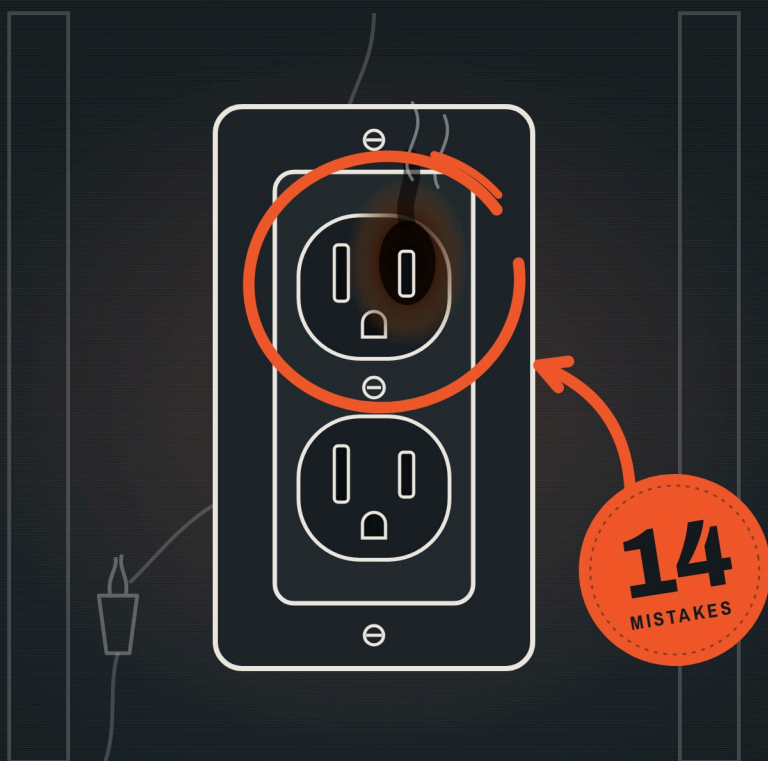




The Mistakes in Your Walls

Fourteen electrical mistakes hiding behind your cover plates. How to spot each one, how urgent it is, and what it costs to fix.



ROY DALTON

Written by a homeowner. He has no repair to sell you.

READ FIRST

BEFORE YOU USE THIS BOOK

Three things you need to know

WHO WROTE THIS

I am a homeowner, not an electrician. I have never held an electrical license, a contractor's license or an inspector's credential. This book is education: it helps you recognize problems and ask better questions. It is not electrical advice, it is not an inspection, and it does not replace a licensed electrician who has seen your house.

ELECTRICITY CAN KILL YOU

Electrical work can shock, burn or kill, even when a circuit looks off. Turning off the main breaker does not make everything safe: the service conductors entering the panel, and the lugs they land on, stay energized until the utility disconnects them. Nothing in this book asks you to open a panel, and nothing gets touched until it is switched off and verified dead with a tester you know how to use. If you are unsure, stop and hire a licensed electrician.

YOUR LOCAL CODE DECIDES

Electrical codes are adopted and amended locally. This book cites the National Electrical Code, manufacturer instructions and published safety guidance, but your authority having jurisdiction, meaning your local building department or inspector, has the final say on what applies to your house. Every price is a U.S. range for comparison, never a quote.

By reading on, you agree to the terms at the end of this book.

The Homeowner's In-Wall Electrical Handbook

“A wall can hide a mistake for fifty years. It cannot hide what happens when the mistake finally matters.”

ROY DALTON

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THE BOOTLEG GROUND

A False Green Light

The most dangerous outlet I found in my second house was the one that tested “grounded.” Behind the receptacle, somebody had installed a short jumper from the silver neutral terminal to the green grounding terminal. That is a bootleg ground. It makes an ungrounded circuit look respectable to a three-light tester. The tester was not lying; it was simply being given the answer it expected.

WHAT THE JUMPER IS HIDING

The neutral is the intended return path for normal current. The equipment grounding path is supposed to carry current only during a fault. A bootleg connects them at the receptacle, creating an improper parallel path. Depending on what is connected, ordinary neutral current can flow on metal boxes, grounding conductors, appliance frames, or other parts meant to remain quiet.

Worse, if the neutral fails upstream, return current may use that same grounding path to get back to the source. Metal parts can rise to a dangerous voltage while the tester still reports “correct.” A missing ground is a serious defect. A bootleg can disguise that defect while putting the grounding system to work as a current-carrying conductor.

WHAT YOU CAN SAFELY CHECK

From the face, treat a correct tester result only as a clue. If you make a visual check, limit it to the cover plate. Shut off the correct breaker or breakers, and prove the receptacle dead with a properly rated tester. Verify the tester on a known-live source before testing, test every conductor you can reach, then verify the tester again. Do not trust a panel label, a wall switch, or one dark light.

With the plate off, look for a short wire connecting the silver terminal to the green one. Do not pull the receptacle out, loosen terminals, or cut the jumper. Replace the plate and call a licensed electrician.

THE PROPER CORRECTION

NEC 250.142(B) generally prohibits this neutral-to-ground connection downstream of the service disconnect. NEC 406.4(D) sets requirements for replacing receptacles on older circuits; a three-slot face is not permission to invent a ground.

The electrician should determine whether a real grounding conductor exists, remove the bootleg, inspect the connections, and test the circuit. If no grounding conductor exists, options may include running one or using GFCI protection with the required “No Equipment Ground” label where permitted. A GFCI can reduce shock risk; it does not create a grounding path.

Ask: “Where does the equipment grounding conductor terminate, and what exact correction are you recommending?” Consumer Product Safety Commission and Electrical Safety Foundation guidance points the same way: do not defeat grounding, and do not mistake tester lights for proof. You may have a bad receptacle, not a whole-house emergency—and you still need the right repair.

TERMS OF USE

Please read before relying on anything in this book

Educational use only. This book is general education, not electrical, engineering, legal, insurance or financial advice. It is not a substitute for the National Electrical Code, your local code, manufacturer instructions, a permit, an inspection, or a licensed and insured electrician who has seen your house. The author is not a licensed electrician, contractor, inspector, attorney or insurance professional.

Your safety is your responsibility. Electrical work carries a real risk of shock, burns, fire, property damage, serious injury and death, even when a circuit appears to be off. You alone decide whether any task is safe for you to perform, and you do so at your own risk.

Codes, prices and products change. Codes are adopted and amended locally, and your authority having jurisdiction has the final say. Code references, agency findings and product details are believed accurate as of writing but may be outdated or may not apply where you live. Every price is an approximate U.S. range for comparison only, never a quote, promise or standard. Get written estimates from licensed professionals.

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