

Grounds — why the bad one mimics everything else

How a poor ground produces symptoms that look like a dozen other faults, and how to prove a ground is good rather than assuming it.

PROCEDURE

- 1 Load the circuit**
Ground faults only show under current, same as any voltage drop test.
- 2 Measure case to battery negative**
Black lead on the battery negative post, red on the component's ground terminal or case.
- 3 Compare to limit**
Under 0.1 V for most grounds. More means clean the joint, not replace the part.
- 4 Clean properly**
Back to bare metal on both faces, star washer, dielectric grease over the outside. Paint under a ring terminal is a slow-motion failure.

NUMBERS

Ground drop limit	under 0.1 V	component to battery negative, under load
Engine-to-frame strap	under 0.1 V	cranking, measured across the strap
Common symptom	feedback / cross-glow	one circuit lighting through another means a lost ground

COMMON MISTAKES

- Probing to a nearby bracket instead of the battery negative post — you may be measuring through the fault.
- Bolting a ring terminal to painted or powder-coated metal.
- Chasing a 'short' when the real fault is an open ground causing feedback.
- Cleaning the terminal but not the surface it lands on.

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