Fun Projects for your LEGO® MINDSTORMS® NXT! Home Projects Help Contacts
Mystery Machine Building: Program:

Building Instructions

Note: This is an expert-level building project, and is a little tricky to build in places. Take it slowly, and look at the pictures carefully.

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Note: Make sure the gears and bushings are not pushed too tightly onto the axles. There should be tiny gaps to allow everything to spin freely.

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Important: The two L-shaped angled beams need to be pointing out in mostly the same direction, so that they do not run into each other when you turn the gray axle in the middle. If necessary, you will need to temporarily remove one of the side gears, rotate it slightly then replace it, until the side axles are aligned the same way.

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Important: Do not push the two gray bushings all the way against the black axle joint. Leave a gap so that the joint spins very easily.

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Use three medium-length wires to connect the three motors to ports A, B, and C on the NXT brick. It doesn't matter which motor goes to which port, but you need to route the wires so they will stay out of the way of all the moving parts. The picture below shows one way to do this.

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Mystery Machine Programming
Use the program Random_Motors for the Mystery Machine. This program controls all three motors independently to operate at random power levels for random durations, and alternating directions.

Challenges

This project has plenty of opportunities for you to modify the design to experiment with different
mechanical ideas. See what you can come up with.

The Random_Motors program could be used to power any contraption you build that has up to three motors that are independent of each other. Try it on other robots and see what happens. Then try

building your own mystery machine from scratch that does interesting things.

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