

# Bang On Time: How to Make a Speed Chart for Navigation

Navigation is a key skill

Navigation is a key wilderness skill.

If you are going to travel anywhere in wild country then you need to know how to navigate.

There are various simple, reliable tools you can use to help keep your navigation accurate and consistent.

One of these tools is a speed chart, also known as a timing chart.

## What is a Speed Chart?

A speed chart is a table of numbers.

It has speeds along the top of the columns and distances down the side of the rows.

We know that speed is equal to distance over time.

So, if we have any given speed and any given distance we can work out the time it takes. This is exactly what we do with a speed chart.

m	KPH			
	5	4	3	2
1000	12	15	20	30
800	10	12	16	24
700	8	11	14	21
500	6	7.5	10	15
400	5	6	8	12
200	2	3	4	6
100	1	1.5	2	3

## Speed Chart

The matrix of numbers within the table are the times it takes to cover the distance in the row at the speed in the column.

Times are typically measured in minutes. In my speed charts I round times to the nearest half-minute.

## Why Do You Need a Speed Chart?

If I asked you how long, to the nearest minute, it would take to walk 700 metres at 3km/hr, how long would it take you to do it in your head? Not long?

Now how about if you are tired or hungry? Would you potentially make a mistake?

What if it was blowing a gale and raining and you don't want to stop for long? Would you even bother to make the calculation?

You can also use your speed chart to answer other questions such as *“if we've covered 400m in the last 12 minutes, how much distance will we cover in the next 30 minutes at the same speed?”*

**The primary reason for having a speed chart is so that you don't need to do this mental arithmetic on the trail.** It saves time and it helps to prevent errors.

Of course you might be wondering why you would need to make the calculation in the first place.

In general, being able to calculate timings and speeds is important for route planning. With experience you can look at a map and tell approximately what speed you will cover certain types of terrain. Also you will be able to tell from the prevailing conditions underfoot how fast you will be travelling – will it be a slow 2km/hr or a fairly brisk 5km/hr? This helps get your timings right. How far can we get in one day? How far are we going to travel by lunch time? How long will it take to get to that water source?

More **detailed time and distance calculations are also important for your navigational accuracy.** This is where your speed chart really helps...

**Used in conjunction with good map and compass work, a speed chart is a powerful additional tool.**

The more accurately you can **anticipate** what's coming up on your route – and when – the better you will stay on track: You will be able to tick off features or landmarks as you go and this will reassure you that you are on track; if you are expecting a landmark or feature in 700m and it doesn't appear, then either you've gone past it or you went off course. Counting paces for 700m is a pain. Timing 14 minutes on your watch is virtually pain free.

**One thing that most people are very bad at when they make navigational errors is backtracking.** People typically carry on, with the expectation that they'll recognise something and get back on track. If you look at this situation objectively, however, you are lost and potentially getting more lost by the minute. Knowing how long it's likely to take you to reach a feature or landmark helps in making sure you reach it and knowing when you've missed it.

When walking in poor visibility, close vegetation or forest, knowing how long you've been walking gives you insight into a key piece of information – the distance you've travelled. For this alone, the speed chart is invaluable.



Because you can't see landmarks, forest navigation is harder than navigation through open country.

## **How to Make a Speed Chart**

Making your own speed chart is simple. In fact, if you follow this method you'll have plenty of spares to give to your friends too.

1/ **Create the table in Excel or Word.** The table will only take up the fraction of a sheet of paper so copy the table so that you have it repeated within an A4 sheet of paper.

2/ **Print the sheet.**

3/ **Laminate the sheet.** Laminators are pretty common office equipment these days or you can pick up a basic one in a stationery store very cheaply. They are also useful for laminating other documents or aide-memoires you might want with you outdoors.

4/ **Cut out the individual tables,** leaving as much border as possible:



Cut out an individual chart from the laminated sheet. Now you have a laminated speed chart that you can use while out and about. This can be stuck onto the back of a map or inside your map case.

I carry my speed chart with my compass and I think this is probably the best place to keep it – with your main navigational instrument. There are a couple of ways of keeping your speed chart safe and secure along with your compass...

### **How to Attach Your Speed Chart to Your Compass – Two Simple Methods**

**Method 1 – If you have a compass with a lid such as the Silva Expedition 15:**



Cut the laminated speed chart down to size for your compass lid.



Apply glue to the lid of the compass.





Spread glue out over the lid of the compass to cover an area a bit less than the chart.



Position the chart on the lid of the compass then smooth out glue to the edges, and remove any excess, with kitchen towel.

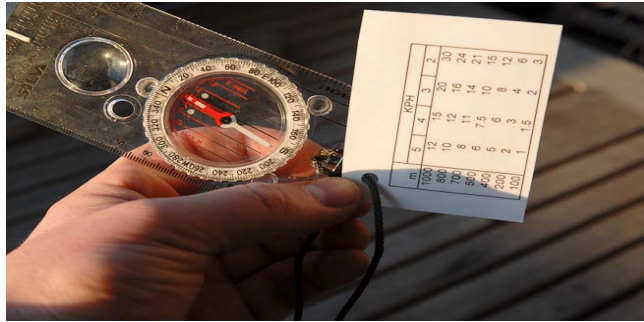


Finished product: Speed chart attached to the lid of a Silva Ranger 15TDCL Compass.

**Method 2 – If you have a baseplate compass such as the Silva Type 4:**



Cut the speed chart to the width of the baseplate and add a hole with a hole-punch.



Thread the compass lanyard through the hole in the laminated speed chart so they are attached.



Finished product: Silva Type 4 baseplate compass and speed chart slot nicely into compass case.

Attaching your speed chart to your compass in one of the ways depicted above means you'll always have both with you when you are navigating.