed and/or any accessories without written authorization from CHG Hospital Beds.

Use only authorized CHG Hospital Beds replacement parts and/or accessories otherwise the warranty is void. CHG Hospital Beds will not be responsible for any injury to patient and/or staff and/or damage to bed that may result.

⚠ WARNING

ALWAYS keep all moving parts, including the main frame of the bed, the bed legs, the mattress deck, and all actuator shafts free of obstructions (i.e.: window sills, radiators, bed side cabinets, under bed tables/trays, chair rails, consoles, blankets/bed linens, heating blankets/pads, tubing, wiring, etc., and other types of products using electric cords which may get tangled around the bed, siderails or legs) during bed operation. **NEVER** store anything under the bed.

ALWAYS take the necessary precautions to avoid squeezing/shearing of routed cables from other equipment in the moving parts of the bed.

⚠ CAUTION

DO NOT stand on the bed or concentrate weight on any particular sections of the mattress deck. Patient body weight should be evenly distributed over the surface of the bed. **DO NOT** lay, sit or lean in such a way that the patient's entire body weight is placed only on elevated head or foot sections of the bed. This includes situation when assisting the patient to reposition and/or transfer into or out of the bed.

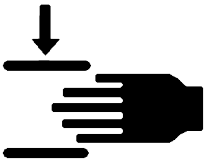
Ensure all hinges of the mattress deck sections are properly aligned before raising head or knee sections. All four sections of the mattress deck can be detached for thorough cleaning, sanitization, and maintenance. Refer to page 69 for instructions.

⚠ CAUTION

A patient hoist can be used with this bed however due to the ultra-low height, it has limited underbed clearance therefore the bed must be partially raised to allow the patient hoist to roll freely under it. Failure to raise the bed may result in damage to the bed when patient hoists are used.

⚠ CAUTION

The Footboard is **NOT** designed for use as a patient therapy device. **NEVER** use the Footboard as a resistance device. Any undue forces, bending or flexing of the footboard may permanently damage the footboard and any associated electrical connections.



⚠ CAUTION

Potential **PINCHING HAZARD** exists between articulating deck sections and bed frame. Moving parts and/or powered bed mechanisms can cause **SERIOUS INJURY**. Only operate bed with persons clear of all mechanisms. **ALWAYS** keep hands clear of moving bed parts.

Ensure that the backrest remains free from all obstructions. Obstructions could impair normal bed operation and/or cause component damage and/or injury. If an obstruction is detected elevate the backrest to clear obstruction before attempting to remove any obstruction.

1.10 Standard & Optional Features

Feature	Spirit Plus™
5” (125 mm) Casters	Standard
4 Corner Mattress Keepers	Standard
2 Patient Restraint Loops	Standard
2 Drainage Bag Holders	Standard
Moulded Plastic Head/Footboards	Standard
Moulded Plastic High Siderails c/w Integrated Staff, Patient Controls, and Nurse Call Feature	Standard
Wood Laminate Head/Footboards	Optional
Patient Handheld Control (Pendant)	Optional
Underbed Obstruction Sensing	Optional
Underbed Lighting	Optional
Auxiliary AC Power Outlet Socket	Optional
4” (102mm) “Easy Bed” Extension System	Optional
Mental Health Package c/w Tamperproof Fasteners, Non-Removable Deck Sections, Non-Removable Head and Footboards, Non-Removable Control Box Actuator Cover, and Power Supply Cord exiting from base assembly	Optional*

⚠ WARNING

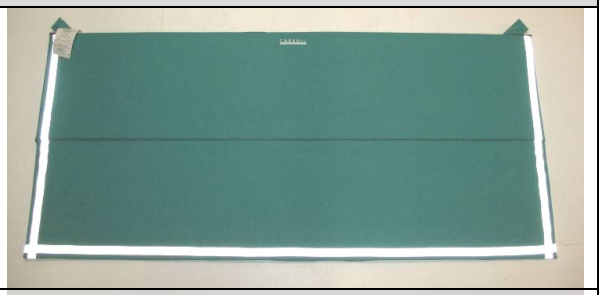
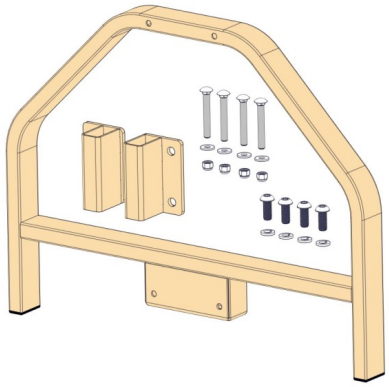
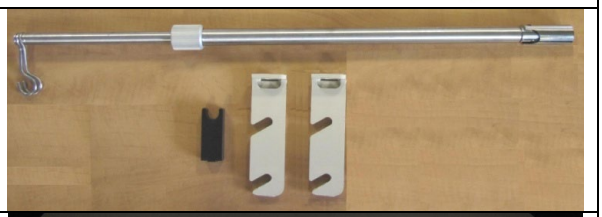
*A Spirit™ bed outfitted with the optional Mental Health package is a customer requested bed configuration that is intended to perform a specialized function and has several unique differences from regular production beds.

* A Spirit™ bed outfitted with the Mental Health package is **NOT** intended for normal unit use.

1.11 Siderail Assemblies

Your Spirit™ bed may be equipped with one of the following types of siderail assemblies:	
Siderail Types	
High Plastic Siderails	Standard
High "Filled-in" Plastic Siderails	Optional

1.12 Optional Accessories

Accessory	Spirit Plus™	Picture
Padded Floor Mat	A3321	
Mattress Pump & Accessory Hanger	A2601	
Removable Universal Trapeze Adapter	A2404	
Collapsible IV Pole and Brackets	A2355	
Vertical Oxygen Tank Holder	A2210	

***Accessory, once installed onto and/or fastened to bed is no longer considered detachable*

1.13 Detachable Components

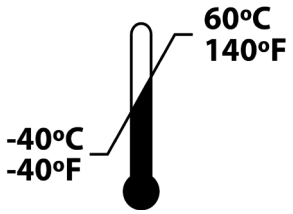
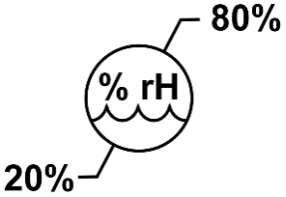
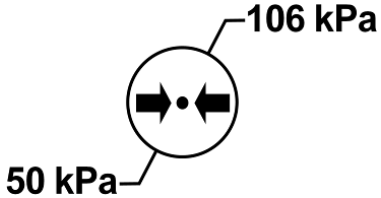
	**⚠ CAUTION** **NEVER** attempt to install a headboard at the foot end of the bed and vice versa. **ALWAYS** ensure that the footboard is installed in the proper orientation. The footboard staff control **MUST ALWAYS** face away from the patient. **NEVER** drop a footboard. A damaged footboard staff control and/or footboard staff control connector could result in the inability to operate the bed from this control point.

	**⚠ CAUTION** On Spirit™ beds configured with wood laminate head/footboards, the footboard cable **MUST** be disconnected before the footboard can be removed from the bed. Failure to disconnect the footboard cable prior to footboard removal may result in component damage and/or the inability to operate the bed from the footboard staff control.

1.14 Applied Parts

CHG Hospital Beds considers that the following are the Applied Parts of the Spirit™ bed: any head/footboard assemblies, head/footboard bracket assemblies, any siderail assemblies, all sections of the mattress support platform (deck) and associated mattress keepers, any CHG Hospital Beds' supplied pendant (if equipped), any CHG Hospital Beds supplied (Prevention Surface) mattress (if equipped).

1.15 Storage & Transport

Environmental Conditions for Storage and Transport		
		
Ambient Temperature Range	Ambient Humidity Range (Non Condensing)	Atmospheric Pressure Range

During extended periods of disconnect from an AC power outlet, the battery is susceptible to permanent damage caused by being deep discharged. All Spirit™ beds are equipped with a disconnect feature which automatically disengages the battery from the battery circuit to prevent damage from being deep discharged. There is no need to disconnect the battery when a Spirit™ bed is going to be put into storage, however, the CB10 control box will continue to draw power until the battery voltage has hit the 18V threshold which triggers the automatic circuit disconnection.

IMPORTANT: A battery voltage of 18V is insufficient to operate the bed. Reconnect bed to an AC power outlet as soon as possible to and allow battery to charge for a period of 24hr to ensure that the bed will reliably operate on battery power when needed.

IMPORTANT: To conserve battery life during storage and transport, disconnect the battery from the CB10 control box. On Spirit™ beds equipped with CB10 control boxes, even if a battery was fully charged when it was unplugged from the control box, the bed will not operate on battery power if the battery is simply reconnected to the control box. The bed must be connected to an AC power outlet to energize the battery circuit. This will enable bed operation on battery power.

⚠ CAUTION

DO NOT re-use any original packaging material to transport the bed.

ALWAYS transport the bed by rolling the bed on its casters.

ALWAYS ensure the Central "Lock & Steer" system is in the "BRAKE" position before attempting to lift/lower bed. **ALWAYS** ensure that the Central "Lock & Steer" system is in the "BRAKE" position after the bed is loaded onto transportation vehicle. Use additional strapping or tie downs as necessary to ensure the bed does not move while in transport.

DO NOT use the siderails as a means of mechanically restraining the bed during transportation and/or storage. **DO NOT** use the siderails as lifting points for the bed during transportation and/or storage.

NOTE:	CHG Hospital Beds recommends that following any storage and/or transportation in extreme temperature conditions that you allow the bed to acclimatize for a period of at least 24 hours before the bed is operated/powered up and/or put into service.

1.16 Ultra-Low Feature

The Spirit™ product line is a family of ultra-low beds, designed to reduce patient injury due to falls out of bed. Therefore, in an effort to reduce patient injury, CHG Hospital Beds recommends that you **ALWAYS** lower the bed completely to the lowest position before leaving a patient unattended.

Regardless of the purpose for which bed rails are being used or considered, a decision to utilize or remove those in current use should occur within the framework of an individual patient assessment. For Further information refer to the FDA's website at http:/www.fda.gov/cdrh/beds/ for Clinical Guidance for the Assessment and Implementation of Bed Rails in Hospital, Long Term Care Facilities, and Home Care Settings.

Available floor mats and nurse call can be used in conjunction with the low bed based on the patient assessment and care plan.

Section 2:

Set-Up Instructions

2.1 Unpacking Instructions

Follow these instructions to unpack and set up the bed. These instructions are for reference only, as your shipping materials may vary.

⚠ CAUTION

To Prevent permanent damage to this unit, please let the unit reach room temperature prior to use (18.3 to 26.77°C or 65 to 80°F)

⚠ CAUTION

Equipment DAMAGE may result from improper plastic tie wrap removal.

DO NOT cut any trimmed plastic tie wraps. Trimmed plastic tie wraps are permanent features on the Spirit™ bed.

⚠ WARNING

BED IS TOP HEAVY!!!

Bed may **TIP OVER** when positioned upright during storage and/or transport

⚠ WARNING

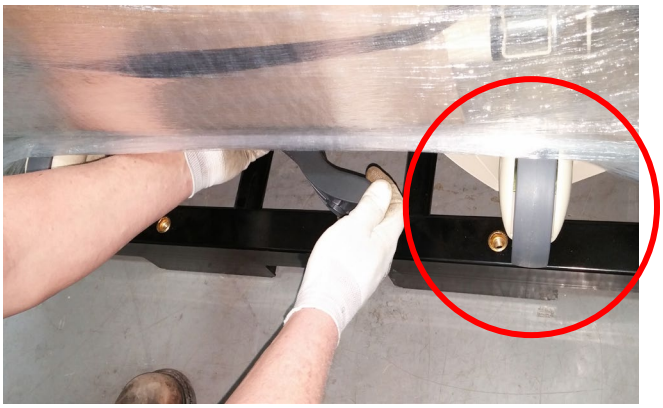
BED IS HEAVY!!!

Improper handling may result in serious injury to personnel and/or damage to bed.

Use proper lifting techniques when lifting or lowering bed.

DO NOT attempt to lower bed without assistance.

Required Tools	
Knife	Side Cutters
Drill/Driver	¾" Socket
#3 Phillips Bit	5/16" Socket



Ensure the brake is engaged before attempting to lower/lift the bed. Attempt to rotate a caster to confirm that the brake has been engaged.

Ensure correct orientation of the casters once locked. Casters should be oriented lengthwise with the bed (circled).

***IMPORTANT:** Prior to lowering the bed, ensure that you have adequate room. At least 8 feet is required to lower the bed from the upright transportation/storage position.

MANUAL LOWERING OF BEDS:

The Spirit™ bed is typically shipped standing on-end, use sufficient manpower to carefully lower it to the floor.

Firmly grasp the bed frame at the foot end of the bed (circled). Begin lowering the bed by gently pulling the bed from the upright position and slowing walking backwards.

Continue lowering the bed by slowing walking backwards. It may be necessary to reposition your grip to allow further lowering of the bed.

***IMPORTANT:** Communicate with the other people before adjusting your grip!

At this point, maintain your grip, lock your arms, and lower the bed to the floor by bending your knees.

*IMPORTANT:

Do not drop bed!

⚠ WARNING

DO NOT drop the bed when lowering during storage and/or transport. If the bed is dropped, permanent damage to bed components may occur. This may result in an inoperable bed or a bed with severely impaired operation.

DO NOT use a bed that has been dropped. Non obvious damage may have occurred that may expose staff and/or patients to unforeseen safety hazards.

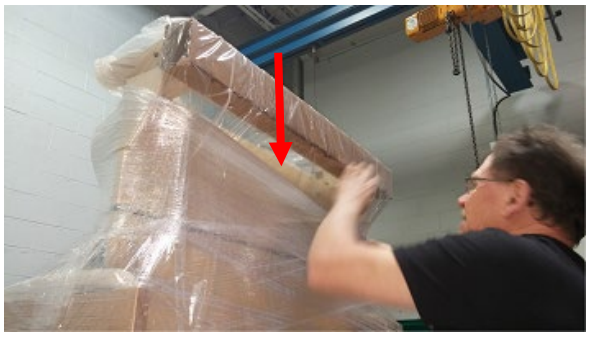
The Central "Lock & Steer" system **MUST** be in the **"BRAKE"** position prior to attempting to lower/lift the bed. If the brake has not been engaged, the bed may roll away from personnel while attempting to lower/lift the bed. This may result in a very rapid descent and/or unexpected bed motion that may cause severe **INJURY** to personnel lowering/lifting bed and/or permanent **DAMAGE** to bed.

Before lowering/lifting bed, **ALWAYS** attempt to roll/rotate a caster to confirm that the brake is engaged.

DO NOT use the siderails as lifting/lowering points for the bed.

DO NOT use the siderails as a means of mechanically restraining the bed during transportation and/or storage.

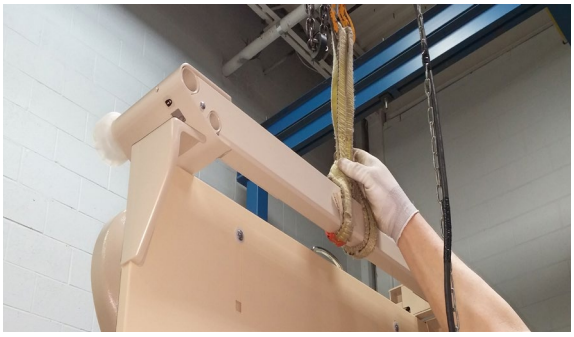
CRANE-ASSISTED LOWERING OF BEDS:



While the bed is upright, pull the shrink wrap down, away from the footboard bracket.

Using a knife, cut the plastic bag covering the footboard bracket.

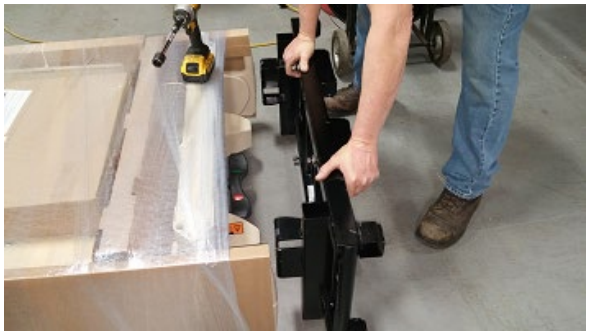
***IMPORTANT:** Ensure plastic bag is cut along the cardboard protector to prevent damage to the bed.

	Ensure the footboard bracket is fully clear to allow the crane device to properly attach to the footboard bracket.
	If using a crane device, ensure the strap is secured in the **centre** of the footboard bracket. ***IMPORTANT:** Ensure the crane strap is not placed over the blindmate connection.
	Begin to lower the bed using the crane device. Monitor the head end of the bed (shipping stand), to ensure there is no "kick out" of the bed.
	Continue to lower the bed. **<u>DO NOT</u> drop the bed when lowering during storage and/or transport. If the bed is dropped, permanent damage to bed components may occur. This may result in an inoperable bed or a bed with severely impaired operation.**

	Ensure bed is fully lowered and placed flat on the ground.

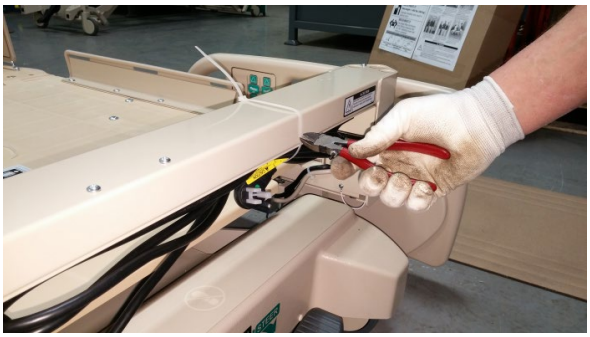
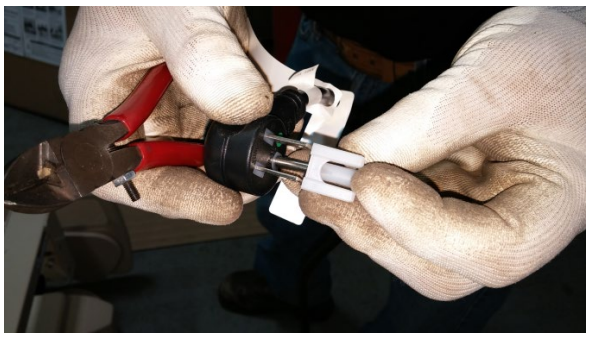
IMPORTANT:
Ensure User Manual is removed from the bed. Keep User Manual with the bed.
Read all warnings documented in the User Manual.

UNPACKING FOR ALL BEDS

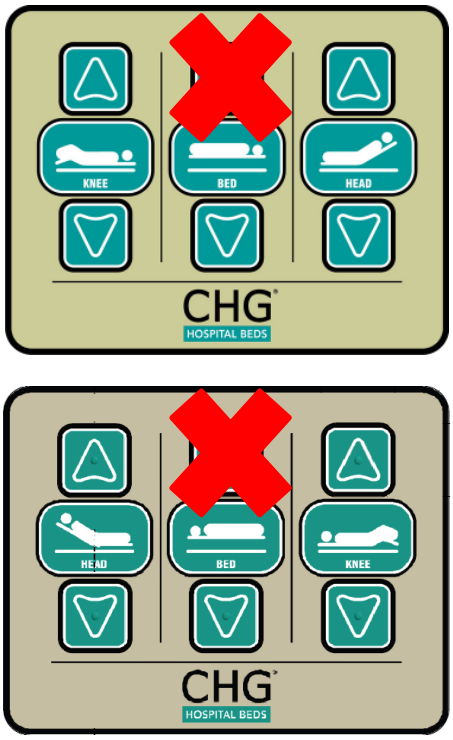
	Using a ¾" Socket with a drill/driver, remove the four bolts securing the ship stand to the bed.
	Once the 4 bolts are removed, insert them into the four designated PEM nuts on the ship stand.
	Remove the ship stand from the head end of the bed.

	Using a knife, cut the shrink wrap around the bed. Start at the cardboard covering for the rails. ***IMPORTANT:** Use light pressure to ensure the knife does not go through the cardboard, resulting in damage to the rails.
	Using side cutters, cut the cable ties, which secure the cardboard rail covers.
	Remove the cardboard rail covers.
	Remove the seat deck cardboard filler.
	Using side cutters, cut the banding strap which secures the head/footboard box to the top of the deck.

	Remove the head/footboard box from the top of the deck.
	Remove the head end cardboard filler.
	Using side cutters, cut the banding strap at the FOOT END of the bed which secures the deck to the frame.
	Using side cutters, cut the banding strap at the HEAD END of the bed which secures the deck to the frame.
	*Manually* lift the **HEAD RAILS**.

	Using side cutters, cut the cable ties which secure the power cord to the headboard bracket.
	Remove the plug cover from the power cord. *The bed is now ready to plug in.*
	Connect bed to mains AC power.

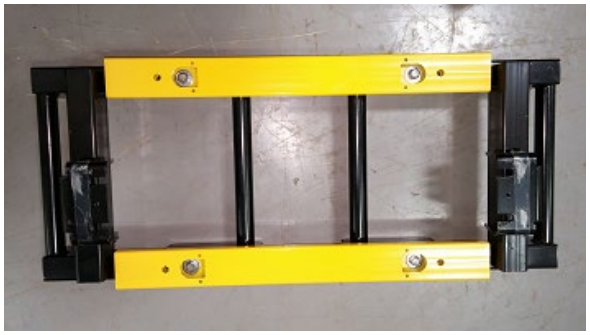
!! IMPORTANT !!



DO NOT PRESS BED UP UNTIL SHIPPING CLAMP BARS HAVE BEEN REMOVED!

The bed is still equipped with the yellow shipping leg clamp bars.

Raising the bed with the shipping clamps installed can cause irreparable damage to the bed and/or components, resulting in an inoperable bed or a bed with severely impaired operation.

	Fully raise Head deck by pressing the HEAD UP button on the side rail controls.
	Disconnect bed from mains AC power.
	Locate 4 x Bolts securing the Shipping Leg Clamp to the frame. There are 2 bolts located at each end of the bed. Using a 5/16” socket with drill/driver remove the bolts securing the shipping clamp to the cross member of the bed frame
	Remove Shipping leg clamp from underneath the bed. Place with previously removed shipping stand.
	Re-use the four small bolts to secure the two yellow shipping clamps to the shipping stand, as shown. This assembly (shown) is to be returned to Stryker Medical London.

	Remove shipping pins from the four saddle brackets on the bed. These pins secure the load cells.
	Manually lift the knee/foot decks to gain access to the CBXX enclosure.
	Connect the battery cable to the side DC jack of the CBXX enclosure. **IMPORTANT:** This will ensure the on-board battery remains fully charged and will be ready for use in the event that mains AC power is disrupted.
	Return mains AC power to the bed.
	Unpack the headboard and footboard from their box. Unpack the four black plastic clips and any mental health hardware (if applicable).

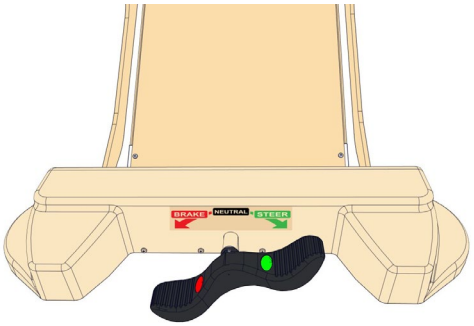
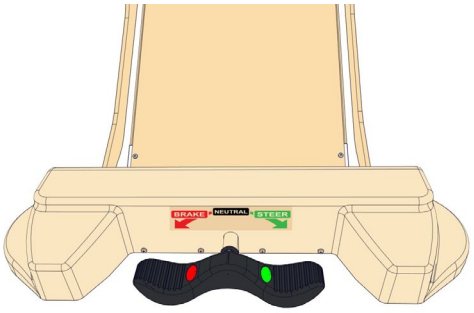
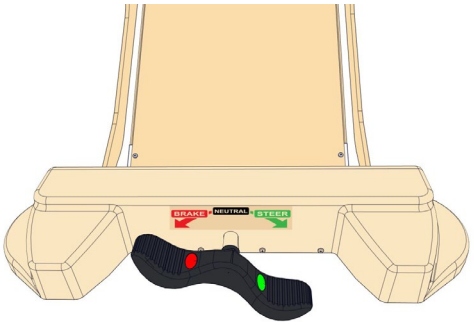
	Place the headboard into the headboard bracket assembly.
	Place the footboard into the footboard bracket assembly. Electrical connection is made when the footboard is inserted into the bracket assembly; footboard becomes inactive when removed.
	Install 4 black plastic barbed clips (from the head/footboard box) into the four holes on the headboard bracket, where the shipping stand was previously attached.
	If your bed is equipped with the optional pendant, unscrew cap on desired pendant port (either side of the bed). Align arrows and insert pendant connector into pendant port. Slide up and screw on threaded retaining collar attached to the pendant.
	The bed **MUST** be initialized before it can be used. Using the BED DOWN button, fully lower the bed using any control location (Footboard staff control, siderail control, pendant, etc.) **IMPORTANT:** Ensure that the power cord is free of moving bed parts

	Once the bed is fully lowered and all bed motion has automatically stopped, CONTINUE to hold the BED DOWN button until the audible "chirp" sounds. Continue to hold BED DOWN for an additional 10-15 seconds to complete the Soft Reset. This process will synchronize the Hi-Lo actuators so that the bed will perform properly.
	Your new Spirit™ bed is now ready for use.

Section 3:

Bed Operation

3.1 Central "Lock & Steer" System

Mode	Caster Functionality	Pedal Position
"BRAKE" Mode used to stabilize the bed from shifting. This mode prevents the bed from moving forwards, backwards or sideways.	Casters **DO NOT** swivel or roll	
"NEUTRAL" Mode used only to manoeuvre the bed in a tight area. This mode allows the bed to move forwards, backwards or sideways.	All casters swivel and roll	
"STEER" Mode used when attempting to steer the bed in a desired direction. All caster wheels can still rotate, enabling the bed to move forwards or backwards.	Head end casters swivel Foot end casters **DO NOT** swivel All casters roll	

⚠ WARNING

Unintended bed movement may occur if bed is left in either of the two mobilized positions; "STEER" or "NEUTRAL".

NEVER leave the bed unattended in either the "STEER" or "NEUTRAL" positions.

ALWAYS engage the "BRAKE" when leaving a patient unattended.

DO NOT attempt to move the bed until the "BRAKE" has been released.

⚠ WARNING

When transferring into or out of the bed, **ALWAYS** ensure that the "BRAKE" is engaged (casters are locked). Inspect the caster locks for correct locking action before actual use.

Even with the "BRAKE" properly engaged (caster properly locked), some flooring surfaces such as tile or wood will allow the bed to move under some conditions. Bed use on surfaces such as these **MUST** be evaluated by the healthcare facility and deemed safe before the bed is put into active service.

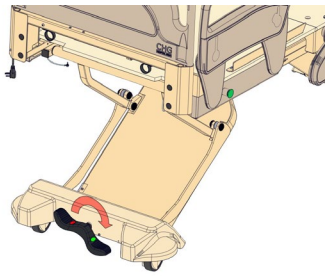
3.1.1 Bed Mobilization & Stabilization

Bed Mobilization

The bed is mobile when the Central "Lock & Steer" pedal is in either the "NEUTRAL" or "STEER" position. Use either of these two pedal positions depending on the situation, when bed mobility is needed.

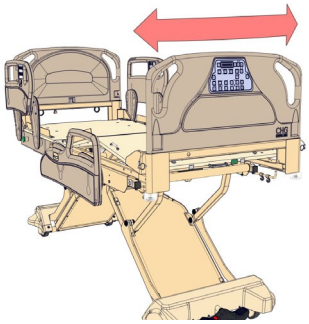
Enable "Steer"

Fully depress the right side of the Central "Lock & Steer" pedal at either end of the bed. Pedal actuation mechanism should make an audible engagement when switching between modes.



IMPORTANT: Depending upon the orientation of the castors, it may be necessary to roll the bed sideways, in a back and forth motion, at the foot end of the bed until the steering casters become engaged in the "STEER" mode.

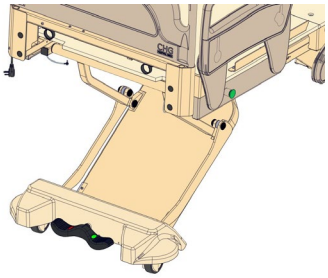
Side-to-Side Motion



Put the bed into "Neutral"

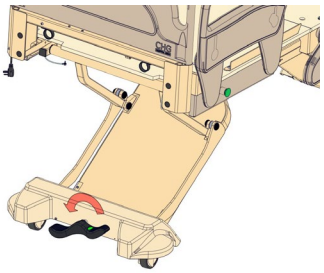
Depress or lift the Central "Lock & Steer" pedal with your foot until the pedal is level. Pedal actuation mechanism should make an audible engagement when switching between modes.

The bed can be put in "NEUTRAL" regardless of caster orientation.



Bed Stabilization

The bed is stable when the Central "Lock & Steer" pedal is in the "BRAKE" position. Use this pedal position whenever the bed is left unattended or when the bed needs to remain stable.



Apply the "BRAKE"

Fully depress the left side of the Central "Lock & Steer" pedal at either end of the bed. Pedal actuation mechanism should make an audible engagement when switching between modes.

The "BRAKE" can be applied regardless of caster orientation.

⚠ WARNING

DO NOT to move the bed until the siderail assemblies have been fully raised/closed and locked/latched in the UP position Refer to page 56 for siderail operation instructions.

NOTE: When the "NEUTRAL" mode is activated properly, the bed should move freely without any unusual noises. If any clicking noises are heard when in the "NEUTRAL" position, stop and ensure that the Central "Lock & Steer" pedal is level. Adjust, if necessary.

3.2 Footboard Locking Mechanism

Footboard Retention

All Spirit™ beds are configured with a footboard locking mechanism (excluding mental health applications). Certain circumstances may require the removal of the footboard (cleaning/maintenance/storage). This mechanism allows for easy removal of the footboard for these purposes.

⚠ WARNING

ALWAYS ensure the footboard is fully seated and the mechanism is fully engaged during patient use. Failure to secure the footboard may result in decreased bed performance and/or patient injury.

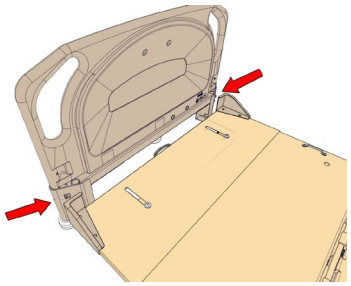
Footboard Removal

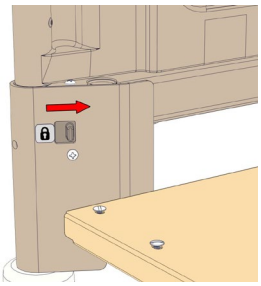
Disconnect the bed from Mains AC power before initiating the removal of the footboard.

Locate the locking mechanism on the inboard side of the footboard bracket denoted by a "lock" symbol.

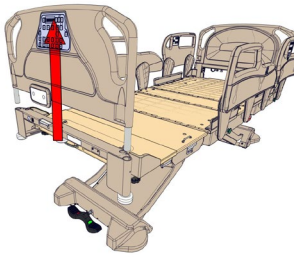
Slide the locking tab towards the inside of the bed frame away from the "lock" symbol.

Repeat for second lock mechanism (opposite side).





Firmly grasp footboard handle holds, and pull up on footboard to remove from the footboard bracket.

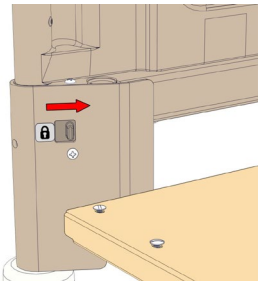


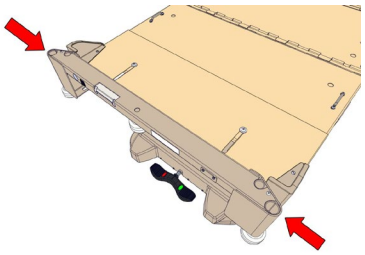
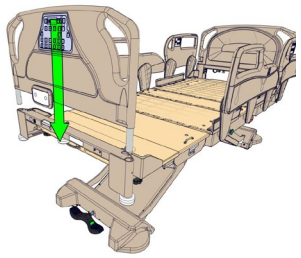
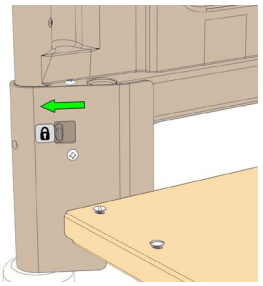
Footboard Installation

Locate the locking mechanism on the inboard side of the footboard bracket denoted by a "lock" symbol.

Ensure the locking tabs are towards the inside of the bed frame away from the "lock" symbol.

Repeat for second lock mechanism (opposite side).



Firmly grasp footboard handle holds, and align footboard posts with footboard bracket receiving tubes. Install footboard into receiving tubes.		
Slide the locking tab towards the outside of the bed frame towards the "lock" symbol. Locking tab should slide easily while engaging footboard posts. Repeat for second lock mechanism (opposite side). Gently "tug" upwards on footboard to ensure footboard is properly seated and secured by the locking mechanism – footboard should experience very little movement.		

⚠ CAUTION

DO NOT force footboard into place, footboard should easily engage and seat in receiving tubes. If footboard fails to install correctly, remove bed from patient use and service bed immediately.

3.3 Bed Control

Depending on the Spirit™ bed you purchased, you will have two or three locations for controlling bed functions.

Control Location	
Patient Handheld Control (Pendant)	Optional
Footboard Staff Control	Standard
Patient/Staff Siderail Controls	Standard

3.3.1 Patient Handheld Control (Pendant)

All Spirit™ beds can be configured to connect an optional patient, handheld, 6 function control (pendant).

The pendant offers patient control of basic bed operations:

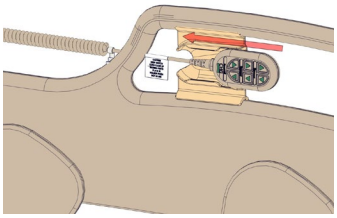
- Head UP/DOWN,
- Knee/Foot UP/DOWN
- Bed UP/DOWN

Pendant Storage

The pendant can be affixed to the bed using a holder. The pendant slips into the holder for easy location and convenient patient access.

On Spirit™ beds equipped with high siderails:

Install the pendant holder into the opening in either foot rail panel. To permanently affix the holder to the bed, screws the holder to the foot rail panel with the fasteners provided.



Optionally, the pendant can be secured to the bed linens with the linen clip provided. Choose a clip location so that the pendant is within easy reach by the patient.

Pendant Connection

The pendant can be connected on either side of the bed (the connection port is just beneath the seat section of the mattress deck on both sides of the bed). Only one pendant can be connected to the bed at a time.

To relocate the pendant to the opposite side of the bed, first, unscrew the threaded retaining cap then carefully disconnect the jack. Reconnect the pendant control cable to the existing port on the other side of the bed.

Pendant Port Alignment and Care

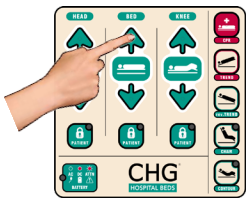
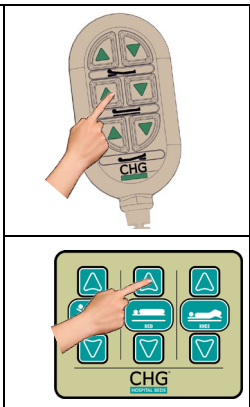
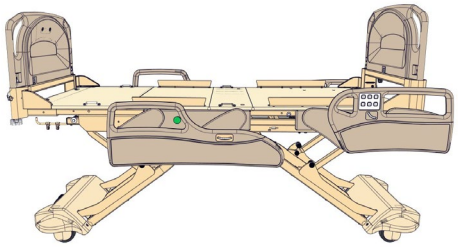
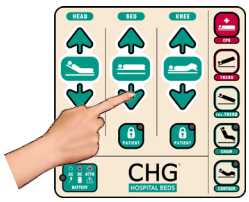
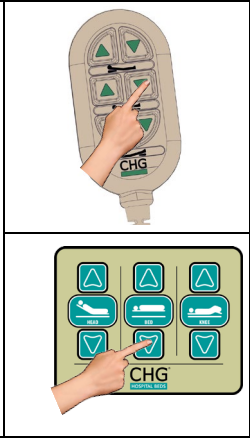
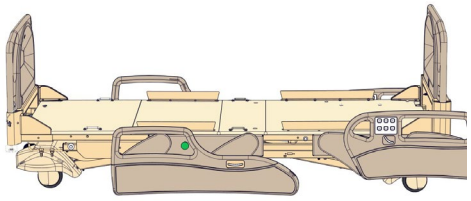
Ensure that the indexing arrows are aligned to enable connection. Insert pendant cable into pendant port until O-ring seats into pendant port and then thread on retaining cap to retain this connection.

To ensure that the pendant port remains free of dirt and debris, **ALWAYS** cap any pendant port not in use. The threaded cap is simply screwed onto the unused end of the pendant T-cable.

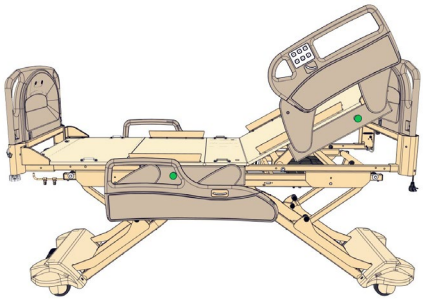
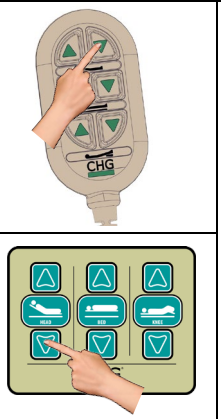
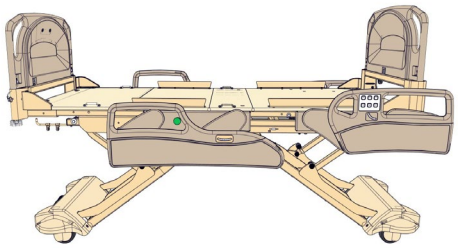
If you relocate the pendant to the other side of the bed, ensure that you cap the unused pendant port.

3.4 Bed Positioning

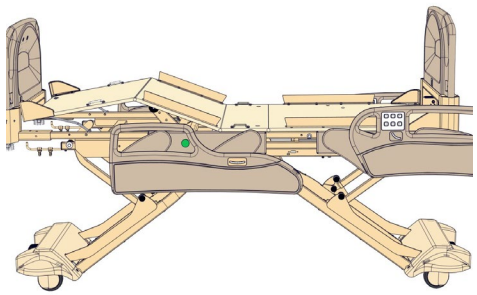
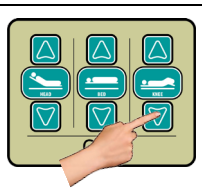
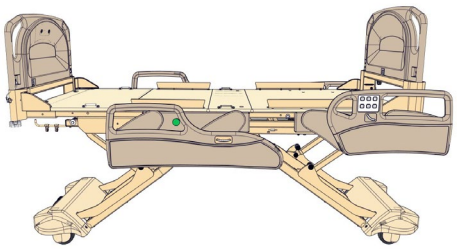
3.4.1 Bed Elevation – HI-LO Operation

To raise the bed, press the BED UP arrow on the footboard staff control, the rail staff controls, or on the pendant. Release the button when the desired elevation has been achieved.			
To lower the bed, press the BED DOWN arrow on the footboard staff control, the rail staff controls, or on the pendant. Release the button when the desired elevation has been achieved.			

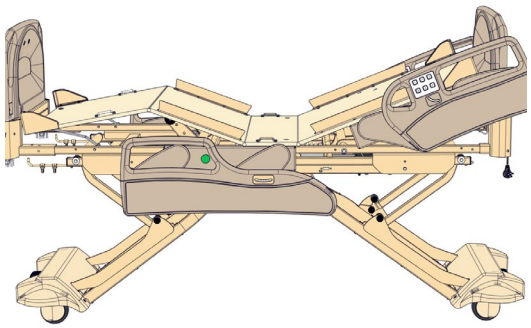
3.4.2 Head Deck (Back Rest) Elevation - Head Actuator Operation

To raise the head section of the bed, press the HEAD UP arrow on the footboard staff control, the rail staff/patient controls, or on the pendant. Release the button when the desired elevation has been achieved.			
To lower the head section of the bed, press the HEAD DOWN arrow on the footboard staff control, the rail staff/patient controls, or on the pendant. Release the button when the desired elevation has been achieved.			

3.4.3 Knee Deck Elevation - Foot Actuator Operation

To raise the knee section of the bed, press the KNEE UP arrow on the footboard staff control, the rail staff/patient controls, or on the pendant. Release the button when the desired elevation has been achieved.		 	
To lower the knee section of the bed, press the KNEE DOWN arrow on the footboard staff control, the rail staff/patient controls, or on the pendant. Release the button when the desired elevation has been achieved.		 	

3.4.4 Auto Contour Mode

When the head section of the mattress deck (back rest) is elevated, there is often the tendency for the patient to slide towards the foot end of the bed. The Auto Contour Mode helps to prevent this motion. The Auto Contour mode automatically raises/lowers the knee section to, correspondingly, whenever the head section is raised or lowered.		
To activate Auto Contour mode, simply press the CONTOUR button. The green LED in the top right corner of the button will illuminate when the Contour mode has been activated. To deactivate Auto Contour mode, simply press the CONTOUR button again. If the CONTOUR button is not illuminated, Auto Contour mode has been deactivated.		

NOTE:	Patient lock-out will override Auto Contour if the knee elevation lock-out has been activated.

3.4.5 Chair Positioning

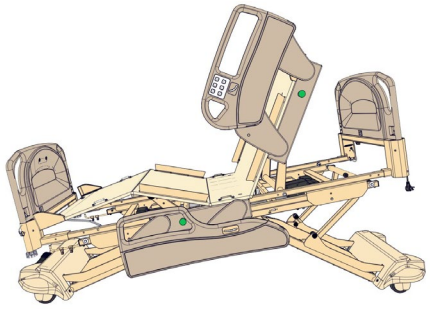
The Chair position allows patient to be placed in an upright seating position.

To Achieve Chair Positioning

Simply **press-and-hold** the CHAIR button.

The bed will automatically articulate into the chair position. The green LED in the top right corner of the CHAIR button will illuminate once the proper reverse Trendelenburg angle has been achieved.

Release the CHAIR button anytime when the desired chair position has been achieved or the bed will stop automatically once the full chair position has been achieved.



To Return the Bed to a Horizontal Position

Simply **press-and-hold** the CHAIR button until the bed is flat and level. The bed will stop automatically.

IMPORTANT: This will only work if the bed is in the full chair position (the green LED in the top right corner of the CHAIR button is illuminated). Either continue to **press-and-hold** the CHAIR button until the full chair position is achieved, then release and **press-and-hold** the CHAIR button until the bed is flat and level or **press-and-hold** the TREND button until the bed is level and **press-and-hold** the CPR button until the bed is flat.

⚠ CAUTION

The reverse Trendelenburg position is integral to Chair positioning configuration. The Spirit™ bed may shift during reverse Trendelenburg activation. Attempt Chair positioning only after the Central "Lock & Steer" system has been put in the "BRAKE" position.

3.5 Emergency & Staff Functions

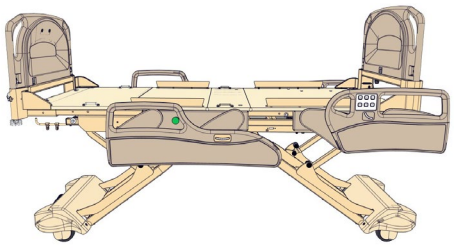
3.5.1 Electronic CPR (Cardiopulmonary Resuscitation) Function

Activation of the Electronic CPR function allows **press-and-hold** flattening of the mattress deck allowing staff to administer CPR to the patient.

Activation of the Electronic CPR Function on the Footboard Staff Control

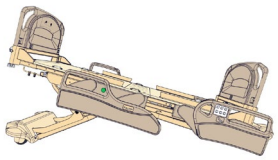
Press-and-hold the CPR button on the footboard staff control. The head and knee sections will automatically lower to flat position.

To interrupt the CPR function, simply release the CPR button. Normal bed operation can be resumed at any time. The Electronic CPR function does not need be deactivated or reset.

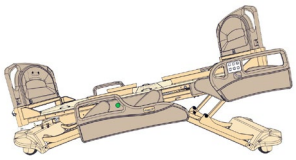


	⚠ CAUTION
	Improper use of the Electronic CPR function may cause patient injury. Once activated, Electronic CPR function will lower head and knee sections to flat position as long as the CPR button is pressed. To interrupt Electronic CPR function, simply release the CPR button.

3.5.2 Trendelenburg Operation

Press-and-hold the TREND button. Release the button once the desired bed angle between 0° and 14° has been achieved. To return the bed to the horizontal position, **press-and-hold** the rev.TREND button. The bed will automatically stop when the mattress deck has returned to the horizontal position. The Trendelenburg angle is shown on the bed frame angle gauge integrated on the staff side of both foot siderails.		

3.5.3 Reverse Trendelenburg Operation

Press-and-hold the rev.TREND button. Release the button once the desired bed angle between 0° and -14° has been achieved. To return the bed to the horizontal position, **press-and-hold** the TREND button. The bed will automatically stop when the mattress deck has returned to the horizontal position. The reverse Trendelenburg angle is shown on the bed frame angle gauge integrated on the staff side of both foot siderails.		

	⚠ CAUTION
	Patient discomfort may result from normal operation of the Trendelenburg and reverse Trendelenburg function. Trendelenburg and reverse Trendelenburg modes should only be used on the advice of a medical practitioner.

	⚠ WARNING
	The Spirit™ bed may shift during Trendelenburg or reverse Trendelenburg activation. Initiate Trendelenburg or reverse Trendelenburg only after the Central "Lock & Steer" system has been put in the "BRAKE" position.

3.6 Patient Lock-Out Functions

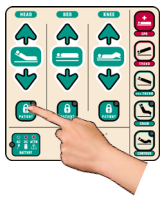
3.6.1 Regular Patient Lock-Outs

Patient Lock-Outs restrict the patient from initiating head, knee, and bed motion from the siderail controls or the pendant (if equipped). The degree of restriction depends on the Lock-Out option selected.

Activating Patient Lock-Out

Staff may choose to restrict patient access to one, two, or all three bed functions. To restrict a bed function, press the Patient Lock-Out button under that particular function. The Lock-Out button indicator will illuminate when patient control of a particular function has been Locked-Out.

IMPORTANT: Patient Lock-Outs restrict bed operation from both of the siderail controls and pendant (if equipped).



Deactivating Patient Lock-Out

To deactivate any/all Patient Lock-Out(s), simply press the Patient Lock-Out button(s) again. When a Patient Lock-Out button is no longer illuminated, patient control of that particular function has been restored.

NOTE:	When Patient Lock-Outs have been activated, the footboard staff control remains fully active.

3.6.2 Master Lock-Out

To completely restrict access to all bed functions (except the Electronic CPR function) from all control locations (staff and patient controls), use the Master Lock-Out function.

Activating Master Lock-Out

To activate the Master Lock-Out, **press-and-hold** all three Patient Lock-Out buttons at the same time. All three Patient Lock-Out button indicators will flash sequentially to indicate that Master Lock-Out has been activated.

IMPORTANT: Master Lock-Out restricts bed operation from all control locations (both siderail controls and the footboard staff control).

Deactivating Master Lock-Out

To deactivate the Master Lock-Out function, simply repeat this process. **Press-and-hold** all three Patient Lock-Out buttons at the same time. When all three Patient Lock-Out buttons are no longer flashing sequentially, Master Lock-Out has been deactivated and both staff and patient control from all control locations has been restored.

NOTE:	When Master Lock-Out has been activated, the Electronic CPR function, Nurse Call, and the underbed light remain operable.

	⚠ WARNING
	When a patient is left unattended, the bed should **ALWAYS** be lowered to its lowest position and the bed elevation controls should be locked-out in order to reduce the risk of patient injury.

3.6.3 Security Lock-Out

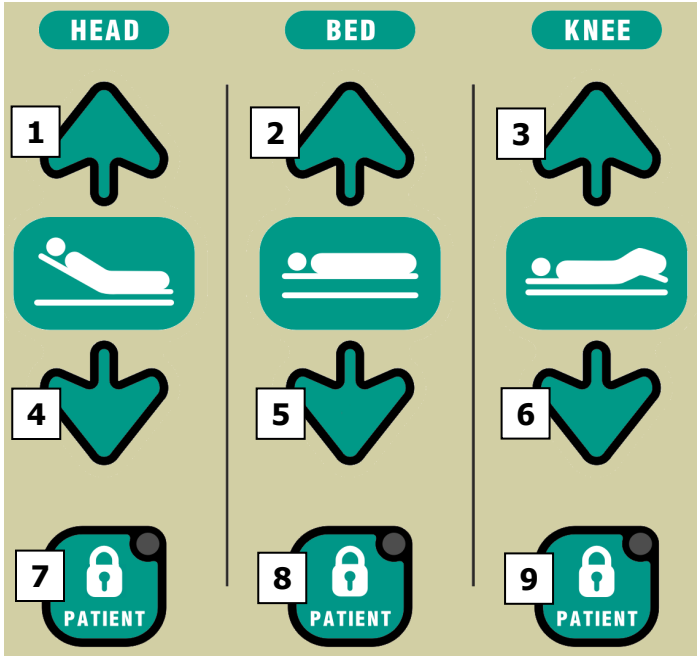
The Security Lock-Out feature allows for a high-security lock-out of **ALL** bed functions (including the Electronic CPR function). A ***"User Passcode"*** is required to perform any/all bed functions. The Security Lock-Out feature must be activated or deactivated as required by the facility.

⚠ WARNING

IMPORTANT: When the Security Lock-Out feature has been activated, **ALL** bed operation **including the Electronic CPR function** from any control location (footboard staff control, both siderail controls, and pendant) is restricted.

Activating the Security Lock-Out Feature

To deactivate the Security Lock-Out feature, a User Passcode must first be created. The User Passcode must be between 1 and 6 digits long. The digits are interpreted from a virtual numeric keypad superimposed over the footboard staff control buttons. Imagine the numbers 1 2 3, 4 5 6, 7 8 9, just as they would appear on a telephone. This is demonstrated below.



Guidelines for Choosing a User Passcode

The number of digits chosen for the User Passcode will determine the level of security provided. A single digit User Passcode is easy for staff to remember and unlock but offers virtually no security. A six digit User Passcode offers very high security but may be a nuisance to staff.

- It is recommended that simple "lines" such as 1-2-3 or 1-4-7 are not chosen since they are relatively easy to guess.
- It is recommended that the code contains at least one of the Patient Lock-Out buttons (7, 8, or 9) since these buttons are not generally used during normal bed operation therefore adding an enhanced level of security.
- Codes that contain repeating digits (i.e.: 1-3-1-7) can enhance security since they are considerably less likely to be guessed.
- Codes that contain patterns of digits (i.e.: all four corners) can help staff remember the User Passcode but offer slightly less security than random codes.

Creating/Changing User Passcode

A User Passcode must first be created before the Security Lock-Out feature can be activated.

To Create the User Passcode:

1. Press the Bed Lock-Out, Knee Lock-Out, and Contour buttons simultaneously. These three Lock-Out buttons will then begin to flash to indicate that the bed is now ready to receive the Security Access Code.
2. Enter the Security Access Code.

Security Access Code: "1881 825 153"

IMPORTANT: This Security Access Code is factory set and is not customizable

3. Once the Security Access Code has been successfully entered, an audible "chirp" will sound three times and the Contour button will also begin to flash to indicate that the bed is now ready to receive the customized User Passcode.
4. Enter a 1 to 6 digit User Passcode of your choosing. Time-out will occur if more than 30 seconds elapses between User Passcode digit input.
5. When the User Passcode has been entered, press the Contour button to complete the process. An audible "chirp" will sound to indicate that the User Passcode has been set and that the Security Lock-Out feature has now been activated.

NOTE: DO NOT allow patients to learn either the Security Access Code or the User Passcode or the Security Lock-Out feature could become compromised!

To Change the User Passcode:

In the event that the User Passcode has been lost or compromised, a new User Passcode can be created. Simply repeat the above steps to change the User Passcode. The User Passcode can be changed as often as required to maintain effective control of the Security Lock-Out feature

If, for some reason, you wish to abort the User Passcode creation/change procedure, simply press the Bed Lock-Out, Knee Lock-Out, and Contour buttons simultaneously to exit User Passcode set up mode. An audible "chirp" will sound twice and the bed will return to its previous state (Security Lock-Out activated or deactivated). The bed will also automatically return to its previous state after 30 seconds of keypad inactivity.

Locking/Unlocking the Bed for use by Staff

To enable any/all bed functions, the bed must be unlocked.

To unlock the Security Lock-Out:

1. Enter the 1 to 6 digit User Passcode.
2. Once the User Passcode has been successfully entered, an audible "chirp" will sound and the three Patient Lock-Out buttons will begin to flash to indicate that the bed is now unlocked. All bed functions are now available from all control locations (the footboard staff control and both siderail controls).

IMPORTANT: There is no feedback during this step. If you make a mistake, or if nothing happens after the User Passcode has been entered, simply re-enter the User Passcode starting at the first digit again There is no need to "cancel" or abort the procedure if you make a mistake while entering the User Passcode as the bed is "looking" only for the complete sequence of digits that comprise the User Passcode.

To re-lock the bed:

When you are finished adjusting the bed positions, press any one of the flashing Patient Lock-Out buttons to re-lock the bed. An audible "chirp" will sound twice to indicate the bed has been re-locked.

OR

The bed will automatically re-lock after 30 seconds of keypad inactivity.

Deactivating the Security Lock-Out Feature

To restore normal bed operation (i.e.: full time control of bed functions from any control location), the Security Lock-Out feature must be deactivated.

To deactivate the Security Lock-Out feature:

1. Press the Bed Lock-Out, Knee Lock-Out, and Contour buttons simultaneously. These three buttons will then begin to flash to indicate that the bed is now ready to receive the Security Access Code.
2. Enter the Security Access Code (**NOT** the User Passcode).
3. Once the Security Access Code has been successfully entered, an audible "chirp" will sound three times and the Contour button will begin to flash.
4. Press the Contour button. An audible "chirp" will sound twice to indicate that the Security Lock-Out feature has now been deactivated.

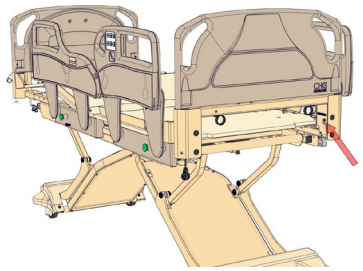
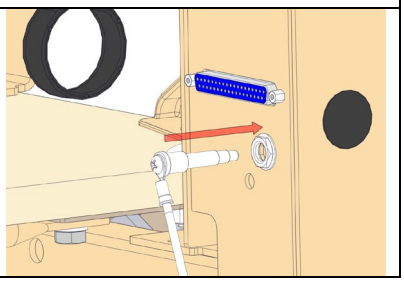
⚠ WARNING

When the Security Lock-Out feature has been activated, the Electronic CPR function will **NOT** work. The Security Lock-Out feature is only intended to be used by qualified medical practitioners on a case-by-case basis based upon clinically assessed needs of the patient as requiring a hospital bed having restricted motion. CHG Hospital Beds strongly recommends that Security Lock-Out **NEVER** be activated when the bed is in normal ward use.

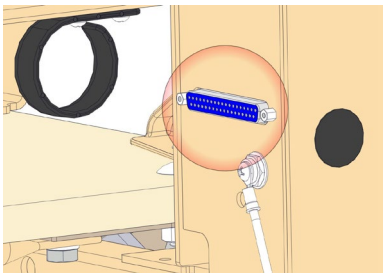
NOTE: After a hard reset, all bed settings will be automatically restored. The Security Lock-Out feature will be deactivated after a hard reset.

3.7 Other Bed Functions & Features

3.7.1 Nurse Call

All Spirit™ beds are equipped with one Nurse Call port to accommodate Nurse Call control.	
The Nurse Call port is located on the underside of the headboard mounting bracket on the patient right side of the bed.	
To operate the Nurse Call feature, press the red NURSE button on the rail patient control (inside of each head rail control). This will send a Nurse Call signal to the nurses' station when appropriately connected to the communication system of your healthcare facility. Operation of the Nurse Call feature requires a conventional connection cable (not supplied) to be plugged into the ¼" Phono jack on the headboard mounting bracket and into the designated outlet in the patient station.	
Ensure that the attached "dummy plug" is inserted to an inactive Nurse Call port. The "dummy plug" has an integral lanyard that is screw connected to the headboard mounting bracket to ensure that the "dummy plug" is not lost when the Nurse Call port is being used.	

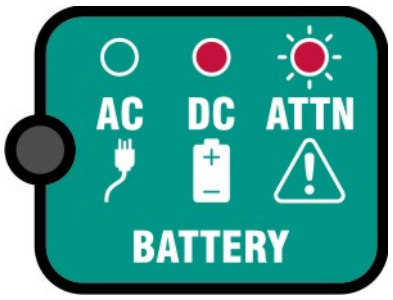
3.7.2 Standard 37 Pin Connector

All Spirit™ beds are equipped with a standard 37 pin connector to accommodate connection to the communication system typical of most healthcare facilities.	
The 37 pin connector is located on the underside of the headboard mounting bracket directly beside the Nurse Call port on the patient right side of the bed. The "pin outs" for the 37 pin connector have been configured to work with the communication set-up typical of most 37 pin enabled healthcare facilities. If the configuration of the communication system used in your healthcare facility differs from conventional set-up, successful interconnection can only be guaranteed through the use of interconnection cables that have been specifically configured for your application. If your healthcare facility requires a particular interconnection cable configuration, CHG Hospital Beds offers customized interconnection cables. Contact your sales representative for details.	

3.7.3 Spirit Plus™ Power Status Indicator

The footboard staff control on Spirit Plus™ beds is equipped with an integrated power status indicator. This cluster of 3 discrete icons indicates the real-time status of power available to operate the bed. The icons will illuminate respective of the source of power, the operation of the battery charging circuit, and the level of battery power.

The battery is continuously charged when connected to the CB10 control box and the bed is plugged into an AC power outlet. If the battery voltage drops below 18VDC, battery power will be automatically disrupted to prevent further discharge which could impact the battery's ability to fully recharge. When the bed is plugged back into an AC power outlet, battery power will be automatically restored.



Indicator LED is Solid GREEN

Bed is connected to an AC power outlet and operating on AC power. The battery is connected to the CB10 control box and is fully charged. Bed is ready to operate on battery power if required. This is the optimum operating condition for the bed.

Indicator LED is Flashing GREEN

Bed is connected to an AC power outlet and operating on AC power. The battery is connected to the CB10 control box but is currently recharging.

Indicator LED is Alternating Flashing GREEN and RED

IMPORTANT: Bed may not reliably operate on battery power if required.

Bed is connected to an AC power outlet and operating on AC power. The battery is connected to the CB10 control box but not holding proper charge. Service bed and/or replace battery immediately.

OR

The battery is not connected to the CB10 control box. Connect battery to CB10 and allow battery to charge for 24hr.

Indicator LED is Solid RED

Bed is disconnected from an AC power outlet and is operating on battery power. The battery is connected to the CB10 control box and has not yet exhausted the available battery power. Bed is OK to operate on battery power but it should be connected to an AC power outlet as soon as is possible to recharge the battery.

IMPORTANT: Exercise caution when operating the bed on battery power. Ensure that only vital and necessary bed functions are performed to extend battery power as long as possible and ensure emergency functions remain available when needed.

Indicator LED is Flashing RED

Bed is disconnected from an AC power outlet and has been operating on battery power. Although the battery is connected to the CB10 control box, it has exhausted its battery power. Reconnect bed to an AC power outlet as soon as possible and allow battery to charge for 24hr.

IMPORTANT: At this point, reliable bed operation cannot be guaranteed although some bed functionality may still be available. Exercise caution operating the bed as the bed will cease operation without warning.

No Indicator LED illumination

IMPORTANT: Bed may NOT operate.

The bed has been disconnected from an AC power outlet and the battery is disconnected from the CB10 control box. Reconnect bed to an AC power outlet and allow battery to charge for 24hr.

OR

The bed has a faulty connection or component (CB09 control box, CB10 control box, battery, and/or connection cable). Confirm all connections and begin troubleshooting potentially faulty components.

OR

The bed has been disconnected from an AC power outlet and the battery has been automatically disengaged from the battery circuit because the voltage has dropped below 18VDC. Reconnect bed to an AC power outlet and allow battery to charge for 24hr.

NOTE:	A new back-up battery, when fully charged, has sufficient power to deliver the equivalent of approximately 5 CPR cycles with a patient weight of 250 lbs. Battery power discharge rate depends upon factors such as patient weight, age of battery, ambient temperature and humidity, and the number of charge/discharge cycles the battery has been subjected to. For example, the heavier the patient, the faster battery power will be exhausted during battery powered bed operation. Conversely, the lighter the patient, battery power may offer a longer duration of battery powered bed operation.

3.8 Siderail Operation

All Spirit™ bed siderail assemblies fully comply with FDA and Health Canada patient entrapment reduction guidelines and have successfully passed rail entrapment testing using test procedures outlined by the Hospital Bed Safety Workgroup. Spirit™ bed siderail assemblies were qualified using the Cone and Cylinder Tool as specified by FDA and Health Canada patient entrapment reduction guidelines. Entrapment Test Kits are readily available so on-going compliance can be monitored by the healthcare provider. For further information, refer to the FDA's website at http://www.fda.gov/cdrh/beds/.

3.8.1 Intended Application/Use of Spirit™ Bed Siderail Assemblies

When fully raised/closed and locked/latched in the UP position, the siderails define a residence area for patients to rest upon the bed. This provides positive patient location/support helping to protect against the potential for patients to fall from the bed as the siderails give the patient a visual and physical indicator of the edge of the bed. When fully lowered/open in the DOWN position, the siderails permit patient ingress to and egress from the bed. The integral handles common to all siderails facilitate patient mobility by providing a gripping region during ingress to and egress from the bed.

⚠ WARNING

Safe Working Load of Siderails

80 kg (176 lbs)

DO NOT exceed a 80 kg (176 lbs) load on any siderail

⚠ WARNING

Possible **PATIENT ENTRAPMENT** if use of siderails that are damaged or modified in any way.

NEVER use siderails from other manufacturers and/or with dimensions different that the original components and/or assemblies that came equipped with the bed. Variations in siderail design, (width, height, shape, profiles, opening, locking/latching mechanisms, etc.) could cause/contribute to patient entrapment and/or could potentially increase the probability/possibility for patient entrapment.

⚠ CAUTION

DO NOT use the siderails as a patient lifting device/apparatus. Siderails can be deformed or broken if excessive side loading/pressure is exerted. The siderails are used for the purpose of preventing a patient from inadvertently rolling out of bed.

DO NOT use the siderails as part of a patient restraint mechanism. Siderails are **NOT** intended for nor may be used for restraint purposes. If a patient is capable of inflicting self-injury or injury to staff, a physician or other suitably trained healthcare practitioner should be consulted for alternate means of safe patient restraint. The Spirit™ bed is equipped with at least 2 patient restraint loops for this purpose.

⚠ CAUTION

When operating the bed, **ALWAYS** ensure that the individuals using the bed is positioned properly on the mattress within the confines of the bed.

DO NOT let any patient extremities protrude over the side and/or between the siderails when operating the bed.

⚠ CAUTION

DO NOT use the siderails as lifting points for the bed during transportation and/or storage.

DO NOT use the siderails as a means of mechanically restraining the bed during transportation and/or storage.

⚠ CAUTION

DO NOT use a bed with damaged or non-latching rails. If a bed is found with damaged or non-latching rails, remove bed from patient use and service bed immediately.

3.8.2 Plastic High Siderails

Your Spirit™ bed will be equipped with the moulded plastic high siderails*.

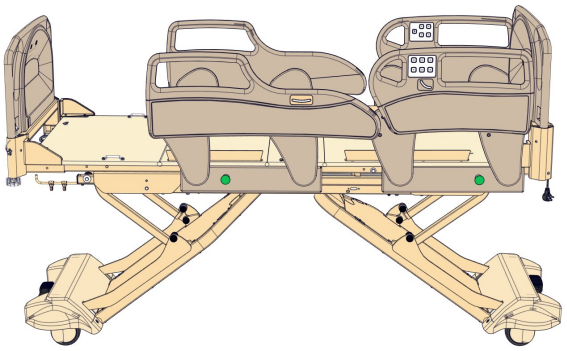
**Plastic high siderails come standard with CHG beige colour matched inlays. Your Plastic high siderails may have optional coloured inlays.*

Operation of the Plastic High Siderails

It is important that caregivers know how to operate the plastic high siderails safely. The high siderails lock in the UP position and enables patient ingress, egress, and transfer in the DOWN position.

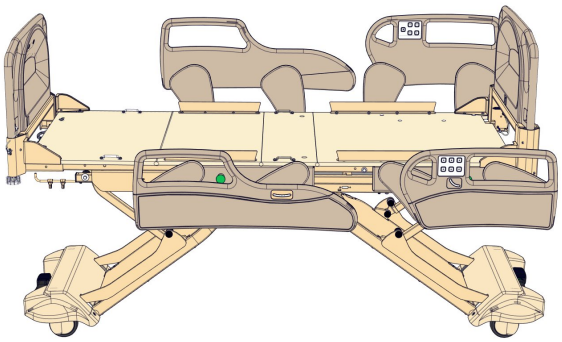
In the UP position, the high siderails provide positive patient location and support helping to protect the patient from the potential of falling from the bed.

IMPORTANT: An audible "click" should be heard when each high siderail assembly has been completely rotated into the UP position as the locking/latching mechanism engages.



The DOWN position, the high siderails fully rotate out of the way to provide unimpeded and unassisted patient ingress to and egress from the bed and also enables patient transfer by staff.

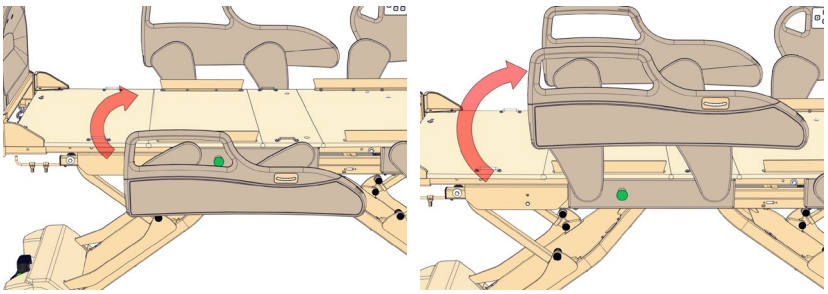
IMPORTANT: The high siderails will not lock/latch in the DOWN position.



Raising the High Foot Siderails

Gently rotate the high foot siderail to the UP position. The high foot siderail will first arc toward the foot end of the bed then back towards the head end of the bed as it rotates to the UP position.

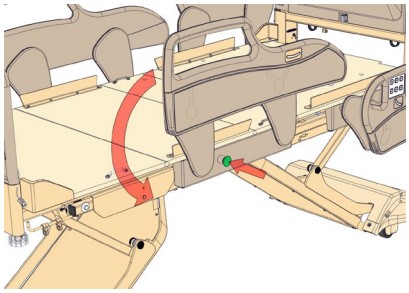
IMPORTANT: An audible "click" should be heard when the high foot siderail has been completely raised to the UP position as the locking/latching mechanism engages.

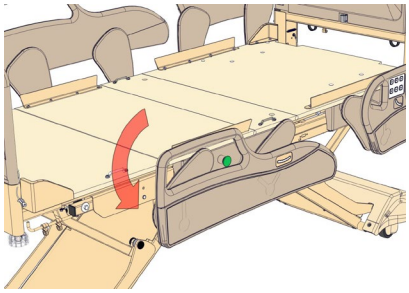


Lowering the High Foot Siderails

Depress the green PRESS button then gently PRESS down on the high foot siderail. The high foot siderail will first arc towards the foot end of the bed then back towards the head end of the bed as it rotates to the DOWN position.

IMPORTANT: The high foot siderails will not lock/latch in the DOWN position.

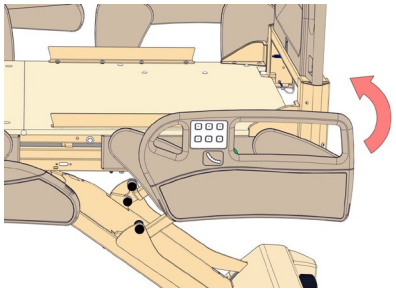


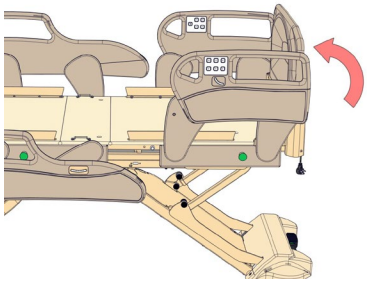


Raising the High Head Siderails

Gently rotate the high head siderail to the UP position. The high head siderail will first arc toward the head end of the bed then back towards the foot end of the bed as it rotates to the UP position.

IMPORTANT: An audible "click" should be heard when the high head siderail has been completely raised to the UP position as the locking/latching mechanism engages.

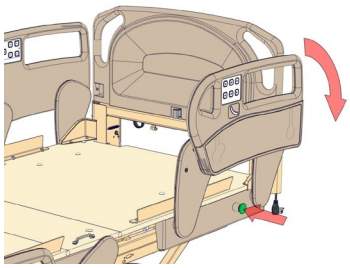


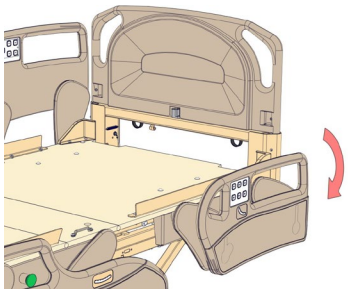


Lowering the High Head Siderails

Depress the green PRESS button then gently PRESS down on the high head siderail. The high head siderail will first arc towards the head end of the bed then back towards the foot end of the bed as it rotates to the DOWN position.

IMPORTANT: The high head siderails will not lock/latch in the DOWN position.





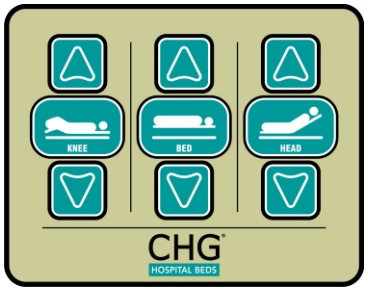
3.8.3 Integrated Features of High Siderails

Staff Siderail Controls

The head siderails incorporate integrated staff control that offers staff control of basic bed operations:

- Head UP/DOWN,
- Knee/Foot UP/DOWN
- Bed UP/DOWN

IMPORTANT: Bed operation from this siderail control is disabled when the patient lock-outs are activated.

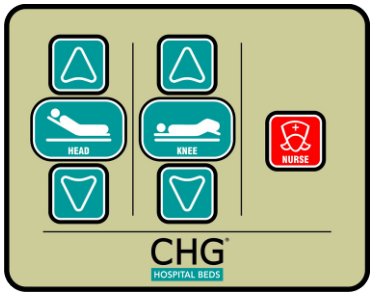


Patient Siderail Controls

The head siderails incorporate integrated patient control that offers patient control of basic bed operations:

- Head UP/DOWN,
- Knee/Foot UP/DOWN
- Nurse Call feature

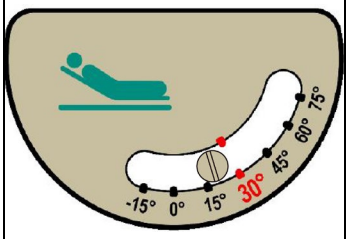
IMPORTANT: Bed operation from this siderail control is disabled when the patient lock-outs are activated however the Nurse Call feature **always** remains active.



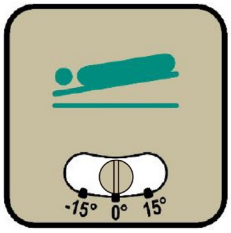
Angle Gauges

All four siderails have integrated angle gauges:

- The angle gauge in the head siderail panel displays the angle of the head section of the mattress deck.
- The angle gauge in the foot siderail panel displays the Trendelenburg or reverse Trendelenburg angle.



Head Angle Gauge

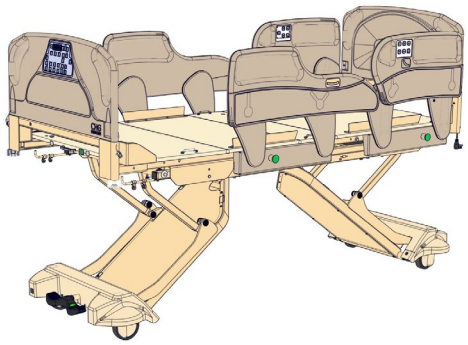


Trend or rev Trend Angle Gauge

3.8.4 Other Optional Siderails

Your Spirit™ bed may be equipped other optional moulded plastic siderails as shown below.

IMPORTANT: These other optional siderails operate exactly the same as described above.



Plastic High Head Siderails ("Filled-in" version with beige inlays shown)

3.9 Optional Underbed Light on Spirit Plus™ Beds

Spirit Plus™ beds can be equipped with integrated underbed lighting as an option however the underbed light cannot be deactivated using the footboard staff control. If the underbed light needs to be deactivated, both of the underbed lights need to be disconnected from the CB10Lite control box. Refer to page 79 to identify the two connectors for the underbed lights:

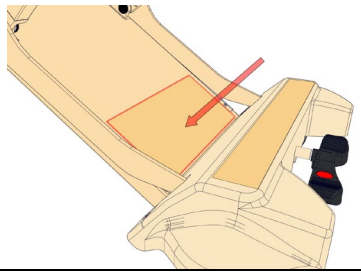
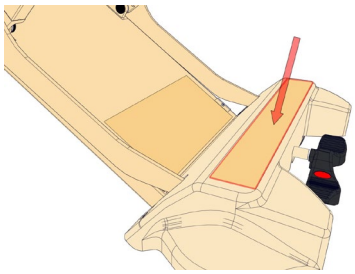
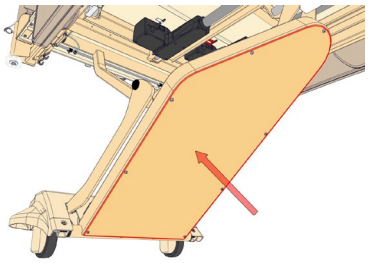
- To disable the underbed lights, disconnect both of the light connectors from the LT1 and LT2 headers on the CB10Lite circuit board.

The ONLY setting for the underbed light: LOW brightness ALWAYS ON.

NOTE: Underbed lighting **WILL NOT** function (illuminate) when the bed is operating under battery power. This is to reserve battery power for emergency functions.

3.10 Optional Underbed Obstruction Sensors

If your Spirit™ bed has been equipped with the optional underbed obstruction sensors, the bed will be outfitted with 6 obstruction sensors as shown below.

		
Top Cover Obstruction Sensor	Caster Cover Obstruction Sensor	Bottom Cover Obstruction Sensor

Contact with an Obstruction While the Bed is in Downward Motion

When an obstruction is detected during any downward motion of the bed (using any of the following: BED DOWN, TREND, rev.TREND, LEVEL ALL, or CHAIR position), the bed will immediately stop all downward motion and the bed platform will automatically elevate up for one second. This will provide clearance for removal of the obstruction.

- An audible "chirp" will sound to indicate an obstruction is present.

Any further attempts to initiate downward motion of the bed platform will not be permitted if an obstruction is still being detected and the bed platform will emit an audible "chirp" after each attempt.

Contact with an Obstruction While Bed is Stationary (i.e.: Bed not in Motion)

When an obstruction is detected prior to any bed movement, all downward motion of the bed (using any of the following: BED DOWN, TREND, rev.TREND, LEVEL ALL, or CHAIR position) will be automatically disabled.

- An audible "chirp" will sound to indicate an obstruction is present.

Any further attempts to initiate downward motion of the bed platform will not be permitted if an obstruction is still being detected and the bed platform will emit an audible "chirp" after each attempt.

When an Obstruction is not Detected (i.e.: Obstruction Removed)

When an obstruction is no longer detected:

- Normal bed operation will be restored.

Audio Indicators

Audio Obstruction Indicator:

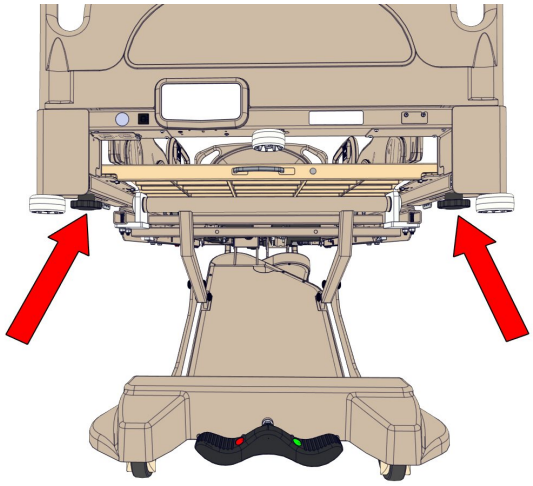
When an obstruction is contacted during bed motion or if an obstruction is detected prior to any bed lowering motion and a downward motion of the bed platform (using any of the following: BED DOWN, TREND, rev.TREND, LEVEL ALL, or CHAIR position) is attempted an audible "chirp" will sound.

The factor default setting for obstruction sensors is CONNECTED and OPERATING. This cannot be changed using the footboard staff control. The obstruction sensors can only be enabled/disabled by connecting/disconnecting the obstruction sensor circuits from the CB10Lite circuit board. Refer to page 79 to identify the two connectors for the obstruction sensor circuits.

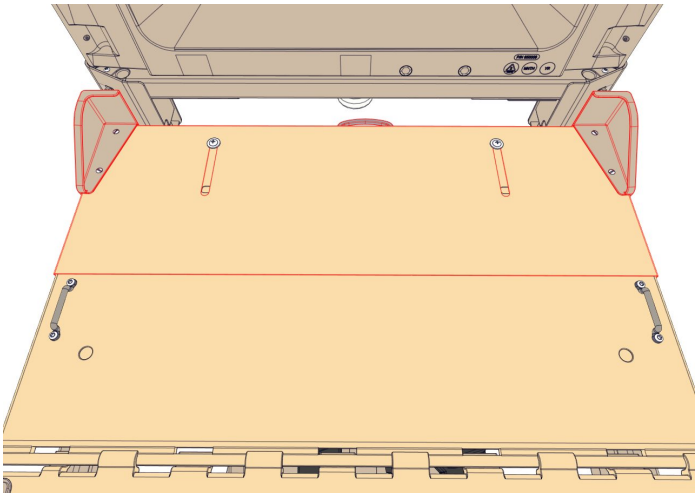
3.11 Optional "Easy Bed" Extension System

To accommodate the physical needs of taller patients, while maintaining the easy of frequent bed movement about space confined healthcare facilities, CHG Hospital Beds offers an optional "Easy Bed" extension system that allows for easy and rapid extension/retraction of the mattress deck by 4 inches (102 mm) from 80" (2032 mm) to 84" (2134 mm). No tools are required to perform bed "Easy Bed" extension/retraction operations.

If your Spirit™ bed has been equipped with the optional "Easy Bed Extension" system, the bed will be outfitted with two clamping knobs and an extendable foot deck section of the mattress deck as shown below.

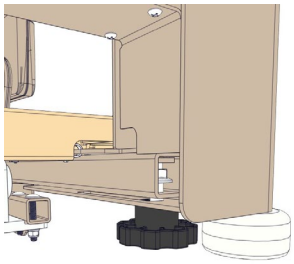


Clamping Knobs *(viewed from foot end of bed)*

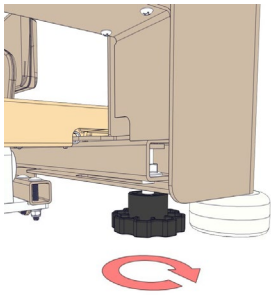


Extendable Foot Deck Section

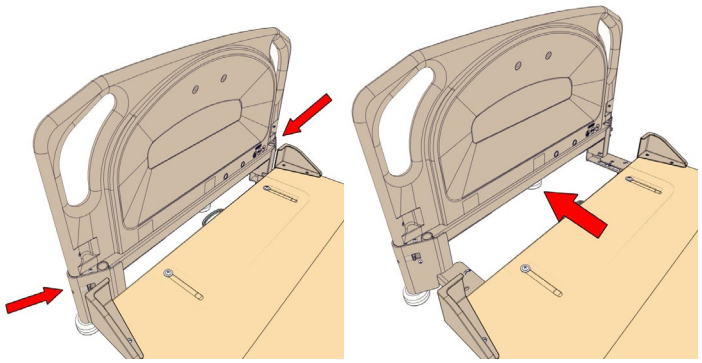
Bed Extension Procedure



Knob clamped

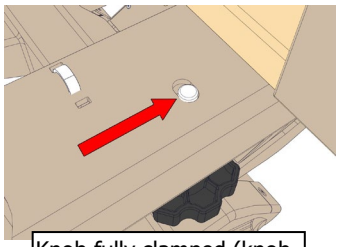


Knob unclamped

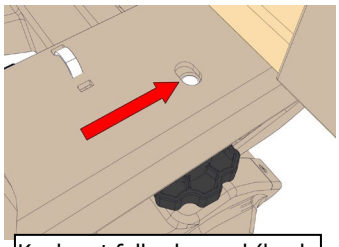


1. Elevate bed to comfortable working height. Unclamp the footboard bracket slide mechanism by turning both knobs counter-clockwise until they stop turning freely.

2. Grasp footboard bracket by the corners as shown above. Gently and smoothly pull away from the head of the bed until the footboard bracket slide mechanism contacts its mechanical stops.



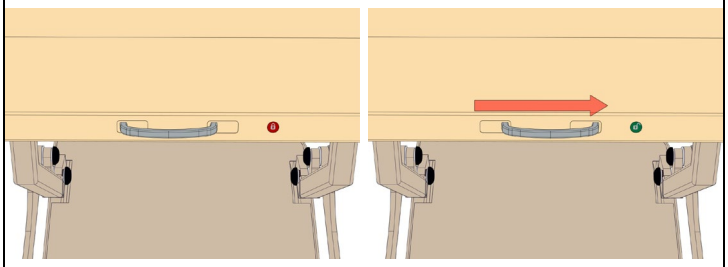
Knob fully clamped (knob fastener fully engaged)



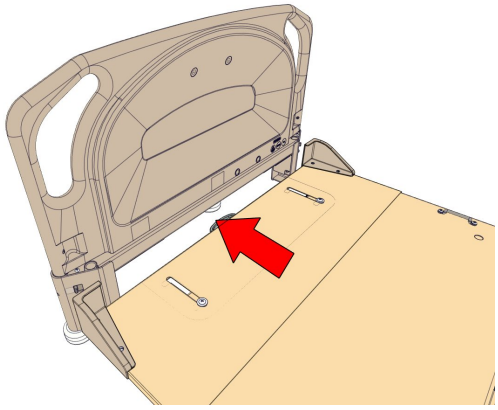
Knob not fully clamped (knob fastener not fully engaged)

3. Clamp the footboard bracket slide mechanism by turning both retention knobs clockwise until hand tight.

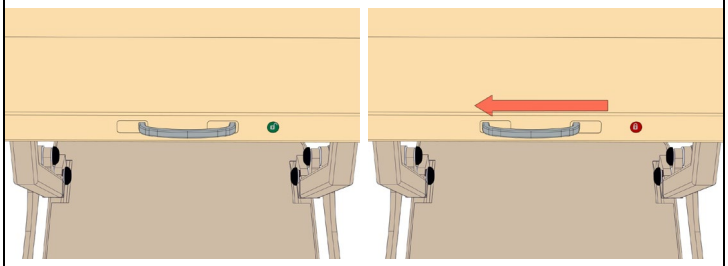
IMPORTANT: Ensure that the clamping knob fastener extends through the retention hole located in the footboard bracket channel. Typical both sides.



4. Unlock foot deck extension pan by grasping the chrome handle and sliding the locking mechanism towards the patient left side of the bed to the unlocked position (green, unlocked icon)



5. Grasp the chrome handle as shown at right. Gently and smoothly pull away from the head end of the bed until the foot deck extension pan contacts its mechanical stops.



6. Lock foot deck extension pan by grasping the chrome handle and sliding the locking mechanism towards the patient right side of the bed to the locked position (red, locked icon).

⚠ WARNING

Possible **PATIENT ENTRAPMENT Hazard** could occur if the mattress is not securely located and retained on the mattress deck by the four corner mattress keepers.

NEVER perform a bed extension/retraction with a patient on the bed.

NEVER place a patient on the bed if the mattress is not properly located and retained on the mattress deck by the four corner mattress keepers.

⚠ CAUTION

Possible **UNEXPECTED MOTION** could occur if the slide lock is not in the "lock" position and the mattress deck is articulated from the horizontal position.

When the bed is in either the extended or retracted position, the clamping knob fasteners **MUST** be fully engaged and the slide lock **MUST** be in the "lock" position prior to placing a patient on the bed and/or allowing a patient to return to the bed.

NOTE: Bed retraction procedure is the same as the above except that the footboard bracket and the foot deck extension pan are pushed towards the head end of the bed until contact is made with their respective mechanical stops.

3.12 Optional Auxiliary AC Power Outlet

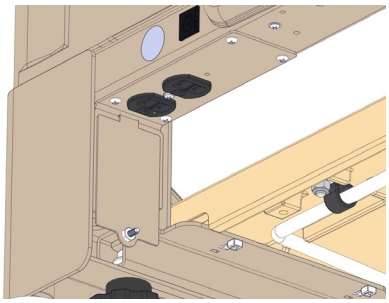
NEMA 5-15R Outlet Socket configuration shown

All Spirit™ beds can be equipped with an optional auxiliary AC power outlet mounted in the patient right side of the footboard bracket.

IMPORTANT: The auxiliary AC power outlet has the following electrical ratings:

MAXIMUM Output Power Rating: 120 Volts AC, 600 Watts

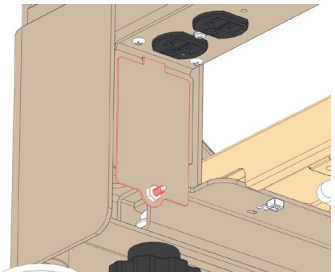
DO NOT EXCEED MAXIMUM OUTPUT POWER RATING

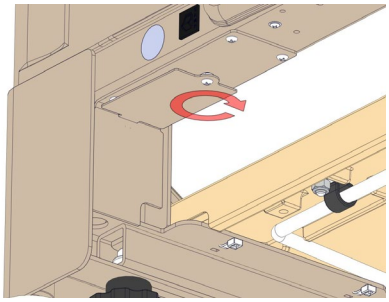


Auxiliary AC Power Outlet Cover

The auxiliary AC power outlet has a cover that is integrated into the footboard bracket. The attachment screw is retained with a nylon nut so that it will not be misplaced when the auxiliary outlet is in use.

IMPORTANT: Always install the cover over the auxiliary AC power outlet when it is not in use.

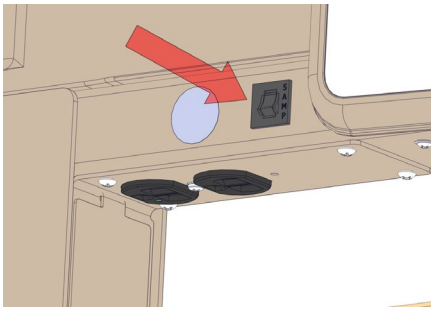




Circuit Breaker: Rating 5 Amps (120V Beds)

The auxiliary AC power outlet socket is protected by a circuit breaker. The circuit breaker is located in the footboard bracket. The circuit breaker is the resettable type. Simply depress the button to re-engage the circuit breaker.

IMPORTANT: The circuit breaker is a safety device that is designed to disengage an electrical circuit when the load exceeds the maximum rating of the circuit. An overloaded circuit may cause irreparable damage to the AC power wiring in the bed. If the circuit breaker trips, it is important to understand what has happened to cause this event. The device(s) that is/are connected to the bed may be drawing too much power and exceeding the circuit breaker rating.



⚠ CAUTION

The auxiliary AC power outlet socket is rated for a **MAXIMUM 120 Volts AC, 600 Watts** output power. **DO NOT** exceed the maximum output power rating.

DO NOT use the auxiliary AC power outlet socket if the socket receptacles appear to be damaged and/or if the plug (of the device that you are connecting to the bed) does not remain connected when inserted in the outlet socket receptacles.

Only replace this outlet socket with a NEMA 5-15R duplex outlet socket that is marked as hospital grade. Contact Stryker Medical Technical Service for a replacement outlet socket.

⚠ WARNING

A circuit breaker is **NOT** designed to act as a ground fault circuit interrupter (GFCI) and **DOES NOT** offer the same level of protection. The circuit breaker is a safety device that is designed to only disengage an electrical circuit when the load exceeds the maximum rating. If the circuit breaker trips, discontinue bed use immediately and have a service technician, specifically trained to service Spirit™ beds, inspect the wiring. **Circuit Breaker Rating: 5 Amps (120V beds)**

⚠ CAUTION

Connecting electrical equipment to auxiliary mains AC outlet effectively leads to creating a medical equipment system and can result in a reduced level of safety. When connecting devices, the system shall be evaluated in end use application to ensure compliance to medical device standard 60601-1 and 60601-1-1.

Section 4:

Care & Maintenance

4.1 Regular Maintenance & Cleaning

CHG Hospital Beds recommends that bed inspections be conducted as per 4.1.2 and 4.1.3 of this section, or more frequently if so specified by the facility procedures and practices.

All metal components are power coat painted and therefore are protected from corrosion. In the event that the paint become scratched or chipped, use a matching enamel touch up paint. Refer to page 72 for paint specifications.

⚠ CAUTION

Equipment or property **DAMAGE** or patient **INJURY** may occur if the following are not followed:

DO NOT submerge the bed frame or electrical parts. **DO NOT** allow liquids to enter electrical components. If a liquid is spilled in or around the bed, unplug the bed before cleaning. Clean up the spill and allow the bed and/or the area around the bed to dry thoroughly before using the controls again.

DO NOT open assemblies such as actuators, control boxes, battery, or pendant (if equipped). These parts are not serviceable. Only service technicians, specifically trained to service Spirit™ beds, should attempt to service bed and/or replace electrical or other components.

Before the bed is returned to active service after any adjustment, repair, and/or service have been performed, **ALWAYS** ensure that all attaching hardware is tightened securely.

4.1.1 Cleaning & Disinfection

CHG Hospital Beds recommends that all cleaning/disinfection be performed by hand using a non-abrasive cloth, sponge, and/or manual spray/squirt bottle. **ALWAYS** follow industry best practices for all cleaning and/or disinfection operations. **ALWAYS** reference the manufacturers' MSDS information for all cleaning/disinfection solutions prior to use.

IMPORTANT: The Spirit™ bed is not rated for spray and/or pressure washing or steam cleaning/sterilization. Using non-recommended cleaning/disinfecting solutions, and/or not following recommended handling directions and/or industry best practices may cause damage to the bed's painted finish, bed components, and/or may result in premature mattress failure.

Cleaning

All Spirit™ bed surfaces may be cleaned with soapy water and/or other non-abrasive cleaners. **NEVER** use solvents, petroleum products, and/or other harsh chemicals to perform any cleaning operation.

Disinfection

All Spirit™ bed surfaces may be disinfected with ethanol or isopropyl alcohol, and/or Mikro Quat™ (or equivalent cleaning solution). Sodium Hypochlorite (liquid bleach) may also be used to disinfect the Spirit™ bed and the CHG Prevention Surface mattress cover.

Maximum Recommended Sodium Hypochlorite Concentration: 0.5% or 5,000 ppm

To disinfect the Spirit™ bed, saturate an application cloth with disinfecting solution and wipe surface(s). Using another cloth saturated with potable (tap) water, rinse disinfected surface(s) and wipe dry. **DO NOT** allow the disinfecting solution to pool and/or reside on surface(s) for extended periods of time. Exceeding the maximum recommended concentration and/or using non-recommended disinfecting solutions may cause damage to the bed's painted finish or bed components.

4.1.2 Semi Annual Inspections

Control Location Inspection
Perform all bed functions from all control locations: footboard staff control, patient/staff siderail controls, and pendant (if equipped).

Battery Inspection
Confirm the following: • Bed is plugged into an AC power outlet. • Battery is connected to the CB10 control box. • The power status indicator has **ONLY** a solid Green AC light. If other light are on/flashing, refer to page 55 for instructions and take appropriate action before continuing with inspection. Unplug the bed from the AC power outlet and perform all bed functions, including emergency functions, to test bed operation under battery power. This will verify that the battery is holding a proper charge sufficient to deliver emergency functions when needed. Replace battery if performance is inadequate.
If your Spirit™ bed is equipped with the under bed obstruction sensing option, perform an inspection of all six obstruction sensor pads to ensure that they are in good working order and continue to operate properly.
Obstruction Sensor Inspection
Ensure that contact at any point on each of the six obstruction sensor pads stops all downward bed motion.
Ensure that the bed automatically elevates the 1" safety distance.
Ensure audible warnings are present as described on pages 60.
Replace any obstruction sensor pad that fails to operate correctly or consistently.

4.1.3 Yearly Inspections & Maintenance

Inspect the bed for broken, bent, or damaged components and replace. Check for damaged components that may present a hazard due to sharp edges.
Inspect for damaged or loose wiring. Have qualified service personnel, specifically trained to service Spirit™ beds, replace any frayed or damaged cords and/or secure any loose wiring.
Inspect the control boxes to ensure that the enclosures are not cracked or damaged and all fasteners remain.
Inspect actuator guard bracket for any signs of deformation, excessive wear or damage.
Inspect actuators to ensure enclosures are not cracked or damaged. Inspect mounting points to ensure they are securely fastened to bed frame and leg assemblies.
Inspect the head-end and foot-end leg assemblies for any bend or damage
Inspect the footboard staff control, side rail controls, and pendant to ensure that the overlays covering these controls are not cracked or damaged.
Inspect all grounding wires and equipotential conductor. Ensure they are securely fastened to the bed frame.
Tighten, adjust and/or replace any parts or screws, bolts, clevis/hitch/cotter pins, etc. that are loose or show signs of wear.

Using white petroleum jelly, lubricate between the Hi-Lo springs and the spring bushing. Apply white petroleum jelly to rail bracket slots, ensuring the shoulder bolt receives lubrication as well.
Spray metal shoulder bolts, washers, bushings and nuts using a high-quality penetrating white lithium grease spray on all control arm and suspension arm joints
Perform inspection of side rails to ensure that they are in good working order and continue to operate properly per the standards found in the technical specifications.

High Side Rail Inspection

Ensure that each side rail fully and smoothly rotates from the DOWN position to the UP position. Ensure that no binding and/or grinding noises are caused when the side rails are rotated. If a side rail fails to rotate fully and smoothly, service and/or replace side rail assembly.
Ensure that the locking/latching mechanism reliably self-engages when the side rails are fully rotated to the raised/closed position. If locking/latching mechanism fails to reliably self-engage service and/or replace side rail assembly.
Ensure that the locking/latching mechanism completely disengages when the PRESS button is depressed permitting the side rails to fully rotate to the lowered/open position. If locking/latching mechanism fails to completely disengage service and/or replace side rail assembly.

⚠ WARNING

Patient entrapment within, under, between, and beside side rails may cause injury or death. Ensure only specified mattress (minimum 6" thick) is used on bed. Ensure that mattress is in good condition and maintains proper resilience. If mattress is exhibiting any signs of wear (i.e.: reduced cross sectional thickness, reduced resilience, etc.) stop use immediately and replace mattress to limit patient exposure to a potential rail entrapment situation.

⚠ WARNING

To help minimize the potential for patient entrapment, CHG Hospital Beds recommends that the customer perform thorough inspection of all side rail assemblies to confirm continued compliance per the standards found in the technical specifications. If testing results indicate a potential risk of patient rail entrapment, discontinue patient bed use and remove the bed from active service immediately.

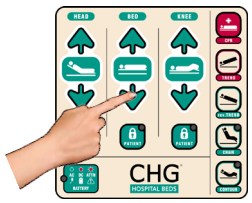
4.2 Controls Servicing

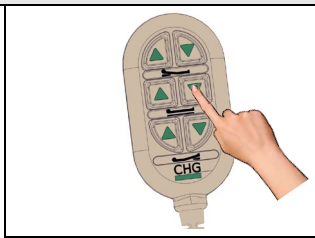
4.2.1 Soft Reset of Controls

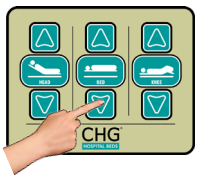
If in the rare event that the two Hi-Lo actuators become out-of-sync with one another, the bed may not completely lower or the mattress deck on the bed may appear to be in a slight angle similar to when it has been put into a Trendelenburg or reverse Trendelenburg position. The bed may also cease to perform all elevation/descent bed motion. In this case, the bed may require a "soft reset" to re-establish proper Hi-Lo actuator synchronization and/or restore proper bed operation.

Soft Reset Procedure

1. **PRESS and HOLD** the BED DOWN button from any control location (footboards staff control, either staff siderail controls or pendant) until the bed automatically begin to lower. One end of the bed may completely lower before the other. ***This is perfectly normal.***
2. **CONTINUE to HOLD** the BED DOWN button until both ends of the bed have been completely lowered and the bed automatically stops all motion and the two tone audible indicator sounds. Continue to Hold bed down for an additional 20 seconds to complete the Soft Reset. The Hi-Lo actuators have now been re-synchronized.







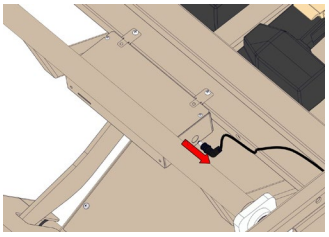
4.2.2 Hard Reset of Controls

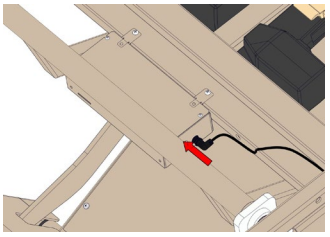
If the CB10 control box firmware has been updated or, in the rare event communication is lost between the footboard staff controls and the CB10 control box, the controls may require a "hard reset" to re-establish proper component-to-component communication and/or restore proper bed operation.

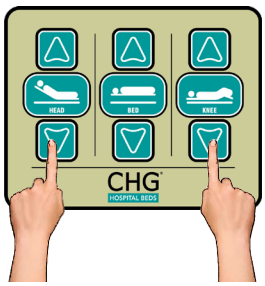
IMPORTANT: This event does not occur by simply removing the footboard from the bed as would be routinely performed during normal use of the bed.

Hard Reset Procedure

1. Disengage the foot and knee deck sections of the mattress deck to gain access to the CB10 control box. Refer to page 69 for instructions.
2. Disconnect (unplug) the bed from the AC power outlet.
3. Disconnect battery cable from the side of the CB10 control box. This will disrupt power to the CB10 control box and the close the battery charging circuit relay. Wait 5 seconds to ensure that the CB10 circuit board is de-energized. Reconnect battery cable into the side of the CB10 control box.
4. **PRESS and HOLD** the HEAD DOWN and KNEE DOWN buttons from either of the staff siderail controls while you reconnect (plug in) the bed to an AC power outlet. A confirmation "chirp" will sound to indicate the



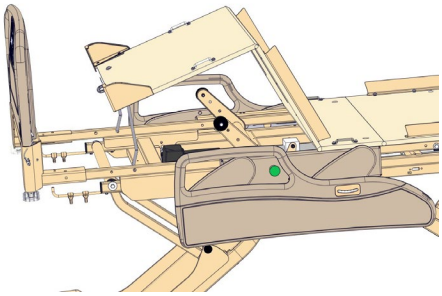
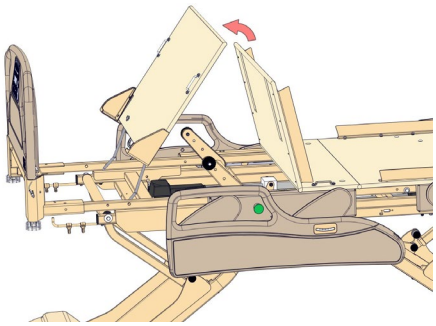
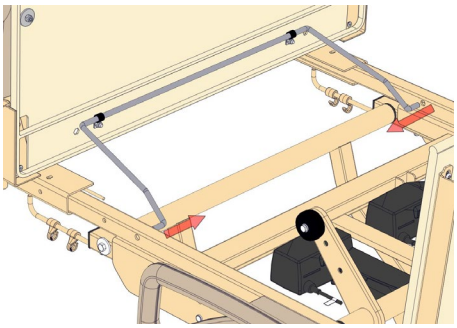


successful completion of the "hard reset" procedure. 5. Re-engage the deck sections by aligning the hinge fingers and pressing the two deck sections together. Refer to page 69 for instructions.		
***HINT:** It may be helpful to have another person plug in the power supply cord while you **PRESS and HOLD** the HEAD DOWN and KNEE DOWN buttons.*		

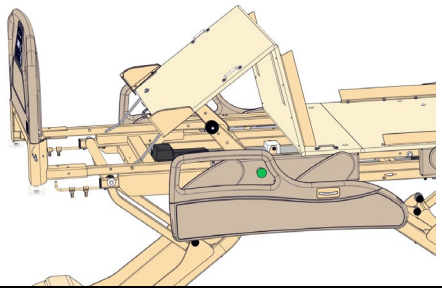
4.3 Mattress Deck Removal

All four sections of the composite mattress deck can be detached for thorough cleaning, sanitization, and maintenance.

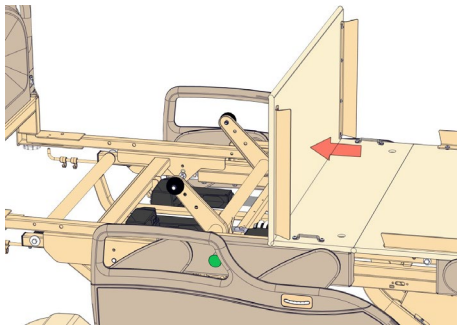
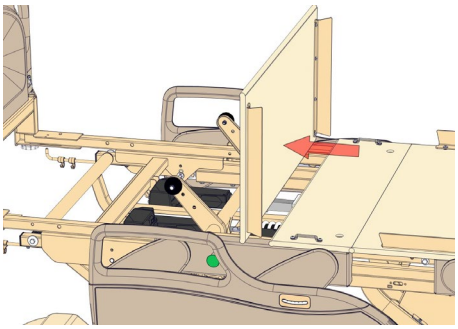
4.3.1 Mattress Deck Removal - Foot Section

		
1. Lift the foot and knee sections together until the angle between them is greater than 90º.	2. Lift the foot section away from the knee section at the hinge, to separate the sections.	3. Disengage the foot bail from the frame by flexing the two ends together as shown.

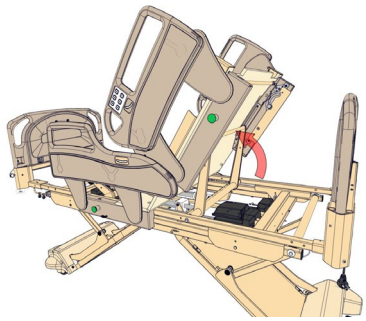
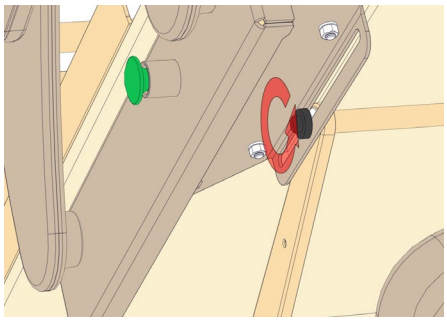
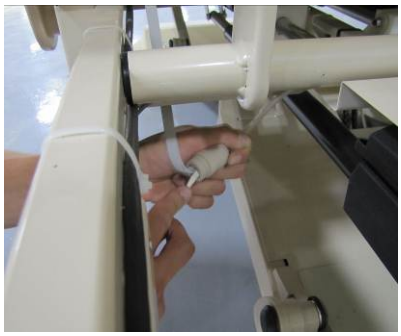
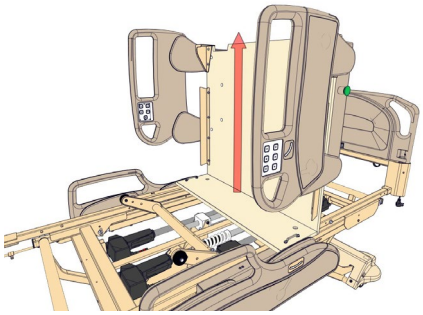
4.3.2 Accessing the CB10 Control Box

NOTE: If you are considering removing deck sections in attempts to gain access to the CB10 control box, no deck sections need to be removed from the bed. From step 1 above, simply continue to rotate the foot section up until it comes to rest against as shown right. The CB10 control box is now accessible.	

4.3.3 Mattress Deck Removal - Knee Section

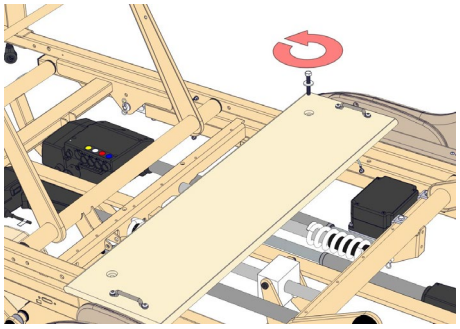
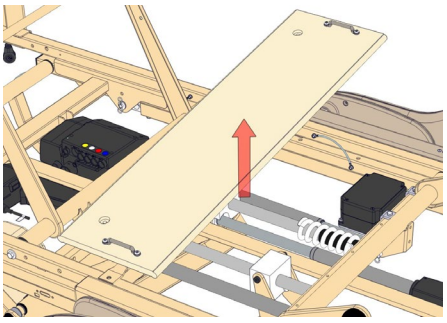
Once the foot section is removed, the knee section can be separated from the stationary (bolted) seat section. Lift the knee section until it is at an angle of 90° to the seat section. Using a horizontal force, strike the knee section near the hinge to separate these two sections.		

4.3.4 Mattress Deck Removal - Head Section (Back Rest)

Elevate the head section (back rest) to an angle of 55°. Using a 3/16" Allen key, remove both shoulder bolts fastening the head deck (back rest) to the head gatch. Locate both head siderail control cables. Follow cables down to where they are retained on the frame. Using wire cutters, cut both zip ties.		
Using a small, slot screw driver, depress the retaining clip on both head siderail control cables and disconnect both cables. The head section (back rest) can now be lifted straight up, detaching it from the stationary (bolted) seat section.		

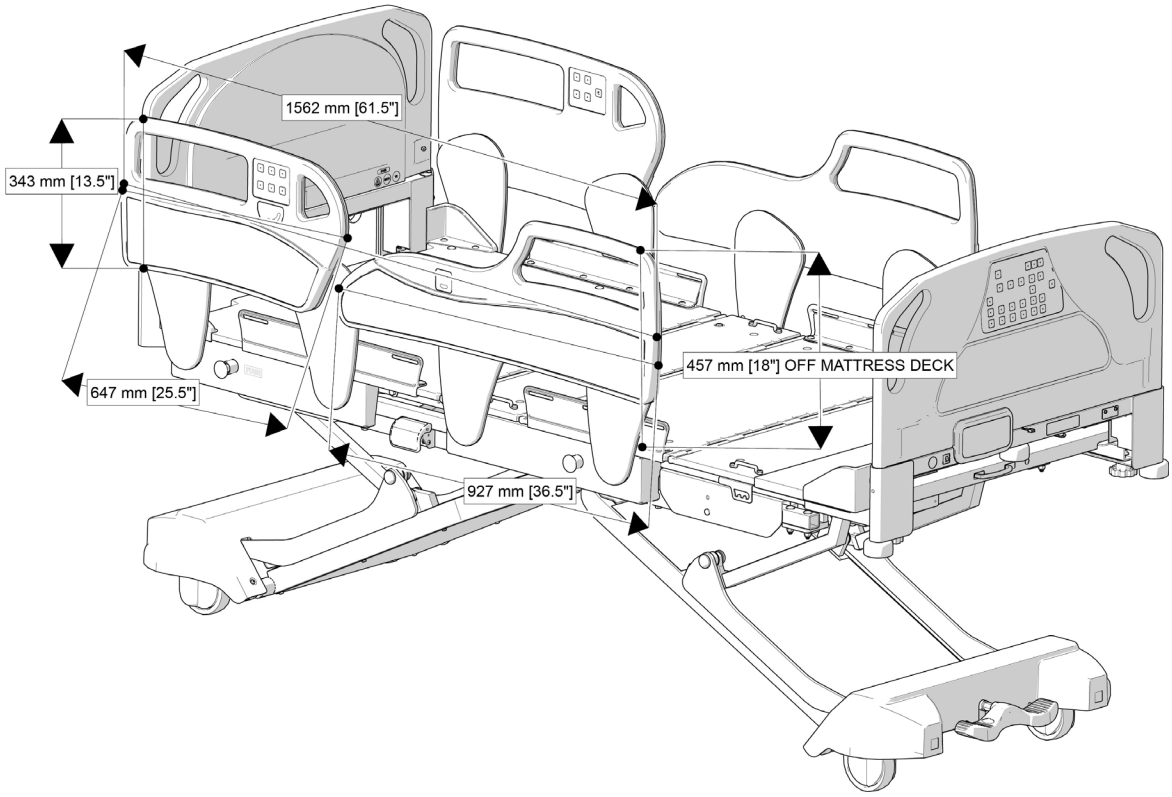
4.3.5 Mattress Deck Removal - Seat Section

The seat section is attached to the bed frame with two bolts fasteners. Although it is not designed for routine removal, it can be removed, if necessary.

Using a ratchet with a 1/2" SAE socket loosen and remove the two bolts fastening the seat section to the bed frame. The seat section can now be lifted off the frame. **IMPORTANT:** The head section (back rest) must first be removed before the seat section can be removed from the bed.		

NOTE:	Re-engage the deck sections by aligning the hinge fingers and pressing the two deck sections together. When reinstalling any section of the mattress deck, ensure that all hinges are **COMPLETELY** engaged before attempting to articulate the connection. Check for proper engagement by gently articulating the head, knee, and foot sections of the mattress deck up and down. The head, knee, and foot sections of mattress deck should articulate freely without binding.

4.4 Rail Measurements



4.5 Before Calling The Factory

To ensure prompt and accurate attention to your concerns please have the following information available before you call:

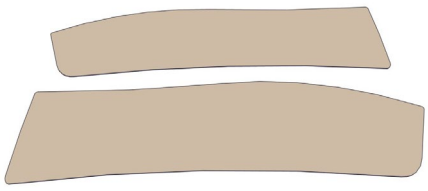
Spirit™ Bed Service Call Information	
Your facility's **phone number**: *(Where you can be reached):*	
Your facility's **fax number** *(If Available)*:	
Bed(s) **Model and Type**:	
Bed(s) **Serial Number**	
Date of Purchase:	
List of **defective part(s)** (*Identify by part number, or describe relative to nearest numbered part)*:	
List of deficiencies or **Type of problem**:	

NOTE:	CHG Hospital Beds' determination of the "Patient Left" and the "Patient Right" side of the bed is made from the patient's point of view while positioned normally on the bed facing up.

If you're not 100% satisfied with your bed, please call your sales representative or technical service.
It's always better to ask if you have any questions such as hole drilling locations in head and footboards, or before performing electrical service and/or modifications, or continuing to use a bed that has been damaged and/or is exhibiting signs of minor damage. These activities could lead to more serious consequences such as potential injury to patient and staff and/or equipment damage.
If you require further information regarding circuit diagrams, component part lists, descriptions etc. please contact Stryker Medical Technical Service.

Call Stryker Medical Technical Service at Toll Free 1 (800) 327-0770 within the USA or 1 (800) 668-8323 within Canada.

4.6 Colour Information

In the rare event that the painted finish on your Spirit™ bed becomes chipped you will require touch up paint. CHG Hospital Beds recommends the use of Sherwin Williams Auto #5A-30041 – Gatsby Cream (formerly #35-30041 – Cream)	
Your Spirit™ bed may come with coloured inlay on the siderail assemblies and/or on the footboard assembly. If these become damaged and require replacement, please contact Stryker Medical Technical Service to ensure that you receive matching inlays.	

4.7 Troubleshooting Guide

NOTE:	Prior to using the Troubleshooting Guide, perform a brief function test on the bed. Check all functions initiated from both the footboard staff control and the patient control (staff/patient rail control and/or pendant) to determine which functions are not working.

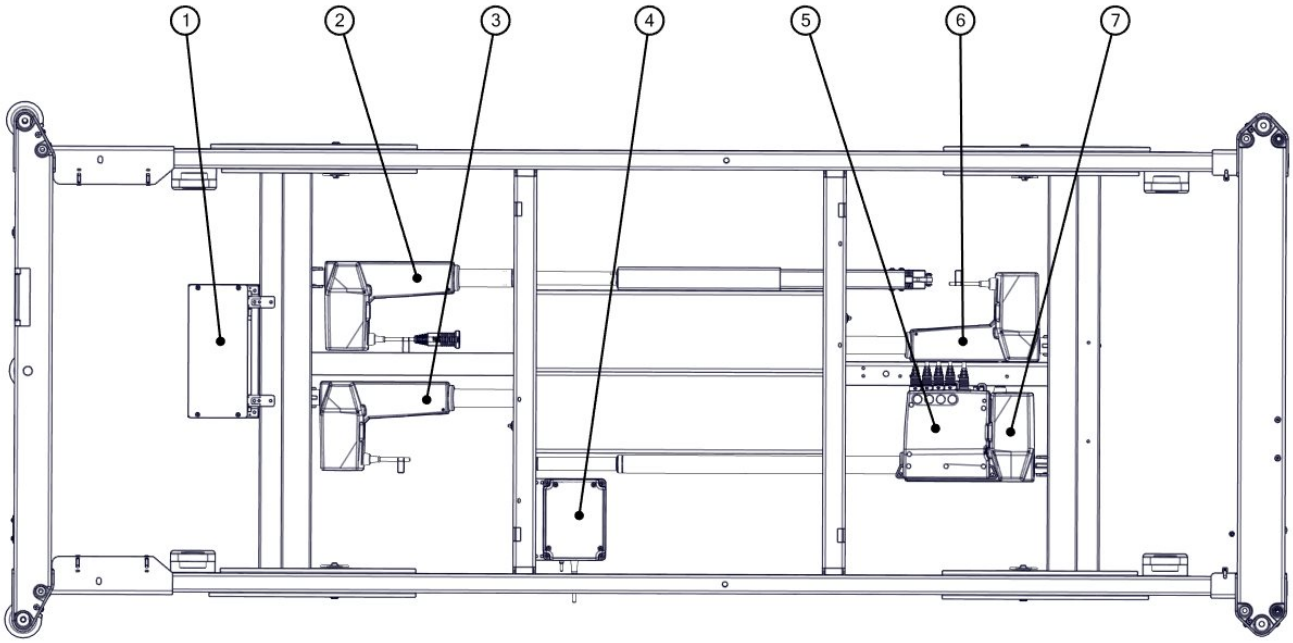
Problem / Failure	Recommended Action
Bed is connected (plugged in) to an AC power outlet but appears to be "frozen" Power status indicators may or may not be illuminated/flashing	Cycle the power on/off to reset the controls and re-establish proper communication between the CB09 and CB10 control boxes. 1. Disconnect battery from CB10 control box 2. Disconnect (unplug) bed from the AC power outlet 3. After the bed has been disconnected from the AC power outlet, fully discharge the CB09 control box by sequentially depressing the UP and DOWN buttons on one of the siderail controls or on the pendant (depending upon how bed is equipped) at least 20 times 4. Reconnect (plug in) the bed to the AC power outlet 5. Test any bed function from any control location to confirm proper bed control has been restored 6. Reconnect battery to CB10 control box 7. Call for CHG Hospital Beds Customer Service for technical assistance
Bed is connected (plugged in) to an AC power outlet but bed is not functioning Power status indicators may or may not be illuminated/flashing	1. Check to ensure bed is connected (plugged in) to an AC power outlet 2. Check AC outlet for power 3. Check Master Lockout. **PRESS and HOLD** all three patient lock-out buttons at same time to lock/unlock, then try bed functions 4. Lift head section of the mattress deck and remove dust shield from on top of CB09 control box. Check for green power light (LED). If no light, check to ensure that the power cord has been fully inserted into the inlet receptacle of the CB09 control box 5. Check to ensure that the communication cable that runs between the CB09 and CB10 control boxes is fully inserted into the port on the CB09 control box 6. Call for CHG Hospital Beds Customer Service for technical assistance
Some bed articulations no longer working or are intermittent regardless of control location Power status indicators may or may not be illuminated/flashing	If the head and/or foot sections of mattress deck no longer elevate/lower **OR** bed will no longer raise/lower **OR** bed motion is intermittent it is necessary to ensure proper connections. 1. Lift head section of the mattress deck and remove dust shield from on top of CB09 control box 2. Check to ensure that every actuator colour coded cable has been fully inserted into port on the CB09 with the corresponding colour code 3. Check to ensure that the power and the communication cable that run between the CB09 and CB10 control boxes are fully inserted into their respective ports on the CB09 control box 4. Lift foot section of the mattress deck and removed the cover from the CB10 control box 5. Check to ensure that every connector is firmly connected to its respective header on the CB10 circuit board 6. Test any bed function from any control location to confirm proper bed control has been restored 7. Call for CHG Hospital Beds Customer Service for technical assistance

Patient controls working properly, footboard staff control not working	3. Check to ensure footboard is completely down into bracket 4. Check cable connection under lower left side of footboard 5. Check to make sure that there is no damage to Blindmate connectors (plastic connector between bottom of footboard and footboard mounting bracket) 6. Check footboard staff control cable connection into CB10 control box under foot section of mattress deck 7. Replace footboard control
Footboard staff control working properly, rail controls not working	1. Some functions may be locked out. Check patient lock-out buttons on footboard. Patient lock-out prevents bed operation from rail controls 2. Check rail controls on both sides of bed. If only one rail control is not working skip to next section. If both rail controls are not working, continue to next step 3. Check cable connections from rail to port on bed frame (ensure jack is fully inserted into port) 4. Check pendant connection into CB10 control box under foot section of mattress deck 5. Replace CB10 Control Box
Siderail control working on one side of the bed only	1. Check cable connection (ensure connector is fully inserted into T-cable port) 2. Unplug rail connection at port and replace with pendant (if available). If pendant works, replace inoperable rail control. If pendant doesn't work, replace T-Cable
Footboard staff control working properly, pendant not working	1. Some functions may be locked out. Check patient lock-out buttons on footboard. Patient lock-out prevents bed operation from the pendant 2. Check cable connection from pendant to port on bed frame 3. Check pendant connection into CB10 control box under foot section of mattress deck 4. Unplug pendant from current port and plug into port on opposite side of bed. If pendant works in new port, replace T-Cable. If pendant does not work in new port, continue to next step 5. Test pendant on a properly functioning bed (if available). If pendant works, replace CB10 control box. If pendant doesn't work, replace pendant
Only some functions working on the rail controls or pendant	1. Some functions may be locked out. Check patient lock-out buttons on footboard. Amber LED on patient lock-out button prevents the bed operation from the rail controls and pendant 2. Check cable connection from rail control to port on bed frame 3. Check pendant connection into CB10 control box under foot section of mattress deck 4. Replace rail control or pendant
Bed will not lower all the way or the bed appears to be a slight Trendelenburg or reverse Trendelenburg angle. **OR** The bed has ceased to perform all elevation/descent motion.	The Hi-Lo actuators are likely out-of-sync. The bed requires a "soft reset" to re-establish proper Hi-Lo actuator synchronization and/or restore proper bed operation. 1. Refer to page 68 for "soft reset" procedure.

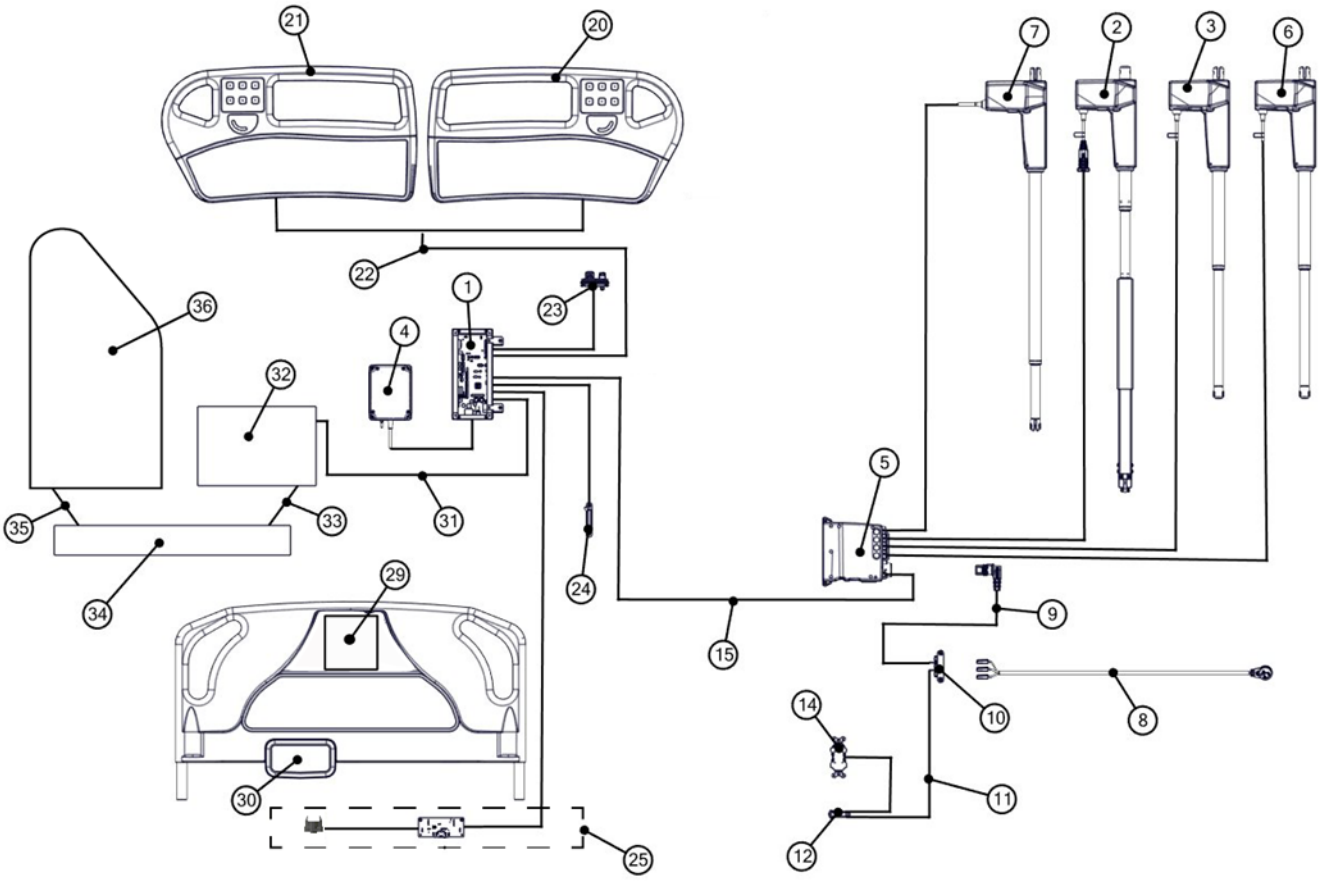
Bed will not run on DC power	1. Check to see if indicator LED on the Power Status Indicator is flashing RED. If flashing, check to see if the battery has been disconnected from the CB10 control box. Connect DC plug into DC jack in the side of the CB10 control box 2. The battery is connected but voltage has dropped below 18VDC and the battery has been automatically disconnected from battery circuit. Ensure bed is connected (plugged in) to an AC power outlet and allow battery to recharge. Confirm indicator LED is flashing GREEN and RED on the Power Status Indicator 3. If the service icon of the Power Status Indicator remains on after lengthy recharge period, replace battery 4. If the service icon of the Power Status Indicator remains on after battery replacement, replace CB10 control box
Bed Equipped With Obstruction Sensing Option Bed does not automatically stop when one or more obstructions sensors is contacted	1. Confirm which obstruction sensor(s) is(are) not working 2. Check to see if interconnection cables (between sensors) are connected or have been twisted. Replace interconnection cables 3. Check to see if interconnection cables (between sensor and CB10 control box) are connected or have been twisted. Replace interconnection cables. 4. Replace faulty obstruction sensor(s)
Bed Equipped With Obstruction Sensing Option Bed will not lower when DOWN button pressed Bed behaves like it is contacting an obstruction when none are obvious	1. If no obstruction is present, carefully inspect each obstruction sensor for signs of damage (gouge, dent, etc.). Damage could cause false switch contact to be made. If no damage is obvious, continue to next step. If damage is obvious, replace damaged obstruction sensor(s) The obstruction sensors are linked in "series" to form an electrical circuit. The circuit series is linked as follows: CB10 control box, interconnection cable, top leg cover sensor, interconnection cable, caster cover sensor, interconnection cable, bottom leg cover sensor 2. Disconnect interconnection cables (between sensors) to isolate the faulty obstruction sensor(s). Begin by disconnecting one of the bottom leg cover sensors from the circuit. Check Bed DOWN motion. If bed does not lower, continue by disconnecting the other bottom leg cover sensor. Check Bed DOWN motion. If bed does not lower, continue by disconnecting one caster cover sensor from the circuit. Continue this process until the proper Bed DOWN motion is achieved. 3. Reconnect obstruction sensor cables for functional obstruction sensors. Confirm Bed DOWN motion is working. 4. Replace damaged obstruction sensor(s)

4.8 Schematics & Technical

4.8.1 Spirit Wiring Schematic

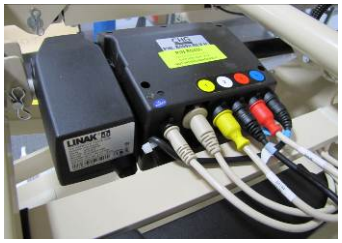


ITEM	KIT #	KIT DESCRIPTION
1	S0150	Service Kit, CB10 Lite (FOR USE WITH PLUS BEDS)
2	S0060	Service Kit, Head Actuator, Low Rails
	SK0166	Service Kit, Head Actuator, High Rails
3	S0367	Service Kit, HI-LO Actuator Foot Mounted
4	S0379	Service Kit, 24VDC Battery Assembly (Plate Mount)
5	S0094	Service Kit, CB09, 120V
6	S0366	Service Kit, HI-LO Actuator Head Mounted
7	S0059	Service Kit, Foot Actuator



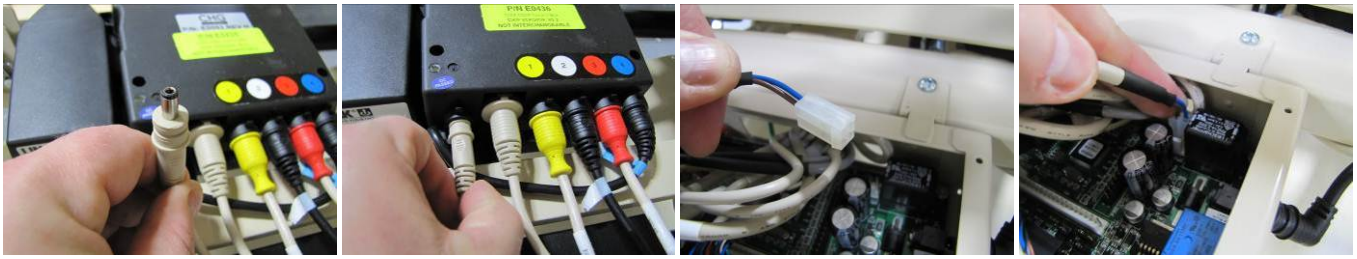
ITEM	KIT #	KIT DESCRIPTION
1-7		SEE ELECTRICAL COMPONENTS
8	SK0133	Service Kit, Mains AC Supply Cable
9	S0134	Service Kit, Internal Mains AC Supply Cable
10	SK0132	Service Kit, Mains AC Terminal Block
11	S0135	Service Kit, Auxiliary Outlet Mains Cable
12	SK0137	Service Kit, Thermal Circuit Breaker, 5 AMP
14	SK0136	Service Kit, Hospital Grade Duplex Receptacle
15	SK0139	Service Kit, CB09 to CB10 Communication Cable
	SK0140	Service Kit, CB09 to CB10 Power Cable
20/21		SEE RAIL PANEL COMPONENTS
22	SK0141	Service Kit, T-Cable, Siderail Controls
23	SK0138	Service Kit, Patient Station Cable
24	S0131	Service Kit, Underbed Light
25	SK0502	Service Kit, Blindmate Harness Assembly (4P)
29/30		SEE FOOTBOARD COMPOENTS
31	SK0129	Service Kit, Obstruction Sensor CB10 Cable
32	S0314	Service Kit, Top Leg Obstruction Sensor
33	SK0128	Service Kit, Obstruction Sensor Link Cable (4 PIN)
34	S0311	Service Kit, Caster Cover Obstruction Sensor
35	S0380	Service Kit, Obstruction Sensor Link Cable (6 PIN)
36	S0193	Service Kit, Bottom Leg Obstruction Sensor

4.8.2 Electrical Connections – Overview

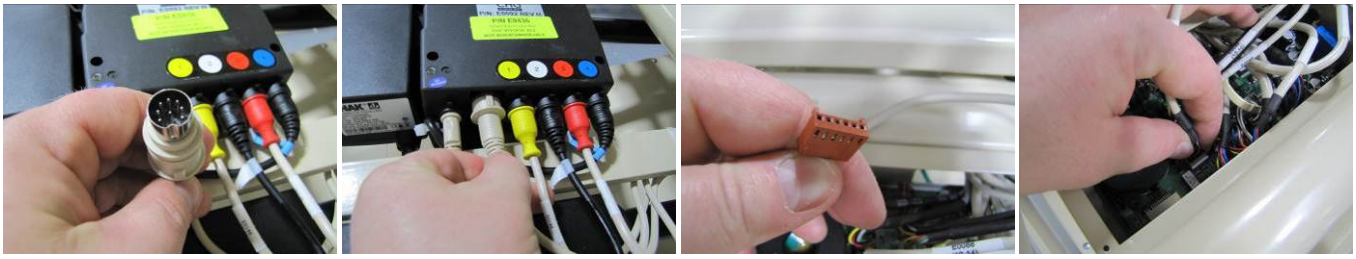


CB09 Control Box
CB09 is common to all Spirit™ beds
IMPORTANT: CB09 Control boxes are **NOT** interchangeable!

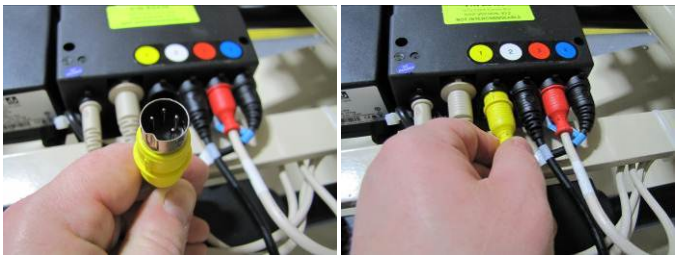
CB10 Control Box
CB10Lite control box – Spirit Plus™



DC Power Cable (Ø5.5 mm X Ø2.5 mm male plug end)
Provides 24VDC power from CB09 control box to DC power input header on CB10 control box



Communication Cable (8 pin, DIN style, double keyed connector)
Carries communication between CB09 control box and COMM header on CB10 control box



Colour Code

Yellow: Hi-Lo Actuator (Mounted at Foot End of Bed)

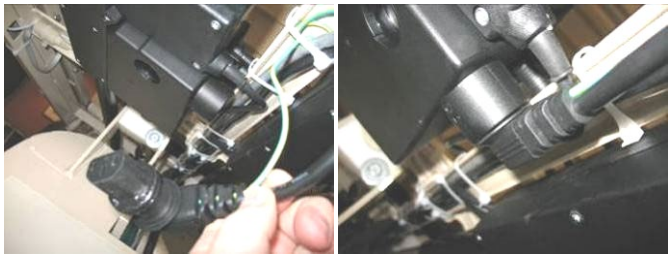
White (tape): Hi-Lo Actuator Extension Cable (Mounted at Head End of Bed)

Red: Head Actuator Extension Cable

Blue (tape): Knee Actuator

Actuator Cable Plug (4 pin, DIN style, double keyed connector)
Hi-Lo Actuators are common for all Spirit™ beds. Head/Knee actuators are unique for each Spirit™ depending upon configuration

Foot Mounted Actuator Extension Cables (4 pin, DIN style, double keyed connector to 6 pin modular connector)
Connects foot mounted actuator cables to CB09 control box. Retainer requires small slot screwdriver to remove (arrow)



CB09 Control Box Power Supply Cable (IEC 320 C13 female plug end)
Typical on all beds

Battery Connection Cable (Ø5.5 mm X Ø2.5 mm male plug end)
Typical on all beds

⚠ WARNING

ALWAYS ensure that bed is disconnected (unplugged) from mains AC power (wall outlet) before disconnecting/connecting any cable from/to either the CB10 or CB09 control boxes. Failure to do so may result in damage or degradation of control box circuit board components.

⚠ WARNING

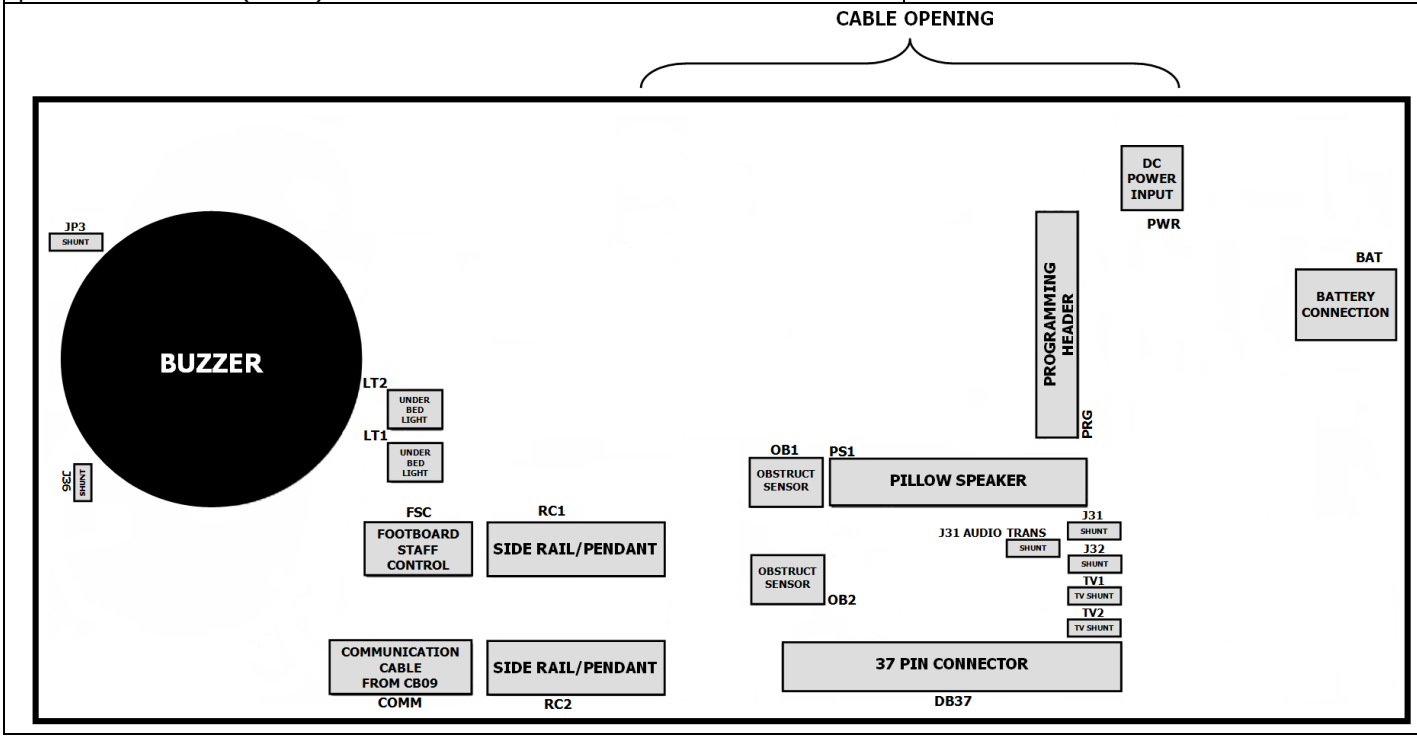
Some versions of CB09 control boxes are NOT interchangeable.

If you have to replace your CB09 control box call Stryker Medical Technical Service to ensure that you have the correct version of this component at toll free 1-800-327-0770 (USA) or 1-800-668-8323 (Canada).

4.8.3 Spirit Plus™ CB10Lite Control Box – Overview

CB10Lite cable connections shown: communication cable (p/n E0064), power cable (p/n E0067), footboard staff control cable (E0151), siderail t-cable (E0060), and patient station cable (E0078)

CB10Lite serial number label (affixed to enclosure next to battery connection)



4.9 Electromagnetic Compatibility (EMC)

The Spirit Select hospital bed needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual. Portable and mobile RF communications equipment can affect the Spirit Select Bed.

⚠ WARNING

This Spirit Select Hospital Bed is intended for use by healthcare professionals only. This equipment/system may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as reorienting or relocating the equipment or shielding the location.

The following list of cables and accessories are in compliance with the *Medical Electrical Equipment* requirements:

PART No.	DESCRIPTION
A5001	37 PIN GENDER CHANGER (FEMALE TO MALE)
A5003	NURSE CALL CABLE, 1/4" TO 1/4" MONO, STD WIRING
A5004	NURSE CALL CABLE, 37 PIN TO 37 PIN, STD WIRING, 8'
A5005	NURSE CALL CABLE, 37 PIN TO 1/4" PHONO, INTERLOCK
A5006	NURSE CALL CABLE, 1/4" PHONO TO 18 PIN (PROCARE)
A5007	NURSE CALL CABLE, 37 PIN TO 18 PIN (DUKANE)
A5009	NURSE CALL CABLE, 37 PIN TO 1/4" W/ 1/4" JACK
A5010	NURSE CALL CABLE, 37 PIN TO 7 PIN (EXECUTONE)
A5011	NURSE CALL CABLE, 37 PIN TO 18 PIN (DUKANE)
A5013	NURSE CALL CABLE, 37 PIN TO 1/4" PHONO (EXECUTONE)
A5014	NURSE CALL CABLE, 1/4" PHONE JACK FOR NURSE CALL
A5015	NURSE CALL CABLE, 1/4" PHONO JACK FOR BED EXIT
A5016	NURSE CALL CABLE, RAULAND RESPONDER 3
A5017	NURSE CALL CABLE, RAULAND RESPONDER 4 (AND JERON)
A5019	NURSE CALL CABLE, 37 PIN TO 37 PIN, 90° PLUG
A5020	NURSE CALL CABLE, 37 PIN TO 1/4" PHONO, NO INTRLCK
A5021	NURSE CALL CABLE, 37 PIN TO 37 PIN ADAPTER BOX
A5022	NURSE CALL CABLE, 37 PIN TO 18 PIN (JERON 1801)
A5024	NURSE CALL CABLE, 37 PIN TO 37 PIN ADAPTER
A5025	NURSE CALL CABLE, 37 PIN MALE TO 37 PIN FEMALE
A5026	NURSE CALL CABLE, 37 PIN-37 PIN, STD WIRING, 12'
A5028	NURSE CALL CABLE, 1/4"M-1/4"F 6" JUMPER W/ CORDOUT
A5030	NURSE CALL CABLE, RESPONDER 4000 ADAPTER BOX
A5031	NURSE CALL Y CABLE, 37 PIN TO 1/4" NC & PRIORITY
A5032	NURSE CALL CABLE, P909-P3701 ZETLLER SENTINAL 500
A5036	NURSE CALL CABLE, 417 P37R, DU, 1L, 2LD, INLK, TLK
A5037	NURSE CALL CABLE, 419 P37, DU, BE, TLK
A5039	BREAKAWAY CABLE, P37 - P37 DP 10&11 7&25
A5040	CALLCORD ASSEMBLY, 96", GRAY, 1/4", CURBELL LOGO
A5041	NURSE CALL CABLE, 800 P37, TT, BE, 2L, INLK, RLY
A5042	NURSE CALL CABLE, 800 P37R, JE, BE, 1L
A5044	ADAPTOR, 1, P1802, S1802, 1/4", N, FLANGE
A5050	NURSE CALL CABLE, 1801, 103, P37, GE, BE, 2L, 2LD
A5051	NURSE CALL CABLE, 800 P37R, J3, 1L, INLK, TLK
A5054	NURSE CALL CABLE, 1010, 102 P37, WESTCALL
A5055	NURSE CALL CABLE, 800 S37, AU, NO, TV, NO, TLK
A5065	JUMPER, 96" LONG, 1/4" 90° TO 1/4" INLINE
A5068	NURSE CALL CABLE, 1505 P37, FB, BE, 2L
A5069	ADAPTER, 1 X P800 TO 2 X S800, 1/4" NC,TEKTONE

A5071	NURSE CALL CABLE, DB37 TO RAULAND 800
A5072	NURSE CALL CABLE, RAULAND 800 TO DB37
A5074	NURSE CALL CABLE, 37 PIN TO 8 PIN
A5077	NURSE CALL CABLE, P37 TO 20PIN (P320) & 1/4" (8')
A5080	BREAKAWAY CABLE, 37 PIN TO RAULAND RESPONDER 4

⚠ WARNING

The use of accessories and cables other than those specified, with the exception of accessories and cables qualified and sold by the manufacturer of the equipment may result in increased emissions or decreased immunity of the equipment and may cause the system to be non-compliant with the requirements of IEC 60601-1-2:2007

⚠ WARNING

The equipment should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the equipment should be observed to verify normal operation in the configuration in which it will be used.

EMC Tables

IEC 60601-1-2:2007 Table 1 Requirements

The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The equipment uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The equipment is suitable for use in all establishments other than domestic, and may be used in domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes, provided the following warning is heeded: Warning: This equipment/system is intended for use by healthcare professionals only. This equipment/ system may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as re-orienting or relocating the equipment or shielding the location.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

IEC 60601-1-2:2007 Table 2 Requirements:

The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the Equipment should assure that it is used in such an environment.			
Immunity test	IEC 60601 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 %.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV line(s) to line(s) ±2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11 UT = 230 Vac	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the equipment requires continued operation during power mains interruptions, it is recommended that the equipment be powered from an uninterruptible power supply or a battery.
Power frequency (50 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

IEC 60601-1-2:2007 Table 4 Requirements:

<table>
<tr><td colspan="4">The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should assure that it is used in such an environment.</td></tr>
<tr><td>Immunity test</td><td>IEC 60601 test level</td><td>Compliance level</td><td>Electromagnetic environment – guidance</td></tr>
<tr><td>Conducted RF
IEC 61000-4-6</td><td>3 Vrms
150 kHz to 80 MHz</td><td>3 V</td><td rowspan="2">Portable and mobile RF communications equipment should be used no closer to any part of the equipment including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Recommended separation distance
$d = [\frac{3,5}{V_1}]\sqrt{P}$
$d = [\frac{3,5}{E_1}]\sqrt{P}$ 80 MHz to 800 MHz
$d = [\frac{7}{E_1}]\sqrt{P}$ 800 MHz to 2,5 GHz
where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey[a] should be less than the compliance level in each frequency range[b]
Interference may occur in the vicinity of known RF transmitting devices and equipment marked with the following symbol:
  </td></tr>
<tr><td>Radiated RF
IEC 61000-4-3</td><td>3 V/m 80 MHz to 2,5 GHz</td><td>3 V/m</td></tr>
<tr><td colspan="4">NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</td></tr>
<tr><td colspan="4">a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the equipment is used exceeds the applicable RF compliance level above, the equipment should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the equipment
b) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</td></tr>
</table>

IEC 60601-1-2:2007 Table 6 Requirements:

Recommended separation distances between portable and mobile RF communications equipment and the [ME EQUIPMENT or ME SYSTEM]

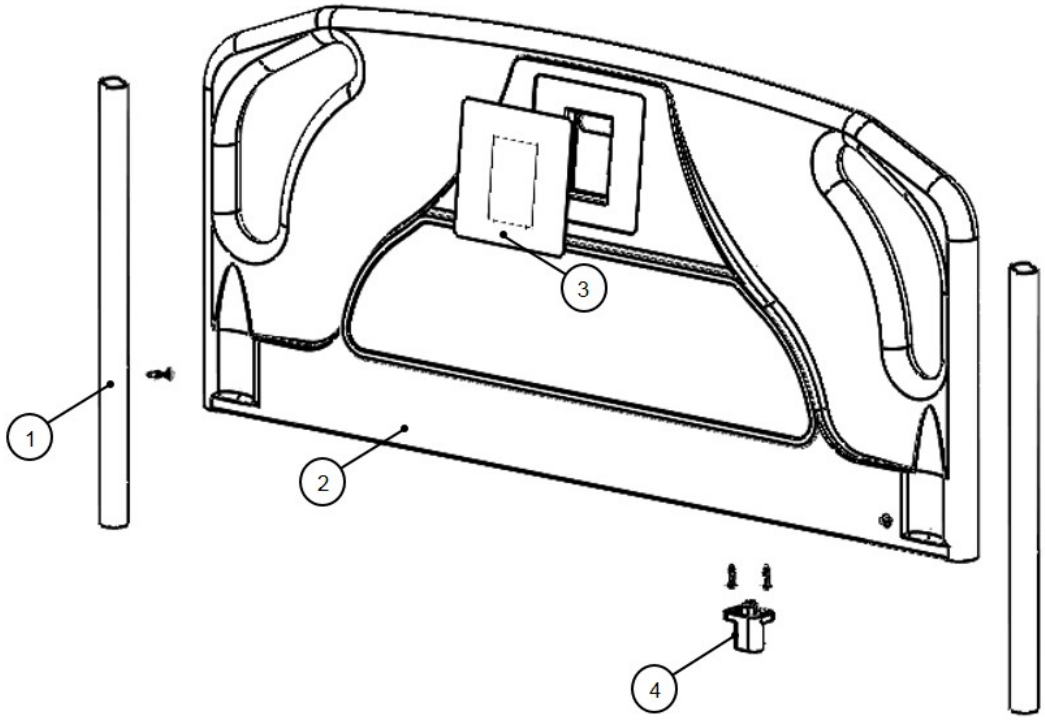
The [ME EQUIPMENT or ME SYSTEM] is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the [ME EQUIPMENT or ME SYSTEM] can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the [ME EQUIPMENT or ME SYSTEM] as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** M		
	150 kHz to 80 MHz $d = [\frac{3,5}{V_1}]\sqrt{P}$	**80 MHz to 800 MHz** $d = [\frac{3,5}{E_1}]\sqrt{P}$	**800 MHz to 2.5 GHz** $d = [\frac{7}{E_1}]\sqrt{P}$
0.01	0.12	0.12	0.24
0.1	0.37	0.37	0.74
1	1.17	1.17	2.34
10	3.69	3.69	7.38

4.10 Service Parts

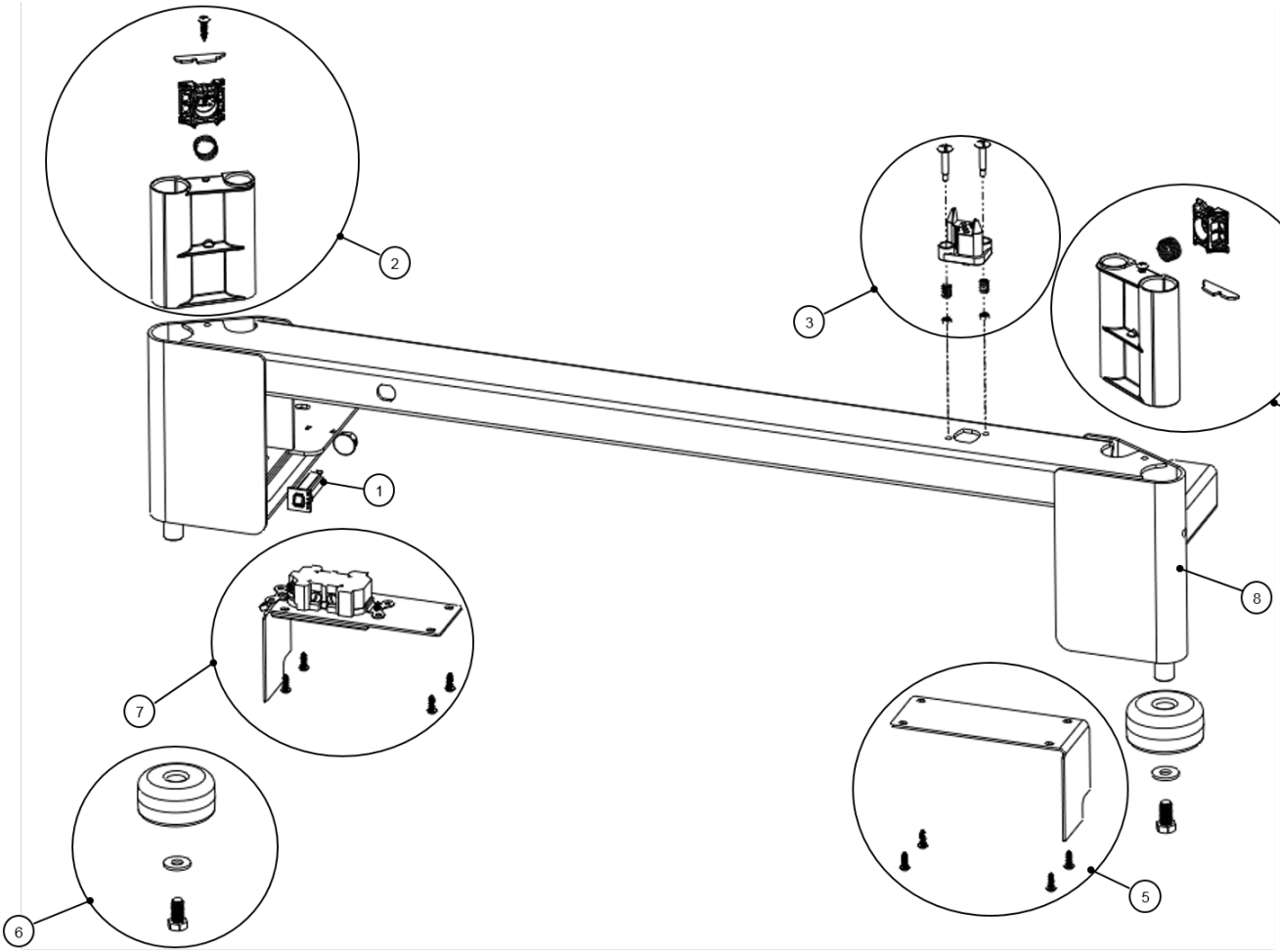
NOTE: Service parts shown reflect current production Spirit™ beds. If you are servicing an older Spirit™ bed, or if you have any doubts/concerns, please contact Stryker Medical Technical Service at toll free 1-800-327-0770 (USA) or 1-800-668-8323 (Canada) to ensure that you receive the correct parts.

PLUS FOOTBOARD



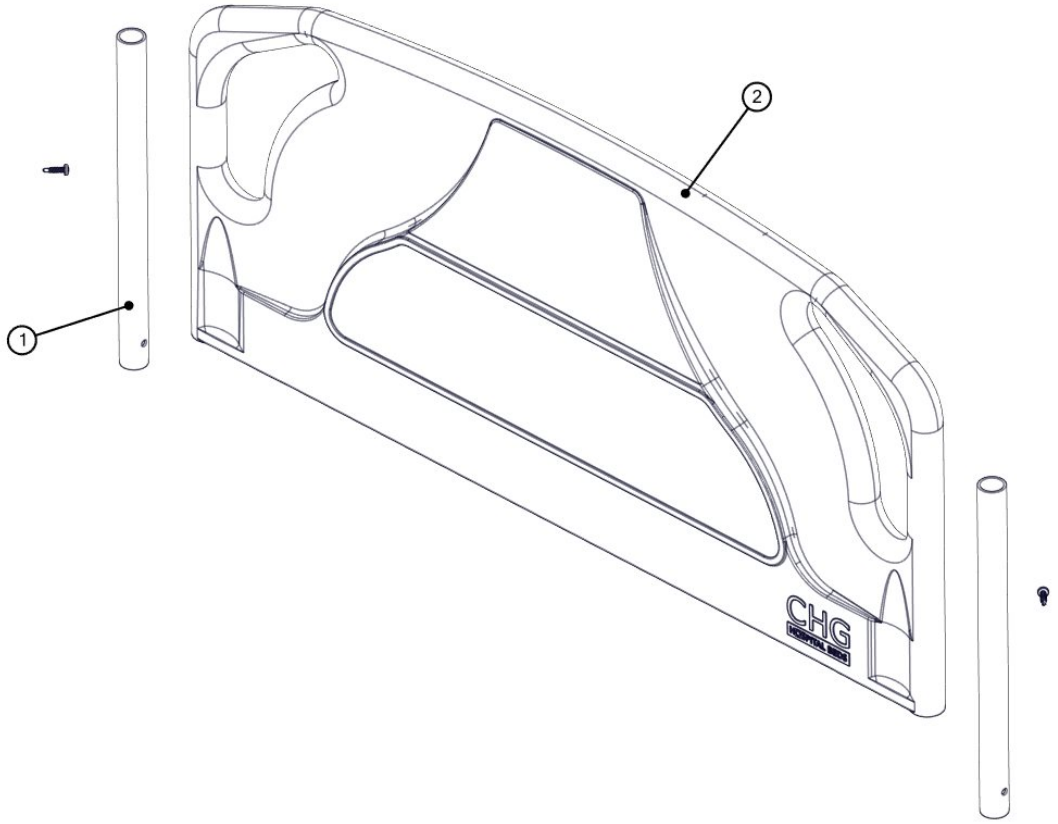
ITEM	KIT #	KIT DESCRIPTION
1	S0384	Service Kit, Footboard Post
	S0323	Service Kit, Psych Footboard Post
2	SK0493	Service Kit, Plus Footboard Complete
	S0396	Service Kit, Plus Footboard Complete Psych
3	S0044	Service Kit, Plus Footboard Staff Control
4	SK0502	Service Kit, Blindmate Harness Assembly (4P)

FOOTBOARD BRACKET



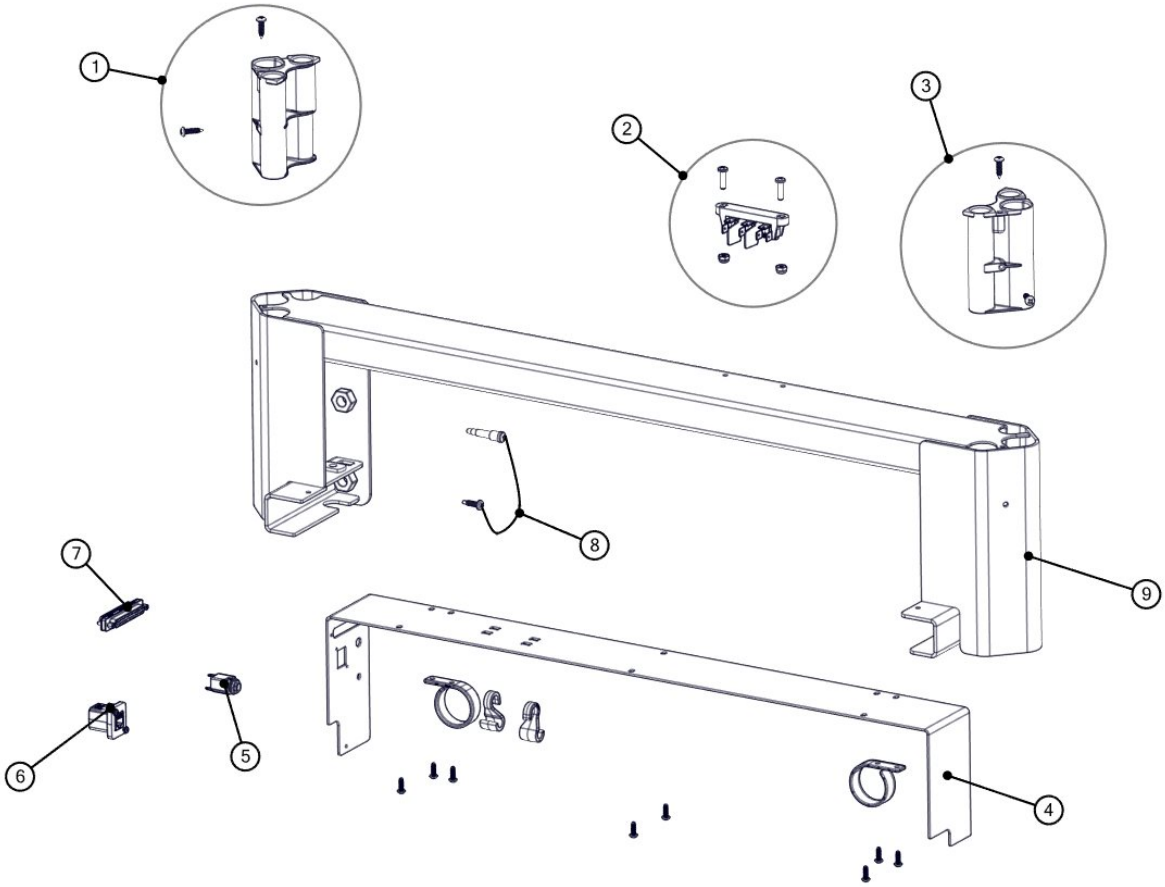
ITEM	KIT #	KIT DESCRIPTION
1	SK0137	Service Kit, Thermal Circuit Breaker, 5 Amp
2	SK0117	Service Kit, Footboard Bracket Insert PR
3	SK0501	Service Kit, Plus Footboard Bracket Cable (4P)
4	SK0118	Service Kit, Footboard Bracket Insert PL
5	SK0504	Service Kit, PL Footboard Bracket Cover
	S0404	Service Kit, WD Bypass Intermediate Board and Cover
6	S0027	Service Kit, Footboard Bracket Corner Bumper
7	S0400	Service Kit, Auxiliary Outlet and Cover (120V)
	S0402	Service Kit, PR Footboard Bracket Cover
8	SK0505	Service Kit, Footboard Bracket (4P)

HEADBOARD



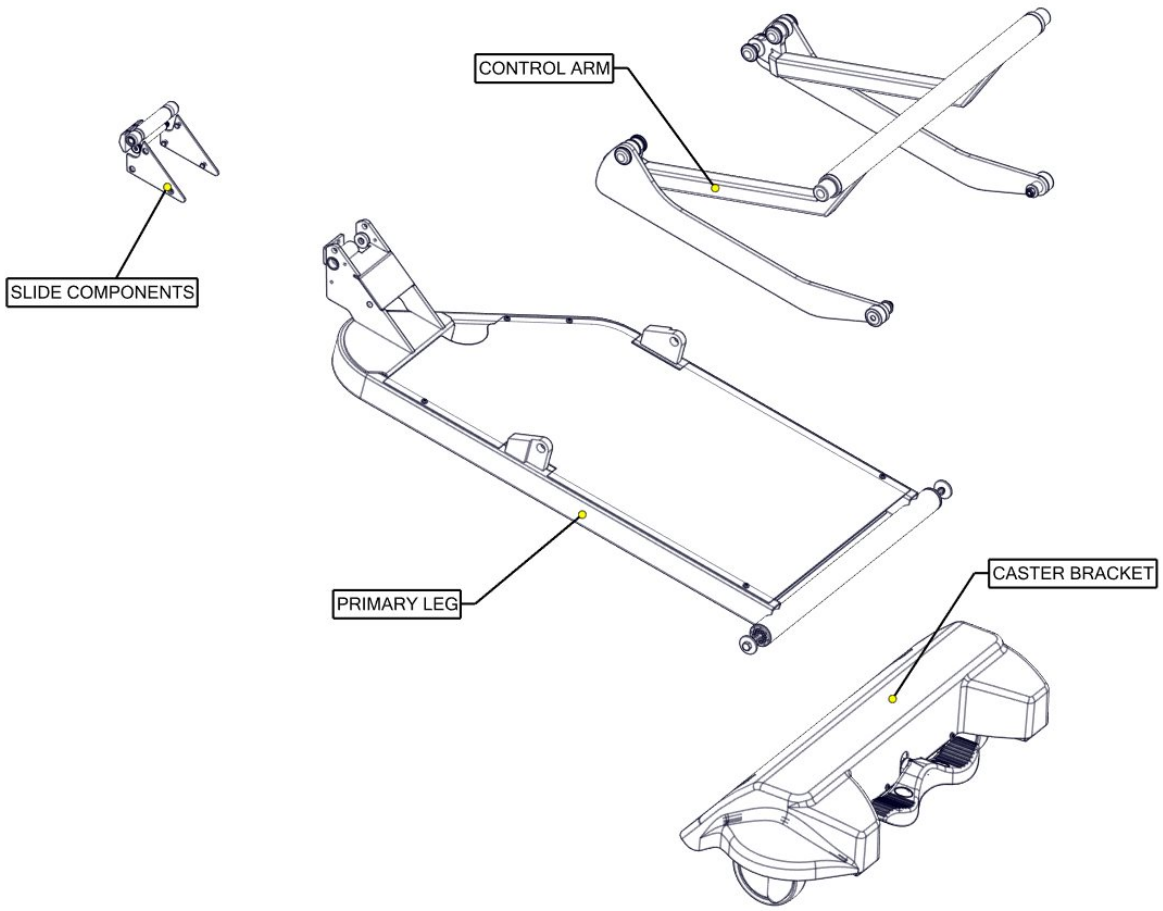
ITEM	KIT #	KIT DESCRIPTION
1	S0384	Service Kit, Footboard Post
	S0383	Service Kit, Psych Footboard Post
2	SK0113	Service Kit, Headboard Complete
	S0188	Service Kit, Psych Headboard Complete

HEADBOARD BRACKET (HIGH RAIL BEDS)



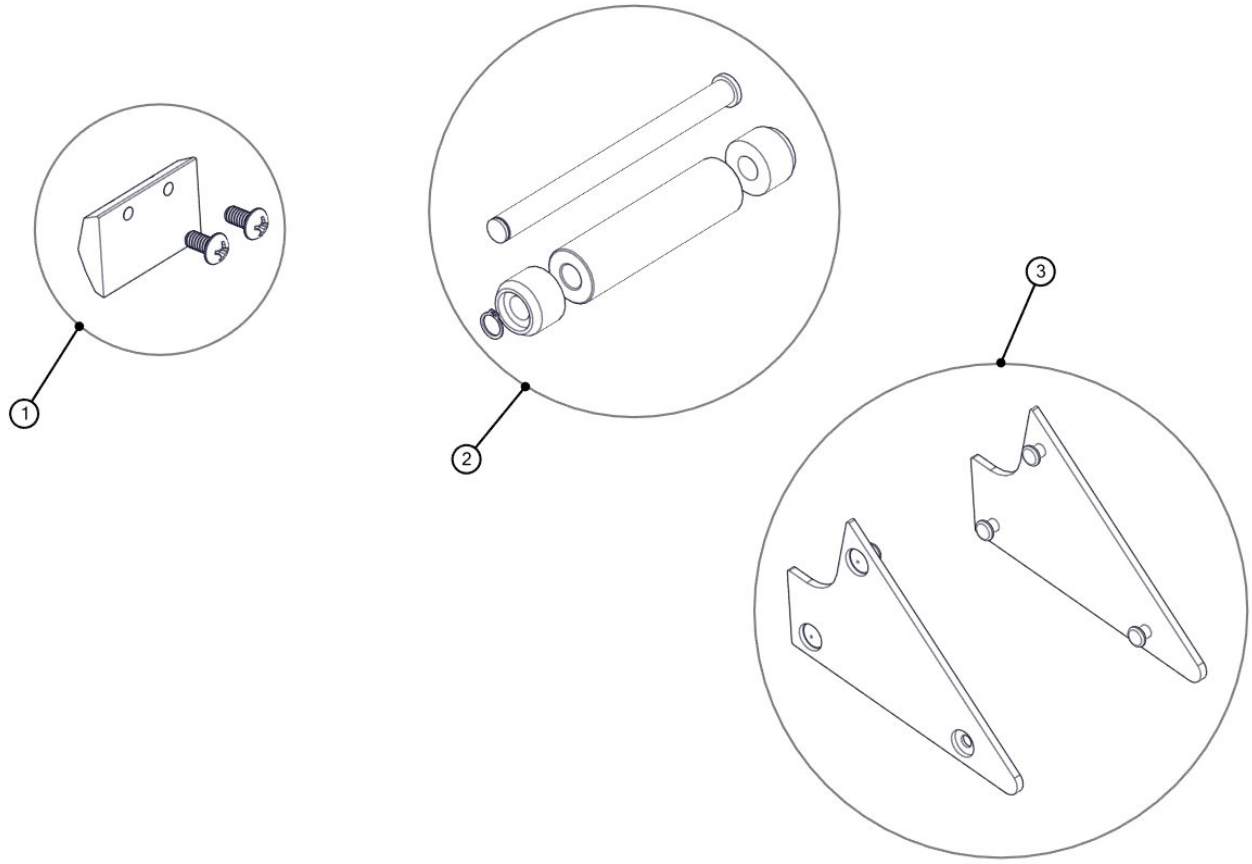
ITEM	KIT #	KIT DESCRIPTION
1	SK0115	Service Kit, Headboard Bracket Insert PR
2	SK0132	Service Kit, Mains AC Terminal Block
3	SK0116	Service Kit, Headboard Bracket Insert PL
4	S0406	Service Kit, High Headboard Bracket Cover
7	SK0138	Service Kit, Patient Station Cable
8	S0011	Service Kit, ¼" Dummy Plug
9	S0411	Service Kit, High Headboard Bracket Complete

LEG ASSEMBLY



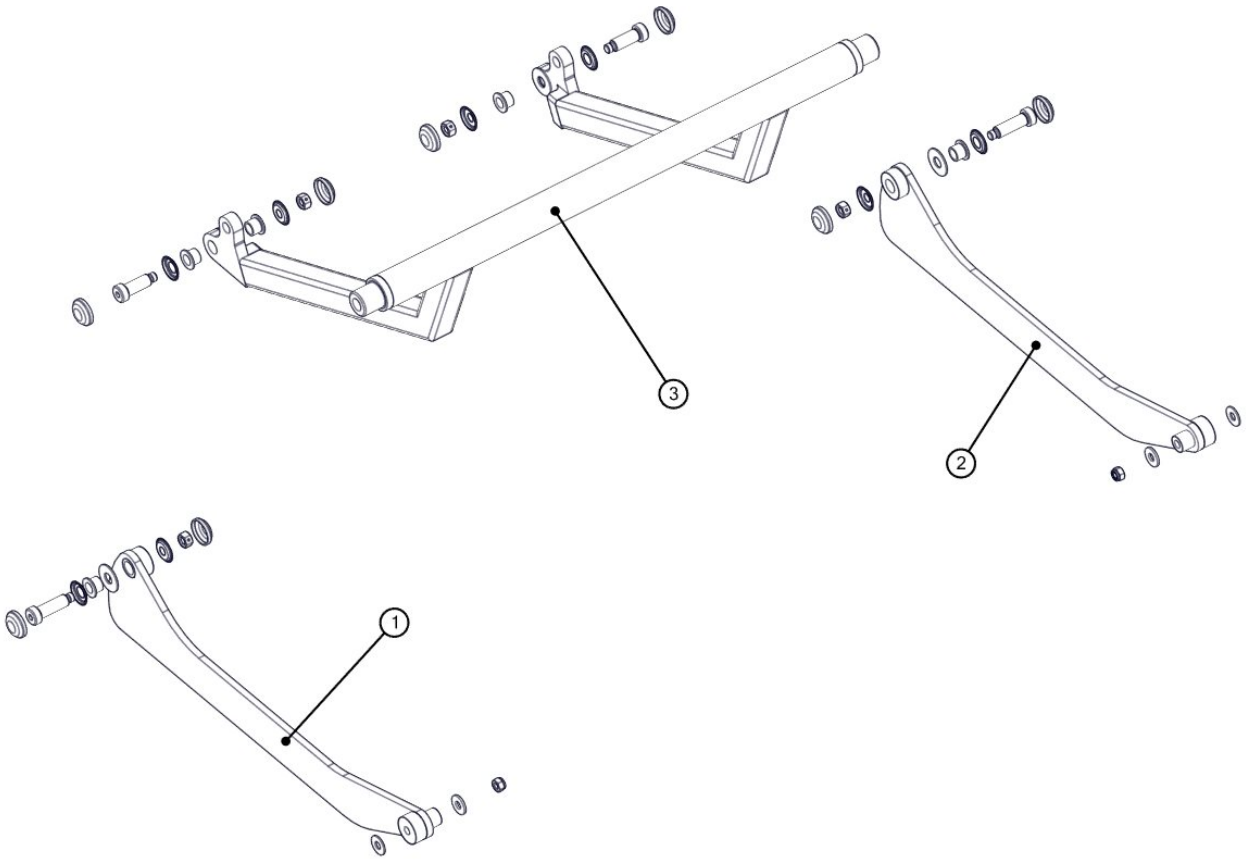
ITEM	KIT #	KIT DESCRIPTION
1		SEE SLIDE COMPONENTS
2		SEE CONTROL ARM
3		SEE CASTER BRACKET
4		SEE PRIMARY LEG

LEG ASSEMBLY - SLIDE COMPONENTS



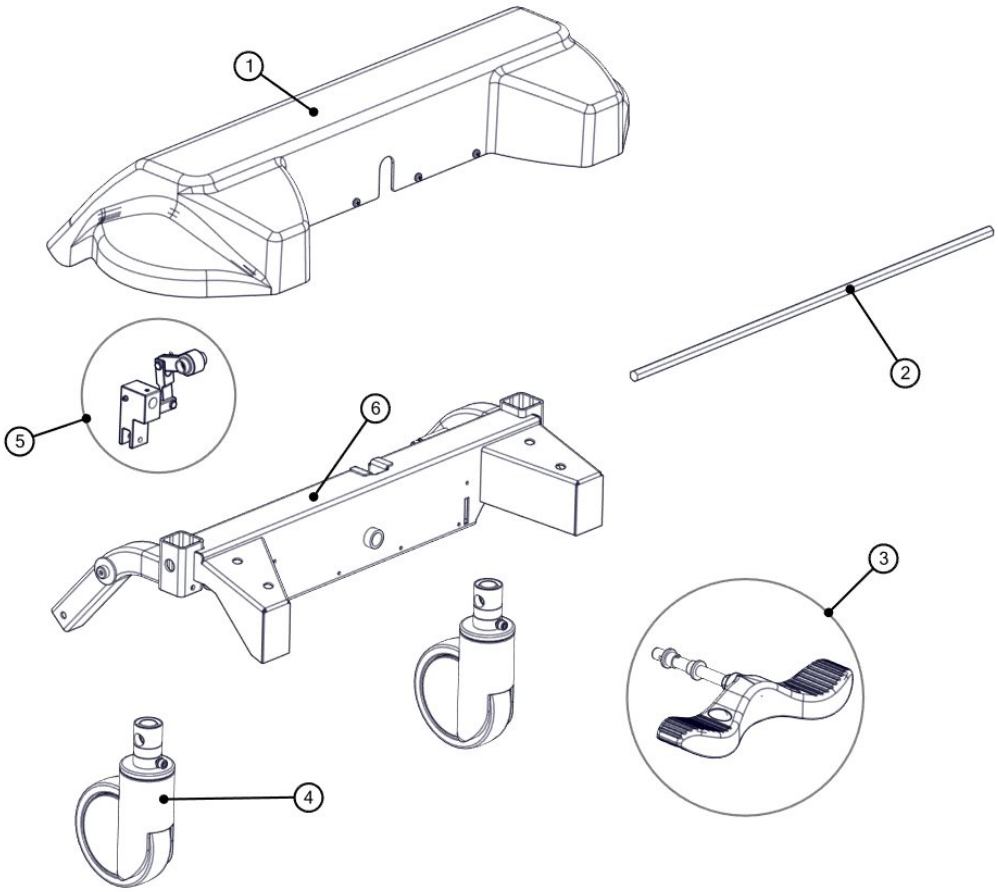
ITEM	KIT #	KIT DESCRIPTION
1	S0414	Service Kit, Push Block Hi/Lo Spring
2	S0415	Service Kit, Leg Roller Assembly
3	S0416	Service Kit, Leg Bracket Wear Pads

LEG ASSEMBLY - CONTROL ARM



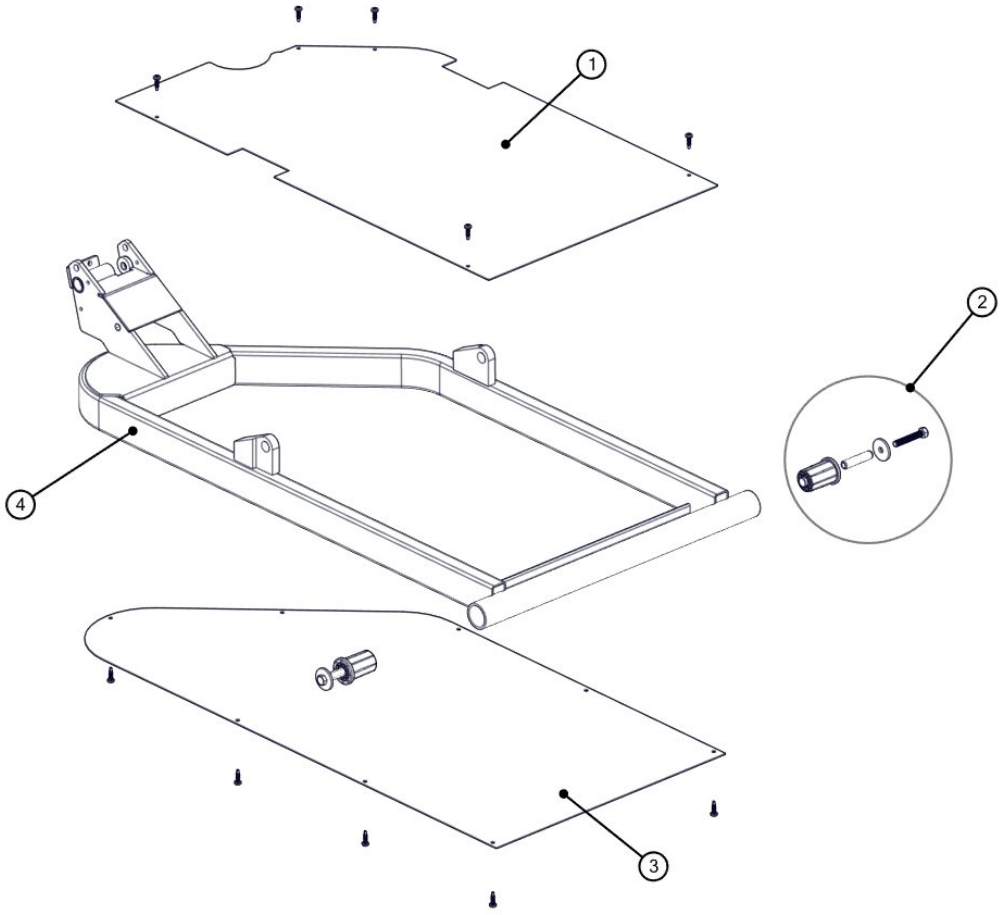
ITEM	KIT #	KIT DESCRIPTION
1	SK0429	Service Kit, Suspension Arm A (N2/N3)
2	S0430	Service Kit, Suspension Arm B (N2/N3)
3	S0417	Service Kit, Control Arm

LEG ASSEMBLY – CASTER BRACKET



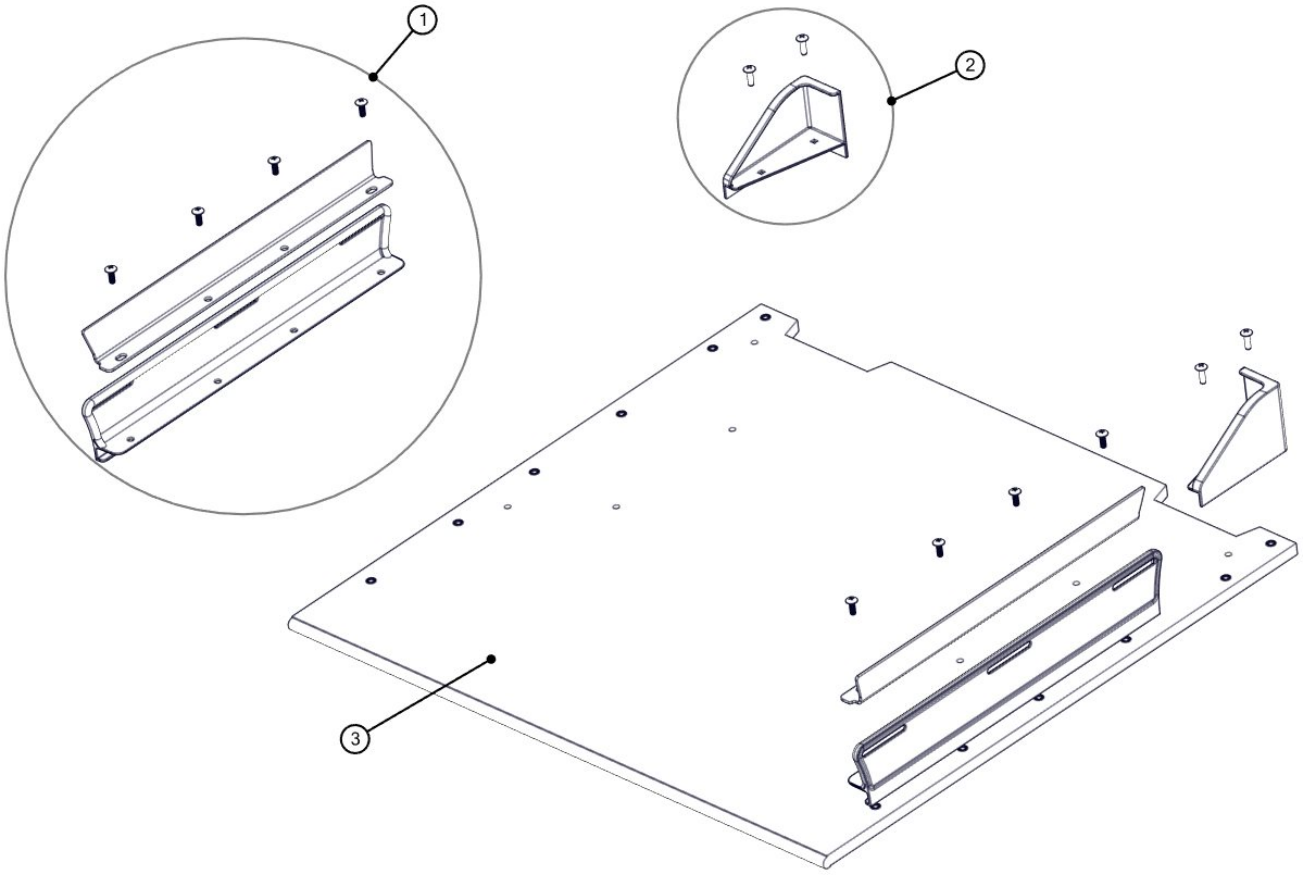
ITEM	KIT #	KIT DESCRIPTION
1	S0077	Service Kit, ABS Caster Cover
	S0161	Service Kit, ABS Caster Cover + OBS
	S0311	Service Kit, Caster Cover Obstruction Sensor
2	S0022	Service Kit, Caster Hex Rod
3	SK0121	Service Kit, Brake Pedal Assembly (Head End)
	SK0122	Service Kit, Brake Pedal Assembly (Foot End)
	SK0530	Service Kit, Brake Pedal, Foot End New Shaft
4	S0064	Service Kit, Head End Caster (Red Label)
	S0065	Service Kit, Foot End Caster (Green Label)
5	S0224	Service Kit, Complete Brake Pedal Linkage
6	S0103	Service Kit, Caster Assembly, Head, Complete
	S0104	Service Kit, Caster Assembly, Foot, Complete

LEG ASSEMBLY – PRIMARY LEG



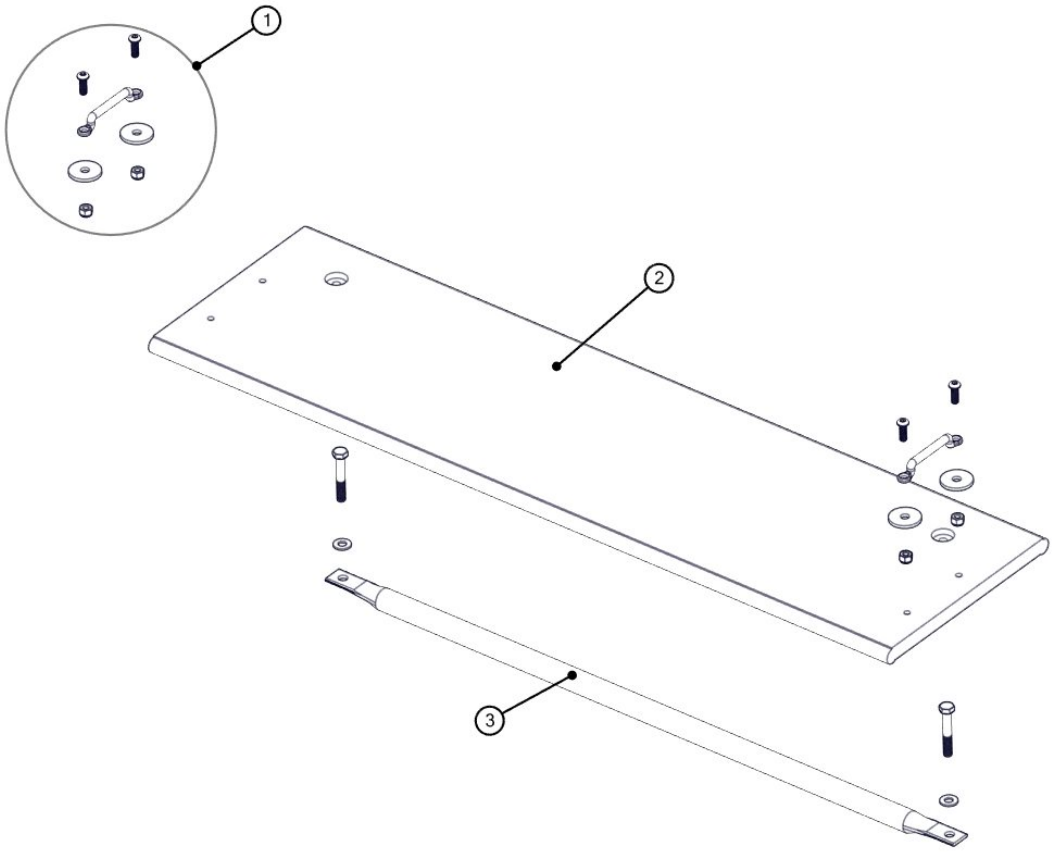
ITEM	KIT #	KIT DESCRIPTION
1	S0232	Service Kit, Top Leg Cover
	S0230	Service Kit, Top Leg Cover + OBS
	S0314	Service Kit, Top Leg Obstruction Sensor
2	S0239	Service Kit, Gatch Socket & Pin
3	S0233	Service Kit, Bottom Leg Cover
	S0160	Service Kit, Bottom Leg Cover + OBS
	S0193	Service Kit, Bottom Leg Obstruction Sensor
4	S0418	Service Kit, Primary Leg

HEAD DECK



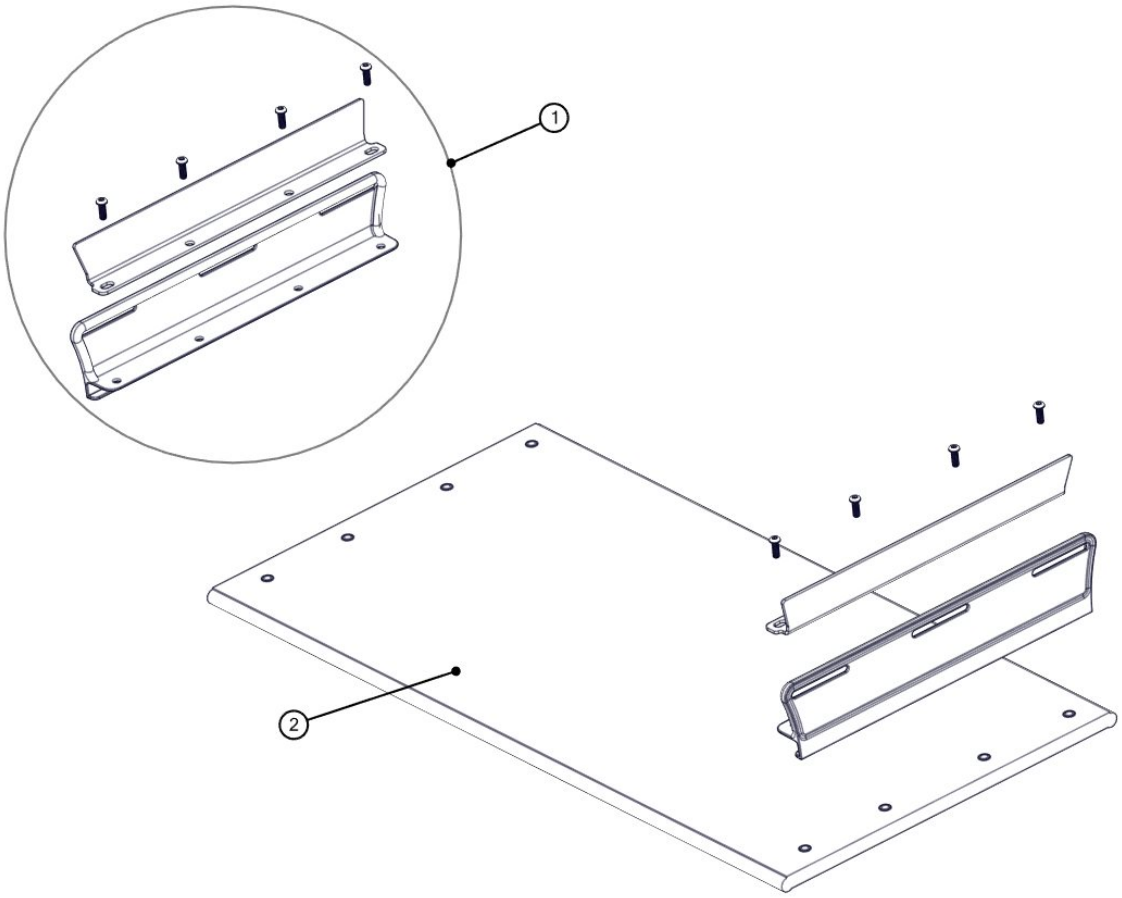
ITEM	KIT #	KIT DESCRIPTION
1	S0419	Service Kit, Mattress Keeper & Stiffener
2	S0050-A	Service Kit, Corner Mattress Keeper A (PL Head/PR Foot)
	S0050-B	Service Kit, Corner Mattress Keeper B (PR Head/PL Foot)
3	S0089	Service Kit, Head Deck Assembly Complete

SEAT DECK



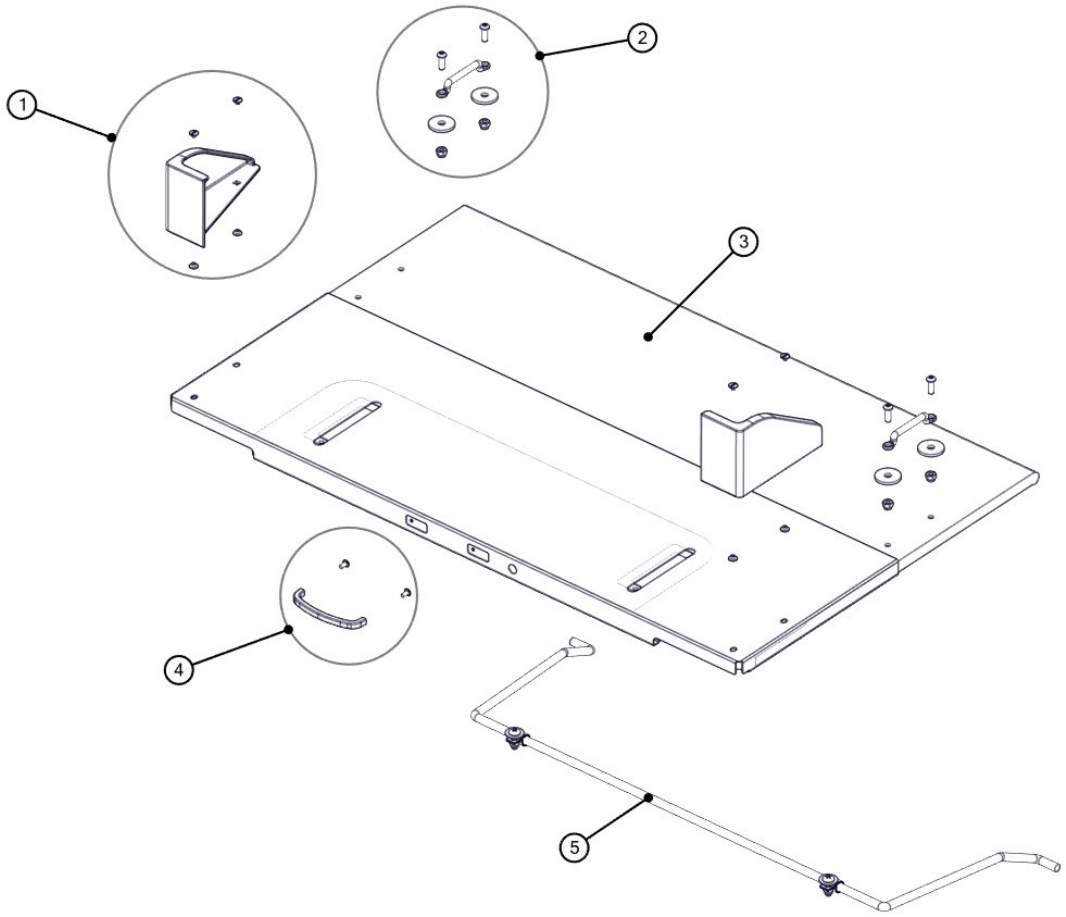
ITEM	KIT #	KIT DESCRIPTION
1	S0072	Service Kit, Restraint Loop
2	S0144	Service Kit, Seat Deck Assembly Complete
3	S0264	Service Kit, Seat Deck Support Tube

KNEE DECK



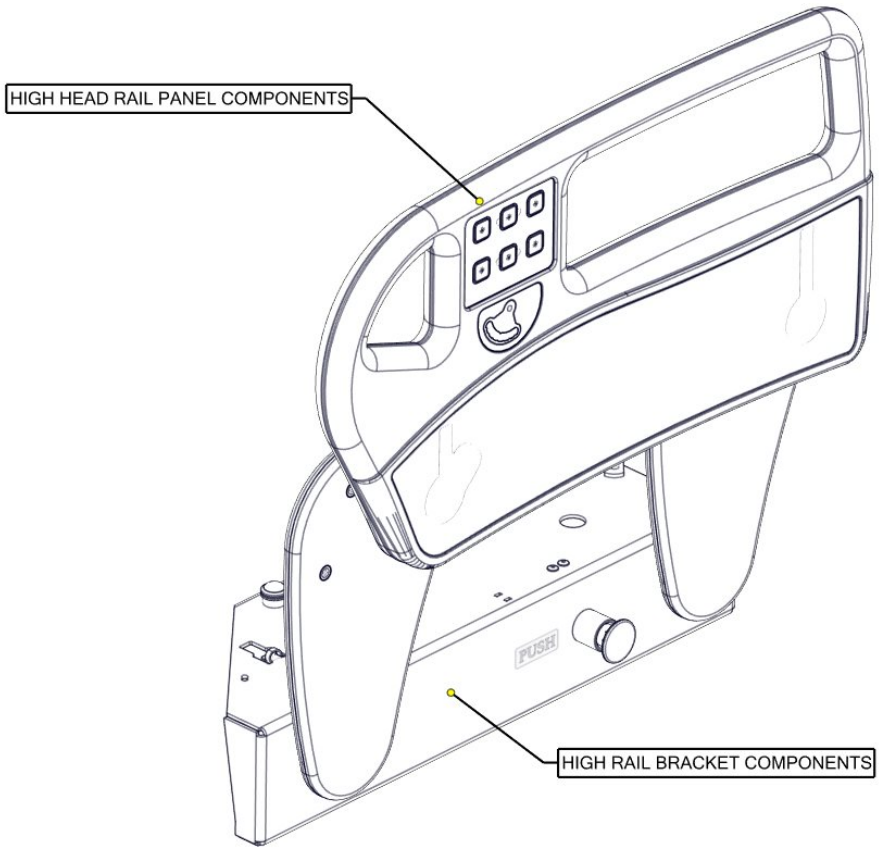
ITEM	KIT #	KIT DESCRIPTION
1	S0419	Service Kit, Mattress Keeper & Stiffener
2	S0090	Service Kit, Knee Deck Assembly Complete

FOOT DECK



ITEM	KIT #	KIT DESCRIPTION
1	S0279	Service Kit, Foot Deck Extension Corner Mattress Keeper A (PR Foot)
	S0280	Service Kit, Foot Deck Extension Corner Mattress Keeper B (PL Foot)
	S0050-A	Service Kit, Corner Mattress Keeper A (PL Head/PR Foot)
	S0050-B	Service Kit, Corner Mattress Keeper B (PR Head/PL Foot)
2	S0072	Service Kit, Restraint Loop
3	SK0086	Service Kit, Foot Deck Assembly Complete + Extension
	S0010	Service Kit, Foot Deck Assembly Complete
4	S0174	Service Kit, Extension Handle
5	SK0119	Service Kit, Foot Bail

HIGH HEAD RAILS

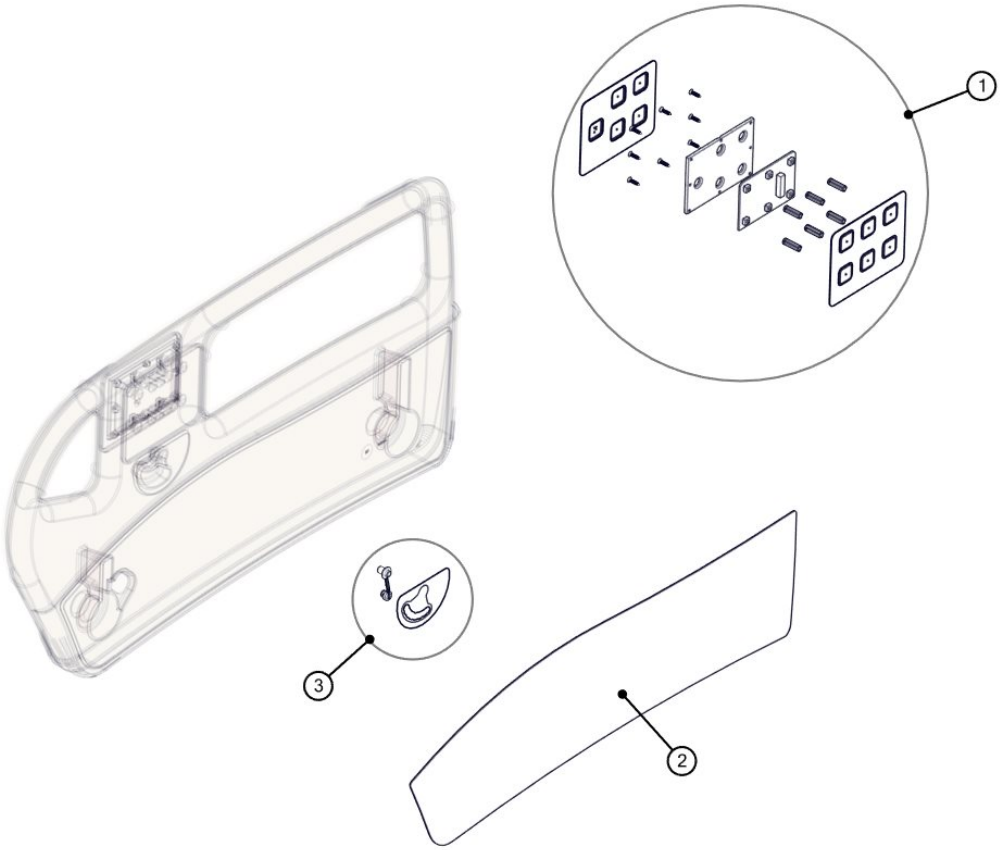


ITEM	KIT #	KIT DESCRIPTION
1		SEE HIGH HEAD RAIL PANEL COMPONENTS
2		SEE HIGH HEAD RAIL BRACKET COMPONENTS

COMPLETE RAIL ASSEMBLIES

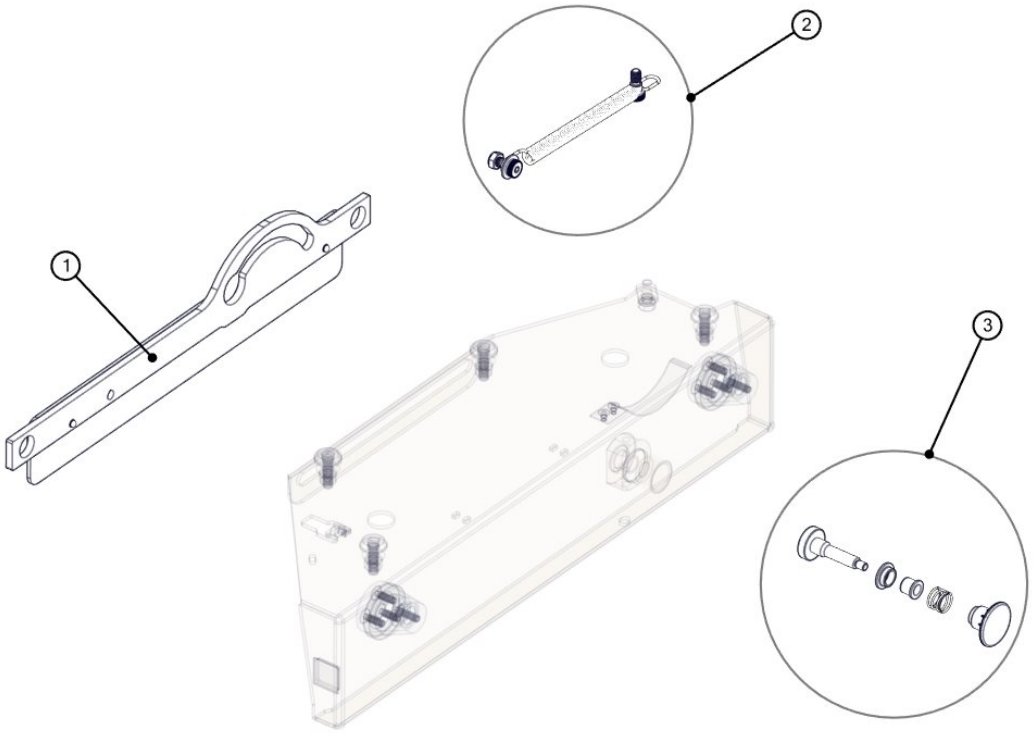
KIT #	KIT DESCRIPTION
S0095	Service Kit, High Head Rail & Bracket Assembly, PR
S0096	Service Kit, High Head Rail & Bracket Assembly, PL
S0249	Service Kit, High Head Rail & Bracket Assembly, PR FILLED
S0250	Service Kit, High Head Rail & Bracket Assembly, PL FILLED

HIGH HEAD RAIL PANEL COMPONENTS



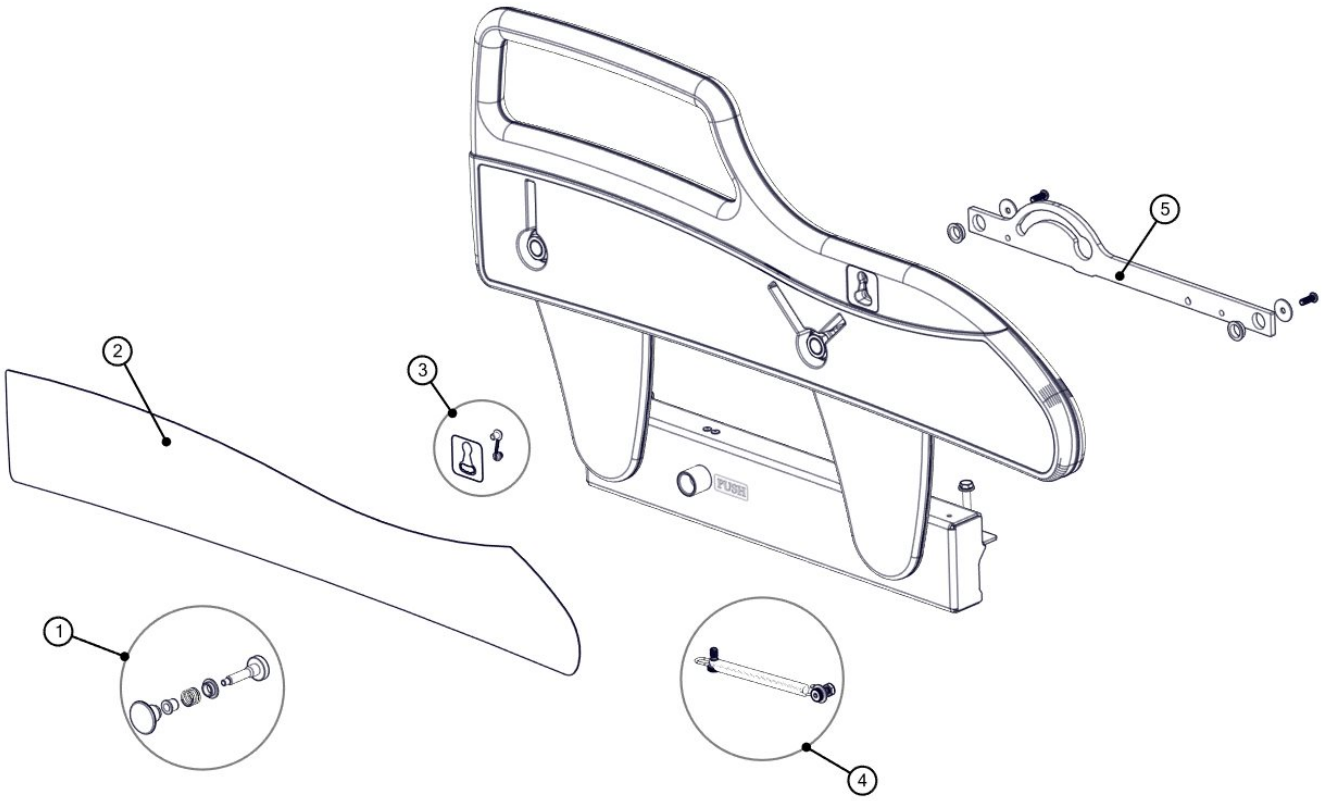
ITEM	KIT #	KIT DESCRIPTION
1	S0070	Service Kit, Head Siderail PCB Replacement Kit (PL)
	S0071	Service Kit, Head Siderail PCB Replacement Kit (PR)
	S0109	Service Kit, Side Rail Control Overlay A (PL Outside)
	S0110	Service Kit, Side Rail Control Overlay B (PL Inside)
	S0111	Service Kit, Side Rail Control Overlay C (PR Inside)
	S0112	Service Kit, Side Rail Control Overlay D (PR Outside)
2	S0087-XX	Service Kit, High Head Rail Inlays, Pair (where XX signifies Colour Option)
3	S0420	Service Kit, Head Angle Overlay Pendulum (PL)
	S0421	Service Kit, Head Angle Overlay Pendulum (PR)

HIGH HEAD RAIL BRACKET COMPONENTS



ITEM	KIT #	KIT DESCRIPTION
1	S0434	Service Kit, High Rail Linkage, Head PR Dampened
	S0435	Service Kit, High Rail Linkage, Head PL Dampened
2	S0424	Service Kit, High Rail Dampening Spring
3	S0368	Service Kit, High Side Rail Knob & Latch Pin Assembly

HIGH FOOT RAILS

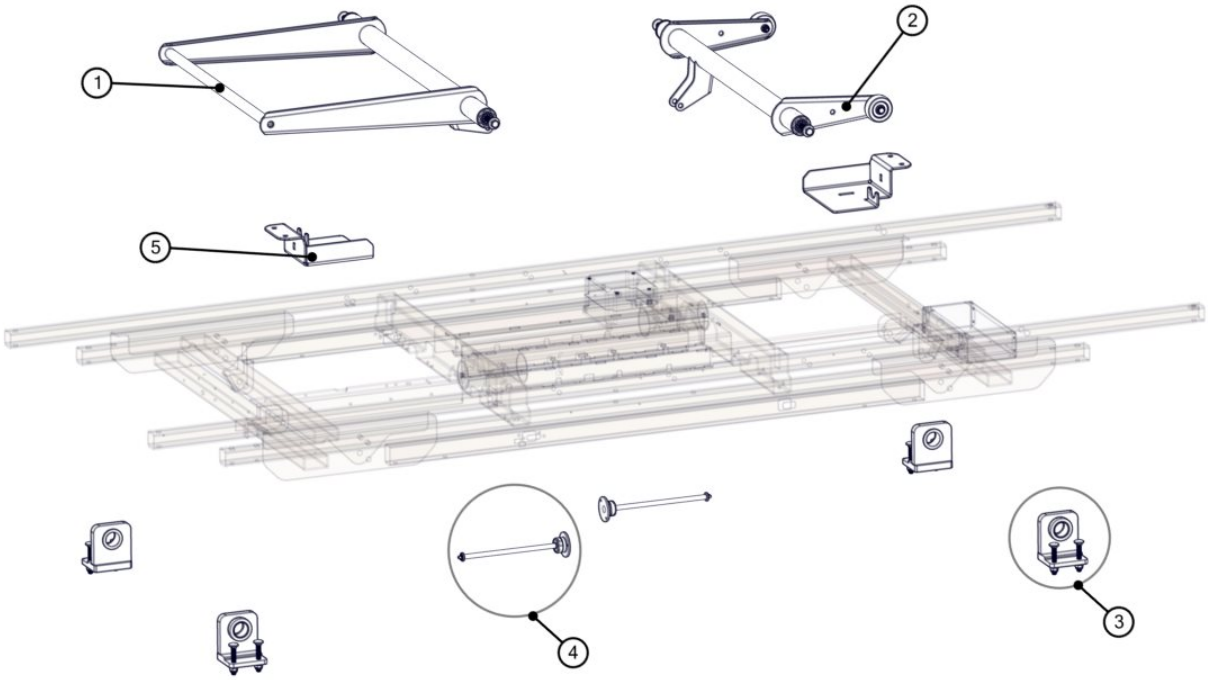


ITEM	KIT #	KIT DESCRIPTION
1	S0368	Service Kit, High Side Rail Knob & Latch Pin Assembly
2	SK0088-XX	Service Kit, High Head Rail Inlays, Pair (where XX signifies Colour Option)
3	S0422	Service Kit, Trend Angle Overlay Pendulum (PL)
	S0423	Service Kit, Trend Angle Overlay Pendulum (PR)
4	S0424	Service Kit, High Rail Dampening Spring
5	S0433	Service Kit, High Rail Linkage, Foot Dampened

COMPLETE RAIL ASSEMBLIES

KIT #	KIT DESCRIPTION
SK0507	Service Kit, High Foot Rail Replacement Assy (Set)
SK0508	Service kit, FILLED High Foot Rail Replacement Assy (Set)
S0097	Service Kit, High Foot Rail & Bracket Assembly, PR
S0098	Service Kit, High Foot Rail & Bracket Assembly, PL
S0251	Service Kit, High Foot Rail & Bracket Assembly, PR FILLED
S0252	Service Kit, High Foot Rail & Bracket Assembly, PL FILLED

UPPER FRAME



ITEM	KIT #	KIT DESCRIPTION
1	S0018	Service Kit, Head Gatch Assembly
2	S0020	Service Kit, Foot Gatch Assembly
3	S0425	Service Kit, Control Arm Hinge Block
4	S0438	Service Kit, Retainer Assembly Hi/Lo Spring
5	SK0481	Service Kit, LA31 HILO Guard

CHG Hospital Beds
1020 Adelaide Street South
London, Ontario N6E 1R6
Canada