

Fencing body cord and weapon tester

Printed pocket build, 18650, 84 x 40 x 26 mm

Block 3 - Procedures

Doc 03 Rev F 2026-08-30

How the weapons differ

Foil is a normally closed circuit. The B line runs to the tip and is connected to C through the point, so depressing the tip breaks it. Epee is normally open. The A and B lines run up separate wires to the tip and depressing it connects them. Everything below follows from that one difference.

Weapon test

Plug a known good body cord into J1 on the top edge and put the weapon on the far end. Leave J2 empty.

Weapon	Tip	Green	Red	Meaning
Foil	At rest	off	ON	Point closed, B to C intact
Foil	Pressed	off	off	Point opens correctly
Epee	At rest	off	off	Point open, no short to guard
Epee	Pressed	ON	off	Point closes A to B correctly

Weapon faults

Symptom	Likely cause
Foil, red stays lit when pressed	Short between B and C. Blade wire touching the guard, or grit in the point
Foil, red never lights	Open B or C line. Broken blade wire or a dirty socket
Epee, red lights at rest	Blade wire shorting to the guard
Epee, green lights at rest	Point jammed shut, or grit in the barrel
Epee, green never lights	Contact spring too short, or an open blade wire
Either, lamp flickers on flex	Wire about to break, usually at the guard

The weight and shim tests are mechanical and this box does not do them. Foil needs a 500 g weight, epee a 750 g weight and a 0.5 mm shim. A weapon can pass every electrical check here and still fail weapon control.

Fencing body cord and weapon tester

Printed pocket build, 18650, 84 x 40 x 26 mm

Block 3 - Procedures

Doc 03 Rev F 2026-08-30

Body cord test - continuity (both ends plugged in)

One end into J1, the other into J2. For a two pin foil or sabre cord the plug goes into the B and C jacks of J2 and the alligator clip goes onto J3.

Green	Red	Verdict
ON	ON	All three conductors continuous
off	ON	A line open
ON	off	C line open
off	off	B line open

Body cord test - shorts (ONLY the J1 end plugged in)

Unplug the J2 end and let it hang free, touching nothing. With the far end open, a healthy cord carries no current at all - so any lamp that lights is finding a short between two lines inside the cord. This replaces the old switch's Isolate position; the verdicts are identical because shorted lines close their loop through J1 alone.

Green	Red	Verdict
off	off	No shorts found
ON	off	A shorted to B
off	ON	B shorted to C

With both ends plugged again, flex and stretch the cord along its whole length and work it hard where it enters each plug. A lamp that flickers means a conductor about to fail. Tug the alligator clip lead to check the solder joint.

A short between A and C alone will not be caught. Both lines are driven through their own LED, so a link between them carries no current. A and C sit at opposite ends of the asymmetric pin spacing and rarely short to each other.