# Tröst and Tröst Plus Bed Owner's Manual







#### Version 1.0 August 2019 © Permobil 2019

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maintenance information for your Tröst Bed.

All information, pictures, illustrations and specifications are based upon the product information available at the time this manual was created.

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# **Technical and Customer Support**

In the event of problems, contact your dealer or call Permobil Canada 1-800-265-9830.

Be prepared to provide the bed serial number.

Spare parts and accessories may be ordered through your dealer.

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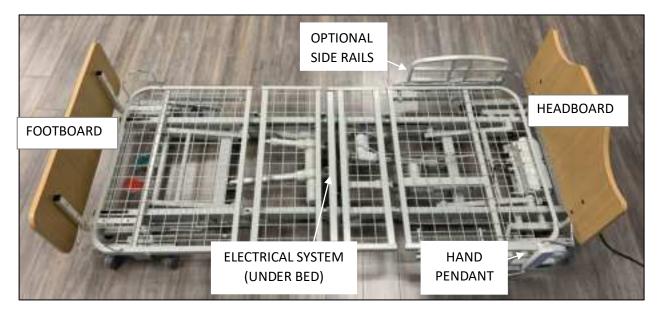
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# Introduction

### **Design and Functions**

The Tröst Bed is an electric adjustable bed with Trendelenburg & reverse Trendelenburg capabilities.

The Tröst Plus Bed has an expandable platform. The assembly of the Tröst Plus Bed is the same as the Tröst Bed shown unless otherwise indicated.



#### The Tröst Bed includes

- platform
- · headboard and footboard
- electrical systems
- hand pendant
- assembly hardware
- optional partial side rails (available at an additional cost)
- optional assist bar (available at an additional cost)
- optional transport trolley (available at an additional cost)

The platform disassembles into 2 parts for easy assembly, transport and storage.

### **Specifications**

**Weight capacity:** The safe working load for the Tröst Bed and Tröst Plus Bed is 600 lbs (272 kg) The safe working load is the total weight, including the person, mattress, head and foot boards, side rails, and other accessories evenly distributed on the bed deck.

**Weight:** The Tröst Bed weighs approximately 265 lb (120 kg)
The Tröst Plus Bed weighs approximately 281 lb (127 kg)

These weights can vary depending on the options and accessories included

**Deck Height Range:** 7 – 30" (18 – 76 cm)

Maximum Back Angle: 65 degrees

Maximum Hip to Knee Angle: 30 degrees

Electrical: 120V, 60 Hz

Additional electrical specifications are indicated on the motor.

### Tröst Plus Bed Dimensions

WIDTH	36" (91 cm)	39" (99 cm)	42" (107 cm)
Sleep Deck	36" (91 cm)	39" (99 cm)	42" (107 cm)
w/Side Rails	40" (102 cm)	44" (112 cm)	47" (119 cm)
LENGTH	80" (203 cm)	84" (213 cm)	
		,	
Sleep Deck	80" (203 cm)	84" (213 cm)	

### **Safety Precautions**

Read and follow all instructions and warnings in this manual before assembling and using your electric bed. Incorrect assembly or use may injure the user or damage the bed.

Permobil is not responsible for personal injuries or property damage resulting from any person's failure to follow the warnings and instructions in this manual.

Permobil is not responsible for injuries or damage resulting from failure to exercise good judgment.

The Tröst Bed is not for pediatric use. The final selection and purchasing decision about the type of electric bed to be used is the responsibility of the user and his or her healthcare professional. Permobil is not responsible for inappropriate selections of models or features or improper mountings on the bed.

The safe weight capacity for this bed is in the specifications section in this manual. Operation of the bed by users and equipment that exceeds the maximum allowable weight can lead to personal injury and property damage, including damage to the bed, as well as voiding any warranty applicable to the bed.

The Tröst Bed should not be used in the presence of flammable anesthetic gas mixed with air, oxygen, or nitrogen oxide.

# **Assembly**

#### Overview

The Tröst Bed is designed for easy assembly, disassembly, and transport.

Two people are required to safely unpack the bed. One person can then put the bed together.

The general steps are as follows:

- 1 Unpack the bed
- 2 Assemble the platform
- 3 Connect the electrical systems
- 4 Install optional side rails or optional assist bar, if using
- 5 Install the headboard and footboard
- 6 Install mattress retainers

Instructions for each of these steps are included in this manual.

**Tools required:** cable tie snippers, Allen keys, ratchet set (for optional half side rails only), Phillips head screwdriver, small hammer, cable ties

### Inspection before unpacking

Your bed will arrive in 3-4 separate boxes, depending on whether or not you ordered side rails:

- Platform, including motors and electrical components
- Headboard and footboard, extension cord for footboard controller
- Hardware
- Optional side rails or assist bar
- Backup batteries

### Damage during transport

Check your shipment to ensure that the Tröst Bed or accessories have not suffered transport damage. It is the responsibility of the receiver to check the shipment. If damaged, there is a risk that the bed and its accessories can no longer be used safely and securely. Contact your dealer or Permobil for further information.

If there is any damage, it must be indicated on the bill of lading. Permobil must be informed of the situation within 24 hours of receipt of goods so that the carrier can be notified as soon as possible. If Permobil is not informed within 24 hours or the damages are not indicated on the bill of lading, the customer may have to pay all the costs incurred to replace or repair the damaged product.

### Incorrect shipment

If a Permobil product does not match the original order invoice, the problem must be communicated to Permobil within 48 hours of the time of delivery. Then, actions necessary to correct the situation will be at Permobil's expense and will be made as soon as possible, following the notification of the incorrect shipment.

# 1 – Unpack the bed

Two people are required to safely remove the bed from the skid. One person can then put the bed together.

The platform is shipped in 2 pieces in the same box:

- Head platform with motors and electrical systems attached
- Foot platform with motors and electrical systems attached

All pieces are secured to a bracket on the packing skid.

Tool required: 6 mm Allen key

#### **STEPS**

- 1 Identify the box that contains the bed.
- 2 Remove the outer box by slowly lifting it up. A wooden protective insert could fall out if the cardboard box is not removed carefully.
- 3 Remove corner protectors and bubble wrap. Leave tie-wraps in place. Note that the bed is attached to a bracket on the packing skid.

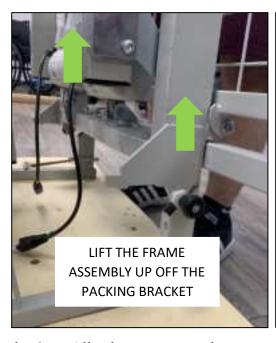




4 - From the side of the packing skid, use the 6mm Allen key to remove the screws on each side of one of the platform assemblies to unfasten one of the bed platforms from the packing bracket. There are 2 screws on each platform (1 on each side).



5 - One person must hold the platform that is still secured to skid upright while a second person lifts the unsecured platform assembly off the packing support and places it wheels down on the floor.





6 - Use the 6mm Allen key to remove the screws on each side of the other platform assembly to unfasten it from the packing bracket. Lift the second assembly up off the skid and place it wheels down on the floor.

# **Packing Materials**

After removing the bed assemblies, you will have a skid, 4 screws, and 2 supports attached with bolts and wing nuts that are not needed to assemble the bed. These items are for packing and transport.



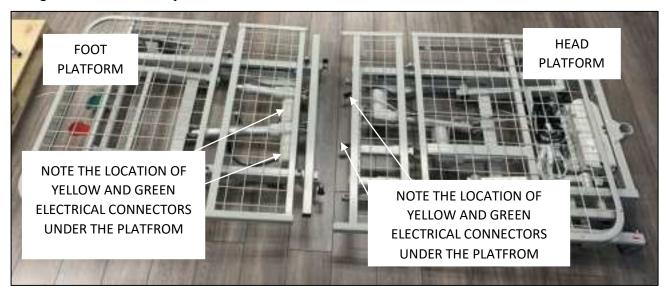
It is recommended to store these packing materials so that you can securely store and transport the bed if necessary.

# 2 – Assemble the platform

The Tröst Bed platform is provided in 2 pieces. You will arrange the head and foot platforms on the floor and then attach them in the middle.

#### **STEPS**

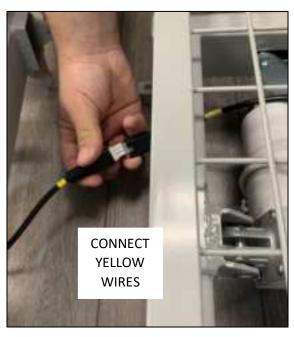
1 - Arrange the head and foot platforms on the floor as shown below.

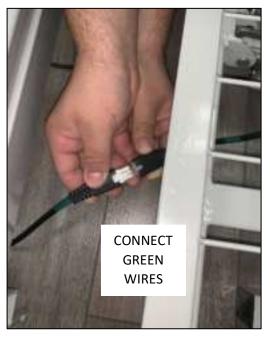


2 - Lock the foot end by stepping down on the red pedal.



- 3 Connect the yellow wire from under the head platform to the yellow wire under the foot platform. Note that these connectors do not "snap."
- 4 Connect the green wire from under the head platform to the green wire under the foot platform. Note that these connectors do not "snap."



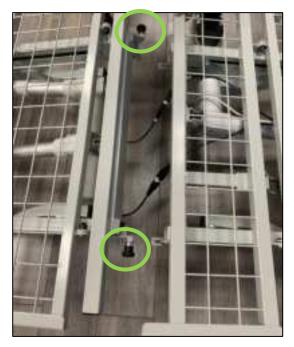


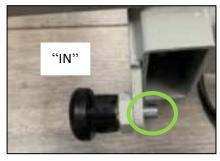
5 - In the future, if it is necessary to disconnect the wires, depress the white portion of the foot-end connectors and gently pull the connectors apart. For assembly purposes, leave the wires connected.

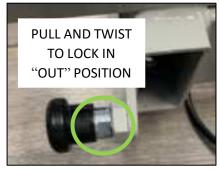




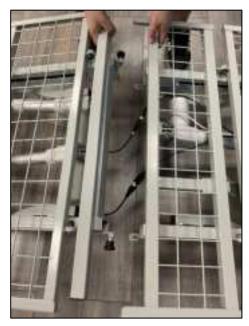
6 - Pull the black knobs on the foot platform out and twist them so they stay in the out position.







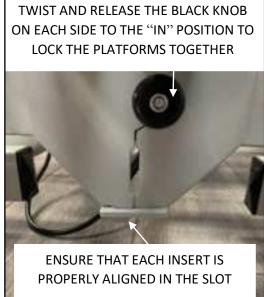
7 - With the black knobs in the out position, lift the middle of the platforms so that you can place the locking inserts on the foot platform into the slots on the head platform.





8 - Ensure that each locking insert is in position in the slot as shown below. Rotate the black locking knob to secure the locking insert in place. Repeat on the other side of the bed. Ensure that the locking inserts are secured in place on each side.





9 - Ensure that the platforms are secured together and the bed is flat.





#### Remove cable ties

Note that some cable ties should stay in place to secure the wires.

The cable ties listed below should be removed.

Tool required: cable tie snipper

#### **STEPS**

- 1 Cut 2 cable ties on the head deck so that you can lift the head deck.
- 2 Lift the head deck so you can access the power cord and hand pendant. Note that the head deck will stay in position.





- 3 Cut the cable tie on the power cord.
- 4 Cut the cable tie on the hand pendant.





- 5 Move the power cord under the bed so it is out of the way. Plug the power cord in to an outlet. An audible beep will sound.
- 6 Remove the plastic cover from the hand pendant. Move the hand pendant to the left side of the bed. The pendant will be illuminated if the power cord is plugged in.





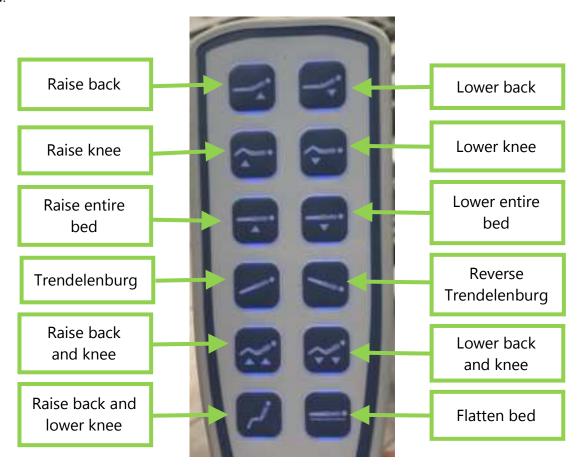
- 7 Cut the cable tie on the foot deck.
- 8 Cut the cable tie on the knee deck.



Test the bed positions

Use the hand pendant to test all bed positions to be sure that all motors are connected properly.

In general, the buttons on the left raise, and the buttons on the right lower each section of the bed



When finished, hang the hand pendant on the bed using the hook on the back of the hand pendant.

# 3 – Install optional half side rails

Optional half side rails can be used at the head or foot of your Tröst or Tröst Plus Bed. Side rails are shipped in a separate box.

Tool required: Allen key

**STEPS** 

1 - Open the half side rail box and remove the side rails and hardware.





2 - Remove the packaging from the side rails and hardware. Verify that you have 2 side rails, 4 screws, 8 pins, and 4 rods.





3 - Note the alignment indicator stickers on the inside of each side rail. Position the side rail so the arrow pointing to the center of bed is pointing to the center of the bed. You may place the rails at either the foot or head end.

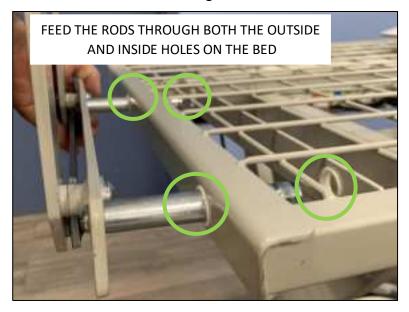


- If you are placing the rail on the head end you will use the head end holes indicated.
- If you are placing the rail on the foot end you will use the foot end holes indicated.
- 4 Insert one screw from the outside of the rail through one of the holes you will be using. Use an Allen key to secure a rod to the screw from the inside of the rail.



5 - Repeat for the other hole so you have two rods secured to the inside of the rail.

6 - Feed the rods on the side rail through both the outside and inside holes on the bed.



7 - Place a pin on each of the 2 grooves in each rod to secure the rod in place.



8 - Repeat for the half side rail on the other side of the bed, and for additional half side rails on the same side of the bed, if applicable.

To move the slide rail, press the black unlocking clip. The rail snaps in place when it's fully down.



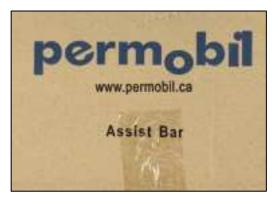
# 4 – Install optional assist bar

An optional assist bar can be used with your Tröst or Tröst Plus Bed. The assist bar is shipped in a separate box.

Tool required: Allen key, small hammer

#### **STEPS**

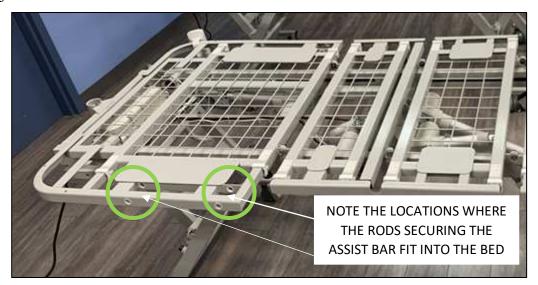
1 - Open the assist bar box and remove the rail and hardware.



2 - Remove the packaging from the side rails and hardware. Verify that you have 1 assist bar, 4 pins, and 2 rods.



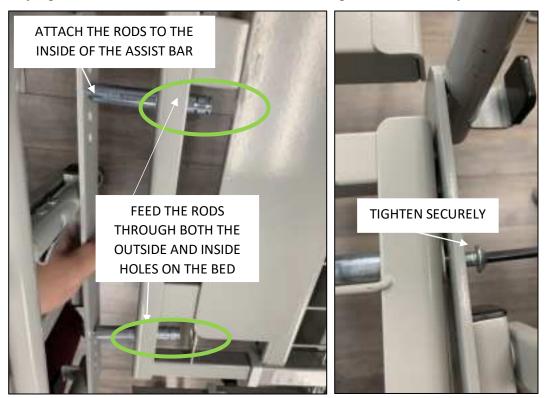
### 3 - Adjust the bed to be flat.



4 - Remove the screws from the ends of the rods.



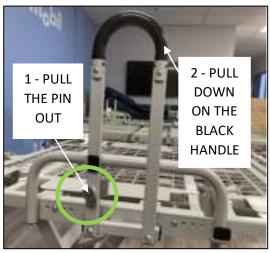
- 5 Attach the rods to the inside of the assist bar using the screws you removed earlier.
- 6 Reed the rods through the holes in the bed.
- 7 Securely tighten the screw on the outside of the rail using a size 5 Allen key.



8 - Place a pin on each of the 2 grooves in each bolt. Use a hammer to tap each pin into place.



To move the assist bar, pull the pin out and then pull down on the black handle.





#### 5 – Install the headboard and footboard

The headboard and footboard are shipped in one box, with hardware in a separate box.

#### 5.1 Install the headboard and footboard

Tool required: Phillips head screwdriver

**STEPS** 

1 - Open the head & footboard box and the hardware box and remove the contents.





2 - Verify that you have a headboard (curved top), a footboard, 4 u-shaped supports, 4 mattress retainers (used later), and 8 screws.





3 - Use the hand pendant to raise the bed.

4 - Unscrew the 2 black knobs on each end of the bed, 4 knobs total.



5 - Place a U-shaped bracket in each channel where you just removed a black knob. Press the button on the channel to slide the bracket in. Note that on the foot end you can leave extra space if you will be extending the bed platform length.



6 - Secure the headboard and footboard to the U-shaped brackets using the screws provided. Note that the brackets are on the outside of the head board an on the inside of the foot board.







#### 5.2 Connect the footboard controller

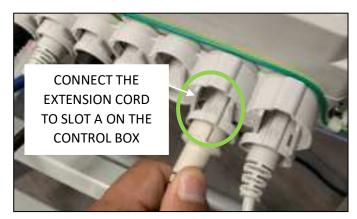
For footboards that have a built-in controller, the controller must be connected to an extension cord that runs under the bed and connects to the control box under the head end of the bed.



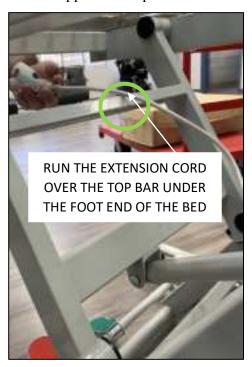
Tools required: Cable ties, cable tie snipper

#### **STEPS**

1 - Connect the footboard controller extension cord to slot A on the control box.

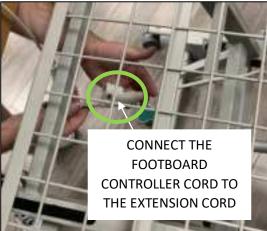


2 - Run the extension cord underneath the bed, ensuring that the cord runs over the top bar on the foot support to keep the cord out of the way when the bed is raised and lowered.

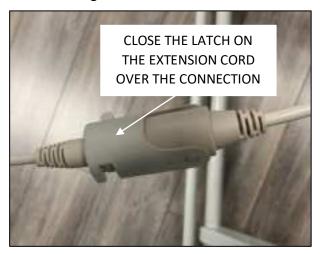


3 - Plug the footboard controller into the extension cord



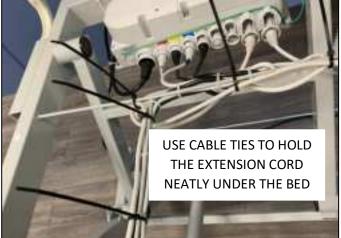


4 - Close the latch on the extension cord over the connection to the footboard controller to lock the cables together.



5 - Use cable ties to hold the extension cable neatly under the bed frame with other cables. Trim the ends off the cable ties.





6 - Test the footboard controller.

# 6 – Install the backup batteries

Backup batteries provide power to the bed when the bed is temporarily unplugged or in the event of a power failure.

Tools required: Star Allen key, cable tie snippers

#### **STEPS**

- 1 Unplug the bed.
- 2 Remove both batteries from the package (batteries are shipped in pairs).

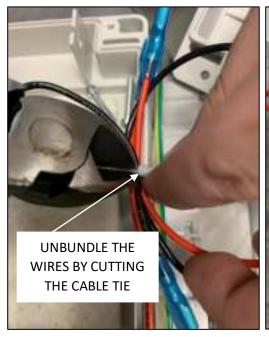


3 - Using a star Allan key, unscrew 4 screws to remove the control box cover.



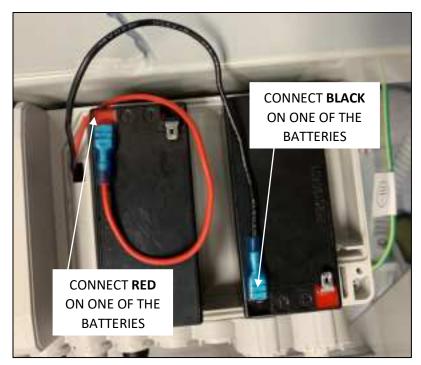


- 4 Unbundle the wires by cutting the cable tie.
- 5 Note that there is one red wire and one black wire connected to the cover.

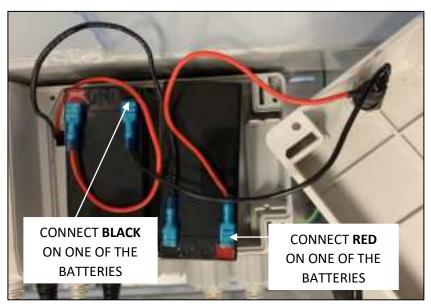




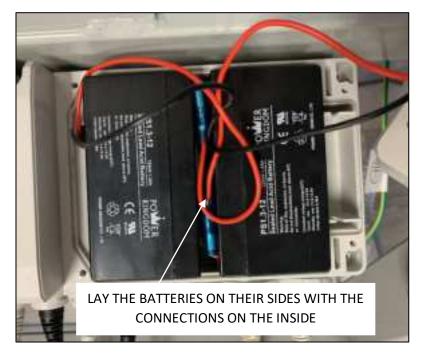
- 6 Put both batteries in the control box
- 7 Connect the black wire from the control box to the black terminal on one of the batteries
- 8 Connect the red wire from the control box to the red terminal on the other battery.



- 9 Connect the red wire in the cover to the available red terminal on one of the batteries.
- 10 Connect the black wire in the cover to the available black terminal on the other battery.



- 11 Verify that each battery has one terminal connected to the control box and one terminal connected to the cover.
- 12 Lay the batteries on their sides with the connections on the inside, taking care not to loosen the connections.



13 - Tuck the wires in and screw the cover back on.



- 14 Plug the bed in.
- 15 Let the batteries charge for 48 hours before testing. To test, unplug the bed. The controller should stay illuminated and function when the bed is unplugged.

## 7 – Prepare the bed for use

The final step in the assembly includes installing mattress retainers, raising or lowering the bumper, expanding the platform of the Tröst Plus bed, and using the wheel directional limiters.

### 7.1 – Install mattress retainers

Take the 4 mattress retainers that were included with hardware and insert them into the holes on the corners of the bed frame.







The mattress is sold separately from the Tröst and Tröst Plus Beds. Place the bed in a flat position when installing the mattress. Be sure that any mattress used meets all applicable safety standards.

## 7.2 – Use the bumper bar

A bumper bar is already installed on the head end of the bed and is ready for use. Simply lower it or raise it as needed.





### 7.3 – Expand the width of the Tröst Plus platform

The Tröst Plus Bed platform can be expanded from 36" (91 cm) to 39" or 42" W (99 cm or 107 cm W) if necessary.



#### **STEPS**

- 1 Adjust the bed so that it is flat.
- 2 From under the platform, pull and hold the extension lock knob on one of the bed platform sections.
- 3 While holding the knob down, pull the extension out until it locks in one of the 3 possible positions: 36", 39" or 42" (91, 99 or 107 cm).





4 - Repeat for each section of the bed on both sides until the platform is the desired width.



#### 7.4 – Use the wheel directional limiters

If you need to move the bed and want to ensure that the wheels only move straight back and forth, you can use the wheel directional limiters.

Simply flip each limiter over the wheel to ensure that the wheels don't turn from side to side. Note that the wheels will still move forward and backward.





# **Optional Transport Trolley**

The Transport Trolley is sold separately and shipped in a separate box. The transport trolley is used to move the Tröst or Tröst Plus Bed in a vertical or horizontal position.

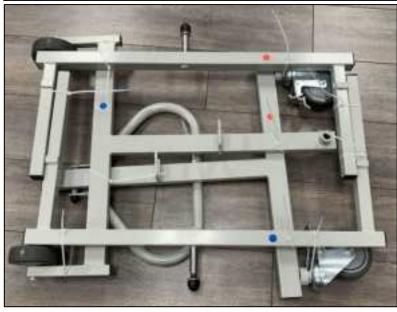
### Assemble the transport trolley

Tool required: Cable tie snipper, 19 mm wrench

**STEPS** 

1 - Open the transport trolley box and remove the contents.





2 - Remove all 12 cable ties so that you can separate the trolley into 4 pieces: 2 supports and 2 wheel assemblies.





3 - Note that the pieces are color coded (2 pieces have blue dots, and 2 pieces have red dots). Start with the wheel assembly and support with the blue dots.



4 - Remove the black screw cover from the support. Feed the bolt on the support through the hole in the wheel assembly.







5 - Ensure that the support moves freely in and out of the hook on the wheel assembly.



6 - Follow the same procedure to connect the 2 pieces with red color-coded dots.



7 - Secure each bracket to each wheel assembly with a washer and nut. Tighten securely.





### 8 - Replace the black covers.



Note that the finished Transport Trolley is in 2 pieces: one piece for the head of the bed (red color-coded dots), and one piece for the foot of the bed (blue color-coded dots).

### Use the transport trolley

The transport trolley can be used to move the Tröst or Tröst Plus bed in a horizontal or vertical position. To use the transport trolley, the headboard and footboard must first be removed from the bed. The head end of the trolley is used on the head end of the bed, and the foot end of the trolley is used on the foot end of the bed.

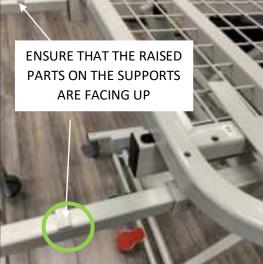
#### **STEPS**

1 - Remove the headboard and footboard by sliding the U-shaped brackets out of the channels on the bed support.



2 - Adjust the height of the bed so you can slide the trolley support brackets into the channels on the ends of the bed support. Red = head, blue = foot. Ensure that the raised parts of the trolley supports are facing up.





3 - Slide the trolley support arms in completely until the raised part of the bracket is against the bed support.



- 4 Lower the bed so the wheels are off the floor.
- 5 Unplug the bed power cord.
- 6 You can use the trolley to move the bed horizontally or you can rotate the trolley supports to move the bed vertically. Ensure that all wires are safely out of the way.



7 - Use the trolley handle to move the bed.



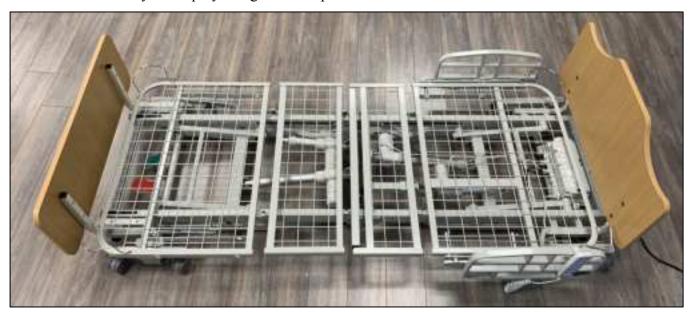


# **Bed Usage**

The Tröst and Tröst Plus Beds are electric adjustable beds with Trendelenburg capabilities.

### Inspect the bed before use

- ✓ Visually check the bed and its accessories. Ensure that no wires are exposed.
- ✓ Verify that all attaching hardware is securely tightened.
- ✓ Make sure the power cable cannot get damaged to avoid injuries and/or equipment failure.
- ✓ Check the headboard and footboard to be sure that they are secure and that all screws have caps securely in place.
- ✓ Verify the functioning of all side rails.
- ✓ Apply the brakes on the casters and ensure that they function properly.
- ✓ Use the hand pendant to check all positions of the bed (see next section).
- ✓ When applicable for battery backup testing:
  After the bed has been plugged in for at least 48 continuous hours, unplug the power cord and test the battery backup by using the hand pendant.

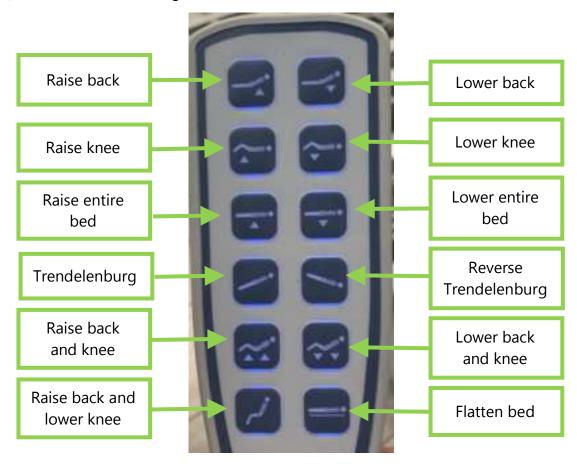


### Move the bed into different positions



Before moving the bed into a different position, ensure that nothing will interfere with the movement of the bed.

Use the hand pendant to move the bed into different positions. In general, the buttons on the left raise, and the buttons on the right lower each section of the bed.



## Safe operation

#### Moving the bed

To reduce the risk of injuries when moving the bed with a person laying in it, always put the bed at its lowest position, then place the platform horizontally and leave the side rails raised.

Always apply the brakes after moving the bed, and before a person sits or lies down on the bed. Check the bed to make sure the brakes have been applied.

### Using side rails

Side rails are made to prevent accidental falls. They must not be used to restrain, to keep the user from getting out of the bed, or to help the user to turn. It is the caretaker's responsibility to use the appropriate restraining means for the user's safety.

Half side rails at the head of the bed should always be up when repositioning the bed.

When the side rails are up, make sure that they are properly locked. Half side rails at the head of the bed should always be up when moving the bed.

It is the responsibility of the user and his or her healthcare professional to determine whether the half side rails at the foot end of the bed should be left up or down, so that the user can get out of the bed at their convenience.

### User safety

Unless otherwise medically advised by a professional, lower the bed to the lowest horizontal position and leave side rails up and locked when the user is sleeping or left without supervision.

If required for the user's welfare or security, unplug the remote.

### **Electrical safety**

Unplug the bed immediately if a significant overflow of liquid is accidentally spilled on the electronic components, the wires, or the electric motors. The functioning of these components can be affected. The user must be removed, the bed cleaned and examined by a qualified technician. The bed can be used again only if it has been properly cleaned and examined.

No electrical components should be changed by anyone other than a qualified technician. Before changing an electric component, unplug the power cable and the battery fuse. This must be done by a qualified technician.

#### Maintenance

Regular maintenance is essential to maintain the bed's reliability. A defective bed should not be used. Make sure to support the frame of the bed if you need to work under the platform. This will prevent the bed's structure from falling accidentally. If a moving part needs to be re-lubricated, use any piston lube.

#### Cleaning

Always unplug the bed before cleaning.

Do not submerge the hand pendant in liquid. Do not steam or pressure wash the bed or any of its components. Never use high pressure water, or ultrasounds, and never submerge the bed parts to clean them

To clean the bed, use detergents normally used in hospitals or at home. Products may be applied by lightly spraying or wiping. Excess water or liquid may damage electrical parts and pose a **shock hazard.** Make sure the cleaned parts are dry before using the bed again.

Do not remove lubricant from the moving parts of the bed.

#### Regular inspection

	Visually check the bed and its accessories. Ensure that no wires are exposed.		
	Make sure the power cable cannot get damaged to avoid injuries and/or equipment failure. Checl all cords for cuts or damage.		
	Check the headboard and footboard to be sure that they are secure and that all screws have caps securely in place.		
	Verify the functioning of all side rails.		
	Apply the brakes on the casters and ensure that they function properly.		
	Use the hand pendant to check all positions of the bed.		
	Visually examine all welds for cracks		
	Inspect all bed components for damage or excessive wear.		
	Inspect the deck components for bending or damage.		
	Inspect all bolts and fasteners.		
en applicable for battery backup testing:			

Who

After the bed has been plugged in for at least 48 continuous hours, unplug the power cord and test the battery backup by using the hand pendant.

All defects must be repaired immediately by a qualified and authorized technician. Only use Permobil replacement parts.

# Troubleshooting

Problem	Possible cause(s)	Solution
There is no power	a) Power cord is not plugged in	a) Verify that the power cord is plugged in
	b) Power cord is damaged	b) Inspect the power cord
	c) Hand pendant plug or cord is loose or damaged	c) Inspect the hand pendant d) Verify that the electrical
	d) Electrical connections under the bed are loose or not connected	connections under the bed are properly connected
Power is on, but the bed doesn't move as it should	Hand pendant plug or cord is loose or damaged	Inspect the hand pendant
Motors are not functioning	Synchronization issue	Move the bed all the way down and keep holding the down button for 3 seconds

### Warranty

The Tröst and Tröst Plus Beds are guaranteed against manufacturing defects according to these warranty periods starting from the shipment date:

The beds are warranted to be free from defects in material and workmanship under normal use and service for the warranty periods specified.

Permobil reserves the right to substitute equal or superior quality materials during repairs and/or replacements. All repaired or replaced parts are guaranteed for whichever is greater: 1 year from the date of service or the life of the warranty.

This warranty does not cover damages caused by negligence or inappropriate use. Permobil will not be held responsible for any other warranty offered by any person, firm or company, to the exclusion of the one stipulated above.

This warranty gives you specific legal use rights and is only valid for the original purchaser.

#### Returns

Returned goods require an RA number and are subject to a 25% restocking fee. Furthermore, the customer must pay the transport charges. For more information, please contact Permobil customer service, 1-800-265-9830.