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# Locals Only: Hanging with Mr. Hossack

## Talking Suspension with the Legendary Norman Hossack

By Surj Gish

Photography by Surj Gish

While back, Leader of the Sac An DeYoung mentioned that her husband Harrison had made the acquaintance of a Mr. Hossack, and she wondered if *CityBike* would be interested in doing a story on him. I figured she must be talking about Norman Hossack, but had no idea if he was anywhere near the Bay Area.

“The front end guy? Hell yes. Where is he located?”

A few months later, I’m getting out of An’s Prius (yeah, no shit... Ducatis *and* a Prius) in front of a very normal home—read: doesn’t look a suspension mastermind’s workshop—in Folsom, a half-hour east of Sacramento for those of you unfamiliar with the area around The Sac.

There’s an odd-looking old car sitting low in the driveway and two motorcycles neatly parked in the garage. To the layperson, this scene looks like a weird old junker and a couple pretty average motorcycles, but even without knowing who lives here a gearhead’s keen eye will immediately realize something’s up.

The car is a Maserati V6-powered Citroën SM, sitting low thanks to its variable-height hydropneumatic suspension, currently set to the low position. The bikes themselves aren’t particularly special—a BMW K100RS and Terblanche-era Ducati 800SS. The Beemer might not tingle everyone’s Spidey sense, after all, BMWs—real ones, not those modern inline-four mainstreamers—have been practically defined by wackadoo front ends. But any rider with eyeballs and a cursory knowledge of motorcycle suspension—hell, *any* rider—will instantly be drawn to the Duc, formulating questions about its white, trellis-frame “fork.”

I’m doing exactly that when Norman walks out of the house. He’s as unassuming as his surroundings: wearing a Gulf hat, dressed in a summery, short-sleeved plaid shirt tucked into jeans.

Wait... you don’t know who Norman Hossack is? You damn well should, but you’re forgiven if you don’t—companies that have used his front-end design rarely credit him, and certainly didn’t pay him. BMW, whose Duolever system is essentially an overbuilt version of Norman’s design, does mention that their engineers “took as their basis a design patented by Norman *Hossack* of Great Britain,” deep in the technology section of their website.

Yep, they spelled his name wrong.

Often referred to as a Hossack-style suspension because though he originally patented his work, the patents were due to run out after the initial eighteen-year period and the design became public domain around the time BMW began development of their Duolever system, has come into the spotlight again recently thanks to Honda’s newly-updated Gold Wing, which abandoned forty-plus years of telescopic fork usage in favor of a Hossack-style front end which they refer to simply as a “double-wishbone type.”

That’s not an incorrect description. In simple terms, Norman’s system consists of dual wishbones, an upright (essentially the “fork”) and a steering linkage. The design can be implemented various ways with different materials, and tuned for flex, dive, anti-dive, and so on... but the idea is that the system is lighter and stiffer than a telescopic front end—what Norman calls a “telly.” He created it in the late Seventies after working on Formula One cars at McLaren; proved it on English race tracks in the Eighties, with Vernon Glashier putting Norman’s Honda 500 single-powered full chassis build on the podium in many Bemsee (British Motorcycle Racing Club) races and winning the British Single Cylinder Championship in ’86, ’87 and ’88; and did street bike conversions—mostly on pre-Telelever / Duolever BMWs, into the Nineties.

Norman was selling and installing his K100 conversion before BMW introduced their Telelever front end, which he describes as a halfway measure because it still uses telescoping tubes. His last street bike conversion of this period was a Hinckley-era Triumph Trident 900 in 1994. BMW later went full-Hossack, introducing the



Duolever on their K1200S over a decade later, although Telelever is still in use today on the Boxers.

But BMW’s alternative front suspension systems were easily dismissed by conventional moto-culture. The bikes were heavy, not particularly sporting, and until recent years when the S1000RR helped move the company into the mainstream, generally considered suitable only for crotchety graybeards.

There was also the conventional “wisdom” that if there was something better than telescoping forks, wouldn’t racers be using it? People kept saying that, even after John Britten kicked the racing world in the nuts with his bold, level-above-the-next-level V1000, which employed a Hossack-style front suspension.

I asked Norman if he was involved with Britten’s bikes. He wasn’t, but he told me a story that traces the line from England to New Zealand:

“The first publication we had was in *Superbike* magazine... what I found out only years later was that somebody in New Zealand had taken those pictures that were in *Superbike* and built an exact replica, and that would have happened years before Britten...”

“We used to go on Friday nights to a drinking session in one of the pubs in West London. A group of them were New Zealanders... and they introduced me to a new guy who had just come over from New Zealand... While we were all standing around nattering away about motorbikes, he said ‘Hah! Have you seen that new system, that new Hossack motorcycle?’ He didn’t know I was Hossack... here’s a guy who’s come over from New Zealand, just arrived, and he’s seen a Hossack in New Zealand, and here he is talking to Mr. Hossack. So it was a bit of a mouth-opening, kind of ‘my God!’ situation.”

Years later, now residing in California, Norman decided to do another bike to prove his point, this time with emphasis on the weight savings of his front end versus a telly.

“People said, ‘Look at this BMW K1200. It’s so damn heavy, so it must be the Hossack system that makes it heavy.’ In fact, I set out to prove, once and for all, that it’s not the Hossack bit that made that bike heavy.

“The Ducati made a good match for me because of the trellis frame, which I liked.”

The 800SS’s trellis frame also offered easy weld points and the resulting machine looks factory, if you don’t harbor preconceived notions of what comes out of Bologna—and you don’t look too closely at the 3D-printed front fender.





The conversion took a whopping 25 pounds off the SS.

In a culture where we near-reverently refer to every conspicuously grimy, authentically bearded *biker's* weekend paint job and wheel swap project as a “build,” standing in Norman’s garage mere inches from this masterpiece, this contrarian engineering marvel, is a near-religious experience.

Throughout our conversation, whether he’s firing up the tiny square-piston two-stroke engine he designed, cast and built in the Seventies—that still runs!—or illustrating concepts on the whiteboard on his garage wall, Norman is quiet and reserved, but unflappably confident and articulate. He seems reticent to speak ill of the companies and people that used his work, perhaps because after all, his patents had run out. But I can sense an underlying frustration, and once, when I ask him about the new Gold Wing, he raises his hands, not quite throwing them up in exasperation, but almost.

Norman retired earlier this year, having spent the last years of his career designing medical devices. I wonder if the free time resulting from no longer going to an office every day will eventually lead to him experimenting with motorcycles again, and ask if he’d be interested in building custom frames or if he’s just *done*.

He makes a strange, drawn-out thinking sound, a combination of groan and squeak, before replying.

“You know, there’s bits of the custom kind of work that I could enjoy, and bits that I don’t like. For example, fiberglass work. I find that frustrating. But in the case of welding up a frame or something like that, that I could handle.

“The problem I would have though, is everything I would try to do is just far too revolutionary. I don’t think anybody would want to entertain some of the designs I come up with. I’ve just been looking through my list of new ideas. I think I’ve got four new rear ends, and two or three different front ends that still sit in the back of my brain and on my computer.”

There’s lots more at [hossack-design.com](http://hossack-design.com). Check it out. 🌀



## Dog Gittin’ Gone

Jim from Redwood City sent in a shot of his dog Sierra in his sidecar rig, eagerly awaiting takeoff.

*I thought you would enjoy a photo of Sierra catching up on the latest issue of CityBike while she waits for me to put on my gear. She’d like to know if Twisted Road offers sidecar rentals, BTW.*

Twisted Road does have a couple Urals, one in Montana and one in Minnesota. On the one hand, if you rent the one in Minnesota, you could visit Aerostich. On the other hand, Montana sounds like a better state for leisurely three-wheeling with a canine companion, doesn’t it?

## Traditional-ish

Rob from Santa Rosa emailed about Editor Surj’s excursion into guitar nerdery last month (“Guitars, Motorcycles, & Hillbilly Music” – Uneasy Rider, May 2018)

*I got a big kick out of your off-topic guitar wanking. I’ve never paid much attention to G&L and never owned one. I guess I’m a traditionalist. US Fenders. One 1997 Strat, (SRV without his initials on the pickguard) One Big Apple (Strat with humbuckers), one 1982 Telecaster. Then for a different feel, two Ibanez’s.*

# Tankslapper

*I really wanted something I could call my own so I got all the parts together from Warmoth. \$2,500. And that was before assembly and lacquer! I figured I really didn’t need something so custom, so I dropped the idea. But the bike is*

*different: I’ve been meaning to send you something printable on Making that Bike Your Own, but it will have to wait. I’ve gotta get out here and get through Sac traffic this afternoon. Keep on pick’n!*

A traditionalist that plays Ibanez guitars, even just sometimes? Ok, Stevie Ray

And yes, we look forward to at least a few “enough with the guitar shit already, jerks” letters in the coming weeks.

## Humboldt Green with Envy

Mike from Whitethorn sent us a nice note, and more importantly, a check!

*I’m kickin’ down for a subscription to the most awesome adult language monthly moto mag / paper in spite of being dissed by the Master of Puppets and Editor Surj at the last Moto Envy show. (and who knew it was THE last Moto Envy show?!)*

*I’m pretty sure there was only one bike fronting the notable SHARE THE ROAD (waay before we were sharing the lane) sticker... but I didn’t even get an honorable mention.*

*In any case, no hard feelings, and since we can’t pick up a monthly fix north of Santa Rosa you can fill my mail hole. Thanks, I think.*

“Most awesome adult language monthly moto mag,” huh? Aren’t we the only “adult language” moto mag, making our status as “most awesome” sort of dubious? In any event, thanks for subscribing!

Self-deprecation aside, we’re happy to share that Jeff Hesseltine, former owner of the now-defunct Black Lightning

Motorcycle Café, told us when the Black Lightning shut down that he was hoping to keep the Moto Envy torch burning and put on this year’s show in conjunction with the second annual Humboldt Half-mile on July 14<sup>th</sup>. So maybe, just maybe, last year’s Moto Envy wasn’t the *last* Moto Envy show after all. 🌀



Two of Robert “The Bob” Steffano’s incredible creations at Moto Envy 2017.

Photo: Angelica Rubalcaba

Satriani. That’s like saying you’re an *authentic* café racer enthusiast, just before you ride away on an ’02 Katana.

But in all seriousness, you don’t happen to have one of those JS700 hardtail Satriani Ibanezes with P-90 pickups, do you? Because that was a cool guitar, and we’d let that slide, especially since those only came in that very Gibson-esque transparent red.

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