

## Application No. 107: Speed Sensor for Racing Bikes

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### A fine difference in speed measuring

### Super magnet as spokes magnet

Who hasn't been annoyed by the really ugly magnet typically provided with the bike's speed sensor?

After reading that the expensive Aerolauf wheels use an integrated magnet for measuring speed, I decided to replace the magnet for the CycloSport speed sensor on my American Classic wheels with a more elegant version.



Original magnet

This is what it looks like with a super magnet taped to the rim.

Bike freaks will certainly be interested in the weight savings of nearly 10 g. The magnet weighs only 0,3 g compared to a weight of 10 g for the original magnet. You might laugh now, but if I enter this savings into the formula at [www.2peak.com](http://www.2peak.com) ([2peak.com/tools/powercalculator.php](http://www.2peak.com/tools/powercalculator.php)), it calculates a time advantage of 2 seconds on a stretch of 90 km with a 1000 m climb!



Super magnet

If you include the better aerodynamics, which are unfortunately not so easy to measure, you will certainly have won 10 or more seconds, which during an Ironman, for instance, you definitely don't need. OK, let's just leave the time advantage: I simply like this solution better and think it's therefore worth the effort!

Everything you need:

- Magnet S-05-02-N52N ([www.supermagnete.fr/eng/S-05-02-N52N](http://www.supermagnete.fr/eng/S-05-02-N52N))
- Flexible tape, e.g. tape for electric installations
- Scissors
- Perhaps a little later UHU MAX REPAIR ([www.supermagnete.fr/eng/WS-ADH-01](http://www.supermagnete.fr/eng/WS-ADH-01))



Scissor, tape and SuperMagnet

The tape has held for over 1000 km without any visible indications that it might come loose any time soon. Actually I had intended to use tape only during the test phase and eventually glue the magnet to the rim using UHU MAX REPAIR ([www.supermagnete.fr/eng/WS-ADH-01](http://www.supermagnete.fr/eng/WS-ADH-01)). So far this hasn't been necessary; and anyway I have 9 replacement magnets because the minimum order is 10 pieces.



The taped-on SuperMagnet in detail

And because every Triathlete is proud of his "machine", I couldn't resist and include a picture of my Felt F55.

By the way, I managed to complete the bike portion of the Ironman 70.3 in Rapperswil in 2:31:40 this year. Last year it took me 7 minutes longer with pretty much the same number of training kilometers! Whether this improvement is due to the weight advantage of 10 g (thanks to the super magnet), or whether the strong magnetic field in some other way influenced my performance, I cannot say. ;-) In any case, I had a good day.



Felt F55, weighing 9.1 kg as shown

#### Articles used

1 x S-05-02-N52N: Disc magnet Ø 5 mm, height 2 mm ([www.supermagnete.fr/eng/S-05-02-N52N](http://www.supermagnete.fr/eng/S-05-02-N52N))

Online since: 15/06/2008

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