

Problem Solving Weapons on Strip



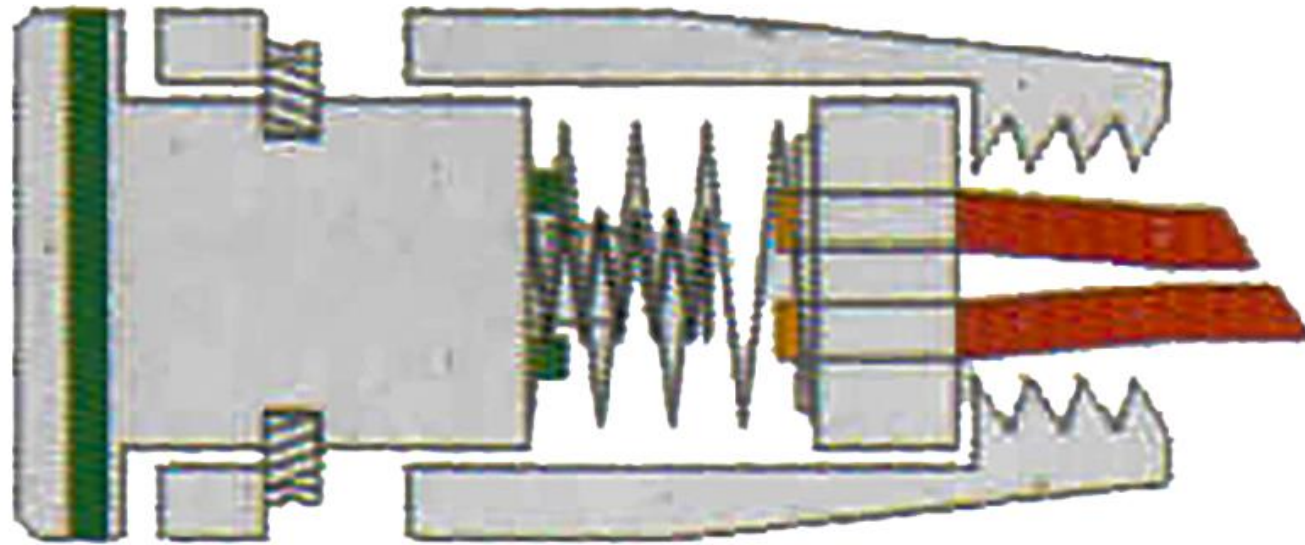
Epee

Referee Checks Epees Before Every Bout

- Epee
 - Make sure body cord is plugged into the reel (overhead) and secured
 - Check for inspection marks on equipment (mask, glove, body cords)
 - Check that wires are insulated and attached properly to socket
 - Check that epee supports 750gm test weight
 - Check travel of epee tip (0.5mm min/1.5mm max)
 - Check that epee has two screws securing tip
 - Check that epee barrel is not loose
 - Check that epee blade bend is within limits (1 cm)

Referees must confiscate defective equipment and award a penalty card unless the problem occurred as a result of the fencing.

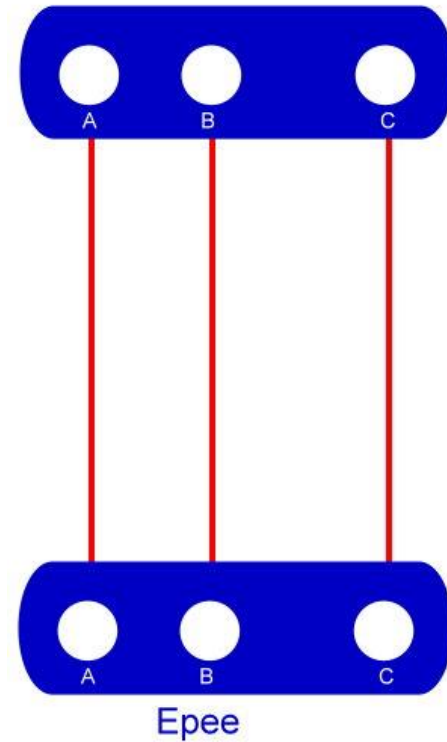
Epee Tip



French

Epee Body Cord

In epee, the weapon-end plug is the same as the reel-end. The A and B lines lead to the two wires running down the groove of the blade. When the tip is depressed, the spring in the tip contacts the two wires and completes the circuit, registering a hit. The C line connects to the guard by way of the socket mount and grounds the guard and blade, so that hits will not register if they are touched by the opponent's weapon.



Epee Doesn't Work Right

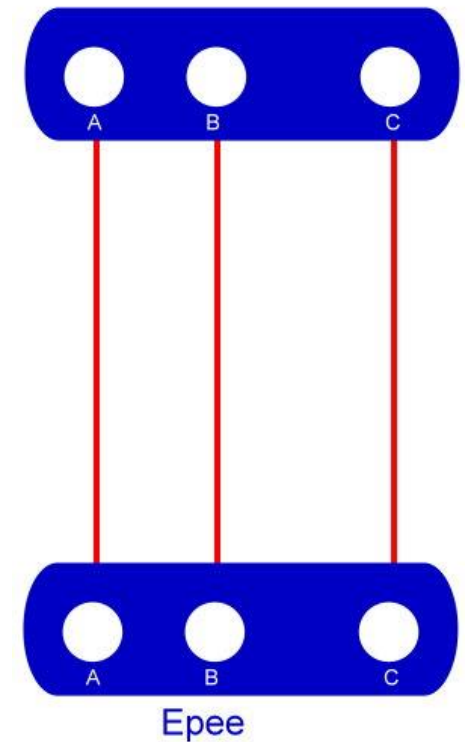
- Epee fails shim 0.5mm test (weapon registers a touch while the 0.5mm shim is inserted between the tip and barrel).
 - Solution:
 - Immediately after the bout, retrieve the confiscated epee from referee.
 - Take tip apart.
 - Solution 1: Compress the contact spring slightly without bending it out of shape
 - Solution 2: Replace the contact spring with a new one.
- Epee fails shim 1.5mm test (the 1.5mm shim doesn't fit between the tip and barrel).
 - Doesn't happen often.
 - Solution:
 - Try replacing the tip with another one. It may work.
 - Most likely, the screw slot in the barrel is not placed correctly. You would need to replace the barrel which requires the blade to be rewired.

Epee Doesn't Work Right

- Epee fails weight test (with 750gm weight on the tip, referee pushes in the tip and the scoring machine does not reset)
 - Solution 1 (while on strip if referee allows): on the floor (off strip), pull back the blade and snap against the floor. This will sometimes stretch the spring internally to allow it to pass inspection.
 - Solution 2: After retrieving confiscated epee from referee after the bout, take the tip apart and stretch the pressure spring.
 - Solution 3: After retrieving confiscated epee from referee after the bout, take the tip apart and replace the pressure spring with a new one.

Epee Doesn't Work Right

- Epee doesn't register a touch when the tip is depressed
 - Start checking from the tip to the scoring machine
 1. Short out the body cord A & B prongs at the socket end
 - If it registers a touch, then problem is in front of that position (e.g., somewhere in the epee)
 2. If still not registering a touch, short out the body cord A & B prongs at the back of the fencer
 - If it registers a touch, then problem is in front of that position (e.g., somewhere in the body cord and/or epee)
 3. If still not registering a touch, continue shorting out A & B prongs at the reel, then at the scoring machine. But at this point it is the organization's problem, not the fencer's issue.



Epee Doesn't Work Right

- Epee doesn't register a touch when the tip is depressed, and the problem is in the epee
 - Solution 1: The contact spring may not be long enough. Stretch it, but not too much, or replace with another contact spring
 - Solution 2: There is a break in one of the A or B wires. Usually the break is where the barrel screws onto the blade, where the wires go into the guard, or where the wires attach to the socket.
 - Solution 3: The break in the A or B wire may be somewhere along the blade. Rewire!

Epee Doesn't Work Right

- Epee SOMETIMES doesn't register a touch when the tip is depressed
- If you think you hit your opponent and your weapon didn't register a touch, immediately ask the referee to test and ask to change your weapon.
 - Possibility 1: A missing screw makes the tip depress at an angle. Sometimes the contact spring will connect both wire contacts (registers a touch) and sometimes it will touch only one contact (no touch). Replace the missing screw.
 - Possibility 2: The contact spring is at an angle (or just the bottom of the contact spring). Try to straighten the contact spring or replace it with a new one.
 - Possibility 3: There may be a break in the A or B wire along the length of the blade. Flex the blade while depressing the point and see if you can duplicate the fail.
 - Possibility 4: The barrel may be loose. Sometimes the wires are intact, sometimes not. Tighten the barrel. But eventually, you will need to rewire.
 - Possibility 5: The A or B wire is broken where they enter the guard. Put stress on the guard by rotating slightly to see if you can duplicate it. If wires are broken, rewire.
 - Possibility 6: The A or B wire may be shorting out to the blade or guard which grounds out the weapon when under certain stress conditions. Stress the blade and/or guard to duplicate. May need to rewire. (Sometimes you can use nail polish to insulate the wire.)
 - Possibility 7: There may be a slight break in the A and/or B wires in the body cord. When the wire is stressed the break separates farther (no touch) but without stress the wire functions as intact. Place stress on the body cord by bending it at the stress points to see if you can make the weapon fail. If so, change body cords (and fix the body cord by cutting out the broken wire).

Epee Doesn't Work Right

- Opponent's epee is scoring touches on your bell guard
 - If this happens during the bout, immediately ask the referee to test. If it is duplicated by the referee, he can annul the touch, confiscate your defective weapon (no card since it occurred during the fencing action), and then continue the bout. If any blade action takes place before the referee test, the touch cannot be annulled.
 - Solution 1: Usually this is a body cord problem with the C-line being broken. Test the C prong at the socket end with your opponent's tip, then test the C-line at the other end of the body cord (reel end). If it works at the reel end but not at the socket end, change your body cord.
 - Solution 2: If the C-line works at the socket end of the body cord there may be something insulating the outside of your guard. Test multiple places on the guard to see if you can isolate where the corrosion is located. Use sandpaper to clean the outside of the guard.
 - Solution 3: It's not common, but sometimes this is caused by corrosion inside the guard where the socket butts up against the inner guard. Take the weapon apart and clean the corrosion off that part of the socket and the inside of the guard where it abuts.
 - Solution 4: There may be corrosion inside the guard between the socket and inner guard.
 - Solution 5: Check that your opponent is not cheating with clear nail polish on ½ of his epee tip.

Epee Doesn't Work Right

- Your epee scores an “air” touch. This doesn't occur often.
- You should acknowledge to the referee that you did not hit your opponent. Be honorable.
 - This may be caused by the body cord connecting the A & B lines together. See if you can duplicate the problem by stressing the body cord.
 - It may be caused by the A & B blade wires touching inside the guard either at the socket (maybe too much bare wire showing) or where the wires come into the guard (between the socket and inner guard surface). Are the wires going through the hole in the guard? Are they going through the socket or are they being “crimped” between the socket and inner guard?
 - Another possibility is the contact spring has come off the tip and is floating around inside occasionally touching both wire contacts.



Foil

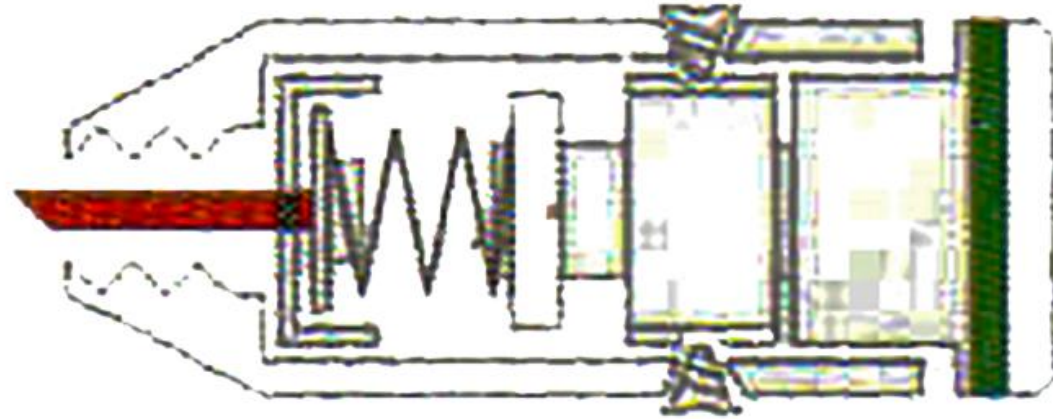
Referee Checks Foils Before Every Bout

- Foil
 - Make sure body cord is plugged into the reel (or overhead) and secured
 - Check for inspection marks on equipment (mask, metallic vest, glove, body cords, mask cords)
 - Check that the wire is insulated and attached properly to socket
 - Check that foil supports 500gm test weight
 - Check that foil has proper 15cm of insulation at top of blade
 - Check that foil blade bend is within limits (5.5cm-9.5cm)
 - Make sure that vest is attached to body cord alligator clip
 - Make sure that mask cord is on correct side and attached

Referees must confiscate defective equipment and award a penalty card unless the problem occurred as a result of the fencing.

Foil Tip

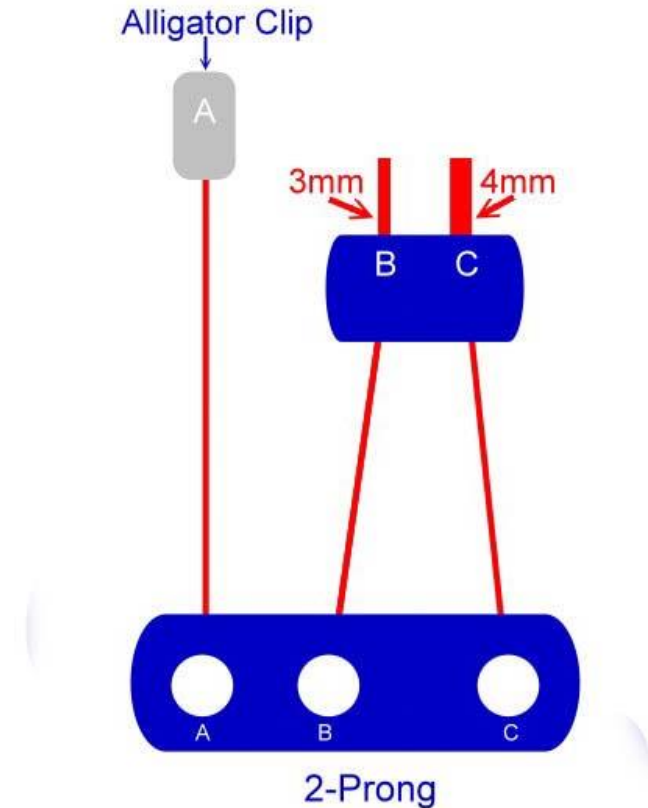
French



Foil Body Cord

In foil, the A line leads to the alligator clip that connects to the metallic vest. The B line is attached to the smaller of the two pins on the weapon-end plug and connects to the wire running down the groove of the foil. This is the line that carries the current down the blade and to the opponent's metallic vest. The C line connects to the guard by way of the socket mount and grounds the guard and blade, so that hits will not register if they are touched by the opponent's weapon.

Body cord wire diagram



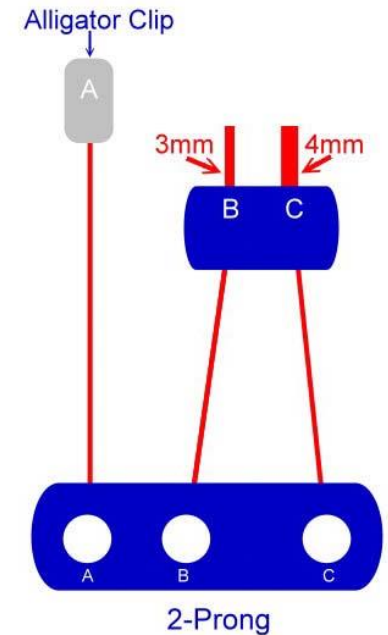
Foil Doesn't Work Right

- There is no shim test for foil.
- Foil fails weight test (with 500gm weight on the tip, referee pushes in the tip and the scoring machine does not reset)
 - Solution 1 (while on strip if referee allows): on the floor (off strip), pull back the blade and snap against the floor. This will sometimes stretch the spring internally to allow it to pass inspection.
 - Solution 2: After retrieving confiscated foil from referee after the bout, take the tip apart and stretch the pressure spring.
 - Solution 3: After retrieving confiscated foil from referee after the bout, take the tip apart and replace the pressure spring with a new one.

Foil Doesn't Work Right

- Foil constantly goes off-target
 - There is a break in the circuit.
 - Are you plugged in? At the reel and socket?
 - Is the foil wire attached to the B prong socket?
 - There may be a break in the wire in the blade. Usually at a stress point such as the end of the barrel (is the barrel loose?) or where the wire enters the guard or where the wire attaches to the socket.
 - There may be dirt inside the barrel. Rotate the tip around to see if that clears it. Otherwise, remove the tip and clean the tip (TV tuner cleaner that is safe for plastics).
 - The B and/or C wires in the body cord may be broken. Body cords break at stress points, check both ends. Tighten the screws.

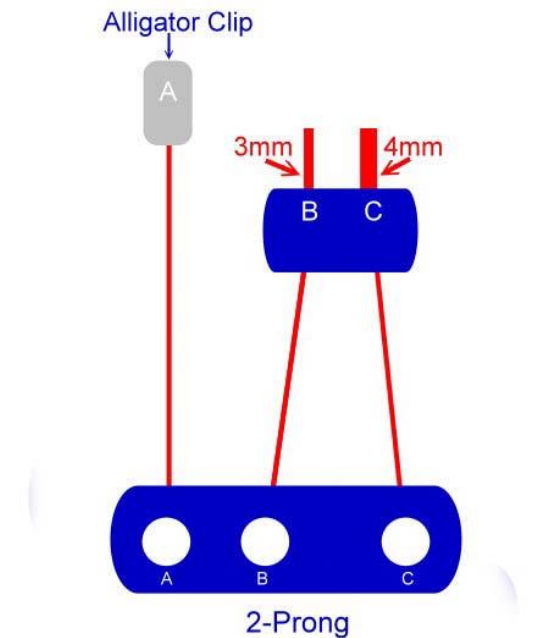
Body cord wire diagram



Foil Doesn't Work Right

- Foil SOMETIMES goes off-target
 - There is an intermittent break in the circuit.
 - There may be a break in the wire in the blade. Usually at a stress point such as the end of the barrel (is the barrel loose?) or where the wire enters the guard or where the wire attaches to the socket. If a break is in the middle of the blade it may go off-target when the blade is struck by a beat.
 - The pressure spring may not be strong enough to support the tip when there is a strong motion of the blade. The foil tip travel distance can be small and although the spring may support a 500gm weight during the referee's test, a strong motion or beat may allow an off-target.
 - There may be dirt inside the barrel. Rotate the tip around to see if that clears it. Otherwise, remove the tip and clean the tip (TV tuner cleaner that is safe for plastics).
 - The barrel may be loose. Tighten the barrel. But eventually you will need to rewire.
 - The B wire in the body cord may be a "little bit" broken. Body cords break at stress points, check both ends. Stress the body cord to see if you can make it go off-target. Tighten the screws in the body cord.
 - The B and/or C prongs may be loose in the socket. Remove any corrosion on the prongs, rotate the prong springs and increase the bend of the prong springs.
 - Clean the socket receptors.

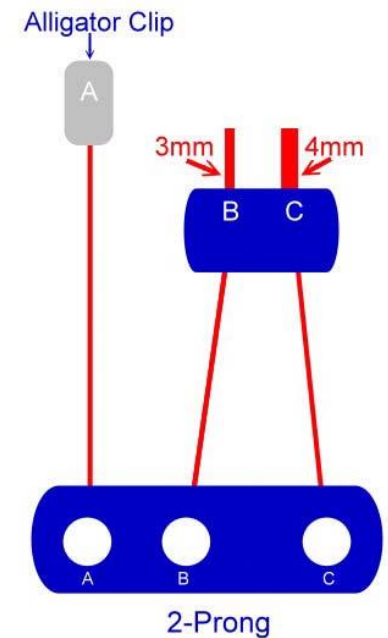
Body cord wire diagram



Foil Doesn't Work Right

- Foil registers off-target when testing your opponent's metallic vest
 - The problem is in your opponent.
 - Is their alligator clip attached to their metallic vest?
 - If it is, test your tip against his alligator clip. If that goes on-target, reattach the clip to their metallic vest and test again at the same spot on their vest. If their vest is still off-target they may have a bad spot on their metallic vest.
 - The A-wire of the opponent's body cord may be broken (usually at one end or the other).
 - Note that the A-wire must be soldered to the alligator clip.
 - The problem is in you.
 - You may have the B & C wires reversed.

Body cord wire diagram



Summary

- There may be other causes of weapon problems not mentioned. This presentation is not meant to be all inclusive.
- Hopefully, this has been helpful.
- If you have corrections or other suggestions to include, please let me know.