

TRIPLE CLAMP BLING

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The need for rigidity in front suspensions

For front suspensions on motorcycles with sliding forks, great structural strength is needed because great rigidity against the forces of road, track, and trail are needed. Lacking rigidity and yielding to flexibility, steering (more generally known in biking circles as “handling”) would be vague and unsatisfactory.

Bike front suspensions mostly have telescopic sliders because some mechanism is needed to absorb road irregularities. Without this absorption somewhere north of the wheels, the rider would be shook to pieces and the bike as well. With these telescopic sliders and the mechanisms needed to steer the front wheel come many opportunities for unwelcome flexibility to be introduced thus fuzzying the handling.

Helping to keep the upper or non-sliding parts rigid are two “clamps” or “triple clamps,” called, not unreasonably the upper and the lower triple clamps. These hold the two upper non-sliding tubes (the stanchions) in rigidity and also connect them to the head-end of the steering structure (hence, *triple*).

It is a simple enough matter for motorcycle manufacturers to cast beefy plates to do the job. Sometimes, as with the BMW Airheads, owners are justified in thinking the manufacturer has cut corners in this department. Some of these owners are more than average sensitive to the flex, ride in a manner or in locations where the bike is put to greater stress, or they simply revel in the status that shiny bling confers on them second-hand. Therefore, these Airhead owners turned to after-market sources. To enhance rigidity, these owners added stronger triple clamps and a stronger brace at fender level joining the two lower sliders.

Jack’s clamps

With introduction of the Oilhead series of models, BMW tried to do everything first-class, including the front suspension. A novel, indeed an *odd* steering/suspension design called the “Telelever” was brought out around 1994. To the simple biker, it looks like a wholly ordinary telescopic/slider design. But to cognoscenti, it is quite a bit different.

From the time of introduction until 2008, nobody (to the best of my knowledge) anywhere in the world and in relation to a dozen different models seemed to think there was any shortcoming in rigidity whether for road-, racing-, or for trail-riding models. But in that 2008, a fellow with the handle sort of like “Jack” on a board I’ll call SnarkySmarts (or SS Board, for short) thought he’d cure a problem nobody previously had recognized.

BMW are often faulty with new designs (that's what Consumer Reports tallies; too many new tech fantasies, I'd guess). But they more than make up for that deficiency by

debugging conscientiously. They've been making, warranting, road racing, and racing through awful terrain to Dakar on the Telelevers for a dozen years now.

To the best of my knowledge, there has been no real body of complaint about the Telelevers in all that time and we are talking about a few hundred thousand picky customers. Any inclination of the motorcycle media to eviscerate unique BMW designs has not been vented in the direction of the Telelevers. Quite the contrary. And other than arrogance and conceit, there is no convincing reason to think my friends at Snarky are sensitive at a higher level of human consciousness than all those other engineers, riders, racers, off-road nuts, and reviewers for a dozen years. But I could be wrong.

I don't know if Jack's clamps are helpful from any personal experience. I don't know why so many people have been rapturously supportive after installing the clamps, Might be some mechanical benefit of the replacement-exercise besides the change of the clamps. The purpose of this post is to explain why a reasonable person would want to know more.

Jack (and I mean no disrespect by hiding his handle to protect the privacy of his anonymity, if you know what I mean) is an inventor and possibly an engineer, as far as I can judge. This write-up is critical, as you will plainly see, but not meant to demean him personally or his other pursuits and behaviors. However, despite the fact that he get lots of moral support on the Internet, some of his behavior resembles that of shady business promoters, as I will detail below. That is not to say he is disreputable — and his friends are adamant on that point — but to my mind, flags have been raised.

For the R1100S, a kind of sporty-looking “boxer” twin-cylinder engine, Jack designed beefier replacements for the upper and lower clamps. He had them CAD-machined from solid billets of strong aluminum. I should mention that the “lower triple clamp” on a Telelever is really a fender brace... don't ask.

These look beautiful to aficionados of BMW bike bling, myself included, and especially in the three finishes he sells. At the time I write this, 57 have been sold, about half are already on the road. The number is not likely to rise because for nearly \$600 (plus another hundred or so for installation, etc.) this mod alone costs 10-15% of the current eBay price for a second-hand model in good condition. The R1100S was discontinued in 2004. Possibly that's a new high-water mark for pricey bling for old bikes but not atypical of the impaired rationality at SS Board sometimes¹.

One person said he figured Jack spent 1100 hours in his public-spirited project. That figure was seconded and repeated by others and not contradicted by Jack.

Perhaps a decimal place had gotten displaced in his figuring because 1100 hours is almost a year of labor, or more if you take coffee breaks and post to SS Board from time to time. Apparently, Jack quit his day job and devoted a year of his life to developing this mod. In

¹ A whole second bunch were promised for Christmas, 2008; but oddly not yet delivered as of March, 2009.

the unlikely condition that the figure is even remotely correct, he would be a true benefactor of BMW riderhood.

Could he have worked most of a year on a pair of parts whose essential dimensions were just copied from stock? Did he quit his "Day job" for 7 months to make the clamps and lose \$1,127? Well, then that really might be more like \$61,127 down the drain?

My own guess is just under 200 hours were needed, a major part of that being in the administration and marketing end and therefore what accountants call "cost of sales," that varies with sales volume. See the cost breakdown below.

Something amiss about the pricing?

It is nobody's business what time or profit Jack put into the project, least of all mine since I am not even a customer. I hope his time and pains are well compensated and the more so for his good intentions too.

But Jack and others have repeatedly claimed a figure for labor effort (1100 hrs) and profit (a loss of \$1,127). But when it seemed appropriate to come forth with detailed numbers (perhaps as cautionary guidance for others thinking of selling new CAD-CNC mods), Jack was evasive about his labor time and budget. "... won't bore you with the numbers...." he wrote. Gimme a break! That kind of suspicious "trust me" line should have set the alarm bells ringing even among his most ardent supporters. Very cheesy. It would have *saved* him time just to present the few rough numbers instead of writing a long post in order to talk circles around his AWOL numbers.

When asked for some public transparency vis a vis his pricing, Jack, brushed aside the curious with this bit of suspicious double-talk posting:

“After the last post by a certain member I was challenged to post my profit/loss on the triple clamp project. Well, I spent a couple hours going through the records and was about to post it all up when I found the thread closed². I won't bore you all with the details but it turns out after 57 sets of triple clamps and assorted bits I made a total of -\$1,127 (that's minus \$1,127) on the whole project. Not a bad result considering I was only looking to share something I found worthwhile with everyone else here. <Insert humorous remark about sharing losses here>”

“I won't bore you with the details...” Gimme a break!

² Somehow Jack was able to have his venture featured in a thread on the SS Board rather than be relegated to the less prestigious parts-for-sale board. The earlier thread alluded to, ended when somebody threatened bodily violence as their reply; perhaps sensing serious criminal or civil liability for allowing such threats to appear on his watch (without being specifically reminded of his risk by the target of this threat), the moderator locked-out further posts to the thread.

After spending “a couple of hours” going through his records and 20 minutes crafting an artful post, Jack could have *saved* a few minutes by just simply reporting his summary numbers instead of clumsily pirouetting out of public scrutiny. Where did that “minus \$1127” come from? How much did he award himself for his own labor *before* recording a “loss”? Not very “transparent.”³

My skepticism is further fuelled by the fact that his undocumented design efforts appear to be little more than to measure the stock units, make his computer-assisted design to the same dimensions and design-in extra aluminum (and also to introduce weight-reducing holes... that were now necessary to bring the weight back down). One person posted that Jack made one or two prototypes⁴. The person who tested the prototypes⁵ estimated that cost Jack \$2,000. I’m not sure where that figure came from because CAD-CNC prototyping is not expensive. Frankly, I find it disappointing to learn that so few prototypes were tested on his nickel and that “testing” consisted” of some guy saying. “Geez, Jack, I think the metal is flexing about 3 inches over to the right a bit....”

Even with contracting with a machine shop and with a monumental effort at flogging his pieces, it doesn’t really sound like a year of work. But sometimes emotion carries the day at SS Board⁶.

Fifty-seven pieces would yield revenue to Jack’s account of about \$40,000. With shipping covering say, \$2,000, that leaves \$38,000 to machine and finish 57 pieces and for Jack labor. If as he says, he lost a thousand bucks, that would be \$39,000 for automated CAD fabrication (by a guy named, alarmingly enough, something like “Col-Nasty”) and for finishing. That is, unless, perhaps, contrary to the impression he has imparted, the accounting just happens to already include some unmentioned compensation for Jack’s time, say \$28,012... *before* his so-called loss of \$1127.

As best as I can judge, Jack pocketed \$26,885. That is based on billing the project \$28,012 for his labor at the generous rate of \$150/hr and then getting a “loss” of \$1,127.

³ As is often the case in internet settings of this sort, when caught with their fingers in the cookie jar, beloved friends of the perp are served up the classic passive-aggressive ploy: “Geez, since you are hurting my feelings, I will not play in your sandbox anymore and you will have to do without Jack’s toys.” This of course evokes monumental floods of group-hugging and loving support for the perp and permanent vilification for the whistleblower (DAMHIK).

⁴ Now that sounds like pretty rudimentary development effort.

⁵ The tester is a person of unique sensitivity. He claims he was able to tell at what point along the stanchions flex took place and whether that reflects a weakness of the upper or lower clamp. On the basis of this test program, some changes were made to the clamps. I don’t know if that is the only R&D that went into the clamps. I sure hope not. Joking aside, the tester is a highly respected biker even if I am skeptical of his sensitivity claims.

⁶ That kind of brotherly tolerance was sorely tested when Jack screwed-up meeting delivery-date promises recently. This left a number of his customers from warm-weather locations with bikes in disassembly over the Christmas break. Um, bad.

As best as I can guess, I'd guesstimate the following Profit-and-Loss Statement:

<u>REVENUE</u>	\$40,000 ⁷
<u>COSTS</u>	
Jack's labor ⁸ (187 hrs @ \$150/hr)	\$28,012
CAD fabrication of 57 2-piece units	7,125
Materials	1,140
Finishing	2,850
Shipping.....	<u>2,000</u>
Costs subtotal	\$41,127
<u>PROFIT (LOSS)</u>	(\$1,127)

Those conjectural figures seem reasonable enough to me, at least as a starting point. However, the stratospheric figure for self-pay of \$150/hr was arithmetically implied when I estimated that his total labor time was in the order of 200 hours or 3 hours a night, 4 days a week, for half a year — although that still seems to me to be a lot of time for Jack's tasks, at least for an effective engineer.

For sure, it is a good thing when dealers make a profit whether they are Wunderlich, Suburban Machinery, RapidDog, or Jack. We, the riders, benefit and they are entitled to profit. But my figuring could be way off. The ball is now in Jack's court to refute them.

On learning that his public-spirited and generous efforts to provide a fix for a heretofore-unrecognized problem resulted in a loss to him of \$1127, fellow members of the SS Board immediately surrounded him in a loving group hug. Wow. Did the guy give up one year of employment AND lost \$1127 to help his friends? Sounds unlikely to me.

In fairness to Jack, some posters did attest to his moral character and generosity at various times in the past, besides his generous work on the clamps. That praise seemed authentic enough to my ears.

My summary viewpoint: Jack devoted his efforts to creating a beautiful mod and we should all be glad for his work. But he also paid himself pretty handsomely and was less than "transparent" in his public statements. The hoi polloi at SS Board reacted with hostile groupthink and were despicable in their bullying reactions to criticism of the clamps. Now, what is the functional value?

⁷ Includes all revenue from shipping and installing.

⁸ Jack offers to install his parts for an extra \$100 for those who wish. Some part of the labor time includes his installation time. I am assuming that he is not profoundly slow moving and ineffective. But if he is, my figures are way off and BTW, don't buy the clamps.

Functional value?

Let me begin by mentioning that people highly respected for their technical grasp have argued pro and con for the mods on theoretical grounds. Including Jack — who is capable of presenting his own thoughts with cogency and care although sometimes in a haze of rhetorical fluff. Maybe it is my ignorance of theory or maybe my nearly 50 years in the R&D trenches, but I like empirical proof.

Despite many months in development, not a single hard number has been produced "in vitro" or "in vivo" testing to demonstrate their increased strength or improved performance. It is quick, easy, valid, repeatable, reliable, and simple to report simple measurements of that sort and I sure know a suspicious red-flag when I see one. Some theoretical stuff has been posted. That's all fine and good *before* you make the first one but hardly represents first-class engineering once you have one in your hands. Even human tests such as lap time are fine with me, just so long as it isn't just a matter of opinion what the lap time was. The clamps have been in use for a while and I want to see the numbers.

After reading a number of glowing testimonials to this mod, you'd think it would be hazardous to ride without Jack's clamps and for sure, a necessary accessory for walking on water. These testimonials, near hallucinatory in their extravagant praise, resemble nothing so much as the delusional ramblings of people who buy highly over-priced loudspeaker cables. After-market cables — such as those from Monster Cable — are universally derided by neutral authorities as having no benefit what so ever. As has been repeatedly proven by tests. But ego-involved audio maniacs (disparagingly nicknamed, "Golden Ears") are never deterred by objective tests conducted by mere technologists. Nor are you likely to hear any "buyer's remorse" when you've just plunked down a risible amount of money.

For your amusement, here is an enthusiastic email I got in from my audio club:

"The change was nothing short of amazing - that is all I can say. Phyllis immediately noticed it as well. Incredible high-end extension and complete clarity in the midrange. So much so that it actually moved the vocals out front on one particular recording, where previously they were more toward the rear. If I had not had another person with me, I may have thought that I imagined the change, but it is not imaginary.

"... but I can certainly say that this was the best \$120 that I have spent in a while. It makes the Monster Cable that I was using sound like crap. I am still wondering what difference there may have been... but it sounds so good that I ain't gonna mess with it... a profound and immediate change for the better."⁹

⁹ As of this morning, the debate about wires with special music-enhancing properties extended to 135 pages and 2789 disputatious posts. Trust me; trick loudspeaker wire is nonsense and its value has been repeatedly refuted in blind tests and electrical measurements.

Now, that's a great testimonial (especially for a complete hoax).

As with loudspeaker cables, it is a trivial exercise to test whether or not there are any added performance benefits (that is, measurably less flex). At the least, almost anybody with a bathroom or a fish scale and a cheap dial-test-indicator tool can do it to a rough approximation¹⁰.

Can anybody explain why Jack hasn't taken 20 minutes and done the testing?

But even if you could reliably detect some wee measurable modicum of increased rigidity, it may be of no perceptible importance even to the most skilled of riders, given all the moving joints and rubber bits in a front-end motorcycle suspension. I bet half the rear Paralever bearings on the bikes newly outfitted with the clamps would fail the wheel-shake test. Even if the rear wheel passes the test, there's likely more to gain in handling by running the Paralever bearings on the snug side — or better, going to bronze bearings. But then, there's nothing visible, let alone glamorous, about fixing Paralever bearings.

Rare it would be, however, for some bling-mad person who just plunked down \$700 and no small effort and time for an installation to conclude, “Yeah, it has no value for handling, but it does look good, eh.” “Buyer's remorse” in this crowd. Not a chance.

Having said that, as of this moment, the count is: two guys who are skeptical and everybody else in favor. Of course that's roughly the same proportions as with Monster Cable loudspeaker wire.

Until there's some kind of objective or at least neutral-party testing, the jury is out and the Emperor's New Clothes are there for all to see (or not see) for themselves.

¹⁰ However, unlike testing loudspeaker wires, there is no easy way to do A-B double blind tests using riders as the judges. Golden Ears, for example, don't believe that engineering tests can ever achieve a level of sensitivity comparable to their own super-subtle listening talents. I suppose the “Golden Butt” super-sensitive biker crowd feels the same way... there's just no engineering evidence that would sway their subjective opinion.