



THE ULTRA NAKED

It turns out Germans have a sense of humour after all. Presenting Klein Yamaha's 1bhp-per-kilo MT-10RR...

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THE MT-10 IS A BRILLIANT thing. The MT-10SP is an even more brilliant thing. But there's always room for improvement, especially if trackdays are a priority. Yamaha's MT models are first and foremost road bikes. They're capable and hilarious fun, but get hot and heavy on a circuit and you'll run into limitations despite the shared components with the R1. Manageable ones, but limitations nonetheless.

German Yamaha dealer Dominik Klein has long-standing form for taking Iwata's creations way beyond their design brief: we've featured his FZ-1 and 2006 R1 on these pages before, and he's also fettled MT-09s, MT-01s and more in his Dillingen workshop.

His 'MT-10RR' is possibly the wildest confection yet: it makes 192bhp with a fat torque curve, but only swings the needle on the scales to 185kg fully-fuelled. So that's more than one horsepower for every kilo – in a naked bike that'll wheelie in fifth as standard, with 40bhp less and 25kg more to carry...

PB's German counterpart, PS, host a yearly competition for the cream of Germany's tuners, dealers and specials

builders, pitting their overhauled machinery head to head. Klein's MT-10RR was by far and away the most spectacular bike built and presented for the test: this is the full story and a ride on what might be the finest super-naked in the world. Hyperbole? Not really: a sorted Tuono 1100 and Super Duke 1290R were also present, but Klein's bike clearly turned the standard MT-10's performance deficit around into a clear advantage. It truly took everyone's breath away.

How they did it

SHARING BASIC architecture with the R1 is a serious headstart for taking an MT-10 to new extremes, especially if you have Klein's Yamaha tuning experience.

Rather than mess around coaxing the MT-10 engine up to serious power, Dominik saved himself a load of legwork by exchanging the complete lump for a 2015-on R1 lump. That brings a lighter crank and generator, titanium conrods and valves (which are 2mm larger in the R1, too) and camshafts with sportier lift/duration figures. That would probably be enough to be getting on with for most, but the extra compression of the R1 is ▶



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01 SC Project 4-2-1 exhaust system is a titanium masterpiece
02 Giant rad is one of the first visual clues this is no ordinary MT-10. It's from H2O Performance
03 No standard cable clutch here: hydraulic Magura system is matched with Hymex slave cylinder pulling on stock clutch arm



03



'Klein went beyond simple parts-bin changes by reflashing the ECU to suit the hopped-up YZF-R1 motor'

Yamaha YZF-R1 motor sits in the belly of this beast. Compression is upped from the stock R1's 13:1 to 13.7:1. It breathes through a stock MT airbox.

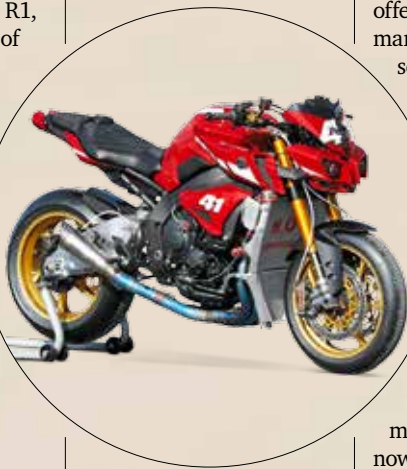
pushed further to 13.7:1 (MT-10 is 12:1, stock R1 is 13:1). The MT-10 airbox is used (it's actually one litre bigger than the R1's and still has ram-air intakes so isn't restrictive), but with YEC kit velocity stacks. The exhaust is a titanium 4-2-1 from Italian firm SC Project.

The electronics system is lifted wholesale from the R1, too: the original MT-10 is fine within the parameters of the standard bike, but Klein wanted the full-monty IMU-based system from the R1. That also facilitated the use of the TFT dash panel.

Again, he went beyond simple parts-bin changes by reflashing the ECU to suit the hopped-up motor, and fitting a new quickshifter from Tellert incorporating a blipper function to elevate its spec beyond that of either the MT-10 or R1. A whacking great radiator and oil cooler from H2O Performance should control the notoriously sweaty habits of the CP4 lump...

All very well, but it's the chassis that holds an MT-10 back on a circuit. To that end, Klein left very little as standard here. The frame is as it should be, but an R1M swingarm reinstates the 5mm Yamaha themselves clipped from the wheelbase in adapting their R1's basic architecture across to the MT-10. It might temper wheelies and promote a little extra rear grip, but the clear-coated aluminium gives a significant visual boost as much as anything else...

The most critical changes aren't from the R1 parts



book, they're from Sweden. A set of FGR300 gas forks are clamped in purpose-built top and bottom yokes. At the back, there's a TTX36 shock instead of the KYB original. "But the SP comes with semi-active Öhlins", you observe. Rest assured, they're a cut above Yamaha's highest-spec offering in terms of internal parts, and the fixed-value, manually adjustable damping will ultimately trump any set-up a box of algorithms will give you. A final gold and blue parcel yielded a steering damper, almost hidden under the stock MT-10 headlight assembly.

Standard wheels and brakes then? Not a chance. OZ forged aluminium wheels carry Bridgestone slicks. The MT-10's stoppers weren't retained, and the R1 didn't donate the linked ABS system that holds it back, either. Brembo almost have a monopoly on the brakes, with radial HPK calipers and discs, but a Magura master cylinder tops the hydraulic system.

It's matched by a Magura clutch master cylinder.

If you're an MT-10 owner, you'll be squinting at your magazine and questioning the veracity of our reporting now, given that both the R1 and MT-10 have cable clutches. Not this one: the Magura lever pumps a Hymec slave cylinder, which mounts to the clutch cover and pulls the original clutch arm via a very short cable to convert the rider's input to a softer, hydraulic action.

An invisible addition is an Emil Schwarz chassis bearing kit: the German engineer's precision-made

linkage and head bearings remove slop and stick for more precise handling. Comparatively trivial finishing details include Lighttech rearsets, CNC-machined alloy switches and a Luimoto seat cover on the original seat body. Paint follows the same theme as a number of Klein's bikes – a Nori Haga-inspired red design, with numbers to suit.

How it rides

YOU CAN PROBABLY guess what effect such a heavy-handed overhaul on the MT-10RR has, but thanks to our German compatriots, you don't need to...

PS's senior editor Uwe Seitz headed up the test, and even with previous experience of Klein's hardcore builds, the MT-10RR's performance blew him away.

"Dominik Klein really lived up to his reputation as an all-or-nothing bike builder when he presented us with a Yamaha MT-10 that left everyone who rode it speechless: wide eyes, incredulous head shaking, but a wide grin that made Batman's Joker look as miserable as Angela Merkel, were common to each of our testers when they returned from a session on the Lausitzring.

"Why? The result of his work is utter madness. Endless power with no dips or sharp peak. Not only that, but the manners and delivery are also some of the finest we've tested: a hard-revving, lively engine free from vibes – like a 192bhp sewing machine. Throttle response is perfect everywhere, and with each flick of the quickshifter, the Yamaha leaps up the track in pursuit of superbikes." ▶

'There's endless power with no dips and no sharp peak. It's like a 192bhp sewing machine...'



Cornering ability is utterly unmatched by any supernaked, thanks to top-drawer Öhlins suspension internals and throttle response.

"Feels a level above where it is priced"

Customer review, June 19, 2017



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It wasn't just the vastly more powerful motor that stood out: any hint of the stock bike's road-biased limits were banished by a carefully considered chassis package.

"The way the bike turns and responds is crazy – that's why it feels so foreign to us all. This MT-10's suspension is so good that my co-tester (and former IDM race winner) Pascal Eckhardt said, 'I think that's the best suspension I've ever tested.' As hard as this Yamaha can drive out of a corner, it does so without any hint of nervousness – you have to try really hard to upset the bike in anyway, and the feel for the front end is superb.

"Damping quality and response at both ends is very fine, ironing out some of the Lausitzring's rippled and worn tarmac as well as keeping the bike under control. It's a formidable combination of sporty handling and balanced damping that's so rarely achieved."

The chassis geometry changes devised and executed by Dominik based on his years of experience give the MT-10 near-perfect handling, poise and grip, and the impressive fully-fuelled weight of 185kg filled with fuel (PB's last test MT-10SP weighed in at 210kg) complete the MT-10's transformation into an incredible track tool.

"Within the first few laps, you feel the burn as you're so exposed to windblast, but the intoxicating power and the extreme driveability convinces you not to back off and head back to the pits for a little lie down..."

"But at the Lausitzring you are forced to back off – hard – for multiple slow turns at the end of long-ish straights. Even then, the enhanced MT-10 keeps the endorphins flowing. With the formidable 18mm Magura master cylinder pumping the Brembo calipers' Z04 pads hard on the discs, you're soon nailing the front end as hard into corners as you would on a sorted R1M. Then you pick up the throttle, driving hard and clean just like a superbike. But with a 53.5% forward weight bias, it just manages to stay on two wheels long enough to slingshot out of a corner in the way only crossplane R1 motor does.

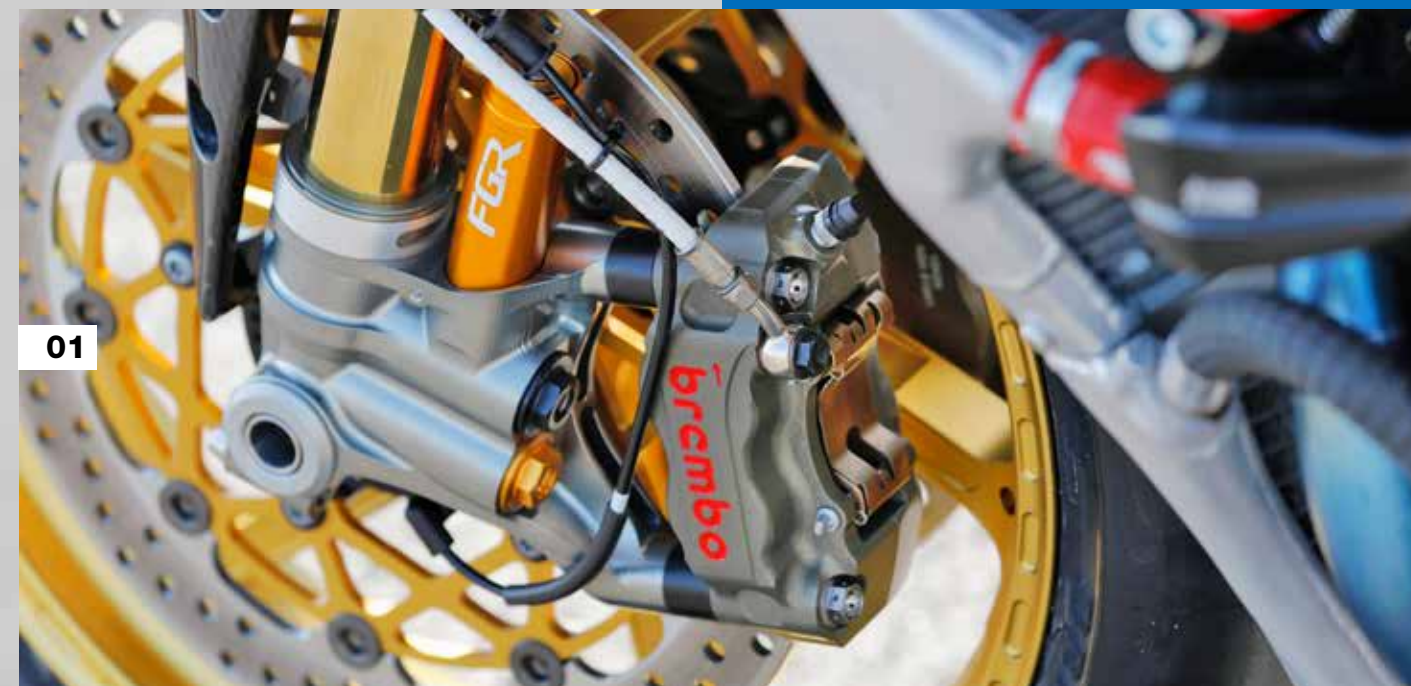
"Of course it's totally crazy, in the sense that no one really needs this much performance in a naked bike. The power is way over the top, the straights are like fighting a hurricane; and there is simply no dent in the power delivery. But Klein has built a bike to show what he can do. He went to the extreme, creating the logical evolution of the super-naked – the ultra-naked!"

Turn over for full spec and dyno chart

'The power is way over the top. Klein has created the logical evolution of the super-naked – the ultra-naked!'



Weighing in at 185kg fully fuelled (and litre sportsbike-baiting-ready), the MT-10RR punts out an almost criminal 192bhp. We likey...



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01 Brembo HPK calipers and discs surround Öhlins FGR300 gas forks
02 Borrowing the IMU-based electronics from the R1 necessitated the use of its TFT dash
03 Race-style machined aluminium switchgear



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This creation is the latest in a long line of saucy Yams from Dominik Klein www.yamaha-klein.de

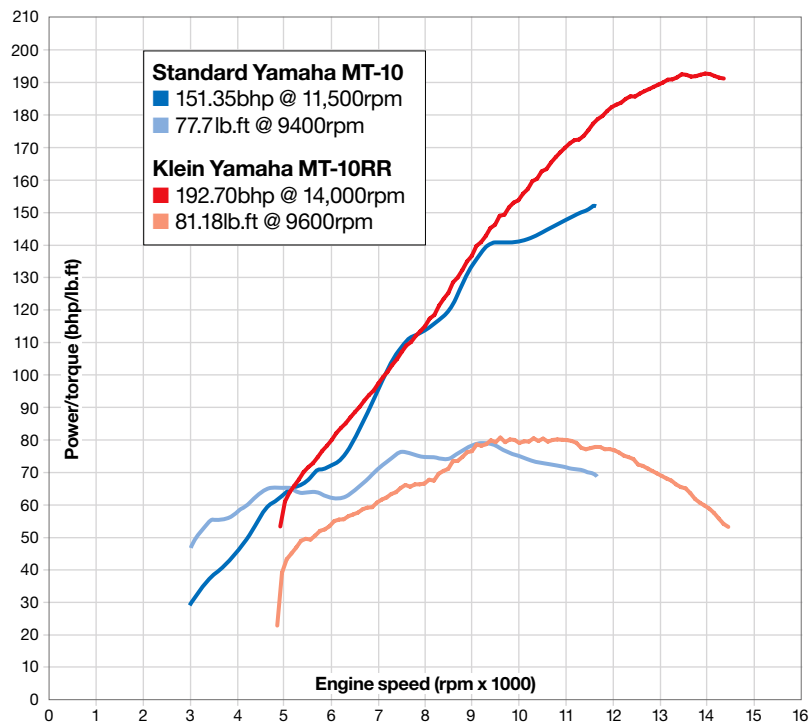
THE SPECS

ENGINE 2017 R1 complete unit. High-comp (13.7:1) pistons. YEC kit velocity stacks. SC Project S1 titanium 4-2-1 exhaust system. Hymec hydraulic clutch conversion, Magura HC3 master cylinder.

ELECTRONICS 2017 R1 wiring loom, ECU, IMU and instruments. ECU reflash by Klein, Tellert quickshifter. MotoGP-style machined switchgear.

CHASSIS 2017 MT-10 frame and subframe. 2017 R1M swingarm, linkage fitted with Emil Schwarz bearing kit. Öhlins TTX36 rear shock (adjustable for preload, ride height, compression and rebound damping). Öhlins FGR300 forks (adjustable for preload, compression and rebound damping). Machined bespoke top/bottom yokes. OZ forged aluminium wheels. Brembo HPK 320mm front discs, HPK four-piston calipers. Magura HC3 master cylinder. Lighttech rearsets.

STOCK MT-10 VS KLEIN MT-10RR



WORLDS APART

Our observation that the Klein MT-10RR feels like a 192bhp sewing machine couldn't be made more evident by this dyno chart. Power builds like a steroid-munching gym bunny, and in the most linear fashion possible, hitting a peak of 192.70bhp to give it a better than 1:1 power to weight ratio. The tuned YZF-R1 CP4 motor makes the stock MT's engine look positively lumpy in the midrange, and borderline-asthmatic at the top end.

