

FLY BIKER # 1 FLY

Radfahren July '92



Radfahren wirkt bei Unfällen weniger gefährlich als erwartet. Mehr harmlose Absteifer.

Negativereignis zum Teil mit Verletzungsfolgen entstandene Unfälle an Fahrrädern der Marke (vermutlich) (vermutlich) (Steinchen, ... zwischen ... blech beziehen die Speichen faltete sich ... unter den ... konnte ... teilen seine ... -/Blok ... entgegenzu ... hier nur auf ... lle", schrieb ... Brief, in dem

wir auf das Problem aufmerksam machen und um Erfahrungsberichte anderer Leidensgenossen bitten. Dankenswerterweise wurde dieser Brief in den Zeitschriften "sportrad" und RADFAH-

REN abgedruckt, so daß sich als Reaktion darauf bei uns ein ansehnlicher Stapel von Unfallbeschreibungen angesammelt hat. Für weitere Zuschriften sind wir dankbar.

Zusätzlich haben sich noch der "Fachausschuß Technik" des ADFC und die Schutzblech-Herstellerfirma ESGE bei uns gemeldet. Beiden war das Problem bekannt, und bei ESGE wird auch

Schädelfraktur und ... oben auf dem Kopf, ... noch vorhandenen Schädelknochen ... den Rippen..." Solcherlei Zuschriften ... unsere Ansicht, daß h

schon an ... gen gearbeitet ... wollen nicht ... dem mit de ... rem leben" ... an Spingler ... GE). Wir ... späterer Steh ... Verbesserung ... kommen.

Briefakti

Bei der Ausw ... Zuschriften ... überrascht ... entgegen un ... mutungen au ... bleche aus ... oder Alumin ... le dieser Art ... ten. Genera ... hen diese U ... allen gängige ... typen und ... blecharten, ... von Materi ... oder Herste ... Tücke des O ... im Montagep ... allen Schütz ... eigen ist. Die ... der Unfälle ... auf Feld- un ... gen. Das dec ... unseren E ... und erklärt s ... daß dort ehe ... und Stückch ... liegen, die ... Schutzblech ... auslösen könn

Etwa die ... betroffenen ... kam mit de ... ken und ein ... nierten Schu ... von. Ein V ... klagte leich ... zungen und ... den am Fal ... weiteres Vie ... tete von e ... Verletzungen ... ich eine Mit ... fraktur erli ... Zähne völlig ... vier weitere ... brochen. Me ... rationen..."; ... Woche im K ... mit einer

Fly, biker, fly

=====

or:

Darned Mudguard

Recently we noticed a new phenomenon in the already turbulent biker-scene. We deal, however, neither with technological innovation nor with the overdue change of political preference for automotive transportation. We rather witness a kind of 'provocation' by bikers vs innocent pedestrians or car-drivers: getting off the bike via a more or less elegant double summer-sault over the handle bars.

Now, what is it, that drives the usually quite peaceful and rational thinking biker to act in such a strange way?????

Thorough research led us to the conclusion that this behaviour is of non-voluntary nature. One should rather blame a curved piece of metal or plastic, vulgo: mudguard, for these

ACCIDENTS

During the last two years 5 friends, including one of the authors, had to suffer brutally from such a negative event, some of them even incurred severe injuries (see photo 1); material damage amounted to some DM 1,000 (frame, fork, etc).

In most cases these accidents were caused by objects (pebbles, small branches) getting caught between front wheel and mudguards or between the spokes. As a result the mudguard started to fold up, was drawn upwards under the forkbridge and in split seconds exercised its harmful blocking power.

In order not to be blamed of getting carried away over 'singular events' we wrote a letter describing the problem and asking fellow sufferers to tell us their experiences. The letter was published in two magazines, "Sportrad" and "Radfahren", and as a result we received about two dozens of accident reports.

In addition the technical officer of the german bikers' association ADFC and Christian Spingler of ESGE approached us, both being familiar with the problem. ESGE is already working on a solution of the problem, on which we are going to comment later on.

Letter Survey

Analyzing the letters received we came to the following conclusions:

- neither material of the mudguard, nor brand or design determine whether accidents will happen but the way of mounting it.
- most, but not all, of the incidents happened on off-road tracks
- about 50% of the victims only suffered from a broken mudguard; 25% incurred light injuries (bruises) and damaged bikes. The final 25% reported severe injuries (broken bones and teeth, concussions) which required lengthy hospital treatment.

All this confirmed our view that the currently on the market available

mudguard and specifically it's way of being mounted pose an extremely dangerous (and superfluous) risk to us.

Biker and Bike

Worst case accidents tend to happen on bitumen roads. The blocked front wheel only skids insignificantly on the surface, the back wheel starts to rise and bike and biker are lifted around the front wheel-axis... resulting in the biker (or rather his/her face) connecting harshly with the road. (see picture 2).

We still are not able to explain why people hang onto the handlebars instead of letting go and submit to the ecstasy of flying. Rough calculations indicate that bikers in a.m. situation are exposed to a propulsion of several 'g'. Obviously people just instinctively hang onto something in some kind of reflex once a sudden acceleration sets in. The result: serious face injury and acceleration-traumata. We would be interested in hearing from medically trained people who had experiences in this field.

Further calculations on acceleration, speed and impact forces connected to these kind of accidents would strain our limited resources. Experiments with dummies in physics- or technical laboratories would be more appropriate.

Being interested in a fast reduction of every-day risks we have built a small and rather simplified 'testing-facility'. We simulated the beginning of a 'mudguard accident' by turning the front wheel manually. Since this method does not always give a full picture of reality we would be grateful for any kind of constructive criticism. In any case we do hope that our findings will help to put the discussion on the 'darned mudguard' (future abbr.: mg.) on a more matter of fact platform.

What does exactly happen?

As of late we carefully try to avoid all smaller items obstructing our path. Respectfully we shall call these health-endangering objects 'PROJECTILES'. When riding the inner city these projectiles can emerge in all forms of civilisationary debris (nails, crushed cans etc).

During our tests we found two reasons for accidents to be most common:

a) Projectile stuck to tire

Rolling over the projectile, the latter gets stuck to the tire either due to some adhesive material (chewing gum, clay, dog droppings) or it gets entangled in the spikes of an MTB. Split seconds later the projectile wedges between the end of the mg. and the tire, developing extreme horizontal forces (see picture 3). Since the average mg fitting (0 3 mm) can withstand a force of approximately 7,000 Newton the vicious circle starts, blocking the front wheel in split seconds.

The wedged-in projectile is then unmercifully drawn upwards, being followed by the lower end of the mg. which starts to fold outward between upper and lower mg. fitting. The lower end of the mg. is thus pressed even stronger to the projectile and tire. At the same time the mg. fittings, being screwed to the lower eyes of the fork, start to bend and thus increase the wedging power.

The outward bent part of the mg. starts to fold 2-3 times, the lower stays touch the upper ones, push them up further and result in a tight-fitting package wedged beneath the fork-bridge. (see picture 4). the catastrophe is perfect; the wheel is instantly blocked.

b) Projectile between spokes

In this case the culprit is mostly a small branch or other piece of wood lying innocently around. The front wheel picks it up, whirls it about and, on top of all evil things, it tends to come to rest between the spokes. One of the latter picks it up and carries it upwards; not for long though, because soon it can nestle in cozy below the lower mg. fitting (see picture 5).

The fittings start to bend and pull the end of the mg. towards the tire. The vicious circle as m.a. sets in. It may be interesting to note that the projectile needn't be more than a fragile stick the size of a pencil.

Many of the victims posed the question who would take responsibility for their plight; does the producer of the mg. or the bike producer or the retailer who did the final assembly assume any product liability? These questions couldn't be answered by us; knowledgeable legal advisors to the ADFC should be better equipped to voice their verdict in the relevant press.

Quite a number of victims are now pleading for 'safer riding' without mg. We think the problem can be solved quite easily and would thus like to provide you with two of several possibilities. But apart from private modifications we demand of the industry to develop their own improvements and to get them to the market as quickly as possible.

Possible Solutions

A) Modification of common mg. stays

One major reason for the vicious circle m.a. lies in the extreme strength of the stays. Close to the mg. we cut the stays and fitted a plastic tube over the smoothed ends. A MAGURA hydraulic hose was of good service for this modification, especially since the stiffness of the mg. fitting is assured.

Tests with projectiles stuck to the tire showed that the stays 'popped out' of the connecting tube when applying a force of approx. 150 Newton. The projectile falls off and doesn't provide a threat any longer.

If the projectile gets stuck between the spokes the connection separates as well and the branch falls off. The tube might be slightly deformed but can easily be refitted and the bike trip can continue (see photos 6-9).

Tests conducted at ESCE showed a critical force of 350 Newton, above which a mg. starts to fold. ESCE has also experimented with connected stays but gained the impression they were unfit for every-day use. Although not specifically stated the following might have been a reason for this: if you lock your bike to other bikes it can easily happen that the connection disintegrates when you try to pull your bike out of the pulk.

This experience was, so far, not shared by us. Apart from this we feel that the average biker is both, willing and capable to refit the connecting tube when necessary.

Alternative fitting of stays

The solution favoured by ESGE assumes that low-rider eyes will become a future standard (frame manufacturers worldwide would have to be convinced first). Mg.stays should be attached there instead of the currently used drop-out affixation. Mg. manufacturers would have to undergo only slight modifications on the fitting, but would carry significantly less risks for accidents.

A projectile sticking to the wheel and pulling the mg. up will thus enlarge the distance between mg. and wheel and the projectile can fall off.

A projectile between spokes has a greater possibility of falling off due to the longer distance it is carried along before it meets with the lower stay. In addition can (!!) such a stay, being slightly angled downward towards the back, enable the projectile to be stripped off (see photos 10-14)

Tests undertaken by us have, alas, not always provided the results hoped for. Waiting for further modifications of this theoretically interesting alternative, we strongly plead for the connected stays in the meantime.

Where does that lead us to??

The dangerous mg. in it's existing form needs to be banned from the market in the long run (if we survive to see that day). To achieve that goal it is necessary both to exercise pressure on the bicycle industry as well as to cooperate.

It is the purpose of our committee to coordinate these activities together with the technical department of the ADFC. Bike- and mg. manufacturers, retailers, the press, the ADFC and consumer lobbies need to be integrated into this discussion.

We as the consumer and thus permanently endangered bikers should confront the retailers with our demand for improvements. Hopefully the pressure will be passed onto the manufacturers and will thus help producers to start thinking and, eventually, come forward with a safer alternative.

Therefore, for the benefit of all of us:

MOBILIZE