

**Dr.rer.nat. Bob Wittig**

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Tel. privat [REDACTED]

e-mail: [REDACTED]

[REDACTED]  
D-38448 Wolfsburg

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Dr.rer.nat. B. Wittig ~ [REDACTED] ~ 38448 Wolfsburg ~ Germany

To:

Mr. Yozo Shimano  
President, Shimano Inc.  
3-77 Oimatsu-cho  
Sakai City, Osaka 590-8577  
Sakai-ku Japan

### **Losing my confidence in your company bit by bit**

Dear Mr. Yozo Shimano,

unfortunately I have to consult you again, since my correspondence with Mr. Winterman, Sr. Manager Customer Service & Technical Support in the European headquarter of your company is unsatisfactory.

In his letter from December 5<sup>th</sup> his arguments concerning the broken spring are not convincing. First of all the fatigue fracture was only possible due to the combination of the predamaged spring and the strain during operation. For this reason it is easy to understand that the failure could not be reproduced with an ISO 4210 test, even if it was carried out repeatedly. In the tomography carried out before the transmission unit was disassembled, a broken spring was already detected on the driver side. For this reason a discussion about the impossibility for this fragment to stray on the driver side of the hub is not productive.

The argument that no further failures of this kind have been found so far is not convincing either as I argued before. First of all I do not expect a high total number of springs with this predamage, second the fatigue fracture needs time and mileage, third the restricted number of parts that meet both these terms have either not failed yet, were not analyzed or not thoroughly enough by Shimano as I experienced myself.

The reason why I am especially dissatisfied with the last responds of Mr. Wintermann is that I had a second fatal failure with the Alfine-11 which he did not even address in his answer. This time the centerlock mounting separated from the bearing while decelerating on approach of a crossing. I was very lucky that the traffic situation was noncritical and that I remained unharmed.

Again the part was sent to Paul Lange and again rejected with the argument that the 6 year old part was too old for guarantee claims. A failure like this must not happen, not even after 10 years! How can Mr. Winter claim that the safety is of utmost importance to Shimano? If this was common practice at Shimano especially these last failures should have entailed a deep analysis on a voluntary basis at Shimano. Once again I experienced that the promising wording in the letters deviate form common practice at Shimano!

Since you missed to analyze the broken bearing I did it myself once again. The fractured

**Dr.rer.nat. Bob Wittig**

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Tel. priva [REDACTED]

e-mail [REDACTED]

[REDACTED]  
D-38448 Wolfsburg

surface proves a fatigue failure with no evidence for an overload breakage.<sup>1</sup> I studied a used and undamaged Alfine-11 bushing in detail to understand the failure. The survey revealed a very unfavourable design in the region where the center-lock socket separated from the bushing. The wall is especially thin and the part is weakened additionally by a missing chamfer in the region with the highest mechanical load (details see my report)<sup>1</sup>. It is not comprehensible why Shimano implemented unnecessarily such a predetermined breaking point in this highly safety-relevant component.

Maybe you ask yourself why this German guy is so persistent. Yes, I used to be a great fan of Shimano products. For at least two decades I was picturing my dream bicycles with components made by your company. After my accident I was actually believing I was doing you a favour supporting you with my analysis expertise. Apart from the lack of deeper interest from your side to understand the failure I was appeased facing poor arguments as discussed before. The 233€ Shimano finally agreed to pay is only a small compensation covering the damage only partly, leaving me back with my injuries and a full day's work to repair my bike.

Apart from that not even the promise to supply my dealer with a transmission unit free of charge was kept. And now you want bills for the replacement parts and the helmet. How pedantic! I planned to keep the bills but I cannot find them at this point. I expect a solution without bills and on the premises that you keep your promise concerning the spare transmission unit (I request for this the fourth time now without a response!). If necessary an employee of Shimano can examine my bike and the defective parts and talk to my dealer who tracked the case from the beginning.

In order to handle all the unpleasant experiences with your company I finally started to write a blog about this subject open to everybody in the internet. Of course I hope for a good end at last which I can present to my readers, many of them smart scientists. In other words I expect reliable answers to the open questions challenging a smart audience.

Maybe it is time to begin the discussion about integrity in your company. A question you should ask yourself is if you could legitimate the low level of ambition to clarify the cause of these definitely safety relevant failures in front of your family or friends knowing about the latent risks in the field? I do not expect an answer to this last question but I do hope it provokes the overdue discussion at Shimano how cases like the present one should be handled properly in the future.

I await your answer hoping for a new approach and spirit from your side,

Yours sincerely



Dr. Bob Wittig

<sup>1</sup> The detailed failure report can be downloaded at:  
<https://bobs-alfine-11-problemblog.jimdo.com/2018/03/04/schadensanalyse-zur-gebrochenen-centerlock-aufnahme/>