"BUILD A BUG" INSTRUCTION GUIDE

Complete Bug Building Instructions

(WITHOUT THE ELECTRONICS LAB)



IT'S AMAZING ...

Do you have the Bug? Turn it on and set it down. Watch it wander the floor as if it's alive; sensing objects and finding a way around them.

This document takes you through the process of building a bug. It requires the "Catch the Bug" kit from teachergeek.com.

I hope you're excited. You're going to love your bug.



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Bent Tail

Bend Line

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STEP-BY-STEP WIRING

Wire your bug in three steps (4 including soldering).







It's time to solder. See page 12 for instructions.

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TROUBLESHOOTING GUIDE
Problem: Batteries become hot
Culprit: The circuit has a short circuit (bad wiring, or bridged solder joints).
Fix: Quick!!! Turn off the Bug and remove the batteries. Check the wiring.
Problem: Bug turns instead of going straight
Note: Bugs will usually turn slightly because, in order for them to go forward, one motor is turning
forwards while the other is turning in reverse. The motors used on the Bug have slightly greater speed
and torque when turning forwards. You can adjust for this by moving the motors up or down in the bug
body.
Culprit 1: The Bug will turn if the wings are bent at different angles.
Fix: Reheat and re-bend the wings.
Culprit 2: The Rubber was cut at an angle or uneven.
Fix: This the tire rubber so the end is straight (perpendicular with the note).
Fix: Slide the tire material so that it extends slightly past the motor shaft, and away from the
motor bousing
Culprit 4: Something is wrapped around your motor shaft or tire
Fix: Clean it.
Culprit 5: Bad soldering, or lack of soldering.
Fix: Make sure all connections have been soldered. A non-soldered connection can limit the
amount of electricity passing through it, causing a motor to turn slower.
Problem: Bug moves when it should be turned off
Note: The Bug will reverse when the Bug is off (spade connector is removed from the battery holder
spring) and the feelers are pushed. It's part of the way it was designed. We call it "playing dead."
Fix: In order to fully turn off the Bug, you must remove the batteries.
Culprit 2: The wiring is wrong.
Fix: Check the wiring.
Problem: Bug Bounces or Jitters when it moves
Culprit: Tire Rubber is cut at an angle.
Fix: Trim the tire rubber so the end is straight (perpendicular with the hole).
Problem: Bug will not move (motors will not turn)
Culprit 1: The batteries are dead.
Fix: Replace the batteries.
Culprit 2: The wiring is wrong.
Fix: Check the Wiring.
Culprit 5. The bug is not luthed on. Fix: Place the spade connector into the battery holder spring closest to the back of the Bug
Problem: Pug will not reverse
Culprit 1: The Bug is wired wrong
Fix: Check the wiring
Culprit 2: Spade connector is in the wrong side of the battery holder
Fix: Place the spade connector into the battery holder spring closest to the back of the Bug
Problem: Bug spins "on a dime" when it should go forwards
Culorit 1: Motors are wired backwards and/or put in upside-down
Fix: Make sure the motor terminals are on the outside of the Bug.
Check the wiring.