

Bathmaster 2000 – Classic

Service Manual



ref 467896315-A - Issue 17th July 2006

Contents

Contents.....	1
Spares ordering contact numbers	1
Technical specifications	2
Product number reference.....	3
Spare parts number reference.....	4
Repair Instructions	21
To remove Top.....	21
To remove Leadscrew with motor, gearbox and carriage.....	21
To replace leadscrew, gearbox and carriage assy and Cross-beam.....	22
To remove columns from base	24
To replace columns and fix to base.....	24
To replace seat.....	24
To replace Bellows.....	25
To replace Frame catch assembly	26
Testing	27
Troubleshooting	28
Fault finding.....	34
Periodical control check list.....	35

Spares ordering contact numbers

UK Customer Service – Kirkby call centre	Tel: 08702 423305
	Fax: 08701 660211
International Customer Service – Kirkby call centre	Tel: +44 1623 759146
	Fax: +44 1623 726886

Technical specifications Maximum load. 30 stones (190 kg)
Main motor rating = 150w at 18vdc continuous load
Type of drive : Worm & wheel

Leadscrew Type of thread: trapezoidal; single start
Pitch 2mm

Bearings Type: ball race
Number : 2
Balls per race : 26

Materials used

Main nut:	acetal
Safety nut:	acetal
Wheel:	acetal
Worm:	steel
Leadscrew:	stainless steel
Balls (bearing)	stainless steel
Race:	spring steel (heat treated)
Grease:	MDX (Impervia)

Gap between 3mm
Main nut & safety nut

Product number reference

Bathmaster Classic

AA1330	Bathmaster (STD) without hand controller and recharger
AA1331	Bathmaster (High) without hand controller and recharger

***NiCd Version
until stock available***

**NiMH Version
only with LED**

Bathmaster Classic Complete

<i>AA1330CL / AA1320 AA1320A</i>	AA1375	Bathmaster Classic STD UK Complete
<i>AA1320EL / AA1320E AA1320S</i>	AA1375A	Bathmaster Classic STD Australia Complete
<i>AA1320UL / AA1320U</i>	AA1375E	Bathmaster Classic STD Europe Complete
	AA1375S	Bathmaster Classic STD South Africa Complete
	AA1375U	Bathmaster Classic STD USA Complete
<i>AA1331CL</i>	AA1376	Bathmaster Classic HIGH UK Complete
<i>AA1321EL / AA1321E</i>	AA1376E	Bathmaster Classic HIGH Europe Complete
<i>AA1321UL / AA1321U</i>	AA1376U	Bathmaster Classic HIGH USA Complete

Bathmaster Classic with Institutional Pack

<i>Previously AA1324U</i>	AA1377U	Bathmaster Classic STD Hi-Power USA Complete
<i>Previously AA1325U</i>	AA1378U	Bathmaster Classic HIGH Hi-Power USA Complete

Spare parts number reference

<i>reference</i>	Spare parts	page
	AA1348 Sideflaps (pair)	6
	AA134801 Sideflap (single)	6
	AA8909 Corner flap (single)	6
	AA1349 Flap protectors (pair)	7
	AA134901 Flap protector (single)	7
	AA1347 Safety strap	7
<i>(no stock available)</i>	AA1336 Hand controller NiCd without Led	8
<i>(until stock available)</i>	AA1336L <i>Hand controller NiCd with Led</i>	8
<i>(only available with Led)</i>	AA1359 Hand controller NiMH	8
	AA1359R Hand controller & Recharger NiMH for UK	8
		9
(UK)	AA1337 Recharger NiCd for Hand controller AA1336 &	
(Europe)	AA1337E AA1336L	
(USA)	AA1337U	
(Japan)	AA1337J	
(Australia)	AA1337A	
		9
(UK)	AA1371 Recharger NiMH for Hand controller AA1359	
(Europe)	AA1371E	
(USA)	AA1371U	
(Japan)	AA1371J	
(Australia)	AA1371A	
<i>Previously AA1339</i>	AA1373 Institutional Pack	10
	AA133901 Institutional pack (Without hand controller)	10
<i>Previously AA131906</i>	AA137301 Hand controller for institutional pack	10
<i>Previously</i>		11
AA1356 (UK)	AA1372 Recharger for Institutional Pack AA1374	
AA13560E (Europe)	AA1372E (<i>Previously AA1393</i>)	
AA13560U (USA)	AA1372U	
AA13560J (Japan)	AA1372J	

	<i>reference</i>	Spare parts	page
	AA133505	Seal & Nut Kit	12
(STD)	AA133005	Bellows	12
(High)	AA133506	Bellows	
(Extra High)	AA133004	Bellows	
	AA133507	Column	12
	AA133508	Base / Feet	13
	AA133503	Frame Catch Assembly	13
	AA134102	Feet	13
	AA133008	Seat Catch Assembly	14
	AA133003	Seat & Backrest Bracket Assembly (Pair)	14
	AA134003	2 Hinge and 4 seat plate	14
	AA133002	Seat Assembly	15
	AA133001	Backrest Assembly	15
	AA133007	Seat & Backrest Assembly	15
	AA133504	Cross-Beam Kit	16
	AA133509	Pack of 10 Caps	16
	AA131901	Pack of 4 Clamps	16
	AA131902	Frame Hinge Kit	17
	AA134205	Set of 4 bungs	17
(Std.)	AA133006	Complete Packaging	17
(High)	AA133106	Complete Packaging	
	AA131903	Motor & Carriage Assembly	18
(Std.)	AA131904	Leadscrew	18
(High)	AA131905	Leadscrew	
(Std.)	AA131907	Leadscrew & Gearbox Assembly	18
(High)	AA131908	Leadscrew & Gearbox Assembly	
(Extra High)	AA131909	Leadscrew & Gearbox Assembly Special tools required	20

Sideflaps (Pair)
AA1348



Sideflap (single)
AA134801



Corner flap (single)
AA8909



Sideflap protectors (pair)
AA1349



Sideflap protector (single)
AA134901



Safety strap
AA1347



Hand controller NiCd

AA1336 without Led
(no stock available)

AA1336L with Led
(until stock available)



Hand controller NiMH

AA1359
(only available with Led)



***Hand controller & Recharger
NiMH for UK
AA1359R***



**Recharger NiCd
For Hand controller
AA1336 & AA1336L**

AA1337 (UK)
AA1337E (Europe)
AA1337U (USA)
AA1337J (Japan)
AA1337A (Australian)



**Recharger NiMH
For Hand controller AA1359**

AA1371 (UK)
AA1371E (Europe)
AA1371U (USA)
AA1371J (Japan)
AA1371A (Australian)



Institutional Pack
AA1373
Previously AA1339



Institutional pack
(Without hand controller)
AA133901



Hand controller
for institutional pack
AA137301
Previously AA131906



**Recharger
For Institutional Pack
AA1373** Previously AA1339

		<i>Previously</i>
AA1372	(UK)	AA1356
AA1372E	(Europe)	AA13560E
AA1372U	(USA)	AA13560U
AA1372J	(Japan)	AA13560J



Seal & Nut Kit
AA133505



Bellows
AA133005 (STD)
AA133506 (High)
AA133004 (Extra High)



Column
AA133507



Base / Feet
AA133508



Frame Catch Assembly
AA133503



Feet
AA134102



Seat Catch Assembly
AA133008



Seat & Backrest Bracket Assembly
(Pair) AA133003



2 Hinge and 4 seat plate
AA134003



Seat Assembly
AA133002



Backrest Assembly
AA133001



Seat & Backrest Assembly
AA133007



Cross-Beam Kit
AA133504



Pack of 10 Caps
AA133509



Pack of 4 Clamps
AA131901



Frame Hinge Kit
AA131902



Set of 4 bungs
AA134205



Complete Packaging
AA133006 (Std.)
AA133106 (High)



Motor & Carriage Assembly
AA131903



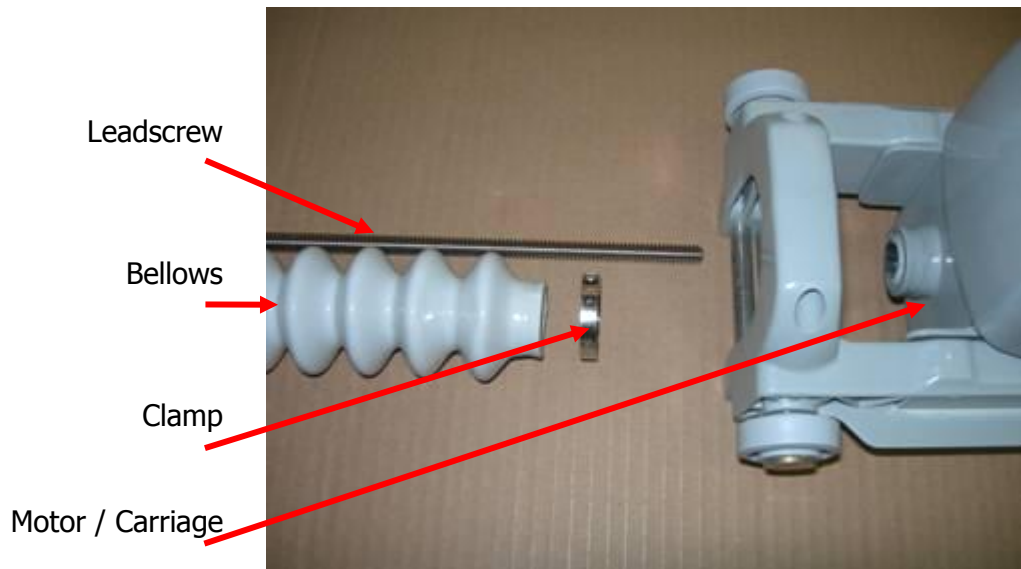
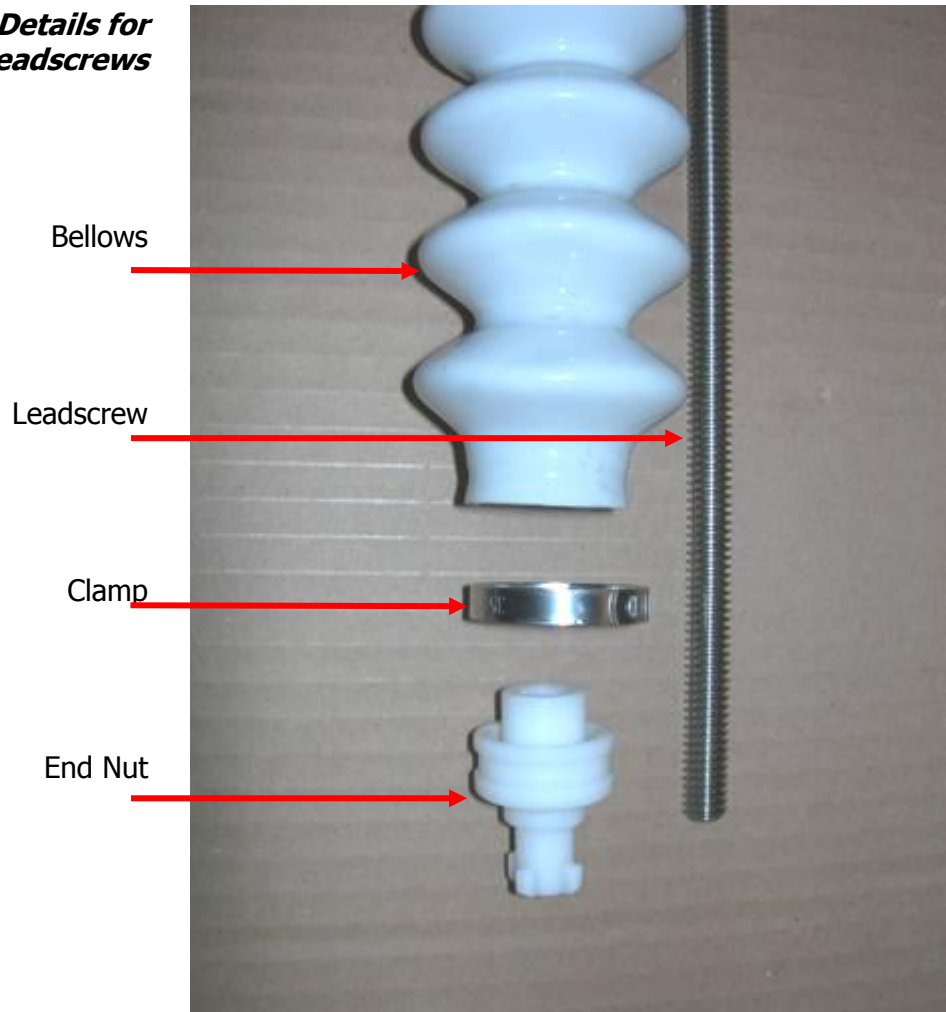
Leadscrew
AA131904 (Std.)
AA131905 (High)



Leadscrew & Gearbox Assembly
AA131907 (Std.)
AA131908 (High)
AA131909 (Extra High)

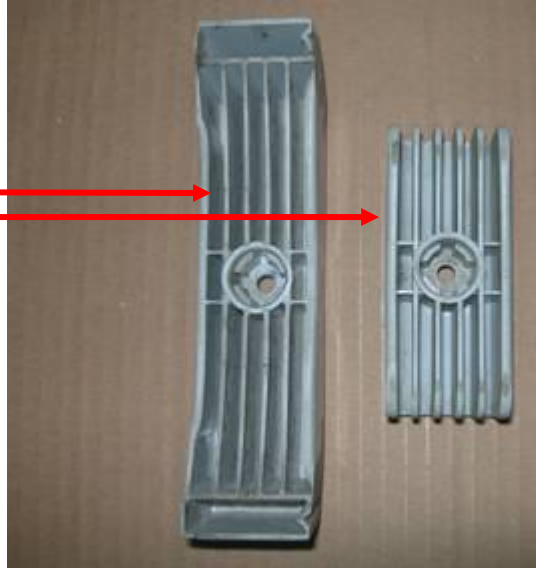


***Assembly Details for
Bellows / Leadscrews***






Special Tools Required

Modified Cross Beam



Repair Instructions

	Repair Instructions	Tools required
	<p>A- to replace the leadscrew+gearbox follow: → step 1 + 2 + 3 + 9</p> <p>B- to replace a bellow follow: → step 1 + 2 + 7 + 3 + 9</p> <p>C – to replace a columns follow : → step 1 + 2 + 4 + 5 + 3 + 9</p>	
<p>1</p>	<p>To remove Top</p> <p>Drill 6mm hole in centre of cap. Pass 5mm Allen Key through hole into caphead and unscrew. As the screw comes up, it will push the cap out of the recess. Having removed the screw, the cross-beam can be pulled off.</p> <div style="display: flex; justify-content: space-around;">   </div>	<p>Drilling machine + 6mm 5mm allen key</p>
<p>2</p>	<p>To remove Leadscrew, motor, gearbox and carriage</p> <p>Use modified cross-beam on the leadscrew; push a little on the leadscrew and make a 45°turn, anti-clockwise to release the end nut from the basis. In this position, push the column to release the leadscrew from the base. The whole unit can be drawn out from the top of the frame.</p> 	<p>Modified cross-beam</p>

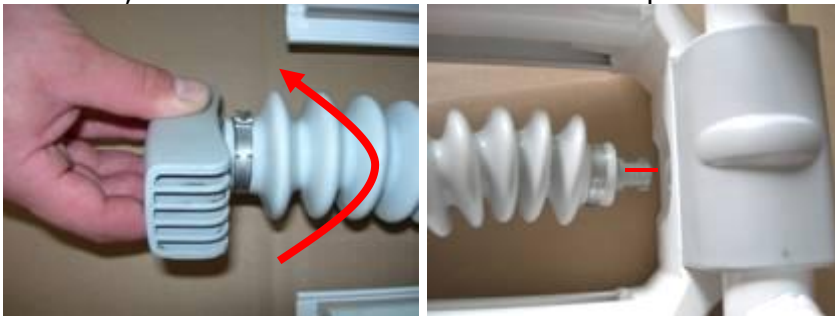
3 To replace leadscrew, gearbox and carriage assembly and Cross-beam

Slide complete assembly into columns, allowing the lower end nut to fit into the opening at the base of the columns.

Modified cross-beam



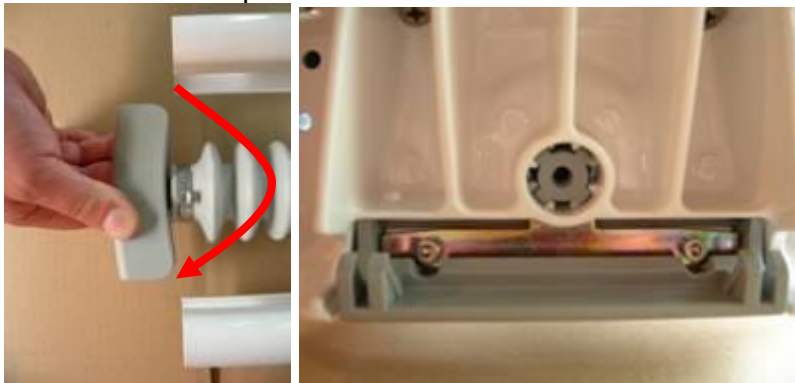
Before to enter in the basis location give a 45° turn anti clockwise, with the modified cross-beam at the top end nut.



Push the nut inside



Keep pushing and give a 45° turn clockwise, with the modified cross-beam at the top end nut.



3
Cont.

Check that the nut is secure by pushing and pulling the motor gearbox.




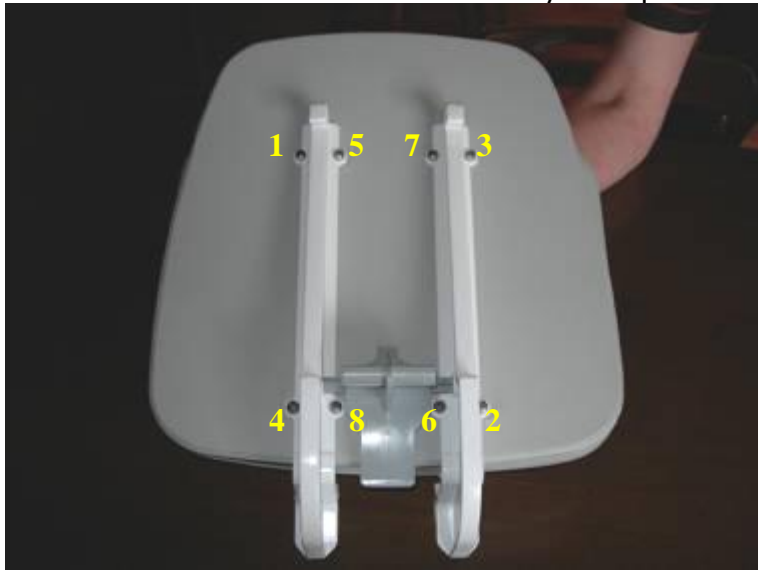
Fit cross-beam and insert 6mm caphead screw into top end nut. Tighten screw carefully and stop when you notice a slight deflection at the shoulder of the seal attached to the top end nut.



If the screw is over tightened it will be difficult to fix the cover cap into the recess of the cross-beam. If this is the case, then slacken the screw slightly.

Fit the new cover cap.

Recheck that the nut is secure by pushing and pulling the motor gearbox.

<p>4</p>	<p>To remove columns from base</p> <p>Fold the frame into a flat position. Turn the unit over so that the base is upside down. Unscrew two 5mm caphead screws that are recessed within the base of the columns. Remove the screws with the aid of thin nose pliers, unclip plastic base clamp and pull columns away.</p> 	<p>Big cross Screwdriver Thin nose pliers</p>
<p>5</p>	<p>To replace columns and fix to base</p> <p>With the base upside down on the bench, place the plastic bearing onto the base of the columns. Place the base of the chair onto the plastic bearing. Clip on the base clamp with a gentle push and fold columns over the base of the chair. Replace the 5mm screws with the washers and tighten.</p>	<p>Big cross Screwdriver</p>
<p>6</p>	<p>To replace seat</p> <p>Unscrew the 8 screws. Position the new seat pad. Replace the 8 screws + washers in this order and check they are square</p> 	<p>Big cross Screwdriver</p>

7 To replace Bellows

Lay leadscrew and motor as it was within the column
Position when we put the leadscrew with motor out:



Small flat blade
screwdriver

Pliers

Remove the remaining clamps by levering with a small
screwdriver. Remove the old bellows.

Put the new bellows and 2 new clamps in position.

Note: new clamps must be put in place as per the photo
above (note motor cable position):

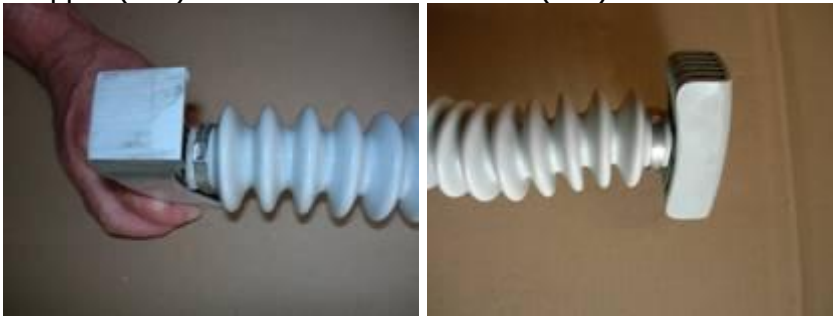
Clamps marked A must have the adjustment on top

Clamps marked B must have the adjustment underneath

Be careful not to twist the modified crossbeams out of position.

Upper (90°)

Lower (45°)



Fix the clamps using pliers



8 To replace Frame catch assembly

Unscrew the 2 screws, remove the old catch and replace.
Replace and tighten the 2 screws.

Small crosshead
screwdriver



9**Testing**

Following any maintenance work on the Bathmaster the unit must be checked to ensure the product remains in perfect working order.

Visual Check

Check the bathmaster structure and that the bathmaster column and base are clipped securely together

Check the tightening of the fixings – nuts – pins on gearbox motor carriage

Check the cable and plug for any damage (hand control; re-charger; power pack; motor cable)

Check that the seat/back rest/side flaps are not damaged and are free from holes

Check that the seat lock works

Check the sucker feet are correctly fitted and are not damaged

Check any accessories are correctly fitted and free of damage

Check the attachments system, if one fitted – safety strap

Functional Check

***Check the free movement of the bathmaster without load for one complete cycle
Check that there is no excessive wear and play or excessive noise***

***Check the free movement of the bathmaster with a load for one complete cycle
Check that there is no excessive wear and play or excessive noise***

The load should be the maximum user weight stated by the manufacturer but if this is not possible we suggest putting 15 stones / 95 kg load (a man for example)

Troubleshooting

1 Lift does not go down

Cause / Checking	Solution
The LED of the hand controller illuminates.	Completely recharge the hand controller. When the LED illuminates, the security device will not allow the seat to go down.
The LED on the hand controller is off.	To protect the batteries, the LED switches off once the voltage of the battery pack is <12.8V. <u>2 solutions:</u> 1. Completely recharge the hand controller. 2. Check the voltage of the battery pack with a voltmeter (when one of the two buttons is pressed), if less than 5V: replace the hand controller.
The DOWN button is defective.	Check the voltage of the battery pack with a voltmeter (when the DOWN button is pressed), if 0V: replace the hand controller. BE CAREFUL: if the LED illuminates or if the battery voltage is <12.8V, the voltmeter will indicate 0V. Recharge the hand controller before taking the reading.
Overload detector is activated.	Remove the load from the seat and try to lower the lift again.
The motor is not working	Try the lift with another hand controller: If it still does not work, replace the motor. Otherwise, change the hand controller.

2 Lift does not go up

Cause / Checking	Solution
Overload detector is activated.	Remove the load from the seat and try to raise the lift again.
Not enough power into the battery pack.	<u>2 solutions:</u> 1. Completely recharge the hand controller. 2. Check the voltage of the battery pack with a voltmeter (when one of the two buttons is pressed), if less than 5V: replace the hand controller.
The UP button is defective.	Check the voltage of the battery pack with a voltmeter (when the UP button is pressed), if 0V: replace the hand controller.
The motor is not working.	Try the lift with another hand controller: If it still does not work, replace the motor. Otherwise, change the hand controller.

3 The LED of the charger doesn't illuminate

Cause / Checking	Solution
The charger is not plugged into an electrical wall socket.	Plug the charger into a wall socket.
There is no voltage in the wall socket.	Try another wall socket or check if this wall socket works with other electrical items.
The power cord is defective.	Try with another power cord.
Check the output voltage of the charger.	If the hand controller is not plugged in, you should have: 1. 41V with a Mascot charger 2. 28V with a Oriental Hero charger
The charger is out of order.	Replace the charger.

4 The hand controller doesn't recharge

Cause / Checking	Solution
Check if the LED of the charger illuminates.	see point n°3
The hand controller is not plugged into the charger.	Plug the hand controller in the charger.
Check the voltage of the battery pack with a voltmeter.	If less than 5V (when one of the two buttons is pressed): replace the hand controller.

5 The performance of the hand controller has noticeably reduced

Cause / Checking	Solution
After two years or more, it is normal that the performance of the battery pack decreases.	Improving the battery lifetime - Before recharging, wait at least 1 hour after the last use. - After recharging, wait at least 1 hour before using the hand controller.
After a long period of not using the hand controller, the battery pack could have over-discharged (voltage less than 10V).	To recover the full capacity of the battery, use the following procedure: <ol style="list-style-type: none">1. Operate the Bathmaster repeatedly up and down, with a person or a load on the seat until the light on the hand controller illuminates.2. Wait at least 1 hour before recharging the battery.3. Recharge the hand controller for approximately 3 hours (wait until the light on the recharger illuminates green).4. Wait at least 1 hour before using the hand controller.5. Repeat steps 2 through 5 four more times.

6 The LED of the Mascot charger is Yellow

Cause / Checking	Solution
The hand controller is not plugged into the charger.	Plug the hand controller in the charger and wait a few seconds.
When the battery pack is too hot, a security device prevents further charging.	Wait until the battery pack cools down.

7 The LED of the Mascot charger is Orange/Green

Cause / Checking	Solution
There is a problem with the battery pack.	Replace the hand controller.

8 The LED of the Oriental Hero charger is Yellow

Cause / Checking	Solution
The hand controller is not plugged into the charger.	Plug the hand controller in the charger and wait a few seconds.
When the battery pack is too hot, a security device prevents further charging.	Wait until the battery pack cools down.

9 The unit is noisy

Cause / Checking	Solution
The motor or the ball bearing screw is noisy.	Replace the motor and the ball bearing screw.

10 Voltage measurements

10.1 How to measure the battery pack voltage?

Plug a voltmeter between 'CN1' wire and 'CN2' wire. Press the UP or the DOWN button. If 0V, replace the hand controller.

10.2 How to measure if the UP button is defective?

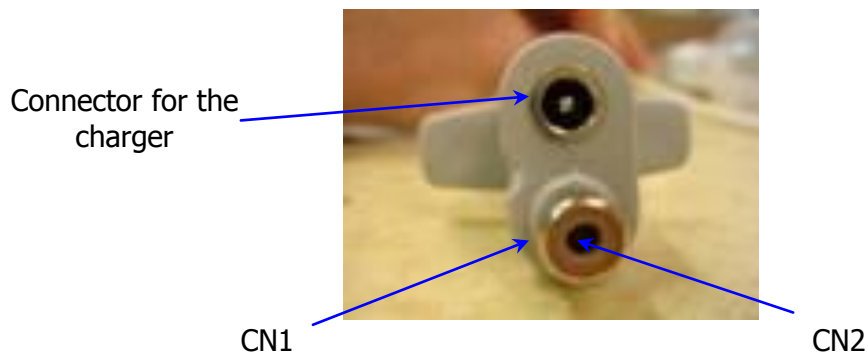
Plug a voltmeter between 'CN1' wire and 'CN2' wire. Press the UP button. If 0V, replace the hand controller.

10.3 How to measure if the DOWN button is defective?

Plug a voltmeter between 'CN1' wire and 'CN2' wire. Press the DOWN button. If 0V, replace the hand controller.

BE CAREFUL: if the LED illuminates or if the battery voltage is <12.8V, the voltmeter will indicate 0V. Recharge the hand controller before taking the reading.

Note: depending on which button is pressed, the voltage will be negative or positive.



Fault finding

→ Which part is defective?

Most often the defective parts are:

- the hand controller - batteries
- the recharger
- the motor

→ What to do?

1- Try to operate the bathmaster with a different hand controller

→ it rises or lowers → the motor is OK

→ it doesn't rise or lower → the motor is defective

2- At the same time charge the original hand controller with the original recharger.

3 Hours for a NiMH hand controller

15 Hours for a NiCd hand controller

3- After point 2, try to raise or lower the bathmaster with the original hand controller

→ it rises or lowers → the hand controller and recharger are OK

→ it doesn't rise or lower → the hand controller or recharger are defective

4- If the hand controller or charger are defective:

4.1 charge the original hand controller with a new recharger.

3 Hours for a NiMH hand controller

15 Hours for a NiCd hand controller

Then try to raise or lower the bathmaster with the recharged hand controller

→ it rises or lowers → the hand controller is OK

→ it doesn't rise or lower → the hand controller is defective

4.2 charge a new hand controller with the original recharger.

→ the recharger light is illuminated and it charges

..... → the recharger is OK

→ the recharger light is not illuminated and doesn't charge

..... → the recharger is defective

Periodical control / LOLER report

Bathmaster 2000 - Classic

Periodicity: 6 month

Description of the equipment:

Bathmaster type:

serial N°:

manufacture date:

Visual Check

Check the bathmaster structure and that the bathmaster column and base are clipped securely together

Check the tightening of the fixings – nuts - pins on gearbox motor carriage

Check the cable and plug for any damage (hand control; re-charger; power pack; motor cable)

Check that the seat/back rest/side flaps are not damaged and are free from holes

Check that the seat lock works

Check the sucker feet are correctly fitted and are not damaged

Check any accessories are correctly fitted and are free of damage

Check the attachments system, if one fitted – safety strap

Functional Check

*Check the free movement of the bathmaster without load for one complete cycle
Check that there is no excessive wear and play or excessive noise*

*Check the free movement of the bathmaster with a load for one complete cycle
Check that there is no excessive wear and play or excessive noise*

The load should be the maximum user weight stated by the manufacturer but if this is not possible we suggest putting 15 stones / 95 kg load (a man for example)

Location Check

Check the location of use to ensure suitability and security

Check the stability of the product in location

Observations Comments:

Checking date :

Name :

Signature :