SailHack VMW Circle Waypoint Generator – FAQ

Why is this tool necessary? Why not just navigate towards a mark on the race course and show VMG towards the mark?
There are some purpose-built GPS devices, like the Velocitek SC-1, which will automatically calculate your VMG towards a specific heading, simply by entering the desired heading into the device (See www.velocitek.com for info on this cool device). Many "traditional" GPS recievers will also calculate VMG, but they can only do so after you select a waypoint to navigate to. You can't just choose a heading and tell the GPS to calculate VMG along that heading. In a sailboat racing environment, this is impractical for several reasons:

1. When you're about to start a race, you usually won't know the GPS coordinates of the marks of the course, since the committee may set the course immediately before the start, and you won't have enough time to sail to each mark and record a waypoint.
2. If your GPS is calculating VMG towards a mark, your VMG will drop towards ZERO as you sail towards the layline, due to the geometry involved. This constantly decreasing VMG will make it difficult for you to use the VMG number to adjust your sailing angle and boat tune, since you won't know whether drops in VMG are due to changes in boat tune/sailing angle, or simple geometry.

By calculating VMG ALONG A HEADING (as a velocitek does), instead of VMG towards a mark(as a traditional GPS normally does), you eliminate the problems described above.

How does it work?
This tool creates a cirlce of waypoints hundreds of miles away from your chosen sailing area, centered around that sailing area. By simply setting your GPS to navigate to a waypoint on that circle representing your desired heading (usually corresponding to the wind direction, or the heading towards the windward mark specified by the race committee at the start), you can then display VMG along that heading. Since the waypoints are several hundred miles away, the problem of VMG trending to zero as you approach the layline is eliminated, since you'll never get close to the layline for a waypoint 500 miles away.

Does this mean I can use my regular GPS instead of a Velocitek-SC1?
while this tool allows you to configure your "standard" GPS to approximate the VMG functionality of a Velocitek, it is NOT meant to replace or compete with the Velocitek. If you use this tool, and like the "VMG to a heading" functionality, you should consider upgrading to a Velocitek SC-1, which will give you "VMG to a heading" in a much easier to read display, plus many more useful features, and a more rapid refresh rate (2x per second, compared to most GPS receivers which only update 1x per second). Oh, and FYI... I have no relationship whatsoever to Velocitek. I just like their product.