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BOSTON® DIGITAL ARM

USER MANUAL

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USER MANUAL

CONTENTS:

HELLO!

Congratulations on your new Boston Digital Arm system! The following guide will provide you information, tips, warnings and troubleshooting to help you get the most out of your new arm every day.

FITTING & OPERATION:

Your socket and harness are very important in allowing you to get the most out of your Boston Digital Arm. The Digital Arm relies on myoelectrodes, touch pads, switches, or a combination of all of them. If your socket and harness do not fit well, it will be difficult to control your Digital Arm. Factors such as weight loss, muscle deterioration or even posture can adversely affect the operation of the arm. If you think you're beginning to experience a loss of movement, contact your prosthetist to check the fit and re-adjustment if necessary.

Your Boston Digital Arm system has been designed and built just for you, but there are features and functions that work with every set-up.

STRENGTH - HOW MUCH CAN IT LIFT?

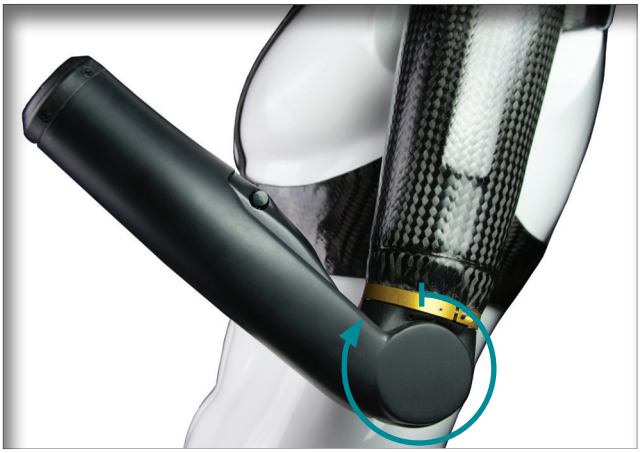
Active Lift

Your Boston Digital Arm is designed for an active lift of 10lbs. (4.5kg) when the forearm is one foot (30.5cm) long. This weight includes any devices attached to the end of the arm, such as wrist rotators and hands. If your Digital Arm forearm is longer than one foot, this will decrease the amount of weight you can lift.

Tip: If the "low battery" alarm beeps while lifting with the elbow, turn your Digital Arm off and replace your battery. Lifting with a low battery can cause damage to your Digital Arm.

Passive Lift

Whenever you position your arm in one spot and hold it briefly, the elbow will lock. Moving the arm again will disengage the lock. While locked, your Digital Arm is designed to support up to 45 pounds (20kg). This is called Passive Lift. This maximum weight is well above the weight that most people find comfortable holding.



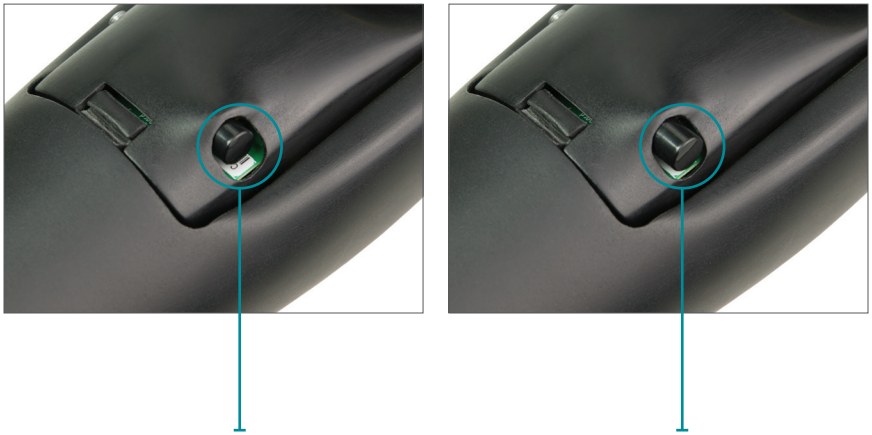
ACTIVE LIFT

PASSIVE LIFT

ON-OFF SWITCH

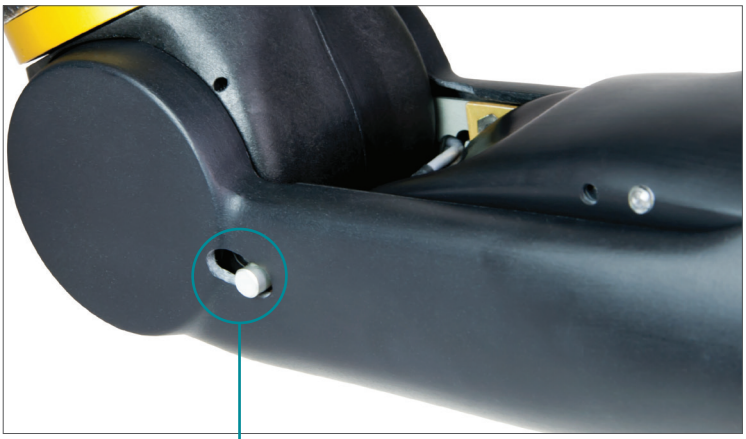
The on-off switch for your Boston Digital Arm is located on the left side of the removable battery. To turn your system on, press the button until it clicks and stays depressed. To turn it off, simply press the button again.

Tip: Be sure to switch your Digital Arm off whenever you remove your prosthesis.



FREE SWING FEATURE

The Free Swing feature of your Boston Digital Arm allows you a natural swing for activities such as walking, when you don't need the elbow motor to operate. The lever to operate this feature is located on the right side of the Digital Arm. To allow Free Swing, slide the lever away from the joint. You will see about 45 degrees of free swing motion, making it look very anatomical. To return to the dynamic function, simply pull the Free Swing switch towards you to re-engage the lock.



FREE SWING SWITCH

BATTERY & BATTERY CHARGING:

BATTERY

Your Boston Digital Arm comes supplied with two removable and interchangeable Lithium-Ion batteries. For most users, one battery is adequate to last an entire day of normal use. Battery life will vary depending on the frequency of use, as well as the additional components drawing from it, such as wrist rotators and hands.

Tip: *Rotate use of the two included batteries to prolong the life of each Lithium-Ion battery.*

BATTERY INSTALLATION & REMOVAL

To remove the battery, simply press the release tab and gently lift the front edge of the battery. There are hinge pins on the end towards the elbow, so keep lifting until the battery comes off the hinge.

To install the battery, just place the end opposite the tab into the opening. The two slots should align with the hinge pins. Once the battery is set on the hinge, just push down on the front until the tab clicks in to place.

Tip: We recommend charging your battery while it's still in your Digital Arm after you've removed your prosthesis for the day.

LOCK RELEASE TAB

HINGE PIN / 4 TOTAL

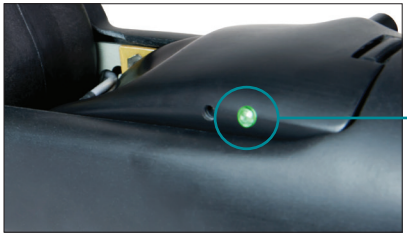
HINGE PIN SLOT

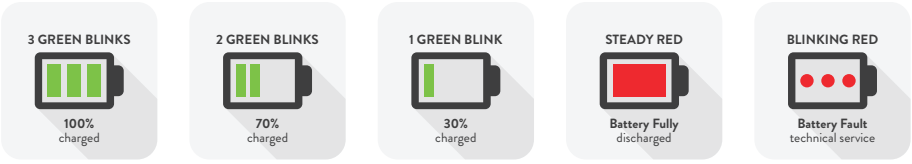
HINGE PIN SLOT

BATTERY STATE OF CHARGE INDICATOR

Your Boston Digital Arm battery has an LED indicator telling you how much charge is left in the battery. To check the charge of your battery, just power on the Arm and the LED will blink, indicating the amount of charge remaining.

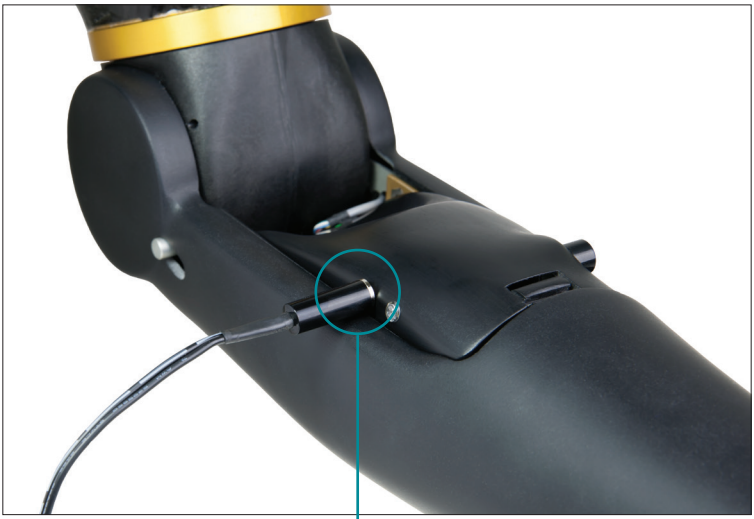
Tip: Three green blinks means the battery is fully charged. Two green blinks means the battery is 70% charged. One green blink is approximately 30% charge. One red blink means it's time to charge the battery!





BATTERY CHARGER

Your Boston Digital Arm is supplied with a Fast Charger for the Digital Arm batteries. Unlike old batteries, your Digital Arm batteries have no "memory" and can be charged at any state and will retain its full capacity potential. The Fast Charger is recommended for daily use and will ensure a full charge. The Fast Charger is capable of being used in outlets with 120 volts as well as 220 volts. The charger is supplied with a standard North American outlet power cable. You can purchase any generic power adapter for a country with a different outlet design.



CONNECT CHARGER HERE

CHARGING THE BATTERY

We recommend you recharge your Boston Digital Arm battery daily. If the battery begins to emit the “low battery” alarm sounds, immediately power off your prosthesis and charge the battery, or replace it with a charged one. The battery can be charged with the included Fast Charger, or in the Digital Arm itself.

To recharge the battery while installed in the Digital arm, remove your Digital Arm, power it off and insert the recharge plug in the hole next to the LED charge indicator. When plugged into an outlet, the battery indicator will illuminate red. When it is fully charged, the LED will turn to a solid green. If the LED does not turn green, there may be a problem with your battery and you should contact your prosthetist. A full charge can take up to 75 minutes depending on the battery’s state of charge.

Tip: Try to remember to turn off your Digital Arm when it is not in use. Leaving the arm on idle can affect the life of the battery. Lithium-Ion batteries will lose power after time even when not in use, so be sure to charge your batteries before you need them if you haven't used them in a while.

Tip: You will not harm the battery if you do not charge it fully, or if you charge it before it is fully drained, so feel free to "top off" the battery when needed.

MAINTENANCE:

Your Boston Digital Arm requires little maintenance. Once you've been successfully fit, the system won't need to be adjusted often. Due to changes in your body and socket, you will probably need to visit your prosthetist for an adjustment every six months or so to ensure you're making the correct myoelectric connection to your Digital Arm.

You may clean the exterior of your Digital arm with a damp cloth. Water and cleaning fluids should not be used because they will cause damage to the electrical components.

Warnings

1. Never allow your Digital Arm to be immersed in water. If your prosthesis does become immersed in water, power it down and remove it immediately and contact your prosthetist.

2. Your Boston Digital Arm system does not require any additional lubrication. Adding lubrication will damage the arm and void the warranty.

3. Do not attempt to disassemble your Digital Arm, aside from removing the battery. The Boston Digital Arm is a very precise medical device and any modifications can harm the system and will void the warranty.

4. Your Digital Arm is built tough enough to survive a fall. If you land directly on the arm, the system will break the free swing lock by design to ensure your safety. If this happens, contact your prosthetist as soon as possible.

5. Sweat contains salt and can be very corrosive and can damage many components. If sweat begins to run down inside your prosthesis, contact your prosthetist for ways of avoiding any damage.

NOTES:

TROUBLESHOOTING THE BOSTON DIGITAL ARM SYSTEM:

IF YOUR BOSTON DIGITAL ARM DOES NOT OPERATE

1. Check to make sure the on-off switch is in the on position.

2. Ensure the battery is correctly installed.

3. Check the charge of your battery and recharge if necessary.

4. If you suspect the battery is the problem, install your spare battery.

ON POSITION

OFF POSITION

IF THE SYSTEM IS DIFFICULT TO CONTROL

1. Make sure you are properly aligned in your socket/prosthesis

2. Check to make sure the Free Swing lock is engaged *(pulled toward you)*

3. Make sure your socket is not too loose. Weight loss can affect your connection with the electrodes in your socket, so make sure your electrodes are leaving a slight imprint on your skin for a proper connection.

IF ONE COMPONENT IN THE SYSTEM DOES NOT OPERATE (I.E. HAND OR ELBOW)

1. Check the wrist disconnect for the hand or gripper

2. If a switch is used as part of the control system, check the switch wires for damage

LOW BATTERY WARNINGS

- A single “beep” may occur during elbow operation, usually during elbow flexion. This indicates that the battery is getting low and should be immediately recharged or replaced with a charged battery. Continued operation with a low or discharged battery can result in hyper-extension or hyper-flexion which can damage the elbow.

- A sustained warning tone accompanied by a beep indicates that the battery is too low for proper operation of the prosthesis. Turn the system off and immediately recharge or replace the battery.