burt
RESEARCH

Installation Guide – Bimanual

B6569
Rev AB.00

Installation Guide

BURT Packing List (x2)

- **Box #1 (T-Stand)** [18'' x 36'' x 9''] [82 lb.]
  - T-Stand Base
  - T-Stand Handle

- **Box #2 (Pedestal)** [18'' x 18'' x 12''] [26 lb.]
  - Lifting Column
  - Keyboard Tray

- **Box #3 (Robot)** [37'' x 17'' x 18''] [71 lb.]
  - Barrett UE Robotic Trainer (BURT)
  - Console
  - Gravity Cradle
  - Extra Cradle Straps
  - Extra Cradle Foam
  - Sidewinder Cord Protector
  - PEAK USB-CAN Adapter
  - DB9 M/F Cable
  - 0-80 in-lb Torque Wrench
  - 4mm Hex Bit 1/4" Socket
  - Electrical Cables
    - Console Cable
    - HDMI Cable
    - AC Mains Cable
    - Pendant E-Stop
    - Bimanual Cable (only one Bimanual Cable is included)
  - Wireless Keyboard
    - Wireless Keyboard Receiver (installed in Console)
  - Hardware Kit
    - 6mm Hex key
    - 4x M8 White Screw Caps
    - 8x M8 Socket Head Cap Screws
    - 2x M10 Button Head Cap Screws
  - Documentation
    - Installation Guide
    - Reference Sheet

Installation Guide

Installation Steps

1. **Occupy an empty space of (300cm x 210cm) as shown in the recommended workspace layout below to fit both robots**
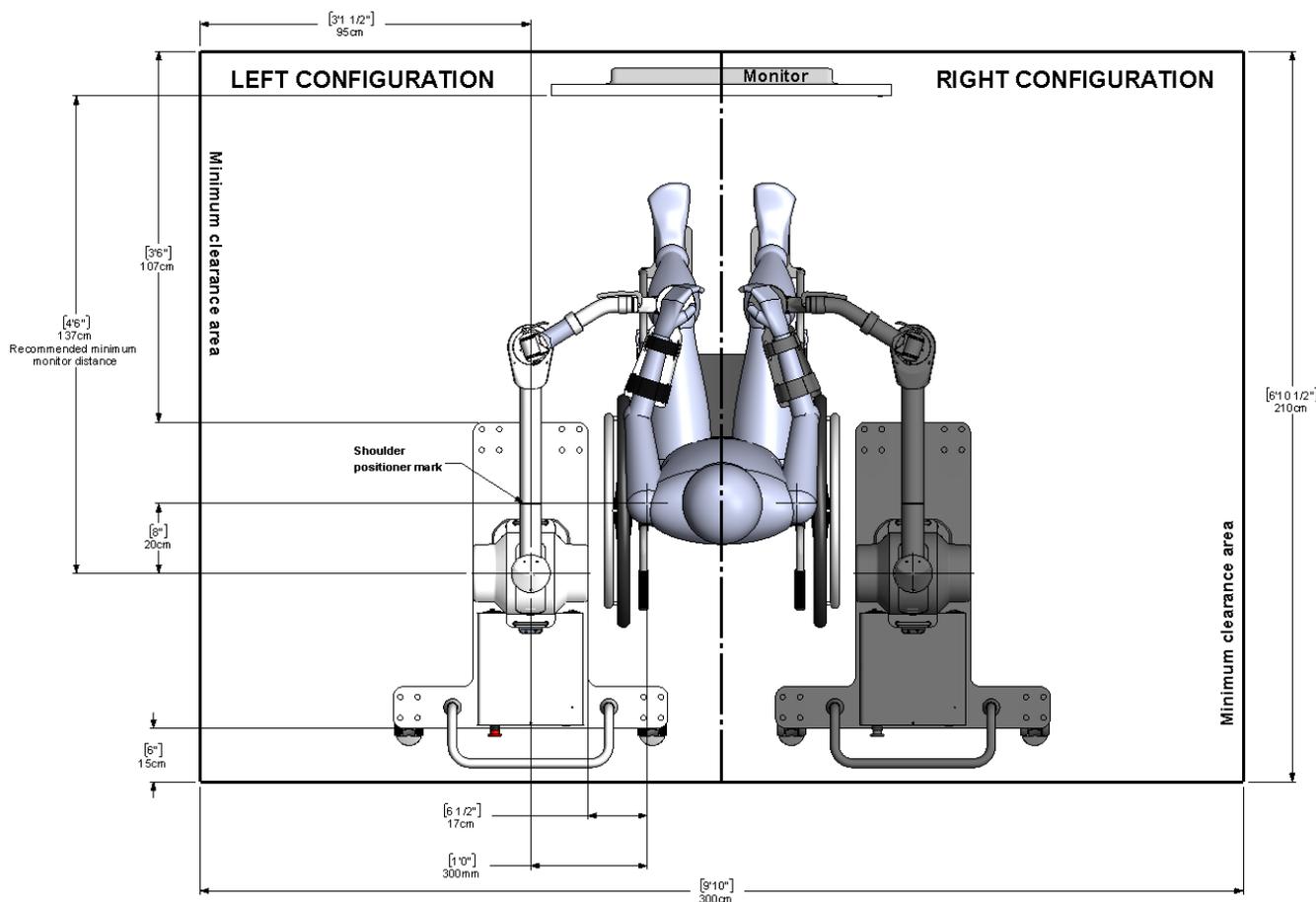
NOTE: BURT is configured for right- and left-handed use **(Bimanual Setup)** *with an approximate workspace relative to a human user in a standard wheelchair, along with a recommended "minimum clearance" rectangle around the system. For the most accurate setup, please refer to the metric dimensions wherever possible. While Barrett Technology strongly recommends that the specified minimum clearance be observed in all installations, please be aware that hazards specific to your installation scenario may also impact system operation.*

2. **Follow steps [2 – 12] for each BURT. After step 13 we are setting up the Bimanual connection consisting of the Primary and the Secondary robots.**

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3. Remove all the components from boxes and the protective packages. **It is highly recommended to grab BURT from the indicated position.**

Grab here

Cradle
Core robot
Lifting column
E-stop
HDMI cable
Console
T-stand
Line cord
Console cable
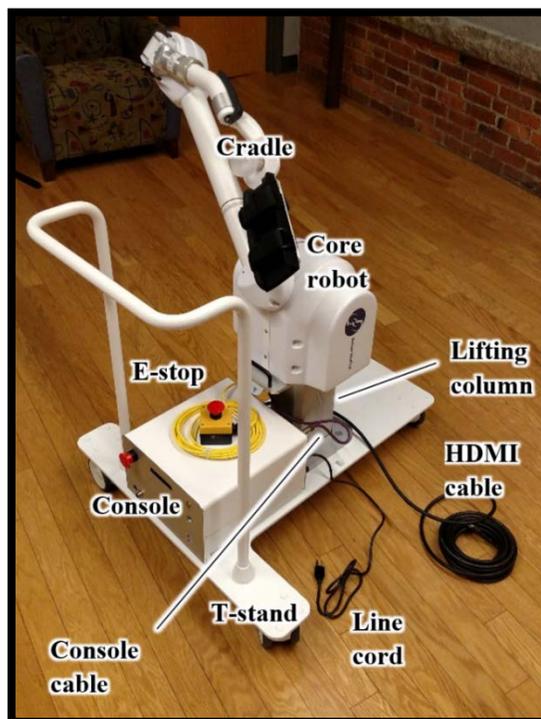
4. **Fasten the handle onto the T-plate using the button (dome) head screws and verify its security.**
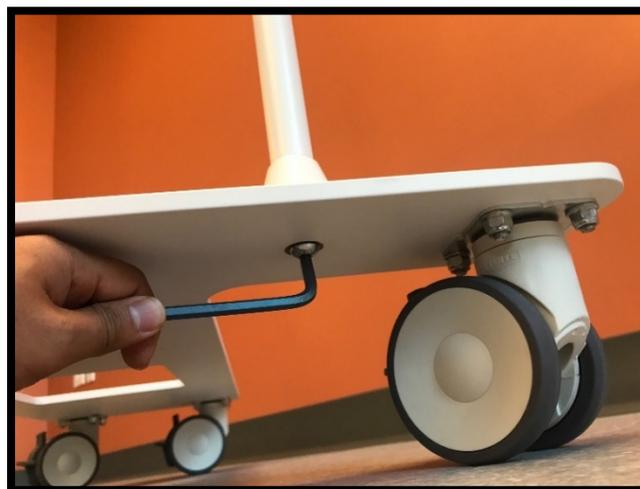
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5. **Actuate the brakes at each caster wheel by pushing down the pedal.**

6. **Install the keyboard tray onto the handle by snapping on the 3 supports.**

7. **Fasten the lifting column to the T-plate using 4 socket head screws and cover them with the 4 white screw caps.**
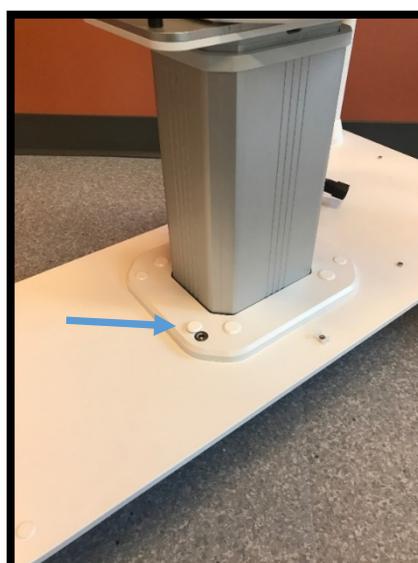
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8. Place the core robot on top of the lifting column and fasten it using 4 socket head screws.

9. Place the console rubber legs on the 4 small screw heads with the BURT logo facing away from the lifting column.

10. Insert the cradle into the cradle socket and screw in the knurled ring until you can no longer see the red strip.

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11. Plug the purple cable into the bottom of the active robot and rotate ring clockwise to secure.

IMPORTANT: Rotate ring clockwise to secure.
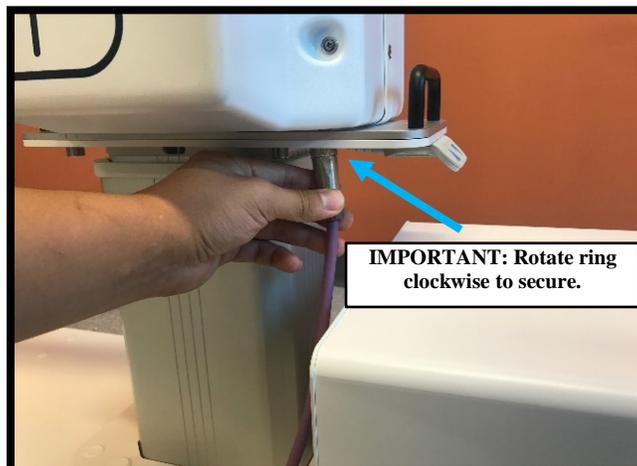
12. Make all electrical connections (console cable, line cord, lifting column and E-stop) to the back of each console (except HDMI) and ensure the purple cable is properly routed and can move free from other cables. **The HDMI cable should be connected only with the Primary Robot.**

Console cable

IMPORTANT: Rotate ring clockwise to secure.

Power toggle switch

Line cord

HDMI

E-stop

Lifting column
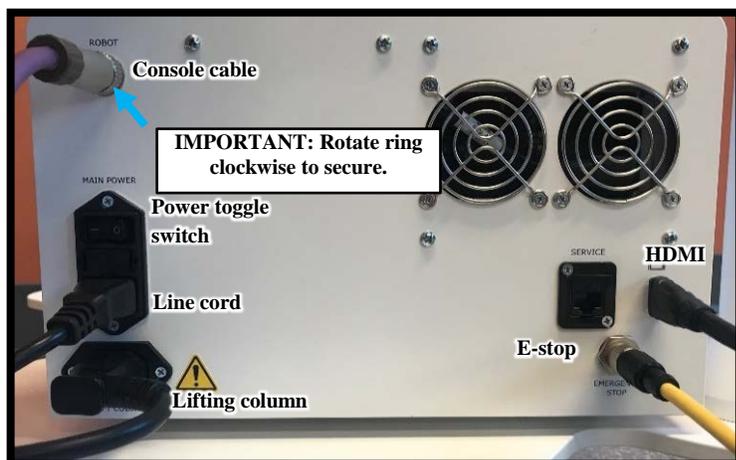
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<u>Bimanual Instructions</u>

13. Screw the bimanual cable into the front of both consoles using the parts labeled "bimanual". Ensure that the cable has been connected completely.

14. Plug the HDMI cable coming from the Primary robot console into a monitor.
15. Plug the power cable of both BURTS into AC power sockets.

16. Adjust the lifting column height to the desirable position by pressing the buttons pointing up and down.

17. Route HDMI and power cable through cable holders on the T-Plate.
18. Place cord concealers over HDMI and power cable. Leave cabled E-stop free and always in an easily accessible location away from foot traffic.
19. Turn on the toggle switch on the back of the console.
20. Press the power button on the front of the Primary robot console. The Secondary console will power cycle automatically.

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21. **Once both systems complete their power on cycle, their mainboard screens should indicate:**
   "**BARRETT MEDICAL LEFT / RIGHT ARM [P] / [S]**".

   Congratulations! You have set up your Bimanual BURT setup!

Shutdown

Position each BURT at its "Home Position" and shutdown the Primary Robot. The Secondary robot will shut down automatically.

Let's get started

Please follow the **Reference Sheet** to start running the demo applications.