



GRAZIE MILLE

After 12 years of ownership, Warren Smart has many reasons to be thankful for his modified RSV Mille

Words Jon Urry / Photography Chippy Wood

CALL THIS MY early morning bike. Most of my mates start their rideouts at about 9 or 10am, but I get up at 5am so I can enjoy the quiet roads, and I'm back home by the time they leave. The last thing you want to do on a Mille is get stuck in traffic or have to potter through town as the clutch isn't much fun at slow speed. However, on a dry and warm summer's morning, it doesn't get much better."

Warren Smart's beautiful Mille is the result of an awful lot of tinkering over their substantial time together. Yes, a fair bit of cash has also been spent on it, but what has made the biggest difference is the 30,000 miles they have completed and the knowledge about what works and what doesn't that this kind of an extended test ride reveals.

"I bought the bike back in 2003," remembers Warren. "It was a 2000 model and had just had its first MoT. At the time I could either afford a secondhand RSV-R or a new 2003 YZF-R1. I had my heart set on a silver and black R1, but I went away on holiday and when I came back my mate had bought that exact bike in that colourscheme. You don't want to look like a pair of clones, so I went for the Mille instead. It was my first V-twin and I absolutely loved it, but the lack of revs compared to an inline four made it deceptively fast to start with – I lost count of the number of times I glanced down at the speedo when

approaching a corner and went ‘bollocks!’”

With Öhlins suspension and lightweight OZ wheels as standard, the RSV-R comes in a high spec, but that didn't stop Warren tinkering.

“I can't help but fiddle with anything mechanical, I just don't like standard things. It runs in the family, my dad is the same and so was my grandfather,” he confesses.

Despite the previous owner already fitting an aftermarket exhaust system, the first item on Warren's shopping list was a new end can. Not for performance, but to stop his mates moaning.

“When I bought it, the bike had a set of MHP shotgun silencers, which replicated the look of the RSV SP but were catastrophically loud. Honestly, my mates couldn't ride behind me as the soundwaves were so fierce they said it was like someone was hitting them. I swapped the MHPs for a titanium Akrapovic end can and then matched it to a new set of Smalimoto downpipes with the MHP scavenger pipe. This fools the bike into thinking it has twin pipes, helping the gases flow and boosting power. Mark at MHP developed the first scavenger system and Aprilia Performance now sell them.”

With the bike now not incurring the wrath of his mates, Warren turned his attention toward perfecting the notoriously tricky fuelling.

“The problem with an RSV is that the rear cylinder runs at a different temperature to the front one, meaning it's essential to get the engine custom-mapped as each cylinder needs to have its own unique fuelling. I put a PCIII on it and then Mark Brewin at BSD set it up and fitted a Cordona PQ8 quickshifter as the Translogic item I had on it previously wasn't working that well.”

Next up, Warren looked at getting a bit more power out of the V-twin. Aprilia owners are more than familiar with the Evoluzione airbox modification, which expands the volume of the airbox by dumping its lid and instead sealing to the base of the tank. But

‘My mates couldn't ride behind me as the soundwaves were so fierce it felt like someone hitting them’

Warren went one step further by also adding a set of Evoluzione short velocity stacks. With the motor now having access to more air, the short stacks help increase top-end power by allowing it to gulp this lifeblood down faster. However there were still some more RSV niggles that needed addressing, namely the clutch slave cylinder.

“The RSV kept turning its clutch fluid black, which not only looked horrible but also affected the clutch's performance and made selecting neutral a pain. They all do it and there are a load of aftermarket slave cylinders out there which help cure the issue. But I reckon the Evoluzione unit is the best as it has a bearing in it that stops the clutch rod overheating the cylinder's piston. Since I fitted the Evoluzione slave cylinder the fluid has never gone black, it's just a shame Evoluzione are no longer trading as it's a cracking item.”

Having sampled the 10bhp boost these basic mods gave him, Warren wanted to squeeze even more power out of the Aprilia. He then discovered that tuner Frank Wrathall offered a big-bore kit.

“I thought if I was going to spend the money I might as well go the whole hog, so I dropped the bike off to Frank and asked for more power. People think Frank is an inline four man, but he tuned loads of the RSV Challenge racebikes. He said he could take it to 1103cc, which he did, as well as fit a set of Kent Cams, cleaned the head a little bit and re-nikasil-coated the bores. The end result was 147bhp, quite a boost from the 118bhp the bike made in stock trim. It cost about £4000 but was worth it and has been bulletproof. I'm seriously considering calling Frank up again this winter and asking him to go to town on the engine with titanium conrods and some serious head work including bigger valves and a super finished gearbox.”

Up until this point, much of Warren's modifications were aimed at improving the performance of this mid-2000s sportsbike to bring it more in-line with modern tackle. He then set about upgrading the RSV's chassis to cutting-edge levels.



EXHAUST

The carbon Akrapovic exhaust is quieter than a titanium item. It's a Suzuki GSX-R1000 K7 end can mated to a set of Smalimoto down pipes with an MHP scavenger pipe conversion.



CHASSIS

Öhlins FGRT 200 forks replace the RSV-R's off the shelf Öhlins items. A GSX-R1000 K9 Öhlins TTX36 shock replaces the OE unit. OZ wheels replace BST carbon items; gearing is lowered to 16/44 with Talon sprockets.



FUELLING

A Power Commander III and custom fuel map per cylinder helps take the snatch out of the RSV's fuelling. Properly balanced throttle bodies also transform the V-twin's response at partial throttle openings.



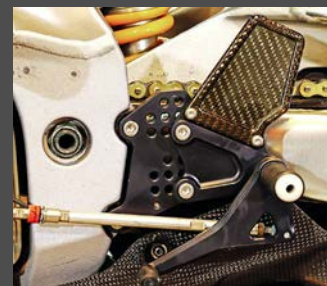
MIRRORS

RS125 mirrors are 25mm longer than the stock RSV-R items, meaning you can actually see beyond your elbows.



EXHAUST WRAP

Ceramic-coated pipes are wrapped to keep heat in. Rear cylinder exhaust runs next to the shock, which can cause it to overheat, losing damping. You can touch the tape straight after a ride without burning yourself.



REARSETS

RCD rearsets not only look great and add adjustability, but also replace the weak OE Aprilia Brembo master cylinder for an RSV4 part. Moving it from the crankcase to the footrest stops it overheating.

SPECIAL APRILIA RSV-R



ENGINE

The Frank Wrathall-tuned engine makes 147bhp at the rear wheel with 86lb.ft of torque thanks to a 1103cc big-bore with 102mm Pistal Racing pistons, Kent Cams cams and follower kit and 57mm throttle bodies.



TYRES

Warren sticks with a 120/70 front tyre and 180/60 rear instead of the 190/55 standard size, mainly as he gets ex-British Supersport Pirelli Supercorsa SC tyres cheaply and that's the size the team run on their bikes.



DASH

A Translogic dash conversion is a relatively simple job as the RSV-R has a conventional wiring loom. On later Aprilias with CAN-bus you have to retain the OE dash and hide it somewhere within the fairing!



CLUTCH

An Evoluzione slave cylinder helps improve the clutch's performance while a Sigma slipper clutch with Surflex plates and Barnett springs can deal with the extra power the 1103cc engine provides.



FAIRING

Carbon fairing and seat unit are from QB carbon, but according to Warren the nose fairing isn't quite up to standard. He has kept the OE unit as it matches the black tank and gives continuity to the Aprilia's style.



BRAKES

Brembo M4 monoblock calipers with Brembo SC pads grip Braketeck fully-floating iron discs. Both the brake and clutch master cylinders are Brembo units.

THE SPECS 2000 APRILIA RSV-R

ENGINE: 1103cc big-bore with Kent Cams cams and follower kit, 57mm throttle bodies, Evoluzione airbox and velocity stacks. Sigma slipper clutch. Ceramic-coated Smalimoto downpipes, MHP scavenger pipe conversion, Suzuki K7 carbon Akrapovic can. PCIII, Cordona PQ8 quickshifter, Translogic dash. Shido lithium battery. **CHASSIS:** Öhlins FGRT 200 forks, GSX-R1000 K9 Öhlins TTX36 shock. Brembo M4 monoblocks, Brembo SC pads, Braketeck fully-floating iron discs. Brembo clutch and brake master cylinders, RSV4 rear brake master cylinder. RCD rearsets and custom yokes. Spondon clip-ons, RS125 mirrors, BST carbon wheels, QB carbon fairing and seat unit, Talon sprockets (16/44) and 520 chain.

"Although the RSV-R came with Öhlins suspension as standard, I swapped it over for modern units set up by Kais so I could have radial brakes. They are the latest generation FGRT forks, have their damping split between the legs and meant I could fit Brembo M4 monoblock calipers, although I needed Race Component Development (RCD) to build me a set of bespoke yokes as the newer Öhlins forks are narrower. The Brembos make a huge difference to the stopping power, but to be honest the biggest improvement I did to the brakes was fitting the Brembo radial master cylinder. The first time I grabbed a fistful it nearly had me over the bars! I used to have Braking Wave discs on it, but they pulsed through the brake lever and that pissed me off so I swapped them for Braketeck items."

He then swapped the lightweight OZ wheels for BST carbon items.

Surely this was a waste of time and money? "They make a hell of a difference, even when compared to the OZ items," Warren argues. "It's not so much the handling improvement, more the throttle pick-up. It felt like it gained about 10bhp at the rear wheel as there is so much less mass for the engine to get spinning."

With the dash swapped for a Translogic unit (the original one "looked like something out of a Pontiac Fiero," according to Warren),

'When I swapped the wheels it felt like I gained 10bhp as there is so much less mass to get spinning'

a QB carbon fairing fitted (minus the nose cone as it didn't meet Warren's exacting standards) and some RCD rearsets, the RSV reached the point at which it now stands. So is it finished? Not a chance. As well as more tuning for the engine, Warren is searching for a carbon tank and full carbon fairing that meets his approval. Wouldn't he be better off investing his money in a modern bike?

"People say modern bikes are faster, safer and easier to ride, thanks to their electronics, but that's exactly why I'm selling my Multistrada," he says. "Motorcycles should be anti-social, a bit dangerous and the kind of thing your parents don't want you to ride."

"Modern bikes have lost this enjoyment and I keep looking at the Multistrada and worrying about how much it will cost if one of the electric sensors goes down. I'd much rather ride an old-school sportsbike like the RSV-R that gets your adrenalin flowing and you can easily fix and upgrade. You don't need 200bhp on the road, 147bhp is more than enough to have fun, especially at 5am."



A delight to ride, even in the wet



WHAT'S IT LIKE TO RIDE?

WE DONNED OUR leathers to see how the upgrades to Warren's RSV-R feel on the road, and were treated to something very special.

As the owner of an Aprilia Tuono I'm a big fan of the RSV engine and, even in the wet, the work that tuner Frank Wrathall had done on Warren's bike is certainly noticeable. The big-bore V-twin engine has a really nice, light feeling when it picks up and a real eagerness to respond to throttle input.

The fuelling isn't perfect, which is something Warren is aware of, and at very low speed there is a bit of a cough and unwillingness to hold a constant throttle.

"I thought it was the fuelling, but it doesn't seem to be. I changed the coils and it's still

there. I reckon a plug might have an issue. It's not really noticeable when you are higher up the rev range, though," he says. Warren's subsequent investigations revealed it was a failed spark plug, and proper response has now been restored.

And it's the same story for the clutch, which is certainly very heavy. Warren is looking at converting it to a cable system to reduce the effort, which is a great idea. One thing I wouldn't change, however, is the RSV-R's handling.

I've always found early RSVs to be very top-heavy, but Warren's bike doesn't feel this way at all. At slow speed it doesn't have that trademark RSV feeling of wanting to flop into corners. I assumed that was partly thanks to the

carbon wheels, but Warren thinks differently. "I reckon it's a lot to do with the foam in the tank and the Shido lithium battery," he says when I ask him. "The foam stops the fuel sloshing around and the battery is about 2kg lighter than a lead/acid unit, which makes a big difference as it is held so high up on the bike."

"Also, my RSV weighs 199kg wet, which is about 15-20kg less than stock." Whatever the reason, I'm impressed and I'll be trying a similar trick on my Tuono. And possibly even following his lead on the brakes.

The feeling and power from the Brembo set-up on his RSV-R is excellent. The SC pads grip the discs strongly without any nasty initial snatch, which is a welcome

relief on damp roads. Warren says they are seriously powerful when they're up to temperature and I don't doubt this.

And what a delight to ride an RSV with mirrors you can actually see out of. I suspect after this issue of PB appears, eBay might well be cleared out of RS125 mirrors by RSV owners copying this trick.

I've always thought that early RSV models are criminally ignored by used bike buyers. But as Warren has demonstrated, it doesn't take very much to make them superb road bikes and they have loads of character that is often missing in modern superbikes.

I just wish he hadn't fitted those shin-smashing crash bungs...