

USER MANUAL

Invacare CS8 Care Beds

Single & King Single Bed Options



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1. INTRODUCTION

The CS8 bed is an electrically actuated care bed with a range of functions and positional movements that assist caregivers and provide for patient comfort. Ease of use, functionality, serviceability and cleaning practicality are key features of the bed. The bed has a fabricated steel structure with a powder coated finish. The plastic components are made from urethane, PP, POM, nylon and ABS plastic.

Clinical Applications and Area of Use

The bed is appropriate for adult patient care under supervised medical monitoring and provides support with various positioning options.

Key Features

- Total safe working load (SWL) of the bed 250Kg.
- 75mm twin Tente castors (four braking castors and four free-wheeling).
- Electrically adjusted height range. The bed works within a height range of 150mm low height to a maximum high height of 680mm.
- Trendelenberg head and foot down tilt 14°.
- Four sectioned electronically operated mattress platform with independent adjustment of backrest angle (maximum 65°) and knee section angle (maximum 35°).
- Four soft contoured mattress retainer handles.
- Integral foot end mattress base extension. Extends the bed by 195mm.
- (Optional) bolt on $\frac{3}{4}$ length folding side rails.
- Removable timber head and foot panels.

2. WARNINGS & CAUTIONS

It is **important** that this User Manual be read in its entirety prior to the operation of the bed. The manual is designed to ensure that users are equipped with the information required to competently and responsibly operate the bed and its accessories.

It is recommended that the User Manual be kept in an easily assessable place for quick reference. If required Invacare product specialists can provide additional training.

All warnings and cautions within this manual should be strictly adhered to. Failure to do so could result in harm to the patient, or operator.

Warnings highlighted throughout this manual identify possible hazards in procedures, or conditions, which if not followed correctly could result in serious injury, or fatality.

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

GENERAL WARNINGS

- Electrical equipment can be hazardous if used incorrectly.
- Do not use electrically operated beds in the presence of flammable gases.
- Use the bed to support one patient only. The CS8 bed is intended for one person use only and may become unstable if used incorrectly.
- It is recommended that the bed be positioned at its lowest height when unattended by caregivers to minimise the risk of patient injury from falls when getting in and out of the bed.
- Residual current devices (RCD) are not supplied with the CS8 bed. Consult with your Biomedical Engineer/advisor concerning RCD requirements.
- The safe working load of the CS8 bed is 250Kg. This includes the mass of the patient, mattress and any accessories fitted to the bed.
- Ensure the power cord is free of possible damage from the beds castors and mechanical functions when the bed is in use. Store the cable safely when not in use.
- Do not use accessories that are not designed, or approved for use with the CS8 bed. Incompatible side rails and mattresses can cause entrapment hazards.

2. WARNINGS & CAUTIONS - Continued

GENERAL SAFETY WARNINGS

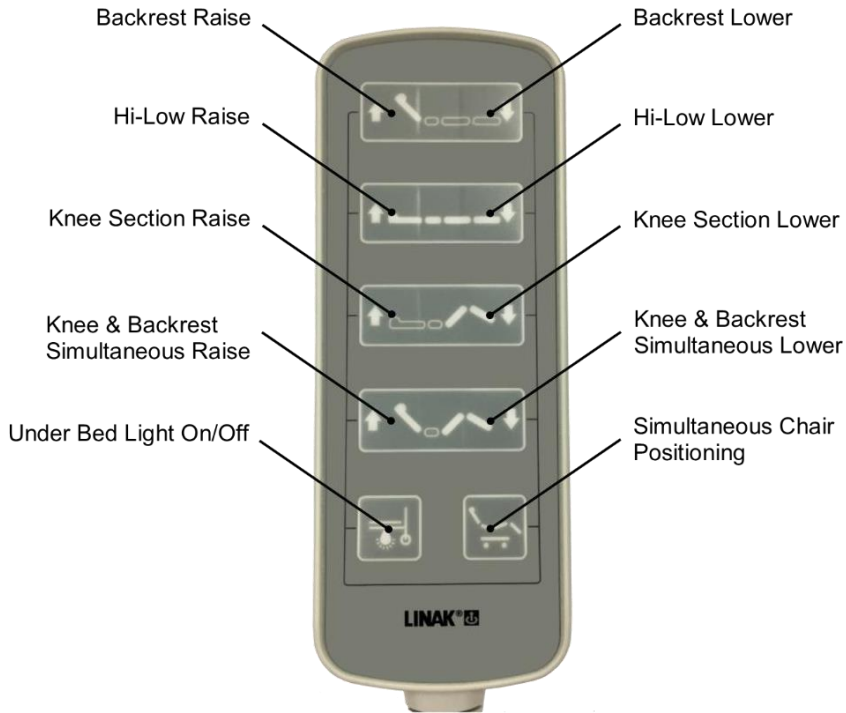
- Always use a mattress of the correct size and type. A range of suitable pressure reducing and pressure relieving mattresses are available from Invacare.
Recommended Mattress Dimensions
Width 860mm x Length 1980mm x Depth 150mm
- Before operating the bed make sure that the patient is safely positioned to avoid entrapment.
- Before transporting the bed make sure that the bed is at a suitable height to move without stooping, or straining and the bed is unplugged from the power source.
- Always apply the brakes when the bed is stationary.
- If a patient's condition could lead to a possible entrapment the mattress support platform should be left in the flat position whilst unattended.
- The clinically qualified person responsible should consider the age, size and condition of the patient before using the bed and its accessories.
- Always ensure that all medication lines/tubes and power cables are free from possible entanglement with mechanical parts of the bed.
- Always ensure that attendant and patient limbs are free from potential entrapment areas before operating any functions.
- When side rails are in use, the maximum mattress thickness to be used on the CS8 bed is 170mm. The minimum mattress thickness is 100mm. Compliance to International Standard IEC60601-2-52 requires a minimum of 220mm from top of mattress to top of side rail. The minimum is for compliance to the entrapment gap between bottom rail and mattress surface.
- To avoid accidental operation of the beds functions always store the beds handset correctly when not in use. The handset can be stored by hooking it on to the side rail of the bed, or behind the head board.

3. ELECTRONIC FUNCTIONS

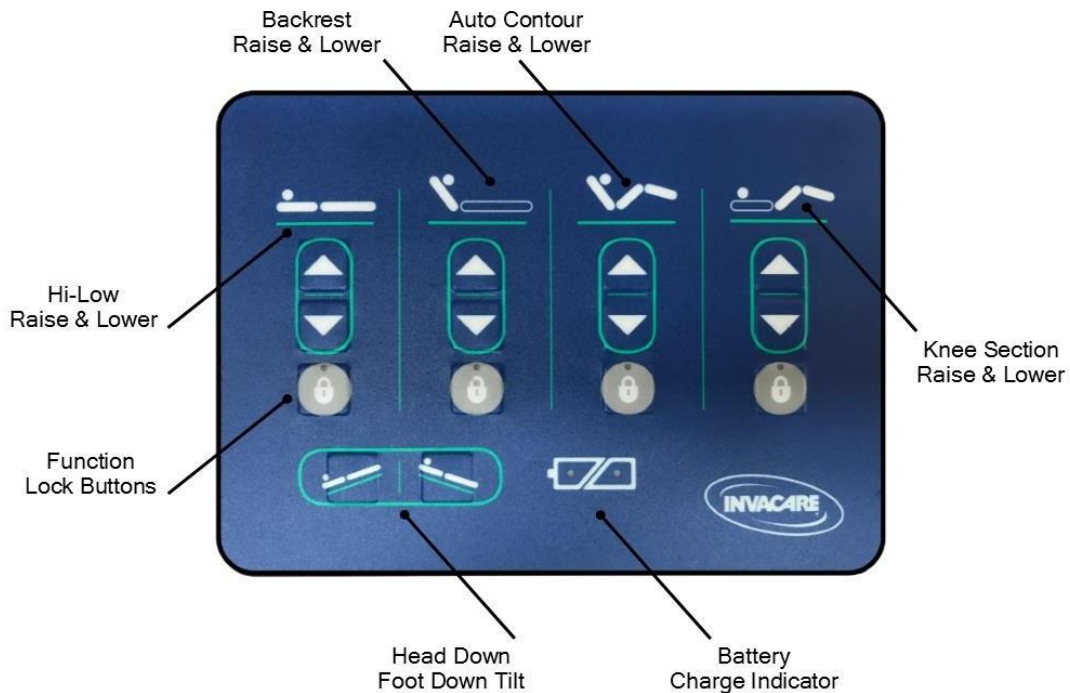
3.1 Handset & Foot Panel Touch Pad Operation

The CS8's bed adjustments are powered by four electric actuators, which are controlled by the buttons on the handset and by the touch pad located on the foot end panel of the bed. Adjustment occurs only while a button is pressed. Adjustment will stop when the button is released, or the movement selection reaches the end of its range of adjustment.

CS8 Handset Controls



CS8 Touch Pad Controls



3. ELECTRONIC FUNCTIONS – Continued

WARNING

- Ensure that the patient, caregivers and, or other equipment is not positioned to become either trapped, or crushed during bed adjustment.
- Ensure that the handset and electrical supply cables cannot become entangled with moving parts of the bed.

CAUTION

- Do not operate the beds controls for more than the electronic systems prescribed duty cycle. (see pages 12 and 13)

Mattress Platform Height Adjustment

To move the mattress platform up, or down, press and hold the appropriate button on the handset. The beds platform height can be adjusted through a range of 150mm low height to a high height of 680mm.

Sliding Backrest Adjustment

To move the backrest up or down, press and hold the appropriate button on the handset. The backrest can be adjusted through a range of between 0° and 65°.

WARNING

Care should be taken whilst operating the backrest function to ensure hands and fingers are away from potential squeeze hazards.

Knee Positioning Adjustment

To move the knee positioning section up and down, press and hold the appropriate button on the handset. The knee section is adjustable through a range of 0° to 35°, providing adjustable support to the patient's legs.

Auto Contour Positioning

Auto Contour Positioning provides synchronised movement of the backrest and knee positioning in one operation. The position helps provide a more natural resting environment for the patient.

3. ELECTRONIC FUNCTIONS – Continued

Chair Positioning

The chair positioning function moves the bed into a foot down tilt position whilst simultaneously adjusting the backrest and knee section. The foot down tilt range is between 0° and 14°.

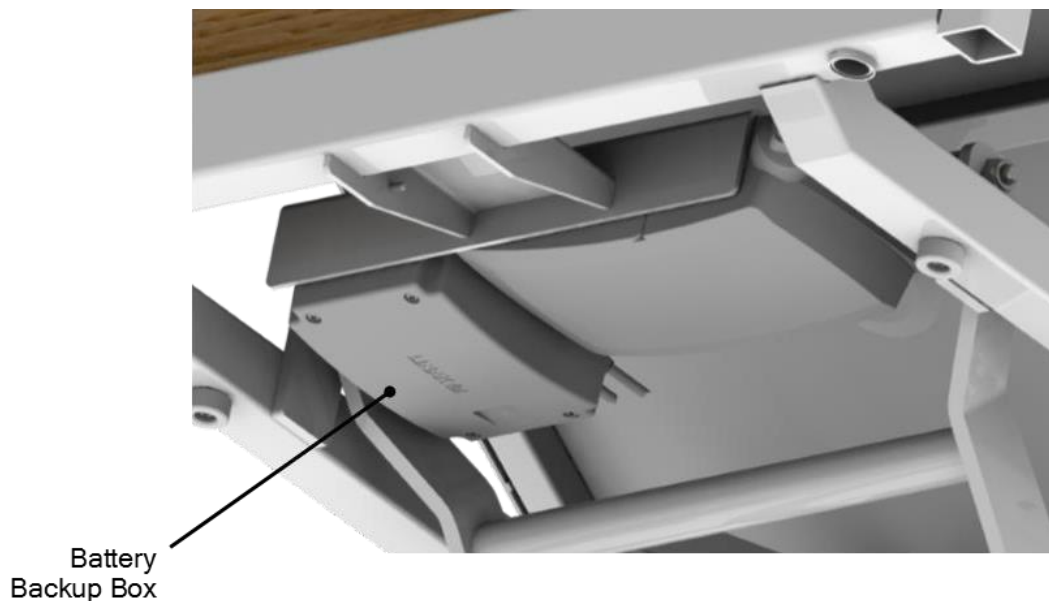
- When using the chair positioning function the mattress platform may initially rise before tilting. The bed will automatically adjust to ensure there is sufficient clearance between the mattress platform and the mechanical structure of the bed before tilting. Press and hold the function button until the desired positioning is reached. The bed will tilt forward and simultaneously raise the backrest and knee section, providing a seated upright position.
- Reversing the chair position requires the use of the individual function buttons. To bring the bed back to level from the foot down tilt position, use the hi-low lower button followed by the backrest and knee section lower buttons to complete the process.

Under Bed Lighting

The under bed lighting feature provides a soft LED illumination of the floor beneath the bed carriage. This safety feature provides floor illumination for patients at night when getting in and out of bed. In the event the bed is operating on battery power (e.g. during transport) the lights will power down after approximately 2-3 minutes.

3.2 Battery Back-Up (Optional)

The CS8 bed, if fitted with a battery back-up unit (located beneath the backrest of the bed) will automatically switch to battery power in the event of a power failure, or the bed being unplugged from mains power. The period of use on battery is dependent on many variables. Weight of the user, range of movement used and age of the battery. In good condition, the battery would allow for a minimum of ten to fifteen full lift cycles.



4. GENERAL BED OPERATION

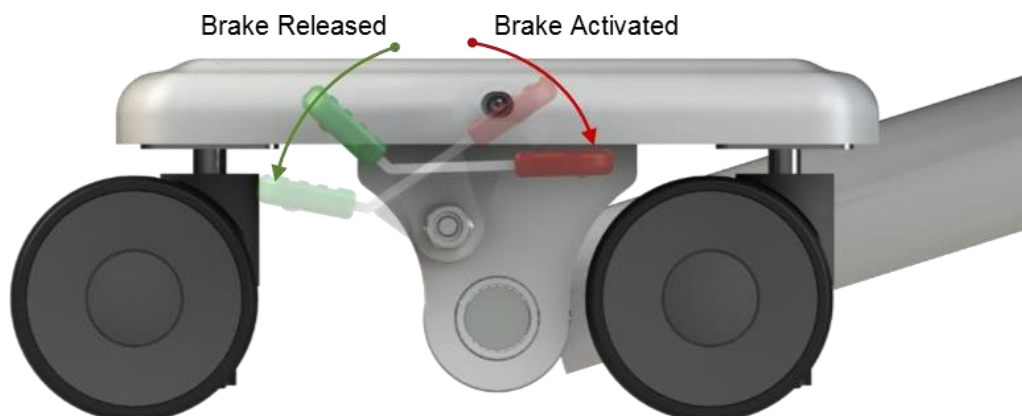
4.1 Castor System

The CS8 bed uses eight Tente 75mm castors for easy manoeuvrability (four braking castors and four free-wheeling castors).



Operating the Brakes

- To activate and release the braking castors use the pedals at each side and end of the bed. Simply push down on the red lever using the toe of the shoe to brake and the green lever to release the brake.



CAUTION

- Disconnect the bed power cord before moving the bed.
- Do not remove the power cord from the power source by pulling on the cord.
- Do not use the beds side rails to manoeuvre the bed.
- Do not pull on the power cord, or handset cord to manoeuvre the bed.
- Always apply the brakes when the bed is in a stationary position.

4. GENERAL BED OPERATION – Continued

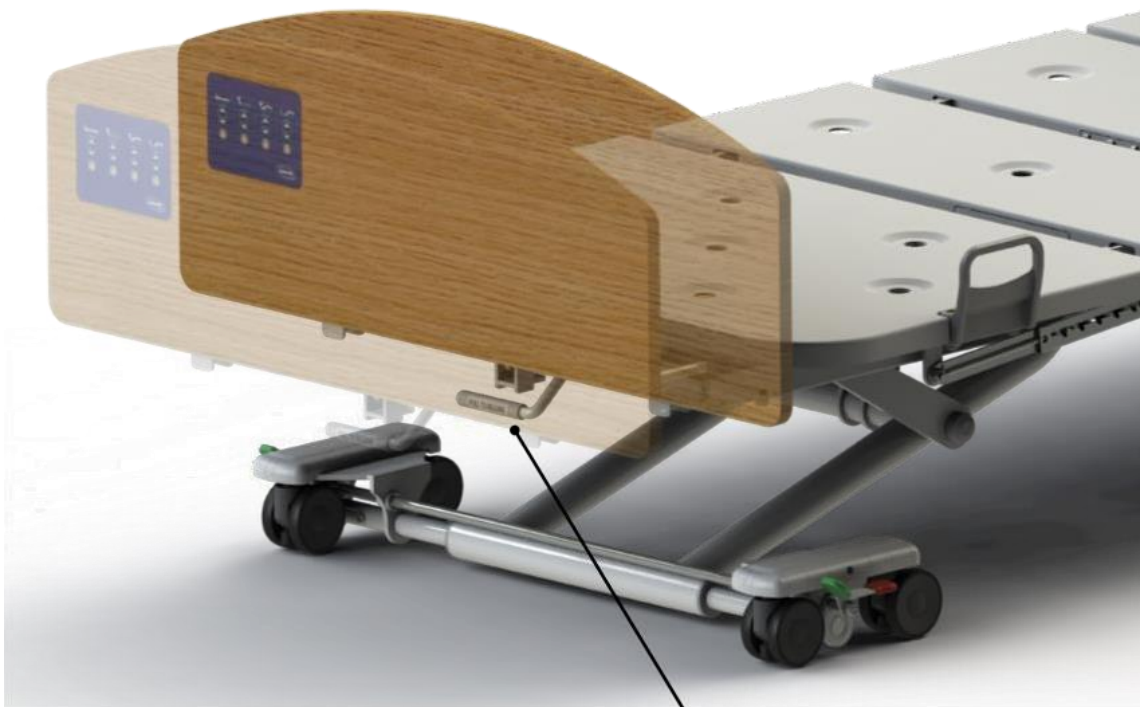
4.2 Bed Extension

The integral bed extension is easily extended to add an extra 195mm of length to the mattress platform.

Extending the Bed Extension from the Closed Position

1. The bed extension is mechanically locked in the closed, or fully open positions. To extend the bed simply pull up on the extension release lever and pull the foot panel towards you. Once the panel is moving freely release the handle to allow it to click lock into position when fully extended.
2. The same procedure in reverse is used to close the extension back to the standard bed position.

Always ensure that the panel lock has engaged correctly before use of the bed.



Base Extension Release Lever

Warning

The bed extension is designed for use as a bed extension only and is not meant to be sat on. The extra length of the bed with extra load can make the bed unstable, potentially resulting in injury to the user and patient.

4. GENERAL BED OPERATION – Continued

4.3 Side Rail Operation (if fitted)

The optional factory fitted $\frac{3}{4}$ length side rails have two positions, either fully raised, or folded down closed. When the side rail is raised to its full height position it will automatically lock in the positioning hole on the rails clamp plate. The release/lock knob feature can be both visually and audibly confirmed.

The side rails are fixed (bolted) in place, but can be removed if required.

WARNING

Do not operate side rails when there is potential of entrapment or crushing to the patient, caregivers, visitors and/or other equipment.

Side Rail Operation

To raise the side: Lift the top rail until the magenta locating pin/knob automatically clicks into its locked position at maximum height.

To lower the side: Hold the top rail near the foot end of the bed (1) and gently pull out the magenta coloured operating knob (2) lowering the side towards the foot of the bed, whilst controlling the descent speed. As the side begins to be lowered the operating knob can be released.



WARNING

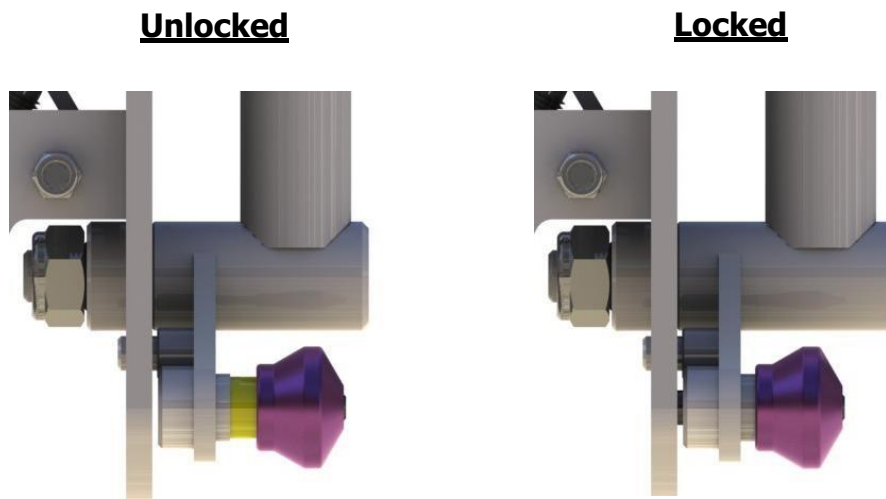
- Care should be taken whilst operating the side rails to ensure hands and fingers are kept away from potential squeeze hazards.
- Side rails should only be used after clinical assessment and within organisational policy and guidelines.

4. GENERAL BED OPERATION – Continued

4.3.1 Side Rail Safety Lock Indicator

The side rail locating pin has a yellow coating that allows for visual inspection of the locking device. When the side rail is in the raised position, viewing the release knob from the side there should be no yellow shaft visible. If there is yellow shaft visible the safety side is **NOT** securely locked in the upright position and needs to be adjusted.

The yellow coating should **NOT** be visible from above when the safety side is correctly locked in position.



Side rail release and lock knob shown in unlocked and locked positions

WARNING

- After adjustment of the side rail visually check the locking pin location. There should be no yellow shaft on the locking pin visible if locked correctly.
- DO NOT use other manufacturer's side rails on the CS8 bed.

5. CS8 SINGLE BED SPECIFICATIONS

Basic Dimensions

Overall Length	211.0cm
Overall Length (base extension extended)	230.5cm
Overall Width	92.0cm
Overall Width (rails fitted)	100.0cm
Mattress Surface Length (between panels)	199.5cm
Bed Platform Height Range	15.0cm to 68cm
Back Rest Angle Adjustment	0° to 65°
Knee Bend Angle Adjustment	0° to 35°
Trendelenberg Tilt Adjustment (head and foot down)	0° to 14°

Mattress Size

Recommended Mattress Size	Width = 86.0cm
	Length = 198.0cm
Maximum Mattress Depth (when side rails in use)	17.0cm
Minimum Mattress Depth (when side rails in use)	10.0cm

Bed Weight & Safe Working Load

Without Side Rails	119 Kg (approximately)
With Side Rails	138 Kg (approximately)
S.W.L Safety Factor = 2 x S.W.L	250Kg

Electric parameter

Power Input	100-240V AC 50/60Hz, Max current 3.9A
Rate Load	interruption 10%, Max 2 minutes / 18 minutes
Electric Shock Protection	Class 2 <input type="checkbox"/> Type B
Waterproof Grade	IPX4

Standard

CS8 beds are designed and manufactured in compliance with International Standard IEC 60601-2-52 where applicable.

6. CS8 KING SINGLE BED SPECIFICATIONS

Basic Dimensions

Overall Length	211.0cm
Overall Length (base extension extended)	230.5cm
Overall Width	109.0cm
Overall Width (rails fitted)	120.0cm
Mattress Surface Length (between panels)	199.5cm
Bed Platform Height Range	15.0cm to 68.0cm
Back Rest Angle Adjustment	0° to 65°
Knee Bend Angle Adjustment	0° to 35°
Trendelenberg Tilt Adjustment (head and foot down)	0° to 14°

Mattress Size

Recommended Mattress Size	Width = 106.0cm
	Length = 202.0cm
Maximum Mattress Depth (when side rails in use)	17.0cm
Minimum Mattress Depth (when side rails in use)	10.0cm

Bed Weight & Safe Working Load

Without Side Rails	125 Kg (approximately)
With Side Rails	144 Kg (approximately)
S.W.L Safety Factor = 2 x S.W.L	250Kg

Electric parameter

Power Input	100-240V AC 50/60Hz, Max current 3.9A
Rate Load	interruption 10%, Max 2 minutes / 18 minutes
Electric Shock Protection	Class 2 <input type="checkbox"/> Type B
Waterproof Grade	IPX4

7. CLEANING

WARNING

Before cleaning always disconnect the bed from the mains power source.

Note: It is strongly recommended that protective clothing be used when carrying out cleaning processes on the CS8 bed.

Note: The following procedure also applies to the beds accessories, but does not include mattresses.

- Wipe the beds surfaces with a soft cloth moistened with hot water and mild detergent (or the facilities recommended cleaning solution). It is recommended that the cloth be a white material to prevent bleeding of die colours to the bed. Take extra care in areas that can harbour dirt, or dust.
- Rinse with clean water if required and a dry with a clean cloth.
- To remove potentially infectious materials such as body fluids, or when the bed has been used by someone with a known infection. Clean with NaDCC (e.g. Presept, Actichlor) at 10,000 ppm of available chlorine. Rinse and dry.
- Allow the cleaned parts to dry before replacing the mattress.

CAUTION

Do not use abrasive Hypocarbonate, or Phenolic compounds or pads.

8. MAINTENANCE

The following preventative maintenance procedures should be carried out every 12 months.

Note: Other than general maintenance activities all other service, or repair work must be performed by qualified and trained persons who are approved by Invacare.

WARNING

The bed must be disconnected from the mains power supply before starting any maintenance activity.

GENERAL	
1	Examine all the warning signs on the bed, examine the bed for obvious signs of damage. All aspects of the equipment should operate as intended. Check that all nuts, bolts and other fasteners are tight and are not missing.
2	Examine flexible cables and conduits for cuts, cracks, abrasions, or other deterioration.
3	Check that the power supply plug is not damaged. If either the power cable, or plug is damaged then both the cable and plug must be replaced as a complete assembly by Invacare, or an approved service agent.
CASTOR BRAKING/LOCKING SYSTEM	
1	Apply the brakes and push the bed forwards. If any of the four braking castors rotate the brake is not fully effective.
SIDE RAILS (if fitted)	
1	<ul style="list-style-type: none">• The locking pin mechanism and striker plate arrangement should be checked every three months.• Inspect the side rails for general wear and tear on fittings and pivot joints every six months.• Check for rust, structural integrity of welds and paint finish every twelve months.
2	Raise the side rail to the upright position until the locking mechanism clicks into place. Check that there is no yellow shaft visible. In the locked position, the yellow on the locking pin shaft should not be visible from above. Refer to the operating procedures on page 12 of this manual for further information.

8. MAINTENANCE - Continued

SIDE RAILS -continued	
3	If the yellow shaft is visible when the side rail is in the raised and locked position, contact Invacare for service advice.
4	Check that the rails pivot axles are securely fitted to the bed. The pivot axles are locked into place by the manufacturer using a 10mm lock nut. It is rare that Re-tightening of the axles would be required, but in the case that it is, ensure that the nut is not over tightened during the tightening procedure.

9. TRANSPORTATION AND STORAGE

Handle With Care.

The CS8 bed should be stored in a clean, dry, well ventilated area.

Do not drop and avoid shock, or violent impact when transporting.

The following limits apply during transport and during a storage period of up to 15 weeks duration:

Ambient temperature	-25°C	To	+70°C
Relative humidity	10%	To	75%
Air pressure	50 kPa	To	106 kPa

The following limits apply to normal operating conditions and for periods of storage longer than 15 weeks:

Ambient temperature	+10°C	To	+40°C
Relative humidity	30%	To	75%
Air pressure	70 kPa	To	106 kPa

10. CS8 BED ACCESSORIES

There are a range of accessories to suit the CS8 bed available from Invacare. As well as the below listed equipment, Invacare specialises in static foam and air pressure mattresses. Please contact Invacare for details.

Accessories that may be used on the CS8 bed:

Product code	Description
CS8-FSR	3/4 Length Fold Down Tubular Side Rails
SP002	Self Help Pole Strap & Handle
IV110	IV Pole
CS8-ASB	Fold Down Assist Bars

WARNING

Do not use accessories that are not designed for use with the CS8 bed.

11. WARRANTY & SERVICE

11.1 Limited Warranty

A COPY OF THE SELLER'S INVOICE IS REQUIRED FOR COVERAGE UNDER THIS WARRANTY.

This warranty is extended only to the original purchaser who purchases this product when new and unused from Invacare Australia Pty Ltd (IAPL), or a dealer of IAPL. This warranty is not extended to any other person, or entity and is not transferable, or assignable to any subsequent purchaser, or owner. Coverage under the warranty will end upon any such subsequent sale, or other transfer of title to any other person.

The warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

IAPL warrants the CS8 bed frame to be free from structural, material and workmanship defects when purchased new and unused for a period of ten (10) years, mechanical for a period of five (5) years and electrical for a period of three (3) years from the date of purchase from IAPL, or an IAPL dealer. For all other components of this product when purchased new and unused, IAPL warrants that they will be free from defects in material and workmanship for a period of one (1) year from date of purchase from IAPL, or an IAPL dealer. Upholstery (vinyls, fabrics and/or laminates) are not covered under this warranty. If within such warranty periods any such product shall be proven to be defective, such products shall be repaired or replaced at IAPL's option. This warranty does not include any labour, or shipping charges incurred in replacement part installation, or repair of any such product. IAPL's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service please contact the dealer from whom you purchased your IAPL products. In the event you do not receive satisfactory warranty service, please write directly to IAPL at the address on page 19 of this manual, providing dealers name, address and the date of purchase. Indicate the nature of the defect and if the product is serialised, provide the serial number. Do not return products to our factory without our prior consent.

LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IN THE FOLLOWING CIRCUMSTANCES:

SERIAL NUMBER HAS BEEN REMOVED, OR DEFACED. PRODUCT HAS BEEN SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION. PRODUCT HAS BEEN MODIFIED WITHOUT IAPL'S EXPRESS WRITTEN CONSENT (INCLUDING, BUT NOT LIMITED TO) MODIFICATION THROUGH THE USE OF UNAUTHORISED PARTS OR ATTACHMENTS. PRODUCT DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF IAPL, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND IAPL'S CONTROL. SUCH EVALUATION WILL BE SOLELY DETERMINED BY IAPL. THE WARRANTY SHALL NOT APPLY TO NORMAL WEAR AND TEAR, OR FAILURE TO ADHERE TO THE PRODUCT INSTRUCTIONS.

THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER. WHETHER EXPRESS OR IMPLIED.

11. WARRANTY & SERVICE - Continued

11.2 Service and Maintenance

For service, maintenance and any questions regarding this, or any other Invacare product please contact:



Invacare Australia Pty Ltd

Address	1 Lenton Place
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Country	Australia
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