



Pro Bario
Pro Bario+
Pro Bario Max
User Manual

Safety Notice

This manual contains important information regarding the safe & proper use of the bed. It is important that any persons involved in the assembly and/or use of the bed should have read & understood its contents. Failure to do so could result in damage to the bed and may invalidate the warranty. Be aware that elements of the bed are heavy. Those involved should observe the safe lifting and handling techniques recommended under Health & Safety Regulations

PAY PARTICULAR ATTENTION TO THE FOLLOWING ADVICE.

(Please also refer to page 8 for guidance on Safe Working Loads)

ASSEMBLY & INSTALLATION.

- ✓ The bed should be assembled by suitably competent persons.
- ✓ Ensure that the local electricity mains voltage corresponds to that marked on the main controller label before connecting to the supply.
- ✓ Ensure that cables from actuators are plugged into the main controller correctly.
- ✓ The fuse in the mains 'safety connector' plug should not exceed 5amps.
- ✓ The bed should be located on a level surface & not sited on loose floor coverings.
- ✓ The cable from the mains electricity supply must be routed clear of the lifting mechanism & castors to avoid danger of shearing or crushing.

OPERATION.

- ✓ The brake on each castor must be applied whilst the bed is in use (see also page 8).
- ✓ Do not allow children underneath the bed or to use the controls.
- ✓ Do not position objects under the lifting mechanism of the bed.
- ✓ Always ensure that limbs or body parts of both user & carer are not protruding from the bed, are not between the side rails or into the lifting mechanism when using the powered functions.
- ✓ Never exceed the maximum usage period of 2 minutes continuous use in any 18 mins. for any of the powered functions. Should you do so the actuator may 'close down' for a period to 'recover'.
- ✓ If, during operation, there are any unusual noises or smells then disconnect the bed from the mains electricity power supply immediately. Ensure that no cables are trapped.
- ✓ When raising/lowering the bed be aware of any fixtures such as window sills, shelf units & electrical power sockets which may obstruct the raising of the bed. If necessary re-position the bed to avoid contact and damage.

RE-SITING.

- ✓ If moving the bed to a different location always ensure that s are at their lowest position & remember to remove the plug from the mains electricity power supply.
- ✓ Release all brakes before moving the bed, otherwise damage may occur.
- ✓ Never use the side rails to push or pull the bed. Always use the head and foot boards.
- ✓ With or without occupant, the bed should only be moved at slow speed & not pushed over a threshold strip greater than 2cm in height.
- ✓ Once the bed is re-sited remember to re-apply the brakes.

MAINTENANCE & CARE

- ✓ All grub-screws and mechanical fixings should be checked regularly for tightness.
- ✓ Use a damp cloth with normal household cleaners or warm soapy water to clean the bed. Do not use cleaning agents containing ammonia, abrasives or strong solvents.
- ✓ Mechanical cleaning, scouring, pressure hoses or automated cleaning will damage the bed.
- ✓ All electrical actuators are fitted with maintenance-free, self-lubricating bearings and no attempt should be made to oil or grease these parts.
- ✓ A suitably qualified service engineer should check all electrical parts & cables and mechanical functions for correct operation at least once every year.
- ✓ Any unauthorised modifications, adjustments or alterations will invalidate the product warranty.
- ✓ Repairs should only be carried out by a suitably qualified competent engineer.
- ✓ This bed is classed as a 'double insulated appliance', although the supplied safety connector is not. If the bed is used in commercial premises, customers should seek the advice of a qualified electrician regarding PAT2 test recommendations.

SHOULD YOU HAVE ANY DOUBTS, PLEASE SEEK ADVICE

CONTENTS

	Page		Page
• Safety notice	2	• Using the electrically powered functions	
• Features of Pro-Bario Beds	3	• Applying & releasing the brakes	8
• Product Identification		• Guidance on Safe Working Loads	
• Unpacking bed sections from the transit frame	4	• Mattress integrity	9
• Assembly of the mattress support		• Record of Maintenance/servicing	
• Assembly of the bed ends & siderails	5	• Parts locator	10
• Mounting the actuators to the mattress support unit		• Troubleshooting	11
• Connecting the actuators to the main controller	6	• Technical data	12
• Siderail finger assemblies			
• Identifying Top/Bottom side rails			
• Raising & lowering the side rails			
• Fitting the lifting pole	7		
• Adjusting the Fowler position knee-break			

FEATURES OF PRO-BARIO BEDS

These modular care beds have five electrically operated functions – backrest, leg rest, backrest & leg rest combined, bed height & Trendelenburg/reverse Trendelenburg. These are powered by linear actuators each of which is sealed, uses maintenance-free permanent lubrication and is ingress protected to IPX4 standard.

The functions are operated using a 5-function auto-profile hand control connected to the main Controller via a spiral cable. The hand control & main control are ingress protected to IPX4.

All electrical functions are isolated from the mains power supply & operated at 24v DC low voltage.

A 240v mains electrical 'safety connector' is supplied. This can reduce the likelihood of damage or injury if the bed is moved before being unplugged from the mains power supply socket.

The mattress support is constructed from metal mesh which allows the mattress to breathe and so prolongs its life.

The bed is supplied complete with timber 'lift & lock' side rails together with a lifting pole and grab Handle. Each castor features a simple to operate brake.

Apex brand accessories are designed to work in harmony with the moving parts of our beds and, in conforming with BS EN 60601-2-52 bed standard, reduce the risk of entrapment. Use of other manufacturer's products with our beds may take a bed/mattress combination out of BS EN 60601-2-52 guidelines and may increase the entrapment risk. Neither Apex Medical Ltd, nor any of its employees, can take responsibility for any issues arising from use of such products.

PRODUCT IDENTIFICATION

Each bed carries a CE Mark label which identifies the bed's model and its unique Serial Number.

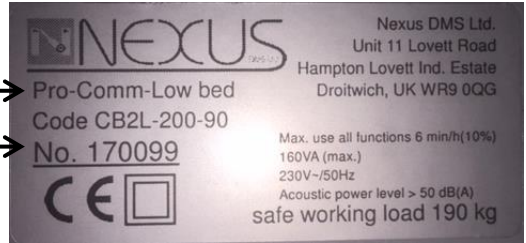
Where advice or spare parts are required, it is essential to quote the Serial Number, as this enables us to match parts and advice to your particular bed.

The identification label, similar to the one in the picture, is located on the metalwork of the bed – usually either:

- Approximately half-way along the Mattress support unit
- Foot end of the Mattress support

Bed model

Serial No.



DISPLAY OF THE CE MARK LABEL IS A LEGAL REQUIREMENT – IT MUST NOT BE REMOVED OR COVERED

UNPACKING BED SECTIONS FROM THE TRANSIT FRAME

(This procedure is better undertaken by two people)

Please refer to the safety notice on page 2 before attempting To unpack and assemble the bed.

1. Carefully remove the ties and take the lifting pole out from the side of the unit.
2. Remove the ties, lift the timber siderails upwards & clear from the bed.
3. Each half of the mesh mattress support locates on transit brackets & is held in place by two grub screws at its lower end (one each side). Unscrew the two fixings and lift one half of the mattress support clear of the bed ends. Repeat the process for the second half of the mattress support.
4. Loosen the two grub screws on the underside of each transit bracket and with a second person supporting one of the bed ends carefully slide the other bed end off the brackets. Remove the transit brackets completely and retain in a safe place should you ever need to re-pack the bed for transit or storage.

Picture of bed in Transit condition

ASSEMBLY OF THE MATTRESS SUPPORT UNIT (Not necessary on Pro-Bario Max)

1. Position the two halves of the mattress support on their sides facing each other as shown in figure 2. Note the position of the locating hole in the joining bar. Unscrew the four grub screws but do not remove completely.
2. Slide the sections together, ensuring both fit fully together until the outer tubes touch each other.
3. Position a clevis pin from the outside through the outer tube and inner joining bar, locking the 2 halves of the mattress support assembly together. Attach the 'R' clip through the small hole at the inner end of the clevis pin.
4. Tighten the grub screws on the underside of the mattress support very securely using an Hex key. These should be rechecked for tightness periodically.

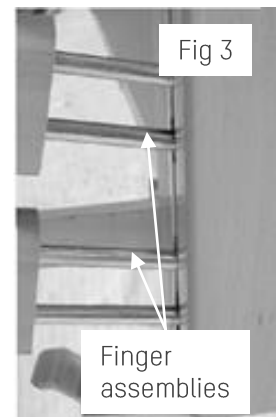
Picture of 2 halves Fitting together

For ease of assembly you should always fit the 2 clevis pins and 'R' clips before tightening the 4 grub screws

ASSEMBLY OF BED ENDS & SIDE RAILS

(Side rail finger assemblies are pre-assembled to the bed ends on these style of beds)

1. First identify the 'head' end of the mattress support unit (lifting pole sockets). the bed end assemblies are identified by the numbered tag on each actuator plug: 3=Foot, 4=Head.
2. Place each of the three assemblies on their sides – head to head & foot to foot
3. Unscrew the two grub screws on the underside at each end of the mattress support unit (see figure 1)
4. Raise the mattress support unit from the floor & slide the head end 'T' brackets fully into the tubular sections. Securely tighten the grub screws by hand.
5. Repeat (4) above for assembly of the foot end but do not tighten the grub screws.
- 6. Refer to page 6 for mounting & connecting the actuators.**
7. to avoid risk of damaging the brakes when righting the bed to its upright position, rotate the two castors nearest the floor, applying the brakes so that the brake levers are facing upwards.
8. With assistance, carefully pull the bed over onto the braked castors.
9. Whilst controlling the bed to prevent it dropping suddenly, release the brakes, allowing it to roll away and into its upright position.
10. With assistance, take the weight off the foot end castors by lifting the mattress support unit at the end.
11. Very carefully slide out the bed end until you can see approx. 2.5" (65mm) of the 'T' brackets. (see figure 2) do not remove bed end completely. Lower onto its castors.
12. Take two side rails & slide onto the finger assembly at the head end. Holding the top rail, lift until the rails lock into their upper position.
13. Lift the other end of the rails & slide onto the finger assembly at the foot end (see figure 3)
14. Repeat for the two rails on the other side of the bed.
15. Slide the foot end of the bed back fully into the tubular section of the mattress support & tighten the grub screws securely.



MOUNTING THE ACTUATORS TO THE MATTRESS SUPPORT UNIT

(note this procedure is not necessary on Pro-Bario Max which has a 1 piece mattress support unit)

Once the 2 halves of the mattress support unit have been assembled it is necessary to attach the free ends of the back-lift and leg-lift actuators to their respective mounting points on the mattress support assembly.

The Pro Bario bed has LA31 actuators, the main control box is mounted separately on the mattress support unit.

1. Remove the 'R' clip and clevis pin from each of the 2 mounting brackets.
2. Swing each actuator into place, positioning the end of its arm centrally in the mounting bracket legs – carefully aligning all 3 holes.
3. Replace each clevis pin and re-fit the 'R' clip securely.

Please note older models of the bed used LA27 actuators, the main control box mounted to the leg-lift Actuator. When connected the plugs please make sure they face downwards towards the floor.

Picture of actuators leg and back

CONNECTING THE ACTUATORS TO THE MAIN CONTROLLER

There are 4 actuators, each connected to the main controller by a spiral cable and multi-pin plug. Each plug carries a numbered tag which corresponds to a numbered socket on the main controller. The plugs are 'keyed' & will only insert if correctly aligned in the socket.

There is a retaining strap over the sockets – this should be released, using the tip of a small screwdriver, before attempting to fit the plugs & snapped back afterwards to 'lock' the plugs in place. Assemble each of the numbered plugs & then fasten the spiral cables into their retaining loops on the underside of the bed so that they do not trail on the floor.

Take great care to ensure that the cables are clear of actuators & that there is sufficient slack to allow for the movement of bed parts.

SIDERAIL FINGER ASSEMBLIES

Where it is necessary to take apart and re-fit the siderail finger assemblies, it is essential that they are re-fitted correctly to ensure correct operation and maintain the BS EN 60601-2-52 gaps between rails, preventing entrapment – see diagram to the right.

To retain the siderails in their lower position an end stop/closure is fitted to the aluminium track during production. This should be removed by unscrewing partially until the screw is free of its locating hole in the aluminium track and sliding from the bottom of the track as a complete assembly.

NOTE: for relevant models, correct fitting of the slider connector (wire loop) is vital. It must be positioned around the upper finger of each pair. On some bed models the 2 piece finger assembly components are replaced by a single-piece finger set, with no wire loop or plastic spacer.

IDENTIFYING TOP/BOTTOM SIDERAILS

All new models, the siderails are universal, and can be fitted as the top or bottom rail on the left or right hand side of the bed. However older models have siderails with end clearance holes for the finger assemblies that are not centrally positioned. In this case, it is important to note the top and bottom siderails are different from each other, and will only work correctly when assembled in their proper position (silent end caps, if supplied are universal).

The top siderail can be identified by an arrow above the clearance holes. When assembled correctly, the clearance holes of the top and bottom siderails will be closest together. If assembled incorrectly, the holes of the top and bottom rails will be far apart.

RAISING & LOWERING THE SIDERAILS

TO RAISE:

Hold the UPPER siderail at the Head end & slide up the channel until the locating pin engages with a 'click'

Both the upper & lower rails are now locked in the upper position, correctly spaced.

For occupant safety always 'lift & lock' the siderails at the head end first.

TO LOWER:

Hold the UPPER siderail & lift slightly until it stops. This action 'unlocks' the release button on the side of the head/footboard. Press & hold the button & gently lower the siderails until they rest on the stop at the bottom of the track.

NEVER let go of the rails & allow them to drop

For occupant safety always lower the rails at the foot end first.



FITTING THE LIFTING POLE

1. There is a socket for the lifting pole on each side of the bed at the head end.
2. Insert the lifting pole into either the left or right hand socket
3. Rotate the pole until the pin on the pole locates into the corresponding groove in the socket – this keeps the pole central & securely positioned for use.
4. Hang the grab handle over the end of the pole between the two vertical pins & adjust the strap to the required length.
5. The pole can be lifted slightly to free the pin & swung out of the way when not in use. It must **NOT** bear any weight when in this position.



ADJUSTING THE FOWLER POSITION KNEE-BREAK

The Fowler position knee-break is adjusted on ratchet mechanisms attached to the leg lift section and can be adjusted manually and electrically. There are 7 positions available so that you can achieve the correct angle for a particular users knees.

MANUAL ADJUSTMENT: Raise the leg lift section electrically to a chosen height and then, holding one mattress retaining handles, lift the foot section until it 'clicks' and remains at the position you require. To lower – lift fully to its highest position (you will hear 'clicks') then lower until the foot section rests on the mattress support unit.

ELECTRICAL ADJUSTMENT: Raise the leg lift section electrically until you achieve the knee angle required. Lower electrically until you hear 1 'click' then raise electrically to the height you require. The chosen angle will be maintained. To lower – use the hand control and lower electrically until flat.

USING THE ELECTRICALLY POWERED FUNCTIONS

BEFORE USING ANY POWERED FUNCTION PLEASE READ THE SAFETY NOTICE ON PAGE 2.

Pro-Bario beds are fitted with an auto-profile/function-lock hand control similar to the one pictured. This controls the independent operation of the back-rest, leg-rest, bed height & Trendelenburg functions. It also allows the back-rest and leg-rest to be operated simultaneously using just one button.

It allows any or all functions to be locked using the special 'key' provided – inserting and turning clockwise to lock or anti-clockwise to un-lock.

The 4 buttons to the left control the 'raise' functions and the 4 buttons to the right control the 'lower' functions.

Each button carries a pictogram to denote its function.

A clip on the rear of the hand control allows it to be positioned conveniently on a siderail.

APPLYING AND RELEASING THE BRAKES

Each castor has its own individually-operated brake.

To apply each brake, push the brake lever down with your foot. (see picture)

To release the brake, use the top of your foot to lift the spring-loaded lever back up. (see picture)

WARNING: when using the Trendelenburg/Reverse functions **ONLY** the 2 brakes at **ONE END** of the bed should be applied. The 2 brakes at the other end should be free to roll.

GUIDANCE ON SAFE WORKING LOAD

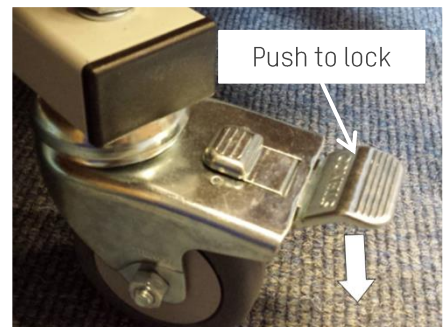
The Safe Working Load **MUST NEVER** be taken as the maximum user weight.

In common with other manufacturers we quote a Safe Working Load of each of our beds. When a bed is tested, a static load is evenly distributed over the whole surface of the bed. Remember when a bed is in use that the load is rarely static or evenly distributed. Should a visitor, for example, sit down heavily on one side of the bed then the shock load at that point will be extreme, the load will be uneven & the total combined weight may **EXCEED** the Safe Working Load. The SWL must take account not only of the weight of the user but also the weight of the mattress, bed linen & other items loaded on the bed eg. Air pump for an air driven mattress.

You should also take account of any likely weight gain by the user in future

Typically, a mattress could weigh 20kg; an air driven system could be as much as 30kg; a couple of pillows 3kg; bed linen around 12kg – **the total of such items, together with anything else placed on the bed, PLUS the weight of the user must NEVER exceed the Safe Working Load.**

Neither Apex Medical LTD, nor its employees, can accept responsibility for any issue arising from overloading a bed. Should damage result from such actions then any necessary repairs will not be covered under warranty.



MATTRESS INTEGRITY

Should a mattress cover be damaged, then body or other fluids can pass through and contaminate the inner core creating the potential for cross-infection.

It is therefore recommended that a frequent inspection of mattress covers is undertaken to inspect for damage, such as holes or cuts. The inner core of the mattress should also be inspected for signs of staining or contamination.

Should there be damage to a cover then it should be disposed of safely. Should there be contamination to the inner foam core then it cannot be decontaminated and should therefore be disposed of safely. Inner cells of an air-driven mattress system can be decontaminated.

RECORD OF MAINTANCE AND SERVICING

Use this page to keep a record of repairs to and servicing of this bed.

From the identification label attached to the bed (see page 4) make a note of the following:

BED TYPE: PRO-BARIO PRO-BARIO+ PRO-BARIO MAX

PRODUCT CODE: CB2BL-.....-.....

SERIAL NUMBER:

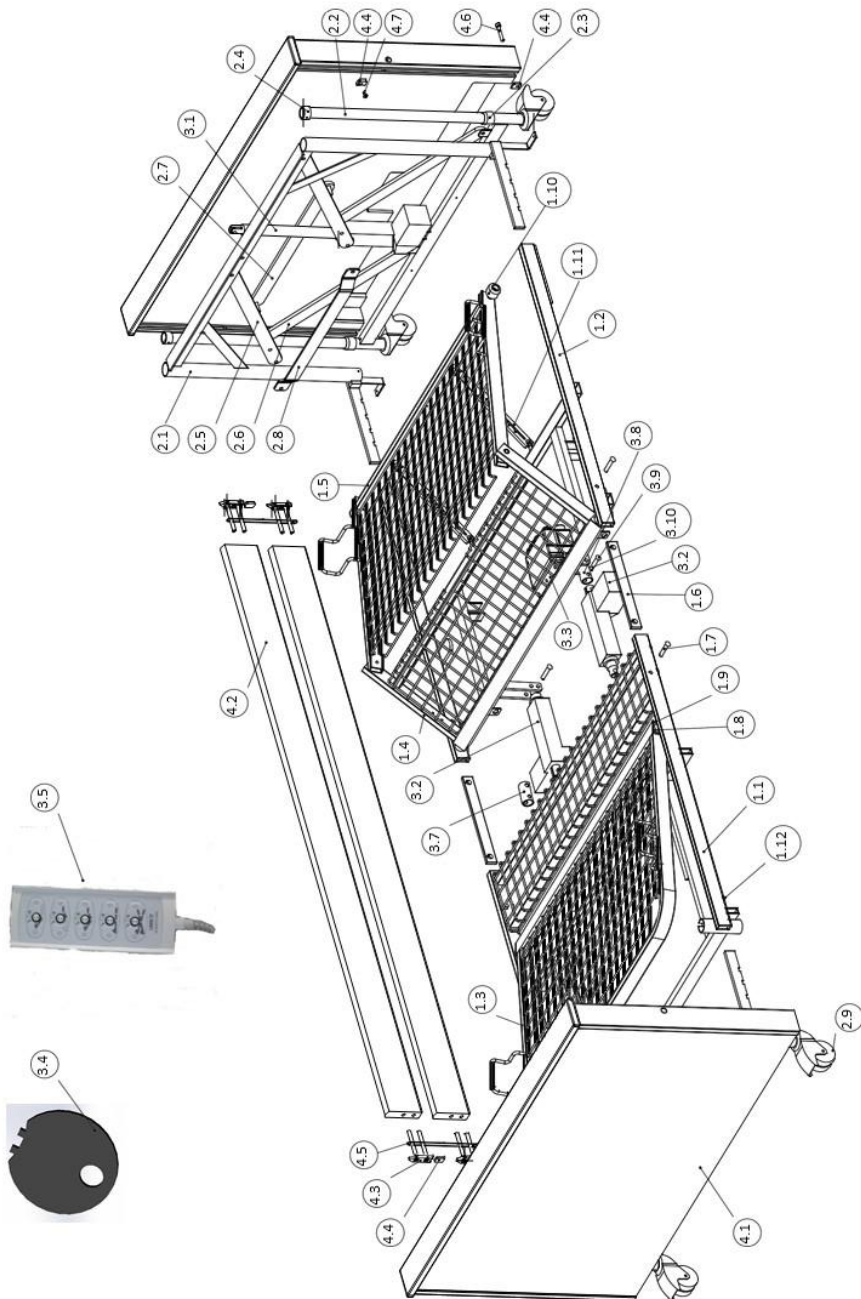
DATE: DESCRIPTION:

PARTS LOCATOR

When telephoning for assistance or to order spare parts it is essential we have the unique Serial Number from the bed (see page 4).

This enables us to identify the correct items for the modal of bed and year of manufacture. A spare parts list is available on request.

The diagram is of a CB2BL-200-120 other models are similar and many parts are common.



TROUBLESHOOTING

Fault	Remedy
No actuator functions when hand control operated	Check connection to mains electricity supply & fuse. Check that the safety connector has not been disconnected. Check connections of hand control and actuator plugs to main controller.
One actuator does not work when button is pressed	Check connection between actuator cable and controller

TIP: If you have another Apex bed of the same type (which you know is functioning correctly) try the hand control off that bed – if it cures the problem then the original hand control is at fault.

TECHNICAL DATA: Subject to change

Specification	Pro-Bario/Pro-Bario+ /Pro-Bario Max
Voltage	~230 V/240V/ 50Hz
Power Rating	160 VA
Power Duration	Max. 2 mins in 18 mins (10%0
Device Type	
Protection Class	
IP Protection	IP54
Safe Working Load	260kg/260kg/325kg
Max User Weight	220kg/220kg/280kg
Dimensions of Lying Surface	200cm x 120cm/206cm x 127cm/200cm x 120cm
Height Adjustment	22-62cm
Backrest Angle	0° to 70°
Leg	0° to 48°
Fowler Knee Break – 7 positions	4° to 26°
Weight of Headboard	43kg/46kg/49kg
Weight of Footboard	43kg/46kg/49kg
Weight of Head section of mattress platform	42kg/45kg/47kg
Weight of foot section of mattress platform	35kg/39kg/43kg
Weight of side rail x4	8.5kg
Weight of lifting pole	5.6kg
Weight of bed without mattress, side rails or lifting pole	163kg/176kg/188kg

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