

Breadboard

Electronics / Wiring fundamentals

Know which holes connect before troubleshooting your circuit.

01 Internal connections

Terminal strips

A-E in one numbered row connect together; F-J in that row form a separate group.

Center gap

No connection across the trench. Place DIP ICs across it.

Power rails

Long +/- side strips often connect vertically; many are split halfway.

02 Before power

Continuity

With power OFF, meter-test rail segments and uncertain connections.

Bridge rails

Connect split segments deliberately; opposite-side rails are not automatically linked.

Label voltage

Mark 3.3 V, 5 V and GND clearly when multiple rails are used.

03 Common mistakes

Shorted component

Both leads in the same connected five-hole group bypass the component.

Wrong row

A jumper one row away leaves a circuit open.

Motor current

Use proper terminals/wires for high current; breadboards are for low-power prototypes.

Before you power on

Rail colors are labels, not electrical protection. Disconnect power before moving wiring.

Breadboard / continued

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Datasheets & further reading

SparkFun breadboard guide

<https://learn.sparkfun.com/tutorials/how-to-use-a-breadboard/all>