

# SV2 Electric Hospital Bed

## Operations Manual

**REF** 7500



EN




























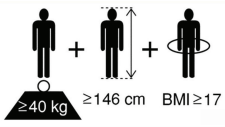









## Global symbol glossary




See the Global Symbol Glossary at [ifu.stryker.com](http://ifu.stryker.com) for symbol definitions.

### Symbols

	Refer to instruction manual/booklet
	Operating instructions / Consult instructions for use
	General warning
	Caution
	Warning; crushing of hands
	Warning; crushing of feet
	Do not insert lift pole
	Headboard and footboard orientation
	Do not store items under the bed
	Gatch positioning
	Catalogue number
	Serial number
	European medical device
	Authorized representative in the European Community
	Authorized representative in Switzerland
	CE mark
	UK Conformity Assessment mark

	Importer
	Unique device identifier
	Quantity
	Manufacturer
	Date of manufacture
	Mass of equipment with safe working load
	Safe working load
	Maximum patient weight
	Adult patient
	Direct current
	Alternating current
	Dangerous voltage
	Unit provides terminal for connection of a potential equalization conductor. The potential equalization conductor provides direct connection between the unit and potential equalization busbar of the electrical installation.
	Protective Earth terminal
<b>IPX4</b>	Protection from liquid splash
	Type B applied part
	To indicate that separate collection for batteries is required per the European Union's Batteries and Waste Batteries Regulation (EU) 2023/1542. This symbol may be accompanied by the abbreviated designation of the battery material(s) used.



	<p>In accordance with European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) as amended, this symbol indicates that the product should be collected separately for recycling. Do not dispose of as unsorted municipal waste. Contact local distributor for disposal information. Ensure infected equipment is decontaminated prior to recycling.</p>
	<p>To indicate that separate collection for batteries is required per the European Union's Batteries and Waste Batteries Regulation (EU) 2023/1542. This symbol may be accompanied by the abbreviated designation of the battery material(s) used.</p> <p>Pb = battery contains more than 0.004 % by weight of lead</p>
	<p>Recycling symbol</p>

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## Warning/Caution/Note Definition

The words **WARNING**, **CAUTION**, and **NOTE** carry special meanings and should be carefully reviewed.

### **WARNING**

Alerts the reader about a situation which, if not avoided, could result in death or serious injury. It may also describe potential serious adverse reactions and safety hazards.

### **CAUTION**

Alerts the reader of a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or damage to the product or other property. This includes special care necessary for the safe and effective use of the device and the care necessary to avoid damage to a device that may occur as a result of use or misuse.

**Note** - Provides special information to make maintenance easier or important instructions clearer.

## Summary of safety precautions

Always read and strictly follow the warnings and cautions listed on this page. Service only by qualified personnel.

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### WARNING

- Only use the input voltage and frequency as rated on the product.
- Always allow the product to reach room temperature before you begin setup or test functional operations, to prevent permanent product damage.
- Do not use this product if it has identifiable failures, defects, malfunctions, or damage.
- Do not use this product under any conditions if use would cause injury to the operator or patient.
- Only operate the product when all operators are clear of the mechanisms.
- To avoid the risk of electric shock, this equipment must be connected to a supply mains with protective earth.
- Always store the power cord to avoid the risk of entanglement, damage to the power cord, or potential shock hazards. If the power cord is damaged, remove the product from service and contact the appropriate maintenance personnel.
- Always allow enough clearance between the head end of the product and the adjacent wall, so you can unplug the power cord from the wall outlet during an emergency.
- Always store the power cord before transporting the product.
- Do not attach the power cord to any parts of the product.
- Always unplug the power cord and call maintenance if unanticipated motion occurs.
- Do not store items under the bed.
- Do not use the bed without the litter covers.
- Always disconnect the power cord from the wall outlet if you detect overheating of the battery, control cables, or pendants. Do not use the product again until it has been inspected, serviced, and confirmed to work as intended by authorized maintenance personnel.
- Do not open a dead battery.
- Do not throw the battery into a fire.
- Do not spill liquid onto the battery or submerge the battery in liquid.
- Always unplug the battery cable from the control box before you store the product for a long period of time.
- Always lock the siderails in the full up position with the sleep surface horizontal in the lowest position when transporting a patient.
- Always keep limbs, hands, fingers, and other body parts clear of mechanisms and gaps.
- Always make sure that there are no obstacles near the product. Injury to the patient, operator, bystanders or damage to the frame or surrounding equipment could occur if you collide with an obstacle.
- Do not attempt to move the product laterally. This may cause the product to tip.
- Do not move the product after you apply the brakes.
- Always apply the brakes when a patient is getting into or out of the product to avoid instability.
- Always apply the brakes when the patient is unattended.
- Always make sure that all persons and equipment are away from the area below and around the backrest before you activate the CPR release. The CPR release is for emergency use only.
- Always properly orient the headboard when replacing the headboard to avoid entrapment.
- Always properly orient the footboard when replacing the footboard to avoid entrapment.
- Always make sure that all persons and equipment are away from the area below and around the leg rest before you lower the lower leg section.
- Always lock the siderails unless a patient's condition requires extra safety measures.
- Always lock the siderails in the full up position when the patient is unattended.
- Do not use siderails as restraint devices to keep the patient from exiting the product. The operator must determine the degree of restraint necessary to make sure that the patient is safe.
- Do not sit on the siderails.
- Always lock bed motion controls when the patient is unattended.
- Never store the nurse control panel within the patient's reach.
- Do not sit on the bed extender. This may cause the product to tip.
- Always lock the bed extender before you place weight on the bed extender.
- Always retract the linen tray (option) before you put the product in motion.
- Always retract the linen tray (option) when not in use.
- Do not use the product for X-ray procedures if it does not have the radiolucent backrest (option).
- Do not use accessories to support patient limbs or other body parts.
- Do not clean, service, or perform maintenance while the product is in use.
- Always power off and unplug the power cord before cleaning, servicing, or performing maintenance.
- Always power off the product and unplug the power cord from the wall outlet when large spills occur near the circuit boards, cables, and motors. Remove the patient from the product, clean up the fluid, and have service personnel inspect the product. Fluids can cause unpredictable operation and decreased functionality of any electrical product. Do not return the product to service until it is completely dry and has been thoroughly tested for safe operation.
- Do not spray cleaners directly onto the battery, control boxes, actuators, cables, or other electric equipment.
- Do not use abrasive powder, steel wool, or similar materials that may damage the product surface.
- Do not use **Virex®** TB for product disinfecting.

- Do not use acid-based chemicals or flammable chemicals, such as gasoline, diesel, or acetone for cleaning purposes.
- Do not directly spray or saturate the siderail control panel, patient control pendant, or nurse control pendant with cleaners.
- The cleaners and disinfectants must not be highly alkaline or acidic (pH value 6-8).
- Do not use sharp objects to clean the siderail control panel.
- Do not use **Virex® TB** for product cleaning.

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## CAUTION

- Improper usage of the product can cause injury to the patient or operator. Operate the product only as described in this manual.
  - Do not modify the product or any components of the product. Modifying the product can cause unpredictable operation resulting in injury to patient or operator. Modifying the product also voids its warranty.
  - To minimize the risk of any electromagnetic interference, the product design follows the standard IEC 60601-1-2. To avoid problems, use the bed in accordance with the EMC/EMI requirements in the EMC section of this operations manual.
  - Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 in.) to any part of the SV2, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
  - Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
  - Use of accessories, transducers, and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
  - Do not place objects into any gaps of the product.
  - Always plug the product into a wall outlet (regulated AC-power source) when not in use to maintain a sufficient battery charge and to maximize product performance while operating on battery power.
  - Always replace batteries that have corrosion at the terminals, display cracking, have expanded or bulging sides, or no longer can maintain a full charge.
  - Only use authorized batteries when replacing the batteries. Use of unauthorized batteries may lead to unpredictable system performance.
  - Do not place or store heavy objects on the product.
  - Do not squeeze or pinch the power cord in the bed frame.
  - Do not use the siderails as a push or pull device. Always move the product using the integrated handles in the headboard and footboard.
  - Always remove the patient lift pole before transporting the product.
  - Do not use the IV pole as a push or pull device.
  - Always make sure that the IV pole is at a low height during transport.
  - Always apply the brake to prevent unintended movement.
  - Do not apply the brake pedal to stop a moving product.
  - Always hang the nurse control pendant onto a foot end siderail or store in the linen tray (option) before removing the footboard.
  - Do not raise the lower leg section while the bed extender is in use. This is to avoid the situation where the product does not support the lower legs of a taller patient.
  - Do not use the siderails to move the product. Always move the product using the integrated handles in the headboard and footboard.
  - Always place the patient control pendant safely on the mattress while the pendant is in use.
  - Always hang the patient control pendant onto the siderail when the pendant is not in use.
  - Do not squeeze or pinch the pendant cord in the bed frame.
  - Always place the nurse control pendant onto the footboard.
  - Do not squeeze or pinch the pendant cable in the bed frame.
  - Do not remove the footboard after you extend the bed extender.
  - The safe working load of the linen tray is 15 kg.
  - Only use authorized accessories for this product. The use of unauthorized accessories may result in product damage or injury to the operator or patient. Stryker is not responsible for any damage or injury that may result from the misuse of the product or the use of unauthorized accessories.
  - Always make sure that accessories are locked into position.
  - Do not allow accessories to interfere with mechanical or electric mechanisms of the product.
  - Always remove the lifting pole before transporting the product.
  - Do not use the lifting pole as a push or pull device.
  - Do not use the oxygen bottle holder as a push or pull device.
  - Always turn the oxygen bottle holder in toward the bed before transporting a patient.
  - Do not strike the oxygen bottle holder while transporting a patient.
  - Do not load the oxygen bottle holder above the safe working load of 7.5 kg.
  - The safe working load of each Foley hook is 2 kg.
  - Do not steam clean, pressure wash, ultrasonically clean, or immerse any part of the product in water. Exposure to water may damage the internal electric parts. These methods of cleaning are not recommended and may void this product's warranty.
  - Always make sure that you wipe each product with clean water and thoroughly dry each product after cleaning. Some cleaning products are corrosive in nature and may cause damage to the product if you use them improperly. If you do not properly rinse and dry the product, you may leave a corrosive residue on the surface of the product that could cause premature corrosion of critical components. Failure to follow these cleaning instructions may void your warranty.
-

## Pinch points



Figure 1 – SV2 pinch points

## Introduction

This manual assists you with the operation or maintenance of your Stryker product. Read this manual before operating or maintaining this product. Set methods and procedures to educate and train your staff on the safe operation or maintenance of this product.

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### CAUTION

- Improper usage of the product can cause injury to the patient or operator. Operate the product only as described in this manual.
  - Do not modify the product or any components of the product. Modifying the product can cause unpredictable operation resulting in injury to patient or operator. Modifying the product also voids its warranty.
- 

**Note** - Stryker continually seeks advancements in product design and quality. This manual contains the most current product information available at the time of printing. There may be minor discrepancies between your product and this manual. If you have any questions, contact Stryker Customer Service or Technical Support at 1-800-327-0770.

## Product description

**SV2** is an AC-powered bed with a battery backup system. **SV2** is for patients to receive treatment for extended periods of time at hospitals and care centers. **SV2** has four electrical actuators that allow it to adjust to numerous positions, including CPR, Trendelenburg, Reverse Trendelenburg, and chair positions. **SV2** is equipped with retractable siderails, removable headboard and footboard, and options and accessories that assist with the care of the patient.

**SV2** is an electromechanical MedSurg and ICU bed with DC-powered actuators and controls to adjust the patient sleep surface. The patient sleeping surface consists of four sections: the backrest, seat, upper leg section, and lower leg sections. Siderails are split, with two siderails on the head end, and two siderails on the foot end. The siderails secure in the full up position. When unlatched, siderails open outside and move to the lowest position.

You can actuate electromechanical functions with the siderail control panel, patient control pendant, and nurse control pendant. The control box consists of logic controls and a power supply that power and control signals to all four actuators via a distribution box. The siderail control panels, patient control pendant, and nurse control pendant controls are also controlled by the control box via distribution box.

The bed is equipped with two pairs of actuators (four actuators total). The first pair below the litter surface control the backrest down and up functions, and upper leg down and up functions. The second pair of actuators below the undercarriage control the litter down and up functions, Trendelenburg, and Reverse Trendelenburg.

Additional bed mechanisms allow for manual CPR, knee gatch motion, and bed length extension. The bed is also equipped with brake and steer control for the casters. Casters help in emergency or non-emergency intra-hospital transport of a patient on the bed.

## Indications for use

**SV2** is for use by human adult patients in a MedSurg and ICU setting requiring the support of a hospital bed. Use this product with a patient sleep surface.

Operators for the bed include healthcare professionals (such as nurses, nurse aides, and medical doctors), service or maintenance personnel, patients, and bystanders who can use bed motion functions.

**SV2** is for use in medical, surgical, and critical care healthcare environments, including hospitals, institutions and clinics.

The **SV2** bed frame, litter mounted accessories, and mattresses can come in contact with human skin.

The **SV2** bed frame is not intended to be used with an oxygen tent, in the presence of flammable anesthetics, or to support more than one individual at a time.

## Clinical benefits

Patient treatment, patient positioning, and diagnostic

## Contraindications

None known.

## Expected service life

**SV2** has a ten year expected service life under normal use conditions and with appropriate periodic maintenance.

The battery has a one year expected service life under normal use conditions.



The casters have a two year expected service life under normal use conditions.

The optional fifth wheel has a two year expected service life under normal use conditions.

## Disposal/recycle

Always follow the current local recommendations and/or regulations governing environmental protection and the risks associated with recycling or disposing of the equipment at the end of its useful life.

## Specifications

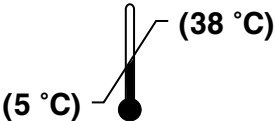
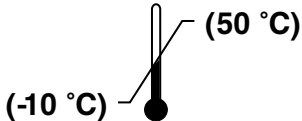
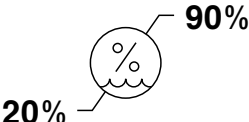
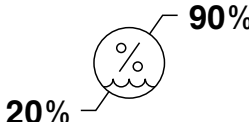
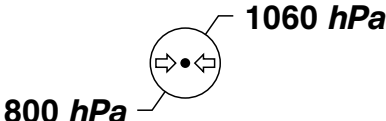
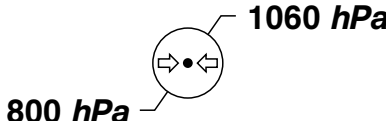
	Safe working load <b>Note</b> - Safe working load indicates the sum of the patient, mattress, and accessory weight	250 kg
	Maximum patient weight	215 kg
Product weight		160 kg
Overall product size	Length	2200 mm (±10 mm)
	Length (with bed extender - option)	2510 mm (±10 mm)
	Width	990 mm (±10 mm)
Product height (without mattress)	Low	375 mm (+15 / -25 mm)
	High	755 mm (±10 mm)
Under product clearance		150 mm
Caster size (single and optional dual-casters)		150 mm
Product angle indicator		0° - 15°
Backrest angle indicator		0° - 90°
Backrest angle		0° - 60°
Trendelenburg/Reverse Trendelenburg		0° - 12°
Gatch angle		0° - 30°
<b>Electrical requirements</b>		
Battery	24 VDC, 10 amps, Model BA1812	
Control box	100-240 VAC, 50/60 Hz nominal, P In: 370 - 456 VA	
Electrical classification	Class 1 when product is plugged into mains power Internally powered when the product is unplugged	
Duty cycle	2 mins of actuation and 18 mins idle	
Application environments	1, 2, 3, and 5 per IEC 60601-2-52	
Maximum acoustic sound pressure	43.4 dBA at 0.3 m from bed	
Attenuation equivalent (Aluminum equivalence)	Not applicable	Maximum value allowed is 1.7 mm Al

**Class I Equipment:** Equipment that protects against electrical shock and does not solely rely on basic insulation, but which includes an additional safety precaution that is provided for the connection of the equipment to the protective earth conductor in the fixed wiring of the installation that accessible metal parts cannot become live in the event of a failure of basic insulation.

Compatible mattresses	
7002-2-012	2000 mm x 860 mm x 120 mm
7002-2-014	2000 mm x 860 mm x 140 mm
7002-2-512	2000 mm x 860 mm x 120 mm
7002-2-514	2000 mm x 860 mm x 140 mm



Compatible mattresses	
7002-2-714	2000 mm x 860 mm x 140 mm
7002-4-018	330 mm x 710 mm x 180 mm
7002-4-518	330 mm x 710 mm x 180 mm
7002-4-520	330 mm x 710 mm x 200 mm
7002-4-020	330 mm x 710 mm x 200 mm
7002-5-012	2000 mm x 860 mm x 120 mm
7002-5-014	2000 mm x 860 mm x 140 mm
7002-5-512	2000 mm x 860 mm x 120 mm
7002-5-514	2000 mm x 860 mm x 140 mm
7002-5-712	2000 mm x 860 mm x 120 mm
2871-000-003	2200 mm x 900 mm x 200 mm
2872-000-007	2000 mm x 902 mm x 241 mm
2872-000-008	2000 mm x 902 mm x 241 mm
2872-000-017	2000 mm x 902 mm x 241 mm
2872-000-018	2000 mm x 902 mm x 241 mm

Environmental conditions	Operation	Storage and transportation
Temperature		
Relative humidity		
Atmospheric pressure		

Specifications listed are approximate and may vary slightly from product to product or by power supply fluctuations.

Stryker reserves the right to change specifications without notice.

Standards applied	
IEC 60601-1:2005 + A1:2012 + A2:2020	Medical electrical equipment - Part 1: General requirements for basic safety and essential performance
IEC 60601-1-2:2014 + A1:2020	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests
IEC 60601-2-52:2009 + A1:2015	Medical electrical equipment - Part 2-52: Particular requirements for the basic safety and essential performance of medical beds
IEC 60601-2-54:2009 + AMD1:2015 + AMD2:2018 IEC 60601-2-54:2022 *Only applicable when the product is equipped with the radiolucent backrest option	Medical electrical equipment - Part 2-54: Particular requirements for the basic safety and essential performance of X-ray equipment for radiography and radioscopy

**WARNING** - Only use the input voltage and frequency as rated on the product.

#### CAUTION

- To minimize the risk of any electromagnetic interference, the product design follows the standard IEC 60601-1-2. To avoid problems, use the bed in accordance with the EMC/EMI requirements in the EMC section of this operations manual.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 in.) to any part of the SV2, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
- Use of accessories, transducers, and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

#### European REACH - SV2

In accordance with the European REACH regulation and other environmental regulatory requirements, the components that contain declarable substances are listed.

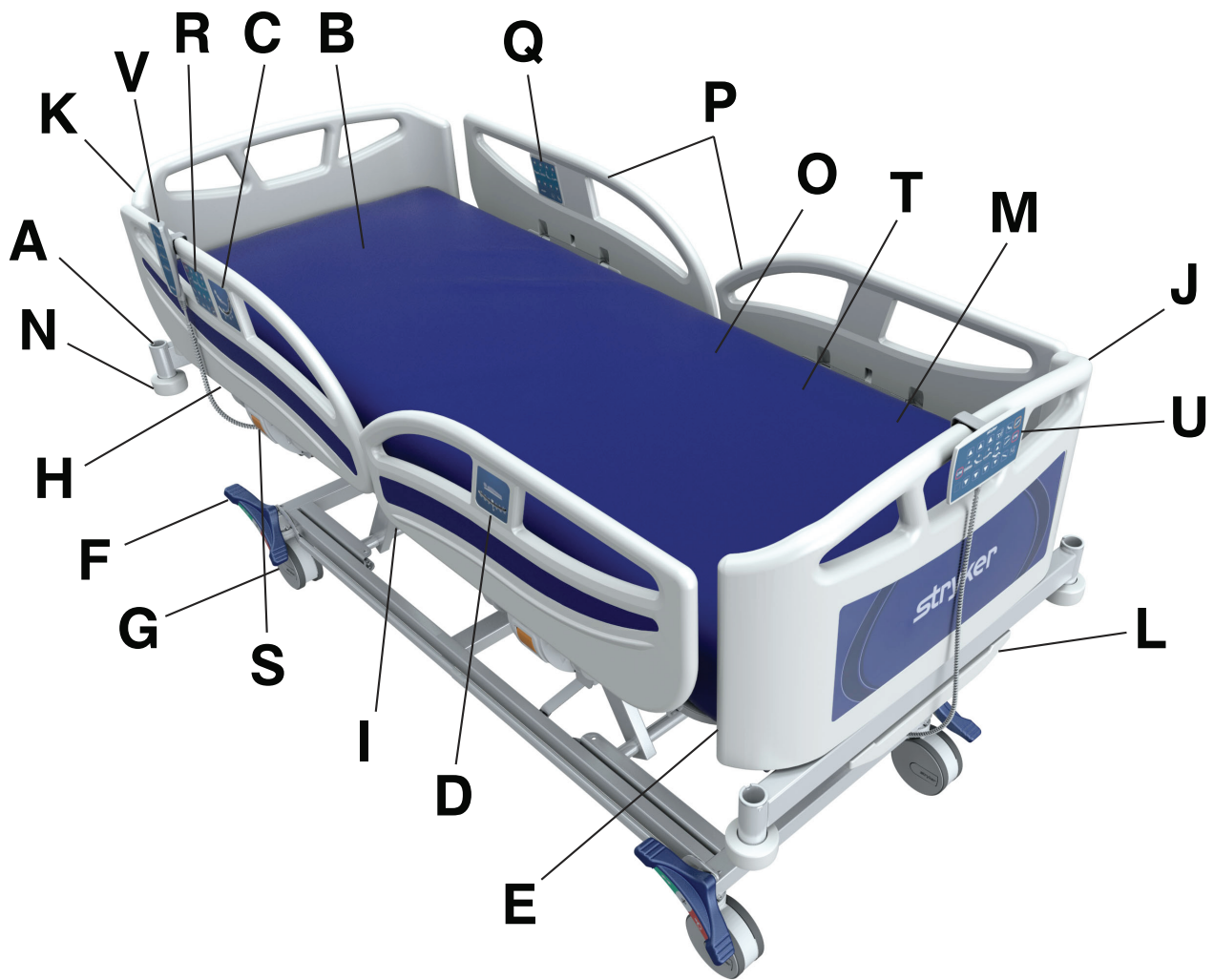
Description	Number	Substance of very high concern (SVHC) chemical name
Battery, BA1812-1300-000	HM-17-16	Lead

#### European battery specifications

In accordance with the European Community Batteries and Waste Batteries regulation, required battery information is included below.

Description	Number	Quantity	Voltage	Capacity
Battery, BA1812-1300-000	HM-17-16	1	24 VDC	1.3 Ah

## Product illustration



A	Accessory sleeve
B	Backrest
C	Backrest indicator
D	Bed angle indicator
E	Bed extender (option)
F	Brake/steer pedal
G	Casters (Dual-wheel casters optional)
H	CPR release
I	Foley hooks
J	Footboard
K	Headboard

L	Linen tray (option)
M	Lower leg section
N	Roller bumper
O	Seat section
P	Siderails
Q	Siderail control panel (Inside siderail) (option)
R	Siderail control panel (Outside siderail) (option)
S	Siderail latch
T	Upper leg section
U	Nurse control pendant (option)
V	Patient control pendant (option)

## Applied parts



Figure 2 – Type B applied parts

## Contact information

Contact Stryker Customer Service or Technical Support at: +1 800-327-0770.

Stryker Medical International

Kayseri Serbest Bölge Şubesi

2. Cad. No:17 38070

Kayseri, Turkey

Email: [infosmi@stryker.com](mailto:infosmi@stryker.com)

Phone: + 90 (352) 321 43 00 (pbx)

Fax: + 90 (352) 321 43 03

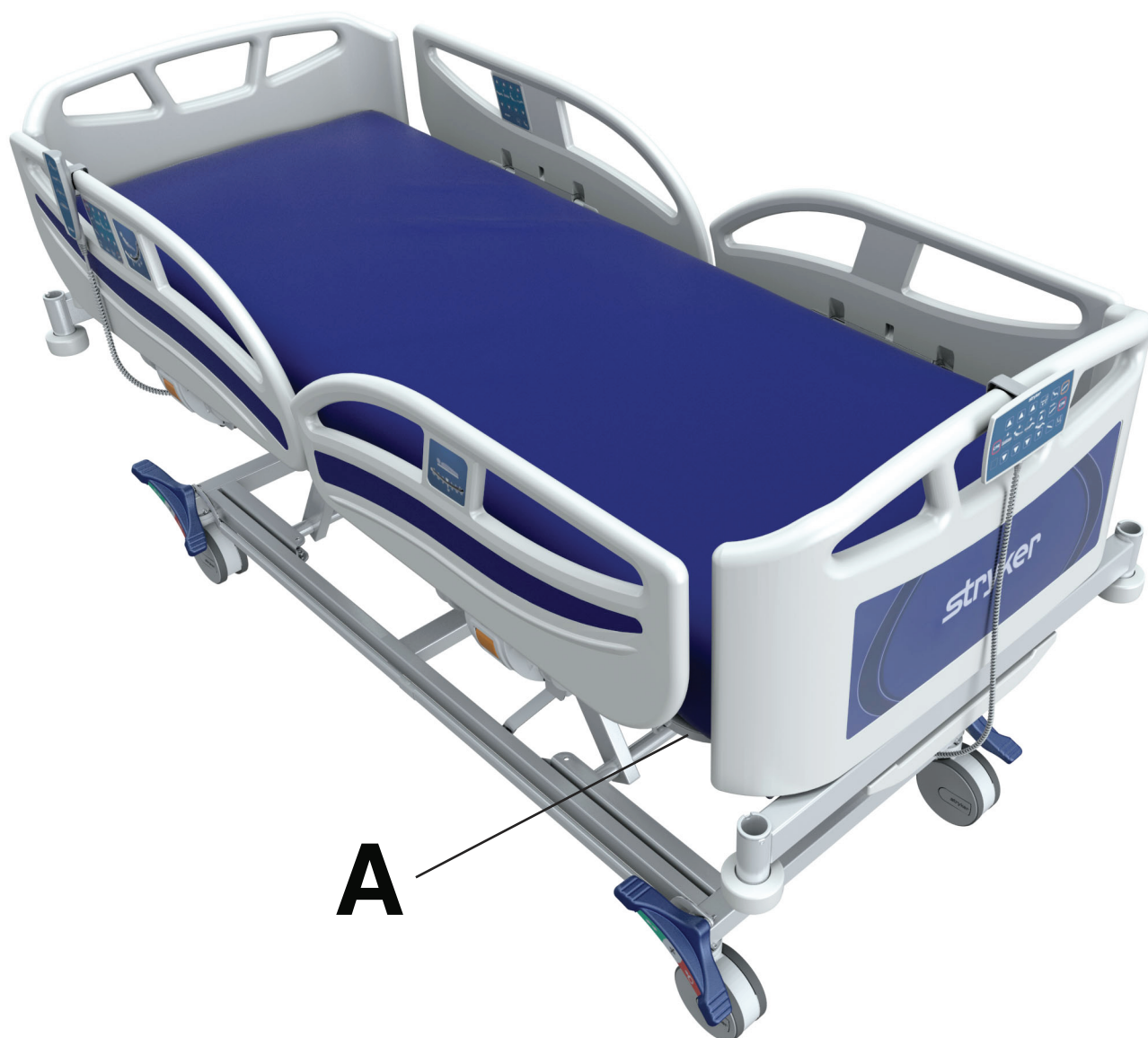
Web: [www.stryker.com](http://www.stryker.com)

**Note** - The user and/or the patient should report any serious product-related incident to both the manufacturer and the Competent authority of the European Member State where the user and/or patient is established.

To view your operations or maintenance manual online, see <https://techweb.stryker.com/>.

Have the serial number (A) of your Stryker product available when calling your Stryker Customer Service. Include the serial number in all written communication.

## Serial number location



# Setup

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## WARNING

- Always allow the product to reach room temperature before you begin setup or test functional operations, to prevent permanent product damage.
  - Do not use this product if it has identifiable failures, defects, malfunctions, or damage.
  - Do not use this product under any conditions if use would cause injury to the operator or patient.
  - Only operate the product when all operators are clear of the mechanisms.
  - To avoid the risk of electric shock, this equipment must be connected to a supply mains with protective earth.
  - Always store the power cord to avoid the risk of entanglement, damage to the power cord, or potential shock hazards. If the power cord is damaged, remove the product from service and contact the appropriate maintenance personnel.
  - Always allow enough clearance between the head end of the product and the adjacent wall, so you can unplug the power cord from the wall outlet during an emergency.
  - Always store the power cord before transporting the product.
  - Do not attach the power cord to any parts of the product.
  - Always unplug the power cord and call maintenance if unanticipated motion occurs.
  - Do not store items under the bed.
  - Do not use the bed without the litter covers.
- 

**CAUTION** - Do not place objects into any gaps of the product.

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**Note** - Product has suitable mains to isolate its circuits electrically from the supply mains on all poles at the same time.

Before placing the product into service, make sure that these components work:

1. Visually inspect the product for any signs of shipping damage.
2. Make sure that the product and all components and accessories have arrived.
3. Depress the brake pedal and make sure that the brake, steer, and neutral positions operate.
4. Raise and lower the siderails to make sure that they move, stow, and lock securely in the full up position.
5. Plug the battery cable into the control box (*Plugging or unplugging the battery cable* (page 14)).
6. Plug the power cord into a protective earthed outlet (*Plugging or unplugging the product* (page 15)).
7. Press each button on the siderail control panel, nurse control pendant, and patient control pendant (option) to make sure that each function operates (*Nurse control pendant* (page 26)).
8. Make sure that the battery is fully charged.
9. Make sure that the CPR release handle operates.
10. Make sure that optional accessories are installed and operate as described in this manual.

## Operation

### Plugging or unplugging the battery cable

To plug the battery cable into the control box:

1. Remove the upper leg rest cover (A) (Figure 3).
2. Locate the control box (Figure 4).
3. Connect the battery cable to the control box.
4. Press the battery cable lock to lock the battery cable into the control box (A) (Figure 4).

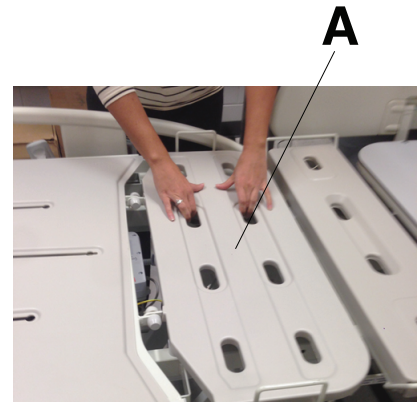


Figure 3 – Removing the upper leg rest cover

To unplug the battery cable from the control box:

1. Remove the upper leg rest cover (A) (Figure 3).
2. Locate the control box (Figure 4).
3. Unlock the battery control cable to the control box (A) (Figure 4).
4. Disconnect the battery from the control box.
5. Using tape, secure the battery cable lock to the litter frame (Figure 5).

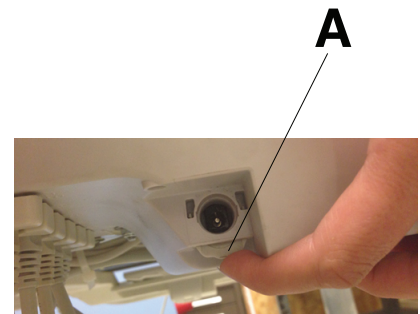


Figure 4 – Locking or unlocking the battery cable



Figure 5 – Unplugging the battery cable from the control box

## Plugging or unplugging the product

---

### WARNING

- To avoid the risk of electric shock, this equipment must be connected to a supply mains with protective earth.
  - Always store the power cord to avoid the risk of entanglement, damage to the power cord, or potential shock hazards. If the power cord is damaged, remove the product from service and contact the appropriate maintenance personnel.
  - Always allow enough clearance between the head end of the product and the adjacent wall, so you can unplug the power cord from the wall outlet during an emergency.
  - Always store the power cord before transporting the product.
- 

To plug in the product, plug the power cord into a protective earthed outlet.

To unplug the product, grasp the mold near the outlet and pull the cord in a direction parallel to the floor (not at an angle).

## Charging the battery

---

### WARNING

- Always disconnect the power cord from the wall outlet if you detect overheating of the battery, control cables, or pendants. Do not use the product again until it has been inspected, serviced, and confirmed to work as intended by authorized maintenance personnel.
  - Do not open a dead battery.
  - Do not throw the battery into a fire.
  - Do not spill liquid onto the battery or submerge the battery in liquid.
- 

### CAUTION

- Always plug the product into a wall outlet (regulated AC-power source) when not in use to maintain a sufficient battery charge and to maximize product performance while operating on battery power.
  - Always replace batteries that have corrosion at the terminals, display cracking, have expanded or bulging sides, or no longer can maintain a full charge.
  - Only use authorized batteries when replacing the batteries. Use of unauthorized batteries may lead to unpredictable system performance.
- 

**SV2** is equipped with a battery backup system that charges when the product is plugged into a wall outlet. The battery backup system allows the operator to use the product when the product is unplugged, during a power failure, or while transporting a patient. Battery backup functionality activates when you unplug the product.

Always check battery backup function according to the preventive maintenance checklist (see *Preventive maintenance* (page 38)). Always replace the battery if it does not perform as intended during preventive maintenance.

To charge the battery, connect the product to a wall outlet. The battery has a full charge within 10 to 12 hours.

## Storing the battery long term

---

**WARNING** - Always unplug the battery cable from the control box before you store the product for a long period of time.

---

---

**CAUTION** - Do not place or store heavy objects on the product.

---

Store the battery per the environmental conditions listed in the specifications section (see *Specifications* (page 7)).

To store the battery:

1. See *Plugging or unplugging the product* (page 15).
2. See *Plugging or unplugging the battery cable* (page 14).



## Storing the power cord

---

### WARNING

- Always store the power cord before transporting the product.
  - Always store the power cord to avoid the risk of entanglement, damage to the power cord, or potential shock hazards. If the power cord is damaged, remove the product from service and contact the appropriate maintenance personnel.
- 

**CAUTION** - Do not squeeze or pinch the power cord in the bed frame.

---

To store the power cord, wrap the power cord around the cord wrap (A) underneath the head end of the product (Figure 6).



Figure 6 – Storing the power cord

## Transporting the product

---

### WARNING

- Always store the power cord before transporting the product.
  - Always lock the siderails in the full up position with the sleep surface horizontal in the lowest position when transporting a patient.
  - Always keep limbs, hands, fingers, and other body parts clear of mechanisms and gaps.
  - Always make sure that there are no obstacles near the product. Injury to the patient, operator, bystanders or damage to the frame or surrounding equipment could occur if you collide with an obstacle.
  - Do not attempt to move the product laterally. This may cause the product to tip.
- 

### CAUTION

- Do not use the siderails as a push or pull device. Always move the product using the integrated handles in the headboard and footboard.
  - Always remove the patient lift pole before transporting the product.
  - Do not use the IV pole as a push or pull device.
  - Always make sure that the IV pole is at a low height during transport.
- 

To transport the product:

1. Lock the siderail control panel and patient control pendant functions (see *Nurse control pendant* (page 26)).
2. Unplug the power cord from the wall outlet.
3. See *Storing the power cord* (page 16).
4. Store the control pendants.
5. Retract the linen tray (see *Extending or retracting the linen tray (option)* (page 29)).
6. Lower the IV pole.
7. Turn in the oxygen bottle holder toward the product.
8. Raise and lock the siderails in the full up position (see *Raising or lowering the siderails* (page 22)).
9. Release the brakes (see *Applying or releasing the brakes* (page 17)).
10. Push the product from the headboard or footboard.

## Applying or releasing the brakes

---

### WARNING

- Do not move the product after you apply the brakes.
  - Always apply the brakes when a patient is getting into or out of the product to avoid instability.
  - Always apply the brakes when the patient is unattended.
- 

### CAUTION

- Always apply the brake to prevent unintended movement.
  - Do not apply the brake pedal to stop a moving product.
- 

The brake pedals are located on each caster.

To apply the brakes, depress the red pedal. The brake pedal locks all four casters. This holds the product in place (Figure 7).



Figure 7 – Applying the brakes

To release the brakes, depress the green pedal until the pedal is in the neutral position (Figure 8). This releases all four casters and allows you to freely move the product.



Figure 8 – Releasing the brakes

## Applying or releasing Steer-Lock

The steer pedals are located on each caster.

To apply the steer caster, depress the green pedal (Figure 9). This allows you to maneuver the product forward and backward in a straight path.



Figure 9 – Applying the steer pedal

To release the steer caster, depress the red pedal until the pedal is in the neutral position (Figure 10). This releases the right side caster on the foot end and allows you to freely move the product.



Figure 10 – Releasing the steer pedal

## Applying or releasing the fifth wheel (option)

The steer pedals are located on each caster.

To apply the fifth wheel, depress the green pedal (Figure 11). This lowers the fifth wheel and allows you to maneuver the product forward and backward in a straight path.



Figure 11 – Applying the fifth wheel

To release the fifth wheel, depress the red pedal until the pedal is in the neutral position (Figure 12). This retracts the fifth wheel and allows you to freely move the product forward, backward, and from side to side.



Figure 12 – Releasing the fifth wheel

## Activating and resetting the CPR release

---

**WARNING** - Always make sure that all persons and equipment are away from the area below and around the backrest before you activate the CPR release. The CPR release is for emergency use only.

---

If the backrest is raised and you need quick access to the patient, you can position the product to 0° by activating the CPR release.

You can find the instant CPR release lever at the head end section on both the left and right sides of the backrest.

To activate the CPR release:

1. Grasp either lever (A) and pull outward (Figure 13).
2. Guide the backrest down to the flat position.

To reset the backrest motor after activating the CPR release, press the backrest down button on the control panels or the CPR button on the nurse control panel.

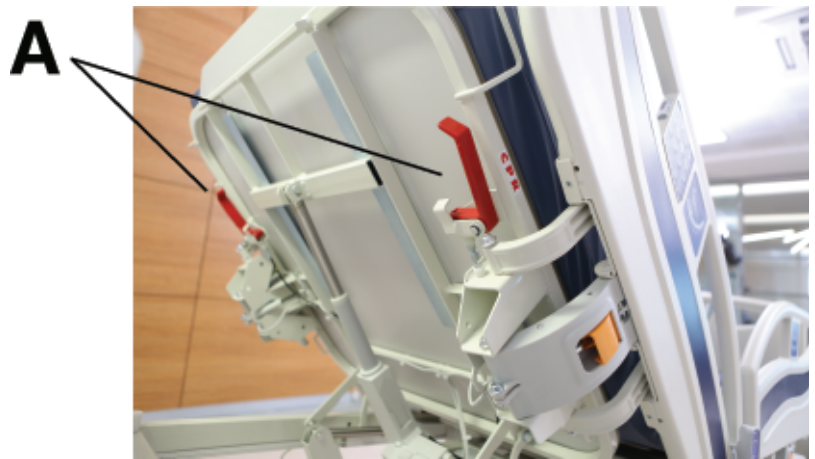


Figure 13 – CPR release

## Removing or replacing the headboard

---

**WARNING** - Always properly orient the headboard when replacing the headboard to avoid entrapment.

---

You can remove the headboard for patient accessibility and cleaning.

To remove the headboard:

1. Hang the patient control pendant onto the head end siderail.
2. Grasp the handles and lift the headboard straight up and off the product (Figure 15).

To replace the headboard:

1. Align the curved headboard corners with the foot end of the bed (Figure 14).
2. Align the headboard pegs (A) with the plastic sleeves (B) at the head end of the product (Figure 15).
3. Lower the headboard until it seats into the plastic sleeves (B) (Figure 15).



Figure 14 – Headboard orientation

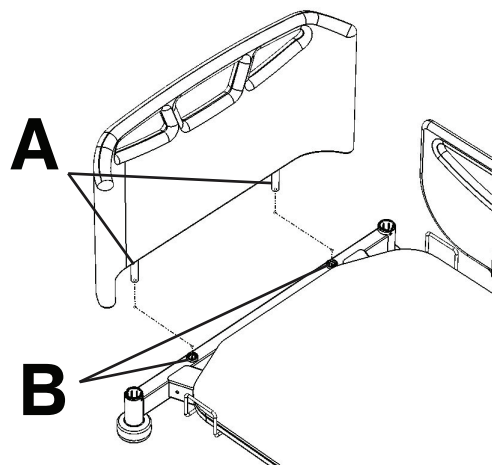


Figure 15 – Removing or replacing the headboard

## Removing or replacing the footboard

---

**WARNING** - Always properly orient the footboard when replacing the footboard to avoid entrapment.

---



---

**CAUTION** - Always hang the nurse control pendant onto a foot end siderail or store in the linen tray (option) before removing the footboard.

---

You can remove the footboard for patient accessibility and cleaning.

To remove the footboard:

1. Hang the nurse control pendant onto a foot end siderail or the linen tray (optional).
2. Grasp the handles and lift the footboard straight up and off the product (Figure 17).

To replace the footboard:

1. Align the curved footboard corners with the head end of the bed (Figure 16).
2. Align the footboard pegs with the plastic sleeves at the foot end of the product (Figure 17).
3. Lower the footboard until it seats into the plastic sleeves (Figure 17).



Figure 16 – Footboard orientation

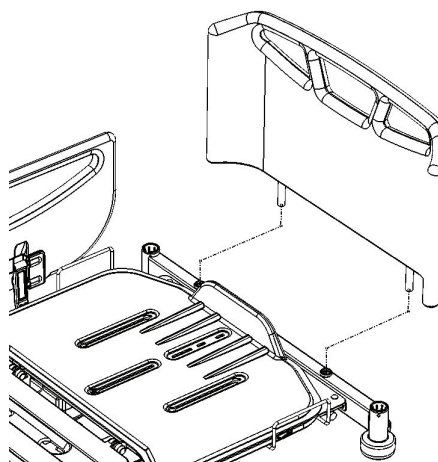


Figure 17 – Removing or replacing the footboard

## Raising or lowering the lower leg section

---

**WARNING** - Always make sure that all persons and equipment are away from the area below and around the leg rest before you lower the lower leg section.

---



---

**CAUTION** - Do not raise the lower leg section while the bed extender is in use. This is to avoid the situation where the product does not support the lower legs of a taller patient.

---

You can raise or lower the lower leg rest manually.

To raise the lower leg section:

1. Grasp the lower leg section with both hands.
2. Raise the lower leg section to the desired height.
3. Release the lower leg section to lock the section into place.

To lower the lower leg section:

1. Grasp the lower leg section with both hands.
2. Raise the lower leg section all the way up to unlock the lower leg section.
3. Guide the lower leg section back down onto the litter.

## Raising or lowering the siderails

---

### WARNING

- Always lock the siderails in the full up position with the sleep surface horizontal in the lowest position when transporting a patient.
  - Always keep limbs, hands, fingers, and other body parts clear of mechanisms and gaps.
  - Always lock the siderails unless a patient's condition requires extra safety measures.
  - Always lock the siderails in the full up position when the patient is unattended.
  - Do not use siderails as restraint devices to keep the patient from exiting the product. The operator must determine the degree of restraint necessary to make sure that the patient is safe.
  - Do not sit on the siderails.
- 

---

**CAUTION** - Do not use the siderails to move the product. Always move the product using the integrated handles in the headboard and footboard.

---

You must raise and lower the siderails with both hands. Siderails only lock in the full up position.

When raising the siderails, listen for the “click” that indicates that the siderail is locked in the raised position. Pull on the siderail to make sure that it is locked into position.

To raise the siderails, grasp and lift the siderail.

To lower the siderails, lift the yellow release latch (A) (Figure 18) and guide the siderail down.

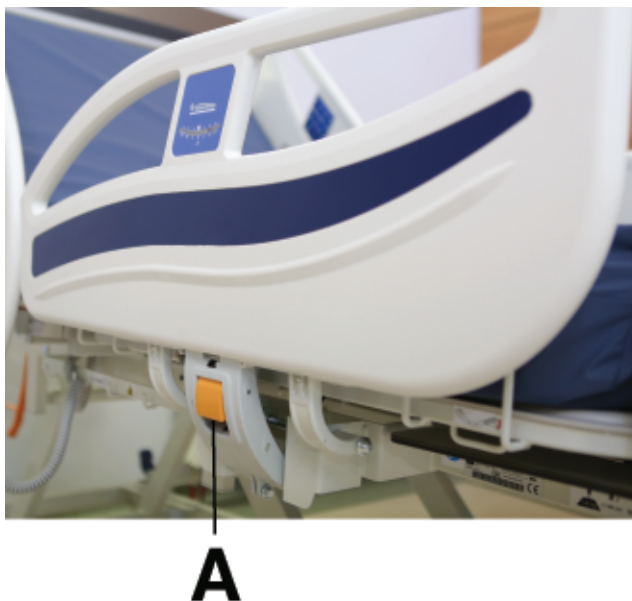


Figure 18 – Raising or lowering the siderails

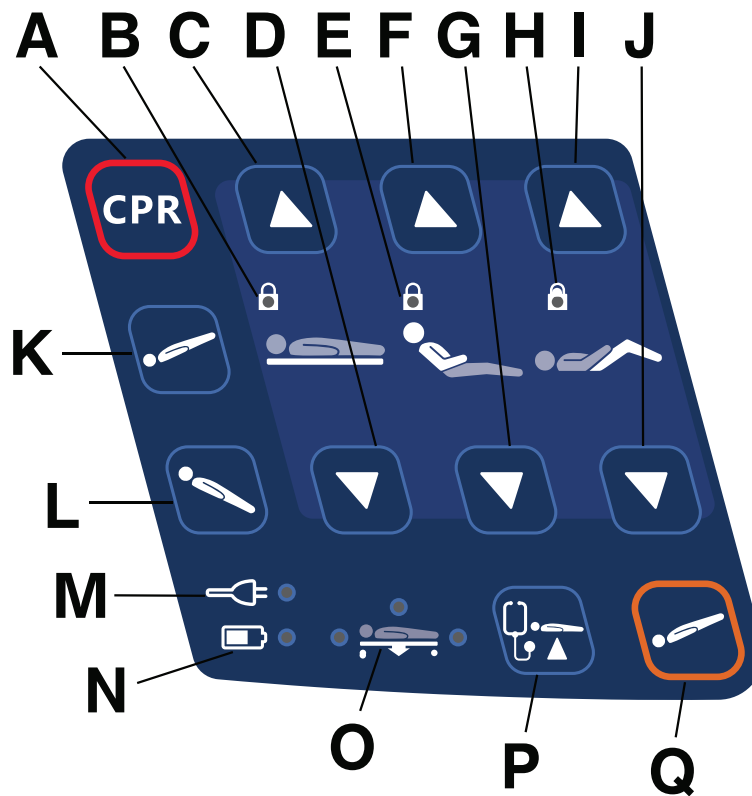
#### Nurse control panel (outside siderail) (option)

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**WARNING** - Always lock bed motion controls when the patient is unattended.

---





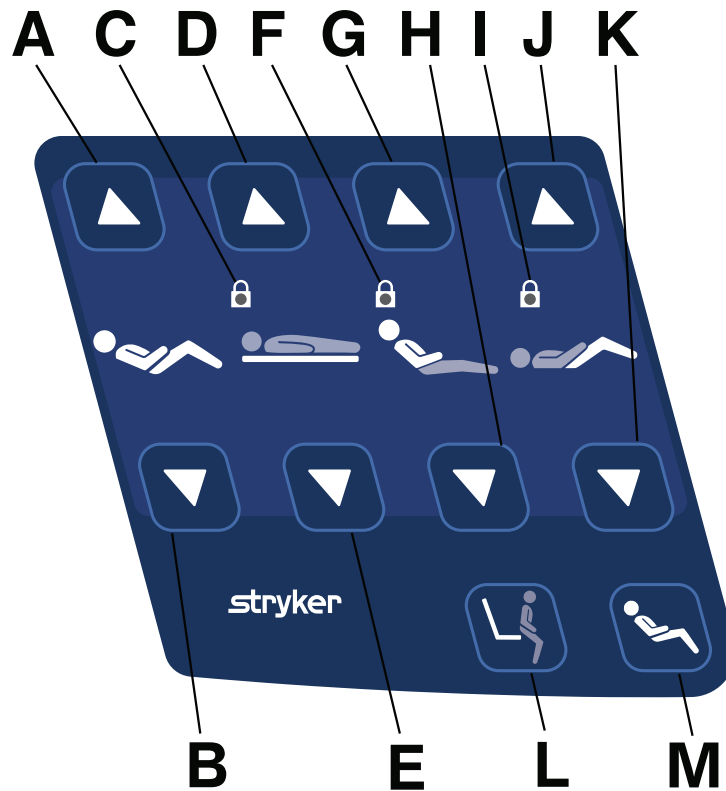
	Name	Function
A	Emergency CPR	Overrides the control panel lockout to achieve the flat position at low height. Also available if the control panels are turned off.
B	Litter lockout LED	Illuminates when you lock the litter section
C	Litter up	Raises the litter
D	Litter down	Lowers the litter
E	Backrest lockout LED	Illuminates when you lock the backrest section
F	Backrest up	Raises the backrest
G	Backrest down	Lowers the backrest
H	Upper leg lockout LED	Illuminates when you lock the upper leg section
I	Upper leg up	Raises the upper leg section
J	Upper leg down	Lowers the upper leg section
K	Trendelenburg	Places the product into the Trendelenburg position (head down with foot up)
L	Reverse Trendelenburg	Places the product into the Reverse Trendelenburg position (head up with foot down)
M	Plug indicator	Illuminates when the product is plugged in
N	Battery charge indicator	Illuminates amber when you connect the product to a wall outlet and the batteries are recharging. The battery has a full charge within 10 to 12 hours. When the battery is charged, the LED no longer illuminates.
O	Low height indicator	Illuminates green when the product is within 2 cm from its lowest height position

	Name	Function
P	Examination position	Flattens the litter and raises the litter to the highest height
Q	One-button Vascular position	Overrides the control panel lockout to achieve 12° Trendelenburg

### Patient control panel (inside siderail) (option)

**WARNING** - Always lock bed motion controls when the patient is unattended.

Healthcare professionals must instruct patients how to operate the patient controls.



	Name	Function
A	Autocontour up	Raises the backrest and the upper leg section at the same time
B	Autocontour down	Lowers the backrest and the upper leg section at the same time
C	Litter lockout LED	Illuminates when you lock the litter section
D	Litter up	Raises the litter
E	Litter down	Lowers the litter
F	Backrest lockout LED	Illuminates when you lock the backrest section
G	Backrest up	Raises the backrest
H	Backrest down	Lowers the backrest
I	Upper leg lockout LED	Illuminates when you lock the upper leg section
J	Upper leg up	Raises the upper leg section
K	Upper leg down	Lowers the upper leg section

	Name	Function
L	Egress	Lowers the litter, lowers the upper leg section, and raises the backrest so the patient can enter and exit the product
M	Chair position	Place the product into the chair position

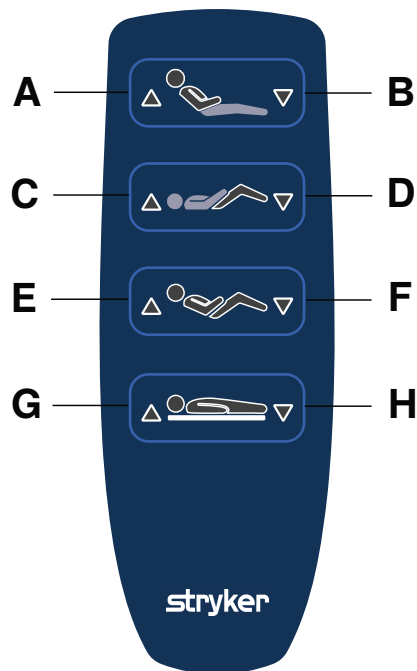
### Patient control pendant (option)

**WARNING** - Always lock bed motion controls when the patient is unattended.

#### CAUTION

- Always place the patient control pendant safely on the mattress while the pendant is in use.
- Always hang the patient control pendant onto the siderail when the pendant is not in use.
- Do not squeeze or pinch the pendant cord in the bed frame.

Healthcare professionals must instruct patients how to operate the patient controls.



	Name	Function
A	Backrest up	Raises the backrest
B	Backrest down	Lowers the backrest
C	Upper leg up	Raises the upper leg section
D	Upper leg down	Lowers the upper leg section
E	Autocontour up	Raises the backrest and the upper leg section at the same time
F	Autocontour down	Lowers the backrest and the upper leg section at the same time
G	Litter up	Raises the litter
H	Litter down	Lowers the litter

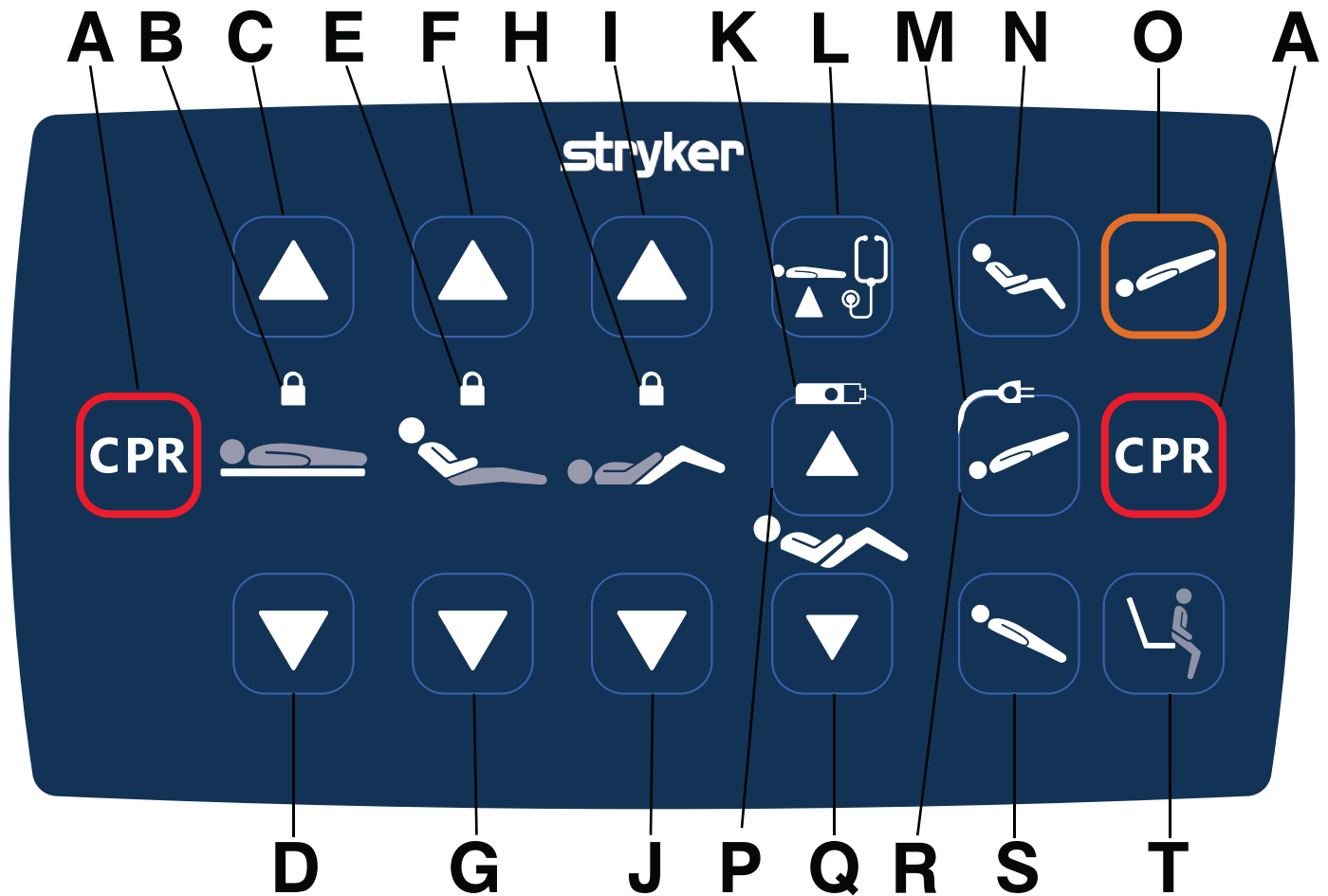
### Nurse control pendant

#### WARNING

- Always lock bed motion controls when the patient is unattended.
- Never store the nurse control panel within the patient's reach.

## CAUTION

- Always place the nurse control pendant onto the footboard.
- Always hang the nurse control pendant onto a foot end siderail or store in the linen tray (option) before removing the footboard.
- Do not squeeze or pinch the pendant cable in the bed frame.



	Name	Function
A	Emergency CPR	Overrides the control panel lockout to achieve the flat position at low height. Also available if the control panels are turned off.
B	Litter lockout/Litter lockout LED	Enables or disables locks for litter motion. Illuminates when you lock the litter section.
C	Litter up	Raises the litter
D	Litter down	Lowest the litter
E	Backrest up lockout/Backrest lockout LED	Enables or disables locks for the backrest. Illuminates when you lock the backrest.
F	Backrest up	Raises the backrest
G	Backrest down	Lowest the backrest
H	Upper leg lockout/Upper leg lockout LED	Enables or disables locks for the upper leg section. Illuminates when you lock the upper leg section.
I	Upper leg up	Raises the upper leg section
J	Upper leg down	Lowest the upper leg section

	Name	Function
K	Battery charge indicator	Illuminates amber when you connect the product to a wall outlet and the batteries are recharging. The battery has a full charge within 10 to 12 hours. When the battery is charged, the LED no longer illuminates.
L	Examination position	Flattens the litter and raises the litter to the highest height
M	Plug indicator	Illuminates when the product is plugged in
N	Chair position	Place the product into the chair position
O	One-button Vascular position	Overrides the control panel lockout to achieve 12° Trendelenburg
P	Autocontour up	Raises the backrest and the upper leg section at the same time
Q	Autocontour down	Lowers the backrest and the upper leg section at the same time
R	Trendelenburg	Places the product into the Trendelenburg position (head down with foot up)
S	Reverse Trendelenburg	Places the product into the Reverse Trendelenburg position (head up with foot down)
T	Egress	Lowers the litter, lowers the upper leg section, and raises the backrest so the patient can enter and exit the product

## Extending the bed extender (option)

### WARNING

- Do not sit on the bed extender. This may cause the product to tip.
- Always lock the bed extender before you place weight on the bed extender.

### CAUTION

- Do not remove the footboard after you extend the bed extender.
- Do not raise the lower leg section while the bed extender is in use. This is to avoid the situation where the product does not support the lower legs of a taller patient.

The bed extender allows you to extend the length of the product by 31 cm.

To extend the bed extender:

1. Pull and turn each knob 90° to unlock the bed extender (Figure 19).
2. Grasp the footboard handles.
3. Pull the footboard to extend the bed extender (Figure 20).
4. Pull and turn each knob 90° to lock the bed extender into place.

**Note** - When locking the bed extender, listen for the “click” that indicates that the bed extender is locked. Push and pull on the footboard to make sure that the bed extender is locked.

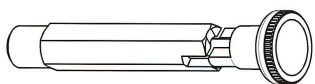


Figure 19 – Unlocking the bed extender



Figure 20 – Extending the bed extender

## Installing the bed extender bolster mattress

For mattress specifications, see the MA series mattress manual.

The recommended bed extender bolster mattresses are:

Compatible bolster mattresses	Dimension
7002-4-018	330 mm x 710 mm x 180 mm
7002-4-020	330 mm x 710 mm x 200 mm
7002-4-518	330 mm x 710 mm x 180 mm
7002-4-520	330 mm x 710 mm x 200 mm

To install the bed extender bolster mattress:

1. See *Extending the bed extender (option)* (page 28).
2. Place the bed extender bolster mattress between the mattress and the footboard.
3. Press down on the bed extender bolster mattress to secure it into place.

## Extending or retracting the linen tray (option)

The linen tray is an optional built-in storage unit that can store a patient's clothes, laundry, or the nurse control pendant. You can find the linen tray at the foot end of the product.

### WARNING

- Always retract the linen tray (option) before you put the product in motion.
- Always retract the linen tray (option) when not in use.

**CAUTION** - The safe working load of the linen tray is 15 kg.

To extend the linen tray, grasp the plastic linen tray and pull the linen tray out toward you.

To retract the linen tray, grasp the plastic linen tray and push the linen tray into the frame.



Figure 21 – Storing the nurse control pendant

### Inserting or removing a cassette from the X-ray cassette holder (option)

---

**WARNING** - Do not use the product for X-ray procedures if it does not have the radiolucent backrest (option).

---

The SV2 may include an optional radiolucent backrest to allow X-ray images to be taken while the patient is on the bed.

You can take X-ray images by inserting an X-ray cassette into the housing that is located behind the backrest. You do not need to move the patient to insert an X-ray cassette or take an X-ray.

X-ray guide dimensions: 390 mm x 660 mm x 16 mm

The recommended X-ray cassette dimensions are:

- 385 mm x 385 mm x 15 mm
- 460 mm x 383 mm x 15 mm

To insert an X-ray cassette:

1. See *Removing or replacing the headboard* (page 20).
2. Slide the X-ray cassette into the X-ray cassette holder.
3. Adjust the patient to the desired position.

To remove an X-ray cassette:

1. Slide the X-ray cassette out of the X-ray cassette holder.
2. See *Removing or replacing the headboard* (page 20).

## Accessories and parts

These accessories may be available for use with your product. Confirm availability for your configuration or region.

**CAUTION** - Only use authorized accessories for this product. The use of unauthorized accessories may result in product damage or injury to the operator or patient. Stryker is not responsible for any damage or injury that may result from the misuse of the product or the use of unauthorized accessories.

Name	Number	Safe working load
IV pole, curved	MM017	Each IV hook: 2 kg
IV pole, straight	MM060	Each IV hook: 2 kg
Patient lift pole	MM003	75 kg
Upright oxygen bottle holder (120 mm diameter)	MM006	7.5 kg
Upright oxygen bottle holder (120 mm diameter, 900 mm length)	MM061	7.5 kg
Upright oxygen bottle holder (120 mm diameter, 640 mm length)	MM062	7.5 kg
Upright oxygen bottle holder (140 mm diameter, 640 mm length)	MM063	7.5 kg
Foley bag basket	MM029	4 kg

### Installing the IV pole

**WARNING** - Do not use accessories to support patient limbs or other body parts.

#### CAUTION

- Always make sure that accessories are locked into position.
- Always make sure that the IV pole is at a low height during transport.
- Do not use the IV pole as a push or pull device.
- Do not allow accessories to interfere with mechanical or electric mechanisms of the product.

You can install the IV pole into any of the four accessory sleeves on the corners of the bed. The IV pole has a telescopic pole that extends to provide a second height position.

To install the IV pole:

1. Insert the IV pole into one of the four accessory sleeves (Figure 22).
2. Rotate and lock the IV pole into the accessory sleeve (Figure 23).



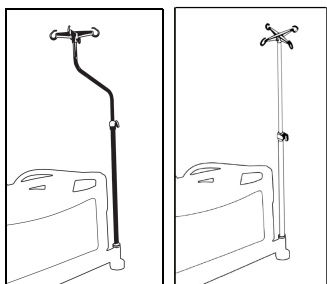


Figure 22 – Installing the IV pole

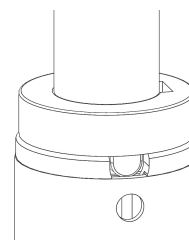


Figure 23 – Locking the IV pole

## Adjusting the IV pole

To adjust the IV pole:

1. Turn the telescoping knob counter clockwise to unlock the IV pole (Figure 24).
2. Grasp the IV pole.
3. Raise the IV pole to the desired height.
4. Turn to the telescoping knob clockwise to lock the IV pole (Figure 24).

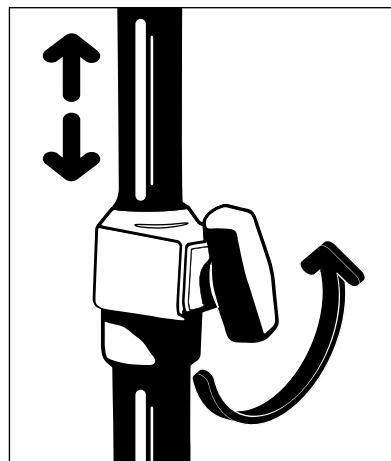


Figure 24 – Adjusting the IV pole

## Installing the lifting pole

The lifting pole assists the patient with changing position in bed.

---

**WARNING** - Do not use accessories to support patient limbs or other body parts.

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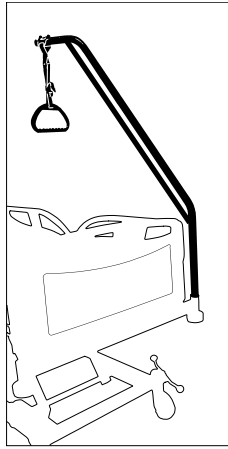
### CAUTION

- Always make sure that accessories are locked into position.
  - Always remove the lifting pole before transporting the product.
  - Do not use the lifting pole as a push or pull device.
  - Do not allow accessories to interfere with mechanical or electric mechanisms of the product.
- 

You can install the lifting pole into either of the two accessory sleeves on the head end of the bed.

To install the lifting pole:

1. Insert the lifting pole into one of the two accessory sleeves (Figure 25).

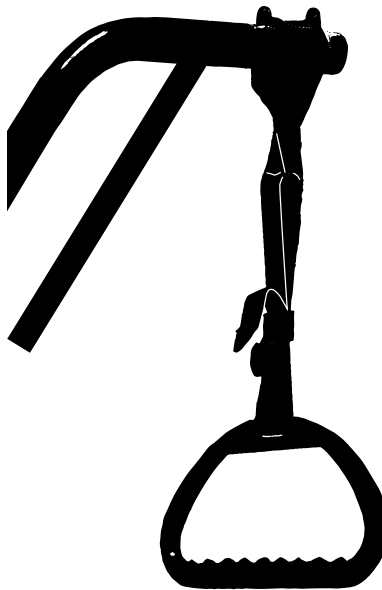


**Figure 25 – Installing the lifting pole**

2. Rotate and lock the lifting pole into the accessory sleeve.

### **Installing the lifting pole handle**

To install the lifting pole handle, place the black grip of the lifting pole between the two stoppers on the lifting pole (Figure 26).



**Figure 26 – Installing the lifting pole handle**

### **Installing the oxygen bottle holder**

---

**WARNING** - Do not use accessories to support patient limbs or other body parts.

---

#### **CAUTION**

- Always make sure that accessories are locked into position.
  - Do not use the oxygen bottle holder as a push or pull device.
  - Always turn the oxygen bottle holder in toward the bed before transporting a patient.
  - Do not strike the oxygen bottle holder while transporting a patient.
  - Do not allow accessories to interfere with mechanical or electric mechanisms of the product.
  - Do not load the oxygen bottle holder above the safe working load of 7.5 kg.
-

To install the oxygen bottle holder:

1. Insert the oxygen bottle holder into one of the two accessory sleeves near the head end (Figure 27, Figure 28).

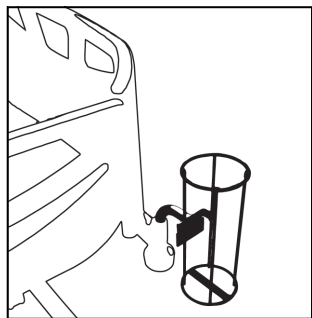


Figure 27 – Installing the oxygen bottle holder (MM006)

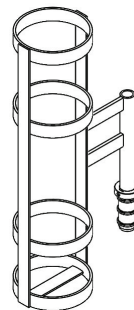


Figure 28 – Installing the oxygen bottle holder (MM061/MM062/MM063)

2. Rotate and lock the oxygen bottle holder into the accessory sleeve (Figure 29).

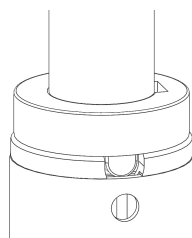


Figure 29 – Locking the oxygen bottle holder

## Installing the Foley bag basket

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**WARNING** - Do not use accessories to support patient limbs or other body parts.

---

### CAUTION

- The safe working load of each Foley hook is 2 kg.
  - Do not allow accessories to interfere with mechanical or electric mechanisms of the product.
- 

To install the Foley bag basket, hook the basket onto the Foley hooks (Figure 30).

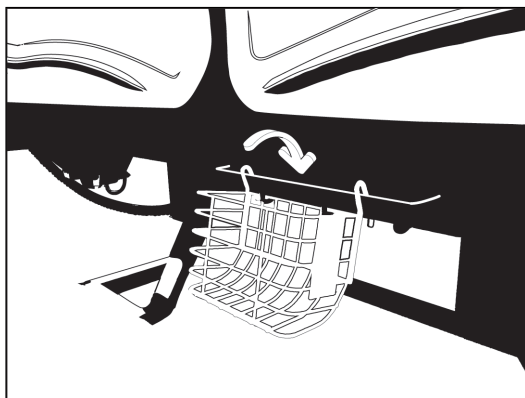


Figure 30 – Installing the Foley bag basket

# Cleaning

## Preparing the product for cleaning

Cleaning and disinfecting are two separate processes. Clean before disinfecting to make sure that the cleaning agent is effective.

To prepare the product for cleaning:

1. Raise the litter to its highest height.
2. Lock the siderail control panel and patient control pendant functions (see the operations manual for instructions on how to lock the patient functions).
3. Unplug the power cord from the wall outlet.
4. See the operations manual for instructions on how to store the power cord.
5. See the operations manual for instructions on how to apply the brakes.
6. Remove the mattress.

## Cleaning

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### WARNING

- Do not clean, service, or perform maintenance while the product is in use.
  - Always power off and unplug the power cord before cleaning, servicing, or performing maintenance.
  - Always power off the product and unplug the power cord from the wall outlet when large spills occur near the circuit boards, cables, and motors. Remove the patient from the product, clean up the fluid, and have service personnel inspect the product. Fluids can cause unpredictable operation and decreased functionality of any electrical product. Do not return the product to service until it is completely dry and has been thoroughly tested for safe operation.
  - Do not spray cleaners directly onto the battery, control boxes, actuators, cables, or other electric equipment.
  - Do not use abrasive powder, steel wool, or similar materials that may damage the product surface.
  - Do not use **Virex® TB** for product disinfecting.
  - Do not use acid-based chemicals or flammable chemicals, such as gasoline, diesel, or acetone for cleaning purposes.
  - Do not directly spray or saturate the siderail control panel, patient control pendant, or nurse control pendant with cleaners.
  - The cleaners and disinfectants must not be highly alkaline or acidic (pH value 6-8).
- 

### CAUTION

- Do not steam clean, pressure wash, ultrasonically clean, or immerse any part of the product in water. Exposure to water may damage the internal electric parts. These methods of cleaning are not recommended and may void this product's warranty.
  - Always make sure that you wipe each product with clean water and thoroughly dry each product after cleaning. Some cleaning products are corrosive in nature and may cause damage to the product if you use them improperly. If you do not properly rinse and dry the product, you may leave a corrosive residue on the surface of the product that could cause premature corrosion of critical components. Failure to follow these cleaning instructions may void your warranty.
- 

To clean product surfaces:

1. Using a clean, soft, damp cloth, wipe product surfaces with a mild soap and water solution to remove foreign material.
2. Wipe product surfaces with a clean, dry cloth to remove any excess liquid or cleaning agent.
3. Dry thoroughly.

## Cleaning the siderails

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### WARNING

- Do not directly spray or saturate the siderail control panel, patient control pendant, or nurse control pendant with cleaners.
  - Do not use sharp objects to clean the siderail control panel.
  - Do not use abrasive powder, steel wool, or similar materials that may damage the product surface.
  - Do not use **Virex® TB** for product cleaning.
  - Do not use acid-based chemicals or flammable chemicals, such as gasoline, diesel, or acetone for cleaning purposes.
- 

To clean the siderails:

1. Raise the siderail.
2. Latch the siderail.
3. Use a clean, soft, damp cloth to wipe down the siderail and the siderail control panel.

4. Allow the siderail control panel to dry thoroughly.

## Disinfecting

Suggested disinfectants:

- Quaternary cleaners without glycol ethers (active ingredient - ammonium chloride)
- Chlorinated bleach solution (5.25% - less than 1 part bleach to 100 parts water)
- 70% Isopropyl alcohol

Always follow the disinfectant's instructions for appropriate contact time and rinsing requirements.

Avoid oversaturation and make sure that the product does not stay wet longer than the chemical manufacturer's guidelines for proper disinfecting.

To disinfect the product:

1. Thoroughly clean and dry the product before you apply disinfectants.
2. Apply recommended disinfectant solution by spray or pre-soaked wipes

**Note** - Make sure that you follow the disinfectant's instructions for appropriate contact time and rinsing requirements.

3. To disinfect mechanisms, lift the backrest and leg rest up to the highest height.
4. Wipe product surfaces and mechanisms with a clean, dry cloth to remove any excess liquid or cleaning agent.
5. Allow the product to dry completely before returning to service.

## Preventive maintenance

At a minimum, check all items listed during annual preventive maintenance for all Stryker Medical products. You may need to perform preventive maintenance checks more frequently based on your level of product usage.

Remove product from service before performing preventive maintenance. Preventive maintenance should only be performed by trained or certified personnel.

Inspect the following items:

- \_\_\_\_\_ All welds and all fasteners are secure
- \_\_\_\_\_ Tubing or sheet metal for bends or breaks
- \_\_\_\_\_ Casters are free of debris
- \_\_\_\_\_ Casters are secure and swivel
- \_\_\_\_\_ Casters lock securely by depressing the brake pedal
- \_\_\_\_\_ Locking steer caster applies and releases
- \_\_\_\_\_ Steer pedal latches
- \_\_\_\_\_ Backrest operates
- \_\_\_\_\_ Litter up and down operates
- \_\_\_\_\_ Trendelenburg and Reverse Trendelenburg operates
- \_\_\_\_\_ IV pole is intact and operating (optional)
- \_\_\_\_\_ Accessory sleeves are not damaged or cracked
- \_\_\_\_\_ Bed extender extends and locks (option)
- \_\_\_\_\_ Headboard, footboard, and siderail panels for cracks or splits
- \_\_\_\_\_ All covers are not damaged and do not have sharp edges
- \_\_\_\_\_ Radiolucent backrest is clean and not cracked (option)
- \_\_\_\_\_ Cassette holder is clean and not cracked (option)
- \_\_\_\_\_ Underbed light operates
- \_\_\_\_\_ CPR release operates
- \_\_\_\_\_ Siderails move, latch, and stow
- \_\_\_\_\_ All functionality on all control panels
- \_\_\_\_\_ Batteries for replacement
- \_\_\_\_\_ Batteries for corrosion at the terminals, cracking, expanded or bulging at the sides, or can no longer maintain a full charge
- \_\_\_\_\_ Lower leg section moves, latches, and stows
- \_\_\_\_\_ Pendants for any physical damage
- \_\_\_\_\_ Power cord not worn or frayed
- \_\_\_\_\_ Cables not worn or pinched
- \_\_\_\_\_ All electrical connections tight
- \_\_\_\_\_ All grounds secure to the frame
- \_\_\_\_\_ Ground Impedance Check (  $\leq 0.2$  Ohm)
- \_\_\_\_\_ Leakage current: Normal Polarity, No Ground, L2 Active (  $\leq 300$   $\mu$ A)
- \_\_\_\_\_ Leakage current: Normal Polarity, No Ground, No L2 (  $\leq 600$   $\mu$ A)
- \_\_\_\_\_ Leakage current: Reverse Polarity, No Ground, L2 Active (  $\leq 300$   $\mu$ A)
- \_\_\_\_\_ Leakage current: Reverse Polarity, no Ground, No L2 (  $\leq 600$   $\mu$ A)
- \_\_\_\_\_ Enclosure is free from wear, tear, stresses and mechanical damage
- \_\_\_\_\_ High potential test 1500 VAC (trip current not more than 10 mA)
- \_\_\_\_\_ No rust or corrosion of parts
- \_\_\_\_\_ Control boxes are not damaged or cracked
- \_\_\_\_\_ Actuator functionality
- \_\_\_\_\_ Labels for legibility, proper adherence, and integrity

Product serial number:
Completed by:
Date:




## EMC information

Guidance and Manufacturer's Declaration - Electromagnetic Emissions		
SV2 is intended for use in an electromagnetic environment specified below. The customer or the user of SV2 should assure that it is used in such an environment.		
Emissions Test	Compliance	Electromagnetic Environment
RF Emissions CISPR 11	Group 1	SV2 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	SV2 is suitable for use in all establishments other than domestic and those directly connected to the public low voltage power supply network that supplies buildings used for domestic purposes.
Harmonic Emissions IEC 61000-3-2	Class A	
Voltage Fluctuations Flicker Emissions IEC 61000-3-3	Complies	
<b>Note:</b> The emissions characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required) this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.		

Guidance and Manufacturer's Declaration - Electromagnetic Immunity			
SV2 is suitable for use in the electromagnetic environment specified below. The customer or the user of SV2 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	$\pm 8$ kV contact $\pm 15$ kV air	$\pm 8$ kV contact $\pm 15$ kV air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrostatic fast Transient/burst IEC 61000-4-4	$\pm 2$ kV for power supply lines $\pm 1$ kV for input/output lines	$\pm 2$ kV for power supply lines $\pm 1$ kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	$\pm 1$ kV line(s) to line(s) $\pm 2$ kV line(s) to earth	$\pm 1$ kV line(s) to line(s) $\pm 2$ kV line(s) to earth	Mains power quality is that of a typical commercial and/or hospital environment.
Voltage dips, voltage variations and short interruptions on power supply input lines IEC 61000-4-11	0% $U_T$ for 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315°  0% $U_T$ for 1 cycle  70% $U_T$ (30% dip in $U_T$ ) for 25 cycles  0% $U_T$ for 250 cycles	0% $U_T$ for 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315°  0% $U_T$ for 1 cycle  70% $U_T$ (30% dip in $U_T$ ) for 25 cycles  0% $U_T$ for 250 cycles	Mains power quality should be that of a typical commercial and/or hospital environment. If the user of SV2 requires continued operation during power main interruptions, it is recommended that the device be powered from an uninterrupted power supply or a battery.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity			
Power frequency magnetic fields IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial and/or hospital environment.
<b>Note:</b> $U_T$ is the a.c. mains voltage prior to applications of the test level.			

Guidance and Manufacturer's Declaration - Electromagnetic Immunity			
<b>SV2</b> is suited for use in the electromagnetic environment specified below. The customer or the user of <b>SV2</b> should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 6 Vrms in ISM bands 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.7 GHz</p>	<p>3 Vrms 6 Vrms in ISM bands</p> <p>3 V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of <b>SV2</b>, including cables, than the recommended separation distance calculated from the equation appropriate for the frequency of the transmitter.</p> <p>Recommended separation distance</p> $D=(1.2) (\sqrt{P})$ $D=(1.2) (\sqrt{P})$ <p>80 MHz to 800 MHz</p> $D=(2.3) (\sqrt{P})$ <p>800 MHz to 2.7 GHz</p> <p>Where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

**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.

**Note 3:** The ISM (industrial, scientific, and medical) bands between 0,15 MHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz.

**Note 4:** Product complies immunity to proximity fields from RF wireless communication equipment per IEC 60601-1-2:2014 Table 9.

<sup>a</sup> 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 **SV2** is used exceeds the applicable RF compliance level above, **SV2** should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating **SV2**.

<sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths are less than 3 V/m.

**Table 9 - Test specifications for enclosure port immunity to RF wireless communications equipment**

Test frequency (MHz)	Band <sup>a)</sup> (MHz)	Service <sup>a)</sup>	Modulation <sup>b)</sup>	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380 - 390	TETRA 400	Pulse modulation <sup>a)</sup> 18 Hz	1,8	0,3	27
450	430 - 470	GMRS 460, FRS 460	FM <sup>c)</sup> ± 5 kHz deviation 1 kHz sine	2	0,3	28
710	704 - 787	LTE Band 13, 17	Pulse modulation <sup>b)</sup> 217 Hz	0,2	0,3	9
745						
780						
810	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation <sup>b)</sup> 18 Hz	2	0,3	28
870						
930						
1 720	1 700 - 1 990	GSM 1800, CDMA 1900, GSM 1900, DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation <sup>b)</sup> 217 Hz	2	0,3	28
1 845						
1 970						
2 450	2 400 - 2 570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation <sup>b)</sup> 217 Hz	2	0,3	28
5 240	5 100 - 5 800	WLAN 802.11 a/n	Pulse modulation <sup>b)</sup> 217 Hz	0,2	0,3	9
5 500						
5 785						

**Recommended separation distances between portable and mobile RF communications equipment and SV2**

**SV2** is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of **SV2** can help prevent electromagnetic interferences by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and **SV2** 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
--	--

Recommended separation distances between portable and mobile RF communications equipment and SV2			
	150 kHz to 80 MHz $D=(1.2) (\sqrt{P})$	80 MHz to 800 MHz $D=(1.2) (\sqrt{P})$	800 MHz to 2.7 GHz $D=(2.3) (\sqrt{P})$
0.01	1.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
<p>For transmitters rated at a maximum output power not listed above, the recommended separation distance <math>d</math> in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.</p> <p><b>Note 1:</b> At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.</p> <p><b>Note 2:</b> These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>			

Test frequency	Modulation	Immunity test level (A/m)
134,2 kHz	Pulse modulation <sup>b)</sup> 2,1 kHz	65 <sup>c)</sup>
13,56 MHz	Pulse modulation <sup>b)</sup> 50 kHz	7,5 <sup>c)</sup>
<p><sup>b)</sup> The carrier shall be modulated using a 50% duty cycle square wave signal.  <sup>c)</sup> r.m.s., before modulation is applied.</p>		



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