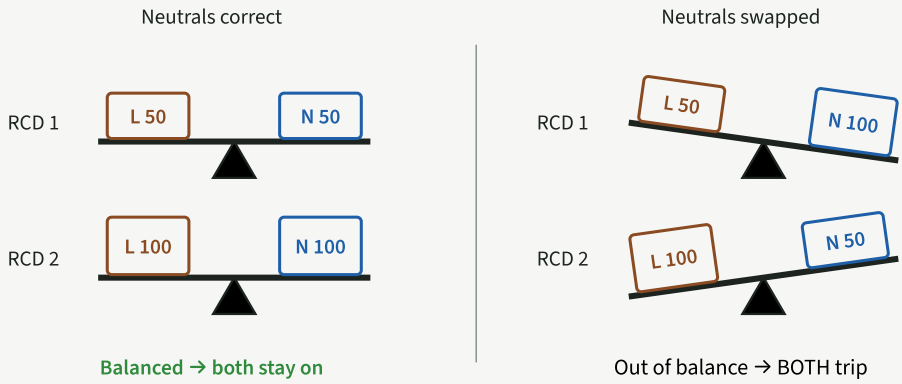
MIXED-UP NEUTRALS ON A SPLIT-LOAD BOARD: WHAT HAPPENS

NO EARTH FAULT, BUT BOTH RCDS TRIP. WHY?

With the board **dead**, swap the **neutrals** of the cooker circuit (on RCD 1) and the lighting circuit (on RCD 2) between the two neutral bars. You'd be amazed how many electricians don't know about this. Most learn it the hard way, once.



A see-saw: people weighing 50 kg and 100 kg. Swap one person between the see-saws and neither balances.

Each RCD compares its own line with its own neutral. Swap the neutral bars and each RCD sees current going out that doesn't come back through it, even though there's no fault to earth at all.

1. Main switch on, both RCDs on, both CBs on: **nothing happens**, because there's **no load** yet.
2. Turn the **light switch on**. The lamp flashes, there's a click, and **both RCDs trip**. Repeat it: both trip again.
3. With the board dead, put the neutrals back in the **correct bars**. Now the light switches on and off and the RCDs are happy.

> **Sparky's tip: the handover trap**
> You've fitted the board, you're handing over to the customer and getting paid, and the RCDs keep tripping. You might think there's a fault, but it can be this simple mistake. Yes, **initial verification** should have caught it, but if it didn't, check the neutrals are in the right bars **before** you go hunting for a fault.

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