ARGAIOS Electric Hospital Bed

Maintenance Manual

REF 7600-000-050
REF 7600-000-100
REF 7600-000-300

EN

SK-7600 REV 08 2024-04

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
REF	Catalogue number
SN	Serial number
MD	European medical device
EC REP	Authorized representative in the European Community
CH REP	Authorized representative in Switzerland
CE	CE mark
UK CA	UK Conformity Assessment mark
	Importer

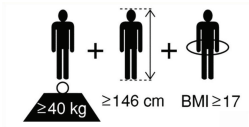
UDI	Unique device identifier
	Manufacturer
	Date of manufacture
	Mass of equipment with safe working load
	Safe working load
	Maximum patient weight
	Adult patient
⎓	Direct current
~	Alternating current
	Dangerous voltage
	Unit provides terminal for connection of a potential equalization conductor. The potential equalization conductor provides direct connection between the unit and potential equalization busbar of the electrical installation.
	Protective Earth terminal
IPX4	Protection from liquid splash
	Type B applied part
	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.

Table of Contents

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.

WARNING

- Only use the input voltage and frequency as rated on the product.
- Always make sure to line the hex shaft with the hex in the caster. Test the caster to identify the direction of the brake. Damage may occur if you install the caster incorrectly.

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 **ARGAIOS 250**, 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.
- With the brake in the neutral position, the product could move.

Note - You should order assembly parts according to the functionality. If you order a single part, you will not receive the relevant parts to complete the service update. For example, rings, pins, springs, screws, or rue clips are not included when you order single parts.

Pinch points

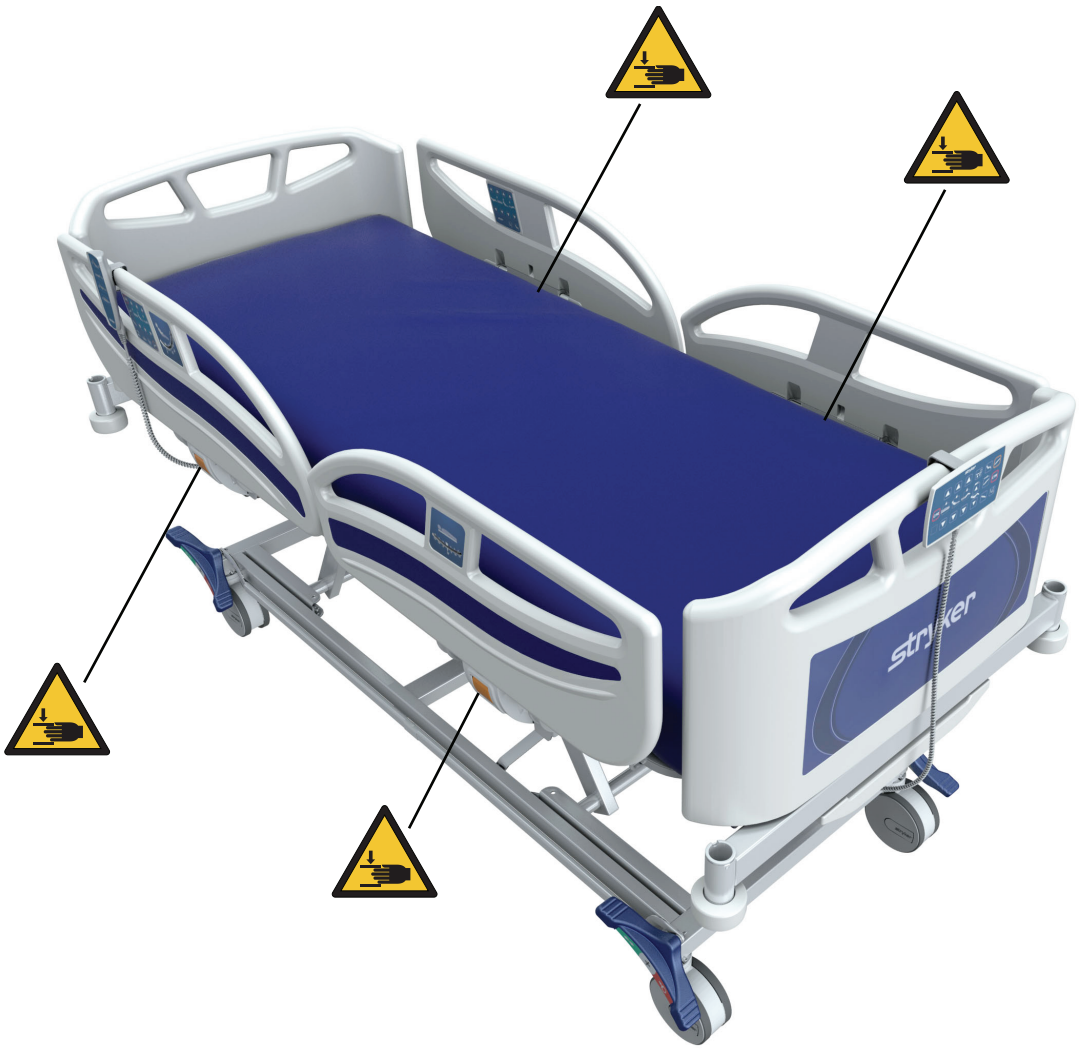


Figure 1 – ARGAIOS 250 pinch points

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.

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

- This manual is a permanent part of the product and should remain with the product even if the product is sold.
- 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

ARGAIOS 250 is an AC-powered bed with a battery backup system. **ARGAIOS 250** is for patients to receive treatment for extended periods of time at hospitals and care centers. **ARGAIOS 250** has four electrical actuators that allow it to adjust to numerous positions, including CPR, Trendelenburg, Reverse Trendelenburg, and chair positions. **ARGAIOS 250** is equipped with retractable siderails, removable headboard and footboard, and options and accessories that assist with the care of the patient.

ARGAIOS 250 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

ARGAIOS 250 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.

ARGAIOS 250 is for use in medical, surgical, and critical care healthcare environments, including hospitals, institutions and clinics.

The **ARGAIOS 250** bed frame, litter mounted accessories, and mattresses can come in contact with human skin.

The **ARGAIOS 250** 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.

Contraindications

None known.

Expected service life

ARGAIOS 250 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.

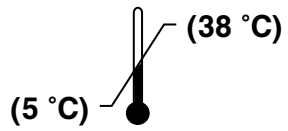
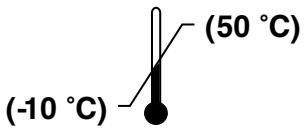
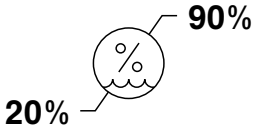
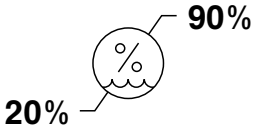
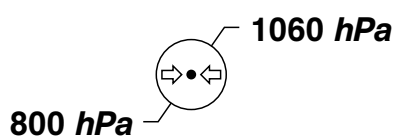
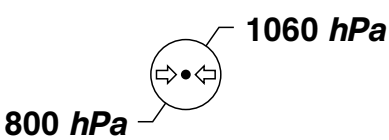
Specifications

	Safe working load **Note** - 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°
Electrical requirements		
Battery	24 VDC, 10 amps, Model BA1812	
Control box	100-240 VAC, 50 Hz - 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	

Electrical requirements	
Duty cycle	2 mins of actuation and 18 mins idle

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
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.

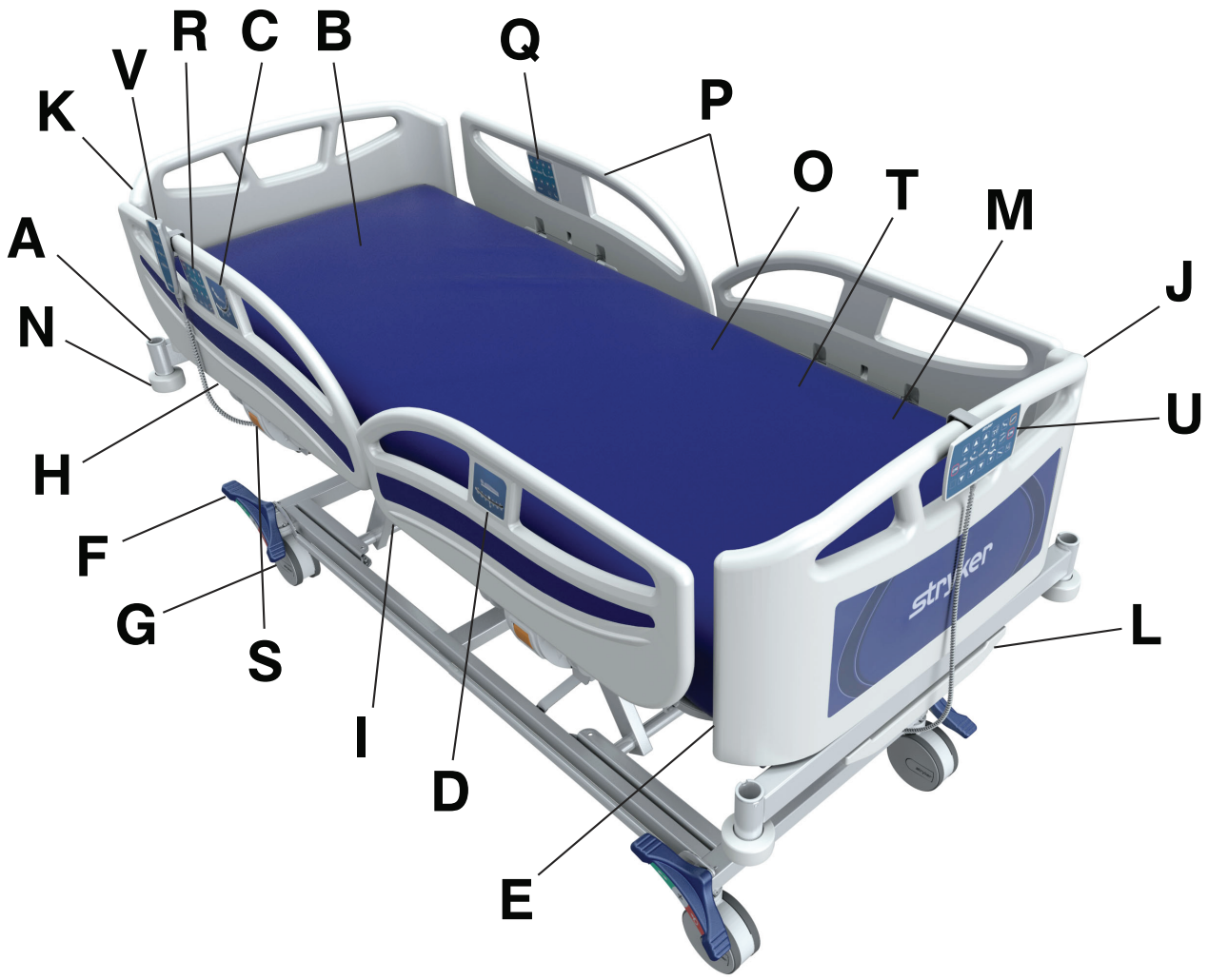
Standards applied	
IEC 60601-1:2012	Medical electrical equipment - Part 1: General requirements for basic safety and essential performance
IEC 60601-1-2:2014	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic 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 + A1:2015* *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 **ARGAIOS 250**, 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.

Product illustration



A	Accessory sleeve	L	Linen tray (option)
B	Backrest	M	Lower leg section
C	Backrest indicator	N	Roller bumper
D	Bed angle indicator	O	Seat section
E	Bed extender (option)	P	Siderails
F	Brake/steer pedal	Q	Siderail control panel (Inside siderail) (option)
G	Casters (Dual-wheel casters optional)	R	Siderail control panel (Outside siderail) (option)
H	CPR release	S	Siderail latch
I	Foley hooks	T	Upper leg section
J	Footboard	U	Nurse control pendant (option)
K	Headboard	V	Patient control pendant (option)

Applied parts

Figure 2 – Type B applied parts

Contact information

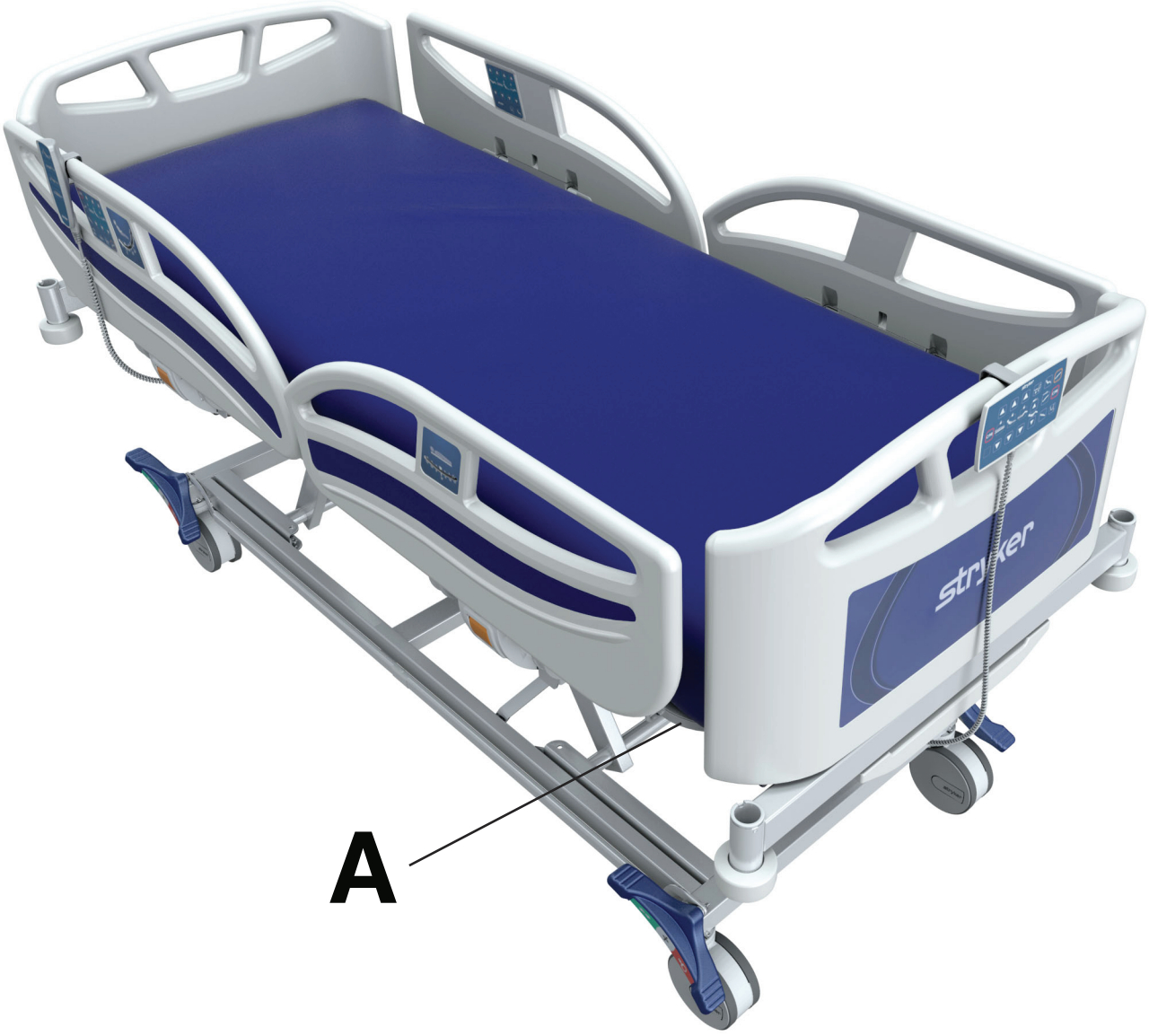
Contact your Stryker Customer Service:

Stryker Medical International
Kayseri Serbest Bölge Şubesi
2. Cad. No:17 38070
Kayseri, Turkey

E-mail :	infosmi@stryker.com
Phone :	+ 90 (352) 321 43 00 (pbx)
Fax:	+ 90 (352) 321 43 03
	www.mukametal.com

Have the serial number (A) of your product available. Include the serial number in all written communication.

Serial number location



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 (≤ 0.2 Ohm)

_____ Leakage current: Normal Polarity, No Ground, L2 Active (≤ 300 µA)

_____ Leakage current: Normal Polarity, No Ground, No L2 (≤ 600 µA)

_____ Leakage current: Reverse Polarity, No Ground, L2 Active (≤ 300 µA)

_____ Leakage current: Reverse Polarity, no Ground, No L2 (≤ 600 µA)

_____ 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

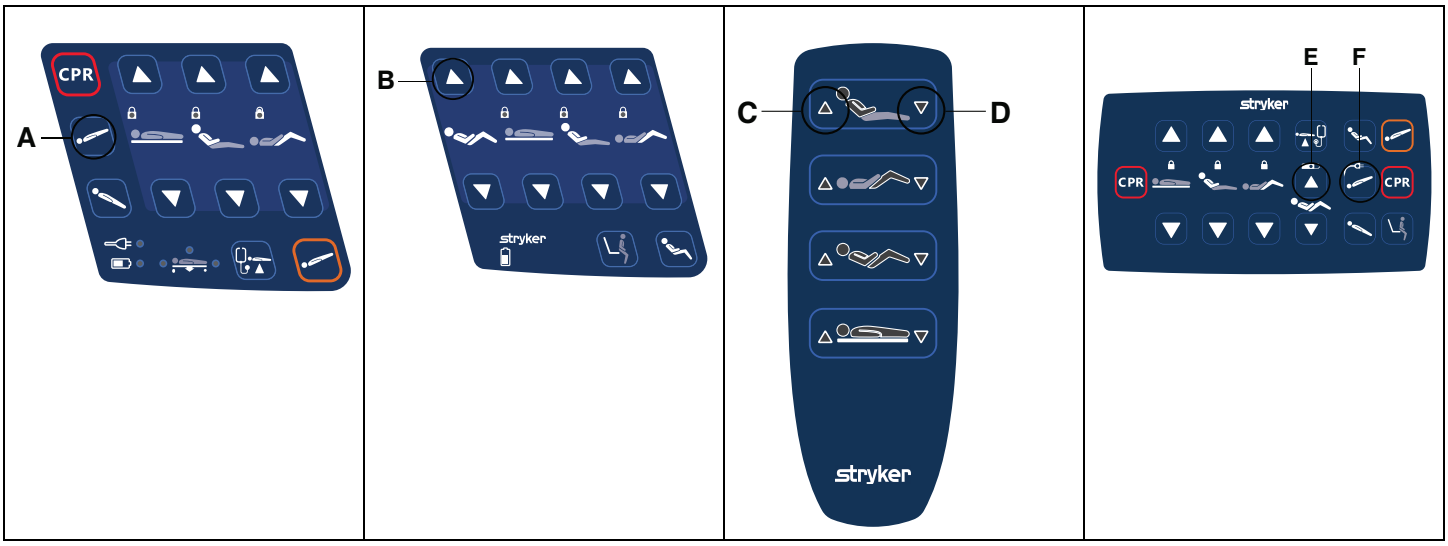
_____ Labels for legibility, proper adherence, and integrity

Product serial number:
Completed by:
Date:

Troubleshooting

Problem	Possible Cause	Solution
Bed does not operate	1. Power cable does not plug to the mains. 2. Power cable is damaged. 3. Nurse control unit or hand control unit may be locked. 4. Control box does not operate	1. Ensure power cable and plug are not damaged and then plug the power cable to the mains. 2. Replace the power cable by the authorized service personnel. 3. Nurse control Unit activation button should be checked. (On-off). Inspect the nurse control unit or hand control unit and make sure they are not locked. 4. Control box should be replaced, call the technical service.
When the system operates, one of the actuators does not operate and control box gives a click sound	1. Actuator cable may be out of the control box socket. 2. Actuator cable is damaged. 3. Actuator is damaged; 4. CPR wire remains stuck; 5. Control box is damaged.	1. Check socket connections of the control box. 2. Actuator cable should be replaced, call the service center. 3. Actuator should be replaced, call the service center. 4. Inspect CPR wire and nut adjustment. 5. Control box should be replaced, call the service center.
When the system operates, one of the actuators does not operate and control box **does not** give a click sound	1. Nurse control unit or hand control unit may be partly locked. 2. Control unit is damaged, 3. Control box is damaged.	1. Inspect nurse control unit or hand control and make sure they are not locked. 2. Unplug side rail control unit from the socket and check for function with the nurse control unit. If function is restored, their may be a problem with one of the control units. Call technical service. 3. Control box should be replaced, call the service center.
Battery is possibly discharged and does not give click sound	1. Battery is completely discharged 2. Battery is damaged or expired.	1. Recharge the battery. 2. Battery should be replaced, call the service center.
System operates but actuators move slowly	Power is possibly disconnected and the bed operates by battery.	1. Power cable might have come out of the control panel; check it. 2. Check the connections of the power cable. 3. Check the socket. 4. Recharge the battery, call the service center.

Problem	Possible Cause	Solution
Control box beeps while actuators are raised and actuators will not move in the downward direction	Control box actuator position reference has been lost.	1. Unplug the power cord and turn off the battery. 2. Plug in the power cord and turn on the battery. 3. Run each upper actuator to its highest position.
Failure Mode : Bed does not operate due to actuator failure or power request error. When a failure mode occurs and a key is activated the system will beep quickly, and if LEDs are used for locking functions on Nurse Control Unit, these will blink quickly, except when powering down on battery. Failure indications: 1) All Nurse Control Unit LEDs are blinking. 2) The CB6 buzzer beeps quickly if the handset is activated.	1. Actuator cables are unplugged. 2. Electrical short in a control cable (cable of control units or actuators). 3. If a function is activated but the actuator configuration doesn't support the function. 4. Switch has failed in an actuator. 5. Control pendant (nurse or patient) or siderail control panel has failed. 6. Control box has failed.	1. Reset the failure mode. 2. 2.1. Press and hold the Trendelenburg button (A) on the nurse control panel and the Autocontour up (B) on the patient control panel at the same time for five seconds. **Note** - The Trendelenburg and Autocontour up buttons are found on the opposite sides of the same siderail control panel. 2.2. Press and hold the Backrest up (C) and Backrest down (D) buttons at the same time on the patient control pendant (option), or Autocontour up (E) and Trendelenburg (F) buttons at the same time on the nurse control pendant (option) for five seconds. 3. After five seconds, you will hear a buzzer. 4. Keep pressing buttons until the buzzer stops. 5. LEDs will stop blinking. 6. Press the CPR button in to zero all the actuators. 7. Failure mode does not result in a position lost. Make sure that the system is in a safe position after resetting the failure mode. 8. Continue to troubleshoot through possible causes until corrected.


A
CPR
B
stryker
C
D
stryker
E
F
stryker
CPR
CPR

Service

Fowler (backrest) actuator replacement

Tools required:

- Small flat screwdriver
- Needle nose pliers

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Using the CPR release, lower the Fowler (backrest) to a flat (0 degrees) position.
5. Using a small flat screwdriver, push in both locking tabs to remove the cable retainer on the Fowler (backrest) actuator electrical quick connector.
6. Unplug the connector.
7. Using one hand to support the Fowler (backrest) actuator and a small flat screwdriver, open the CPR cable cover on the Fowler (backrest) actuator.
8. Pulling back on the CPR cables, remove the CPR cable mechanism from the Fowler (backrest) actuator.
9. Using needle nose pliers, remove and discard the rue ring cotter pins (A) (Figure 3) from each clevis pin.

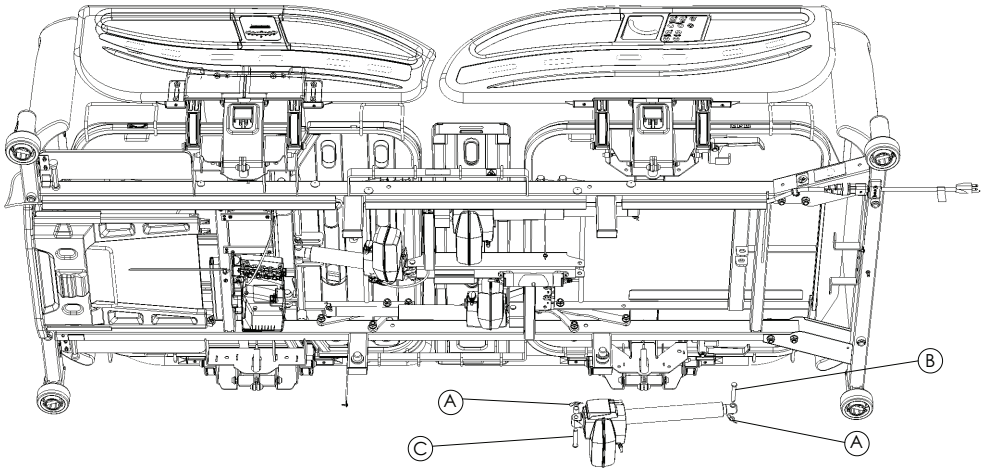


Figure 3 – Fowler (backrest) actuator

10. Using one hand, support the Fowler (backrest) actuator and remove and save the head end clevis pin (B) (Figure 3) then allow the Fowler (backrest) actuator to pivot down.
11. Using one hand, support the Fowler (backrest) actuator and remove and save the foot end clevis pin (C) (Figure 3) and spacer.
12. Remove and discard the Fowler (backrest) actuator.
13. Reverse steps to reinstall.

    Note - Make sure that the cable ties stay in the same position during reinstallation.
14. Verify proper operation of the product before returning it to service.

Gatch (legrest) actuator replacement

Tools required:

- Small flat screwdriver
- Needle nose pliers

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Using a small flat screwdriver, push in both locking tabs to remove the cable retainer on the gatch (legrest) actuator electrical quick connector.
5. Unplug the gatch (legrest) actuator cable to allow the removal of the gatch (legrest) actuator.
6. Using needle nose pliers, remove and discard the rue ring cotter pins (A) (Figure 4) from each clevis pin.

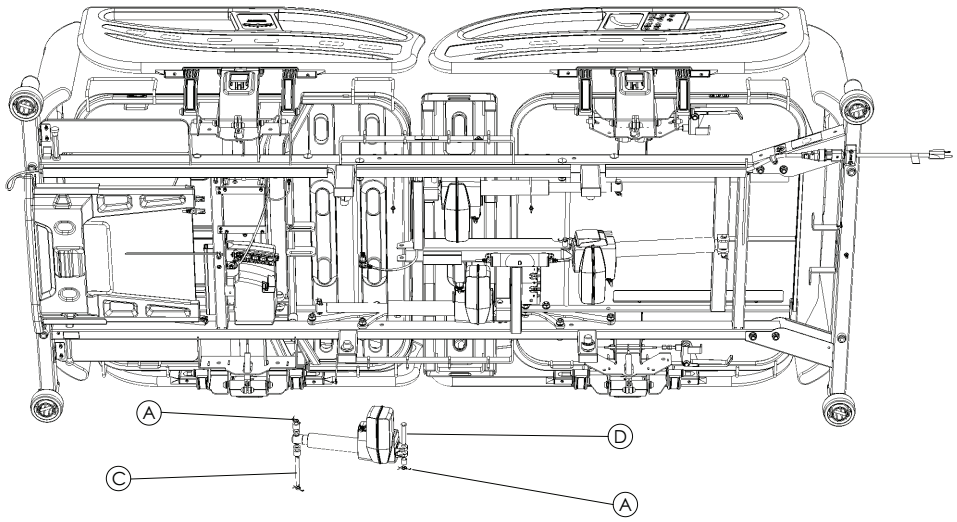


Figure 4 – Gatch (legrest) actuator

7. Using one hand, support the gatch (legrest) actuator and remove the foot end clevis pin (C) (Figure 4) and spacers then allow the gatch (legrest) actuator to pivot down.
8. Using one hand, support the gatch (legrest) actuator and remove the head end clevis pin (D) (Figure 4) and spacer.
9. Remove and discard the gatch (legrest) actuator.
10. Reverse steps to reinstall.
11. Verify proper operation of the product before returning it to service.

Head end lift actuator replacement

Tools required:

- Small flat screwdriver
- Needle nose pliers

Procedure:

1. Apply the brakes.

2. Support the head end litter cross brace (A) to support the head end litter (Figure 5).
3. Power down the bed and unplug the power cord from the wall outlet.
4. Using a small flat screwdriver, gently push in both locking tabs to remove the cable retainer on the head end lift actuator electrical connector.
5. Unplug the connector.
6. Using needle nose pliers, remove and discard the rue ring cotter pins (B) from each clevis pin (Figure 5).
7. Using one hand, support the head end lift actuator and remove and discard the head end clevis pin (C) then allow the head end lift actuator to pivot down (Figure 5).
8. Using one hand, support the head end lift actuator and remove and discard the foot end clevis pin (D) and spacer (Figure 5).
9. Remove and discard the head end lift actuator.
10. Reverse steps to reinstall.
11. Verify proper operation of the product before returning it to service.

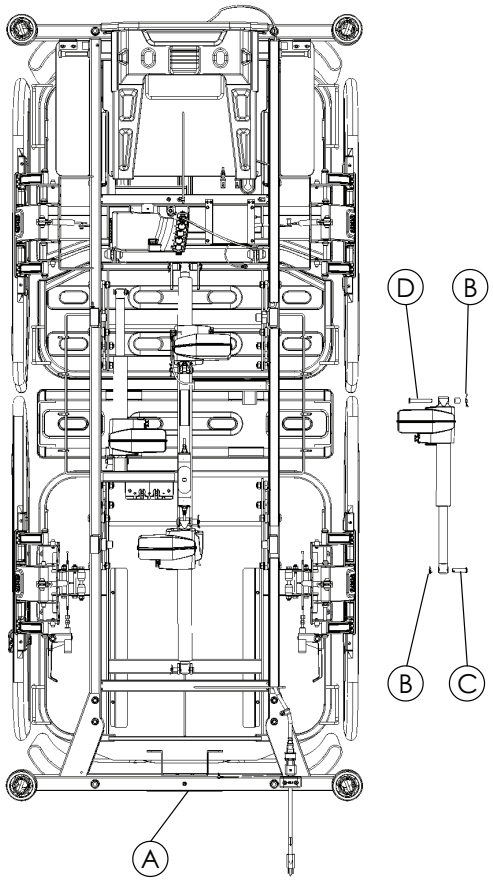


Figure 5 – Head end lift actuator

Foot end lift actuator replacement

Tools required:

- Small flat screwdriver
- Needle nose pliers

Procedure:

1. Apply the brakes.

2. Support the foot end litter cross brace (A) to support the foot end litter (Figure 6).
3. Power down the bed and unplug the power cord from the wall outlet.
4. Using a small flat screwdriver, gently push in both locking tabs to remove the cable retainer on the foot end lift actuator electrical connector.
5. Unplug the connector.
6. Using needle nose pliers, remove and discard the rue ring cotter pins (B) from each clevis pin (Figure 6).
7. Using one hand, support the foot end lift actuator and remove and discard the foot end clevis pin (C) then allow the foot end lift actuator to pivot down (Figure 6).
8. Using one hand, support the foot end lift actuator and remove and discard the head end clevis pin (D) and spacer (Figure 6).
9. Remove and discard the foot end lift actuator.
10. Reverse steps to reinstall.
11. Verify proper operation of the product before returning it to service.

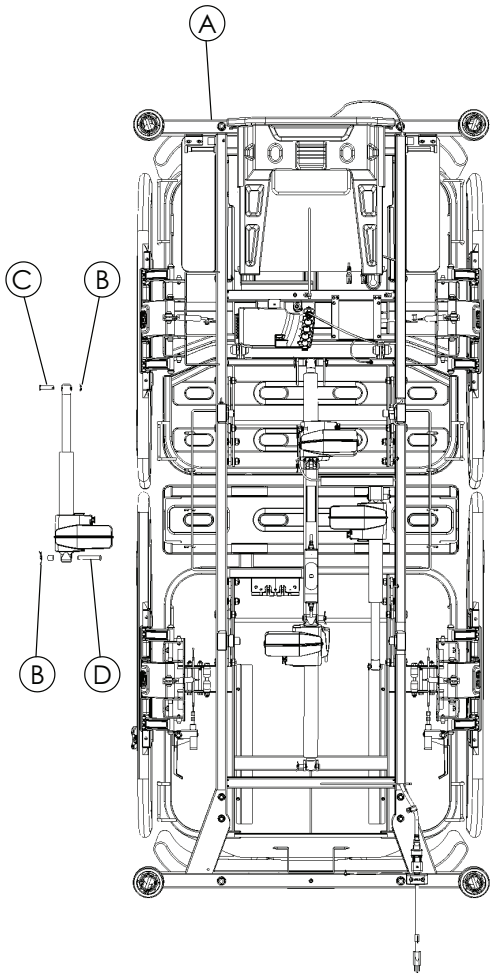


Figure 6 – Foot end lift actuator

Non-steer caster replacement

Tools required:

- Large flat screwdriver
- Floor jack (small)

- Torque wrench with 5 mm hex bit (9.5 Nm)
- 5 mm hex wrench
- Needle nose pliers
- Hammer

Procedure:

1. Put the brake in the neutral position.

   CAUTION - With the brake in the neutral position, the product could move.

2. Raise the product to the highest height position.
3. Unplug the power cord from the wall outlet.
4. Using needle nose pliers, remove and discard the rue ring cotter pin (G) from the hex shaft (Figure 7).
5. Pull the brake pedal off the hex shaft and set aside (Figure 7).
6. Remove and save the plastic washer (H) that is on the hex shaft (Figure 7).
7. Using a hammer and a large screw driver, remove and discard the starlock retainer (K) that is on the hex shaft (Figure 7).
8. Using a 5 mm hex wrench, remove and discard the two screws (I) and washers (J) that secure the non-steer caster to the base frame (Figure 7).
9. Use a small floor jack to lift the base frame cross tube to loosen the non-steer caster.
10. Grasp the opposite brake/steer pedal and pull outward about four inches (100 mm) to remove and discard the non-steer caster.

    Note - Note the position of the label on the mounting shaft of the old caster for reinstallation of the replacement caster.

11. Reverse steps to reinstall.

    WARNING - Always make sure to line the hex shaft with the hex in the caster. Test the caster to identify the direction of the brake. Damage may occur if you install the caster incorrectly.

    Note - Torque the caster mounting screws (I) to 9.5 Nm +/- 1.5 Nm.

12. Verify proper operation of the product before returning it to service.

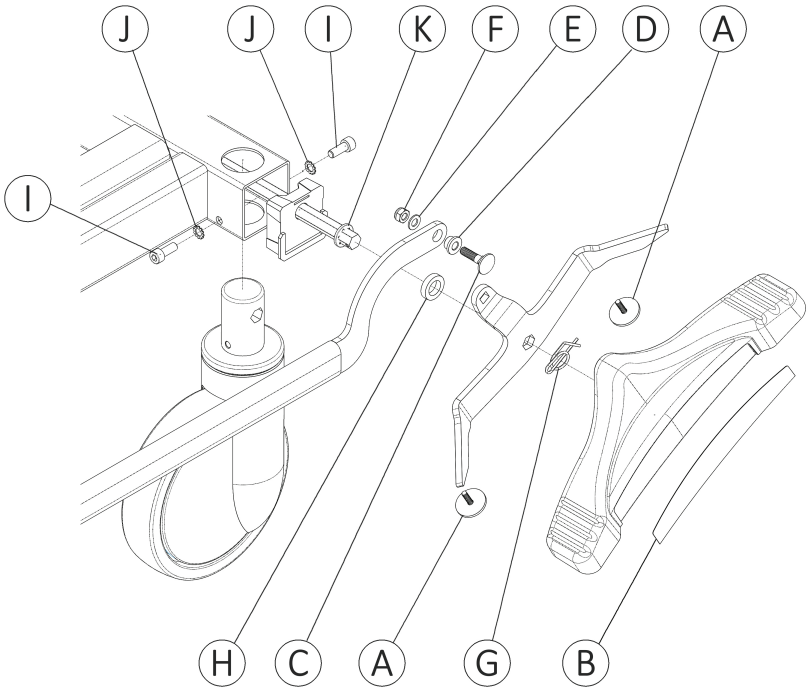


Figure 7 – Non-steer caster

Steer (head left) caster replacement

Tools required:

- Large flat screwdriver
- Floor jack (small)
- Torque wrench with 5 mm hex bit (9.5 Nm)
- 5 mm hex wrench
- Needle nose pliers
- Hammer

Procedure:

1. Put the brake in the neutral position.

   CAUTION - With the brake in the neutral position, the product could move.

2. Raise the product to the highest height position.
3. Unplug the power cord from the wall outlet.
4. Using needle nose pliers, remove and discard the rue ring cotter pin (G) from the hex shaft (Figure 8).
5. Pull the brake pedal off the hex shaft and set aside.
6. Remove and save the plastic washer (H) that is on the hex shaft (Figure 8).
7. Using a hammer and a large screw driver, remove and discard the starlock retainer (K) that is on the hex shaft (Figure 8).
8. Using a 5 mm hex wrench, remove and discard the two screws (I) and washers (J) that secure the non-steer caster to the base frame (Figure 8).

9. Use a small floor jack to lift the base frame cross tube to loosen the non-steer caster.
10. Grasp the opposite brake/steer pedal and pull outward about four inches (100 mm) to remove and discard the non-steer caster.

    Note - Note the position of the label on the mounting shaft of the old caster for reinstallation of the replacement caster.

11. Reverse steps to reinstall.

    WARNING - Always make sure to line the hex shaft with the hex in the caster. Test the caster to identify the direction of the brake. Damage may occur if you install the caster incorrectly.

    Note - Torque the caster mounting screws (I) to 9.5 Nm +/- 1.5 Nm.

12. Verify proper operation of the product before returning it to service.

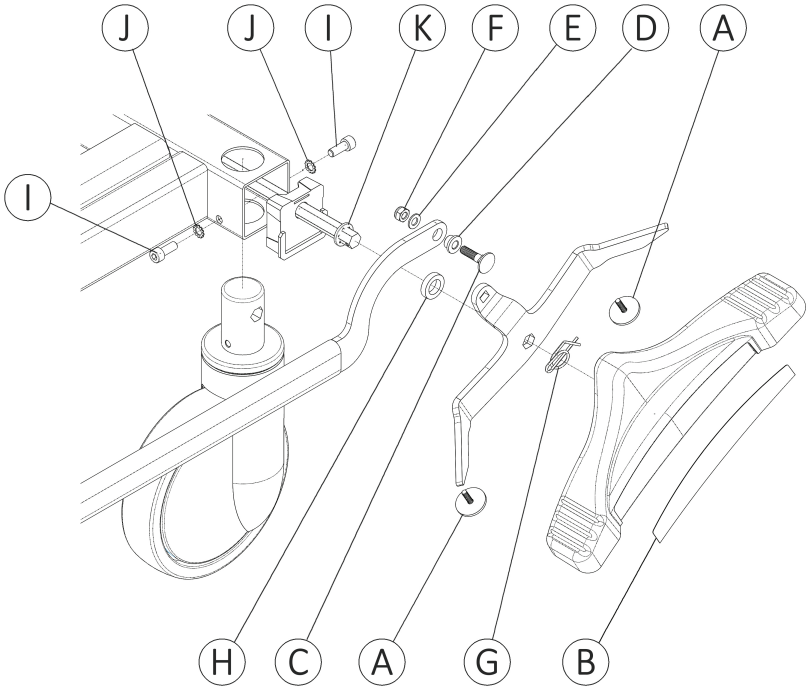


Figure 8 – Steer caster

Fifth wheel replacement (option)

Tools required:

- 3/8 in. drive ratchet
- 13 mm socket

Procedure:

1. Put the brake in the neutral position.

   CAUTION - With the brake in the neutral position, the product could move.

2. Raise the product to the highest height position.
3. Unplug the power cord from the wall outlet.

4. Using a 3/8 in. drive ratchet and 13 mm socket, remove and save the nut and washers from the top of the fifth wheel assembly.
5. Remove and discard the fifth wheel assembly.
6. Reverse steps to reinstall.

   Note - You may have to compress the fifth wheel assembly slightly to reinstall.
7. Verify proper operation of the product before returning it to service.

Fifth wheel lubrication (option)

Tools required:

- 5 mm hex wrench
- 13 mm combination wrench
- Small jack
- Polyurea based grease

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Using a small jack, raise the base frame high enough so that the fifth wheel does not touch the floor.
5. Using a 13 mm combination wrench, remove and save the bolt (C), nut (B), and washers (A) from the fifth wheel (D) (Figure 9).
6. Remove and apply the polyurea based grease to the wheel bearing (E) surface (Figure 9).
7. Reverse steps to reinstall.
8. Verify proper operation of the product before returning it to service.

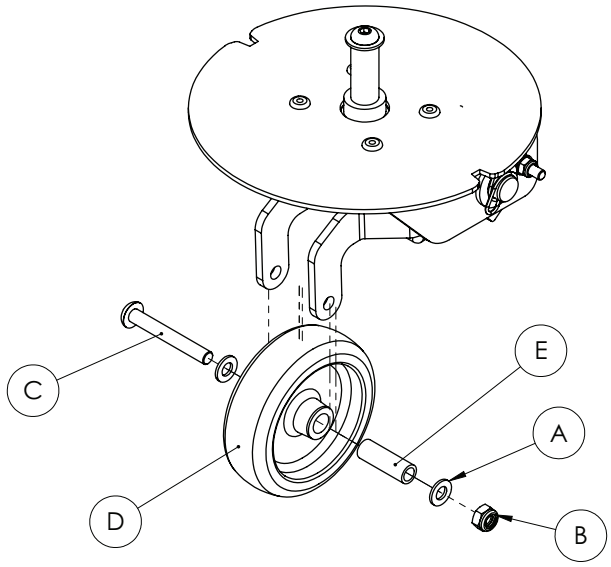


Figure 9 – Fifth wheel lubrication

Head end siderail gas cylinder replacement

Tools required:

- Large flat screwdriver

- Hammer
- 3/8 in. drive ratchet
- 13 mm socket
- 13 mm combination wrench

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Raise the siderail to the full upright and latched position.
5. Using a 3/8 in. drive ratchet and 13 mm socket with a 13 mm combination wrench, remove and discard the bolt, spacers, and nut that secures the head end siderail gas cylinder to the fowler (backrest) frame.
6. Using a large flat screwdriver and a hammer, remove one of the push nuts (A) that secures the bottom of the head end siderail gas cylinder (C) to the siderail mechanism (Figure 10).
7. Remove the pivot pin (B) (Figure 10).
8. Remove and discard the head end siderail gas cylinder (C).
9. Reverse steps to reinstall.
10. Verify proper operation of the product before returning it to service.

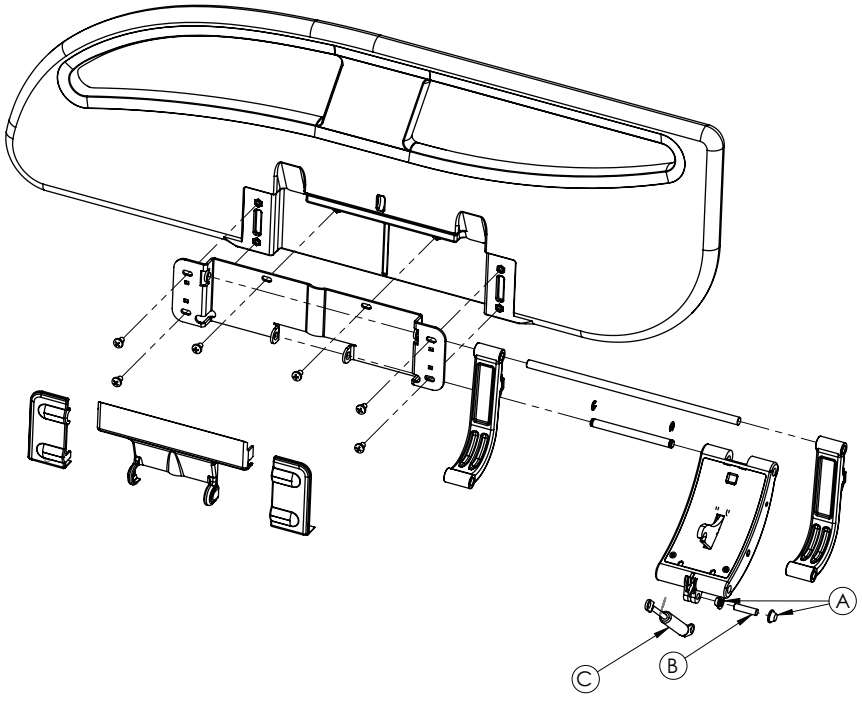


Figure 10 – Head end siderail gas cylinder

Foot end siderail gas cylinder replacement

Tools required:

- Large flat screwdriver
- Small flat screwdriver
- Hammer

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Raise the siderail to the full upright and latched position.
5. Using a small screwdriver, remove and discard the e-clip that secures the foot end siderail gas cylinder to the foot section frame.
6. Remove and save the pin that secures the foot end siderail gas cylinder to the foot section frame.
7. Using a large flat screwdriver and a hammer, remove one of the push nuts (A) that secures the bottom of the foot end siderail gas cylinder to the siderail mechanism (Figure 11).
8. Remove and discard the pivot pin (B) and foot end siderail gas cylinder (C) (Figure 11).
9. Reverse steps to reinstall.
10. Verify proper operation of the product before returning it to service.

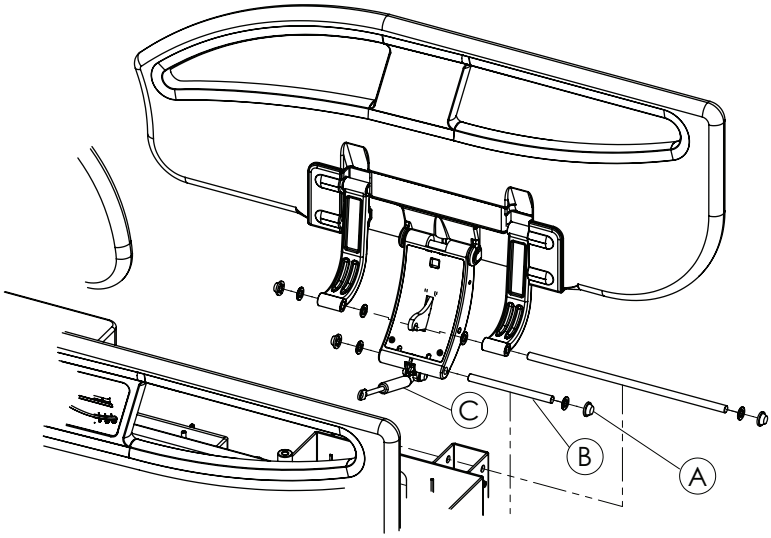


Figure 11 – Foot end siderail gas cylinder

Lower leg section locking mechanism replacement

Tools required:

- 3/8 in. drive ratchet
- 13 mm socket
- 13 mm combination wrench

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Raise the lower leg section (A) (Figure 12).
5. Lock the lower leg section.

   Note - If you cannot lock the lower leg section, find another way to support the lower leg section.
6. Using a 13 mm combination wrench and a 13 mm socket, remove and save the upper bolt and nut that secure the lower leg section locking mechanism (B) to the foot section weldment (Figure 12).

7. Using a 13 mm socket, remove and save the bolt (C), washers (D, E), and nut (F) that secures the bottom of the lower leg section locking mechanism to the litter frame (Figure 12).
8. Remove and discard the lower leg section locking mechanism (B) (Figure 12).
9. Reverse steps to reinstall.
10. Verify proper operation of the product before returning it to service.

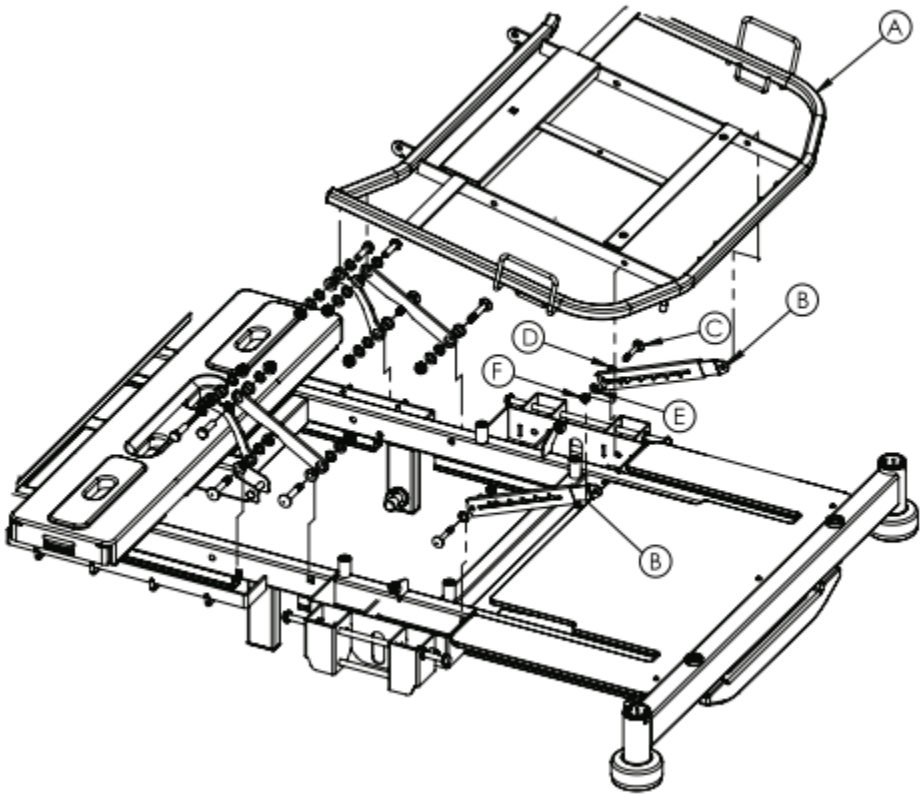


Figure 12 – Lower leg section locking mechanism

Patient control pendant replacement

Tools required:

- Diagonal pliers

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Remove the three cable routing covers that secure the gatch (legrest) actuator cable to the litter frame.
5. Cut the cable tie that secures the pendant to the bottom of the litter frame.
6. Unplug the patient control pendant cable from the junction box.
7. Dispose of the patient control pendant.
8. Reverse steps to reinstall.
9. Verify proper operation of the product before returning it to service.

Nurse control pendant replacement

Tools required:

- Diagonal pliers

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Using diagonal pliers, cut and discard the cable tie that secures the fowler (backrest) actuator cable to the wire routing channel.
5. Remove the three cable routing covers that secure the gatch (legrest) actuator cable to the litter frame.
6. Unplug the nurse control pendant cable from the junction box.
7. Dispose of the nurse control pendant.
8. Reverse steps to reinstall.
9. Verify proper operation of the product before returning it to service.

Siderail control panel (inside and outside siderail) replacement

Tools required:

- Flat screwdriver

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Unplug the power cord from the wall outlet.
4. Using a flat screwdriver, carefully push in and up in the slotted access hole to remove the control panel from the siderail hoop.
5. Unplug the cable connecting the siderail control panel to the junction box.
6. Remove and discard the siderail control panel.
7. Reverse steps to reinstall.
8. Verify proper operation of the product before returning it to service.

Control box replacement

Tools required:

- Diagonal pliers
- Small flat screwdriver
- 3/8 in. drive ratchet
- 10 mm socket
- 10 mm combination wrench

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.

4. Turn the battery off using the nurse control.
5. Raise and lock the lower leg section in the highest position.
6. Using a small flat screwdriver, un-clip the actuator cable retainer (A) from the control box (Figure 13).
7. Remove and save the actuator cable retainer.
8. Using a small flat screwdriver, push in on the power cord lock and gently pull outward on the power cord.
9. Remove the power cord from the control box.
10. Unplug the control cables and the battery cable from the control box.

    Note - Pay attention to the control cable connection locations for reinstallation.

11. Using a 10 mm combination wrench and a 10 mm socket, remove the bolt (B) that secures the control box to the litter frame (Figure 13).
12. Remove and discard the control box.
13. Reverse steps to reinstall.
14. Verify proper operation of the product before returning it to service.

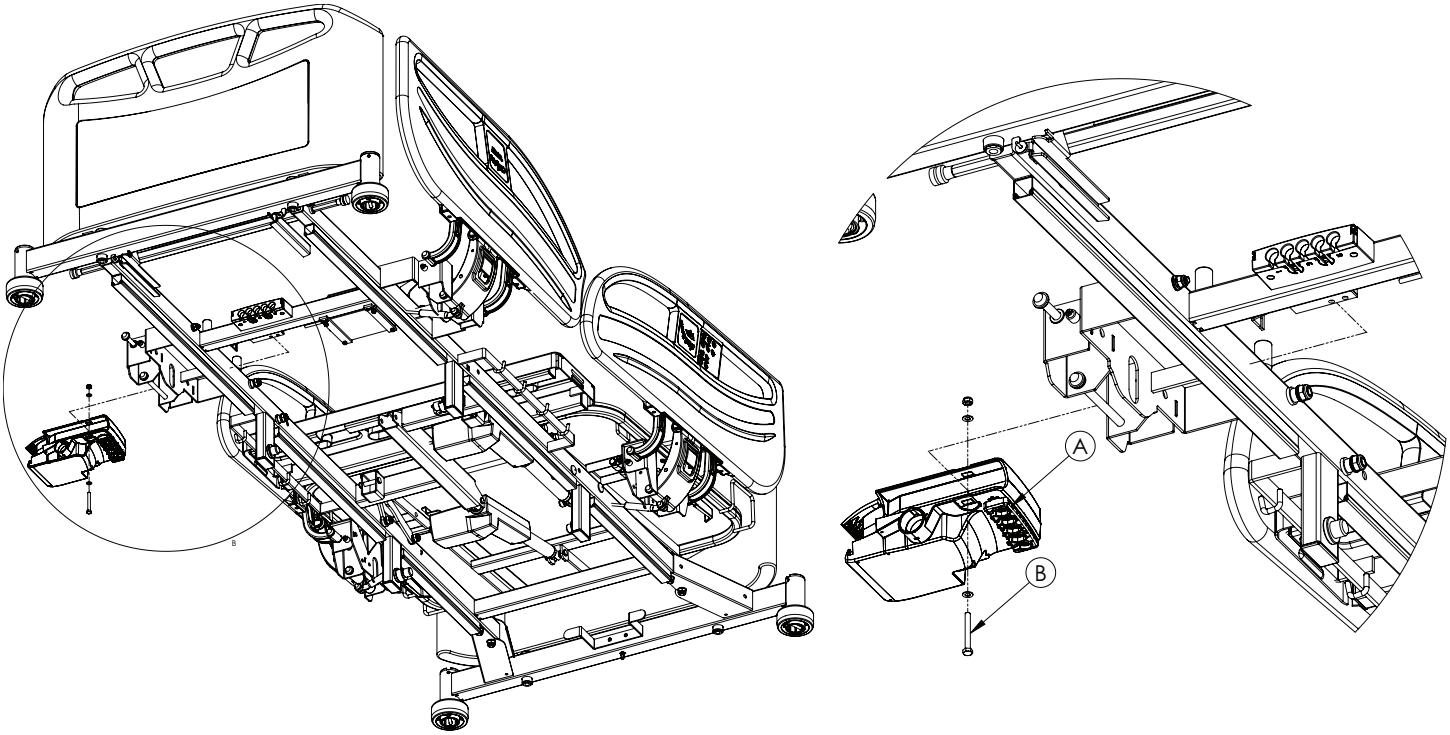


Figure 13 – Control box

Battery replacement

Tools required:

- Diagonal pliers
- #2 Phillips screwdriver

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Remove the cable routing cover that secures the gatch (legrest) actuator cable to the litter frame.

5. Using diagonal pliers, cut and discard the cable tie that secures the battery cable to all of the actuator cables.
6. Using a #2 Phillips screwdriver, unscrew the four screws (A) that secure the battery to the litter frame (Figure 14).

   Note - Support the battery while removing the screws so the battery does not fall.
7. Remove the battery.
8. Dispose of the battery according to local laws and procedures.
9. Reverse steps to reinstall.
10. Verify proper operation of the product before returning it to service.

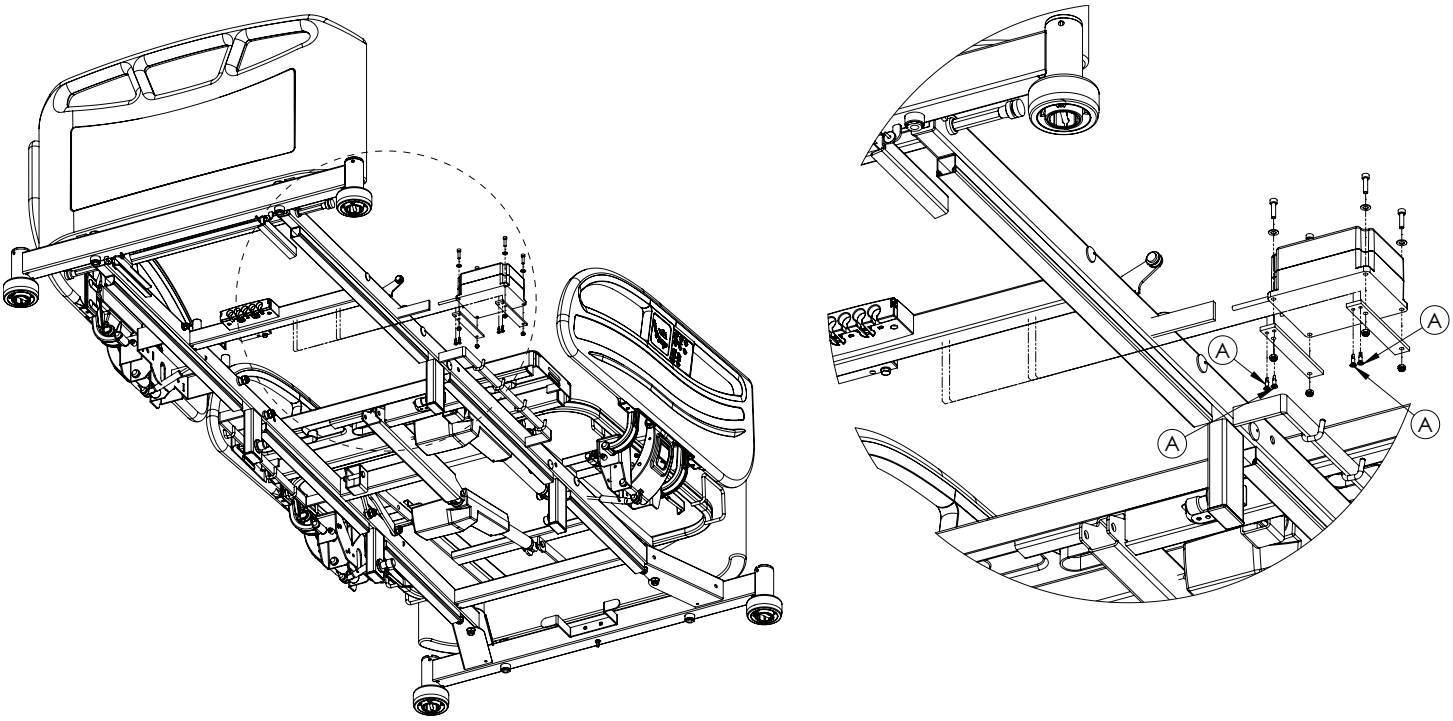


Figure 14 – Battery

Power cord replacement

Tools required:

- #2 Phillips screwdriver

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Remove the two screws (A) that secure the power cord connection cover (B) to the litter frame (Figure 15).
5. Remove and discard the external power cord (C) from the internal power cord (Figure 15).
6. Reverse steps to reinstall.
7. Verify proper operation of the product before returning it to service.

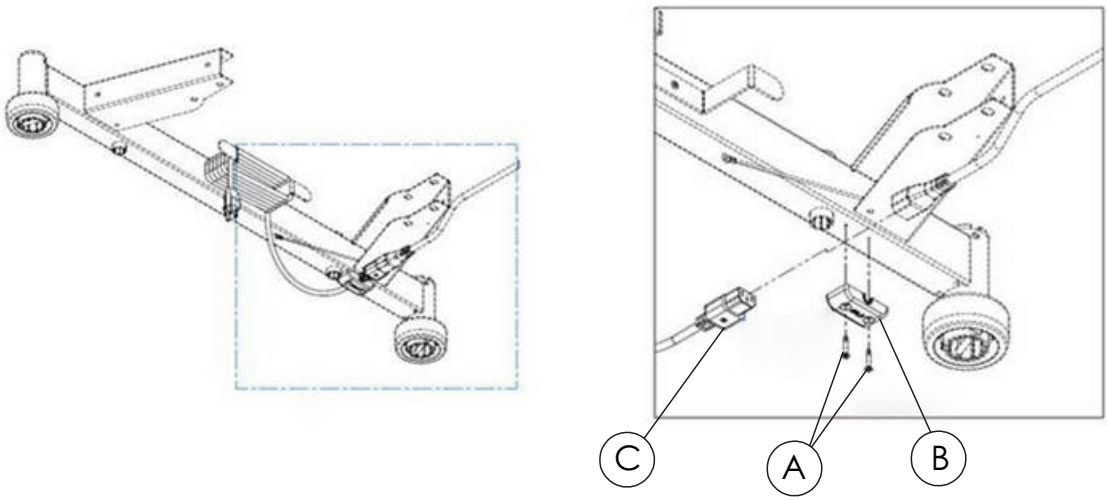


Figure 15 – Power cord

Head end siderail hoop replacement

Tools required:

- #2 Phillips screwdriver
- Flat screwdriver

Procedure:

1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Raise the siderail to the full upright and latched position.
5. Remove the mattress.
6. Remove the part number label from the head side of the control box assembly.
7. Using a flat screwdriver, carefully pry the outer panel away from the siderail hoop until the hoop fully unsnaps from the inner panel.
8. Unplug the cable connecting the siderail control panel to the control box.
9. Remove the siderail control panel.
10. Using a #2 Phillips screwdriver, remove and save the cover screw on the bottom of the siderail hoop on either side of the siderail pivot.
11. Using a flat screwdriver, carefully pry outward on the siderail pivot cover.
12. Using a #2 Phillips screwdriver, remove and discard the six screws (A) that secure the siderail hoop (B) to the siderail mechanism (Figure 16).

    Note - Support the siderail hoop while removing the screws so the siderail hoop does not fall.
13. Remove and discard the siderail hoop.
14. Reverse steps to reinstall.
15. Verify proper operation of the product before returning it to service.

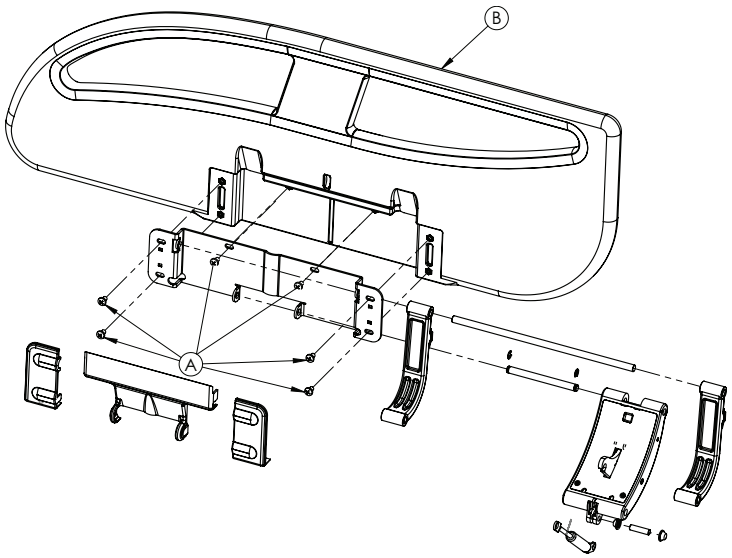


Figure 16 – Head end siderail hoop

Foot end siderail hoop replacement

Tools required:

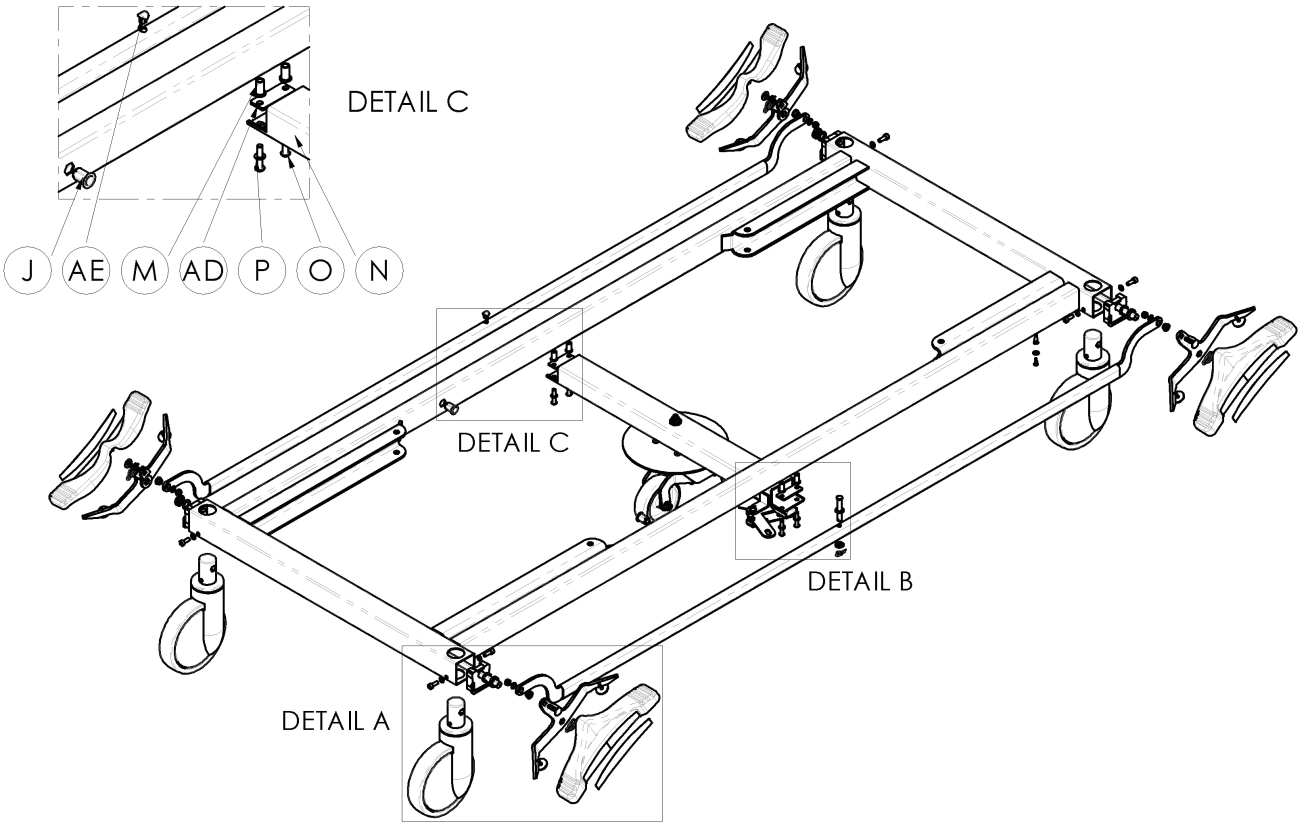
- #2 Phillips screwdriver
- Flat screwdriver

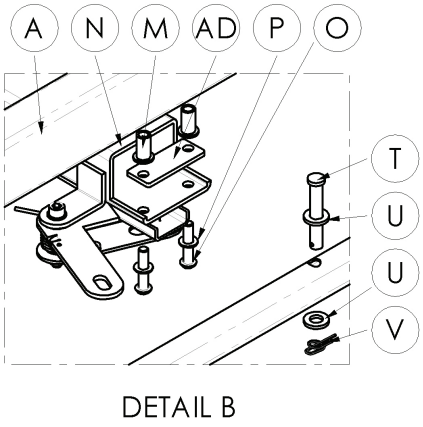
Procedure:

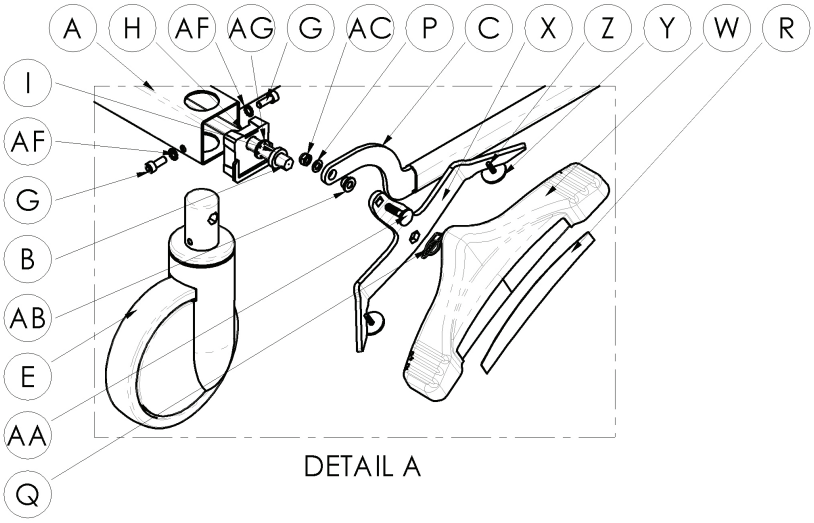
1. Apply the brakes.
2. Raise the product to the highest height position.
3. Power down the bed and unplug the power cord from the wall outlet.
4. Raise the siderail to the full upright and latched position.
5. Remove the mattress.
6. Using a #2 Phillips screwdriver, remove and save the cover screw on the bottom of the siderail hoop on either side of the siderail pivot.
7. Using a flat screwdriver, carefully pry outward on the siderail pivot cover.
8. Using a #2 Phillips screwdriver, remove and discard the six screws (A) that secure the siderail hoop (B) to the siderail mechanism (Figure 16).

   Note - Support the siderail hoop while removing the screws so the siderail hoop does not fall.
9. Remove and discard the siderail hoop.
10. Reverse steps to reinstall.
11. Verify proper operation of the product before returning it to service.

Brake system





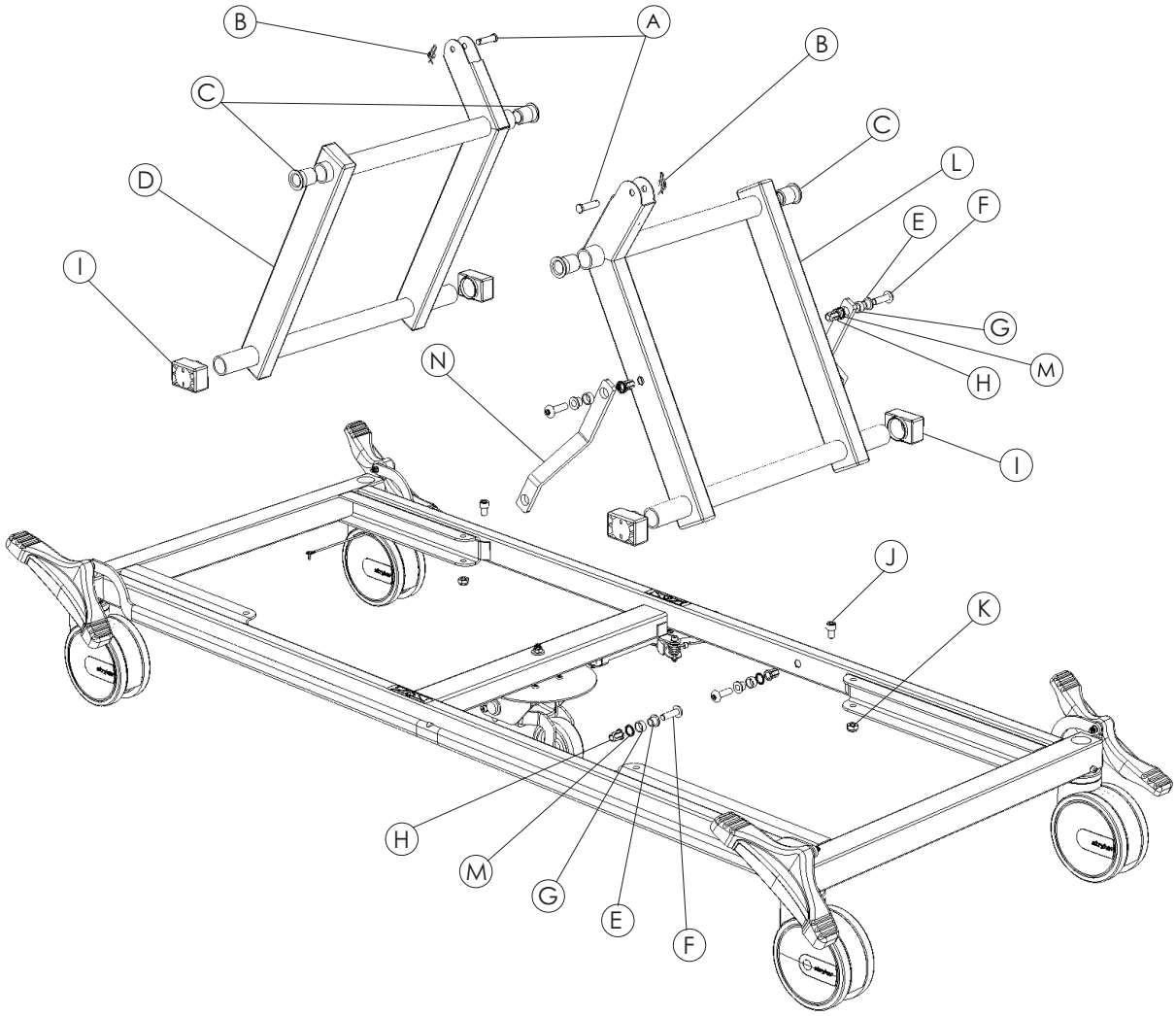


Item	Number	Name	Quantity
A	YM-FUTUREBALT-003-BY	5. wheel compatible lower chassis white	3
B	YM-03-04-10-0760-HZR-GL	Ø11 hexagon rod 760 mm with hole	2
C	YM-FUTUREBAKT-003-BY	Future LB 5. wheel compatible transfer white	2

Item	Number	Name	Quantity
D	HM-01-83	150 mm no steer lock antistatic single integral wheel	1
E	HM-01-54	2046UAP150R36-32S30 150 mm no steer lock not antistatic single caster	3
F	HM-09-04	DIN 6798 A/J - M6 serrated lock washer	1
G	HM-05-106	M6*16 imbus bolt	8
H	YM-HM-02-299	Hexagonal shaft bearing part	4
I	YM-HM-02-71	12 thick PLS washer DMR071	4
J	HM-09-18	Ø10 rivet nut	2
K	HM-16-113	260 mm grounding cable	1
L	HM-06-02	3,9 x 13 cross recessed pan head tapping screw	1
M	HM-09-23	M6 rivet nut	4
N	YM-5TKR-001	5.wheel assembly group	1
O	HM-05-041	M6*30 hexagon socket button head screw	4
P	HM-07-22	M6 iron washer (small)	8
Q	HM-11-34	Ø13 rue segman	4
R	HM-20-424	Pedal label - left	2
S	HM-20-423	Pedal label - right	2
T	HM-12-004	Ø8 perforated pin	1
U	YM-HM-02-026	8,5 x 16 x 2,2 mm plastic washer	2
V	HM-11-35	Ø8 rue clip	1
W	YM-HM-02-023	Pedal plastic body	4
X	YM-SV2PDL-001-BY	Pedal sheet weld assembly	4
Y	HM-07-09	Special pedal washer	8
Z	HM-06-86	Ø6 x 16 cross recessed raised cheese head screws	8
AA	HM-06-001	M6 x 25 mushroom head square neck bolt	4
AB	HM-12-905	Transfer laser bush (bronze)	4
AC	HM-08-05	M6 fibered nut	4
AD	YM-04-142-BY	5. wheel - base frame connection sheet	2

Item	Number	Name	Quantity
AE	YM-HM-02-025	Transfer bar Ø8 plastic hole cap	1
AF	HM-09-30	M6 toothed washer (DIN 6797 A)	8
AG	HM-11-10	11 mm Snap ring (lipper) KMS starlock push on BV/ 6706 fastener	4

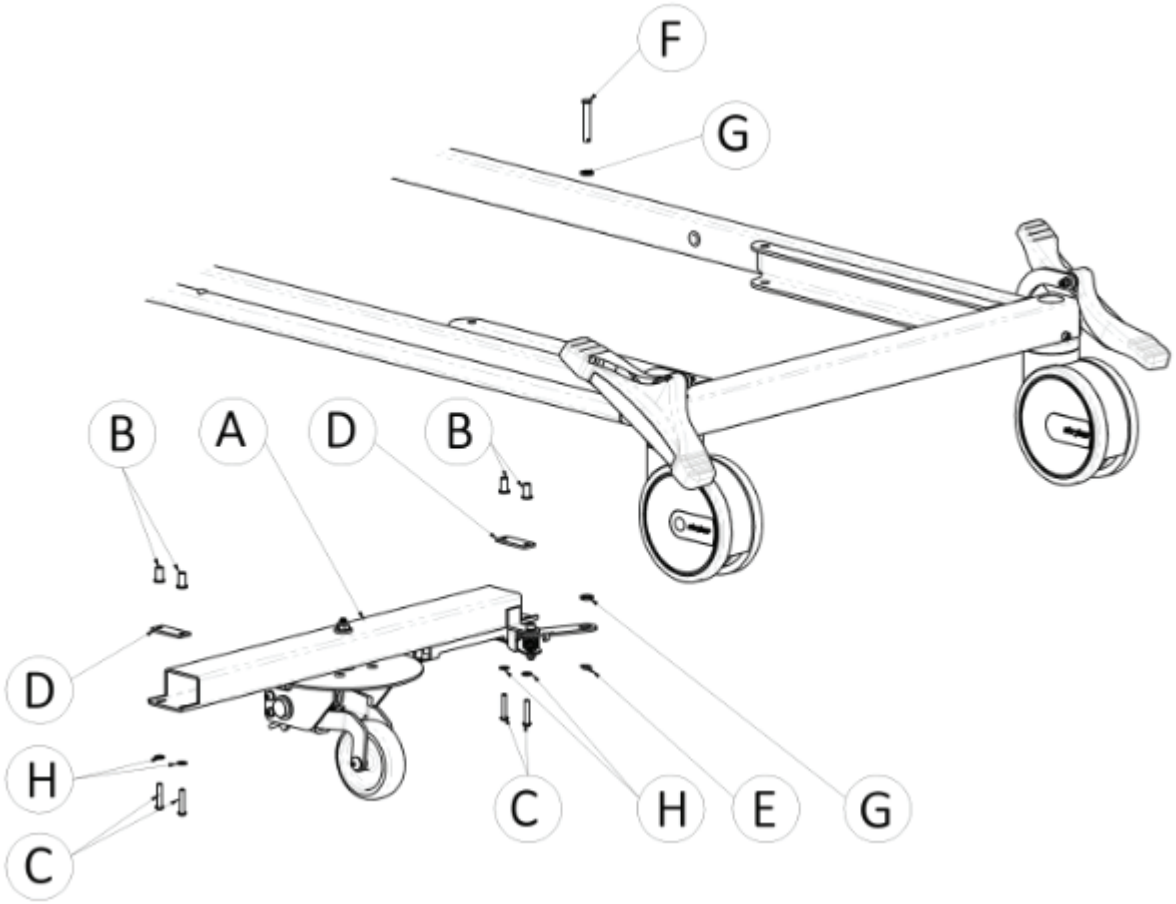
Base and leg assembly



Item	Number	Name	Quantity
A	HM-12-FTR011	Ø14xØ10x41 mm pin	2
B	HM-11-31	Ø10 rue clip	2
C	YM-HM-02-402	Ø34 pipe bush main mechanism	2
D	YM-FUTURELBANA-004-MN	Main mechanism without hole	1
E	HM-12-FTR007	Ø14 bush main mechanism	4
F	HM-05-153	M10x35 mm socket button head screw	4
G	YM-HM-02-398	Ø18 bush main mechanism	4
H	HM-09-18	Ø10 rivet nut	4
I	YM-HM-02-396	Main mechanism sled delrin	4
J	HM-05-54	M10x16 hex socket head cap screw	4

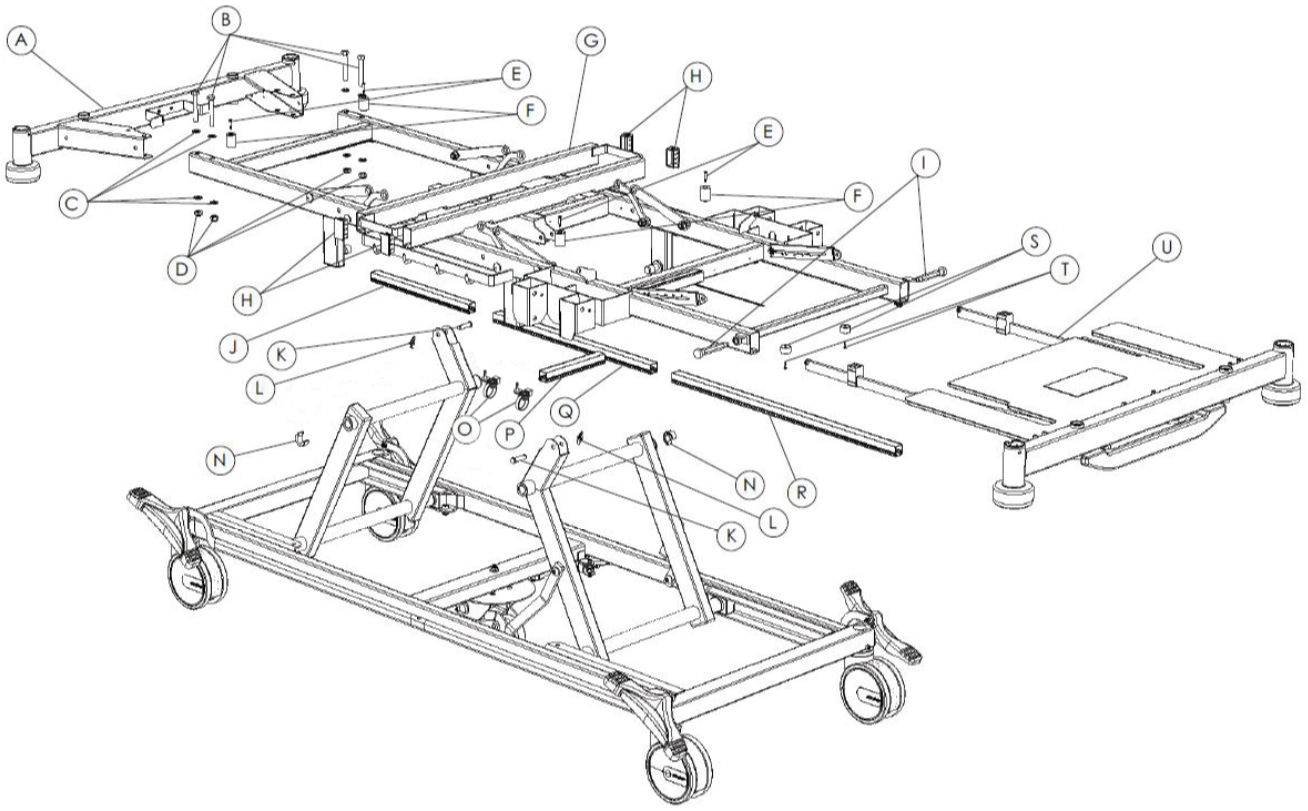
Item	Number	Name	Quantity
K	HM-08-07	M10 prevailing torque type hexagon nut	4
L	YM-FUTURELBANA-002-MN	Main mechanism with hole	1
M	YM-HM-02-399	Ø14 plastic washer	4
N	YM-04-FTR011-HZR-BY	Main mechanism Z laser cut sheet	2

Base and leg assembly with 5th wheel (option)



Item	Number	Name	Quantity
A	YM-5TKR-001	Fifth wheel assembly group	1
B	HM-09-23	M6 rivet nut	4
C	HM-05-041	M6*30 hexagon socket button head screw	4
D	YM-04-142-BY	Fifth wheel-base frame connection sheet	2
E	HM-11-35	Ø8 rue clip	1
F	HM-12-004	Ø8 perforated pin	1
G	YM-HM-02-026	8,5 x 16 x 2,2 mm plastic washer	2
H	HM-07-22	M6 steel washer (small)	4

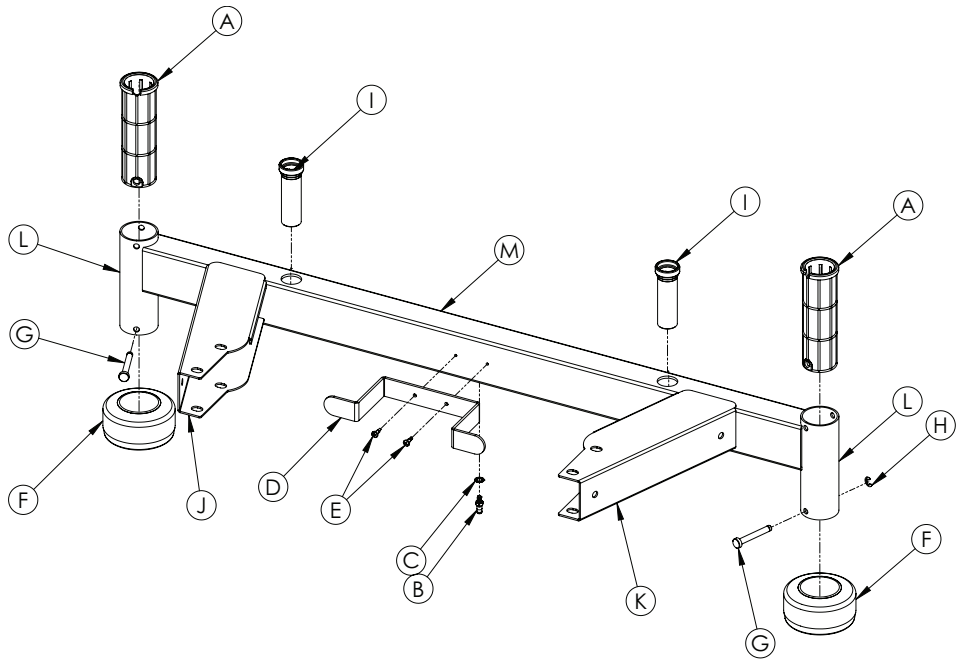
Litter/frame assembly



Item	Number	Name	Quantity
A	YM-026-010-MN	Demounted headboard assembly	1
B	HM-05-006	M10x70 hexagon head bolt	4
C	HM-07-04	M10 steel washer	8
D	HM-08-07	M10 prevailing torque type hexagon nut	4
E	HM-06-09	3,9x25 mm cross recessed countersunk head tapping screw	2
F	YM-HM-02-408	Backrest support plastic	2
G	YM-FUTURELBUST-002-00-BY	SV2 prolonged top chassis white	1
H	YM-HM-02-34	30x50x2 mm profile spile	4
I	HM-20-840	Extension lock	2
J	YM-16-49-03	25x25x360 mm cable holder	1
K	HM-12-FTR011	Ø14xØ10x41 mm pin	2

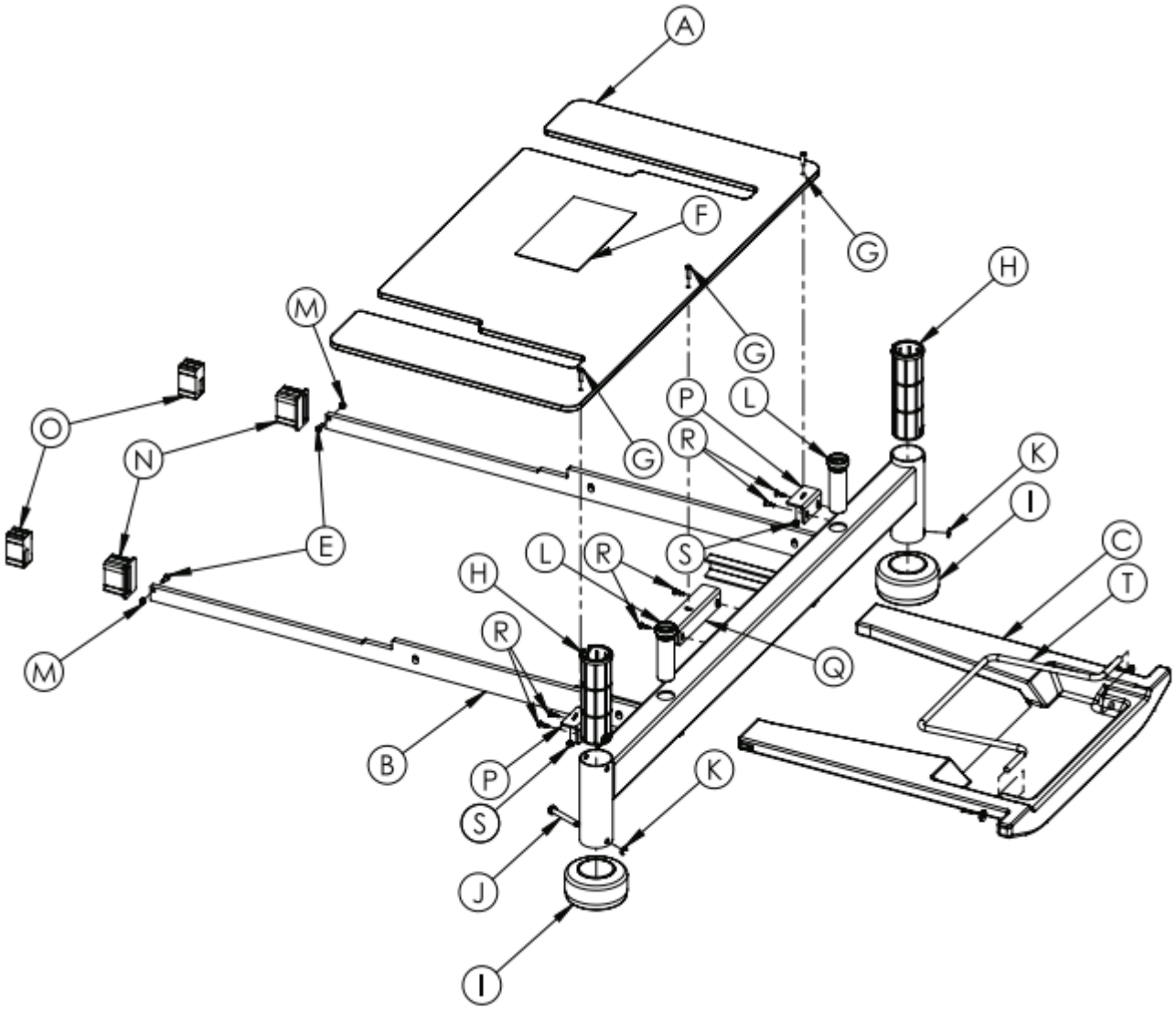
Item	Number	Name	Quantity
L	HM-11-31	Ø10 rue clip	2
N	YM-HM-02-401	Main mechanism plastic half bush	2
O	HM-22-60	Screw crochet	2
P	YM-16-49-04	25x25x200 mm cable holder	1
Q	YM-16-49-01	25x25x550 mm cable holder	1
R	YM-16-49-02	25x25x730 mm cable holder	1
S	YM-HM-02-56	Buffer	2
T	HM-06-49	Cross recessed countersunk head tapping screw	2
U	YM-039-004-00-MN	Bed extension assembly	2

Bumper roller assembly



Item	Number	Name	Quantity
A	YM-HM-02-413	Accessory socket sleeve	2
B	HM-12-128	Grounding chrome	1
C	HM-09-04	6 mm serrated washer (ring) DIN 6798	1
D	YM-04-100-HZR3	Cable stow 20b-3	1
E	HM-06-02	Star drive round head bolt (3.9 x 13 mm)	2
F	HM-02-354	Future bumper	2
G	HM-12-FTR001	12-FT001 future bumper pin	2
H	HM-02-391	5 mm C shaped snap ring DIN 6799	2
I	HM-02-55	Head board lock pin plastic encasing	2
J	YM-04-322-HZR-1	Detachable bumper to chassis connection arm (right side)	1
K	YM-04-322-HZR	Detachable bumper chassis to main chassis connection arm (left side)	1
L	YM-03-01-01-01250-HZR	45 x 2 x 150 mm bumper chassis side tubes	2
M	YM-03-02-41-877-HZR1	Main bumper profile 40 x 60 x 877 mm	1

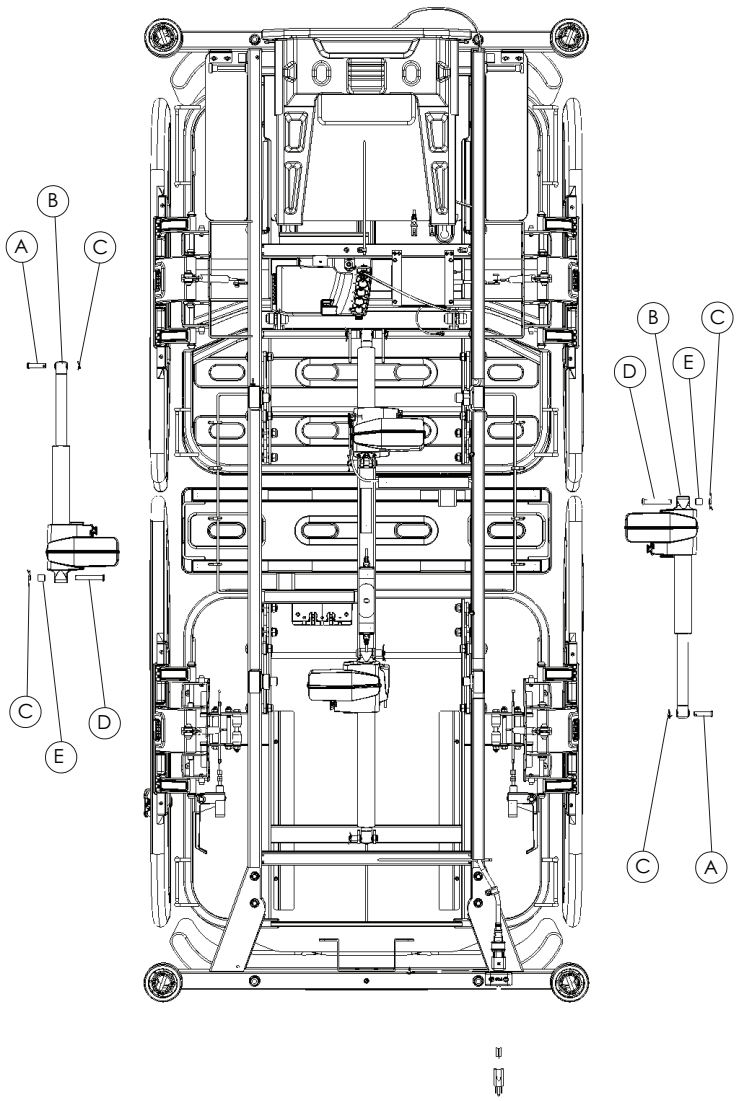
Bed extender assembly



Item	Number	Name	Quantity
A	YM-27-01-106	HPL footrest extension	1
B	YM-039-004-00-BY	Bed extender weldment	1
C	YM-20-011	Plastic linen tray	1
E	HM-06-82	M4 x 12 mm Phillips screw	2
F	YM-UZTMCIRT-MN	Bolster mattress Velcro®	1
G	HM-06-002	M6 x 20 mm mushroom head square neck bolt	3
H	YM-HM-02-413	Accessory socket sleeve	2
I	HM-02-354	Bumper	2
J	HM-12-FTR001	Bumper pin	2
K	HM-11-05	6 mm C shape snap ring DIN 6799	2

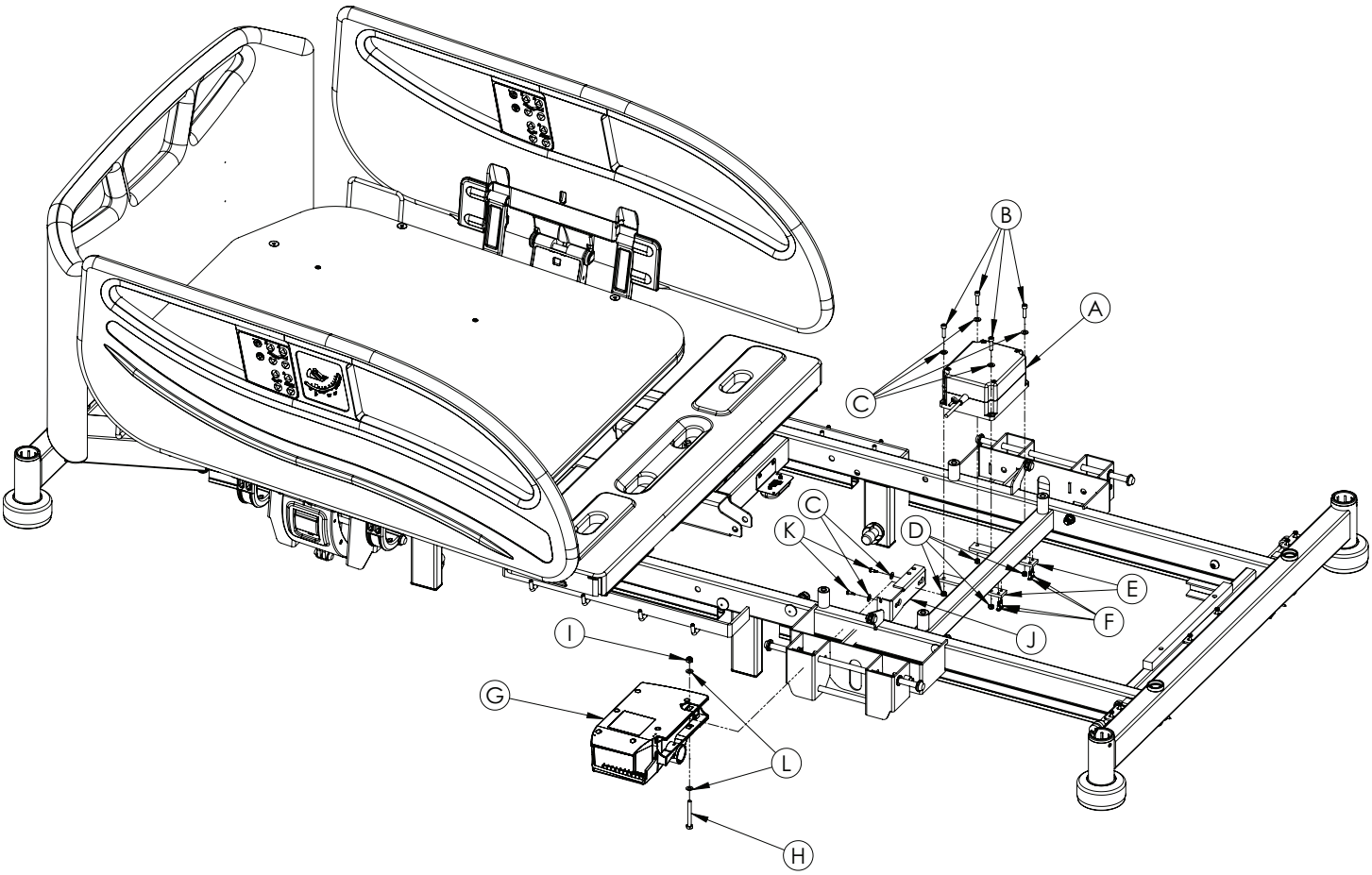
Item	Number	Name	Quantity
L	YM-02-55	Footboard pin socket	2
M	HM-08-38	M4 hex nut	2
N	YM-HM-02-416	Litter frame plastic end caps	2
O	YM-HM-02-415	Bed extender block stops	2
P	YM-04-FTR023-HZR-BY	HPL extension mounting bracket	2
Q	YM-04-FTR022-HZR-BY	HPL extension mounting bracket	1
R	HM-06-02	Ø3.9 x 13 mm Phillips screw	6
S	HM-08-05	M6 x 1 nylock nut (DIN 985)	3
T	HM-03-04-03-0650-HZR-BY	Ø8 mm linen tray bar	1

Hi-Lo actuators



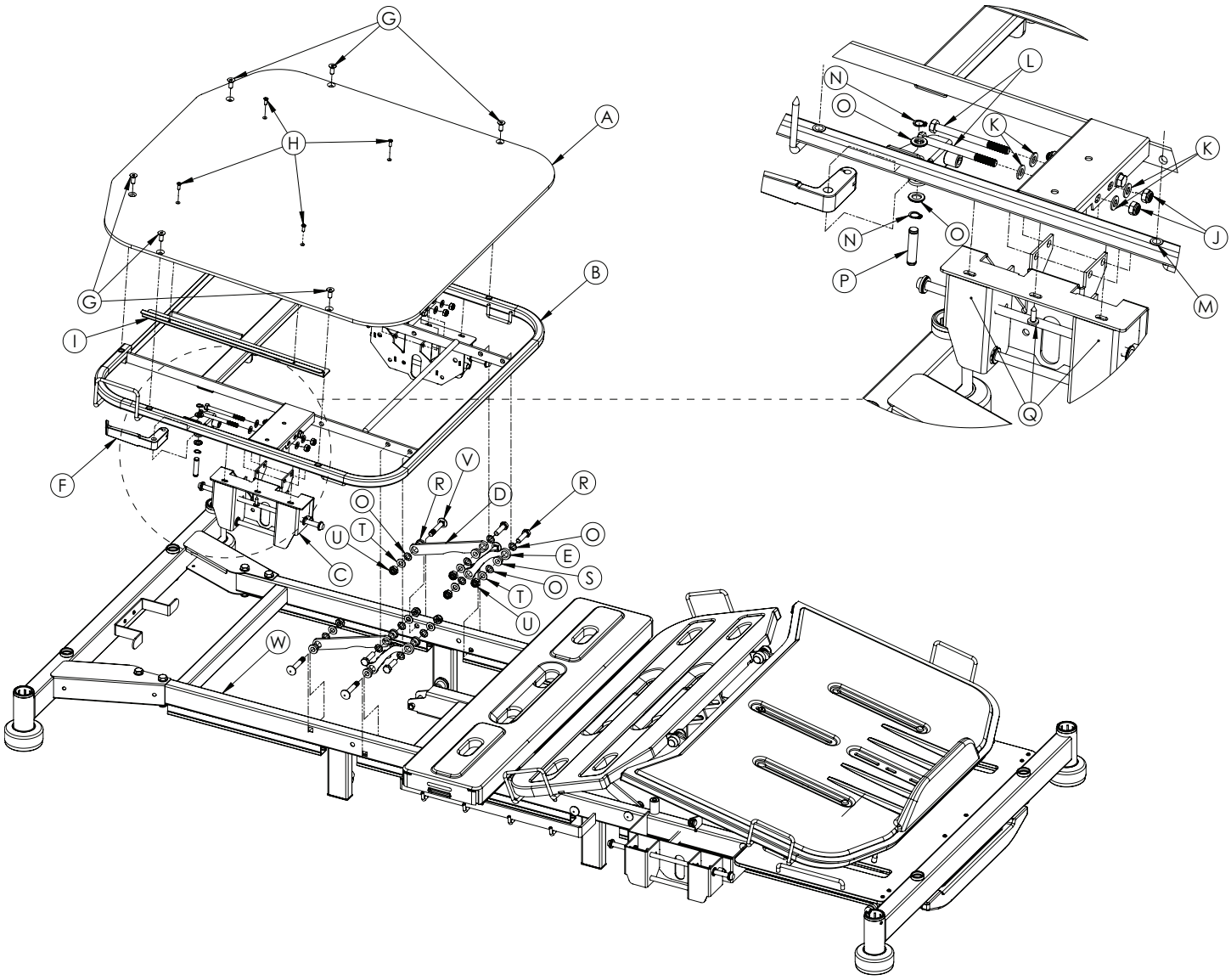
Item	Number	Name	Quantity
A	HM-12-FTR011	Ø14xØ10x41 mm pin	2
B	HM-17-304	8000 N LA40 150 mm stroke actuator	2
C	HM-11-31	Ø10 rue clip	4
D	HM-12-FTR010	Ø14xØ10x65 mm actuator connection pin	2
E	YM-HM-02-027	Actuator pin fixing bush	2

Control box and battery



Item	Number	Name	Quantity
A	HM-17-16	BA1812-1300-000 Linak CB6 battery	1
B	HM-05-043	M5*20 imbus bolt	4
C	HM-07-22	M6 iron washer (small)	6
D	HM-08-04	M5 fibered nut	4
E	YM-03-03-01-0425-HZR	5 x 20 mm battery mounting bracket	2
F	HM-06-049	3.9 x 16 mm pan head self drilling screw	4
G	HM-17-314	SV2 control box CB6818-00	1
H	HM-05-010	M6*50 steel bolt	1
I	HM-08-05	M6 fibered nut	1
J	HM-17-174	Control box mounting bracket	1
K	HM-06-02	3.9 x 13 mm pan head self drilling screw	2
L	HM-07-01	M6 metal standard washer (large) 1/4 washer	2

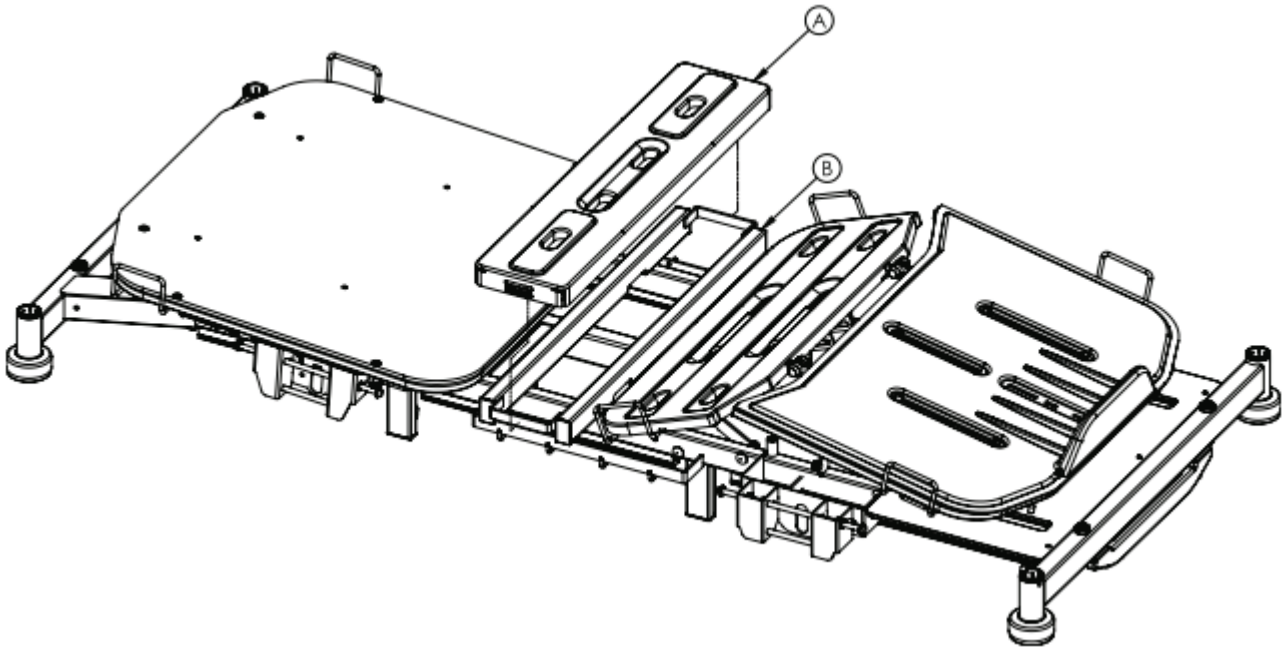
Litter fowler (backrest) assembly



Item	Number	Name	Quantity
A	YM-27-01-005	Plastic backrest cover	1
B	YM-008-013-00-BY	Backrest weldment	1
C	YM-FUTURESRT-001-BY	Siderail mounting bracket	2
D	YM-04-102-BY	102-6 laser cut link	2
E	YM-04-103-BY	103-6 laser cut link	2
F	HM-02-13	Red plastic CPR release handle	2
G	HM-05-032	M8 x 20 mm countersunk bolt	6
H	HM-06-30	M5 x 15 mm self drilling star bolt	4
I	YM-15-05-0450-HZR1	X-Ray cassette track	2

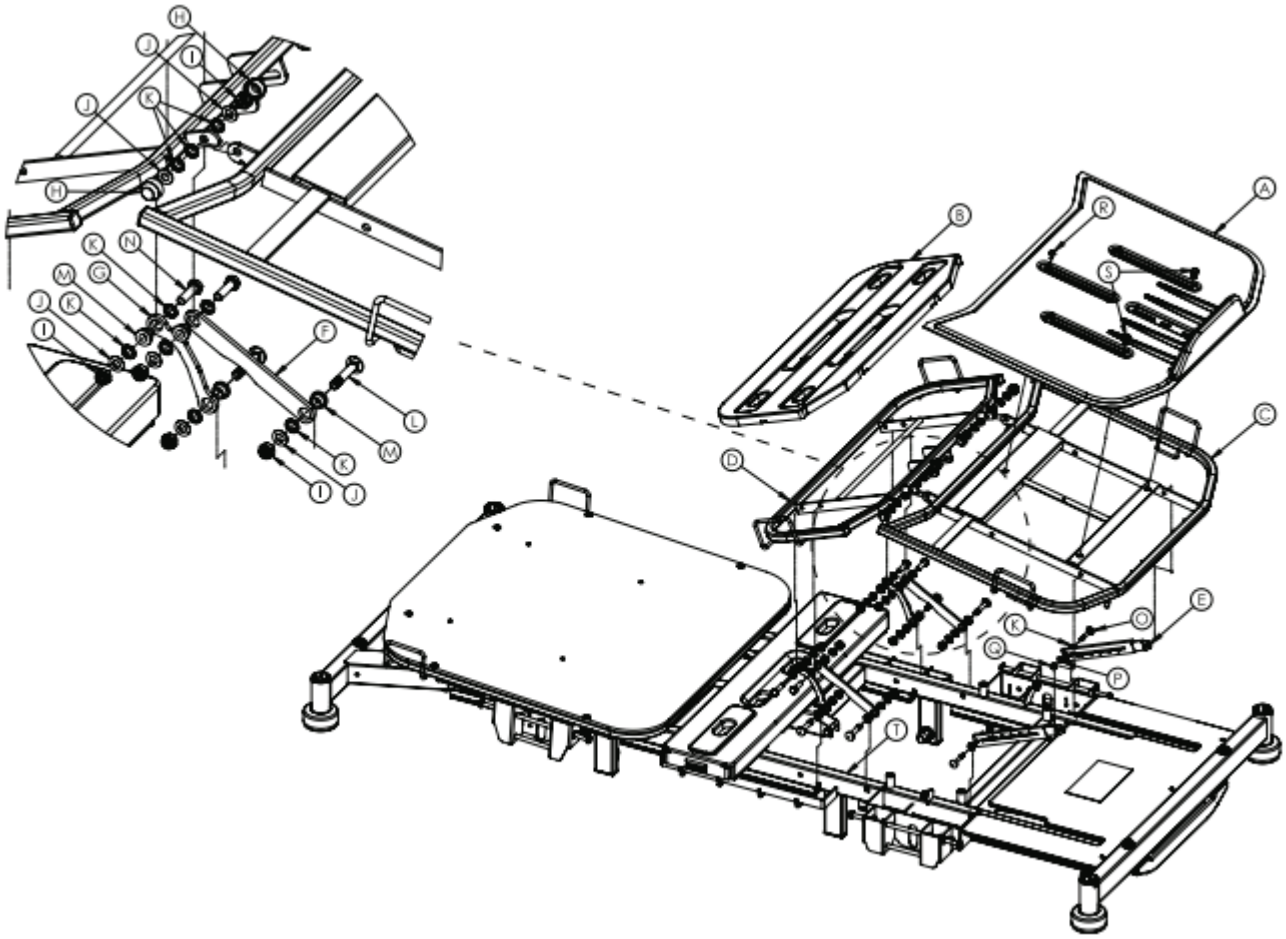
Item	Number	Name	Quantity
J	HM-08-06	M8 fibered nut	2
K	HM-07-03	M8 iron washer	4
L	HM-05-018	M8*90 half thread steel bolt	2
M	HM-08-35	M8 rivet nut	6
N	HM-11-03	10 mm snap ring DIN 471	2
O	HM-02-283	2 mm plastic washer (10 mm plastic washer) mould NO 34	14
P	HM-12-103	Ø10 x 44.5 mm pin	2
Q	HM-06-72	Ø5.5 x 19mm torque screw	6
R	HM-05-005	Ø10 x 35 mm hex head bolt	4
S	YM-HM-02-88	Ø10 mm plastic bushing	8
T	HM-07-04	M10 iron washer	8
U	HM-08-07	M10 fiber hex nut	8
V	HM-06-89	M10 x 55 mm carriage bolt	4
W	YM-FUTURELBUST-001-BY	Litter frame weldment	1

Litter seat assembly



Item	Number	Name	Quantity
A	HM-02-120	Plastic seat cover	1
B	YM-FUTURELBUST-001-BY	Litter frame weldment	1

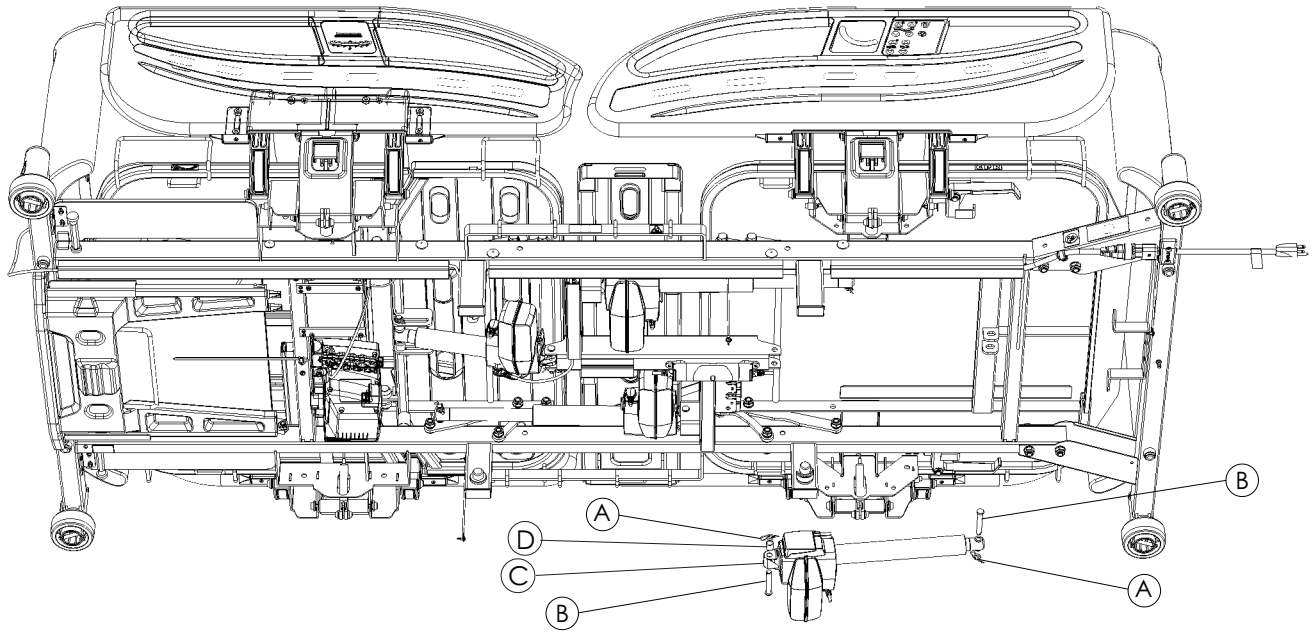
Litter gatch (legrest) assembly



Item	Number	Name	Quantity
A	HM-02-121	Plastic calf rest cover	1
B	HM-02-119	Plastic thigh rest cover	1
C	YM-007-006-BY	Calf rest weldment	1
D	YM-006-003-BY	Thigh rest weldment	1
E	HM-20-517	Foot prop assembly	2
F	YM-04-102-BY	102-6 laser cut link	2
G	YM-04-103-BY	103-6 laser cut link	2
H	YM-HM-02-179	Bolt cap	4
I	HM-08-07	M10 fiber hex nut	10
J	HM-07-04	M10 iron washer	12
K	HM-02-283	2 mm plastic washer (10 mm plastic washer) mould NO 34	12
L	HM-06-89	M10 x 55 mm carriage bolt	4
M	YM-HM-02-88	Ø10 mm plastic bushing	8

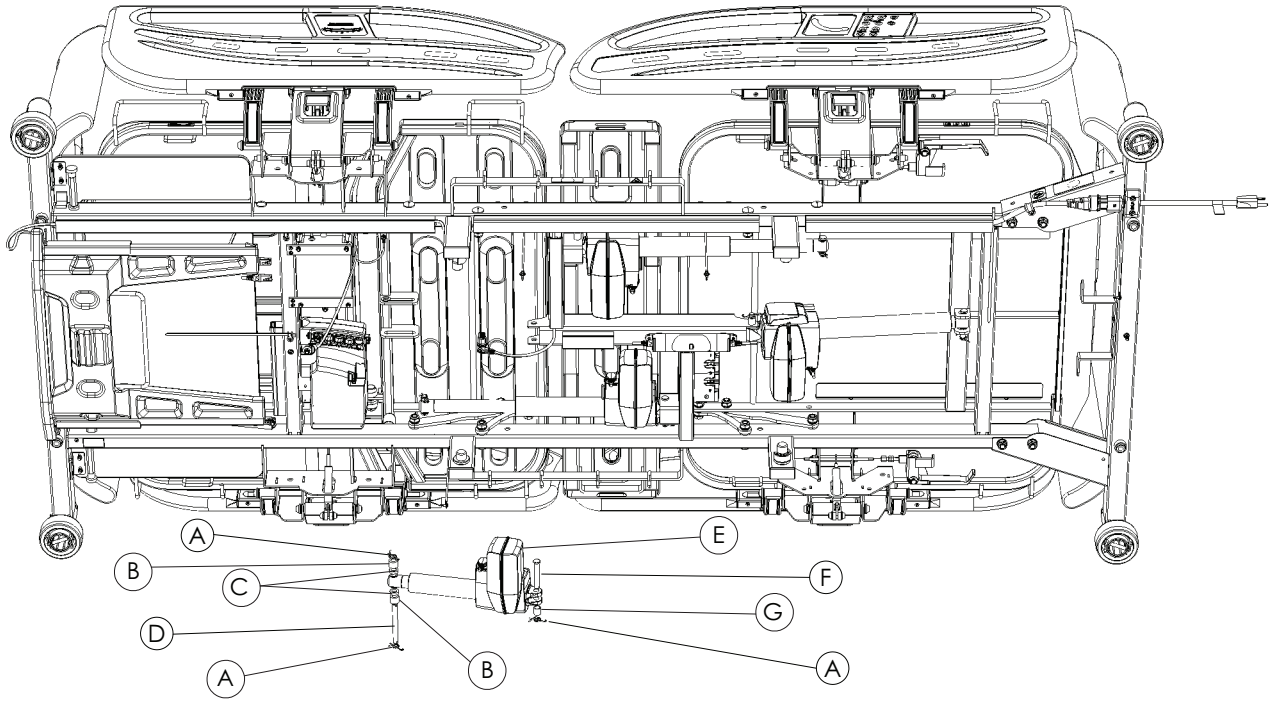
Item	Number	Name	Quantity
N	HM-05-005	M10 x 35 mm hex head bolt	4
O	HM-06-88	M8 x 47 mm carriage bolt	2
P	HM-07-03	M8 iron washer	2
Q	HM-08-06	M8 fibered nut	2
R	HM-06-66	M6 x 15 mm button head screw	1
S	YM-HM-02-55	Ø9 x 12.4 mm plastic screw	2
T	YM-FUTURELBUST-001-BY	Litter frame weldment	1

Fowler (backrest) actuator



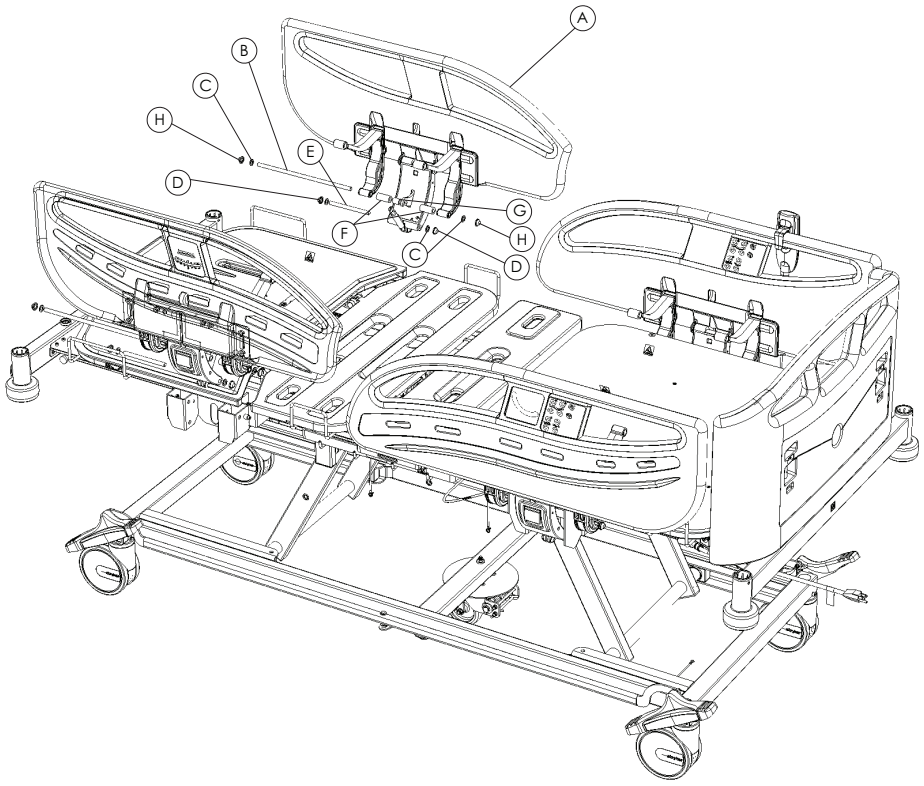
Item	Number	Name	Quantity
A	HM-11-31	Ø10 rue clip	2
B	HM-12-FTR010	Ø14xØ10x65 mm actuator connection pin	2
C	HM-17-303	4000 N LA40 QR 215 mm actuator	1
D	YM-HM-02-027	Actuator pin fixing bush	1

Gatch (legrest) actuator



Item	Number	Name	Quantity
A	HM-11-31	Ø10 rue clip	2
B	YM-HM-02-287	Ø10.6xØ18x14.1 mm plastic bush	2
C	YM-HM-02-70	Ø10.6xØ18x5 mm plastic washer	2
D	HM-12-FTR009	Actuator calf pin 10x96.5 mm	2
E	HM-17-305	6000 N LA40 100 mm stroke actuator	1
F	HM-12-FTR010	Ø14xØ10x65 mm actuator connection pin	1
G	YM-HM-02-027	Actuator pin fixing bush	1

Siderail foot end assembly

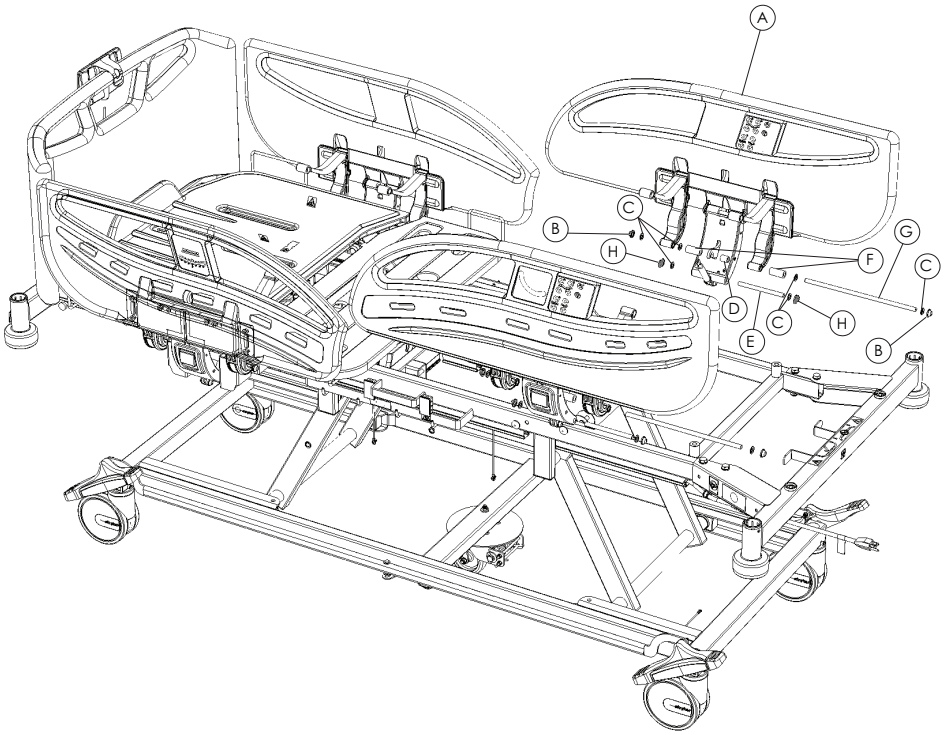


Item	Number	Name	Quantity
A	YM-02-144-MN1	SV2 right foot siderail	1
B	HM-12-145	Ø10x305 mm siderail pin	1
C	HM-02-283	Ø10x2 mm plastic washer	6
D	HM-11-19	Ø10 hook ring	2
E	HM-12-005	10x123.5 mm siderail pin	1
F	YM-HM-02-028	Side board lock plastic-long	2
G	YM-HM-02-029	Side board lock plastic-short	1
H	HM-11-31	Ø10 rue clip	2

Siderail laminate	Number (left)	Number (right)
Dark blue	HM-20-853	HM-20-852
Light wood	HM-20-750	HM-20-749
Wood	HM-20-755	HM-20-754
Dark wood	HM-20-759	HM-20-758
Silk grey	HM-20-879	HM-20-878
Pastel blue	HM-20-885	HM-20-884

Siderail laminate	Number (left)	Number (right)
Yellow signal	HM-20-891	HM-20-890
White	HM-20-897	HM-20-896

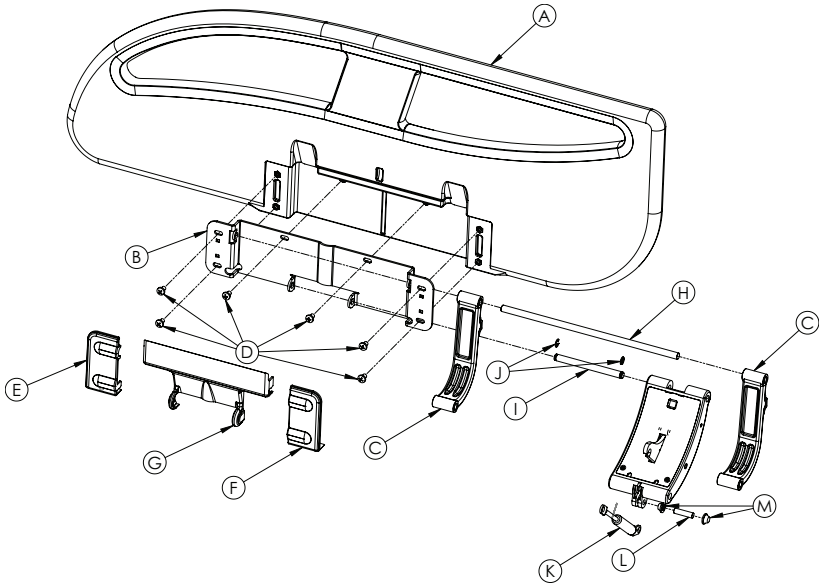
Siderail head end assembly



Item	Number	Name	Quantity
A	YM-02-143-MN2	SV2 head end right siderail	1
B	HM-11-19	Ø10 hook ring	2
C	HM-02-283	Ø10x2 mm plastic washer	6
D	YM-HM-02-029	Side board lock plastic-short	1
E	HM-12-005	10x123,5 mm siderail pin	1
F	YM-HM-02-028	Side board lock plastic-long	2
G	HM-12-145	Ø10x305 mm siderail pin	1
H	HM-11-31	Ø10 rue clip	2

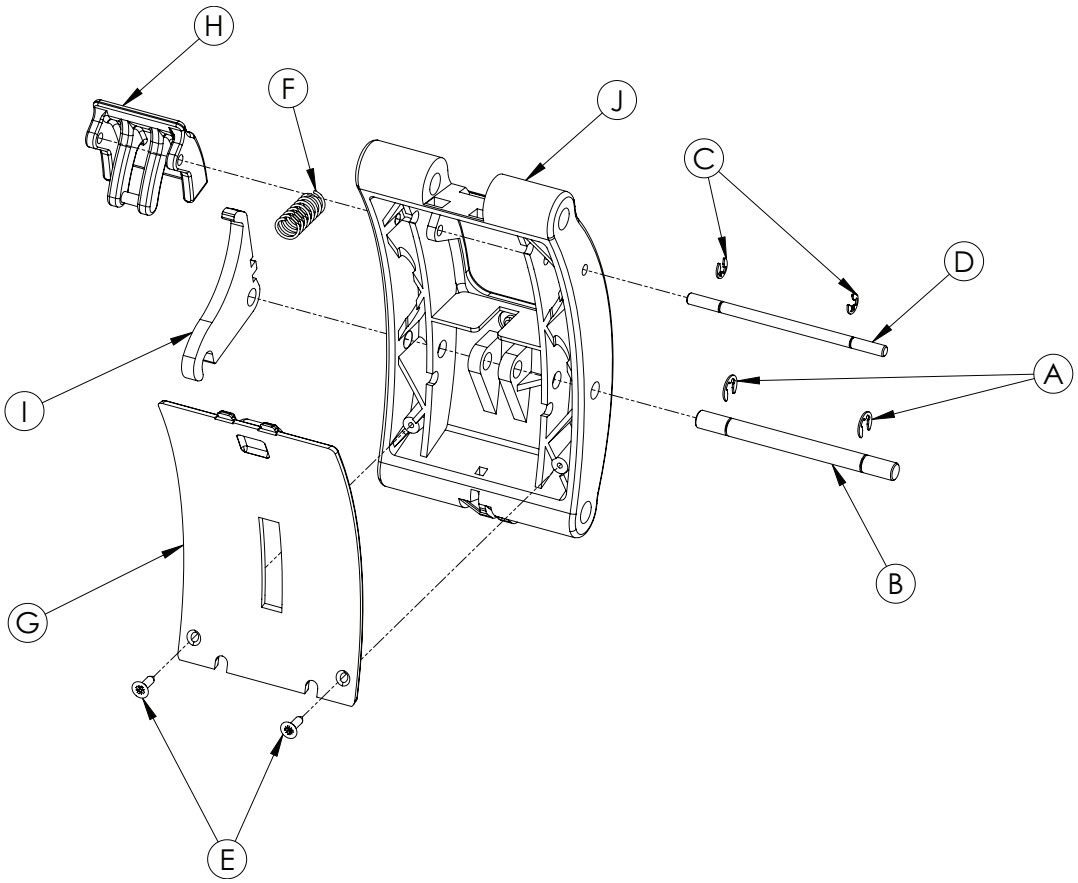
Siderail laminate	Number (left)	Number (right)
Dark blue	HM-20-855	HM-20-854
Light wood	HM-20-752	HM-20-751
Wood	HM-20-757	HM-20-756
Dark wood	HM-20-762	HM-20-761
Silk grey	HM-20-881	HM-20-880
Pastel blue	HM-20-887	HM-20-886
Yellow signal	HM-20-893	HM-20-892
White	HM-20-899	HM-20-898

Siderail assembly



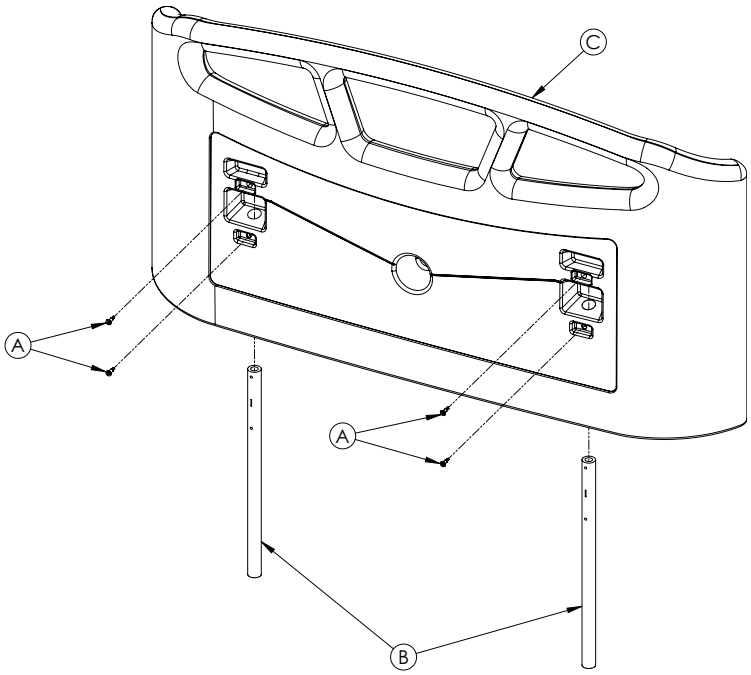
Item	Number	Name	Quantity
A	YM-20-007	Head end right siderail	1
B	HM-04-FTR005	Siderail assembly base metal	1
C	YM-FUTUREALMKL-001-BY	Aluminum siderail arm (white)	2
D	HM-06-23	M6 x 10 mm countersunk bolt	6
E	YM-HM-02-394	Siderail mechanism cover 1 left -mould 81	1
F	YM-HM-02-363	Siderail mechanism cover 2 right - mould 81	1
G	YM-HM-02-362	Siderail mechanism cover 3 center - mould 67	1
H	HM-12-145	12-145 10 x 305 mm siderail pin	1
I	HM-12-144	12-144 10 x 128 mm siderail pin	1
J	HM-11-04	8 mm snap ring	2
K	HM-18-27	Future side rail shock absorber 640015004	1
L	HM-12-146	12-146 8 x 31 mm side rail pin	1
M	HM-11-18	Q8 capped snap ring (DT/6671/43A)	2
N	YM-HM-02-369	Siderail plastic main mechanism housing	1

Siderail release latch assembly



Item	Number	Name	Quantity
A	HM-11-05	6 mm C shape snap ring DIN 6799	2
B	HM-12-200	Ø8 x 98 mm siderail pin with snap ring slides	1
C	HM-11-06	Size 4 snap ring	2
D	HM-12–147	Ø5 x 98 mm siderail pin with snap ring slides	1
E	HM-06–14	Ø3.5 x 13 mm Star screw	2
F	HM-16–51	Hammer spring	1
G	HM-02-370	Siderail mechanism plastic cover	1
H	HM-02-374	Siderail release handle	1
I	HM-04-139	Siderail latching hook	1
J	HM-02-369	Siderail mechanism plastic shell	1

Headboard and footboard assembly



Item	Number	Name	Quantity
A	HM-06-49	3.9 x 16 mm drill head smart screw	4
B	HM-12-150	Ø18 x 4 mm head pipe	2
C	YM-20-013	Head or footboard polypropylene	1

Headboard laminate	Number
Dark blue	HM-20-871
Silk grey	HM-20-877
Pastel blue	HM-20-883
Yellow signal	HM-20-889
White	HM-20-895

Footboard laminate	Number
Dark blue	HM-20-870
Silk grey	HM-20-876
Pastel blue	HM-20-882
Yellow signal	HM-20-888
White	HM-20-894

EMC information

Guidance and Manufacturer's Declaration - Electromagnetic Emissions		
ARGAIOS 250 is intended for use in an electromagnetic environment specified below. The customer or the user of **ARGAIOS 250** should assure that it is used in such an environment.		
Emissions Test	**Compliance**	**Electromagnetic Environment**
RF Emissions CISPR 11	Group 1	**ARGAIOS 250** 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	**ARGAIOS 250** 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	
Note: 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			
ARGAIOS 250 is suitable for use in the electromagnetic environment specified below. The customer or the user of **ARGAIOS 250** 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	±8 kV contact ±15 kV air	±8 kV contact ±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	±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 is that of a typical commercial and/ or hospital environment.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity			
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 **ARGAIOS 250** requires continued operation during power main interruptions, it is recommended that the device be powered from an uninterrupted power supply or a battery.
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.
Note: U_T is the a.c. mains voltage prior to applications of the test level.			

Guidance and Manufacturer's **Declaration** - **Electromagnetic Immunity**			
ARGAIOS 250 is suited for use in the electromagnetic environment specified below. The customer or the user of **ARGAIOS 250** should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance

Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 6 Vrms in ISM bands 150 kHz to 80 MHz 3 V/m 80 MHz to 2.7 GHz	3 Vrms 6 Vrms in ISM bands 3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of **ARGAIOS 250**, including cables, than the recommended separation distance calculated from the equation appropriate for the frequency of the transmitter. Recommended separation distance D=(1.2) (√*P*) D=(1.2) (√*P*) 80 MHz to 800 MHz D=(2.3) (√*P*) 800 MHz to 2.7 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 equipment marked with the following symbol: 

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.

[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 **ARGAIOS 250** is used exceeds the applicable RF compliance level above, **ARGAIOS 250** should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating **ARGAIOS 250**.

[b] 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 [a] (MHz)	Service [a]	Modulation [b]	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380 - 390	TETRA 400	Pulse modulation [a] 18 Hz	1,8	0,3	27
450	430 - 470	GMRS 460, FRS 460	FM [C] ± 5 kHz deviation 1 kHz sine	2	0,3	28
710	704 - 787	LTE Band 13, 17	Pulse modulation [b] 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 [b] 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 [b] 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 [b] 217 Hz	2	0,3	28
5 240	5 100 - 5 800	WLAN 802.11 a/n	Pulse modulation [b] 217 Hz	0,2	0,3	9
5 500						
5 785						

Recommended separation distances between portable and mobile RF communications equipment and ARGAIOS 250

ARGAIOS 250 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of **ARGAIOS 250** can help prevent electromagnetic interferences by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and **ARGAIOS 250** as recommended below, according to the maximum output power of the communications equipment.

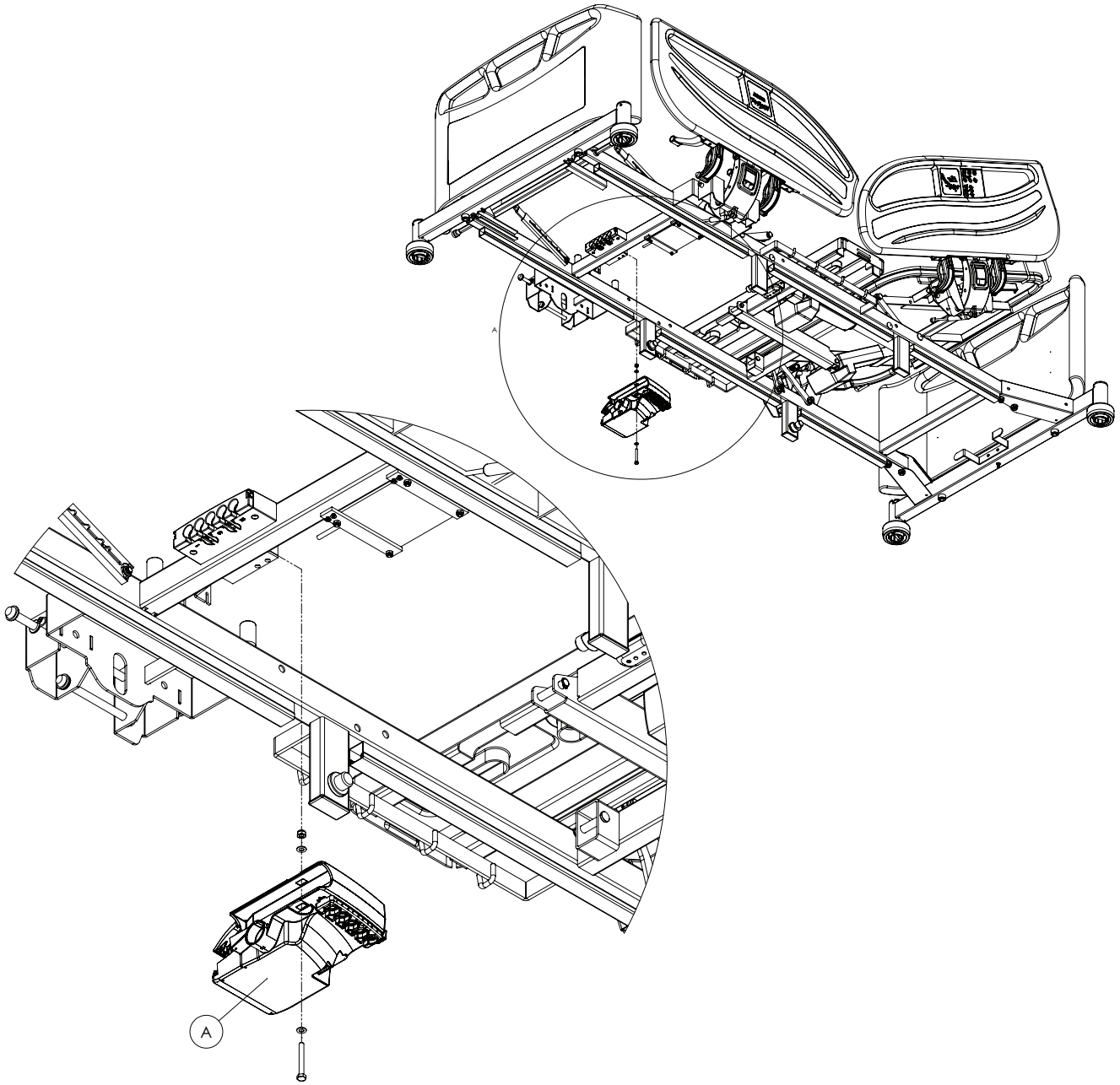
Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** m		
	150 kHz to 80 MHz $D=(1.2)(\sqrt{P})$	**80 MHz to 800 MHz** $D=(1.2)(\sqrt{P})$	**800 MHz to 2.7 GHz** $D=(2.3)(\sqrt{P})$
0.01	1.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

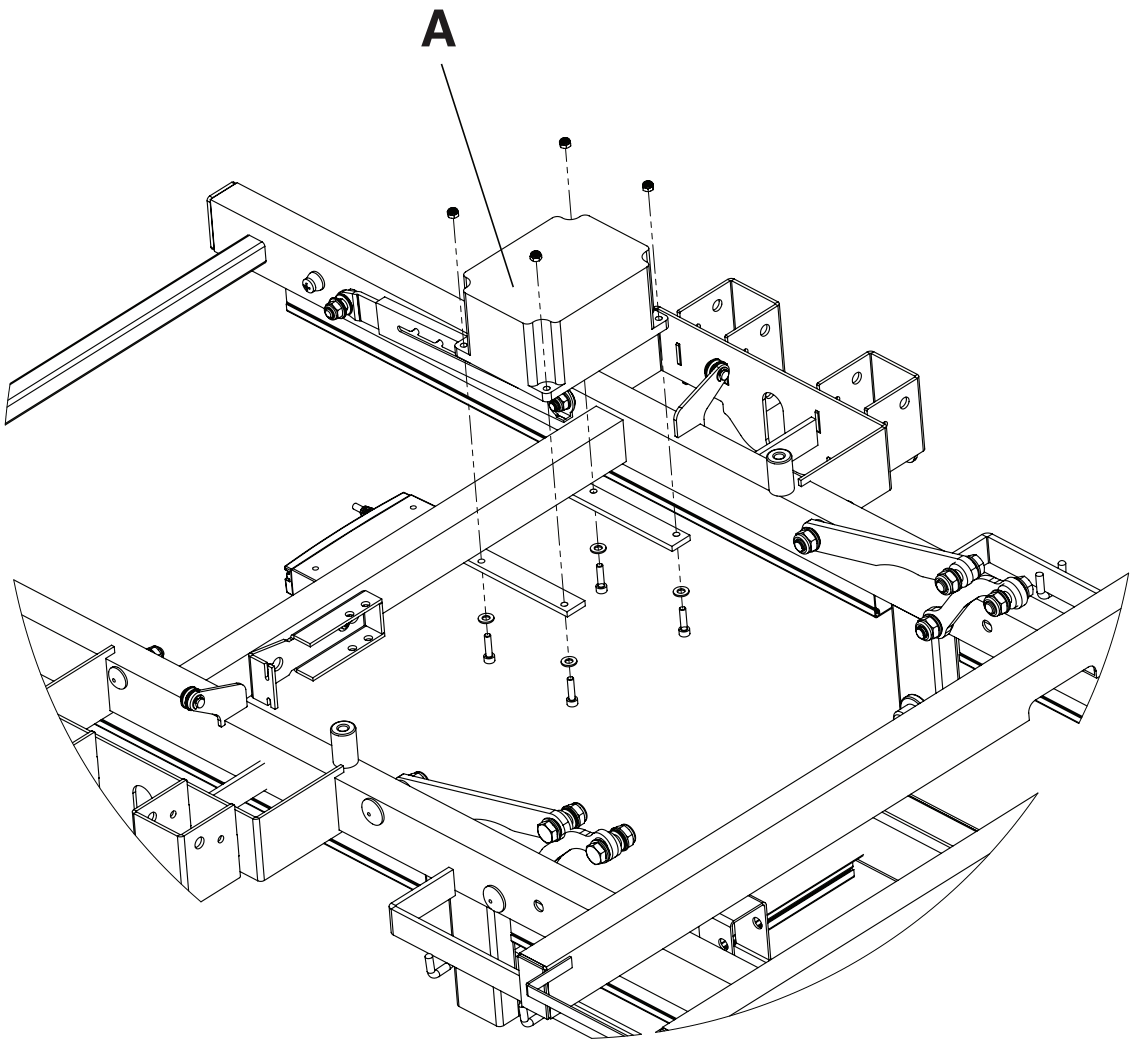
Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

HM-17-314



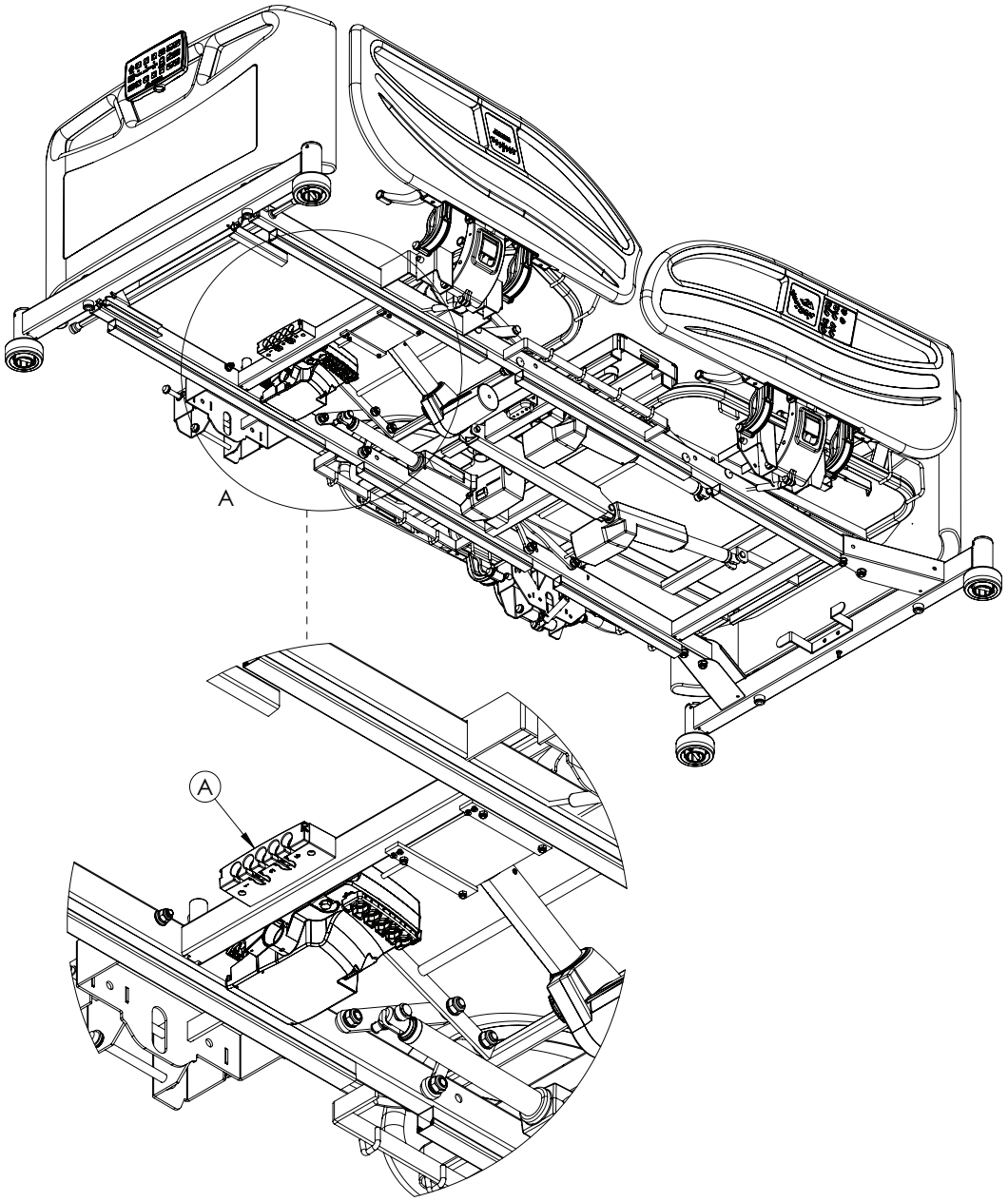
A	HM-17-314	1

HM-17-16



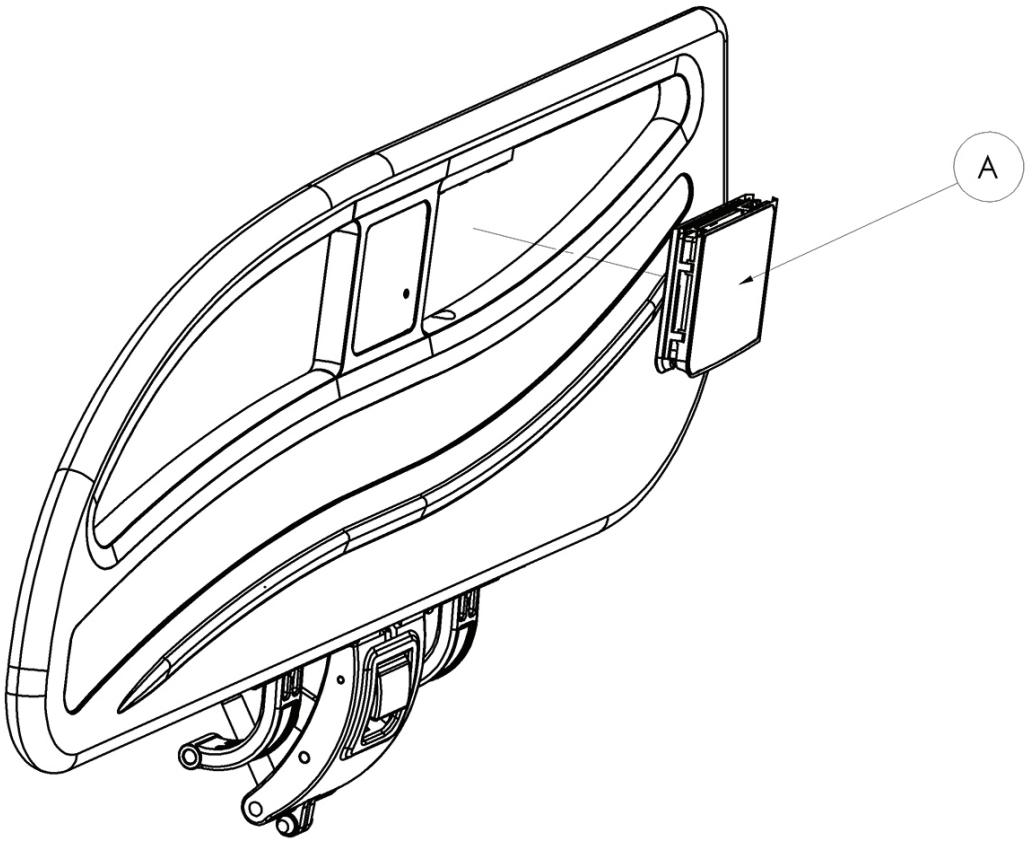
A	HM-17-16	1

HM-17-156



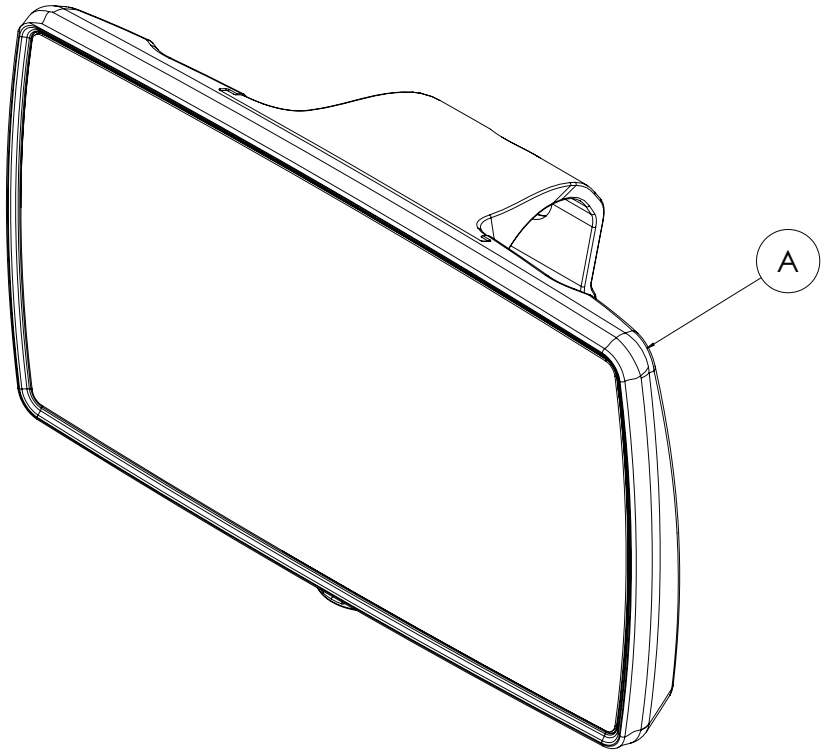
A	HM-17-156	1

HM-17-310/HM-17-311



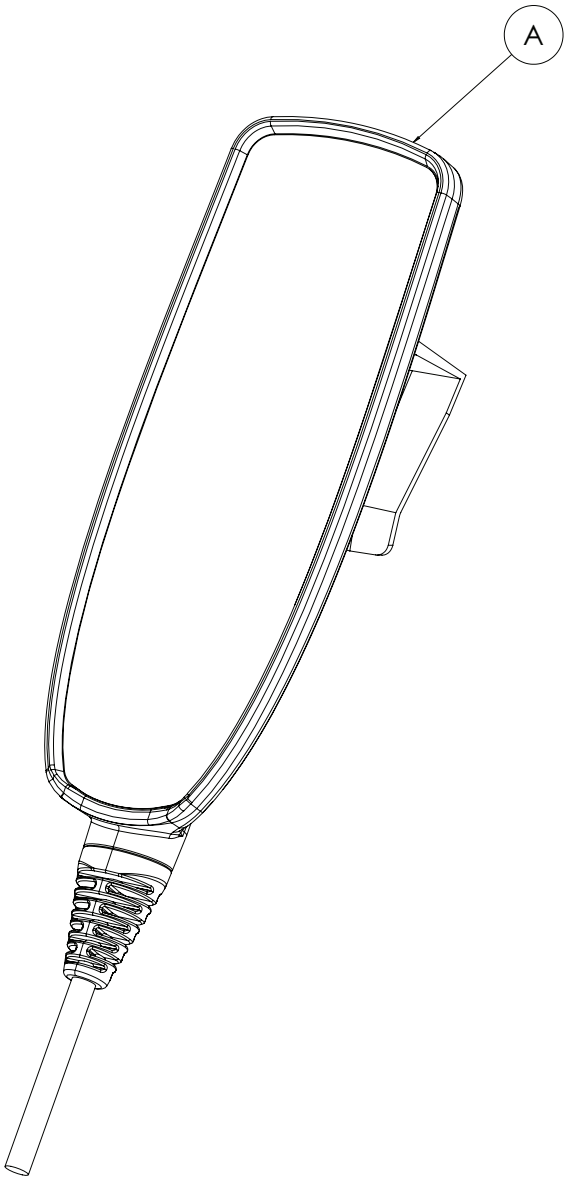
A	HM-17-310/HM-17-311	1

HM-17-313



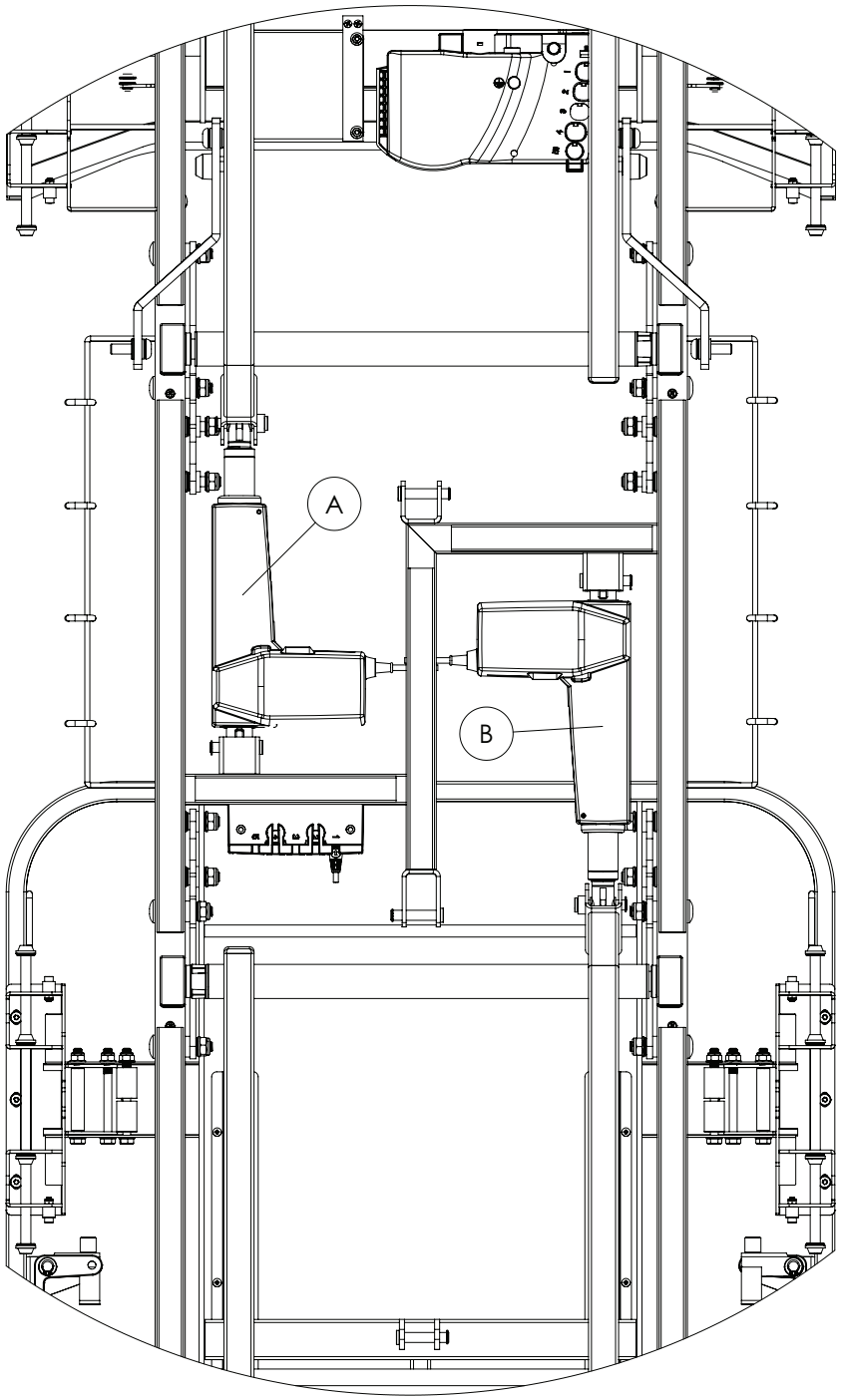
A	HM-17-313	1

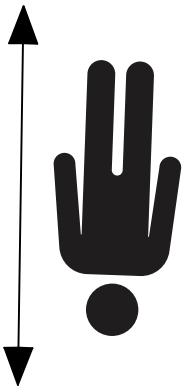
HM-17-312



A	HM-17-312	1

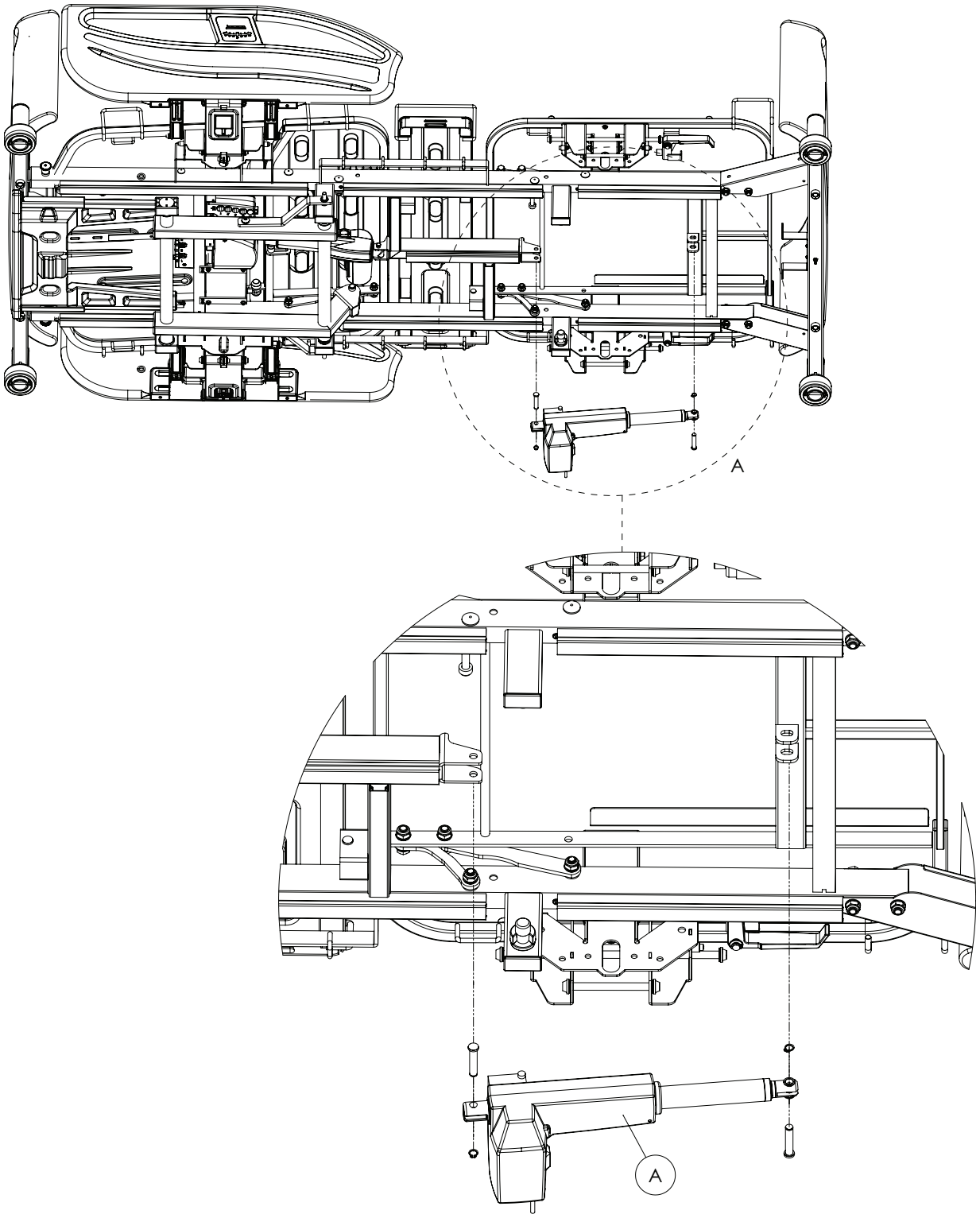
HM-17-304





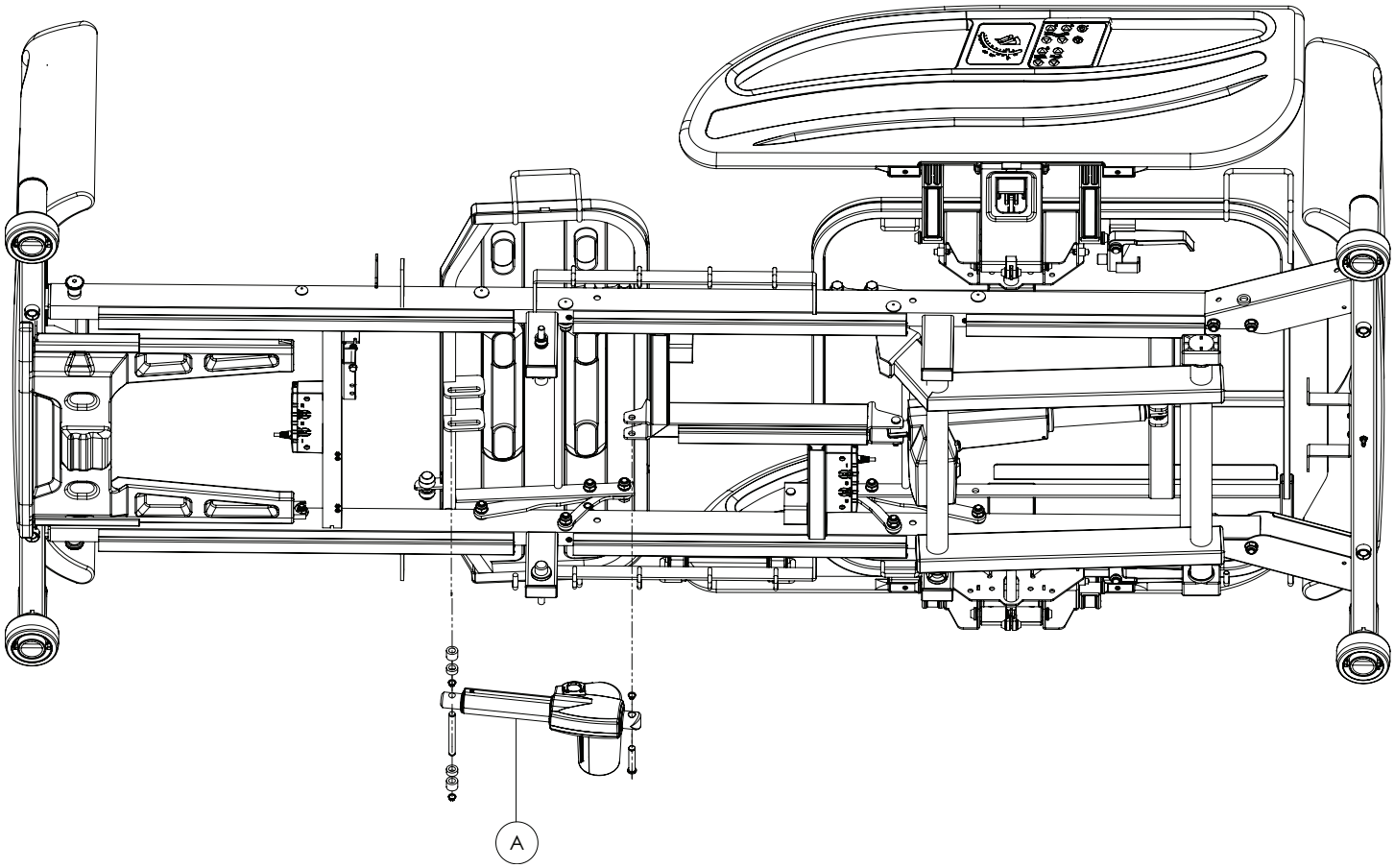
A	HM-17-304	1
B	HM-17-304	1

HM-17-303



A	HM-17-303	1

HM-17-305



A	HM-17-305	1

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