



# Instructions for competitors

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## 1. Basic Information

The ToePunch system is a punching system for trail orienteering. Its key components are a unit (Toe box) and a set of seven NFC/RFID chips.



A competitor “punches” by touching a chip to a unit. The unit confirms success of the operation by a message on the display and a light and sound signal.



Bring the chip closer to the unit slowly, some new units only communicate with a chip when it is **a short distance (up to 1 cm)** above the unit, **not** when the chip is **lying directly on the unit!** The best way is to use your index finger to keep the distance.

## 2. Preparation

The Event Organizer assigns each competitor a starting number and lends him/her an appropriate chip set marked with the starting number.

Before a race, the chip set must be cleared and configured for the race by touching each chip to a Clear unit. The organizer places a Clear unit typically the start or pre-start. The unit shows clearing progress (see the photo above) and displays the text “Done” text when **the entire chip set is successfully cleared**. Clearing also checks the chip set is working correctly. If a problem is detected during the clear operation, **you should ask the organizer for a replacement chipset (it will also need to be cleared)**.

The ToePunch logo on a chip must be touched as precisely as possible to the ToePunch logo printed on the unit.

## 3. Pre-Start and Start Procedures

To start their competition, the competitors must punch the Start unit with their Start/Finish/Info chip. The unit saves the start time both to the chip and to the internal memory of the unit, emits an audible and visual signal and shows the current competitor’s time (0:00). When the Start unit is punched subsequently, the competitor’s elapsed time is displayed.

**Check that the start unit displays the correct chip number and start label (“77” and “S1” in the photo).**



The same procedure is repeated later if the race is split into more parts; each subsequent Start unit stores an additional start time and displays the competitor's total elapsed time up until that point.

## 4. Punching Answers

To punch an answer, select the correct chip (A–E or Z) and, holding the others together, bring the selected chip closer to a unit (marked with the control number and possibly the category) until it registers the answer. The unit saves the answer, punch time and chipset number to the internal memory, saves the control number and punch time to the chip, emits an audible and visual signal, and shows the chipset number on its display. You know when you have **successfully punched** if you can detect **any of those three responses** from the system (a **“Punch”** message on the display, an audible or visual flash).



The competitor should hide the letter of answer printed on the ToePunch chip by a thumb (or a toe).

Repeated punching of the same answer is possible after 2 seconds. However, pay attention to the capacity of the chip, which is 33 records!

**If a unit does not confirm successful punching by any of the ways written above, the operation should be repeated.** If it fails again, a backup (usually paper card) punching should be used.

Any Punching unit can also be used for checking a competitor's time. Touching the Start/Finish/Info chip to a unit causes the unit to show the competitor's time on its display. However, this function is **not guaranteed** and according to the Rules, every **competitor is responsible** for time keeping.

## 5. Finish and After-Finish Procedures

After passing the finish line (or the finish line of a course part), a competitor must punch the Finish unit with the Start/Finish/Info chip. The unit saves the finish time both to the chip and to internal memory of the unit, emits an audible and visual signal and shows the competitor's final time.

As the ToePunch system offers the organizers several ways to collect and process the punch records, competitors should follow the event-specific information written in the Bulletin to see whether a read-out of their chipset is required. If so, it will likely be just after the course finish or back at the competition centre. Toe units can be setup to transmit punching records to a server in which case, no read-out of competitors' chips is needed. A combination of both approaches is possible as well, e.g. for getting an instant preliminary result list being confirmed by read-out later.

## 6. Acknowledgements

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