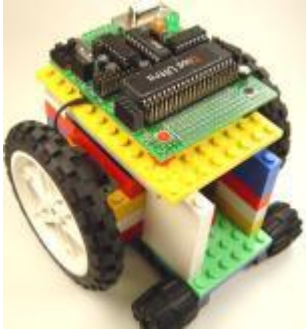


Ares Lego Bot

Sunday, April 11 2004 @ 02:55 PM EDT



In this article I will show the basics of using the Ares Robot Board with Lego's.

I designed the Ares robot board to be the end all for small robots. It has 4 mounting holes that are 48mm on center. These holes are perfect for mounting on the Lego brick system. The Lego Motors that come with the Mindstorm system are perfect for connecting to the Ares. You only need a single motor controller chip plugged into the Ares board to control them.

I'm not going to give you exact details on building this bot. Each bot you build will be different so I will point out the key points so that you can incorporate them into your Lego bot.

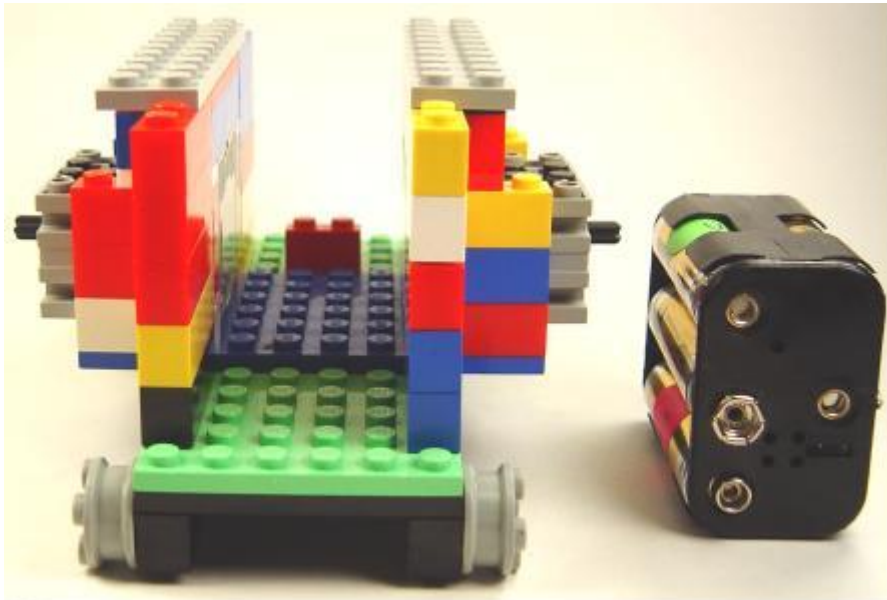
Building the Bot

The basic design is to have 2 motors attached to two drive wheels or tracks. The Ares board will control both for steering using the Dios CPMotor library built into the Dios microcontroller.

Requirement #1: Two motors. On on either side of the bot.

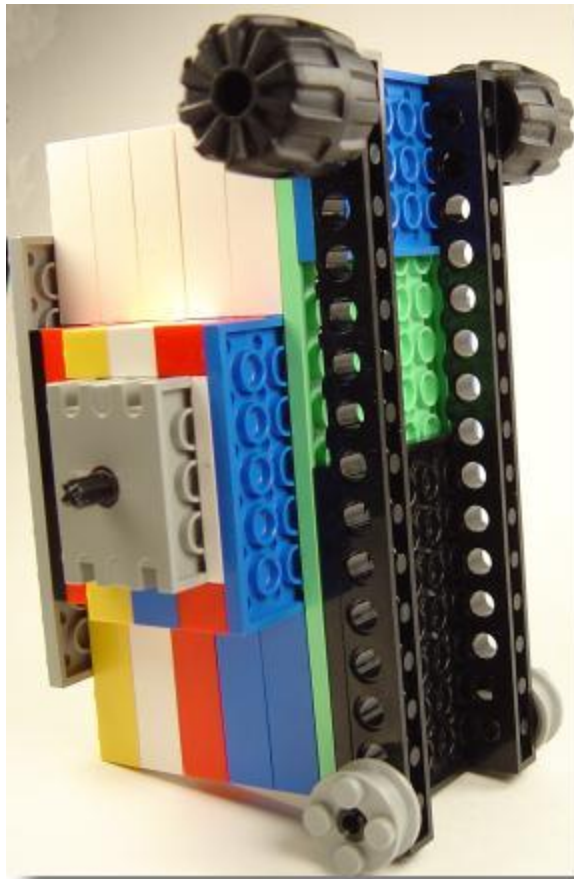
I wanted to use my 6 cell battery packs so that I would have longer run times and could easily change the packs.

Requirement #2: Space for holding the 6 Cell battery pack.



As you can see from the above design it is pretty simple. The key is to hold the two motor firmly in place.

This bot was going to be a 2 wheeled bot with the wheels in the middle. This means that some sort of front and rear support is needed.



In my case I used a couple of spare wheels as supports.

Important

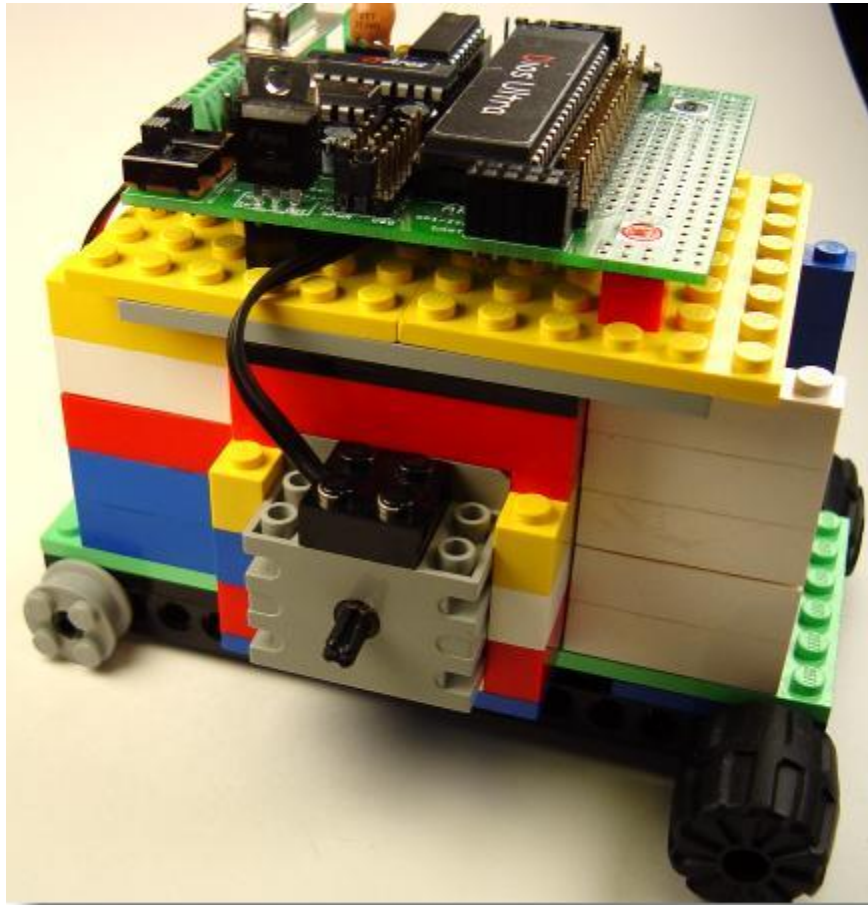
Keep enough clearance so that the bot rocks a slight amount.

Don't use rubber or any other high traction surface for these support wheels. They need to be able to slide left or right.

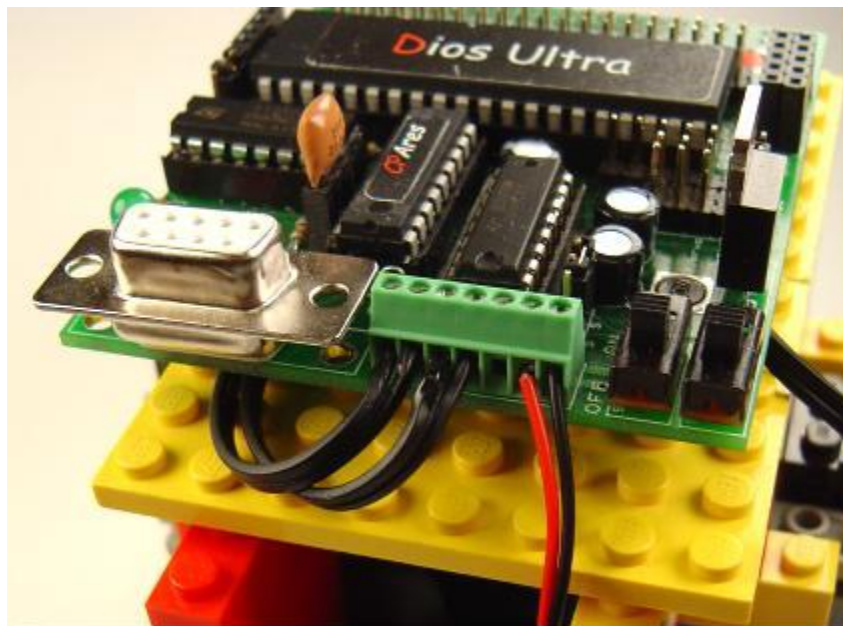
The battery pack slips into the center compartment and is held in place with small bricks.



The Ares board is then placed on top of the assembly for access to switches and eventually sensor connections. Notice how I am using small single bricks for stand-offs.

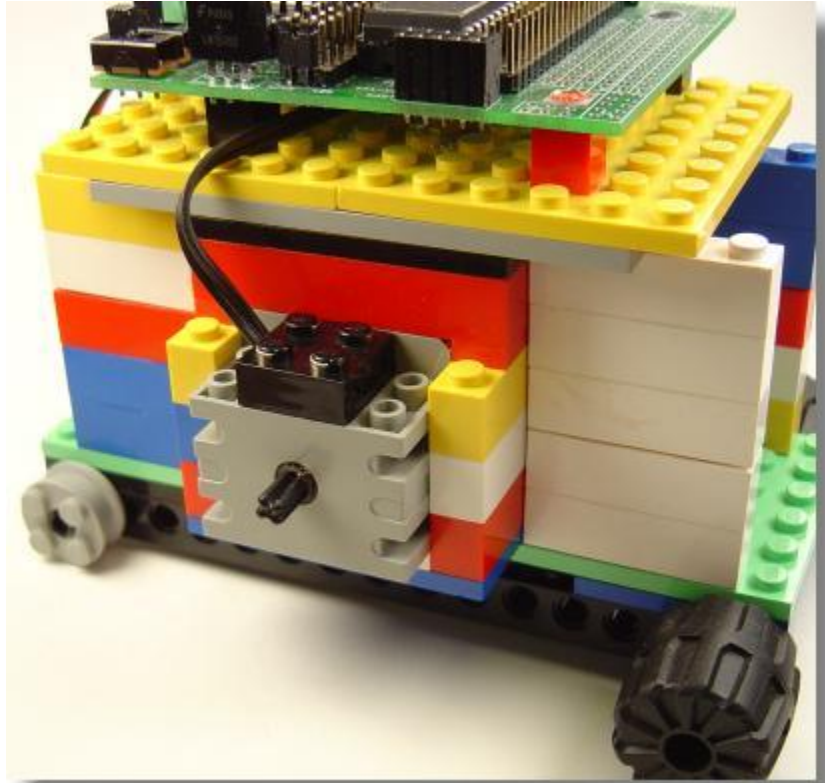


The connection to the motors is made by taking a Lego connection cable and cutting it in half. This will yield 2 motor connectors with wires on one end and motor brick connectors on the other.

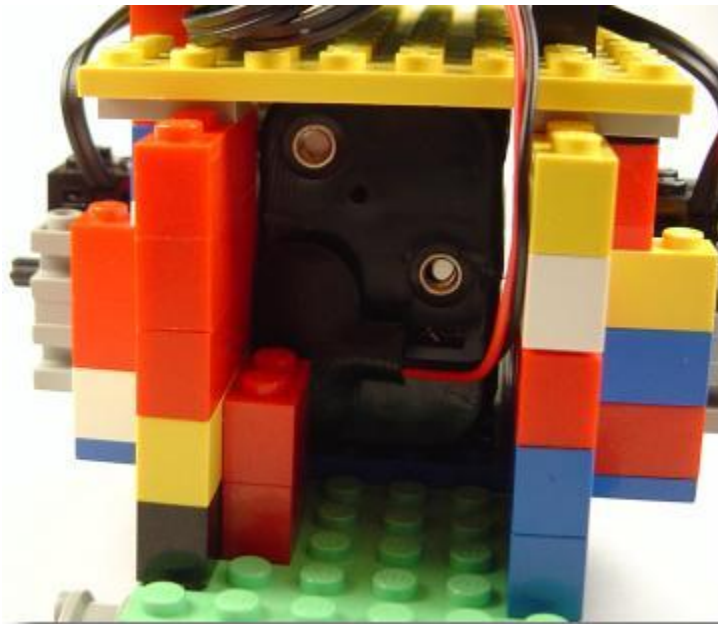


Connect the wires for the right motor to the right motor connectors. Connect the wires for the left motor to the left

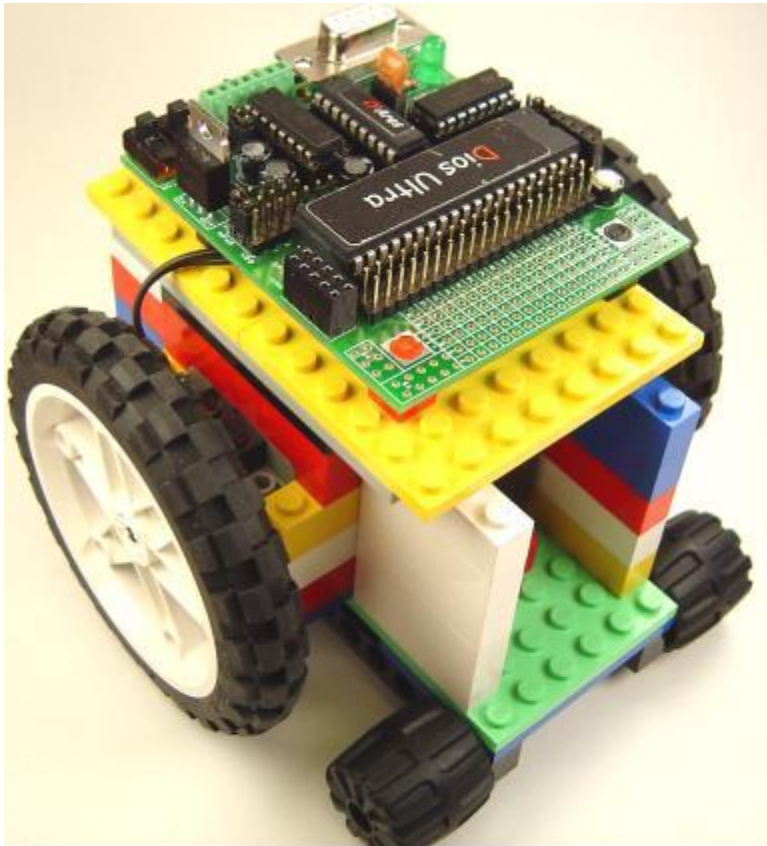
motor connectors. A 9v battery clip is used for connecting to the 6 cell battery pack.



If a motor does not move in the correct direction you can flip the wires or the brick connector.



After all connections are made you can attach your main wheels.



Well that's pretty much the basics. The next step is to add a IR module so you can send remote commands. I will add some sensors later.

Related Products

- [Ares Robot Board](#)
- [Ares Connector Pack](#)
- [Motor Controller Chip](#)
- [8" Battery Connector Clip](#)
- [6 Cell Battery Holder](#)

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