

More cycling by technical innovation

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Recumbent or reclining cycles are in many ways superior on comparison to normal bikes which are based on the Rover 'safety-bike' of the 20's. The main advantages are a higher speed (due to less air resistance) and a greater comfort. These clear highlights makes the recumbent cycle promising for medium and longer distances on flat ground. Although there are also some disadvantages in comparison with ordinary bikes, these disadvantages are in my opinion very poor explanations for the relatively little use of recumbent bicycles.

Further more: there is a lot of potential remaining to enhance the performance and comfort of (recumbent) bicycles. This has been proven by the building of a new prototype bicycle for commuter transport 'the Sherpa'.

This bicycle concept has many benefits. The main highlights are:

- due to reclining sitting position less air resistance (higher energy efficiency) and more comfort;
- the bicycle has two positions of the rear wheel: high position for cycling in heavy traffic (short wheel base, high sitting position) and a low more reclining position for extra speed and comfort on long distances;
- almost no maintenance and chain wear (internal transmission);
- luggage can easily be put in the bodywork;
- better wind and wetter protection (transparent front cover);
- attractive, 'sexy' design

The design of the bicycle is very important. Because economic and rational arguments are not enough to persuade car drivers to abandon their cars and switch to the bicycle. A motorcar and in the near future bicycles like the 'Sherpa' have not only an instrumental function, but serve also as a means of self-expression and social comparison.

When it is technical possible to develop superior bicycles, why do not we see these types of bikes on the road? The main answer to this question is rather stupid: because it is not allowed in official bicycle races. The Union Cycliste Internationale (UCI) banned all recumbents and aerodynamic devices from bicycle races in 1934. That's probably the main reason why the enthusiasm from public and industry is so low.

Another explanation often told by conservative powers in the industry is that the general public does not want a bicycle with a more reclining sitting position. We made therefore some research in Amsterdam. At the FietsRAI 2000 we asked the public questions about the acceptance of the Sherpa. The

results were impressive: a vast majority liked the appearance of the bicycle and nearly 80% would like and dare to ride on it. The average acceptable market price would be about 1,000 to 1,500 Euro. Conclusion: public acceptance will not be the bottleneck!

The remaining challenges for the future are therefore:

- 1] How can **governments** be convinced of the potential of innovative 'better bicycles' in the substitution of trips made by car on distances greater than 7,5 km?
- 2] How can the **industry** be convinced by the fact that there is a great potential market waiting for them, with customers who are willing to pay a much higher price for their bikes?
- 3] How can the **UCI** be convinced by the fact that in the end they will lose, and that their old fashioned regulations will have to be thrown in the garbage can?