

TEST **ALAN CATHCART** + PHOTOGRAPHY **PHIL HAWKINS**

PEACE TRAIN

How a former US marine staved off the horrors of war by launching his own bike brand. And his debut model really is **something else**



Wery few bikes have a back story like Audette Motorcycles' debut model, the Velos streetfighter. US Marine Corps veteran Tony Audette, 32, served as a medium and heavy machine gunner for five and a half years between 2009 and 2014, deployed to some of the most remote and inhospitable regions of Afghanistan, meaning he spent a long time out in the high desert. Among the Americans left behind after the Obama administration began pulling US troops out in 2013, unfortunately Audette was part of the squad that's become known as the 'exiled eight'.

"We got lost on our company's roster," he says diplomatically. "So we spent several weeks on the front lines without any support systems and pretty much had to fend for ourselves. It was tough."

Faced with hostile conditions including constant sandstorms, dwindling rations and a lack of basic supplies, the eight marines were forced to find their own food while facing insurgent fire and other hazards, highlighted by one member losing both legs after stepping on an IED.

Audette and his sergeant were the last ones to leave this literal hell on earth when they were finally evacuated, but not before befriending many local civilians and learning some valuable lessons about life from them.

Perhaps surprisingly, each of the seven remaining members volunteered to remain on active service in the Marine Corps – a privilege denied them under the Obama downsizing, which saw Audette and his comrades all placed on the reserve list.

"I didn't know what to do," he says. "I'd been a soldier all my adult life, and wasn't prepared for so suddenly being told to sit on the sidelines. So as four of the eight guys that I was with all came from Connecticut, I figured I'd head there for some future companionship."

Home in Connecticut ended up being an apartment in a semi-derelict former convent, which also served as a workshop for restoring the motorcycle he'd promised himself out in the wilds



1. I know - you can't take your eyes off that massive V-twin!
2. The spars are carved from solid chunks of aerospace-grade aluminium
3. Trick, blue anodised Beringer radial brakes get the job done
4. The Velos V2 can do hoon just as well as civilised
5. Tony's rightly proud of his hotrod: there's a lot of smarts and tech-savviness in one motorcycle
6. Looks like a slim, shrinking violet from behind - the reality is certainly far different!



ONE INTO THREE

When Cathcart rode the Velos it had just a single riding mode out of the three in the Indian Chief's electronics package, but Tony has since added in Tour and Sport, and cruise control is also now included.

BREATHE EASY

The exhaust system, which somehow successfully blends the aesthetics of a cruiser and a sportbike, is the work of Ryan Colligan at Toce. It's a ceramic coated, stainless-steel, two-into-one affair.

TRACTOR PULL

The sculpted shape of the 825mm-high seat was inspired by the long days farmers are forced to spend in tractor saddles. Quilted and well padded, Cathcart reckons it's an all-day unit.

TORQUE WRENCH

The 49° V-twin started life as an 1811cc unit good for 146Nm at 3200rpm. In the Audette Velos, however, it's now a 2064cc mill pumping out 221.5Nm of torque even earlier at 3150rpm.

RIDERS RULE

Tony Audette reckons manufacturers place too much focus on technology and not enough on riders, which is why the Velos is devoid of connectivity, large TFT screens and high-end rider aids.

HE CONCEIVED A GIRDER FORK AS A POSTGRADUATE SENIOR PROJECT

of Afghanistan – a 1975 Honda four. "I've always loved motorcycles," he says. "I got my first one when I was 14 and rebuilt it with my dad – a 1972 Honda CL350 in that cute metallic green that's actually still at their house. So when I got back from Afghanistan I bought a CB750 and I tore that apart and rebuilt it in my apartment, so it was always in the background that working on bikes was what I wanted to do."

He signed up to study Bachelor of Science in mechanical engineering at Central Connecticut State University, graduated with honours and joined nearby helicopter manufacturer Sikorsky.

"I worked in their model shop making prototypes, which taught me how to use CNC machines and manual Bridgeport mills, lathes and

stuff like that," he says. "Those guys who worked there taught me so much."

"I liked that job because it was satisfyingly creative but Sikorsky was a very corporate environment, and there was a big, heavy union, so it was really tough to get a lot of work done – I kept being told to slow down."

He left after two years and, having conceived a girder fork for his ride-to-work 2016 Indian Scout as a postgraduate senior project, applied for a job with the only American manufacturer still using such a front-end, Confederate Motorcycles. However, the company was then in the process of transitioning to all-electric Curtiss Motorcycles, where Audette became lead engineer on its first prototype, the Zeus unveiled in May 2018 at



ROAD TEST **AUDETTE VELOS V2**

California's Quail Gathering. But later that year, Tony Audette returned to Connecticut to do his own thing and, in March 2019, he established Audette Motorcycles to manufacture what he sees as the ultimate all-American V-twin sportsbike.

"I like to ride the back roads on Sunday mornings when everyone's at church, and the cops are in the church parking lots. No one's on the road and I can just tear it up. I'd always wanted a motorcycle that was purpose built for that, something that had monstrous power with handling to suit – so I created the Velos. That's Arrow in Greek."

With the support of his girlfriend, now wife Jackie, a doctor in orthopaedic physical therapy, Audette laid out the foundations of the Velos in their rural home before establishing his own factory. There, he's created the prototype Velos I was invited to ride late last year on warm, dry back roads, as well as the first of two customer bikes he's sold so far at a \$US125,000 (\$A186,000) pricetag, to include a wide choice of colours, suspension and wheels. More will surely follow once word gets out about this high-performance two-wheeled hotrod whose minimalist styling – by Audette himself – surely encapsulates Miguel Galluzzi's Monster mantra that a powercruiser should consist of nothing more than two wheels and an engine.

To create the Velos, Audette used the air-cooled 49° V-twin Indian Thunder Stroke 111 engine which powered the relaunch of the historic brand under Polaris ownership in 2013. He says he did so because it has a helical gear-driven internal

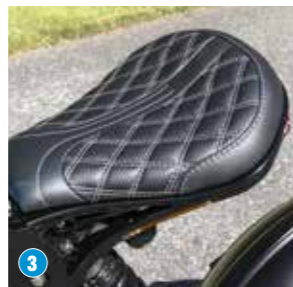
IT CHURNS OUT A MASSIVE 211.5NM OF TORQUE AT JUST 3150RPM, AND 87KW (117HP) AT 4850RPM

counterbalancer to eliminate vibration, as well as exactly the kind of modern retro American aesthetic he was looking for.

"We just wake it up a bit," says Tony. "The platform is so well engineered that we can increase the torque by 46 percent and the horsepower by 58 percent and know that reliability is unaffected."

He obtained a 2016 Chief engine which, while fuel injected via a Bosch ride-by-wire closed-loop system, with a single 54mm throttle body, did not have the additional electronic controls incorporated in the current version of the engine.

This engine was then punched way out from its original 111ci (1811cc) displacement to a hefty 126ci (2064cc) courtesy of a stroked crank and forged Wiseco pistons producing an 11:1 compression ratio (up from 9.5:1) mounted on Carrillo forged steel conrods. These combine to



the best regarded west coast tuning companies – Baisley Hi-Performance and Kibblewhite Precision Machining. The stock engine's three-cam pushrod valvegear format with parallel tubes and hydraulic lifters remains unchanged, ditto the diameters of the two overhead valves per cylinder. But Baisley completely reworked the heads, fitting new Kibblewhite forged stainless steel valves which it resealed, and are now operated via all-new camshafts and pushrods. "The brief was to put the powerband right in that 3000 to 3500 rev range, which they did," says Audette.

Once he had the engine, Audette disassembled it so that a mate could 3D scan it to reverse engineer it into a CAD model. This enabled him to make a series of stylised clear and metal outer covers for the engine which Audette Motorcycles now sells as aftermarket Indian Chief items.

"That way I also knew exactly where the four mounting points were," says Tony.

"The Velos geometry is a twin spar 'C-Channel' frame with internal bracing to aid in the structural integrity while reducing weight," says Audette. "The actual geometry was derived from larger sports-tourers like the Yamaha FJR1300. I love the way these bikes handle despite their size; I used their geometry as a reference point. A main focus was on reducing the unsprung mass and centralising the heavier components, and the centre of gravity with the rider on board is positioned at the top rear of the rear cylinder head, giving a weight distribution of 52/48 percent fully fuelled."

The Velos chassis's twin frame spars are CNC-machined from solid chunks of aerospace grade 6061-T6 aluminium, the lower member of which began life as a 84kg billet which got whittled down to just 900g in weight. That's an awful lot of scrap metal, yet all the chassis components including the swingarm, 15-litre fuel tank, electronic wing covers, footpegs and levers were all created in this way – and even the fenders were CNC-machined from billets of ABS polymer. This is a motorcycle literally made by hand, an engineering art form.

The Velos uses fully adjustable Race Tech suspension, with the custom 43mm G6 inverted fork set at a 26° rake with 109.5mm of trail, and a G3S cantilever monoshock at the rear. Relatively conservative numbers by sportsbike standards, as is the 1613mm wheelbase. But this isn't a racer with lights: rather an American powerbike brimming with attitude and grunt.

Audette knows chassis geometry needs to help calm everything down, and even the cylinders are inclined forward by 2.8° as an anti-wheeler function. Well, every bit helps...

deliver 105.3 x 118.6mm dimensions against the original 101 x 103mm format, and the result churns out a massive 211.5Nm of torque at just 3150rpm, and 87kW (117hp) at 4850rpm. Compare those torque numbers to the stock 2023 Indian Chief's claimed 146Nm at 3200rpm to see what a massive hike in performance the Velos delivers.

The stock six-speed transmission has been retained, but combined with a Rekluse centrifugal clutch, as found on certain MV Agusta models, which essentially prevents riders stalling. And despite the seriously enhanced performance, the stock ECU and VCM have also been retained, hidden behind the pair of polymer flaps flanking each side of the metal fuel tank.

"Polaris spent millions of dollars developing it, so why go back and mess with what they did?" says Audette.

That performance was obtained via two of

1. Tony has stuck to the minimalist styling mantra
2. What more do you need?
3. "A perfectly welcome and comforting seat", says Sir Al. It does kinda look enticing...
4. Nothing about the Velos is done on the cheap
5. There's no hiding where the donor engine comes from
6. Tony's Sunday morning ride... when everyone else is at church!
7. Behind the 'bar of a motorcycle literally made by hand; that's pretty special



Further helping to civilise a 207kg (wet) bike with that much torque are the twin, front blue-anodised Beringer Aerotec four-piston radial calipers gripping 310mm Galfer discs, with a twin-pot rear caliper working a 220mm rotor. Seventeen-inch BST carbon wheels provide highly functional bling, shod with Pirelli Diablo Rosso III rubber, the rear a 180/55 tyre on a six-inch rim.

My first surprise was what looked to be a high, minimalist but well-padded throne turned out to be nothing of the kind once I'd hopped aboard, but instead a perfectly welcoming and comfortable seat for a 180cm rider.

"I modelled it after a 1920s-era tractor seat, which needed to be comfortable enough to spend the entire day in," says Tony.

The stepover is really narrow, so that the Velos feels tight and manageable – certainly not the massive two-litre hulk it is. You're just slightly inclined forward as you reach to the quite flat ProTaper one-piece handlebar whose rubber grips are meaty and ready to absorb any vibes that may end up coming through.

"I went through seven handlebars to get this one, because your touchpoints are so important," says Tony, whose wife Jackie had a hand in deciding the shape and height of the handlebar.

Thumb the starter button, and the Thunder

AT JUST 1700RPM, THE ENGINE'S ALREADY PRODUCING A HEADY 176NM OF GRUNT

BLING'N BRAWN



KAWASAKI NINJA H2R
Supercharged 998cc
inline-four
240kW and 165Nm
\$67,160



MV AGUSTA RUSH 1000
998cc inline-four
158kW and 116.5Nm
\$76,880 (ride away)



DUCATI STREETFIGHTER V4 SP
1103cc V4
153kW and 123Nm
\$48,400 (ride away)

1. Nice curves

2. That chain has to put up with an awful lot...

3. Chassis geometry has been based on machines like the FJR1300

4. Tony and his wife Jackie, who has been a valuable asset in the Velos project



Stroke engine entirely lives up to its name via the deep, resonant rolls of thunder that instantly emanate from the artistically woven 2-1 Toce exhaust's single can with each beat of the lazy-sounding motor, especially at its 1000rpm idle.

The clutch has a strong but not stiff lever action despite the massive torque it's being asked to deliver to the rear Pirelli – but the single biggest disappointment of my day-long cruise along the Alabama back roads came when I tried to select first gear, and had to be pretty brutal with the gear lever to eventually do so successfully. Tony is well aware of the stiff gearshift problem, which he's apparently subsequently redressed.

"I altered the shift lever's leverage ratio from 1:1 to 6:1," he emailed me later. "It is now smoother than the Indian Chief factory shifter."

At just 1700rpm, the engine's already producing 176Nm of grunt, which it holds right up to the 5400rpm redline, meaning you rarely need to shift gear once on the move, making at least two of the six gear ratios redundant – maybe three. So after



S P E C S

ENGINE**Capacity** 2064cc**Type** 49° V-twin, push-rod OHV, two valves per cylinder**Bore & stroke** 105.3mm x 118.6mm**Compression ratio** 11.1:1**Cooling** Air**Fueling** EFI**Transmission** Six-speed**Clutch** Wet, multi-plate, Rekluse

centrifugal RadiusX

Final drive Chain**PERFORMANCE****Power** 87kW (117hp) @ 4850rpm (claimed)**Torque** 221.5Nm @ 3150rpm (claimed)**Top speed** 250km/h (est)**Fuel consumption** Not measured**ELECTRONICS****Type** Bosch**Rider aids** Cruise control**Rider modes** Standard, Tour and Sport**CHASSIS****Frame material** CNC machined, aircraft-grade aluminum**Frame type** Twin spar**Rake** 26°**Trail** 109.5mm**Wheelbase** 1613mm**SUSPENSION****Type** Race Tech**Front:** 43mm upside-down fork, fully adjustable, travel unknown**Rear:** 63S monoshock, fully adjustable, travel unknown**WHEELS & BRAKES****Wheels** BST Carbon**Front:** 17 x 3.5 **Rear:** 17 x 6.0**Tyres** Pirelli Diablo Rosso III**Front:** 120/70ZR17**Rear:** 180/55ZR17**Brakes** Beringer/Galfer**Front:** Twin 310mm discs, four-piston radial calipers**Rear:** Single 220mm disc, twin-piston caliper

A MOTORCYCLE WHOSE QUALITIES ARE REDOLENT OF A BYGONE AGE

finally engaging gear, the Velos thrust forward off the mark like a jet-propelled tractor, with reams of bottom-end punch which invited power wheelies despite the geometry's best efforts to strangle them, and midrange torque for the ages.

It didn't take me long to realise that holding fourth gear almost anywhere away from a freeway was the hot tip, because that way you need only wind open the throttle at almost any revs to be able to surf the mile-high waves of torque. This can be both an extremely easy and a very demanding bike to ride, entirely depending on your disposition, and how hard you want to lay down all that torque exiting a turn.

Audette's choice of the 180/55 rear Pirelli is a wise one, because unlike on so many American V-twin powercruisers he's opted for function over form. So instead of the 240-section rear beloved as a design statement by so many, his selection of a rational size tyre makes the 2064cc Velos handle like a 1200cc streetfighter. You'd never guess that this is Audette's first crack at building a petrol-engined bike from the ground up, because it steers and stops impeccably well – he's got the steering geometry spot on, with the wide handlebar

providing good leverage and the complementary reduced gyroscopic effect of the BST carbon front wheel. The Race Tech suspension eats up bumps in the road surface on the angle, my turn speed only compromised on the right side by the rear cylinder's header pipe which grounded out at around 20° of lean, whereas cranking the bike on its side around left-handers delivered the 37° lean angle promised in the brochure. Audette reckons alterations to the rear shock's leverage ratio have resolved this without affecting the plush ride quality I experienced, but at the cost of reduced ground clearance. He also needed to attend to the pretty ineffectual rear brake, though the front setup was quite enough to stop the bike hard.

But above all it's the irresistible urge of the jumbo engine that's so enticing, making this light-steering, easy-handling, streetfighter-on-steroids so downright thrilling to ride.

Cliché it may be, if ever a motorcycle deserved to be called a two-wheeled equivalent of the legendary Shelby Cobra 427 land sled, it's the Velos – a motorcycle whose qualities are redolent of a bygone age. This minimalist motorcycle with muscle is one super desirable set of wheels. 🏍️

Exclusive, enormously potent and surprisingly well styled for a 'backyarder'.



PROS
AND
CONS



Traction control would be good, rear brake could be better, and it costs a helluva lot of dough.