

## Finding a break in the wire

### Symptoms

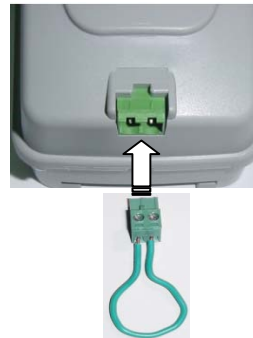
The Perimeter Switch / Charging Station is indicating the scissors sign, meaning that there is a break in the wire.



**Figure 1**  
Wire disconnected indicator is blinking

### Solution

1. First check whether the problem is with the Perimeter Switch/Charging Station itself or the continuity of the perimeter wire. Test the Perimeter Switch/Charging Station by connecting a short wire loop of a few inches/cm to its connector (Figure 2) or by connecting it in another zone (if you have); If **'Wire disconnected'** light doesn't illuminate, and the **'ON'** blinks on steadily, thus the Perimeter Switch/Charging Station is fine and the break is in the wire.



**Figure 2**  
Testing the Perimeter Switch using a small loop

2. Perform initial search for the disconnected wire:

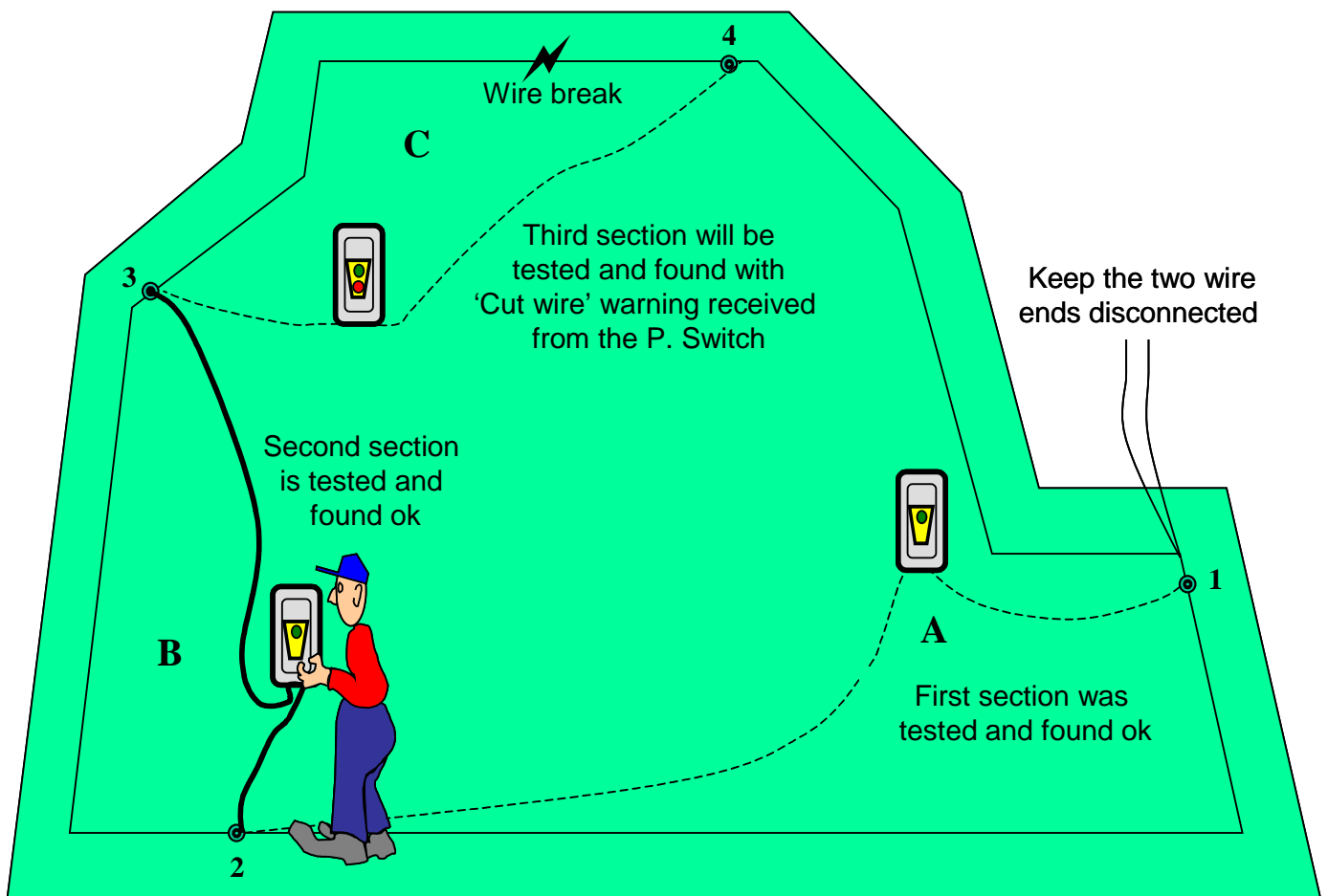
- Try to remember if any work has been done since the last operation which might have caused a break in the wire; walk along the perimeter wire and check for wire break especially in areas where you have done some recent work, like edging, planting or aerating.
- Look for a damaged wire very close to the point where the mower stopped in the last operation.
- Walk along the wire (including perimeter islands) and look closely for a cut in the wire or loose connection.
- Suspect and check connectors and splices:
  - Take out the two wire ends from the plot connector – confirm that they are clean, reinsert and tighten the screws.
  - Check the wires leading from the perimeter switch to the lawn.
  - Check all wire connections carefully.
  - Make sure that all wire splices were made with standard wire connectors; any place where the wire was spliced without using a wire connector, but only by twisting the wire is a potential place for a disconnection due to corrosion.

3. Perform a secondary search for the disconnected wire by testing different lengths of the wire using the Perimeter Switch as a detector for continuity (use **Figure 3** to follow the searching steps):

- Disconnect the Perimeter Switch from the perimeter wire, open the two screws where the wire ends are connected to the plot connector and leave the wire ends disconnected.
- Take an extra piece of wire and prepare 2 wires at any length you want (from 6ft/2m to 30ft/10m).
- Strip back ¼ inch (6mm) of insulation from each wire end and connect the two wires to the Perimeter Switch.
- Strip back 1 inch (2.5cm) of insulation from the other wire ends.
- Choose any suspected section in the perimeter wire you want to test the wire continuity; define the 2 points on the perimeter wire (point 1 and 2 in Figure 3) and strip (**do not cut**) ¼ inch (6mm) of insulation at each point (the distance between these 2 points should exceed the wire length which you prepared for the testing).

- Twist the end of the extra wire from the Perimeter Switch around one of the points on the perimeter wire and do the same with the other wire around the second point on the perimeter wire.
- Turn on the Perimeter Switch and check for disconnection in the specific tested wire.
- If there is no indication of 'Cut wire', it means that the tested wire (between the two points) is ok.
- Disconnect one of the extra wires from the perimeter wire and connect it to another point to continue testing the next section of the wire continuity (in Figure 3 the wire was taken from point 1 to point 3).
- When the Perimeter Switch indicates 'Cut wire', it means that the cut wire is within the tested wire (In Figure 3 it's between points 3 and 4).
- It is recommended to divide the problematic section of the wire until you pinpoint the area the wire is cut.
- When the problematic section is short enough, you can look closely to find the cut or loose wire connection and to repair it by standard wire connectors, or you can cut the wire and install a new wire.

**Note:** If the Perimeter Switch/Charging Station is connected to few zones, it is recommended first to test in which of the zones is the wire break and only then to continue the searching inside the zone as described above.



**Figure 3 – Finding a break in the wire**