

Voltage drop testing — the test most techs skip

Why a wire can read 12.6 V and still be bad, and how to find the exact bad inch of a circuit under load.

PROCEDURE

- 1 Load the circuit**
Turn the load on and leave it on. An unloaded circuit will read zero drop even when badly corroded.
- 2 Meter across the suspect**
Red lead on the upstream side, black on the downstream side of the same wire, connection or ground.
- 3 Read while it runs**
Compare against the limits below. Anything over means that piece is eating voltage the load should be getting.
- 4 Do the ground side too**
Ground faults are more common than feed faults and produce identical symptoms. Test battery negative to component case the same way.

NUMBERS

Per connection	under 0.1 V	a single terminal, splice or plug
Per wire or cable	under 0.2 V	end to end, loaded
Ground path total	under 0.1 V	component case to battery negative
Whole circuit budget	under 0.5 V	battery positive to load, feed side
Starter cable, cranking	under 0.5 V	each side, measured while cranking

COMMON MISTAKES

- Testing with the load off and concluding the circuit is good.
- Checking only the positive side. Bad grounds cause dim lights, slow motors and phantom faults just as often.
- Backprobing a connector so gently that you read the drop of your own probe contact instead of the joint.
- Chasing a drop that is really the load itself — measuring across the bulb, not the wire, correctly reads near battery voltage.

Overhaul Prep · overhaulprep.app/learn/voltage-drop-testing · practice and prep material, not a substitute for the manufacturer's service information.