

Giro Aerohead MIPS

Oliver Bridgewood
December 6, 2016

The Giro Aerohead has been worn by some of the worlds fastest time trialists. Is it worth the high price tag though?



Overall rating: **SCORE** **9** **Giro Aerohead MIPS**

Pros:

Very aero
One of the fastest helmets available
Great quality
Comfortable

Cons:

Expensive
Rear triangle needs covering

Manufacturer: **Giro**

The Giro Aerohead has been worn by Rohan Dennis, while riding the fastest ever **Tour de France** time trial and more recently by Marcin Bialoblocki, while setting the outrageous **16-35 National 10 mile TT record**. With its sweeping visor it features a fairly unconventional design that looks straight out of Star Wars.



The visor of the Giro Aerohead MIPS is detachable

I tested the Giro Aerohead against other leading time trial helmets, including, the Kask Bambino, Bell Javelin, Lazer Wasp and Carnac Kronus. I have worn these helmets on a variety of training rides and time trials to assess their ergonomics and how they feel.

In addition to this, I tested the helmets aerodynamics by riding around a velodrome. Because there is no one size fits all, we had three different test riders and the results were averaged. The helmets were all ridden around a velodrome at the individual riders threshold power on TT bikes in a race position.

Power output, air temperature, air pressure, and distance travelled were recorded throughout the testing. Tyre pressure was kept at 100psi and the rider+bike+helmet system weight was recorded before each run. The only thing that was changed, was the helmet used.

This data was combined with the .fit files and put in to MatLab to calculate a CdA value (drag coefficient) for each helmet. The data has been presented as the aero watts at 40kph (this is the theoretical power required to travel at 40kph excluding rolling resistance) and the total system CdA (drag coefficient). As a baseline we tested the **Giro Synthe aero road helmet** which gave the following values:

Aero Watts at 40kph: 217W

Average system CdA: 0.259



A very sleek profile head on for the Giro Aerohead

Testing Results

Overall the helmet is comfortable, well made, very solid and the retention system works well. It did feel rather hot though, something perhaps compounded by the large, but no doubt aero, visor. For longer events in hot conditions, such as some Ironman triathlons, you may want to factor this in.

Giro does make a more expensive, lighter, non-vented 'Ultimate' version for £499. The front vents are filled and the rear triangle of the helmet is covered by a lycra flap that fits flush against the back of your head. To get an idea of how this might perform we also tried the helmet with the vents and rear triangle taped up, to see if it was faster. Taped up, we found the Giro Aerohead to be in the region of 1-2 Watts faster.



Taping the vents and rear triangle can make the Giro Aerohead slightly faster, but hotter!

The below results were an average of our three test riders:

Aero Watts at 40kph: 200W (taped)

Average system CdA: 0.236

Watt saving over baseline: 17W



Rohan Dennis wearing a Giro Aerohead

It does appear that the Aerohead is very rider position dependent and it appears to perform best when in a Rohan Dennis or Marcin Bialoblocki style position with a low head. In this position the back of the helmet integrates much better with the riders back, but it is not achievable for everyone.

Within the context of the other time trial helmets we have tested, the Giro Aerohead is very aerodynamic, suggesting it is no coincidence that several time trial records have been broken by riders wearing it.

The helmet was the fastest on test on one of our three riders, but slighter slower than the Bell Javelin on the other two. It should be pointed out that difference between the Bell Javelin and Giro Aerohead was typically a couple of watts.

Conversely, the Giro Aerohead was on average, 10 watts faster than the Kask Bambino at 40kph on our three riders. Overall, the helmet is very good and I would be inclined to buy this version over the much more expensive version.

For shorter events you can tape the vents to save a couple of watts and for longer events you have vents. The more expensive Giro Aerohead Ultimate doesn't have any vents meaning you won't have this option.

Verdict

How well a time trial helmet performs can be dependent on the position and shape of the athlete using it. However, the Giro Aerohead was consistenly fast on all three of the riders we tried it on. It's expensive, but we calculate the Giro Aerohead to be around 17 watts faster at 40kph than Giro Synthe