## Dr.rer.nat. Bob Wittig

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Dr. rer. nat. B. Wittig ~ Erlenweg 13 ~ 38448 Wolfsburg ~ Germany

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

Sakai-ku Japan

## Disastrous service of the German agency of Shimano processing a use security incident

Dear Mr. Yozo Shimano,

unfortunately I have to consult you as the chief of the Shimano Group, concerning a use security incident with my Alfine-11 hub and the disastrous treatment of the case by the German subsidiary of Shimano.

## Desription of the accident:

After I had shifted to a new new gear and the new gear obviously had taken hold I tried to pick up speed with my bike when the gear suddenly completely slipped resulting in a very hurtful accident, including a destroyed helmet and various damages on my five year old bike. My dealer removed the transmission unit and since I work in a laboratory on failure analysis, I decided to perform a nondestructive 3D-computer tomography before sending it to the German agency of Shimano (Paul Lange in Stuttgart). It became evident that a spring clasp had broken. With the information a part inside the transmission unit was broken, the unit was sent to the German agency of your company.

Their analysis came to the conclusion that the transmission unit was in perfect condition and that my interpretation of the 3D-computer tomography was incorrect. They opened the hub only on the end with the conical spring and missed to see the smaller one of the two fragments ignoring the information that I had given them. The transmission unit was then returned to me.

Since I did not want to risk my health again, I decided to purchase a new transmission unit at my expense. By the way this new unit is working perfectly in a way the old unit never did! I then dissembled the old unit and found the two fragments of the broken spring clasp detected by the computer tomography. Further analysis revealed that both fragments had deep tool marks of a faulty production process (see the pictures in my report beginning on p.7, unfortunately in German language). By analyzing the fractured planes of the two fragments I found evidence that the tool marks had locally weakened the spring clasp resulting in a high cycle fatigue fracture over time. This corresponds well to the observation that the hub showed no full slipping gears in the beginning and failed over time.

It is evident to me that we are discussing a warranty case of a hub with a deficiency due to a malicious production process which resulted in a security incident. I hope you share my expectation that the local agency of Shimano should have apologized and offered

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compensation willingly. It is true that I am not able to present a full and invulnerable proof that the inner defect of the transmission unit is responsible for the accident, but there is an overwhelming evidence:

- 1. The fact that the new transmission unit is working perfectly in combination with the old bowden control cable proves that the control cable can be excluded as a root cause.
- The fact that a broken spring clasp was found inside the transmission unit and that one
  of the two fragments had roved around with the potential risk of jamming or interfering
  with the mechanical system. Apart from that the remaining part of the spring clasp could
  not fulfill its function perfectly anymore.
- 3. The proven high cycle fatigue fracture, which corresponds well with the decelerated occurrence of a completely slipping gear.

My dissatisfaction with the handling of my warranty case is mainly motivated by the inexcusable superficial and incorrect analysis by the German subsidiary of your company. They did not only miss to apologize for their poor work, but they also tried to fob me off, with unsustainable arguments and risking my health by bringing the faulty transmission unit back into circulation.

- 1. It is claimed that the alfine hub is in operation worldwide with a low failure rate. I have to question this statement especially concerning the older hubs after talking to several bike dealers behind closed doors. Last but not least the superficial analysis of the German agency proves that existing defects are potentially overseen frequently.
- 2. The agency wrote that they could not find the defect, because they were not permitted to disassemble the hub completely. I have to respond that it was not necessary to disassemble the whole transmission unit to realize that there was a defect inside. If the analysis had been done properly the fragment of the spring situated on the side with the conical spring could have been found and I would have expected that this finding would have provoked a deeper analysis. Apart from that, I understand that the German agency is not permitted to assemble a transmission unit, but they neither decided to send it to Japan for deeper analysis nor did they decide to propose to give a new transmission unit to me in order to disassemble the defect one (they never contacted me on this subject in fact).
- 3. They say that the transmission unit did not show any abnormalities in a bicycle test at their plant. I have to respond that this kind of devastating failure only occurred twice within 1500 km. Therefore nobody could expect it to happen within a few kilometers. Probably several factors must come together to provoke a completely slipping gear.
- 4. The warranty claim is refused arguing, that I could not prove that all necessary maintenance was done and that the failure could not be tracked down to a fault by the manufacturer. The author of this statement refuses to acknowledge that in an earlier written letter he stated that the transmission unit showed a typical, non critical light wear, in my eyes proving that the hub was sufficiently maintained and must have seen the necessary oil service. They do not react to the argument that the fractured part inside cannot be the result of an improper maintenance or usage.
- 5. Last but not least Mr. Habermann, the author of this letter claims that the warranty of the product has expired anyhow. This is incorrect. In Germany we have a law concerning warranty for parts with a built in defect or deficiency which expires no earlier than 10 years after purchase. No doubt, a court dispute would be very risky and unpleasant for me, but at this point I hope that a person like you who has built up a huge company least but not last because customers value the perfection and quality will approach this conflict in a different manner.

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I have been riding multiple bike components by Shimano over the years and would like to keep your company in a good spirit. The poor treatment after the accident by representatives of your company has dissatisfied me deeply. What annoyed me most was that on the basis of a superficial and incorrect analysis the transmission unit was claimed to work fine risking my health carelessly by this incorrect statement. It was only my analysis that prevented me to take further risks!

I now hope you can bring justice to this case by a fair coordination of interests. Please consider that it was me who had the hurtful accident, the demolitions on my bike and helmet, the extra expense to buy a new transmission unit and hours of work repairing my bike and days of work on the analysis. I have enclosed my analysis report, one of my letters, as well as two of the letters from the German subsidiary which I discussed. Unfortunately all these documents are in German language.

I await your answer with great interest and hope,

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Yours sincerely

Dr. Bob Wittig