BreadBoardBot

Layout and wiring, rev. 2024a
7/7/2023

B3 Top Layout: 3 large holes, 2 medium holes

B3 Bottom Layout 1: 6 medium holes, 4 small holes

B3 Bottom Layout 2: 4 more medium holes

Drill holes, then…

- **Always wear safety glasses when using the drills.** This is non-negotiable.
- Use medium sized bit for all motor mount holes (10 of those) and, if desired, to drill pilot holes for the ½” big holes (3 of those).
- Drill six small holes, 2 marked on front for the Mega, and 4 on the back for both battery holders.
- Drill the three big holes, which is much easier with pilot holes.

Omniwheel assembly (demo)

- Place motors into motor mounts. Make sure the stub on side of motor fits into hole on side of motor mounts.
- Using the small white tubes and the long small screws (3 of each, one set per motor), place the tube **fully** on the outside motor axle (the side away from the rim of the motor mount.)
- Drill small hole through axle and tube and secure tube in place with screw.
- Get omniwheels (3) and the largest screws. Put a small amount of hot glue on the tube, push omni wheel over tube, and screw large screw into tube to expand the tube and provide grip for the wheel.

B3 Begin Assembly (shield demo)

1. Attach motors and batteries on bottom side first.

2. Attach breadboard with red line next to Mega using the adhesive on its back. **BE CAREFUL! Once placed, the breadboard can not be moved.**

3. Put 3 balls of putty on underside of Mega as cushion, then **screw Mega down** through previously drilled holes.

4. Carefully mount motor shield and wire exactly as shown.

B3 Power and Ground Circuits

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B3 Blink Circuits

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B3 Blink & Bump Circuits

B3 Blink, Bump & Light Detection Circuits

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B3 Blink, Bump, Light & IR Circuits

IR light sensor wiring is shown as if looking down on the back of the sensors, i.e., as they are mounted.

B3 Blink, Bump, Light, IR, Sonic & Servo Circuits

B3 Bonus Circuits