SERVICE MANUAL

Enterprise E8000X (E8X)

746-587-4 • 06/2019

arjo

with people in mind

PREFACE

Read and understand this manual before attempting to service or repair the equipment.

This manual is intended for use by Arjo approved service technicians. The manual may be provided to a customer in response to customer requirements, but in no event will Arjo be responsible for any service or repair performed by customers.

Warnings, Cautions and Notes

WARNINGS given in this manual identify possible hazards in procedures or conditions which, if not correctly followed, could result in death, injury or other serious adverse reactions.

Cautions given in this manual identify procedures or conditions which, if not correctly followed, could result in equipment failure or damage.

Notes given in this manual (indicated by ☞) are used to explain or amplify a procedure or condition.

★ indicates optional features or functions not available on all beds.

General Warnings

WARNING

Before starting any service or maintenance procedures, ensure that the equipment has been adequately decontaminated.

Electrical equipment can be hazardous if misused. Obey all safety instructions.

Do not use electrically powered beds in the presence of flammable gases, such as anaesthetic agents.

The bed and its sub-assemblies are very heavy and appropriate precautions must be taken to avoid injury when moving or lifting them.

Disconnect the bed from the mains supply before starting any maintenance activity. The bed will still operate on battery power unless the function is locked on the Attendant Control panel (ACP).

Do not remove protective covers or open electrical enclosures while the bed is connected to the mains supply.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1 About This Manual

This manual contains information on servicing and maintenance of the Arjo Enterprise® E8000X bed.

The manual comprises the following Chapters:

Chapter 1 Introduction (this chapter): General description of the equipment with an explanation of the various features available, together with contact details for Arjo around the world.

Chapter 2 Decontamination: recommended procedures for cleaning and disinfecting the equipment.

Chapter 3 Preventive Maintenance: Details of regular, periodic maintenance actions to ensure correct operation of the equipment.

Chapter 4 Testing: Serviceability test to verify correct operation of the equipment if function is suspect or following any maintenance or servicing procedure.

Chapter 5 Troubleshooting: fault symptoms, possible causes and suggested remedial actions.

Chapter 6 Servicing Instructions: Procedures for removal and installation of replaceable parts and sub-assemblies.

Chapter 7 Technical Data: List of electrical and dimensional data for the equipment and components.

Instructions for the safe disposal of gas springs.

Information on Electromagnetic Compatibility (EMC) for medical electrical equipment.

2 Product Description

The *Enterprise* E8000X is an electrically operated acute care medical bed. The bed has multiple functions to provide the best nursing position for both patient and carer.

2.1 Scope

This service manual covers all *Enterprise* E8000X models.

2.2 Standard Features

- Four section electrically-operated profiling mattress platform with independent adjustment of backrest angle, thigh section angle and calf section angle
- Simultaneous adjustment of backrest and thigh sections by pressing one button (BioContour®)
- Electrically-operated height adjustment
- Electrically-operated Trendelenburg and reverse Trendelenburg tilt.
- Auto-Chair facility
- Split side rails with integrated controls
- Battery backup for all electrical functions
- Removable moulded plastic mattress platform sheets
- Integral 3-position mattress platform extension
- 125mm single wheel castors
- Underbed lights

2.3 Optional Features

- 150mm single or dual wheel castors
- Bedstripper (linen shelf)
- Additional brake pedals at head end
- DIN accessory rails
- Lockable foot board

Figure 1: *Enterprise* E8000X

All power-operated functions are operated by push button controls. Each function has separate “up” and “down” pushbuttons.

The user control panels are integrated into the head end split side rail modules, with the patient's controls on the inside face and the nurse's controls on the outside. The patient's controls adjust backrest angle, leg elevation and *Bio-Contour*; the nurse's controls adjust backrest angle, leg elevation and bed height.

The bed has attendant control panels (ACP) integrated into the foot end split side rails, from which the power operated functions can be disabled; operation of the bed by the patient is thus at the discretion of the carer. The ACP contains pushbutton controls for all bed movements including tilt (Trendelenburg and reverse Trendelenburg), Auto-Chair and CPR.

The electrical actuators consist of a screw and nut assembly driven by a 24VDC motor and gearbox. Power for the actuators is derived from an a.c. power supply located below the head end of the bed. The power supply also houses the control electronics with the backup battery adjacent to it.

When the thigh section is raised, the kneebreak angle between the calf and thigh sections can be changed manually. The default position is Fowler (calf section angled down) but this can be changed to vascular (calf section horizontal). by lifting the calf section.

This Page Intentionally Left Blank

CHAPTER 2

DECONTAMINATION

WARNING

Disconnect the bed from the mains power supply before carrying out cleaning procedures.

Do not allow the mains plug or power supply cord to get wet when cleaning the bed.

1 Cleaning

Wearing suitable protective clothing, clean all surfaces with a disposable cloth soaked in a neutral detergent and hand hot water.

The mattress platform sheets and head/foot boards can be removed from the bed and cleaned separately.

Start by cleaning the upper sections of the bed and work along all horizontal surfaces. Work methodically towards the lower sections of the bed and clean the castors last. Take extra care to clean areas that may trap dust or dirt.

Wipe over with a new disposable cloth moistened with clean water and dry with disposable paper towels.

Allow the cleaned parts to dry before replacing the mattress.

2 Disinfecting

After cleaning the bed as described above, wipe all surfaces with sodium dichloroisocyanurate (NaDCC) at a concentration of 1,000 parts per million (0.1%) of available chlorine.

In the case of pooling body fluids, e.g. blood, the concentration of NaDCC should be increased to 10,000 parts per million (1%) of available chlorine.

Caution

Do not use abrasive compounds or pads or phenol-based disinfectant solutions.

Do not use jet stream cleaning or wash tunnels.

Take care not to remove grease from the actuator pistons.

This Page Intentionally Left Blank

CHAPTER 3

PREVENTIVE MAINTENANCE

This product has been designed to be virtually maintenance-free between service intervals. The degree of periodic maintenance required will be determined by use and condition.

The following preventive maintenance checks and procedures should be carried out every 12 months.

All service and repair activities must only be carried out by properly qualified and trained persons approved by Arjo.

Disposal of the product and its components should be compliant with local regulations.

WARNING

Before starting any maintenance activity, disconnect the bed from the mains power supply. The bed sections will still operate on battery power unless the function has been disabled on the ACP.

Avoid skin contact with lubricants. Gloves and protective clothing should be worn when carrying out maintenance work.

1 General

Examine the bed for obvious signs of damage. Make sure that all visible fixings/fasteners are secure and not missing.

Examine all flexible cables for cuts, abrasions, kinks or other deterioration.

Check the mains plug and cable for damage. If either the mains plug or cable is damaged, both must be replaced as a complete assembly. Under no circumstances should the integral moulded plug be replaced with a rewireable plug.

2 Castors and Brakes

Check the brakes for efficient operation.

Check that the steering lock operates effectively.

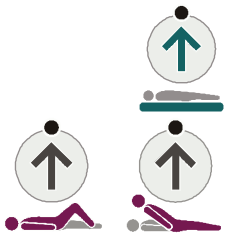
Poor braking or steering performance indicates that one or more castors require replacement (the castors on this product are not adjustable).

Verify the condition of and tighten the screw S1306 - torque 10.2 Nm. See figure 5 Brake and Castor Module in chapter 6 Servicing Instructions.

3 Battery Test

Check the condition of the backup battery by carrying out the following test.

1.Disconnect the bed from the electricity supply.



2.Raise the mattress platform to maximum height - ignore the battery warning tone.

3.Raise the backrest and thigh sections as far as they will go.

4.Press and hold the CPR button. The mattress platform will flatten and lower to a mid-height position.

5.Lower the mattress platform to minimum height.

6.Apply maximum head down tilt (Trendelenburg).

7.Return the mattress platform to the level position; then apply maximum foot down tilt (reverse Trendelenburg).

If this test is not completed successfully, connect the bed to the electricity supply for at least eight hours to recharge the battery then perform the test again. If the bed fails a second time, contact Arjo or an approved service agent.

To maintain best performance, the backup battery should be replaced every four years by an approved service agent.

Caution

If the bed is stored for a long time, it should be connected to the electricity supply for 24 hours every three months to recharge the backup battery, otherwise it may become unserviceable.

CHAPTER 4

TESTING

The following serviceability tests should be performed before returning the bed to use after service, or if any function is suspect.

These instructions should be read in conjunction with the instructions for use supplied with the product (part number 746-585).

If the result of any test is unsatisfactory, investigate and take the appropriate remedial action. Refer to Chapter 5, Troubleshooting and Chapter 6, Servicing Instructions.

All references to left or right of the bed are when viewed from the head end (i.e. by a patient lying on the bed).

WARNING

If any electrical assembly or wiring has been replaced or repaired, the appropriate electrical safety checks must be made.

Keep clear of the bed when it is being operated. Severe injury can result from crushing by moving parts.

1 Preliminary

Do the following preliminary checks before testing:

- Verify that no furniture or other obstruction can impede the movements of the bed.
- Connect the bed to the power supply. If necessary, reinstate all locked out functions.

2 Electrical Functions

The following tests check the electrical functions:

2.1 Bed Controls

To check the bed controls:

2.1.1 Check that each ACP operates all bed functions (height, backrest angle, leg elevation, tilt and Auto-Chair). Verify satisfactory operation over the full range of movement as specified in Chapter 7, Technical Data. Verify that the actuators are de-energised when the control button is released or the limit of travel is reached.

2.1.2 Check that both sets of patient controls operate the backrest, leg elevation and *Bio-Contour* functions.

2.1.3 Check that both sets of nurse controls operate the backrest, leg elevation and height functions.

2.1.4 Verify that the lockout function on the ACP disables the appropriate functions on all of the control units.

2.1.5 Raise the backrest and leg sections and raise the mattress platform to top height. Press and hold the CPR button and verify that the mattress platform returns to a flat, mid height condition.

2.1.6 Check the function of the underbed lights. The underbed lights are illuminated whenever the bed is connected to the mains supply.

2.2 Battery Operation

Check operation of the battery by completing the steps described in section Battery Test (refer to Chapter 3, Section 3).

3 Manual Functions

The following tests check functions that are not electrically powered:

3.1 Brakes and Steering

Check the brakes for efficient operation. Apply the brakes and push the bed. None of the four braking castors should rotate.

Place the pedals in the "steer" position and verify that the tracking (steering) castor is engaged and does not swivel. The tracking castor should be placed at the head end on the same side as the link bar. Always use a tracking castor with anti-static properties.

3.2 Split Side Rails

Check operation of each of the four split side rail sections. Verify that the release and latching mechanisms are effective and that the sides are securely locked when raised. If an unreliable gas spring is detected, the damper would be exchanged according to the preventive maintenance schedule.

3.3 Bed Extension

Check that the bed extension extends and retracts smoothly and easily. Make sure the release handle and catch bar operate easily and that the extension locks securely in all three positions.

3.4 Bedstripper (linen shelf)

Check that the bedstripper slides in and out easily. Put the bed into maximum foot down tilt - the bedstripper should remain in the stored position.

If the bedstripper slides too freely when the bed is tilted, remove the bedstripper (refer to Chapter 6, Section 20.1). Grip the two outermost slide rails of the bedstripper and apply moderate force to bend the rails away from each other by a small amount, this will cause more friction when refitted. Install the bedstripper (refer to Chapter 6, Section 20.2) and check that it stays secure when the bed is tilted but still moves freely.

3.5 Emergency CPR Release

Use the bed controls to raise the backrest to about 45°. Operate either CPR release handle and verify that the backrest quickly descends to a horizontal position in a smooth, controlled manner. Check that both CPR release levers operate correctly.

3.6 Manual Calf Section

Use the bed controls to raise the thigh section about half way. Check that the calf section is in the Fowler (angled down) position. Manually lift the calf section upwards and check that it latches securely in the vascular (horizontal) position.

CHAPTER 5

TROUBLESHOOTING

1 Fault finding

The following table identifies some fault symptoms, possible cause(s) and suggested remedial action.

Symptom	Possible cause	Remedial action
All actuators inoperative	Functions locked on ACP	Unlock functions on ACP
	Power disconnected and backup battery discharged	Connect the power supply cord to a suitable outlet socket
	Mains fuse blown and backup battery discharged	Check fuse in mains plug (UK BS1363 type plug only)
	Patient / nurse controls disconnected	Check wiring between head end split side rails, junction box and control box
	ACP disconnected	Check wiring between foot end split side rails, junction box and control box
One actuator inoperative.	Actuator cable disconnected or faulty.	Check actuator cable is plugged into both the control box and the actuator. Check actuator cable.
All functions inoperative, except raising the mattress platform.	Control box software has lost calibration.	Raise mattress platform to maximum height and flatten all sections to reset the software.
Brakes and/or steering lock not effective.	Worn or damaged castor(s) or brake pedal.	Replace castor(s) or brake pedal.
Emergency CPR release inoperative.	CPR release cable(s) stretched or worn.	Adjust or replace CPR release cable(s).

2 Fault Indications

The bed's control software can detect and indicate faults within the electrical system by means of flashing LEDs on the Attendant Control Panel (ACP). These fault codes are shown in the following table.

ACP LED(s) flashing	ACP LED(s) always on	Fault location
		Height actuator on control unit Channel 2 (drives foot end radius arm)
		Height actuator on control unit Channel 4 (drives head end radius arm)

		Backrest actuator
		Thigh actuator
All LEDs Flashing at 1Hz		Control unit
All LEDs Flashing at 2Hz		A loss of position in either the high or low actuator. To reset: 1. Hold down both the high and low buttons on the ACP for 10 seconds. 2. Press the height button until the bed is at maximum height. Note: the backrest must be fully lowered. During the error reset process the control unit will sound the buzzer at 1hz while the high/low function buttons are pressed until the error is cleared. 3. Once complete the locked functions will remain locked and flashing LED's will stop. The locked functions can be unlocked following standard procedure.

A technique that can be used to identify the frequency of a flashing LED is to count the number of flashes within a 10 second duration.

Refer to the appropriate Section within Chapter 6 of this service manual for information on replacing defective parts.

3 Fatal Error Troubleshooting

3.1 Installation

The hardware is available under index S9411 and contains (SDT box and RJ45 10-wires cable). Standard cable USB A-B is not supported.

NOTE
Do not connect SDT together with Linak programming tool

1. Download installation file. For downloading contact product technical support group (Arjo manufacturing site).
2. Add CB60BM extension file by choosing Configuration -> Import.
3. SDT has built-in help, to get information about any function press F1 in selected sheet.

3.2 Diagnostics

1. Connect SDT to OpenBus to diagnose the bed. Use free port of MJB or HB port of CB6.
2. Connect SDT to PC, open program and choose CB60BM Control Box.
3. Startup check for verifying the fundamentals of the system:
   - Check if OpenBus is running. Open SDT and check Connection Info and Devices.
   - Check measured Info if 8 V and 40 V light green. It is not OK if it is blinking and it could cause the following: feedback error, false Endstop detection. Indicators blinking on Control Panels, communications missing.
   - Check if Power REQ is activated only when a button on Control Panels is activated.

3.3 Statistics

Program allows the verification of statistics data of OpenBus system.

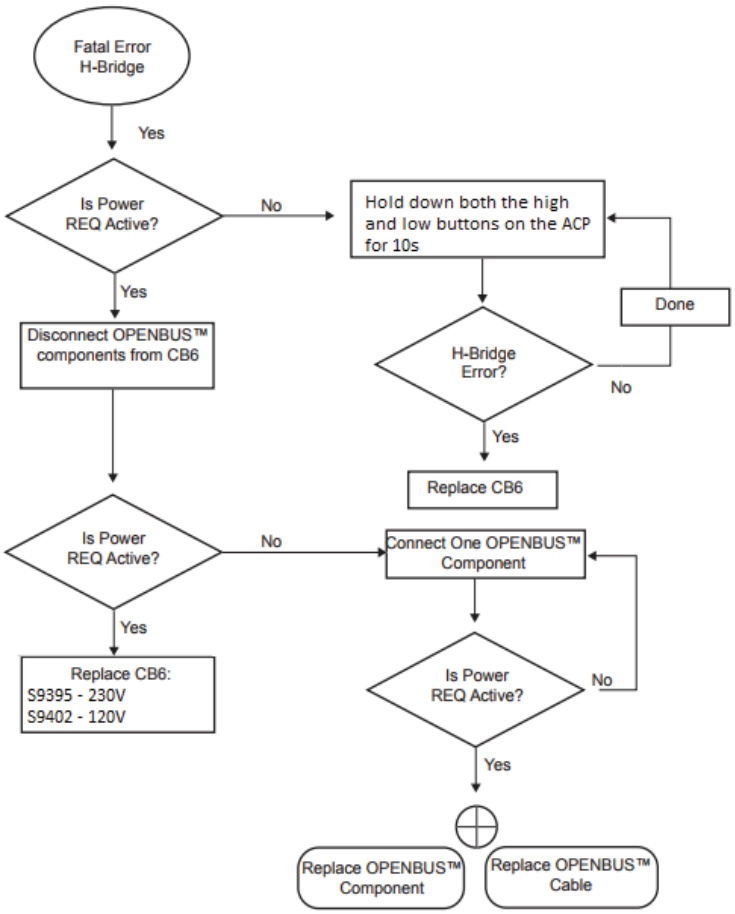
3.4 Channel State

Activations In	Number of actuators activations inward direction
Activations Out	Numbers of actuators activations outward direction
Endstop In	Number of Endstop In registered during use
Endstop Out	Number of Endstop Out registered during use
Overloads	Number of actuators overload
Accumulated Work [A*s)	Shows accumulated work (current consumed * time)
Accumulated duration [s]	Shows accumulated duration of activity inwards and outwards direction
Errors	Number of actuator errors

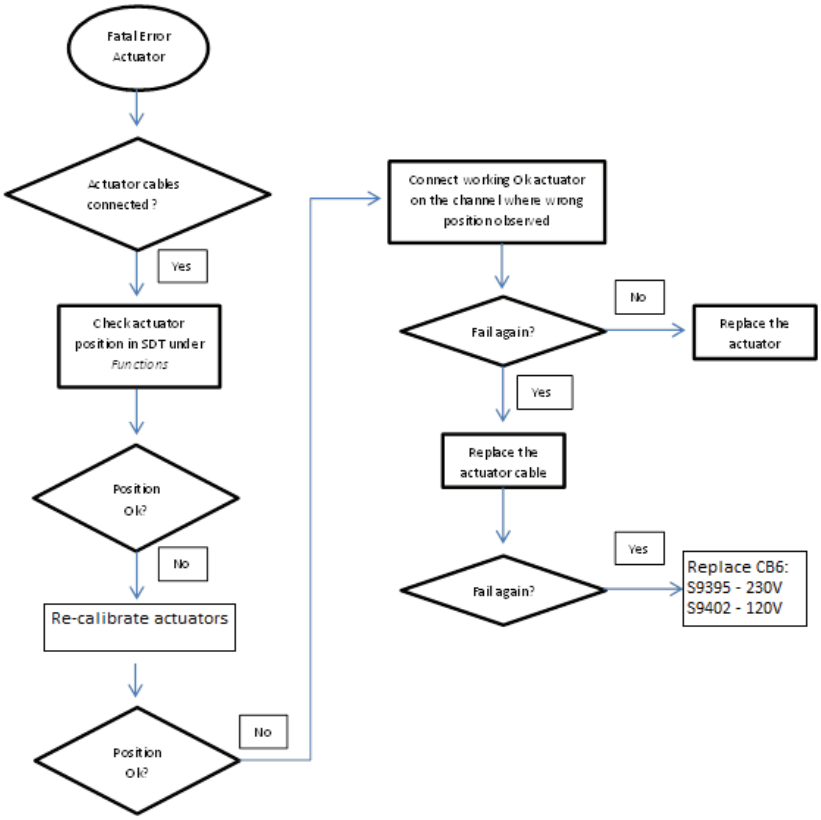
3.4 Overall Status

Power request errors	Communication error CB - OpenBus component
FET errors	Number of actuator H-Bridge errors
Flash Write Counter	Number of Flash program

3.5 Fatal Error H-Bridge Diagram



3.6 Fatal Error Actuator Diagram

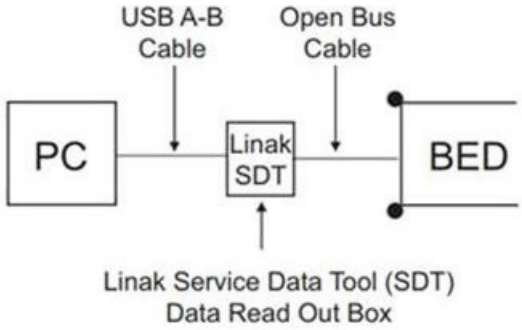


4 Linak Service Data Tool

4.1 Linak Service Data Tool (SDT) Connection

1. Connect USB cable from PC to Data Readout Box.
2. Connect OpenBus cable from Data Readout Box to bed (any available OpenBus port, i.e. in MJB).

.



CHAPTER 6

SERVICING INSTRUCTIONS

WARNING

Before starting any service or maintenance procedures, ensure that the equipment has been adequately decontaminated.

Avoid skin contact with lubricants. Rubber gloves and protective clothing should be worn when carrying out maintenance work.

The bed and its sub-assemblies are heavy and could cause serious injury or death by crushing. When working beneath the mattress platform, the equipment must be properly supported with suitable lifting devices, blocks or stands.

Use only replacement parts that are approved by Arjo.

Use only parts listed in this chapter; similar parts from other Arjo products may not be compatible.

If single use fasteners are removed they should always be replaced with new parts.

Caution

After replacing any cable or actuator, check that none of the cables are kinked, strained or pinched. Adjust the cables to remove any slack that could become entangled in the bed mechanism. Verify that these conditions are maintained over the full range of movement of the bed sections.

Do not allow electrical components to come into contact with aggressive chemical agents, e.g. cutting oil.

1 General

The servicing procedures and data given in this section include instructions for:

- Replacement of specific components and sub-assemblies
- Dismantling and assembly of the main structure
- Restoration of paint finish

Minor procedures considered to be self-evident have not been included.

Do not disassemble more than is necessary to replace a defective item.

Remove old Loctite® and other adhesives from components before re-assembly. Before applying *Loctite*, clean and degrease parts using a suitable volatile solvent, e.g. methylated spirits/denatured alcohol.

The hinges between the various parts of the bed incorporate self-lubricating bushes and do not require lubrication.

To facilitate access for carrying out servicing procedures, remove the deck sheet mouldings and head/foot end panels from the bed.

All references to left or right of the bed are when viewed from the head end (i.e. by a patient lying on the bed).

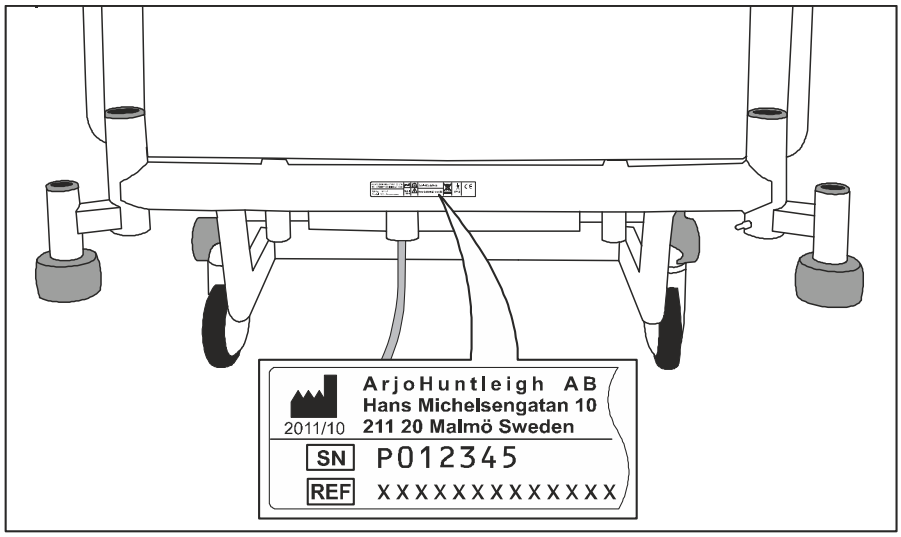
Before returning the equipment to use following repair or servicing:

- Carry out a visual inspection for signs of damage, paying particular attention to cables and paintwork.

- Perform a serviceability test as described in “Testing” on page 9.
- Clean the equipment as described in “Decontamination” on page 5.

1.1 Product Identification

The model number **REF** and serial number **SN** can be found on the specification label; this is located on the bed frame below the head board.



Specification label

At the time of ordering the optional features on the bed were specified. These optional features can be identified by reading the model number REF on the specification label.

For example a product REF may resemble: **8X1GF013BAAAA**. Parts of the REF indicate optional features installed on the bed. An example breakdown follows:

8	X	1	G	F	0	1	3	B	A	A	A	A		
													Packaging	Internal Use
													Country	refer to Subsection 10
													Panel Infill colour	refer to Chapter 6, Subsection 25.1
													Back rest and deck sheets	refer to Subsection 21
													With split sides	refer to Subsection 21
													with DIN rail	
													With bed stripper	refer to Subsection 20
													Castors and Brakes	refer to Subsection 7
													Electrical Assembly	refer to Subsection 9
													Electrical Voltage	refer to Subsection 9
													Model range	

1.2 Actuator Cable Clips

Where cables are connected to actuators they are held in place by retaining clips.

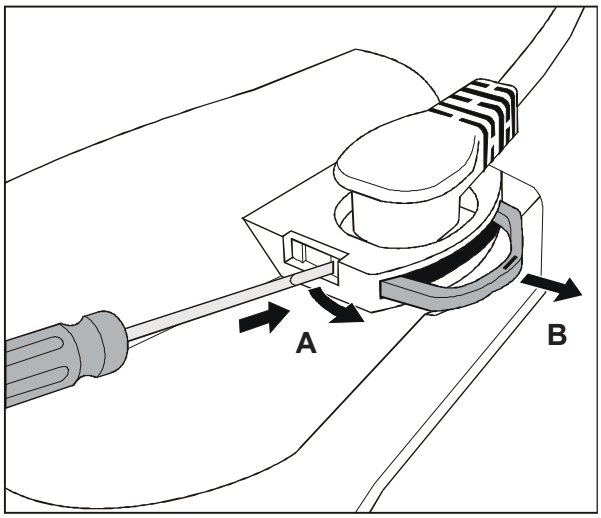


Figure 2: Actuator cable clip

To release the clip, use a small screwdriver to press in the retaining lugs on either side of the socket (Fig 2, Item A) and pull the clip out (B).

To refit the clip, push it towards the socket until it "clicks" into position.

1.3 Sealing Rings

Where electrical cables enter actuators, junction boxes or the control box, the plug has a rubber sealing ring to ensure the connection remains watertight.

Apply a small amount of lubricant, e.g. petroleum jelly, to the sealing rings to make it easier to insert the plugs. Do not allow excess lubricant to contaminate the electrical contacts.

2 Tools and Equipment

In addition to normal workshop tools, the special tools and equipment listed below may be required for servicing.

Item	Description	Part No.	Used for
1.	Hoist, SWL 250kg	N/A	General lifting
2.	Sling straps (2), SWL 250kg	N/A	General lifting
3.	11mm A/F Allen (hex) key	N/A	Fitting castors
4.	Electrical safety test equipment compliant with EN60601-1:2006	e.g. Rigel 266 Plus	Checking earth bonding

2.1 Using the Hoist

Before using the hoist, read the instructions for use supplied with it. When using the hoist to lift any part of the bed, always ensure that the sling straps are applied to main frame sections and do not bear upon components, wiring or minor fabrications, e.g. brackets or split side rails.

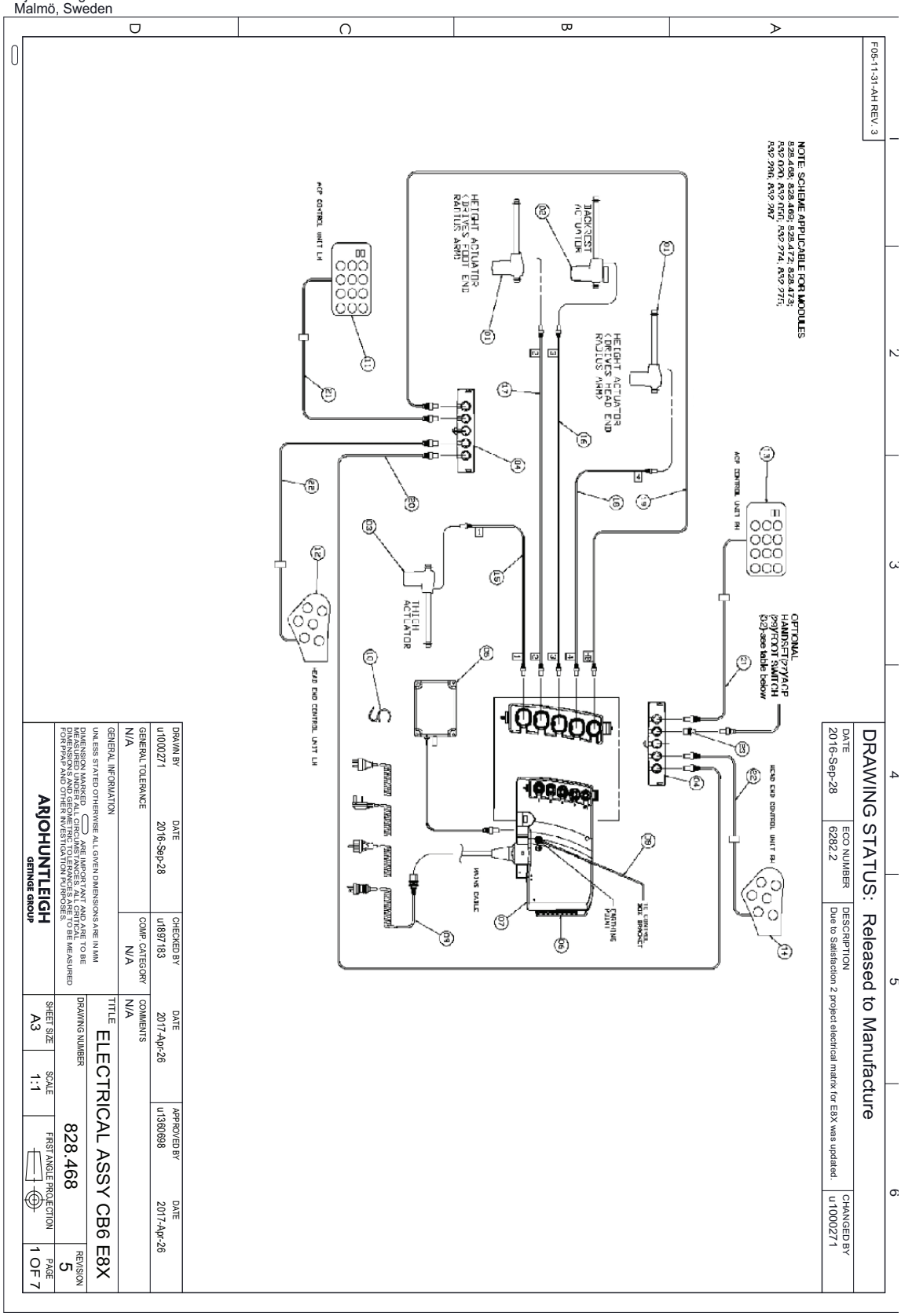
When lifting the entire bed or the sub-frame assembly, first remove any accessories and lift off the headboard and the footboard. Pass both sling straps around main members of the sub-frame.

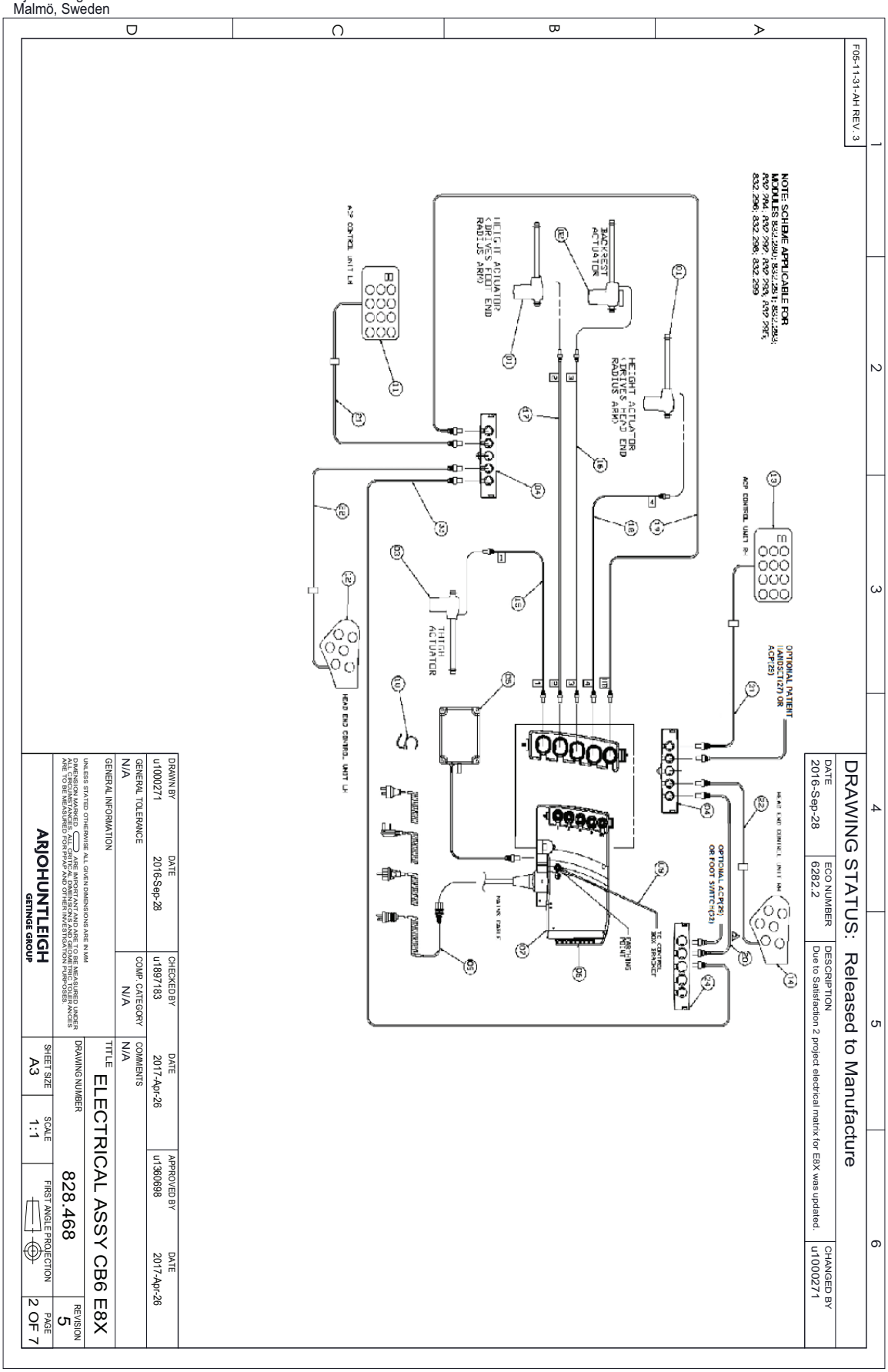
3 Spares kits

Many spare parts can be obtained in a kit that includes all fasteners necessary to replace that part. Spares kit numbers and their contents are listed in parts lists in each section.

Wherever possible, always order a spares kit instead of individual parts.

4 Electrical Assembly

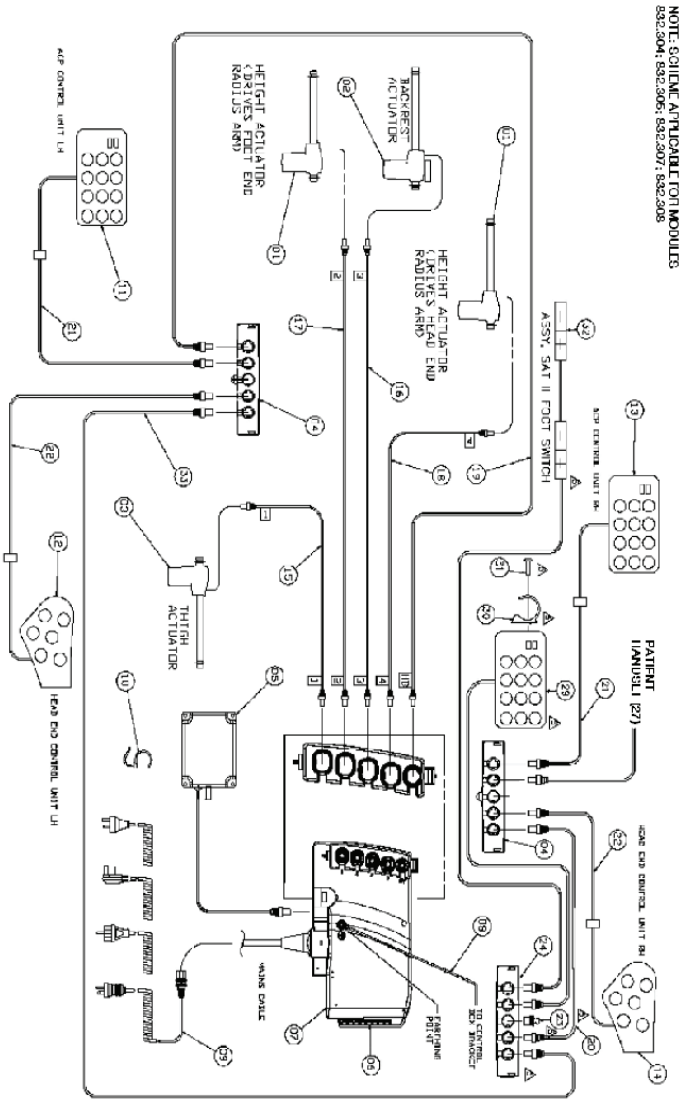




F05-11-31-AH REV. 3

DRAWING STATUS: Released to Manufacture

DATE	ECO NUMBER	DESCRIPTION	CHANGED BY
2016-Sep-28	6282.2	Due to Satisfaction 2 project electrical matrix for E8X was updated.	u1000271



DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
u1000271	2016-Sep-28	u1897183	2017-Apr-26	u1360698	2017-Apr-26
GENERAL TOLERANCE		COMP. CATEGORY	COMMENTS		
N/A		N/A	N/A		

GENERAL INFORMATION

UNLESS STATED OTHERWISE ALL GIVEN DIMENSIONS ARE IN MM
DIMENSION MARKED ⬭ ARE IMPORTANT AND ARE TO BE MEASURED UNDER CONTROLLED CONDITIONS. ALL OTHER DIMENSIONS ARE TO BE MEASURED FOR PPAP AND OTHER INVESTIGATION PURPOSES

ARJOHUNTLEIGH
GETINGE GROUP

TITLE: ELECTRICAL ASSY CB6 E8X

DRAWING NUMBER	REVISION
828.468	5

SHEET SIZE	SCALE	FIRST ANGLE PROJECTION	PAGE
A3	1:1		3 OF 7

F05-11-31-AH REV. 3

ITEM	PART NO	QTY	DESCRIPTION	Standard Build 230V	Standard Build 120V	Standard Build 230V + Patient Handset	Standard Build 120V + Patient Handset	Standard Build 230V + Hi-Lo Handset	Standard Build 120V + Hi-Lo Handset
				828.468	828.469	828.472	828.473	832.020	832.056
1	S9093	2	Height Actuator						
2	S9351	1	Back Rest Actuator						
3	S9345	1	Thigh Actuator						
4	S9400	2	Junction Box						
5	S6257	1	Battery Box						
6	-	1	Control Box CB6 OBM	S9395	S9402	S9395	S9402	S9395	S9402
7	-	1	Bar Code Label	760.324	760.322	760.324	760.322	760.324	760.322
8	823.53	1	Earth Bonding Strap						
9	-	1	Coiled Mains Lead (PVC) (See drg 828.476)	-	-	-	-	-	-
10	818.459	1	Mains Cable Hook						
11	S9389	1	ACP Panel - LH						
12	S9392	1	Patient Control Panel - LH						
13	S9388	1	ACP Panel - RH						
14	S9391	1	Patient Control Panel - RH						
15	S9355	1	Actuator Cable - Thigh						
16	S9358	1	Actuator Cable - Backrest						
17	S9357	1	Actuator Cable - Hi-Lo 1						
18	S9356	1	Actuator Cable - Hi-Lo 2						
19	S9408	1	OpenBus Cable						
20	-	1	OpenBus Cable	S9199	S9199	S9199	S9199	S9199	S9199
21	S9390	2	ACP Cable						
22	S9393	2	Head End Panel Cable						
23	S9108	-	MJB Blanking Plug	Qty=1	Qty=1	-	- 5	- 5	-
5 24	-	1	Junction Box	-	-	-	-	-	-
5 25									
5 26									
27	-	1	Patient Handset	------	------	S9371	S9371	S9710	S9710
28	-	1	Patient Handset Clip	------	------	S9418	S9418	S9418	S9418
5 29	-	1	Nurse Handset ACP	-	-	-	-	-	-
5 30	-	1	ACP Clip	-	-	-	-	-	-
5 31	-	1	Ejot Screw ø3 x 10Lg	-	-	-	-	-	-
5 32	-	1	ASSY, SAT II FOOT SWITCH	-	-	-	-	-	-
5 33	-	1	OpenBus Cable	-	-	-	-	-	-

ARJOHUNTLEIGH
GETINGE GROUP

TITLE			
ELECTRICAL ASSY CB6 E8X			
DRAWING NUMBER			REVISION
828.468			5
SHEET SIZE	SCALE	FIRST ANGLE PROJECTION	PAGE
A3	1:1		4 OF 7

F05-11-31-AH REV. 3

ITEM	PART NO	QTY	DESCRIPTION	5 Standard Build 230V + FE ACP	5 Standard Build 120V + FE ACP	5 Standard Build 230V + Patient Handset + FE ACP	5 Standard Build 120V + Patient Handset + FE ACP	5 Standard Build 230V + Build 120V + Hi-Lo Handset + FE ACP	5 Standard Build 120V + Build 230V + Hi-Lo Handset + FE ACP
				832.274	832.275	832.280	832.281	832.283	832.284
1	S9093	2	Height Actuator						
2	S9351	1	Back Rest Actuator						
3	S9345	1	Thigh Actuator						
4	S9400	2	Junction Box						
5	S6257	1	Battery Box						
6	-	1	Control Box CB6 OBM	S9395	S9402	S9395	S9402	S9395	S9402
7	-	1	Bar Code Label	760.324	760.322	760.324	760.322	760.324	760.322
8	823.53	1	Earth Bonding Strap						
9	-	1	Coiled Mains Lead (PVC)(See drg 828.476)	------	------	------	------	------	------
10	818.459	1	Mains Cable Hook						
11	S9389	1	ACP Panel - LH						
12	S9392	1	Patient Control Panel - LH						
13	S9388	1	ACP Panel - RH						
14	S9391	1	Patient Control Panel - RH						
15	S9355	1	Actuator Cable - Thigh						
16	S9358	1	Actuator Cable - Backrest						
17	S9357	1	Actuator Cable - Hi-Lo 1						
18	S9356	1	Actuator Cable - Hi-Lo 2						
19	S9408	1	OpenBus Cable						
20	-	1	OpenBus Cable	S9199	S9199	S9198	S9198	S9198	S9198
21	S9390	2	ACP Cable						
22	S9393	2	Head End Panel Cable						
23	S9108	-	MJB Blanking Plug	-	-	-	-	-	-
24	-	1	Junction Box	-	-	S9352	S9352	S9352	S9352
25									
26									
27	-	1	Patient Handset	------	------	S9371	S9371	S9710	S9710
28	-	1	Patient Handset Clip	------	------	S9418	S9418	S9418	S9418
29	-	1	Nurse Handset ACP	S9717	S9717	S9717	S9717	S9717	S9717
30	-	1	ACP Clip	828.141	828.141	828.141	828.141	828.141	828.141
31	-	1	Ejot Screw ø3 x 10Lg	S1631	S1631	S1631	S1631	S1631	S1631
32	-	1	ASSY, SAT II FOOT SWITCH	-	-	-	-	-	-
33	-	1	OpenBus Cable	-	-	S9190	S9190	S9190	S9190

ARJOHUNTLEIGH
GETINGE GROUP

TITLE ELECTRICAL ASSY CB6 E8X

DRAWING NUMBER 828.468

REVISION 5

SHEET SIZE A3

SCALE 1:1

FIRST ANGLE PROJECTION

PAGE 5 OF 7

F05-11-31-AH REV. 3

ITEM	PART NO	QTY	DESCRIPTION	5 Standard Build 230V + VH-FS	5 Standard Build 120V + VH-FS	5 Standard Build 230V + Build 120V + Patient Handset + VH-FS	5 Standard Build 120V + Build 230V + Patient Handset + VH-FS	5 Standard Build 230V + Build 120V + Hi-Lo Handset + VH-FS	5 Standard Build 120V + Build 230V + Hi-Lo Handset + VH-FS
1	S9093	2	Height Actuator	832.286	832.287	832.292	832.293	832.295	832.296
2	S9351	1	Back Rest Actuator						
3	S9345	1	Thigh Actuator						
4	S9400	2	Junction Box						
5	S6257	1	Battery Box						
6	-	1	Control Box CB6 OBM	S9395	S9402	S9395	S9402	S9395	S9402
7	-	1	Bar Code Label	760.324	760.322	760.324	760.322	760.324	760.322
8	823.53	1	Earth Bonding Strap	-	-	-	-	-	-
9	-	1	Coiled Mains Lead (PVC) (See drg 828.476)						
10	818.459	1	Mains Cable Hook						
11	S9389	1	ACP Panel - LH						
12	S9392	1	Patient Control Panel - LH						
13	S9388	1	ACP Panel - RH						
14	S9391	1	Patient Control Panel - RH						
15	S9355	1	Actuator Cable - Thigh						
16	S9358	1	Actuator Cable - Backrest						
17	S9357	1	Actuator Cable - Hi-Lo 1						
18	S9356	1	Actuator Cable - Hi-Lo 2						
19	S9408	1	OpenBus Cable						
20	-	1	OpenBus Cable	S9199	S9199	S9198	S9198	S9198	S9198
21	S9390	2	ACP Cable						
22	S9393	2	Head End Panel Cable						
23	S9108	-	MJB Blanking Plug	-	-	-	-	-	-
24	-	1	Junction Box	-	-	S9352	S9352	S9352	S9352
25									
26									
27	-	1	Patient Handset	-	-	S9371	S9371	S9710	S9710
28	-	1	Patient Handset Clip	-	-	S9418	S9418	S9418	S9418
29	-	1	Nurse Handset ACP	-	-	-	-	-	-
30	-	1	ACP Clip	-	-	-	-	-	-
31	-	1	Ejot Screw ø3 x 10Lg	-	-	-	-	-	-
32	-	1	ASSY, SAT II FOOT SWITCH	AH1001040	AH1001040	AH1001040	AH1001040	AH1001040	AH1001040
33	-	1	OpenBus Cable	-	-	S9190	S9190	S9190	S9190

ARJOHUNTLEIGH
GETINGE GROUP

TITLE: ELECTRICAL ASSY CB6 E8X

DRAWING NUMBER: 828.468

REVISION: 5

SHEET SIZE: A3

SCALE: 1:1

FIRST ANGLE PROJECTION

PAGE: 6 OF 7

F05-11-31-AH REV. 3

	ITEM	PART NO	QTY	DESCRIPTION	5 Standard Build 230V + FE ACP + VH-FS	5 Standard Build 120V + FE ACP + VH-FS	5 Standard Build 230V + Patient Handset + FE ACP + VH-FS	5 Standard Build 120V + Patient Handset + FE ACP + VH-FS	5 Standard Build 230V + Hi-Lo Handset + FE ACP + VH-FS	5 Standard Build 120V + Hi-Lo Handset + FE ACP + VH-FS
					832.298	832.299	832.304	832.305	832.307	832.308
	1	S9093	2	Height Actuator						
	2	S9351	1	Back Rest Actuator						
	3	S9345	1	Thigh Actuator						
	4	S9400	2	Junction Box						
	5	S6257	1	Battery Box						
	6	-	1	Control Box CB6 OBM	S9395	S9402	S9395	S9402	S9395	S9402
	7	-	1	Bar Code Label	760.324	760.322	760.324	760.322	760.324	760.322
	8	823.53	1	Earth Bonding Strap						
	9	-	1	Coiled Mains Lead (PVC)(See drg 828.476)	------	------	------	------	------	------
	10	818.459	1	Mains Cable Hook						
	11	S9389	1	ACP Panel - LH						
	12	S9392	1	Patient Control Panel - LH						
	13	S9388	1	ACP Panel - RH						
	14	S9391	1	Patient Control Panel - RH						
	15	S9355	1	Actuator Cable - Thigh						
	16	S9358	1	Actuator Cable - Backrest						
	17	S9357	1	Actuator Cable - Hi-Lo 1						
	18	S9356	1	Actuator Cable - Hi-Lo 2						
5	19	S9408	1	OpenBus Cable						
	20	-	1	OpenBus Cable	S9198	S9198	S9198	S9198	S9198	S9198
	21	S9390	2	ACP Cable						
	22	S9393	2	Head End Panel Cable						
	23	S9108	-	MJB Blanking Plug	-	-	Qty = 1	Qty = 1	Qty = 1	Qty = 1
5	24	-	1	Junction Box	S9352	S9352	S9145	S9145	S9145	S9145
5	25									
5	26									
	27	-	1	Patient Handset	-	-	S9371	S9371	S9710	S9710
	28	-	1	Patient Handset Clip	-	-	S9418	S9418	S9418	S9418
5	29	-	1	Nurse Handset ACP	S9717	S9717	S9717	S9717	S9717	S9717
5	30	-	1	ACP Clip	828.141	828.141	828.141	828.141	828.141	828.141
5	31	-	1	Ejot Screw ø3 x 10Lg	S1631	S1631	S1631	S1631	S1631	S1631
5	32	-	1	ASSY, SAT II FOOT SWITCH	AH1001040	AH1001040	AH1001040	AH1001040	AH1001040	AH1001040
5	33	-	1	OpenBus Cable	S9190	S9190	S9190	S9190	S9190	S9190

ARJOHUNTLEIGH
GETINGE GROUP

TITLE			
ELECTRICAL ASSY CB6 E8X			
DRAWING NUMBER			REVISION
828.468			5
SHEET SIZE	SCALE	FIRST ANGLE PROJECTION	PAGE
A3	1:1		7 OF 7

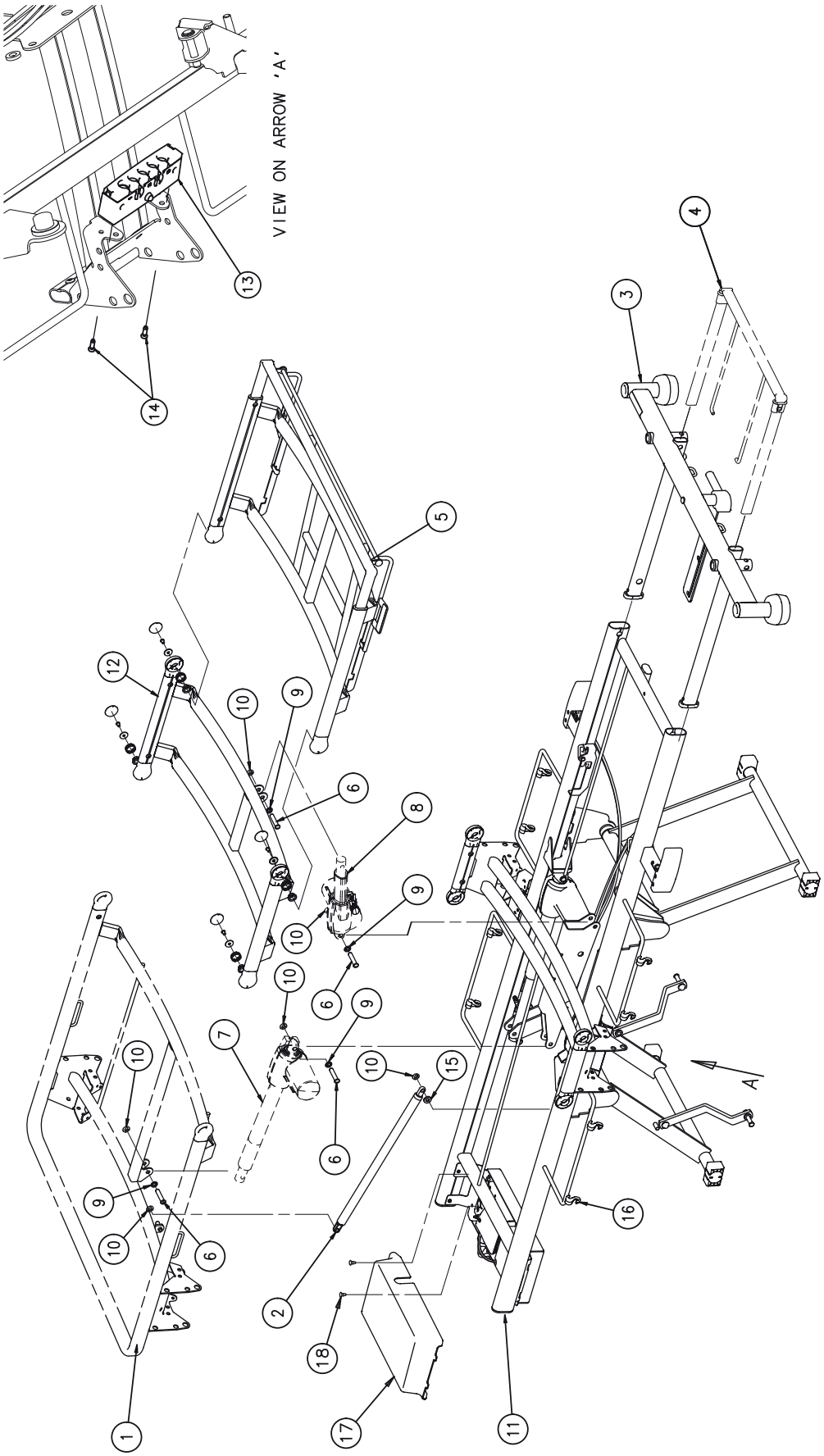


Figure 3: Sub-Frame & Sections Assembly

5 Sub Frame & Sections Assembly

Throughout this chapter reference is made to the Sub-Frame & Sections Assembly. It is recommended to bookmark this page for later use.

Table 1: Sub-Frame & Sections Assembly Parts List

Item	Part Number	Description	Qty
1	828.461 Kit[a]	Backrest assembly	1
2	828.227 Kit[b]	Backrest damper	1
3	REF	Bed extension assembly (see Figure 19)	1
4	REF	Bed stripper / no bed stripper module (see Figure 19)	1
5	828.222 Kit	Calf extension assembly (see Fig 24, Item 1)	1
6	S3840	Clevis pin Ø10 x 50	4
7	828.212 Kit[c]	Backrest actuator LA27 - 215 stroke	1
8	828.225 Kit[d]	Thigh section actuator LA27 - 70 stroke	1
9	S1202	Shakeproof washer Ø10	4
10	S4835	Starlock Ø10 s/steel	6
11	REF	Sub frame assembly	1
12	REF	Thigh section assembly	1
13	S9400	Junction box with UBL	2
14	S1646	EJOT Phd PT Dia 5 x 16LG	4
15	S6581	Nylon spacer Ø20x10.2x4.0	1
16	823.314 Kit	Urine bag rail hook	8
17	828.561 Kit	Control box cover	1
18	S6596	Arrow clips	2

a. Includes 2 x hinge inner, 2 x pop-rivet, 2 x nylon pop-rivet plug, 2 x hinge bush, 2 x hinge spring, 2 x washer, 2 x button head screw, 2 x hinge infill label calf, 2 x hinge infill backrest, 2 x starlock, 2 x impact tape
b. Includes 1 x damper, 2 x starlock
c. Includes 1 x actuator, 2 x clevis pin, 2 x shakeproof washer, 2 x starlock
d. Includes 1 x actuator, 2 x clevis pin, 2 x shakeproof washer, 2 x starlock

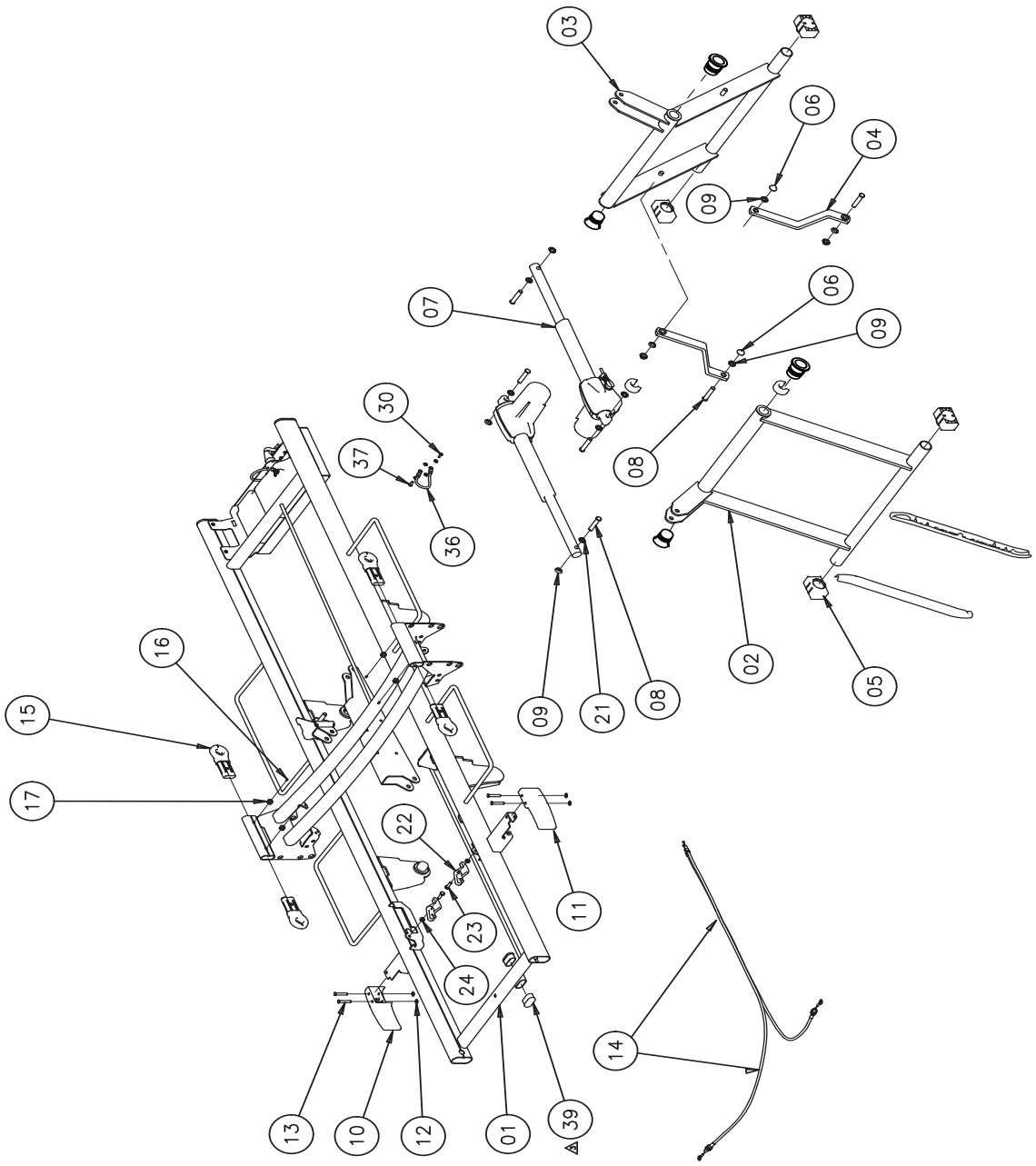


Figure 4: Sub Frame Assembly

6 Sub Frame Assembly

Throughout this chapter reference is made to the Sub Frame Assembly. It is recommended to bookmark this page for later use.

Table 2: Sub Frame Assembly Parts List

Item	Part Number	Description	Qty
1	REF	Sub frame fabrication	1
2	REF	Radius arm foot end assembly	1
3	REF	Radius arm head end assembly	1
4	828.208 Kit[a]	Stabiliser arm assembly	2
5	818.33	Slide moulding	4
6	S4834	Capped star lock DIA 10	4
7	828.204 Kit[b]	LA27 height actuator 170 stroke (see Figure)	2
8	S3840	Clevis pin DIA 10 x 50	6
9	S4835	Star lock DIA 6	4
10	828.206 Kit[c]	CPR lever left hand	1
11	828.207 Kit[d]	CPR lever right hand	1
12	S4816	Star lock DIA 6	4
13	S3845	Clevis pin DIA 6 x 35	4
14	828.012	CPR cable	2
15	818.86	Hinge cover	4
16	S6526	Nylon rivet plug	4
17	S4529	Pop rivet DIA 6.4 x 15	4
18	S4785	External tooth washer	6
19	712.04	Retaining clip	2
21	S1202	M10 internal shakeproof washer	4
22	828.211 Kit[e]	Ratchet selector moulding	2
23	S1125	Hex head screw M6 x 20	2
24	S1409	Nyloc nut M6 Thin	2
26	REF	BA18 battery box & CB6 OBM control box (see Figure)	1
27	S1619	Self-tapping screw no.10 x 1/2”	5
28	823.53	R-Arm to S-Frame earth cable	1
29	S3410	POZI Pan-Head M5 x 12	1
30	S6720	End cap 40x20 flat oval - grey	2

a. Includes 1 x stabiliser arm assembly, 2 x starlock, 1 x clevis pin, 2 x capped starlock
b. Includes 1 x actuator, 2 x clevis pin, 2 x shakeproof washer, 2 x starlock
c. Includes 1 x release handle, 2 x clevis pin, 2 x starlock
d. Includes 1 x release handle 2 x clevis pin, 2 x starlock
e. Includes 1 x calf ratchet moulding, 1 x hex head M6 x 20 screw and 1 x M6 Nyloc nut

7 Brake Pedal - Replacement

This section describes how to replace brake pedals.

Reference is made throughout this section to Figure 5 on page 35 and Table 3 on page 37.

7.1 Removal

To remove the brake pedals:

7.1.1 Position the bed so that all the castors are lined up in the same direction and apply the brakes.

7.1.2 On the right hand side of the bed only: carefully remove and discard the capped starlock (Fig 5, Item 14) to release the brake link fabrication (Fig 5, Item 13) from the brake pedal (Fig 5, Item 4A).

7.1.3 Remove the socket head screw (Fig 5, Item 12) and pull the brake pedal (Fig 5, Item 3A) or (Fig 5, Item 4A) off the brake bar (Fig 5, Item 15). Remove the brake bow tube (Fig 5, Item 1) if fitted.

7.2 Installation

To install the brake pedals:

7.2.1 Position the brake pedal (Fig 5, Item 3A) or (Fig 5, Item 4A) on the brake bar (Fig 5, Item 15). Ensure the correct replacement pedal is fitted (i.e. left or right hand) and that the pedal end points down. Install the brake bow tube (Fig 5, Item 1) if fitted.

7.2.2 Fit the socket screw (Fig 5, Item 12) to secure the pedal. Attach the brake link fabrication (Fig 5, Item 13) to the pedal and secure it with a new capped starlock (Fig 5, Item 14).

8 Castors - Replacement

This section describes how to replace the castors.

Reference is made throughout this section to Figure 5 on page 35 and Table 3 on page 37.

Take care to ensure replacement castors are the same type (brake/free or brake/track) and wheel size as the old one.

8.1 Removal

To remove the castors:

8.1.1 Position the bed so that all the castors are lined up in the same direction and apply the brakes.

8.1.2 On the right hand side of the bed remove the socket head screw (Fig 5, Item 12) from the brake pedal (Fig 5, Item 3A)/(Fig 5, Item 4A) or brake link moulding (Fig 5, Item 5)/ (Fig 5, Item 6) above the faulty castor. Pull the brake pedal or brake link moulding off the brake bar (Fig 5, Item 15) with the link fabrication attached.

8.1.3 Remove the brake pedal or link moulding from the opposite side of the bed.

8.1.4 Push the brake bar into the base fabrication until it is just clear of the faulty castor; take care not to push it in too far as it may be difficult to retrieve.

8.1.5 Use the hoist to lift the end of the bed with the faulty castor by about 15cm (6 in.). Use suitable blocks or stands to support the raised end of the bed.

8.1.6 Note the orientation of the castor. Remove two button head socket screws (Fig 5, Item 11) and two Nord-Lock washers (Fig 5, Item 10) to release the castor from the base fabrication.

8.2 Installation

To install the castors:

8.2.1 Use an 11mm A/F Allen key (Tool No. 3) to position the castor operating cam in the "brake" position, i.e. the castor cannot rotate or swivel.

8.2.2 Install the castor (Fig 5, Item 7), (Fig 5, Item 8) or (Fig 5, Item 9) into the mounting tube in the base fabrication. Make sure it is orientated in the same direction as the previously removed castor.

8.2.3 Secure the castor with two Nord-Lock washers (Fig 5, Item 10) and button head socket screws (Fig 5, Item 11). Remove the blocks or stands and lower the bed to the floor.

8.2.4 Push the brake bar (Fig 5, Item 15) back through the base fabrication from the other side so that it engages the operating cam on the new castor.

8.2.5 Refit the brake pedal (Fig 5, Item 3A)/(Fig 5, Item 4A) or brake link moulding (Fig 5, Item 5)/ (Fig 5, Item 6) on both sides of the bed.

8.2.6 On the other side of the bed, slide the brake pedal or brake link moulding over the spigot on the brake link fabrication (Fig 5, Item 13) and brake bar (Fig 5, Item 15). Check that the brakes and steering operate correctly.

The castors fitted to these beds are not adjustable. If the braking or steering function is defective, replace the castor as described above.

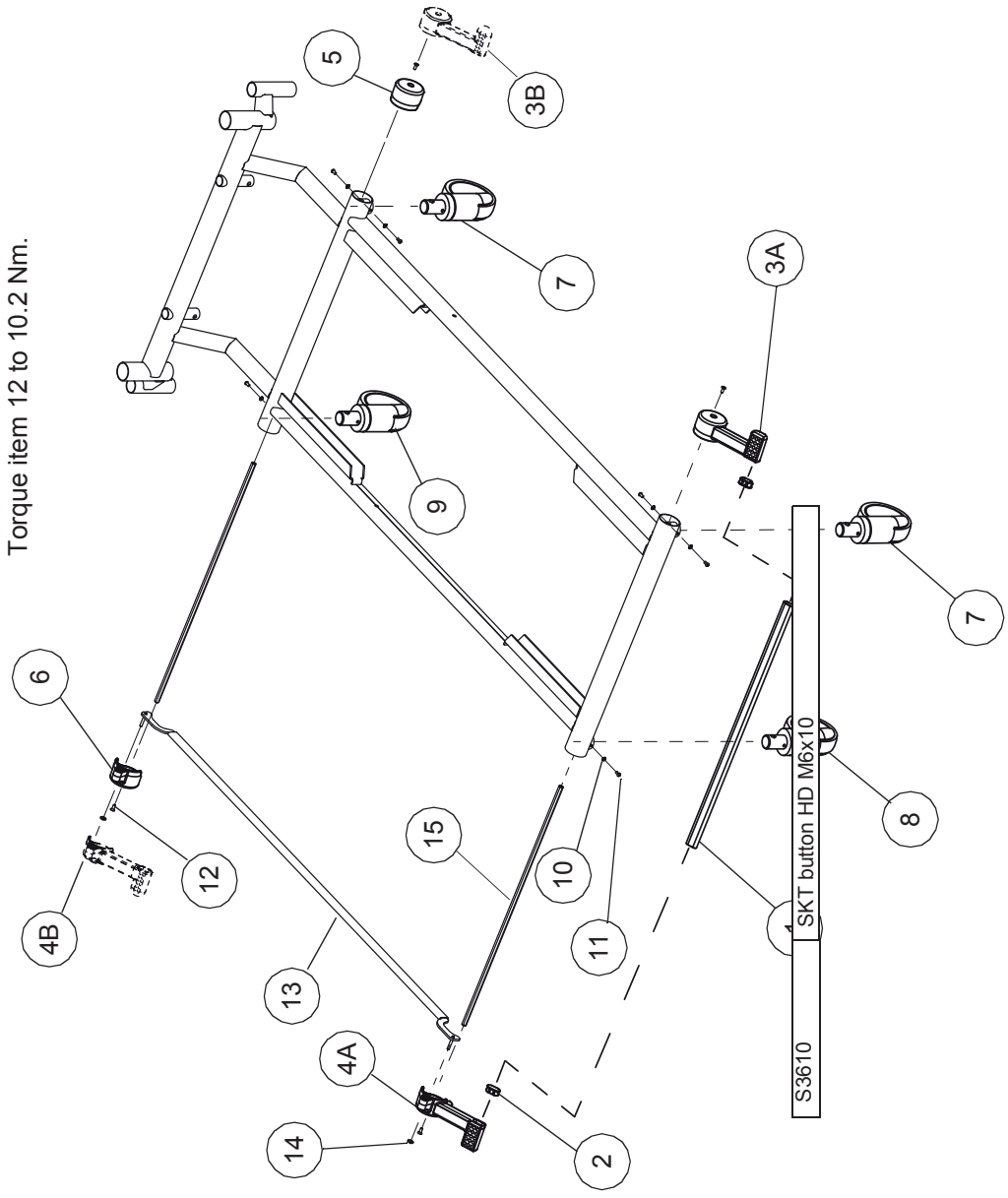


Figure 5: Brake and Castor Module

The type of castors and brakes installed on the bed can be identified from the model number REF on the specification label, refer to Chapter 6, Subsection 1.1.

Check the letter listed at the highlighted position on the product label.

8 X 1 G **F** 0 1 3 B A A A A

Castors and brakes

Use the table on the next page to identify what components have been fitted.

For example if the letter **F** is recorded at the highlighted position on the product label then work across the table to item **F** in the header.

Item	Part Number	Description	A	B	C	D	E	F	G	H

After locating position F in the table work down the item list to locate the quantity of items installed.

3A	828.237 Kit	Brake pedal Left hand / Foot end						1		
3B	828.237 Kit	Brake pedal Left hand / Head end						1		
4A	828.236 Kit	Brake pedal Right hand / Foot end						1		

Table 3: Brake and Castor Module Parts List

Item	Part Number	Description	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
1	828.047	Brake bow tube			1	1			1	1			1	1			1
2	828.147	Brake pedal blanking cap	2	2			4	4	2	2	2	2			4	4	2
3A	828.237 Kit[a]	Brake pedal Left hand / Foot end	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3B	828.237 Kit[a]	Brake pedal Left hand / Head end					1	1	1	1					1	1	1
4A	828.236 Kit[a]	Brake pedal Right hand / Foot end	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4B	828.236 Kit[a]	Brake pedal Right hand / Head end					1	1	1	1					1	1	1
5	828.239 Kit[b]	Brake link moulding Left hand	1	1	1	1					1	1	1	1			
6	828.238 Kit[b]	Brake link moulding Right hand	1	1	1	1					1	1	1	1			
7	828.240 Kit[c]	125mm brake/free castor	2	2	2	2	2	2	2	2							
	828.242 Kit[c]	150mm brake/free castor									2	2	2	2	2	2	2
	828.245 Kit[c]	150mm twin brake/free castor															
8	828.240 Kit[c]	125mm brake/free castor Foot end	1		1		1		1								
	828.241 Kit[c]	125mm brake/track castor Foot end		1		1		1		1							
	828.242 Kit[c]	150mm brake/free castor Foot end									1		1		1		1
	828.243 Kit[c]	150mm brake/track castor Foot end										1		1		1	
	828.245 Kit[c]	150mm twin brake/free castor Foot end															
	828.244 Kit[c]	150mm twin brake/track castor Foot end															
9	828.241 Kit[c]	125mm brake/track castor Head end	1		1		1		1								
	828.240 Kit[c]	125mm brake/free castor Head end		1		1		1		1							
	828.243 Kit[c]	150mm brake/track castor Head end									1		1		1		1
	828.242 Kit[c]	150mm brake/free castor Head end										1		1		1	
	828.244 Kit[c]	150mm twin brake/track castor Head end															
	828.245 Kit[c]	150mm twin brake/free castor Head end															
10	S1210	Nordlock washer Ø6mm	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
11	S3610	SKT button HD - M6 x 12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
12	S1306	C'SK SKT screw - M6 x 16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13	828.226 Kit[d]	Brake link kit															
14	S4815	Capped starlock Ø6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	818.682	Brake bar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

a. Includes fasteners items 2 & 12
b. Includes fasteners item 12
c. Includes fasteners 2 x item 10 & 2 x item 11
d. Includes 2 x item 14

Fasteners included in all spares kits: 2 x 6mm Nord-Lock washer and 2 x socket button head M6 x 12 screw

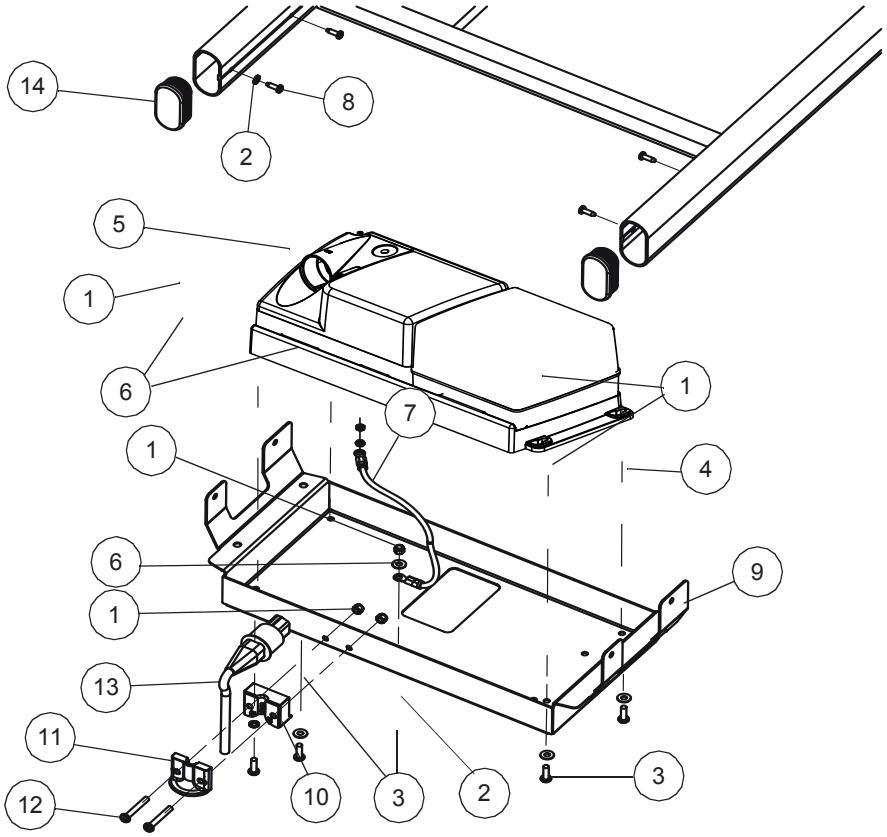


Figure 6: Control box and battery

Table 4: Control box and battery parts list

Item	Part Number	Description	Qty
1	S1410	Nyloc nut M5 THK	6
2	S4785	External tooth washer	6
3	S3456	POZI PAN head screw M5 x 16	4
4	828.771 Kit[a]	BA18 battery box	1
5	828.466 Kit[b]	CB6 OBM control box (see Figure)	1
6	S1869	M5 x 12.5 x 1 THK plain washer	3
7	REF	Earth bonding strap (see Figure)	1
8	REF	Self-tapping screw no.10 x 1/2” (see Fig 4, Item 27)	5
9	828.386 Kit	Control box bracket	1
10	828.789 Kit	Mains cable anchor rear moulding	1
11	REF	Mains cable anchor front moulding (included in 828.789 Kit)	1
12	S3408	Pozidriv pan head screw M5 x 12	1
13	REF	Mains cable (see Figure)	1
14	S6538	End cap 60x30 flat oval - grey	2

a. Includes 2 x POZI Pan head M5 x 16 and 2 x Nyloc nut M5 THK
b. Includes 1 x POZI pan head screw M5 x 16, 1 x Nyloc nut M5 thick, 2 x Washer - M5x10x1.0 THK

9 Backup Battery - Replacement

This section describes how to replace the backup battery. Reference is made throughout this section to Figure 6 on page 38 and Figure on page 22.

Check the following characters on the product label (refer to Chapter 6, Subsection 1.1).

8 X 1 G F 0 1 3 B A A A A

Electrical Assembly & voltage

The first character signifies the electrical voltage. 1 = 110V and 2 = 230V. The second character identifies if an optional Patient Handset is fitted (see Fig , Item 24 &25). H if fitted, G if not.

WARNING

Lead-acid batteries are a potential environmental and health hazard. Store batteries in accordance with manufacturer's instructions. Dispose of unserviceable batteries safely in accordance with local authority regulations.

9.1 Removal

To remove the backup battery:

9.1.1 Remove the control box cover by prying from the left hand edge (Figure 7).

Figure 7: Control box cover

9.1.2 Refer to Figure 8. Insert a small flat bladed screwdriver into the slot (A) on the side of the control box (Fig , Item 6) to release the retainer clip. Pull the clip out as shown (B) and disconnect the battery cable (C) from the control box.

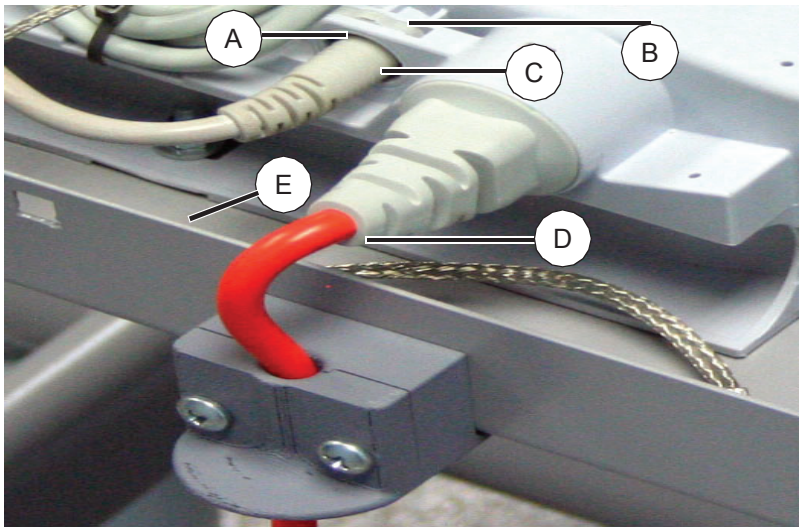


Figure 8: Control box & battery connector

9.1.3 Remove two panhead Pozidriv screws (Fig 6, Item 3) to detach the battery (Fig 6, Item 4) from the mounting plate (E). Collect four Nyloc nuts (Fig 6, Item 1) and remove the battery from the bed.

9.2 Installation

To install the backup battery:

9.2.1 Attach the battery (Fig 6, Item 4) to the mounting plate using two panhead Pozidriv screws (Fig 6, Item 3) and four new Nyloc nuts (Fig 6, Item 1).

9.2.2 Refer to Figure 8. Connect the battery cable (C) to the control box (Fig , Item 6), making sure the plug is pushed fully into the socket. Push down the retainer clip (B) to hold the battery cable in place. Make sure that the battery cable cannot be accidentally pulled out of the control box.

WARNING

Make sure the battery test procedure is followed after installation refer to Chapter 3, Subsection 3.

10 Mains Lead - Replacement

This section describes how to replace mains lead. Reference is made throughout this section to Figure on page 22.

Check the following characters on the product label (refer to Chapter 6, Subsection 1.1).

8 X 1 G F 0 1 3 B A A A A
Country or Region

Depending on the letters listed at the highlighted positions, the following mains cable spares should be used:

Table 5: Mains cable spares

Part No	description	Country Codes
818.320	Mains cable BS 1363	LB, OM, NG, MY, UK, IE, HK, SG, BH, QA, U.A.E.,SA, EG, JO, KW, MT
818.321	Mains cable CEE 7/7 - PVC	FR, DE, NL, ES, BE, CZ, IT, SE, MA, RO, TH, EG, UYGR, BO, CL, NO, LT, HR, HU, TR, KP, KR, RU.
826.047	Mains cable BS 546	ZA, IN, LY, PK
818.322	Mains cable AS/NZS 3112	AU, NZ
818.323	Mains cable NEMA / CSA Type 5-15	VE, TH, US, CA, EC, MX
826.046	Mains cable type CEI 23-16/V11	AZ, BB
823.305	Mains cable AFSNIT 107-2 D1	DK
826.103	Mains cable ABNT NBR 14136	BR
S9387	Mains cable GB 2099-1	CN
818.318	Mains cable CEE 7/7 - EPR	DE
828.638	Mains cable SI32	IS

10.1 Removal

To remove the mains lead:

10.1.1 Remove the control box cover by prying from the left hand edge (refer to Subsection 9.1).

10.1.2 Insert a small flat bladed screwdriver into the slot (Fig 9, Item A) above the control box mains inlet socket to release the retaining clip. Disconnect the mains lead (Fig , Item 9) from the control box (Fig , Item 6).

10.1.3 Remove the two panhead Pozidriv screws from the bracket assembly securing the mains lead to the bed frame (Fig 9, Item B).

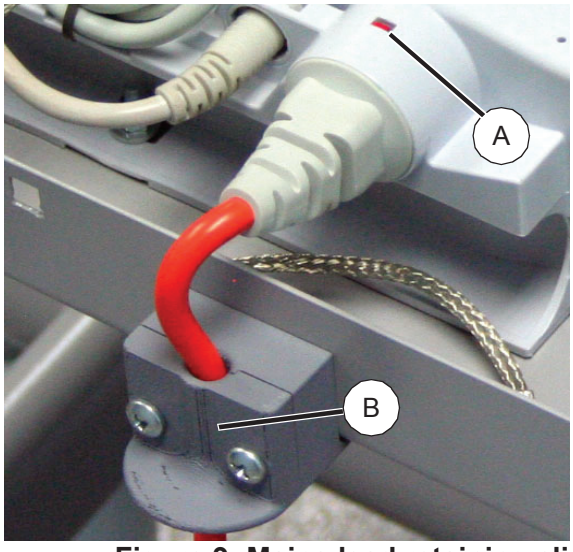


Figure 9: Mains lead retaining clip

10.2 Installation

To install the mains lead:

10.2.1 Plug the mains lead (Fig , Item 9) into the control box (Fig , Item 6). Make sure that the retaining clip “clicks” into place and that the mains lead cannot be accidentally pulled out of the control box.

10.2.2 Replace the two panhead Pozidriv screws in the bracket assembly to secure the mains lead to the bed frame (Fig 9, Item B).

11 Control Box - Replacement

This section describes how to replace the electrical control box. Reference is made throughout this section to Figure on page 22 and Figure 6 on page 38.

11.1 Removal

To remove the control box:

11.1.1 Disconnect the backup battery (Fig , Item 5) from the control box (Fig , Item 6)/(Fig 6, Item 5) refer to Subsection 9.1 but do not remove it from the bed.

11.1.2 Disconnect the mains lead (Fig , Item 9) from the control box refer to Subsection 10.1.

11.1.3 Insert a small flat bladed screwdriver at either end of the control box cable retainer (Fig 10, Item A) as indicated by the arrows to release the fixing clips. Remove the cable retainer.

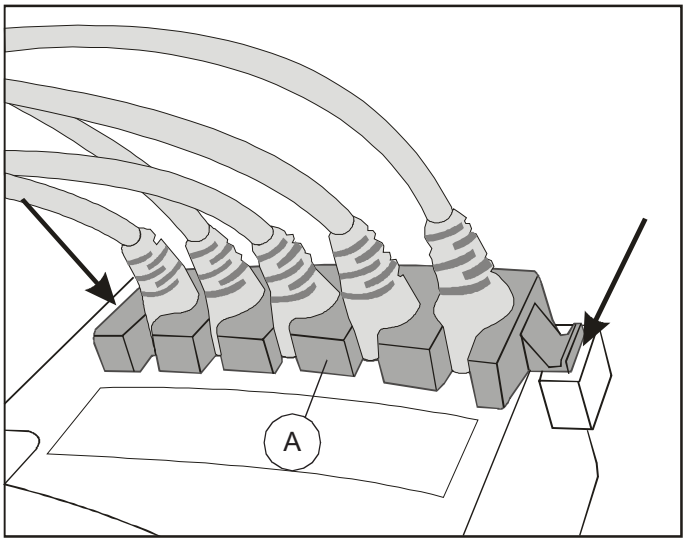


Figure 10: Control box cable retainer

Caution

Make a note of which cable is connected to each control box socket. Disconnect the four actuator cables (Fig , Item 15/16/17/18) and OpenBus cable (Fig , Item 20) from the control box.

11.1.4 Remove the two fixing nuts from the control box earth terminal (Figure 3, D) and disconnect the earth bonding cable (Fig , Item 8).

11.1.5 Undo the panhead Pozidriv screw (Fig 6, Item 3) to detach the control box from the mounting plate. Collect the Nyloc nut (Fig 6, Item 1) and two washers (Fig 6, Item 6).

11.2 Installation

To install the control box:

11.2.1 Attach the control box (Fig , Item 6)/(Fig 6, Item 5) to the mounting plate using the panhead Pozidriv screw (Fig 6, Item 3) and two washers (Fig 6, Item 6); fit one washer under the screw head and the other between the control box and mounting plate. Secure the assembly with a new Nyloc nut (Fig 6, Item 1) below the mounting plate. Note: To prevent damage to the control box housing, do not over-tighten the screw.

11.2.2 Connect the earth bonding cable (Fig , Item 8) to the control box earth terminal (Fig 8, Item D) and secure it with the two fixing nuts; the upper nut locks the lower one to prevent it becoming loose.

11.2.3 Connect the four actuator cables (Fig , Item 15/16/17/18) and OpenBus cable (Fig , Item 20) to the control box, making sure each cable is connected to the correct socket as previously noted. Thread the retainer (Fig 10, Item A) over the cables and clip it into place.

11.2.4 Reconnect the backup battery (Fig , Item 5) to the control box, refer to Subsection 9.2.

11.2.5 Reconnect the mains lead (Fig , Item 9) to the control box, refer to Subsection 10.2.

11.2.6 Using the electrical safety test equipment (see “Tools and Equipment” on page 21), verify that the earth bonding resistance value is within the limits shown in “Technical Data” on page 83.

12 Deck Junction Box - Replacement

This section describes how to replace the deck junction box. Reference is made throughout this section to Figure 3 on page 29.

There are two deck junction boxes on either side of the bed frame. The deck junction boxes also contain the under bed lights.

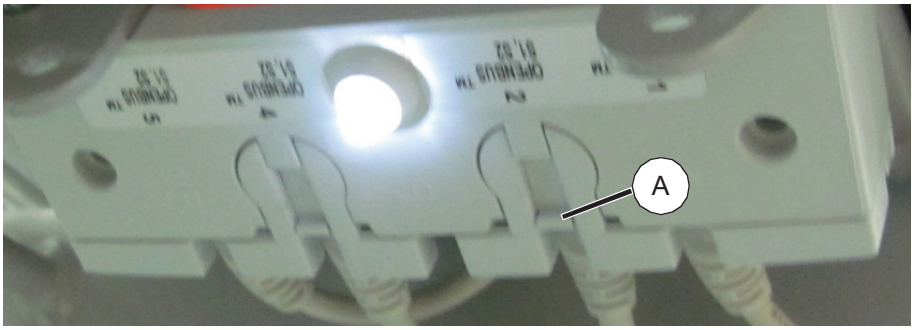


Figure 11: Deck junction box clips

12.1 Removal

To remove a deck junction box:

12.1.1 Referring to Figure 11 item A, Insert a small flat bladed screwdriver into the slots on the front of the junction box (Fig 3, Item 13) to release the clips.

12.1.2 Pull off the faceplate and keep it safe.

12.1.3 Unplug the cables from the junction box, having first made a note of which cable is connected to each socket. The left hand junction box has three cables connected to it, the right hand junction box has four. Do not remove the blanking plug from the left hand junction box.

12.1.4 Referring to Figure 12, undo the two Ejot screws (Fig 3, Item 14) to release the junction box from the bracket below the split side rail and remove it from the bed.

Figure 12: Deck juntion box Ejot screws

12.2 Installation

To install a deck junction box:

12.2.1 Position the junction box (Fig 3, Item 13) on the bracket below the split side rail, making sure that the underbed light faces down and outwards. Attach the box with Ejot screws (Fig 3, Item 14).

12.2.2 Plug the cables into the corresponding sockets on the junction box as noted previously. Make sure the plugs are fully pushed into the sockets - the yellow sealing rings must not be visible.

12.2.3 Thread the cables through the holes in the faceplate. Press the faceplate into position on the junction box until it "clicks" into place.

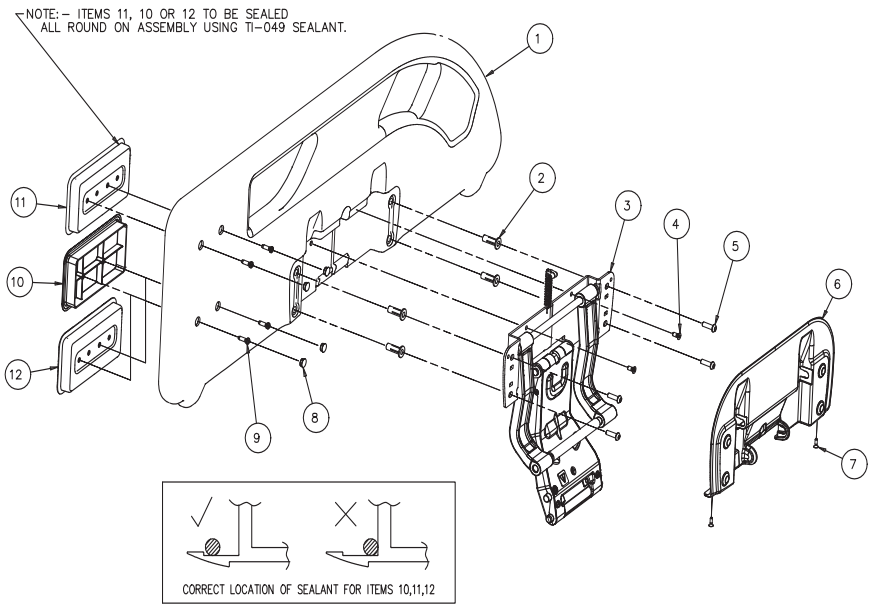


Figure 13: Safety Side Assembly Foot End

Table 6: Safety Side Assembly Foot End Parts List

Item	Part Number	Description	828.376 S-Side Assy FE-RH E8X	828.378 S-Side Assy FE-RH E9X/E96/1wNC (NO SS/EMR)	828.631 S-Side Assy FE-RH E96X/E97X/ E98X	Q T Y
1	818.676	S-Side moulding foot end right hand				1
2	S6838	Versa nut M6				4
3	----------	S-Side Arm assy	828.520	828.580	828.660	1
4	S1641	EJOT C'SK HD PT screw - Ø5.0 x 12				2
5	S3602	SKT button head - M6 x 20				4
6	828.425	S-Side combi cover & tape assembly				1
7	S1642	EJOT C'SK HD PT screw - Ø3.5 x 12				2
8	828.455	Drawer blanking cap				4
9	S1646	EJOT C'SK HD PT screw -Ø5.0 x 16				4
10	818.498	ACP Blanking cap	1	--	--	--
11	----------	ACP control unit RH, E8X, #9X (see electrical assy drawing 828.468/ 562/688/712)			4	1
12	----------	Weight control unit, E9X (see electrical assy drawing 828.468/ 562/688/712)	--	1	1	--

13 Attendant Control Panel - Replacement

This section describes how to replace the Attendant Control Panel (ACP). Reference is made throughout this section to Figure on page 22 and Figure 13 on page 46.

13.1 Removal

To remove the Attendant Control Panel:

13.1.1 Pry off the screw cover (Fig 13, Item 8). Remove two Ejot screws (Fig 13, Item 9) to release either the ACP (Fig 13, Item 11).

13.1.2 Pull the ACP panel out of the foot end split side rail moulding (Fig 13, Item 1). Take care not to strain the attached wiring.

13.1.3 The ACP and extension cables are joined by latching connectors, see Figure 14. Press down the tab A on one side of the connector and pull the two cables apart.

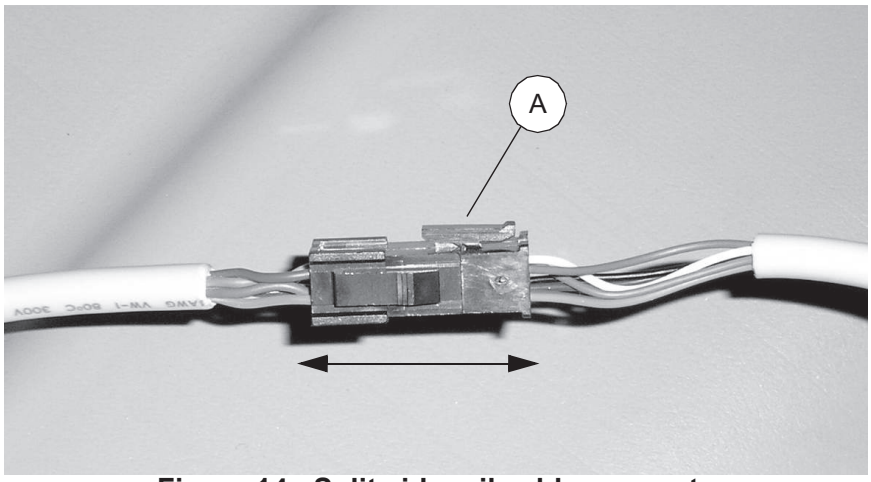


Figure 14: Split side rail cable connector

13.2 Installation

To install the Attendant Control Panel:

13.2.1 Connect the ACP cable (Fig , Item 21) to the ACP (Fig 13, Item 11). Make sure the two halves of the connector latch together securely.

13.2.2 Install the ACP (Fig 13, Item 11) in the foot end split side rail moulding (Fig 13, Item 1). Tuck any excess length of cable down inside the split side rail moulding.

13.2.3 Fit two Ejot screws (Fig 13, Item 9) to secure the ACP panel and refit the screw cover (Fig 13, Item 8).

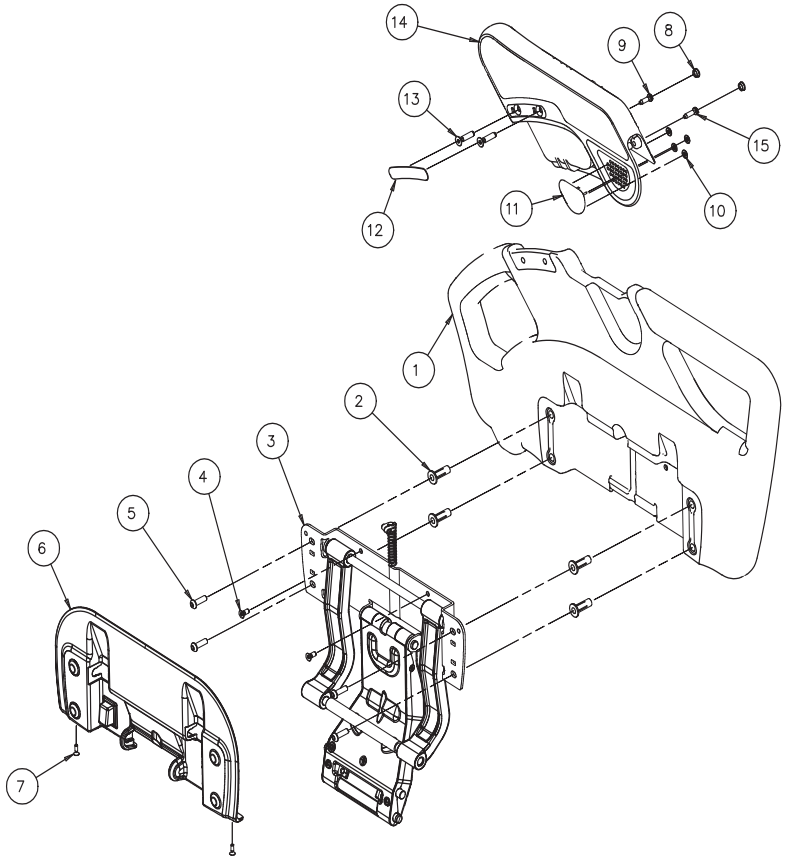


Figure 15: Safety Side Assembly Head End

Table 7: Safety Side Assembly Head End Parts List

Item	Part Number	Description	828.374 S-Side Assy HE-RH E8X/E9X/E96 1wNC (no SS/ EMR)	828.633 S-Side Assy hE-RH E96/ 1 WAY NC	828.663 S-Side Assy HE-RH E97X/E98X 2 WAY NC	832.059 S-Side Assy HE-RH E97X/E98X 2 Way NC (NO SS/EMR)	Q T Y
1	818.756	S-Side moulding head end right hand					1
2	S6838	Versa nut M6					4
3	----------	S-Side Arm assy	828.582	828.660	828.661	832.057	1
4	S1641	EJOT C'SK HD PT screw - Ø5.0 x 12					2
5	S3602	SKT button head - M6 x 20					4
6	828.425	S-Side combi cover & tape assembly					1
7	S1642	EJOT C'SK HD PT screw - Ø3.5 x 12					2
8	S9174	Patient control blanking cap					2
9	S1646	EJOT C'SK HD PT screw -Ø5.0 x 16					1
10	S4842	Starlock washer 2.0	4	4	--	--	--
11	828.456	Speaker grill cover RH	1	1	--	--	--
12	S9172	Patient control screw cover RH					1
13	S1647	EJOT C'SK HD PT screw -Ø6.0 x 25					2
14	---------	Patient control assy RH					1

Item	Part Number	Description	828.374 S-Side Assy HE-RH E8X/E9X/E96 1wNC (no SS/ EMR)	828.633 S-Side Assy hE-RH E96/ 1 WAY NC	828.663 S-Side Assy HE-RH E97X/E98X 2 WAY NC	832.059 S-Side Assy HE-RH E97X/E98X 2 Way NC (NO SS/EMR)	QTY
15	S1643	EJOT PAN HD PT screw -Ø5.0 x 18					1

14 Patient Control Unit - Replacement

This section describes how to replace the Patient Control Unit. Reference is made throughout this section to Figure on page 22 and Figure 15 on page 48.

14.1 Removal

To remove the Patient Control Unit:

14.1.1 Pry off the patient control screw cover (Fig 15, Item 12). Remove three Ejot screws (Fig 15, Item 13).

14.1.2 Pull the patient control unit (Fig 15, Item 14) upwards off the head end split side rail moulding (Fig 15, Item 1). Take care not to strain the attached wiring.

14.1.3 Disconnect the patient control unit wiring from the extension cable (Fig , Item 22) within the split side rail unit and remove it from the bed.

14.1.4 The patient control unit is connected to the extension cable by a latching connector, see Figure 14. Press down the tab A on one side of the connector and pull the two cables apart.

14.2 Installation

To install the Patient Control Unit:

14.2.1 Connect the patient control unit cable to the extension cable (Fig , Item 22). Make sure the two halves of the connector latch together securely.

14.2.2 Install the patient control unit (Fig 15, Item 14) in the head end split side rail moulding (Fig 15, Item 1). Tuck any excess length of cable down inside the split side rail moulding.

14.2.3 Fit three screws (Fig 15, Item 13) to secure the patient control unit and refit the screw cover (Fig 15, Item 12).

15 Height Actuator - Replacement

This section describes how to replace the height actuator. Reference is made throughout this section to Figure on page 22 and Figure 4 on page 31.

WARNING

Before removing the height actuator ensure that the sub-frame is securely supported on suitable stands or blocks.

15.1 Removal

To remove the Height Actuator:

15.1.1 Disconnect the bed from the mains power supply. Disconnect the backup battery (Fig , Item 5) refer to Subsection 9.1 but do not remove it from the bed.

15.1.2 Release the cable clips from the height actuators (Fig 4, Item 7) and unplug both height actuator cables (Fig , Item 17) and (Fig , Item 18) refer to Subsection 1.2. Pry off and discard the starlocks (Fig 4, Item 9) securing the clevis pin at both ends of the faulty actuator.

15.1.3 If changing the foot end actuator, attach the hoist to the foot end of the sub-frame; similarly at the head end. Raise the frame until the faulty actuator just comes free on its mountings. Use blocks or stands to support the sub-frame in this position.

15.1.4 Knock out both clevis pins (Fig 4, Item 8) to release the actuator from the sub-frame (Fig 4, Item 1) and radius arm (Fig 4, Item 2) or (Fig 4, Item 3) and remove it from the bed. Collect two shakeproof washers (Fig 4, Item 21).

15.2 Installation

To install the Height Actuator:

15.2.1 Position the height actuator (Fig 4, Item 7) on the bed with the actuator body towards the centre of the bed. Fit a shakeproof washer (Fig 4, Item 21) and clevis pin (Fig 4, Item 8) to attach the actuator body to the sub-frame fabrication (Fig 4, Item 1). Secure with a new starlock (Fig 4, Item 9). Make sure the shakeproof washer and starlock fit tightly against the mounting bracket as shown in Figure 16.

15.2.2 Connect the cable (Fig , Item 17) or (Fig , Item 18) to the new actuator. Reconnect the backup battery (Fig , Item 5) refer to Subsection 9.2. Support the actuator. Use the bed height controls to extend the actuator ram and align the hole with the fixing bracket on the radius arm (Fig 4, Item 2) or (Fig 4, Item 3). Ignore the audible battery warning.

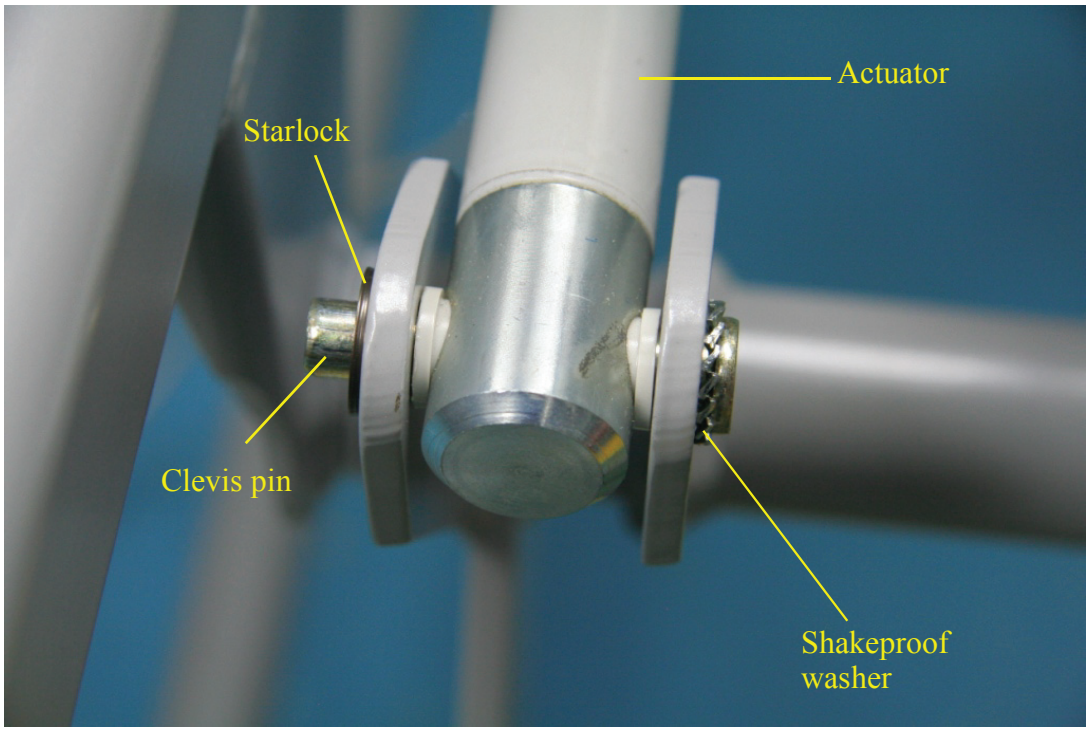


Figure 16: Actuator fasteners

15.2.3 Fit the clevis pin (Fig 4, Item 8) and shakeproof washer (Fig 4, Item 21) to attach the actuator ram to the radius arm. Secure with a new starlock (Fig 4, Item 9). Make sure the shakeproof washer and starlock fit tightly against the mounting bracket as shown in Figure 16.

15.2.4 Reconnect the cable to the other height actuator. Make sure both connectors are fully seated in their sockets and refit the cable clips.

15.2.5 Connect the bed to the mains supply. Use the bed controls to drive the mattress platform up as far as it will go, then down to minimum height to re-synchronise the height actuators.

16 Backrest Actuator - Replacement

This section describes how to replace the backrest actuator. Reference is made throughout this section to Figure on page 22, Figure 3 on page 29 and Figure 4 on page 31.

16.1 Removal

To remove the Backrest Actuator:

16.1.1 Release the cable clip on the backrest actuator (Fig 3, Item 7) and unplug the actuator cable (Fig , Item 16) refer to Subsection 1.2.

16.1.2 Disconnect both CPR cables (Fig 4, Item 14) from the backrest actuator, refer to Subsection 18.1.

16.1.3 If the backrest is in a raised position, use the hoist to support it. Pry off and discard both starlocks (Fig 3, Item 10). Knock out both clevis pins (Fig 3, Item 6) and collect two shakeproof washers (Fig 3, Item 9) to release the actuator from the bed.

16.2 Installation

To install the Backrest Actuator:

16.2.1 Position the backrest actuator (Fig 3, Item 7) on the bed. Use a clevis pin (Fig 3, Item 6) and shakeproof washer (Fig 3, Item 9) to attach the body of the actuator to the sub-frame (Fig 3, Item 11) and secure with a new starlock (Fig 3, Item 10). Make sure the shakeproof washer and starlock fit tightly against the mounting bracket as shown in Figure 16.

16.2.2 Use the hoist to lower or raise the backrest to align hole in the actuator ram with the fixing lug on the backrest fabrication.

16.2.3 Attach the actuator ram to the backrest (Fig 3, Item 1) using a clevis pin (Fig 3, Item 6) and shakeproof washer (Fig 3, Item 9) and secure with a new starlock (Fig 3, Item 10). The head of the clevis pin should lie towards the right hand side of the bed. Make sure the shakeproof washer and starlock fit tightly against the mounting bracket as shown in Figure 16.

16.2.4 Connect the backrest actuator cable (Fig , Item 16). Make sure the connector is fully seated in the socket and refit the cable clip, refer to Subsection 1.2.

16.2.5 Attach the two CPR cables (Fig 4, Item 14) to the backrest actuator and check operation of the CPR release; adjust the CPR cables if necessary (refer to Subsection 18.2).

17 Thigh Actuator - Replacement

This section describes how to replace the thigh actuator. Reference is made throughout this section to Figure on page 22 and Figure 3 on page 29.

WARNING

Ensure that the foot end of the mattress platform is securely supported before removing the thigh actuator.

17.1 Removal

To remove the Thigh Actuator:

17.1.1 Raise the bed to maximum height to allow easy access to the underside of the mattress platform. Release the cable clip from the thigh actuator (Fig 3, Item 8) and unplug the actuator cable (Fig , Item 15) refer to Subsection 1.2.

17.1.2 Pry off and discard the starlocks (Fig 3, Item 10) from both ends of the thigh actuator. Attach the hoist to the foot end of the mattress platform and slowly raise the bed until the thigh actuator just becomes free on its mountings.

17.1.3 Knock out two clevis pins (Fig 3, Item 6) to release the actuator from the thigh section (Fig 3, Item 12) and sub-frame assembly (Fig 3, Item 11). Collect two shakeproof washers (Fig 3, Item 9).

17.2 Installation

To install the Thigh Actuator:

17.2.1 Position the thigh actuator (Fig 3, Item 8) on the bed with the ram pointing towards the foot end. Attach the actuator body to the sub-frame assembly (Fig 3, Item 11) with the clevis pin (Fig 3, Item 6) and shakeproof washer (Fig 3, Item 9). Secure the assembly with a new starlock (Fig 3, Item 10). Make sure the shakeproof washer and starlock fit tightly against the mounting bracket – see Figure 16.

17.2.2 Position the thigh section (Fig 3, Item 12) to align the mounting lug with the hole in the thigh actuator ram. Attach the actuator ram to the thigh section using the clevis pin (Fig 3, Item 6) and shakeproof washer (Fig 3, Item 9) and secure with a new starlock (Fig 3, Item 10). Make sure the shakeproof washer and starlock fit tightly against the mounting bracket – see Figure 16.

17.2.3 Connect the thigh actuator cable (Fig , Item 15). Make sure the connector is fully seated in the socket and refit the cable clip, refer to Subsection 1.2.

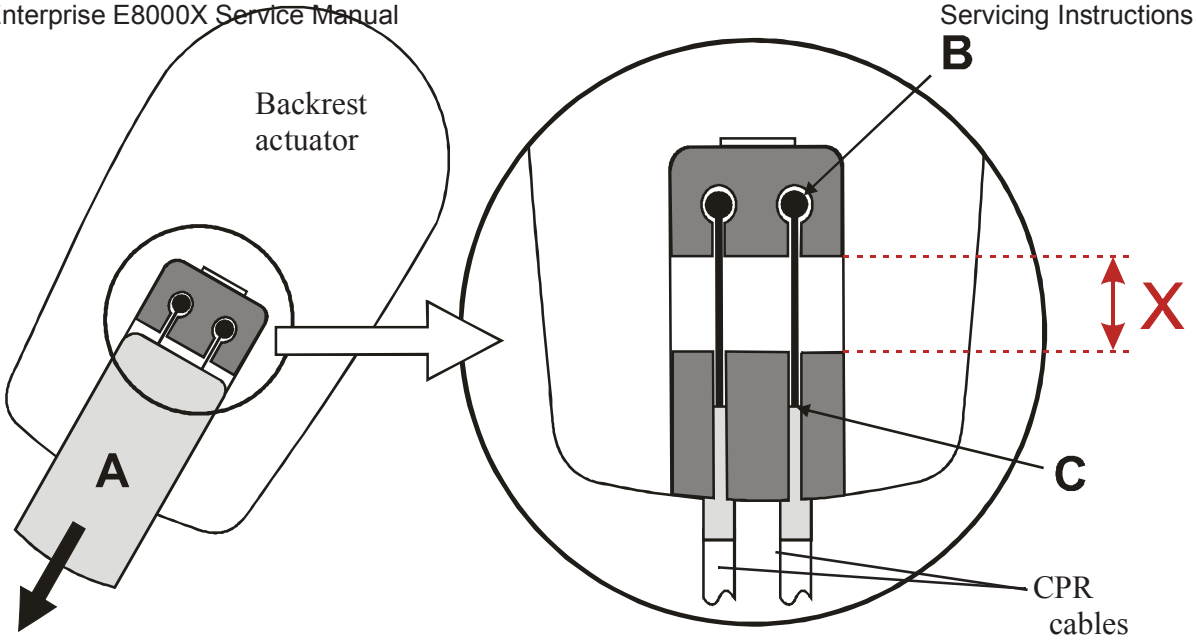


Figure 17: CPR cable fixing - backrest actuator

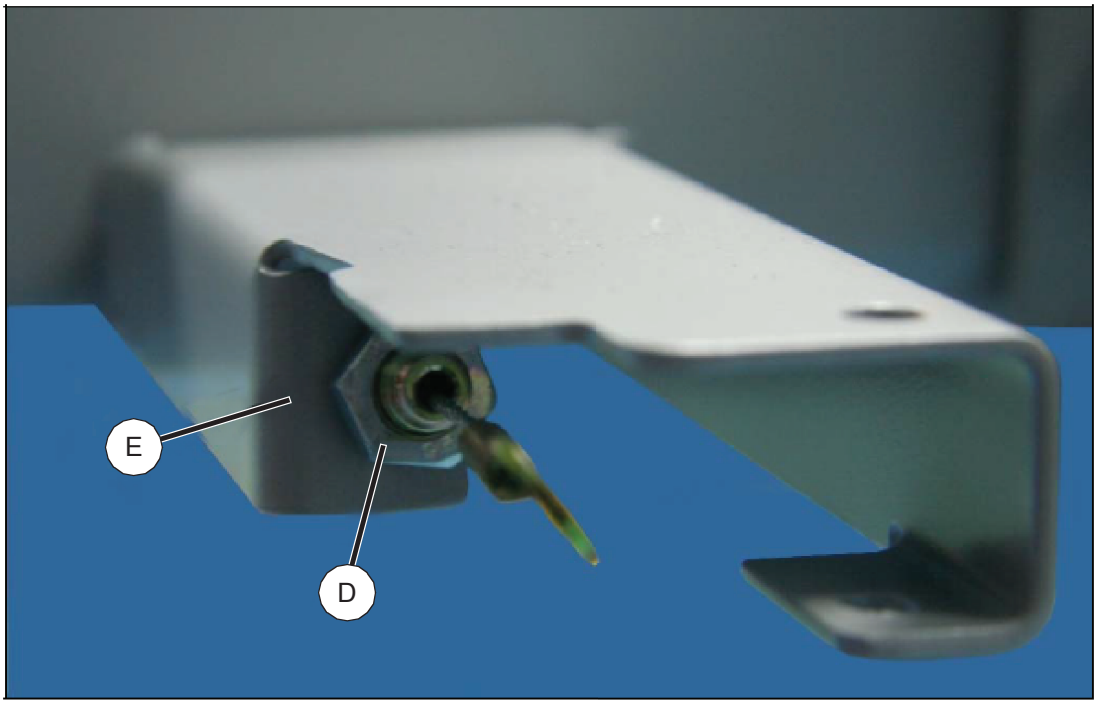


Figure 18: CPR Cable routing

18 CPR Release Handle and Cable - Replacement

This section describes how to replace the CPR release handle and cable. Reference is made throughout this section to Figure on page 22 and Figure 4 on page 31.

There are two separate CPR cables, one connected to each CPR release handle. The left and right handles are different.

18.1 Removal

To remove the CPR release handle and cable:

18.1.1 Pry off and discard one starlock (Fig 4, Item 12) and pull out the clevis pin (Fig 4, Item 13) closest to the foot end to detach the CPR cable (Fig 4, Item 14) from the CPR release handle (Fig 4, Item 10) or (Fig 4, Item 11).

18.1.2 Pry off and discard the second starlock and pull out the other clevis pin to detach the CPR release handle from the sub-frame bracket (Fig 4, Item 1).

18.1.3 Slacken the two nuts attaching the CPR cable to the fixing bracket on the sub-frame fabrication (Fig 4, Item 1) and pull the cable out of the bracket.

18.1.4 Refer to Figure 17. Slide the cover (A) off the CPR cable housing on the side of the backrest actuator (Fig , Item 2). Lift the ball end of the cable (B) out of the housing and remove the CPR cable from the bed.

18.2 Installation & Adjustment

To install and adjust the CPR release handle and cable:

18.2.1 Refer to Figure 17. Position the ball end of the CPR cable (Fig 4, Item 14) in the circular recess of the cam lever (B). Locate the inner cable in the groove (C) with the outer cable held in place as shown.

18.2.2 Route the cable below the mattress platform assembly. Refer to Figure 18; secure the CPR cable to the sub-frame fabrication (Fig 4, Item 1) using one nut (D) either side of the fixing bracket (E).

18.2.3 Attach the CPR release handle (Fig 4, Item 10) or (Fig 4, Item 11) to the bracket on the sub-frame (Fig 4, Item 1) with a clevis pin (Fig 4, Item 13) and secure with a new starlock (Fig 4, Item 12).

18.2.4 Attach the ring on the end of the CPR cable to the CPR handle with a second clevis pin and secure it with another new starlock (Fig 4, Item 12).

18.2.5 Adjust the nuts (Fig 18, Item D) so that the distance “X” in Figure 17 is between 11.0 and 11.5mm; this should be measured using vernier or digital callipers. Refit the cover (Fig 17, Item A) on the backrest actuator.

18.2.6 Check the operation of both CPR release handles. Adjust the nuts (Fig 18, Item D) again if necessary.

19 Backrest Damper - Replacement

This section describes how to replace the backrest damper. Reference is made throughout this section to Figure 3 on page 29.

19.1 Removal

To remove the backrest damper:

19.1.1 Raise the backrest to maximum height. If the backrest actuator (Fig 3, Item 7) has been removed, use the hoist to support the backrest in position.

19.1.2 Pry off and discard both starlocks (Fig 3, Item 10) and remove the backrest damper (Fig 3, Item 2).

19.2 Installation

To install the backrest damper:

19.2.1 Assemble the new backrest damper (Fig 3, Item 2) onto the brackets on the backrest (Fig 3, Item 1) and sub-frame assembly (Fig 3, Item 11), adjusting the angle of the backrest as necessary. Note that the damper piston (ram) must point towards the head end of the bed.

19.2.2 Secure the damper with two new starlocks (Fig 3, Item 10); make sure the damper is free to pivot on the brackets but is not too loose.

This Page Intentionally Left Blank

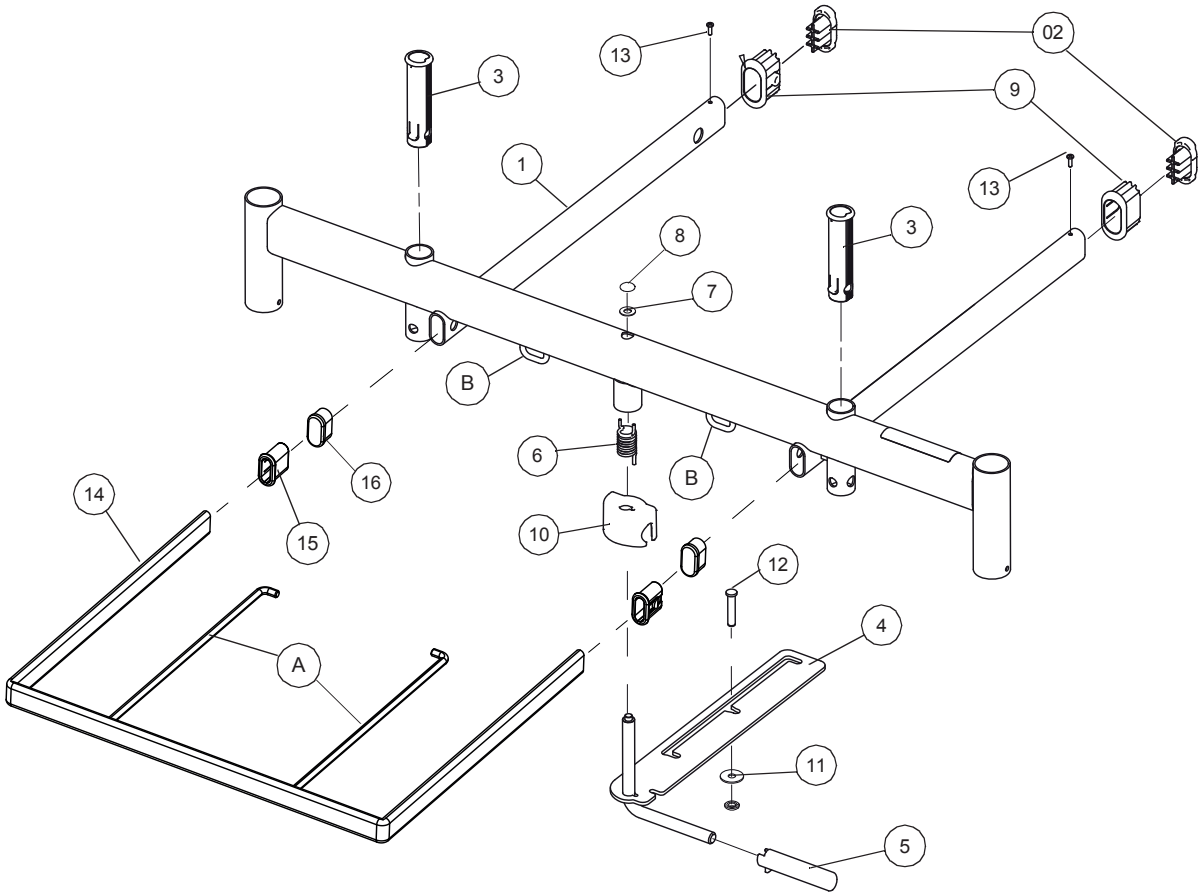


Figure 19: Bed Extension / Bed Stripper Assembly

Table 8: Bed Extension / Bed Stripper Assembly Parts List

Item	Part Number	Description	Qty
1	828.210 Kit[a]	Bed extension fabrication	1
2	828.008	Bed extension guide	2
3	818.126	Panel socket liner	2
4	828.209 Kit[b]	Bed extension locking fabrication	1
5	828.142	Deck extension handle moulding	1
6	828.057	Deck extension spring	1
7	S1804	Washer M8 light	1
8	S1804	Capped starlock M8	2
9	828.058	Bed EXT'N bush moulding	2
10	828.166	Deck extension handle cover	1
11	S1874	Large diameter washer M8	1
12	RM0214	Clevis pin DIA 8 x 40 long	1
13	S1615	Self tapping screw No.8 x 1/2"	2
14	828.052	Bed stripper fabrication	1
15	818.98	Bed extension bush	2
16	S6720	End cap FSO 40x20 (if bed stripper not installed)	2

a. Includes 1 x bed extension fabrication, 2 x bed extension guide, 2 x extension bush, 2 x capped starlock

b. Includes 1 x extension locking fabrication, 1 x lever handle, 2 x capped starlock, 1 x washer, 1 x deck extension handle cover, 1 x spring, 1 x washer, 1 x clevis pin

20 Bed Extension / Bed Stripper - Replacement

This section describes how to replace the bed extension and optional bed stripper. Reference is made throughout this section to Figure 19 on page 59.

Check the following character on the product label (refer to Chapter 6, Subsection 1.1).

8 X 1 G F 0 1 3 B A A A A
Bed stripper / Bed extension

If the number is 0 a bed stripper is not installed. If the number is 1 then a bed stripper is installed.

20.1 Removal

To remove the bed extension:

20.1.1 Pull out the bedstripper (if fitted) as far as it will go (Fig 19, Item 14). Push the two middle bars (A) outwards so they will pass through the retaining loops (B) and remove the bedstripper from the extension assembly.

20.1.2 Pry off and discard the starlock (Fig 19, Item 8) from below the foot end of the sub-frame. Collect the washer (Fig 19, Item 11). Pull out the clevis pin (Fig 19, Item 12) to free the bed extension locking handle fabrication (Fig 19, Item 4). Note: the handle will spring across when the clevis pin is removed.

20.1.3 Push in the locking tabs on the side of each extension bush moulding (Fig 19, Item 9). Pull the extension assembly out of the sub-frame.

20.1.4 To remove the extension locking handle: pry off and discard the capped starlock (Fig 19, Item 8), collect the washer (Fig 19, Item 7). Pull out the handle from below and collect the handle cover (Fig 19, Item 10) and spring (Fig 19, Item 6).

20.2 Installation

To install the bed extension:

20.2.1 Fit the spring (Fig 19, Item 6) and cover (Fig 19, Item 10) on the extension locking handle fabrication (Fig 19, Item 4). Assemble the handle into the extension fabrication (Fig 19, Item 1); make sure the spring locates in the slots on the locking handle and extension fabrication. Secure with the washer (Fig 19, Item 7) and a new capped starlock (Fig 19, Item 8). Make sure the handle swings freely about the pivot but is not too loose.

20.2.2 Slide the extension assembly into the sub-frame. Push the extension bush mouldings (Fig 19, Item 9) into the sub-frame tubes to that the locking tabs engage the holes in the tubes.

20.2.3 Fit the clevis pin (Fig 19, Item 12) down through the sub-frame foot end cross member, so that it fits into the groove on the extension locking handle. Fit the washer (Fig 19, Item 11) and a new starlock (Fig 19, Item 8) below the handle to secure it. Check that the bed extension slides in and out easily and latches securely in all three positions.

20.2.4 Slide the bedstripper fabrication into the extension assembly (Fig 19, Item 14). Push the two middle bars (A) outwards so they will pass through the retaining loops (B).

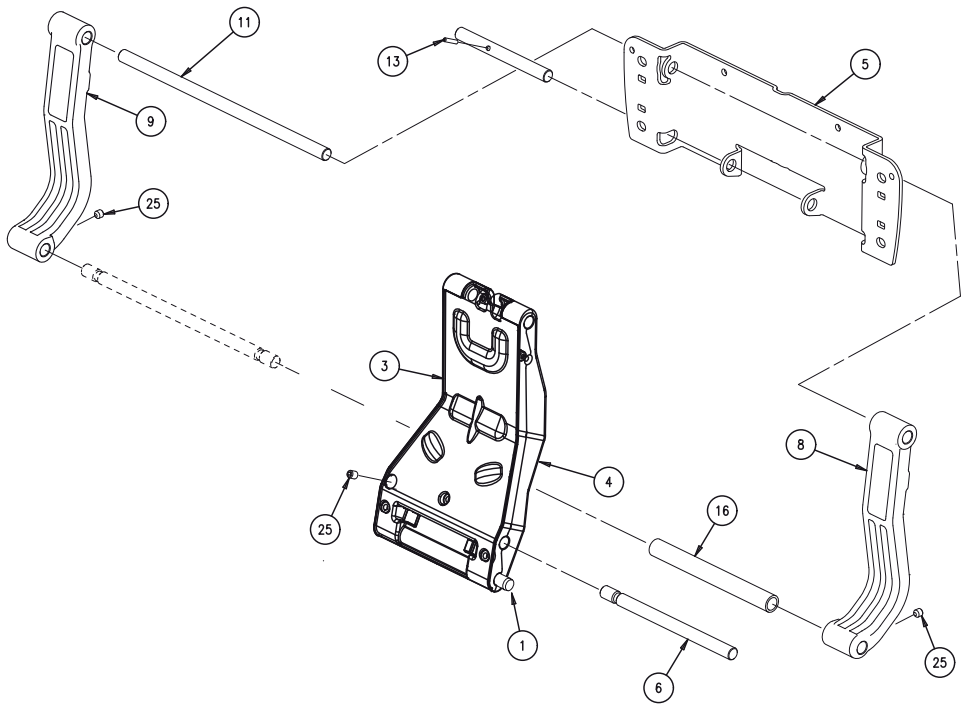


Figure 20: Safety Side Arm Assembly

Table 9: Safety Side Arm Assembly Parts List

Item	Part Number	Description	Qty
1	818.607	S-S Plunger Mk5 right hand	1
2	818.606	S-S Plunger Mk5 left hand	1
4	818.611	S-Side lower arm Mk5	1
6	818.146	S-Side lower arm pivot - botm	1
8	828.578	S-Side upper arm - left hand - machined	1
9	828.579	S-Side upper arm - right hand - machined	1
11	818.152	S-Side upper arm pivot pin top	1
12	REF	S-Side bearing plate spacer	1
13	REF	Skt Set Screw cup point M6x8 T-L patch	3

Parts in Figure 20 are included in kits listed in Figure 21.

21 Head End Split Side Rail - Replacement

This section describes how to replace the head end split side rail. Reference is made throughout this section to Figure on page 22, Figure 20 on page 62 and Figure 21 on page 64.

The characters at the highlighted positions on the product label indicate the backrest and side rail configuration (refer to Chapter 6, Subsection 1.1). The *Enterprise* E8000X will always have a number 3 and letter B at these positions meaning that the bed is fitted with Standard Backrest and Split Side Rails.

8 X 1 G F 0 1 3 B A A A A

Backrest and deck sheets

Side Rail Options

21.1 Removal

To remove the head end split side rails:

21.1.1 Prize off the retaining strip from the front of the deck junction box (Fig , Item 4). Unplug the head end extension cable (Fig , Item 22) from the junction box.

21.1.2 Remove all cable ties to free the extension cable.

21.1.3 Use the hoist to support the split side rail. Slacken the two socket head set screws (Fig 20, Item 13) in the split side rail upper arms (Fig 20, Item 8) and (Fig 20, Item 9). Drive out the upper arm pivot pin (Fig 21, Item 5) towards the head end and collect the spacer (Fig 20, Item 12).

21.1.4 Slacken the socket head set screw (Fig 20, Item 13) in the split side rail lower arm (Fig 20, Item 4). Drive out the lower arm pivot (Fig 20, Item 6).

21.1.5 Lift the split side rail release lever to retract the plungers (Fig 20, Item 1) and (Fig 20, Item 2) and remove the head end split side rail module (Fig 21, Item 3) or (Fig 21, Item 4) from the bed. If necessary, remove the split side rail bearing plates (Fig 21, Item 6) and (Fig 21, Item 7).

21.2 Installation

To install the head end split side rails:

21.2.1 Fit the split side rail bearing plates (Fig 21, Item 6) and (Fig 21, Item 7) if removed previously. Use the split side rail plungers (Fig 20, Item 1) and (Fig 20, Item 2) to position the head end split side rail assembly (Fig 21, Item 3) or (Fig 21, Item 4) on the bed.

21.2.2 Line up the lower fixing holes in the split side rail lower arm (Fig 20, Item 4) with the corresponding holes on the sub-frame assembly. Drive in the lower arm pivot pin (Fig 20, Item 6). Tighten the set screw (Fig 20, Item 13) in the lower arm, ensuring that it engages the groove on the lower arm pivot pin.

21.2.3 Install the spacer (Fig 20, Item 12) and drive in the upper arm pivot pin (Fig 20, Item 11). Tighten the socket head set screws (Fig 20, Item 13) in the split side rail upper arms (Fig 20, Item 8) & (Fig 20, Item 9), making sure they engage in the grooves in the upper arm pivot pin.

21.2.4 Fit the cable ties over the extension cable (Fig , Item 22) securing it below the split side rail. Leave just enough slack in the cables for the side to be raised and lowered without straining the cables.

21.2.5 Plug the extension cable into the junction box (Fig , Item 4). Clip the retaining strip into position on the junction box.

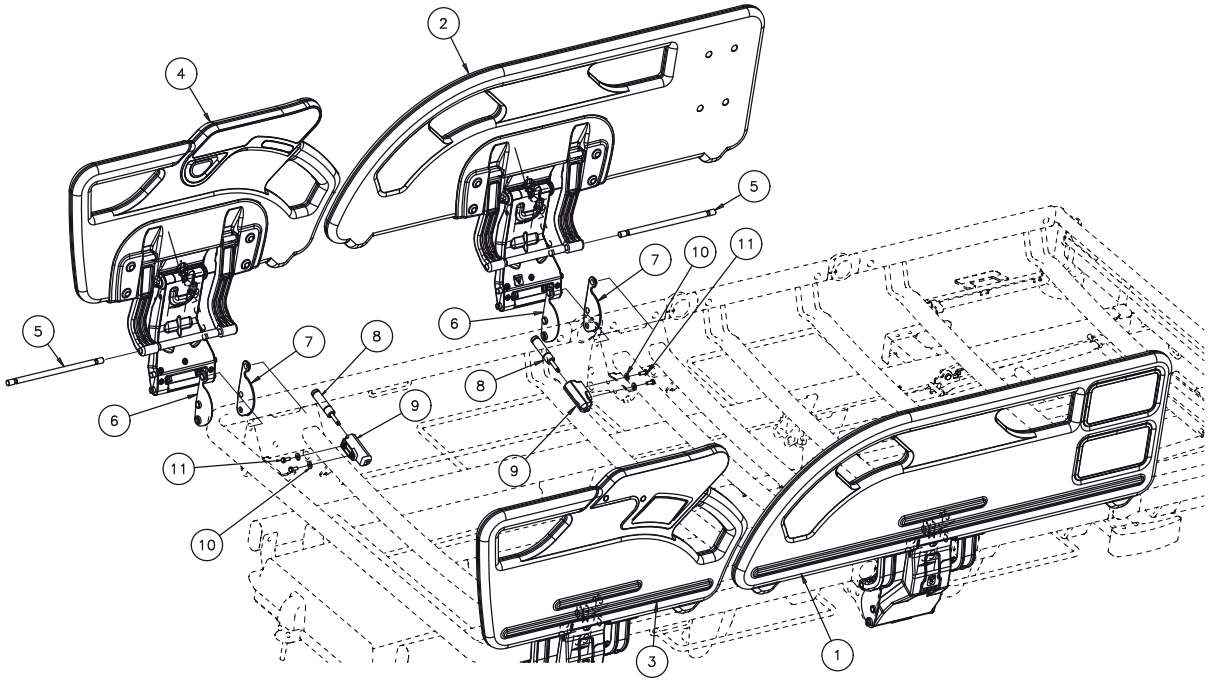


Figure 21: Safety Side Module

Table 10: Safety Side Module Parts List

Item	Part Number	Description	Qty
1	828.376 Kit	S-Side foot assembly - right hand	1
2	828.377 Kit	S-Side foot assembly - left hand	1
3	828.374 Kit	S-Side head assembly - right hand	1
4	828.375 Kit	S-Side head assembly - left hand	1
5	818.189	S-Side upper arm pivot pin - bottom	4
6	818.137	S-Side bearing plate - right hand	4
7	818.136	S-Side bearing plate - left hand	4
8	823.974 Kit	S-Side damper assembly	4
9	818.139	S-Side damper housing	4
10	S1869	Washer M5 x 12.5 x 1.0 Form ‘C’ zinc Plt.	8
11	S1133	Hex Hd Screw M5 x 12Lg St.Stl. Tuflok Patch	8

Kits include complete Side Rail and Side Arm assemblies

22 Foot End Split Side Rail - Replacement

This section describes how to replace the foot end split side rail. Reference is made throughout this section to Figure on page 22, Figure 20 on page 62 and Figure 21 on page 64.

22.1 Removal

To remove the foot end split side rails:

22.1.1 Prize off the retaining strip from the front of the junction box (Fig , Item 4). Unplug the foot end extension cable (Fig , Item 21) from the junction box.

22.1.2 Undo the hex head screw (Fig 21, Item 11), collect the washer (Fig 21, Item 10) and remove the cable tie from the extension cable.

22.1.3 Use the hoist to support the split side rail. Slacken the two socket head set screws (Fig 20, Item 13) in the split side rail upper arms (Fig 20, Item 8) and (Fig 20, Item 9). Drive out the upper arm pivot pin (Fig 13, Item 1) and collect the spacer (Fig 20, Item 12).

22.1.4 Slacken the socket head set screw (Fig 20, Item 13) in the split side rail lower arm (Fig 20, Item 4). Drive out the split side rail lower arm pivot (Fig 20, Item 6).

22.1.5 Lift the split side rail release lever to retract the plungers (Fig 20, Item 1) and (Fig 20, Item 2) and remove the foot end split side rail module (Fig 21, Item 1) or (Fig 21, Item 2) from the bed. If necessary, prize off the split side rail bearing plates (Fig 21, Item 6) and (Fig 21, Item 7).

22.2 Installation

To install the foot end split side rails:

22.2.1 Fit the split side rail bearing plates (Fig 21, Item 6) and (Fig 21, Item 7) if removed previously. Use the split side rail plungers (Fig 20, Item 1) and (Fig 20, Item 2) to position the foot end split side rail assembly (Fig 21, Item 1) or (Fig 21, Item 2) on the bed.

22.2.2 Line up the lower fixing holes in the split side rail lower arm (Fig 20, Item 4) with the corresponding holes on the sub-frame assembly. Drive in the lower arm pivot (Fig 20, Item 6). Tighten the set screw (Fig 20, Item 13) in the lower arm, ensuring that it engages the groove on the lower arm pivot pin.

22.2.3 Install the spacer (Fig 20, Item 12) and drive in the upper arm pivot pin (Fig 20, Item 11). Tighten the two set screws (Fig 20, Item 13) in the split side rail upper arms (Fig 20, Item 8) and (Fig 20, Item 9), making sure they engage in the grooves in the upper arm pivot pin.

22.2.4 Fit the cable tie over the extension cable (Fig , Item 21), and secure it below the split side rail with a washer (Fig 21, Item 10) and hex head screw (Fig 21, Item 11). Check that the extension cable runs freely through the P-clip.

22.2.5 Plug the extension cable into the junction box (Fig , Item 4). Clip the retaining strip into position on the junction box.

23 Split Side Rail Damper - Replacement

This section describes how to replace the split side rail dampter. Reference is made throughout this section to Figure 21 on page 64.

23.1 Removal

To remove the split side rail damper:

23.1.1 Unscrew the split side rail damper assembly (Fig 21, Item 8) from the housing (Fig 21, Item 9); the damper has a screwdriver slot at one end that can be accessed from the rear of the housing.

23.2 Installation

To install the split side rail damper:

23.2.1 Screw the new damper assembly (Fig 21, Item 8) tightly into the damper housing.

This Page Intentionally Left Blank

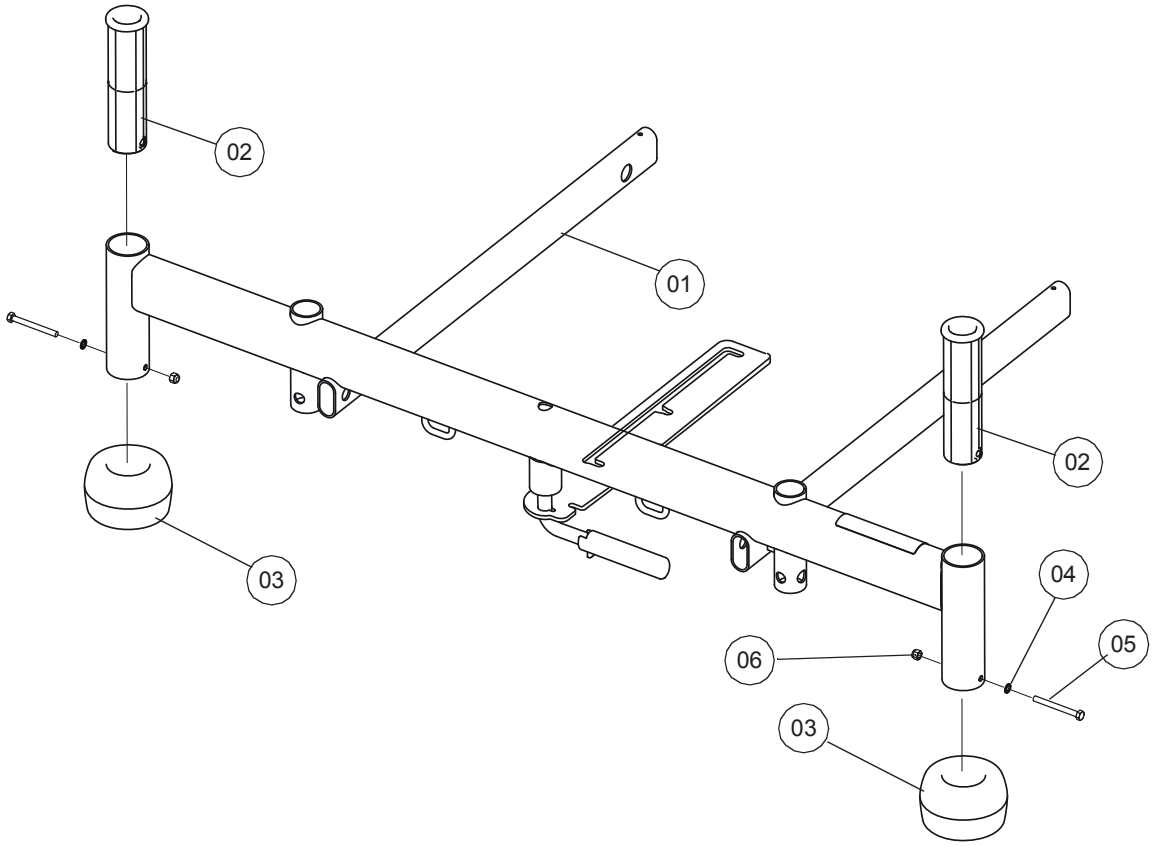


Figure 22: Roller buffer

Table 11: Roller Buffer Parts List

Item	Part Number	Description	Qty
1	828.210 Kit[a]	Bed extension fabrication	1
2	828.277 Kit[b]	Corner tube liner	2
3	828.205 Kit[c]	Roller buffer moulding	2
4	S4785	External shakeproof washer	2
5	S7002	Hex head bolt M5x50	2
6	S1410	Nyloc nut M5 THK	2

a. Includes 1 x bed extension fabrication, 2 x bed extension guide, 2 x extension bush, 2 x capped starlock
b. Includes 1 x corner tube liner, 1 x M5 hex head bolt,1 x shakeproof washer, 1 x M5 Nyloc nut
c. Includes 1 x roller buffer, 1 x M5 hex head bolt, 1 x shakeproof washer, 1 x M5 Nyloc nut

24 Roller Buffer - Replacement

This section describes how to replace the roller buffer. Reference is made throughout this section to Figure 22 on page 68.

This procedure describes the replacement of the foot end roller buffer and/or corner tube liner; use the same method to replace those at the head end.

24.1 Removal

To remove the roller buffer:

24.1.1 Lift up the roller buffer moulding (Fig 22, Item 3). Undo the M5 Nyloc nut (Fig 22, Item 6) and withdraw the M5 hex head bolt (Fig 22, Item 5) from the mounting tube.

24.1.2 Collect the shakeproof washer (Fig 22, Item 4) and remove the roller buffer moulding.

24.1.3 If necessary, pull the corner tube liner (Fig 22, Item 2) up and out of the tube.

24.2 Installation

To install the roller buffer:

24.2.1 If previously removed, fit the corner tube liner (Fig 22, Item 2) down into the mounting tube on the bed extension fabrication (Fig 22, Item 1). Make sure the transverse holes in the tube and liner are aligned.

24.2.2 Fit the roller buffer moulding (Fig 22, Item 3) over the tube.

24.2.3 Fit the shakeproof washer (Fig 22, Item 4) onto the M5 hex head bolt (Fig 22, Item 5). Fit the bolt through the holes in the tube and liner.

24.2.4 Secure the assembly with a new M5 Nyloc nut (Fig 22, Item 6).

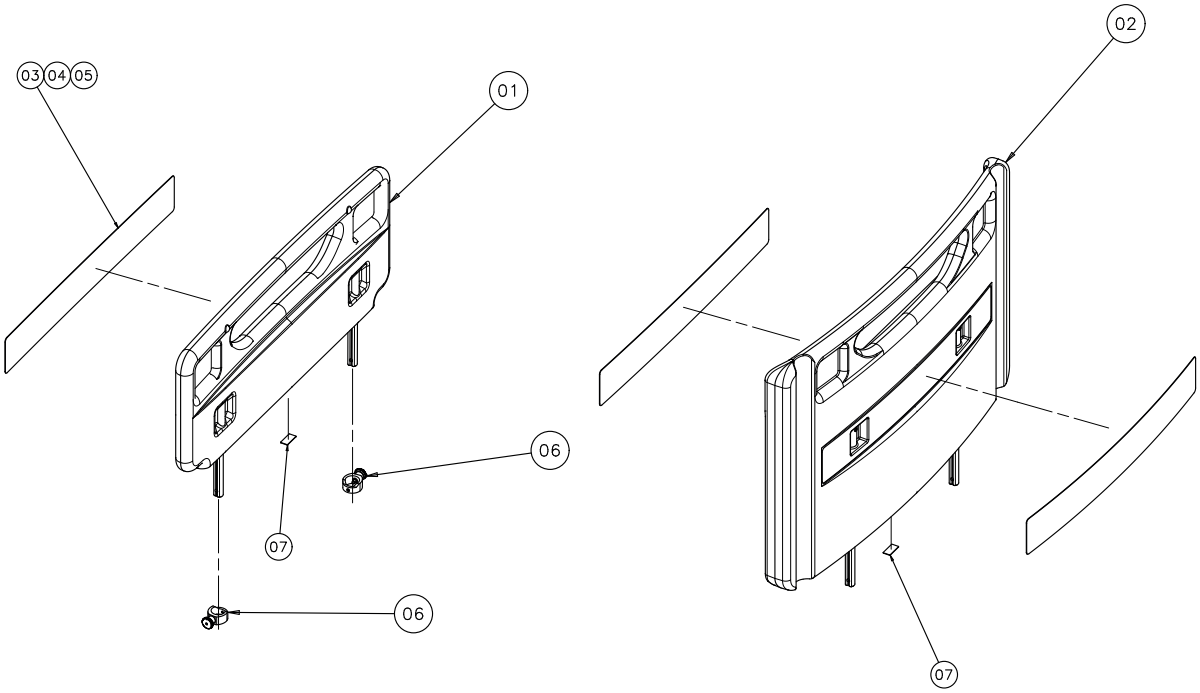


Figure 23: Panel infill

Table 12: Head/Footboard infill module

Item	Part Number	Description	A	B	C	D	E	F
1	828.421 Kit	Head end panel corporate lilac	1			1		
	828.422 Kit	Head end panel light blue		1			1	
	828.423 Kit	Head end panel corp' blue			1			1
2	828.231 Kit	Foot end panel corporate lilac	1			1		
	828.232 Kit	Foot end panel light blue		1			1	
	828.233 Kit	Foot end panel - corp' blue			1			1
3	828.130	Infill large - corp lilac	3			3		
4	818.101	Infill large - light blue		3			3	
5	828.131	Infill large - corp blue			3			3
6	828.400	Locking collar assembly				2	2	2
7	RM0181	Arjo logo label - black	2	2	2	2	2	2

Kits contain a coloured panel infill (items 3,4 or 5).

25 Restoration of Paintwork

Damage to the paint finish on the frame or other components can be repaired by brush application of cellulose-based paint obtainable from specialist paint suppliers or local distributors.

The standard finish colour for this product is silver (Beckers Ikea No. 1).

Clean and degrease the damaged area by wiping with a lint free cloth moistened with a suitable volatile solvent, e.g. methylated spirits/denatured alcohol.

Make sure there are no loose chips of paint and use fine sandpaper to abrade the area where paint is to be applied and blend to a smooth surface. Clean and degrease the area again.

Use a soft bristle brush to apply primer paint to the damaged area. Allow the primer to dry and apply the colour finish paint. Use both in accordance with the manufacturer's instructions.

WARNING

Always use painting materials as directed by the manufacturer and obey the safety instructions.

25.1 Panel Infill

This section describes how to replace the head and foot end panel infill. Reference is made throughout this section to Figure 23 on page 70.

The panel infill colour used on the bed can be identified from the model number REF on the specification label, refer to Chapter 6, Subsection 1.1.

Check the following character on the product label.

8	X	1	G	F	0	1	3	B	A	A	A	A
									Head board / foot board and infill panel colours			

Refer to Figure 23 for spare parts.

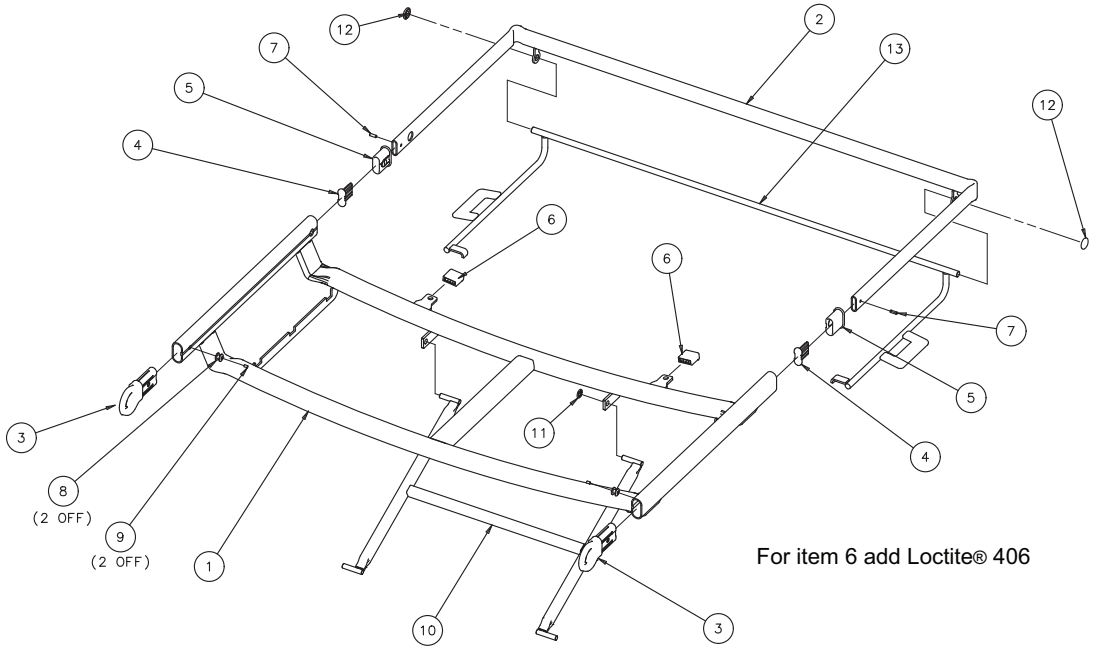


Figure 24: Calf Extension Assembly

Table 13: Calf Extension Assembly Parts List

Item	Part Number	Description	Qty
1	828.222 Kit[a]	Calf section fabrication	1
2	828.221 Kit[b]	Calf extension piece fab	1
3	818.85	Hinge - inner	2
4	818.97	Extension inner tube end cap	2
5	818.98	Bed extension bush	2
6	828.040	Calf section skid moulding	2
7	S1070	Roll pin 4 x 12	2
8	S4529	Pop rivet Ø6.4 x 15 long	2
9	S6526	Nylon rivet plug	2
10	828.224 Kit[c]	Calf section stay fab	1
11	S4817	Starlock dia 8	1
12	S4814	Capped starlock dia 10	2
13	828.223 Kit[d]	Calf extension latch fab	1

a. Includes 1 x calf section fabrication, 2 x hinge inner, 2 x skid moulding, 2 x Pop rivet, 2 x nylon rivet plug, 2 x hinge infill
b. Includes 1 x calf extension; 2 x roll pin, 2 x extension bush, 2 x end cap
c. Includes 1 x calf section stay fabrication, 1 x starlock
d. Includes 1 x calf extension catch, 2 x capped starlock, 1 x label left hand, 1 x label right hand

26 Calf section and calf section stay – replacement

This section describes how to replace the calf section and calf section stay. Reference is made throughout this section to Figure 24 on page 72 and Figure 26 on page 76.

*Paragraphs marked * are optional; only follow these if it is necessary to replace damaged parts.*

26.1 Removal

To remove the calf section and calf section stay:

26.1.1 Use the ACP to raise the thigh section as far as it will go. Manually disengage the calf section stay (Fig 24, Item 10) and lift the calf section up and back so that it is vertical.

26.1.2 * Remove and discard the starlock (Fig 24, Item 11) from the calf section stay. Slide the calf section stay off the calf section (Fig 24, Item 1).

26.1.3 Pry off and discard the hinge infill (Fig 26, Item 06) from the calf/thigh section hinges (Fig 24, Item 3)/(Fig 26, Item 2). Remove the socket head screws (Fig 26, Item 7) and collect the washers (Fig 26, Item 8). Do not allow the calf section to fall.

26.1.4 Slide the calf section (Fig 24, Item 1) sideways to disengage the hinges from the thigh section. Lift the calf section assembly off the bed. Collect the hinge springs (Fig 26, Item 9) and hinge bushes (Fig 26, Item 10) from the calf section hinges.

26.1.5 * Pull the calf extension (Fig 24, Item 2) out as far as it will go. Push in the plastic latches on the sides of the two extension bushes (Fig 24, Item 5) and pull the extension assembly out of the calf section fabrication (Fig 24, Item 1). If required, knock out two roll pins (04-7) and remove the extension bushes from the calf extension (Fig 24, Item 2).

26.1.6 * Pry off and discard two capped starlocks (Fig 24, Item 12) and remove the calf extension latch fabrication (Fig 24, Item 13).

26.2 Installation

To install the calf section and calf section stay:

26.2.1 * Fit the calf extension latch fabrication (Fig 24, Item 13) to the mounting holes on the calf extension (Fig 24, Item 2); fit one end of the latch then slide it across to engage the other end. Secure with two new capped starlocks (Fig 24, Item 12).

26.2.2 * Slide two new extension bushes (Fig 24, Item 5) onto the calf extension (Fig 24, Item 2). Drive in two new roll pins (Fig 24, Item 7) to stop the bushes sliding off the tubes. Slide the calf extension assembly into the calf section (Fig 24, Item 1) until the extension bushes latch into place.

26.2.3 * Install two hinge bushes (Fig 26, Item 10) and hinge springs (Fig 26, Item 9) into the thigh half of the calf/thigh section hinges (Fig 26, Item 2).

26.2.4 Holding the calf section horizontal, assemble it to the thigh section by sliding it sideways to engage the two halves of each hinge. Fit the washers (Fig 26, Item 8) and the socket head screws (Fig 26, Item 7) to secure the sections together. Make sure the screws are properly tightened. Fit new hinge infills (Fig 26, Item 6) and (Fig 26, Item 11) to cover the screw heads.

26.2.5 * Manually lift the calf section up and back so that it is vertical. Install the calf section stay (Fig 24, Item 10) into the lugs on the calf section fabrication (Fig 24, Item 1) and secure it with a new starlock (Fig 24, Item 11).

26.2.6 * Refer to Figure 25. Manually lower the calf section to a horizontal position; make sure the calf section stay (A) engages the runners (B) on the sub-frame.

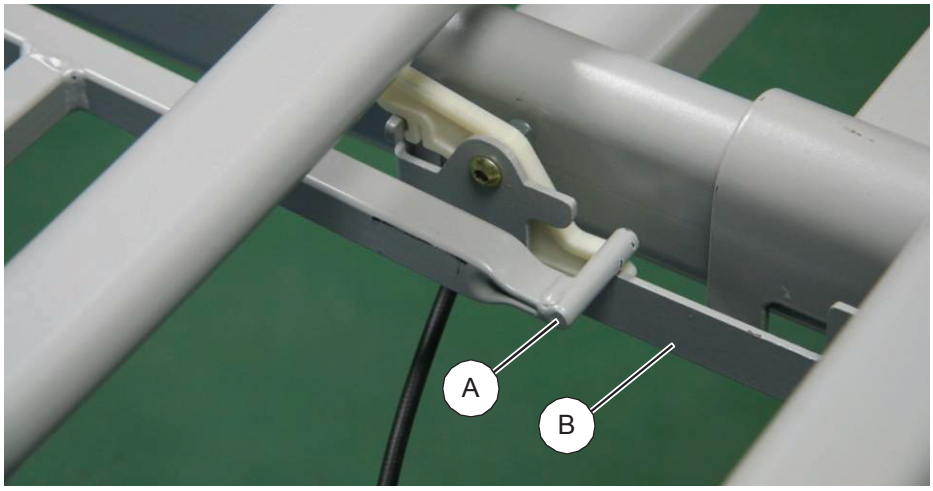


Figure 25: Location of calf section stay

This Page Intentionally Left Blank

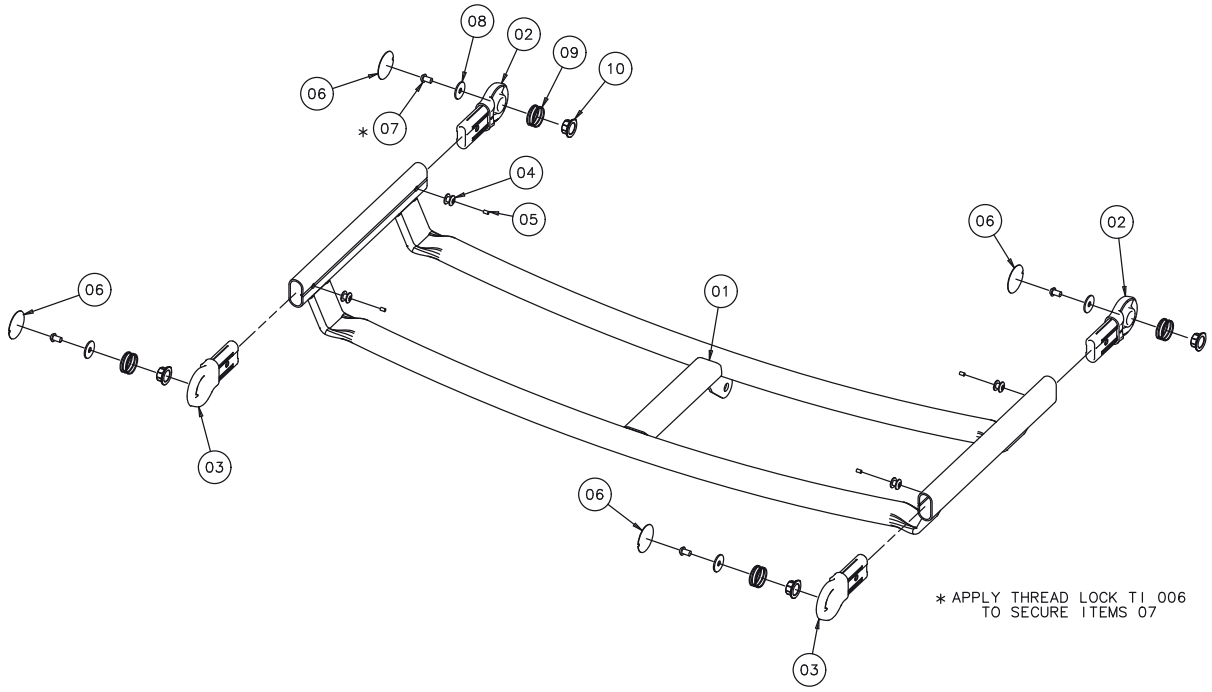


Figure 26: Thigh Section Assembly

Table 14: Thigh Section Assembly Parts List

Item	Part Number	Description	Qty
1	REF	Thigh section fabrication	1
2	818.86	Hinge outer	2
3	818.85	Hinge inner	2
4	S4529	Pop rivet Ø6.4 x 15 long	4
5	S6526	Nylon rivet plug	4
6	818.105	Hinge infill - blank	4
7	S3653	Skt button HD screw M6 x 10 Zn Plt	4
8	S1872	Washer M6 x Ø22 x 1.5 THK	4
9	818.79	Hinge spring	4
10	818.69	Hine bush	4

27 Thigh section – replacement

This section describes how to replace the thigh section. Reference is made throughout this section to Figure 3 on page 29, Figure 4 on page 31 and Figure 26 on page 76.

27.1 Removal

To remove the thigh section:

27.1.1 Remove the calf section (Fig 3, Item 5) refer to Subsection 26.1.

27.1.2 Pry off and discard the starlock (Fig 3, Item 10) from the piston end of the thigh section actuator (Fig 3, Item 8). Drive out the clevis pin (Fig 3, Item 6) and collect the shakeproof washer (Fig 3, Item 9) to disengage the actuator from the thigh section (Fig 3, Item 12). Do not allow the thigh section actuator to drop.

27.1.3 Pry off and discard the hinge infills (Fig 26, Item 6) from the thigh/seat section hinges (Fig 26, Item 3)/(Fig 4, Item 15). Remove the two socket head screws (Fig 26, Item 7) and collect the washers (Fig 26, Item 8).

27.1.4 Slide the thigh section (Fig 26, Item 1) sideways to disengage the hinges from the seat section and lift it off the bed. Collect the hinge springs (Fig 26, Item 9) and hinge bushes (Fig 26, Item 10).

27.2 Installation

To install the thigh section:

27.2.1 If previously removed, install the hinge bushes (Fig 26, Item 10) and the hinge springs (Fig 26, Item 9) on the thigh section hinges. Install the thigh section (Fig 26, Item 1) by lining up the hinges and sliding it sideways onto the seat section.

27.2.2 Secure the thigh section to the seat section with the washers (Fig 26, Item 8) and the socket head screws (Fig 26, Item 7). Make sure the screws are fully tightened. Fit the new hinge infills (Fig 26, Item 6) to cover the screw heads.

27.2.3 Attach the piston of the thigh actuator (Fig 3, Item 8) to the thigh section (Fig 3, Item 12) with a clevis pin (Fig 3, Item 6) and shakeproof washer (Fig 3, Item 9). Secure the assembly with a new starlock (Fig 3, Item 10); make sure the shakeproof washer and starlock fit tightly against the mounting bracket as shown in Figure 16.

27.2.4 Install the calf section (Fig 3, Item 5) refer to Subsection 26.2.

28 Stabiliser arm – replacement

This section describes how to replace the stabiliser arm. Reference is made throughout this section to Figure 3 on page 29 and Figure 4 on page 31.

28.1 Removal

To remove the stabiliser arm:

28.1.1 Adjust the mattress platform to a mid-height position, about 50-60cm above the floor.

28.1.2 Pry off and discard the capped starlock (Fig 4, Item 6) and plain starlock (Fig 4, Item 9) from the bottom of the stabiliser arm assembly (Fig 4, Item 4). Drive the clevis pin (Fig 4, Item 8) out of the base fabrication (Fig 3, Item 11) to release the stabiliser arm. Note: to remove the clevis pin on the right hand side of the base, you may need to disconnect the brake link fabrication at the head end – refer to Subsection 7.1.

28.1.3 Pry off and discard the capped starlock (Fig 4, Item 6) and plain starlock (Fig 4, Item 9) from the top end of the stabiliser arm. Pull the stabiliser arm off the head end radius arm (Fig 4, Item 3).

28.2 Installation

To install the stabiliser arm:

28.2.1 Fit the upper hole in the stabiliser arm assembly (Fig 4, Item 4) over the spigot on the head end radius arm (Fig 4, Item 3). Secure it with a new starlock (Fig 4, Item 9) and a new capped starlock (Fig 4, Item 6). The stabiliser arm must be free to rotate but not too loose.

28.2.2 Push the clevis pin (Fig 4, Item 8) through the hole in the base fabrication (Fig 3, Item 11), with the head on the outside of the bed. Fit the lower hole in the stabiliser arm over the clevis pin. Secure it with a new starlock (Fig 4, Item 9) and a new capped starlock (Fig 4, Item 6).

28.2.3 If previously removed, reconnect the brake link fabrication – refer to Subsection 7.2.

29 Radius arm slide mouldings – replacement

This section describes how to replace the radius arm slide mouldings. Reference is made throughout this section to Figure 4 on page 31.

WARNING

Ensure that the sub-frame is securely supported, either with the hoist or suitable blocks/stands, at all times.

Take care not to let the slide mouldings slip out of the guide channels on the base assembly.

This section describes replacement of the head end slide mouldings; use a similar procedure to change those at the foot end.

29.1 Removal

To remove the radius arm mouldings:

29.1.1 Make sure the brakes are applied. Detach both stabiliser arms (Fig 4, Item 4) from the base assembly as described in refer to Subsection 28.1.

29.1.2 Support the head end of the sub-frame with a hoist. Push the complete sub-frame/mattress platform assembly towards the foot end of the bed until the head end slide mouldings are just clear of the channels on the base assembly. Lift the sub-frame then pull it back towards the head end so that the slide mouldings (Fig 4, Item 5) rest on top of the channels – see Figure 27.

29.1.3 Lift the head end of the sub-frame slightly and support it using suitable blocks or stands. Pull the slide mouldings off the head end radius arm (Fig 4, Item 3).

Figure 27: Radius arm slide mouldings

29.2 Installation

To install the radius arm mouldings:

29.2.1 Fit two new slide mouldings (Fig 4, Item 5) onto the head end radius arm (Fig 4, Item 3), so that their longer sides are horizontal.
(You may find it helpful to use Blu-Tack to prevent the slide mouldings rotating on the radius arm during the next two steps).

29.2.2 Push the mattress platform/sub-frame assembly towards the foot end; then lower it to line up the slide mouldings with the head end channels on the base assembly.

29.2.3 Pull the sub-frame assembly towards the head end until the slide mouldings are engaged in the channels.

29.2.4 Attach the stabiliser arms (Fig 4, Item 4) to the base assembly, refer to Subsection 28.2.

30 Calf extension sheet – replacement

This section describes how to replace the calf extension sheet.

The calf extension sheet is attached to the mattress platform calf section by an integral moulded lip. Lift up the calf extension sheet to remove it.

Deck sheets are available in flat or curved moulding.

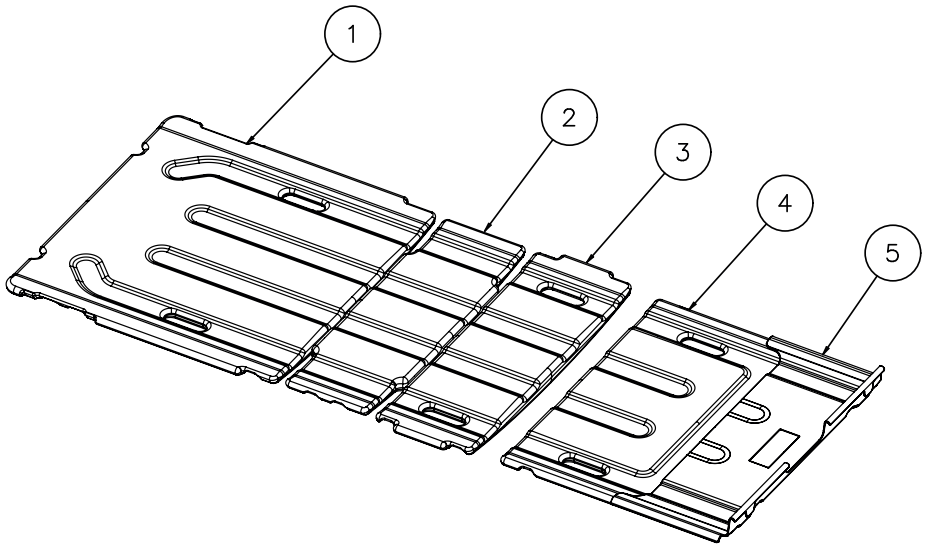


Figure 28: Deck Sheets

Table 15: Deck Sheet Parts List

Item	Description	Curved Sheet Part no	Flat Sheet Part No
1	Backrest deck sheet[a]	826.221 Kit	828.428 Kit
2	Seat deck sheet	826.222 Kit	828.429 Kit
3	Thigh deck sheet	826.223 Kit	828.430 Kit
4	Calf deck sheet	828.220 Kit	828.431 Kit
5	Calf extension deck sheet	828.274 Kit	828.432 Kit

a. All kits include 1 x calf extension sheet moulding with mattress/patient size warning label

31 Calf ratchet moulding – replacement

This section describes how to replace the calf ratchet moulding. Reference is made throughout this section to Figure 4 on page 31.

31.1 Removal

To remove the calf ratchet moulding:

31.1.1 Remove the calf extension sheet and calf section deck moulding. Use the ACP to raise the thigh section.

31.1.2 Refer to Figure 29. Undo the Nyloc nut (Fig 4, Item 24). Remove the hex head screw (Fig 4, Item 23) and collect the calf ratchet moulding (Fig 4, Item 22).

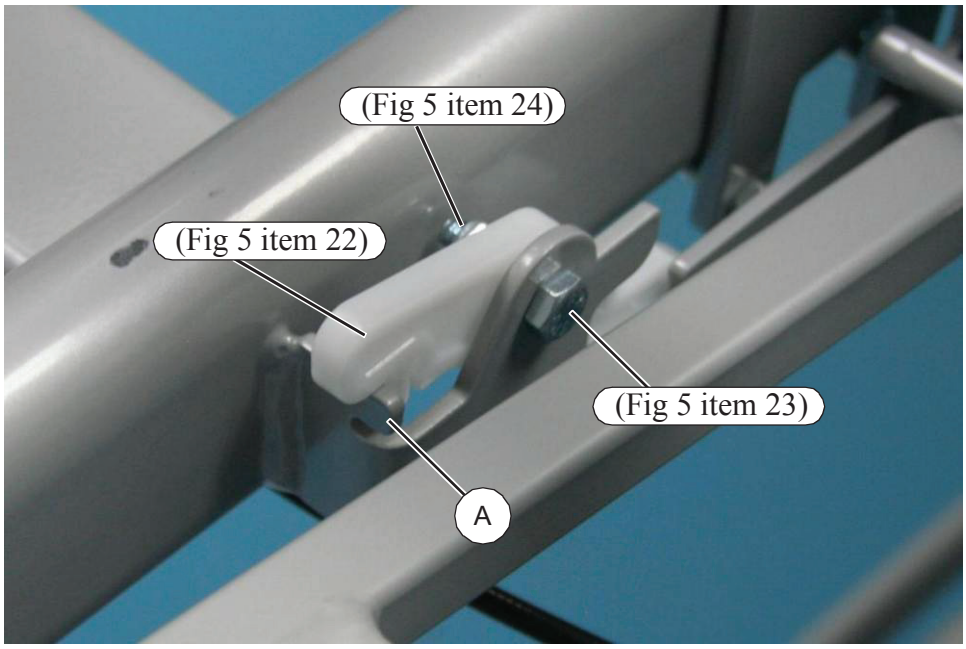


Figure 29: Calf ratchet moulding (right hand)

31.2 Installation

To install the calf ratchet moulding:

31.2.1 Align the hole in the calf ratchet moulding (Fig 4, Item 22) with the fixing bracket on the sub frame (Fig 4, Item 1). Refer to Figure 29 for correct position and orientation.

31.2.2 Fit the hex head screw (Fig 4, Item 23), with the head inboard, and secure the ratchet moulding with a new Nyloc nut (Fig 4, Item 24).

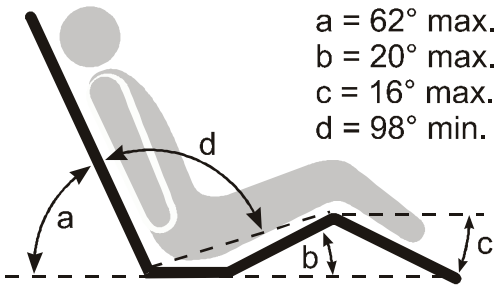
31.2.3 Make sure the ratchet moulding is secure but pivots easily on the screw. Check that the moulding “clicks” over the tab (Fig 29, Item A) when pushed down.

31.2.4 Use the ACP to lower the thigh section. Check that the calf section returns to the flat position.

31.2.5 Use the ACP to raise the thigh section. Manually lift the calf section and check that it locks securely in the horizontal (vascular) position.

CHAPTER 7
TECHNICAL DATA

General	
Safe working load	250kg
Maximum patient weight	185kg
Product weight (approx.)	150kg
Audible noise	50dB approx.
Operating conditions	
Temperature	5°C to 40°C
Relative humidity	20% to 90% at 30°C, non-condensing
Atmospheric pressure	700hPa to 1060hPa
Electrical data	
Power input	1.25A max. at 230V a.c. 50/60Hz 2A max. at 120V a.c. 50/60Hz
Duty cycle	10% (2 min. on, 18 min. off)
Safety standards USA/Canada CLASSIFIED C UL US MEDICAL EQUIPMENT 25EA	Medical equipment classified in accordance with UL 60601-1 CAN/CSA C22.2 No.601.1M90 IEC 60601-2-38 and ANSI/AAMI ES60601-1:2005 CAN/CSA C22.2 No.60601-1:08 IEC 60601-2-52:2009
Other Safety standards	IEC 60601-1:1988+A1+A2 IEC 60601-2-38:1996+A1:1999 IEC 60601-1:2005 & IEC 60601-2-52:2009
Electric shock protection	Class I Type B
EMC	Complies with EN 60601-1-2:2002 and 2007
Potential equalisation terminal	Complies with EN 60601-1:1990 and 2006
Liquid ingress protection	IPX4
Backup battery	2 x 12V series connected, sealed, rechargeable lead/acid gel, 1.2Ah

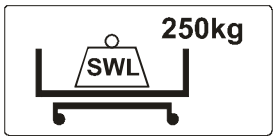
Dimensions (subject to normal manufacturing tolerances)	
Overall length	
Position 1 (Short)	224cm
Position 2 (Standard)	235cm
Position 3 (Extended)	247cm
In-bed length	
Position 1 (Short)	192cm
Position 2 (Standard)	203cm
Position 3 (Extended)	215cm
Overall width	103cm
Height of mattress platform (centre of seat section to floor)	
With 125mm castors	32cm to 76cm
With 150mm castors	34cm to 78cm
Head down tilt angle	12° min.
Foot down tilt angle	12° min.
Mattress size Position 2 (Standard)	202cm x 88cm, 12.5 to 18cm thick
Mattress platform angles	

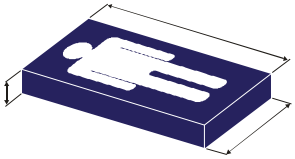
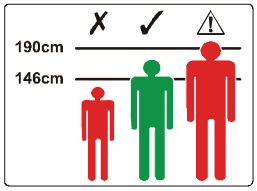
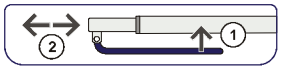
Environmental protection
Incorrect disposal of this equipment and its component parts, particularly gas springs, actuators, batteries and other electrical devices, may produce substances that are hazardous to the environment. To minimise these hazards, contact Arjo for information on correct disposal.

Transport and storage	
Handle with care. Do not drop. Avoid shock or violent impact. This equipment should be stored in a clean, dry and well-ventilated area which meets the following conditions:	
Temperature	-10°C to 50°C
Relative humidity	20% to 90% at 30°C, non-condensing
Atmospheric pressure	700hPa to 1060hPa

Caution

If the bed is stored for a long time, it should be connected to the electricity supply for 24 hours every three months to recharge the backup battery, otherwise it may become unserviceable.

Symbols	
	Safe working load
	Maximum patient weight
	Alternating current (a.c.)
	Caution
	Refer to instructions for use
	Type B applied part Applied parts are considered to be: Upper frame section, Bed controls, Split Side Rails, Head and Foot Boards
	Manufacturer / date of manufacture
	Complies with the European Medical Device Directive 93/42/EEC
SN	Serial number
REF	Model number
	Waste Electrical and Electronic Equipment (WEEE) - do not dispose of this product in general household or commercial waste
	Potential equalisation terminal
	Protective earth (ground)

	Recommended mattress size
	Recommended patient height
	Calf section vascular position
	Mattress platform extension

SAFE DISPOSAL OF GAS SPRINGS

Gas springs contain air and oil at high pressure and must be vented in accordance with the following instructions before being discarded.

Under no circumstances should any attempt be made to open the device.

WARNING

Danger of explosion. Do not heat or incinerate.

High pressure gas. The sudden release of gas at high pressure could cause serious injury or death. Put on suitable protective clothing, eye protection and / or a face shield.

This procedure should be carried out in a well-ventilated room as the expelled gas may contain oil droplets.

1. Operate the valve at the end of the piston rod and allow the piston rod to extend fully.
2. Clamp the gas spring in a vice and drill a 3mm diameter hole, 15-20mm from the end of the gas spring housing (see Fig 30, Item 1). Screen off the drilling point as metal chips and oil may be ejected due to the high internal pressure. Then drill a second hole at position 2 as shown. The holes should be drilled to a depth of approximately 10mm.

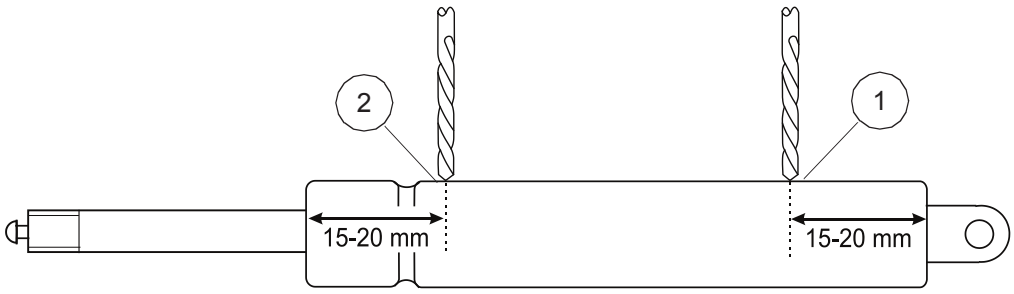


Figure 30: Disposal of gas spring

3. Pump the piston rod in and out several times while holding the drilled hole over a container to collect the expelled oil.
4. Dispose of the gas spring and oil through special waste or recycling points in accordance with local regulations. Do not dispose of gas springs or oil in household refuse.
5. If correct disposal in accordance with these instructions is not possible, the unit should be returned to the supplier.

ELECTROMAGNETIC COMPATIBILITY

Caution

The use of non-approved accessories may result in increased emissions or reduced immunity of the equipment. A list of approved accessories is included in the product instructions for use.

When this equipment is used adjacent to other electronic devices, the user should observe the equipment to verify normal operation.

Guidance and manufacturer's declaration – electromagnetic emissions		
The bed is intended for use in the electromagnetic environment specified below. The customer or the user of the bed should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - guidance**
RF emissions CISPR 11	Group 1	The bed 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 B	The bed is suitable for use in all establishments, including domestic establishments 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	

Guidance and manufacturer's declaration – electromagnetic immunity			
The bed is intended for use in the electromagnetic environment specified below. The customer or the user of the bed 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 610000-4-2	± 6kV contact ± 8kV air	± 6kV contact ± 8kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4	± 2kV for power supply lines ± 1kV for input/ output lines	± 2kV Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1kV line to line ± 2kV line to earth	± 1kV ± 2kV	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	70% U_T (30% dip in U_T) for 25 cycles 40% U_T (60% dip in U_T) for 5 cycles <5% U_T (>95% dip in U_T) for 0.5 cycle <5% U_T (>95% dip in U_T) for 5 sec.	70% of input voltage for 500ms 40% of input voltage for 100ms <5% of input voltage for 10ms <5% of input voltage for 5000ms	Mains power quality should be that of a typical commercial or hospital environment. If the user of the bed requires continued operation during power mains interruptions, it is recommended that the bed be powered from an uninterruptible power supply or battery.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to the application of the test level			

Guidance and manufacturer's declaration – electromagnetic immunity

The bed is intended for use in the electromagnetic environment specified below. The customer or the user of the bed should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
			Portable and mobile RF communication s equipment should be used no closer to any part of the bed, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance**
Conducted RF IEC 61000-4-6	3V rms 150kHz to 80MHz	3V	$d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3V/m 80MHz to 2.5GHz	3V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800MHz $d = 2.3\sqrt{P}$ 800MHz to 2.5GHz 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 in metres (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 80MHz and 800MHz, 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.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the bed is used exceeds the applicable RF compliance level above, the bed should be observed to verify normal operation. If abnormal performance is observed additional measures may be necessary, such as reorienting or relocating the bed.

b Over the frequency range 150kHz to 80MHz, field strengths should be less than 3V/m.

Recommended separation distances between portable and mobile RF communications equipment and the bed

The bed is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the bed can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the bed 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		
	150kHz to 80MHz $d = 1.2\sqrt{P}$	80MHz to 800MHz $d = 1.2\sqrt{P}$	800MHz to 2.5GHz $d = 2.3\sqrt{P}$
0.01	0.12	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 metres (m) can be estimated using the equation applicable to the power 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 80MHz and 800MHz, 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.

At Arjo, we are committed to improving the everyday lives of people affected by reduced mobility and age-related health challenges. With products and solutions that ensure ergonomic patient handling, personal hygiene, disinfection, diagnostics, and the effective prevention of pressure ulcers and venous thromboembolism, we help professionals across care environments to continually raise the standard of safe and dignified care. Everything we do, we do with people in mind.

ArjoHuntleigh AB
Hans Michelsensgatan 10
211 20 Malmö, Sweden
www.arjo.com