

Synopsis



Foil overview

Both men and women compete in foil, in separate events. The weapon used is a maximum of 500 grams, with a maximum length of 110cm. A micro-switch in the tip needs at least 500 grams of pressure to activate the registering apparatus. The valid target area is the torso only, excluding arms, legs and head. The valid target area on the fencer is covered by a metallic jacket (lame), which causes a coloured lamp to light when the target area is hit by the opponent's weapon. A hit on the non-valid area (not covered by the metallic jacket) causes a white lamp to light. Epee evolved from the sword, favoured by duellists of the time. Training for sword fighting (for duelling or combat purposes) concentrated on thrusts to the torso, where hits would have the most lethal effect.

How a hit is made.

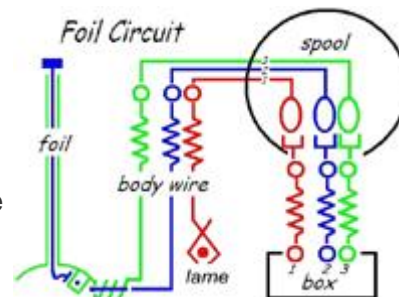
The Foil circuit is normally ON, however the circuits have three possible states used by the apparatus to determine the scoring.

1 In the normal state the **blue** (centre pin) and **green** (near pin) wires in the diagram on the right are connected in a single circuit through the apparatus. This state produces no light and would be the state of the circuit as the fencers come on guard.

2 When the point is depressed by any surface except the opponent's lame, guard or a connected metallic floor (piste) the circuit is broken and the "off-target" light comes on.

3 When the point is depressed at the same time, as the point is in contact with the opponents lame the original circuit is broken and a new circuit is made. This circuit is between the **blue** part of the diagram on the right and the **red** part of the opponent's circuit. This new circuit causes a "hit" light to come on.

As well as being electrical, the system also has a mechanical component. That is, moving parts and electronics working in conjunction cause the lights to come on.



This means that both mechanical and electrical faults can cause the system to function incorrectly.