





Words Jon Urry / Photography Niclas Carle & Magnus Wallner

# NORDIC SPRUCE

“When they raced in Japan, tricked up ZRXs were only two seconds slower than a WSB bike...” This Swedish Kawasaki ZRX1100 special lost 35kg and gained 54bhp, so it’ll give any sportsbike a run for its money

**O**RIGINALLY I BOUGHT the ZRX because I wanted an unusual track bike. Everyone rides sportbikes, I wanted something a little bit more challenging. Plus, I’m pretty slow and it’s nice to have a shitty bike to blame the lousy lap times on.”

As you can see from the pictures, despite his initial intentions, Magnus Wallner’s Kawasaki ZRX1100 is anything but shitty. In the last few years he has converted a 225kg naked bike with suspect handling and an unimpressive 106bhp into a 190kg road-legal racer that boasts 160bhp and a chassis that can match most sportsbikes.

“I bought the bike in 2011 as a standard 1998 ZRX1100 ‘Eddie Rep’ in the less popular blue/silver paint scheme,” remembers Magnus. “I like the classic look of the ZRX and the fact that it’s a nod towards the KZ1000 Lawson raced in AMA Superbikes. The tubular steel cradle frame housing the big inline four is cool and I love the tubular alloy swingarm. But, while in 1998 it was pretty sporty, by 2011 it really wasn’t.”

Despite fully-adjustable suspension and six-piston calipers, time had certainly taken its toll on the ZRX. While it might have been being the sportiest of its class, that’s not saying a great deal when the competition is the lardy Suzuki GSX1400 or wobbly Yamaha XJR1300. The ZRX certainly carries a lot of excess fat; at 225kg dry it’s not exactly a lightweight.

“The original plan was to fit a race exhaust, carb kit and remove some weight, but then it all got a bit out of



control,” admits Magnus. “I’m a huge fan of the DOBAR racing scene in Japan, which is a series especially set up for retro naked bikes, and so I looked at them for inspiration. I got involved in the ZRX online community and they steered me towards a guy who lives in Japan ([www.moriwaki-man.com](http://www.moriwaki-man.com)) and who specialises in sourcing rare parts you normally can’t locate outside Japan. At that point I kind of had no choice but to go all in.”

And when he says ‘all in’, Magnus really does mean it. He stripped the bike back and started with the chassis. The weedy ZRX forks were replaced with some custom-built Öhlins FGRT units that are a combination of ZX-10R uppers for length and Yamaha YZF-R1 lowers to accommodate the uprated brakes. Handily for Magnus, Öhlins are a Swedish company, and he lives in Sweden. So, after a bit of discussion about what he was planning, the firm advised him to upgrade the shocks to CB1300 Öhlins units rather than ZRX-specific ones. Despite lacking the hydraulic preload adjuster, the Honda fitment shocks have better valving, according to Öhlins. And then it was off to another Swedish firm to make everything fit and the bike stop properly.

ISR have been building frames and brake calipers in Tumba, Sweden, since 1968 and have even supplied calipers to Kenny Roberts’ 1991 500GP team. Their massive six-piston calipers slotted into the Öhlins R1 fork lowers and while he was there, Magnus got ISR to build him some bespoke triple clamps to hold the forks in the frame with a 5mm increase in offset.

“I didn’t want to hack around the frame itself,” said Magnus. “So it is standard and has the same geometry as before. However, the combination of the new yokes and race tyres has decreased the trail from the previously conservative 107mm to a more extreme 92mm. The tubular steel design isn’t as strong as a

## ENGINE

Up from 1052cc to 1109cc. Fitted with JE forged pistons, Yoshi cams, ZZR double valve springs, Carillo rods, APE lightened crank and ELS slipper clutch. Six-speed box is from a ZZR600 and the ignition system from a ZZR1100. Fed by Keihin FCR39 flatslides, makes around 160bhp and cooled by a ZX-7R rad

## SUSPENSION

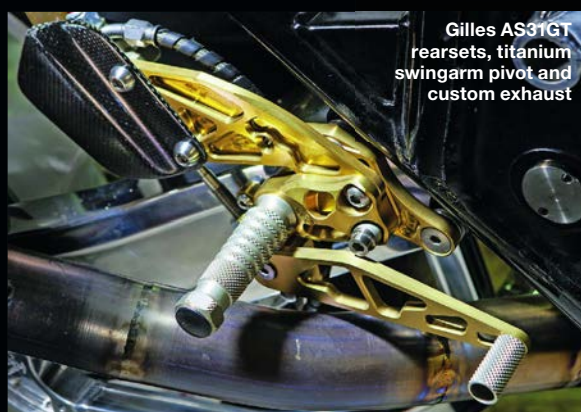
Öhlins 43mm FGRT forks are custom made with ZX-10R uppers and Yamaha YZF-R1 lowers. Twin Öhlins shocks are built for the Honda CB1300 but fit the ZRX and have improved damping characteristics

## BRAKES

Twin ISR six-piston calipers grip 320mm ISR discs and are powered by an ISR radial master cylinder. Rear caliper is a four-piston ISR radial unit with a 210mm disc, also made by ISR

## WHEELS

Marvic Penta magnesium wheels are fitted with Metzeler M7RR tyres. The front sprocket is from a ZZR1100 while the rear is a Renthal 47-tooth item



Gilles AS31GT rearsets, titanium swingarm pivot and custom exhaust



ISR master cylinder, Renthal grips



Starlane Davinci SX dash with GPS lap timer and quickshifter



Keihin FCR39 with Ramair filters



Japanese script says ‘the fastest leader of the gang’





### SWINGARM

Now in its third incarnation, Magnus first attempted to brace the stock one before finally deciding on a 'Type 10' unit built by Over Racing. It cost a fortune but completed the look Magnus was going for



modern aluminium beam frame, but I have added some Tsukigi Racing billet aluminium frame braces. When Tsukigi raced the ZXR in the early 2000s around Suzuka they were only two seconds slower than the fastest WSB bike using a stock frame. What's good enough for them is good enough for me."

Quick steering, however, isn't only about geometry it is also about gyroscopic forces and the stock ZRX wheels created enough force to influence tides. They had to go, and Magnus located a set that were sympathetic with the retro theme of the whole bike.

"I know the classic cast magnesium Marvic Penta wheels aren't the best in terms of weight loss or strength," he admits. "But I've had a thing for the Penta since the 1990s and they are certainly way better than the stock Kawasaki wheels!"

Despite the shorter trail, a few test rides convinced Magnus the ZRX didn't need a steering damper. But this has now changed. Over the long Swedish winter, when the roads were covered in snow, the Kawasaki's engine has been through a thorough transformation.

"Kawasaki claim the stock engine makes 106bhp, which jumps to 120-125bhp with a free-flowing exhaust and proper jetting. This isn't on a par with the rest of the bike, and so something needed to be done."

Turning to experienced Swedish tuner Motospeed, Magnus has had the engine's capacity increased from 1052cc to 1109cc and fitted with JE forged pistons and Carillo rods. The stock crank was sent to APE in

### THE MODS THAT MATTER



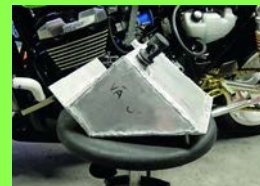
▲ The ZRX1100 when Magnus Wallner bought it. Stock, except for a very noisy Kerker exhaust



▲ Engine was ported and polished head at the Motospeed workshop in Västerås



▲ Old cast pistons alongside Wallner's forged JE replacements that run off Carillo rods



▲ A four in one solution. Mudguard, battery tray, coolant tank and crank case breather catch tank



▲ Brake legend Ace Rising, founder of ISR, on the lathe turning out the Grade 5 titanium caliper bolts



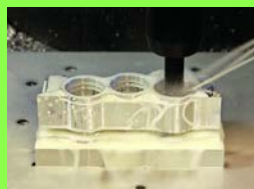
▲ ISR triple clamps vs stock ZRX components. ISR made a new aluminium stem, too



▲ The ZRX in advanced state of undress, at ISR for fitting of new brakes and suspension



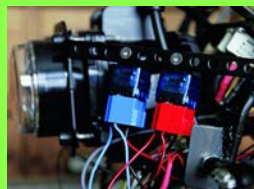
▲ A set of used Keihin FCR39 flatslides was bought from the USA. Gotta love the rattlers



▲ Huge six-pot caliper in ISR's mill. Two of these grip 320mm discs at the sharp end of Wallner's ZRX



▲ ISR caliper sits on the original design drawing. This is the biggest one they've ever made

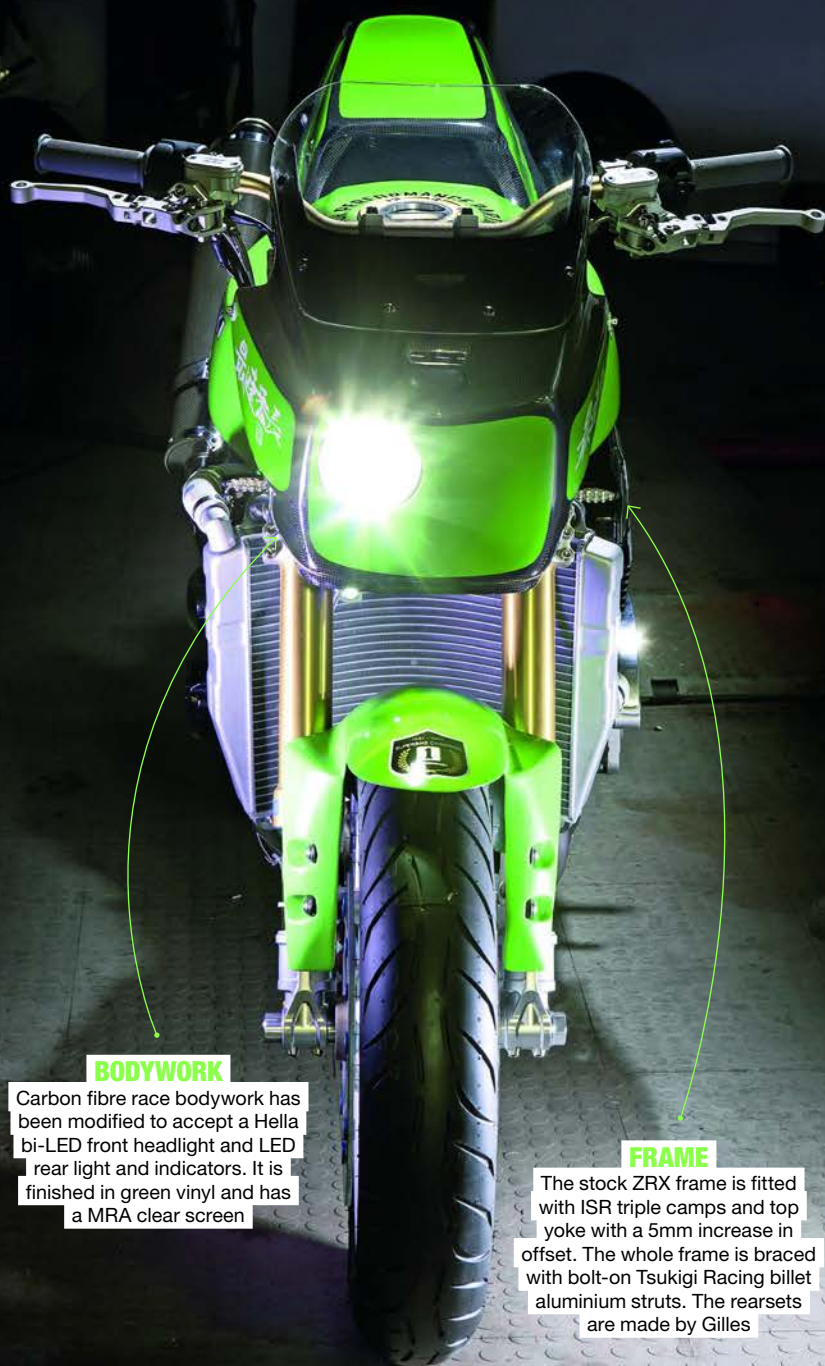


▲ Hella bi-LED module is driven via relays because of 'distortion' in the power supply in the stock harness



▲ Initial chassis shakedown at Gelleråsen track. Engine's still stock save for pipe, filter and pods





#### BODYWORK

Carbon fibre race bodywork has been modified to accept a Hella bi-LED front headlight and LED rear light and indicators. It is finished in green vinyl and has a MRA clear screen

#### FRAME

The stock ZRX frame is fitted with ISR triple camps and top yoke with a 5mm increase in offset. The whole frame is braced with bolt-on Tsukigi Racing billet aluminium struts. The rearsets are made by Gilles



Swedish Erotica. ISR's largest ever six-pots

America who trimmed 2kg of steel, while Motospeed ported the ZRX's head, fitted Yoshimura ST1 cams and dual valve springs from the ZZR1100 to cope with the increased rev limit the ZZR ignition has given the bike. To help the rear tyre deal with the 12.5:1 compression ratio on over-run, an ELS slipper clutch ([www.kwickstand.net](http://www.kwickstand.net)) sits in a lighter Zephyr 1100 damperless hub. To make it a better road bike, the five-speed ZRX gearbox was swapped for a six-speed ZZR600 unit. A further few kilos were lost through the removal of the ZRX balancer shaft. In total, 4kg of rotating mass has been removed from the engine. According to Magnus, this makes the bike handle better, but the throttle response is a touch sharp... Hardly surprising considering what it is being fed by.

As the standard Kawasaki 36mm CVK carbs sit on a shelf gathering dust, a row of flatslide Keihin FCR39s rattle and gulp air through Ramair socks before throwing it, alongside buckets of petrol, into the motor. The gas escapes through a full titanium BEET exhaust with a trackday-pleasing 95dB carbon end can. The final result? With almost 160bhp at the rear wheel, it's a little quicker than when Magnus bought it four years ago. And it looks very different as well.

"The Tomo bodywork came straight from Japan and is incredibly trick stuff. The bikini fairing, tail and bellypan are all carbon – super-light and very thin. Almost too thin. It's not designed for street use but when I ordered it I was intending to only use the bike on track," said Magnus. "I'm not sure it will stand up to street use, so I'm just going to have to pray it doesn't crack. It seems quite strong and it stood up to me cutting a hole for the headlights. But even this was a stressful moment, so stressful in fact that I didn't dare do it again for the tail light and instead made up a separate mounting bracket."

With winter over and the bike ready for its first ride of 2015, is there anything left to do?

"As it stands now, the ZRX is sort of finished. Maybe I'll get the carbon painted and maybe it would be nice to have the frame white at some point. But then again, that's the beauty of building it yourself – it doesn't have to be finished, ever. And the winters are very long in Sweden."



Haro BMX vs big-bore ZRX1100. The main difference? No stunt pegs on the ZRX