

Orienteering Map Legend

International Standard For Orienteering Mapping













This mapping standard (ISOM 2017-2) is used for the majority of orienteering event maps of forest or wild areas.

Standard map scales are 1:10,000 or 1:15,000. Scales of 1:7,500 and 1:5,000 are also common.

Land Forms

-  **Contours** (normally 2.5m or 5m, slope tags point downhill)
-  **Index contour** (every 5th contour)
-  **Form line** (shows land form features between contours)
-  **Knolls** (small hills)
-  **Small depression, pit**
-  **Earth bank** (earthen cliff)
-  **Earth wall or berm, smaller earth wall or berm**
-  **Erosion gully** (eroded trench)
-  **Small erosion gully or ditch**
-  **Broken ground** (lumpy - hard to run)
-  **Special land form feature***












Vegetation

-  **Open forest** (80-100% running speed)
-  **Forest** (60-80%, 20-60%, 0-20% running speed)
-  **Distinct vegetation boundaries** (e.g. between types of trees)
-  **Undergrowth** (slow running)
-  **Dense undergrowth** (hard to run)
-  **Open land, with scattered trees, with scattered bushes**
-  **Rough open land, with scattered trees, with scattered bushes**
-  **Individual trees, particularly distinct tree**
-  **Orchard, vineyard**
-  **Cultivated land** (black line shows distinct boundary)
-  **Forest: more runnable in direction of stripes**
-  **Special vegetation feature*** (often means rootstock)

























Water and Marshes

-  **Lake**
-  **Shallow body of water**, seasonal
-  **Small ponds**, waterhole
-  **Uncrossable marsh**
-  **Marshes**
-  **Indistinct or seasonal marsh**
-  **Small crossable creeks**
-  **Minor water channel**
-  **Narrow marsh or trickle of water**
-  **Well, spring** (shown here with stream flowing from it)
-  **Special water feature***








Rock and Boulders

-  **Impassable cliffs** (tags point downhill)
-  **Passable cliffs or rock faces** (tags point downhill)
-  **Rocky pit**
-  **Boulders, massive boulders**
-  **Boulder clusters**
-  **Boulder field**
-  **Stony ground** (density of dots shows severity of stoniness)
-  **Open sand or gravel**
-  **Bare rock**
-  **Trench** (rocky or man-made)
-  **Cave** (open end of V shows the direction of cave entrance)

Man-made Features

-  **Buildings, large, small**
-  **Private developed area**
-  **Paved areas** (black line shows step or edge of pavement)
-  **Road, major road, divided road**
-  **Railway, crossable, uncrossable**
-  **Power line, major power lines** (cross-lines, shapes represent towers)
-  **Fence, ruined fence, high fence**
-  **Stone wall, ruined stone wall, high stone wall**
-  **Gate or crossing point** (shown here in a fence)
-  **Small road** (typically gravel), **vehicle track**
-  **Path, small trail**
-  **Indistinct trail** (hard to spot)
-  **Cut line** (break in trees - slow running, no trees, fast running)
-  **Trail junction, indistinct trail junction** (gap between trail symbols)
-  **Footbridge, crossing point with bridge, without bridge**
-  **Canopy** (shown here as a passage between buildings)
-  **Tunnel** (shown here with trail crossing under road)
-  **Ruin, small ruin**
-  **Special linear man-made features** (pipeline, bobsled track, etc.), crossable, uncrossable*
-  **High tower, small towers** (such as hunting platforms)
-  **Cairn or large stone pile**
-  **Fodder rack**
-  **Special man-made features***
-  **Permanently out-of-bounds**

Technical Symbols

-  **Uncrossable boundary** (often shown on top of another symbol like a fence)
-  **Crossing point**
-  **Crossable passage** (shown here through private developed area)
-  **Out-of-bounds area** (solid or dashed edges show markings in the terrain)
-  **Forbidden route** (you can cross it but not travel along it)
-  **First aid post**
-  **Refreshment point**

Key to Text

Bold = commonly seen symbols

Purple= forbidden to cross (if you do, you will be disqualified)

*Special feature symbols and their definitions should be listed on the map.

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For the complete international mapping specification visit www.orienteering.sport























Sprint Orienteering Map Legend

International Standard For Sprint Orienteering Mapping 2019










This mapping standard (ISSprOM) is used for vast majority of urban orienteering events and for some short forest events.

Standard map scale is 1:4,000.

Man-made Features

-  **Paved areas** (heavily trafficked, lightly trafficked)
-  **Steps or edges of paved area, stair**
-  **Private developed area** (including gardens - see Vegetation)
-  **Building**
-  **Canopy** (light grey with outline)
-  **Pillars** (shown here under a canopy)
-  **Gravel area, large unpaved trail**
-  **Small trail, indistinct trail** (hard to spot)
-  **Cut line** (break in forest)
-  **Railways** (passable, *impassable*), tramway
-  **Bridge, tunnel/underpass**
-  Multi-level areas (stripe colour represents the surface of the upper level)
-  **Paved area with scattered trees**
-  **Passable fence, impassable fence, impassable wall**
-  **Passable wall** (stone, brick, etc.), retaining wall (half dots point down)
-  **Gate or crossing point** (shown here in a fence)
-  **Small powerline, major powerlines**, (cross-lines, shapes represent towers)
-  High tower, small towers (such as hunting platforms)
-  Cairn, memorial, small monument, or boundary stone
-  Fodder rack
-  Special linear man-made features (pipeline, bobsled track, etc.), passable, *impassable**
-  Special man-made features*











Water and Marshes

-  **Impassable body of water** (pond, lake, deep river, etc.)
-  Waterhole
-  **Passable body of water** (shallow river, wading pool, etc.)
-  **Small creek, intermittent water-course**
-  **Narrow marsh**
-  **Impassable marsh**
-  **Passable marsh**
-  Indistinct or seasonal marshes
-  Well, spring (shown here with stream flowing from it)
-  Special water feature*

Land Forms

-  **Contours** (normally 2m or 2.5m, slope tags point downhill)
-  **Index contour** (every 5th contour)
-  **Form line** (shows land form features between contours)
-  **Knolls** (small hills)
-  **Small depression, pit**
-  Earth bank (earthen cliff)
-  Earth wall or berm
-  Erosion gully (eroded trench)
-  Small erosion gully or ditch
-  Broken ground (lumpy - hard to run)
-  Special land form feature*

Rock and Boulders

-  **Impassable cliffs** (tags point downhill)
-  **Passable cliffs or rock faces** (tags point downhill)
-  **Boulders, massive boulder**
-  Boulder field, boulder cluster
-  Stony ground
-  Open sand or gravel
-  Bare rock
-  Rock pillars or distinctly shaped cliffs
-  Rocky pit
-  Cave (open end of V shows the direction of cave entrance)

Vegetation

-  **Open forest** (80-100% running speed)
-  **Forest** (60-80%, 20-60% running speed)
-  **Impassable thick vegetation, hedge**
-  **Private developed area, garden or flower bed**
-  **Distinct vegetation boundary** (e.g. between types of trees)
-  **Undergrowth** (slow running)
-  **Dense undergrowth** (hard to run)
-  **Open land, with scattered trees, with scattered bushes**
-  **Rough open land, with scattered trees, with scattered bushes**
-  **Individual trees, particularly distinct tree**
-  Orchard, vineyard
-  Cultivated land (black line shows distinct boundary)
-  Forest: more runnable in direction of stripes
-  Special vegetation feature* (often means rootstock)






Key to Text

Bold = commonly seen symbols

Purple = forbidden to cross (if you do you, will be disqualified)
Note the larger number of forbidden to cross features on sprint maps.

*Special feature symbols and their definitions should be listed on the map.

Technical Symbols

-  **Uncrossable boundary** (often shown on top of another symbol like a fence)
-  Crossing point
-  **Out-of-bounds area** (solid or dashed edges show markings in the terrain)
-  Crossable passage (shown here across out-of-bounds road)
-  Temporary construction or closed area (such as a restaurant patio)

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For the complete international mapping specification visit www.orienteering.sport

Basic Instructions

All you need to know to get started in orienteering!

Most orienteering events are one of two types:

Point-to-point - In standard 'point-to-point' orienteering events the winner is the person to complete the course in the fastest time. To complete the course, all controls **must** be found in the order shown - control circles are connected by lines.

Score - In score events you have a set amount of time to find as many controls (each worth a number of points) as you can and make it back to the finish. You lose points if you are late and gain bonus points if you collect all the controls and are back early. Controls can be visited in any order - control circles are not connected.

The Basics

- You need to check in at each control with the timing system provided by the organizers. At competitive events, if the control doesn't register, use the back up pin-punch to mark your map to prove you visited that control.
- Once you have punched the finish you may not go back on course to visit controls you have missed. (This rule is sometimes relaxed at less competitive events.)
- If you miss any required controls your result will be listed as 'mis-punched' or mp. This is equivalent to not completing the course. Tip: Make sure to check that the control code on the control matches the code on your control descriptions or map so you know you are at the right one.
- The only navigational tools you are allowed to use are a magnetic compass and the official course map. With the exception of GPS sport watches, GPS devices are explicitly disallowed.

Getting Started

- You may rent a timing chip from the organizers or bring your own. Either way, data from previous races must be erased from the chip before you start. A system to do so is always provided.
- In point-to-point events, you may not start at the same time as another competitor on the same course as you (in score events typically everyone starts at the same time). If start times have not been pre-assigned you may start when you wish within the specified time-frame. If start times have been pre-assigned you must start at your assigned time.
- At championship competitions you are not allowed to look at the map or the course before your start time. At most other events you are allowed to study the course and ask for help if needed when you arrive to register.

Safety

- All orienteers must carry a whistle with them while on course. If you are injured or completely lost blow three long blasts on your whistle every few minutes. Someone will come looking for you. **DO NOT blow your whistle as a joke or so you can gain an advantage on course. This could result in disqualification.**
- Your map should provide a safety bearing (direction) which you can use to get back to a major road or other feature which you can then follow back to the start or finish if you are lost. If this isn't mentioned on the map, ask an organizer.
- If you hear three long blasts of a whistle while out on course you are obliged to do what you can to help the injured or lost party even if this means quitting your course and foregoing your result.
- You must **ALWAYS report in to the results crew at the finish line** even if you do not complete your course so that organizers know you have returned safely.
- If there is a course cut-off time, you must make it back to the finish line and report to the results crew by that time, even if it means quitting the course. If you are not back on time, race officials will initiate search and rescue procedures. Organizers have the right to ban repeat offenders from competing.

Fair Play

- **Certain features/map symbols are forbidden to cross. Pay particular attention to private property and out-of-bounds areas marked in olive green, or black or purple stripes.** If you are caught crossing these symbols you will be disqualified. See o-store.ca's legend sheets for which symbols are forbidden to cross.
- It is frowned upon to follow another competitor without doing your own navigation. Please respect the spirit of the sport and enjoy the challenge of finding your own way.
- In competitive events, it is also frowned upon to ask another competitor where you are unless you are very lost and are willing to give up your race result. This is considered ok for young children or in training scenarios.
- It is considered unsportsmanlike to purposefully engage in behaviour that is distracting to other competitors on course. Please be respectful of competitors that want to focus while racing.
- The environment is a critical part of orienteering. Please carry out everything you bring into the woods unless the organizers have explicitly stated that it is ok to leave something where they will clean it up at the end of the event.

And most importantly - enjoy the experience!

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This document is not to be taken as official. For official rules see your national federation's website or the international rules at www.orienteering.sport

The Orienteering Course

Annotated map and course with key terminology

Standard orienteering maps will always tell you what the scale and contour interval are (not shown in this example). Evenly spaced black or blue lines point to **magnetic** north.

Course Markings

Start triangle

The location of the start of the course is marked by a purple triangle pointing in the direction of the first control.

Control circle

Each control (checkpoint) location is shown on the map by a purple circle.

Control number

Each control is numbered, indicating the order in which you must visit them. Note that this is not the 'control code' on the flag (see Control Descriptions reference guide for more).

Control feature

The control will be found at the feature indicated in the centre of the circle - in this case a junction of two trails.

Leg

Part of the course from one control to the next. On this leg (leg 5) you could choose to take the green or the red highlighted route.

Marked route

Dashed purple lines represent a marked route that you must follow. These are marked in the terrain by organizers with obvious starting and ending points

Finish

The end of the course is marked by a purple double circle.

Catching feature

An obvious feature beyond your control, like this path, that you will come across if you miss your control and go too far.

Attackpoint

An obvious and unique feature - here the sharp bend in the trail - that you can easily find and from which you can confidently navigate to your control.

Collecting feature

A distinctive feature like this stream that will confirm how far along your route you have come.

Handrail

A long linear feature that you can follow as part of your route choice - here the edge of the lake or the trail.

Hillsides

Parallel contours represent a slope. The closer together they are the steeper it is.

Hills

Closed loop contours usually represent hills. The exception is when they have 'slope tags' pointing inward.

Depressions

Closed loop contours with 'slope tags' pointing inwards represent depressions. When standing in a depression all around you is up.

Spurs

Look for the U or V shape in the contour lines. When standing on a spur, three directions slope down and one is up (imagine standing on a giant's nose).

Re-entrants

Look for the U or V shape in the contour lines. When standing in a re-entrant three sides are up and one is down. Picture a small valley on a hillside where you might find a mountain stream.

Saddles

The space between two hills or spurs and two depressions or re-entrants is called a saddle because it looks like a horse's saddle: up in opposite directions and down in the other two.

Route Elements

Contour Features

Orienteering Control Descriptions

International Orienteering Federation symbols















Control descriptions are designed to complement the map and give additional information about the location of each control. With practice you should be able to use the control descriptions to visualise the location of the control flag before you get there. This allows you to orienteer much more smoothly throughout the course.

Each column gives unique information:

A - Control number

1	B - Control code
155	C - Which of similar features
	D - Control feature
	E - Appearance/Second feature
	F - Dimensions/Combinations
	G - Location of the control flag
	H - Other information

Control description sheets also give information about the course length and amount of climb (if calculated), special instructions about marked routes or map exchanges, and information about the run from the last control to the finish.

IOF Control Descriptions											
Sample Layout				4.3 km				25 m			
											
1		145									
2		152									
 --- 150 m --->											
3		153									
 --- 200 m ---> 											

A - Control Number

The control number matches that shown on the map - usually counting up from 1.

B - Control Code

The control code is also shown on the control flag and is used to verify that you are at the right control. They are most often numbers but can be letters.

C - Which of Similar Features

Northern*
 Upper

Lower
 Middle

* Arrow may be rotated to mean north-western, western, etc.

Column D - Control Feature

The black and white symbols (left) that appear in the control descriptions match different symbols (right) on the map.

		Terrace (<i>flatter spot on a hillside</i>)			Boulder			Open land			Fence
		Spur			Boulder field			Semi-open land			Crossing point
		Re-entrant			Boulder cluster			Forest corner			Building
		Earth bank			Stony ground			Clearing			Paved area
		Quarry			Bare rock			Thicket			Ruin
		Earth wall			Narrow passage (<i>between two cliffs</i>)			Hedge			Pipeline or bobsled track
		Erosion gully			Trench			Vegetation boundary			Tower
		Small erosion gully or ditch			Lake			Copse (<i>small stand of trees</i>)			Shooting platform
		Hill			Pond			Distinctive tree			Boundary stone or cairn
		Knoll			Waterhole			Tree stump or root stock			Fodder rack
		Saddle			River or stream			Road			Charcoal burning ground or platform
		Depression			Minor water channel			Track or path			Monument or statue
		Small depression			Narrow marsh			Cut line (<i>break in trees</i>)			Building pass-through or canopy
		Pit			Marsh			Bridge			Stairway
		Broken ground			Firm ground in marsh			Power line			Garden or other out-of-bounds area
		Ant hill or termite mound			Well			Power line tower			Special item
		Cliff or rock face			Spring			Tunnel			Special item
		Rock pillar			Water tank, water trough			Wall			
		Cave									

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For more information about these control descriptions visit www.orienteeing.sport

Orienteering Control Descriptions (cont.)

International Orienteering Federation symbols

E - Appearance

	Low
	Shallow
	Deep
	Overgrown
	Open
	Rocky or stony
	Marshy
	Sandy
	Needle leaved
	Broad leaved
	Ruined

F - Dimensions/ Combinations

	Height or Depth (e.g. of boulder or pit)
	Size*
	Height on slope**
	Heights of two features
	Crossing (4-way junction)
	Junction (3-way junction)
	Bend

All dimensions are in metres.

* Rough length and width of a feature on the ground when it is not obvious from the map - e.g. an oddly shaped knoll or small clearing. A large clearing drawn to shape does not need this.

**Height of the feature as seen from above and below.

G - Location of the Control Flag

	North east side*
	West edge*
	South part*
	East corner (inside)*
	North corner (outside)*
	North west tip*
	North end*
	Upper part
	Lower part
	Top
	Beneath
	Foot (e.g. of cliff)
	North east foot*
	Between

All directions are relative to the control feature in column D.

* May be rotated to any of the 8 cardinal directions to show which side, corner, etc. the flag is at.

H - Other Info

	First aid post
	Refreshment point
	Control site is manned

Sample Control Descriptions

Example Event Name				
Sample Course	3.3 km	10 m		
1 150				
2 151				
3 126				
4 127				
5 131				
6 132				
7 133				
8 130				
9 129				
10 128				

Course is 3.3 km with 10 m of climb

Start is at bend in trail

Intersection of two trails

Inside south-east corner of fence

T-junction of two trails

Pit

South-west side of boulder

Intersection of path and stream

Between hill and knoll

Northern part of clearing

North side of western knoll

North side of broad leaved tree

200 m marked route from last control to finish

Special Instructions

The following special symbol rows show various mandatory instructions. Marked routes and crossing points are also marked on the map and in the terrain with some kind of ribbon or fencing. They must be followed.

---- 200 m ---->△

Follow 200 m marked route from start line to start flag.

○----225 m---->

Follow 225 m marked route away from control

○----250 m---->△

Follow 250 m marked route to map exchange

○----175 m---->○

Follow 175 m marked route between controls

○----275 m---->◎

Follow 275 m chute from last control to finish

○< >○

Mandatory crossing point (or points) between controls

○>---175 m---->◎

Navigate to start of 175 m finish chute then follow to finish

○< >○

Mandatory passage through out-of-bounds area between controls

○< 150 m >◎

Navigate 150 m to finish. No chute or marked route.

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For more information about these control descriptions visit www.orienteeing.sport