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**TESTED!**



**COMBAT MOTORS WRAITH**



**AUDETTE VELOS**

OCTOBER 2023



# RUBBER-SIDE DOWN

KEVIN DUKE



## HORSE POWER

I was chatting recently with a friend about the historical articles we've been highlighting in recent issues. He said he enjoyed the insight into previous eras of motorcycling, and the conversation evolved into imagining what it must've been like to be a rider in our hobby's early days around the beginning of the 20th century.

Just firing up a bike from that era can be challenging. Not only do you need to kick it over – or pedal it – you also need to have the mixture and spark timing set correctly. Then there's the oddly archaic dance of balancing a foot clutch with a hand-shifter. And if it's a really early motorbike, you might not even have the "luxury" of a twist-grip throttle.

When I grew up in the 1970s, it seemed as if motorcycles always had a hand clutch on the left, a foot shifter on the left side of the engine, and a twist-grip throttle on the right that rotated toward the rider, but I've since learned these devices didn't always have their locations and operations set in stone – er, metal.

And then there's the roads during the early days. The crumbling streets filled with potholes and divots that we bitch about today would be lavish compared to the bumpy dirt paths that greeted riders from bygone eras. And depending on where you were riding, there might not be a fuel station for hundreds of miles in any direction. The 80-mph speeds we regularly cruise at today would seem a futuristic pipe dream to early riders.

Motorcycles began as the cheapest form of motorized transportation, as they required far fewer resources and components to build than cars. But it took less than

If you find yourself thinking \$100,000 is a little too pricey for a motorcycle, be thankful you're into bikes and not airplanes. The F4U Corsair resting with its wings folded behind the Audette Velos is worth at least 30 times that amount. Aim high!

a decade for Henry Ford to revolutionize industry by innovating assembly lines that dramatically drove down costs of production. Before long, it was cheaper to buy a Model T than it was to purchase a nice motorcycle.

"It's funny," my friend mused. "In the old days, only poor people rode horses, while rich people drove cars and rode motorcycles. Today, it seems like only rich people ride horses!"

Roughly 125 years have passed since the motorcycle was invented. Wealthy people are indeed riding horses, and a few deep-pocketed folks are riding ungodly expensive motorcycles like the ones featured in this issue.

The Combat Motors Wraith and Audette Velos you'll see beginning on page 26 are among the most extravagant and upscale moto machines we've ever seen, rivaling the brilliance of legendary bikes like Brough Superiors, Crockers, and Brittens. They are luscious works of motorized art and are priced that way too.

Meanwhile, two pages from here, the founder of this magazine discusses the other side of the swank scale. Reg Kittrelle recognizes the void at the bottom end of Harley-Davidson's lineup and wonders what will fill that hole. MoCo loyalists will scoff at Harleys made in China or India, but there's a real need to provide an attainable step into the H-D fold. Will it come from overseas?

While we might fantasize and lust over upscale Wraiths and Audettes – or equines like the revered Golden Akhal Teke – the U.S. motorcycle market also needs a few modest American Quarter Horses for day-to-day riding. An electric starter, at least, would be nice to have. Oh, and a twist-grip, please.

*Got something to say? Hit us up at [connect@americanrider.com](mailto:connect@americanrider.com) **AR***





# AMERICAN STREETFIGHTERS

## — SIZING UP AMERICAN EXOTICS —

By Kevin Duke

Imagine a world in which your pockets are overflowing with disposable income, a place where nothing but the best belongs in your garage. You won't settle for anything less than an American V-Twin powerplant, but you want something sportier and more exclusive than what's offered from Harley-Davidson or Indian Motorcycle.

Well, get out your checkbook and be prepared to write down a six-figure number if you desire any of the machines on these pages. All are powered by engines that displace more than 2,000cc and have enough torque to shift the globe off its axis, and each has a chassis CNC-carved from giant blocks of aluminum billet.

If you insist on having a motor with Harley-Davidson roots, take a look at the ARCH 1s (below) that we tested in our December 2022 issue. It's powered by a 124ci S&S Cycle engine and comes with the pedigree of famed actor Keanu Reeves, who runs ARCH Motorcycle with builder Gard Hollinger.

The ARCH 1s came from the minds of builder Gard Hollinger and superstar actor Keanu Reeves. Priced at \$128,000, it's a stunning and sporty piece of rolling art.

If Indian motorcycles are more your flavor, feast your eyes on the splendor offered in the Audette Velos. It's the first ground-up motorcycle built by craftsman Tony Audette, and its billet-aluminum frame is stuffed with 126ci of motivation from a hot-rod Indian Thunderstroke powerplant.

And then there's the incredible and otherworldly Wraith from Combat Motors, a rebranded company that picks up where Confederate Motors left off. It uses a triple-cam 132ci engine sourced from S&S and cuts through space and time with an unforgettable girder-type front end. The bike shares a clear airbox cover concept with the Velos, but the Wraith one-ups the Audette with a see-through fuel tank.

Take a look at how their specs match up, and read the following pages to learn more about the Wraith and the Velos. No matter which bike your deep-pocketed self would choose, you can be pretty sure that it won't be parked alongside another one. We invite you to dream big! **AR**



Photo by Jordan Mastagni





## ARCH 1S

**Base Price:** \$128,000  
**Warranty:** 2 yrs, unltd. miles  
**Website:** ArchMotorcycle.com

### POWERTRAIN

**Engine Type:** Air-cooled, 45-degree V-Twin, twin-cam pushrods w/ 2 valves per cyl.  
**Bore x Stroke:** 4.125 x 4.625 in. (104.775 x 117.475mm)  
**Displacement:** 124ci (2,032cc)  
**Horsepower:** 93.5 hp @ 5,200 rpm (factory claim at rear wheel)  
**Torque:** 115.3 lb-ft @ 3,200 rpm (factory claim at rear wheel)  
**Fuel Delivery:** Proprietary downdraft intake, fuel-injection  
**Transmission:** 6-speed, hydraulically actuated dry clutch  
**Final Drive:** Right-side chain

### CHASSIS

**Frame:** Steel tubing w/ billet-aluminum structural members  
**Rake/Trail:** 25.2 degrees/4.0 in.  
**Wheelbase:** 65.4 in.  
**Suspension (F/R):** 48mm Öhlins inverted, fully adjustable, 4.6 in. travel; Öhlins shock w/ remote reservoir and hydraulic preload adjustment, fully adjustable, 3.9 in. travel  
**Brakes (F/R):** Dual ISR 6-piston monoblock radial-mount calipers, 320mm floating rotors, Bosch ABS; ISR 4-piston monoblock radial-mount caliper, 240mm rotor, Bosch ABS  
**Wheels (F/R):** BST carbon fiber, 3.5 x 17 in.; 8.5 x 17 in.  
**Tires (F/R):** Michelin Pilot Power 3, 120/70 ZR17; Michelin Pilot Power 3, 240/45 ZR17  
**Seat height:** 31.5 in.  
**Wet Weight:** 600 lb (factory claim)  
**Fuel Capacity:** 4.5 gal.

The Audette Velos is the value proposition of these exotics, with a starting price of "only" \$87,000.



## AUDETTE VELOS

**Base Price:** \$87,000 (\$105,400 as tested)  
**Warranty:** 2 yrs, unltd. miles  
**Website:** AudetteMotorcycles.com

### POWERTRAIN

**Engine Type:** Air-cooled, 49-degree Indian Thunderstroke V-Twin, OHV w/ 2 valves per cyl.  
**Bore x Stroke:** 4.146 x 4.669 in. (105.308 x 118.593mm)  
**Displacement:** 126ci (2,064cc)  
**Horsepower:** 117 hp @ 4,850 rpm (factory claim at rear wheel)  
**Torque:** 156 lb-ft @ 3,150 rpm (factory claim at rear wheel)  
**Fuel Delivery:** Bosch EFI w/ 54mm throttle body  
**Transmission:** 6-speed, hydraulically actuated Barnett wet clutch  
**Final Drive:** Chain

### CHASSIS

**Frame:** CNC-machined aircraft-grade aluminum twin-spar, internally braced C-channel  
**Rake/Trail:** 26 degrees/4.31 in.  
**Wheelbase:** 63.5 in.  
**Suspension (F/R):** 43mm Race Tech G6 fork, 4.3 in. travel; aluminum billet swing-arm w/ fully adjustable cantilever Race Tech G3S shock  
**Brakes (F/R):** Dual 4-piston Beringer calipers, 220mm Galfer discs; Single 2-piston Beringer caliper, 220mm Galfer disc  
**Wheels (F/R):** Carbon fiber, 3.5 x 17 in.; 6.0 x 17 in. (choice of BST or Rotobox)  
**Tires (F/R):** Pirelli Diablo Rosso III 120/70 ZR17; Pirelli Diablo Rosso III 180/55 ZR17  
**Seat Height:** 32.5 in.  
**Wet Weight:** 467 lb  
**Fuel Capacity:** 4.0 gal.

The funky front end of the Combat Motors Wraith sets it apart from anything else on the road. So does its \$165K price tag.

## COMBAT MOTORS WRAITH

**Base Price:** \$165,000  
**Warranty:** 1 yr, unltd. miles  
**Website:** CombatMotors.com

### POWERTRAIN

**Engine Type:** Air/oil-cooled, 56.25-degree S&S X-Wedge V-Twin, triple-camshaft pushrod OHV w/ 2 valves per cyl.  
**Bore x Stroke:** 4.40 x 4.40 in. (111.76 x 111.76mm)  
**Displacement:** 132ci (2,163cc)  
**Horsepower:** 111 hp @ 4,500 rpm (factory claim at rear wheel)  
**Torque:** 143 lb-ft @ 2,500 rpm (factory claim at rear wheel)  
**Fuel Delivery:** Delphi EFI w/ 51mm S&S throttle bodies  
**Transmission:** 5-speed, hydraulically actuated Bandit multiplate dry clutch  
**Final Drive:** Chain

### CHASSIS

**Frame:** Machined modular aluminum monocoque  
**Rake/Trail:** 27.5 degrees/4.2 in.  
**Wheelbase:** 62.5 in.  
**Suspension (F/R):** Double-wishbone parallelogram fork, 4.35 in. travel; Race Tech shock, 2-speed compression and rebound damping, 5.5 in. travel  
**Brakes (F/R):** Dual 4-piston Beringer calipers, 230mm discs; Single 2-piston caliper, 240mm disc  
**Wheels (F/R):** BST carbon, 3.5 x 19 in.; 8.5 x 17 in.  
**Tires (F/R):** Pirelli Angel GT II 120/70 ZR19; Pirelli Diablo Rosso III 240/45 ZR17  
**Seat Height:** 31 in.  
**Wet Weight:** 545 lb  
**Fuel Capacity:** 4.5 gal.



# PEACE DIVIDEND

AUDETTE VELOS: EXCLUSIVE FIRST TEST





**F**ew bikes have a backstory to equal the Velos streetfighter, the debut model from Audette Motorcycles. The company was founded by Tony Audette, a U.S. Marine Corps veteran who served in Afghanistan as a machine gunner and was part of a platoon that became known as the Exiled Eight. “We got lost on our company’s roster,” Audette said diplomatically about being left behind during a troop withdrawal in 2013, “so we spent several weeks on the front lines without any support systems and pretty much had to fend for ourselves. It was tough.”

After being recovered, the remaining members of the Exiled Eight volunteered to stay on active service, but military downsizing forced Audette and his comrades to be placed on reserve duty.

“I didn’t know what to do,” the 32-year-old related. “I’d been a soldier all my adult life and wasn’t prepared for so suddenly being told to sit on the sidelines.”

The Georgia-born Audette decided to relocate to Connecticut, the home state of four of his troopmates. He got an apartment in a semi-derelict former convent, which also served as a workshop for restoring the motorcycle



The Velos is a visual stunner. The ceramic-coated, stainless-steel 2-into-1 exhaust system with headers running in line with each other was created by Ryan Colligan at Toce.



Tony Audette and his fabulous Indian-powered Velos.



he'd promised to buy himself out in the wilds of Afghanistan, a 1975 Honda CB750 Four.

"I've always loved motorcycles," he said. "I got my first one when I was 14 and rebuilt it with my dad – a 1972 Honda CL350 that's still at their house in Georgia. So when I got back from Afghanistan, I bought a CB750 and tore it apart and rebuilt it in my apartment. Working on bikes was what I wanted to do."

### School Days

Audette enrolled at Central Connecticut State University and worked his

The chassis of the Velos is leagues more complex than a steel-tube frame, using carefully machined chunks of billet aluminum with internal bracing to aid in the structural integrity. Even the tank covers are billet, and its two halves are fitted with beautiful hinges to facilitate access to the ECU and fuse box. The actual fuel tank is discreetly nestled into the frame.





The Velos is peppered with cool details like a clear cam cover made from billet aluminum and helicopter canopy material. It fits any Thunderstroke motor and retails for \$525 at Barnstorm Cycles, where other Audette-produced Indian parts are available. The ignition coil cover between the cylinders perfectly matches factory detailing and costs \$235.

way through college via a job with Mossberg, a local manufacturer of military and police shotguns, where he learned to use CNC machines and manual Bridgeport mills and lathes.

Audette graduated with honors with a bachelor's degree in mechanical engineering and landed a job at Sikorsky, a nearby helicopter manufacturer. After two years of making titanium swashplates and spindles for Black Hawks and then working as a lead on the CH-53E Super Stallion helicopter, he became frustrated with the corporate environment and left.

Having conceived a girder fork for his 2016 Indian Scout as a post-graduate senior project, in 2017 he applied for a job with the only manufacturer still using such a front-end design: Confederate Motorcycles. The Alabama-based company was in the process of transitioning to all-electric Curtiss Motorcycles, and

Bikes with V-Twin engines always look prettier from their right sides, but the chunky and purposeful Velos even looks handsome from the left.

Audette became lead engineer on its first prototype e-bike, the Zeus, which was unveiled at the 2018 Quail Motorcycle Gathering.

"Electric motorcycles are fun because you're literally reinventing the wheel," he said. "It's satisfying from a purely creative aspect, but they have a very different soul and feeling than what I love about motorcycles."

## Independence Days

In 2019, Audette returned to Connecticut and established Audette Motorcycles to manufacture his personal idea of what the ultimate all-American V-Twin sportbike should be.

"I like to ride the backroads on Sunday mornings when everyone's at church and the cops are in the church parking lots," Audette said. "That's the best time to go riding because no one is 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 decided to create the Velos in the hopes there would be customers out there looking for the same thing."

With the support of his future wife, Jackie, Audette laid out the foundations of the Velos ("arrow" in Greek) in their rural Connecticut home. They have since established a production facility in Canton, Connecticut.

I was invited to ride the prototype Velos and see the first of two customer bikes sold so far. Pricing for the Velos starts at \$87,000, but the version I tested with a heavily modified motor and other upgrades costs \$105,400. It's a high-performance hot rod with minimalist styling that exemplifies two wheels and an engine tied together with metal.







The Audette Velos is perhaps the sportiest bike with a 2-liter V-Twin powerplant on the market.



Audette built the Velos around Indian's air-cooled 49-degree V-Twin Thunderstroke motor, which had the modern/retro American aesthetic he was looking for. The engine was punched out from its original 111ci displacement to a hefty 126ci (2,064cc) courtesy of a stroked crank and forged Wiseco pistons mounted on Carrillo forged steel conrods.

"We wake it up a bit for the type and style of riding I like," Audette said. "The platform is so well-engineered that we can increase the torque by 46% and the horsepower by 58% and know that the motor's reliability is unaffected."

Everything on the Velos is meticulously finished. The air filter uses a see-through cap that gives a view of the velocity stack and throttle body inside, while the billet fuel tank covers swivel away on what must be the nicest hinges in motorcycling. It takes only a quick glance at the Velos to realize you're looking at something special.

With a 4.15-inch bore and a 4.67-inch stroke (up from 3.89 x 4.45 inches), the motor is said to churn out a massive 156 lb-ft of torque at 3,150 rpm when measured at the rear wheel on a dyno. Peak power of 117 hp arrives at 4,850 rpm.

Audette has since developed a 2,147cc (131ci) motor using CNC-machined Nikasil-plated cylinders. Customers have the option to use whichever displacement they prefer or simply use the stock size.

The 6-speed Indian transmission with gear primary drive has



Audette wowed the Handbuilt Motorcycle Show earlier this year with this black Velos. Note the slightly different exhaust layout that tucks in the header pipe for additional lean-angle clearance.

been retained, and the prototype I rode used a Barnett clutch pack. Customer bikes can be fitted with a Rekluse centrifugal clutch as found on some modern MV Agusta models, which prevents stalling the engine and doesn't require touching the clutch lever once underway.

The stock ECU and vehicle-control module remain, hidden behind the pair of aluminum flaps that serve as the fuel tank covers. The stock motor's three-cam pushrod valve-gear format with hydraulic lifters remains unchanged, as do the diameters of the two overhead valves per cylinder.

Performance has been boosted with cylinder heads reworked by Baisley Hi-Performance. Kibblewhite forged stainless steel valves are operated via new camshafts and pushrods.

"The brief we gave them was lift the performance and put the powerband right where we wanted it in the 3,000 to 3,500 rev range," Audette said.

### Geometry Lessons

The Thunderstroke motor was scanned in 3-D by a buddy working at Pratt & Whitney Aerospace so Audette could reverse engineer it into a CAD model to use when designing his chassis.

"That way I knew exactly where the four mounting points were – and where the engine should fit in my frame design," Audette explained. He used finite-element analysis to ensure all the stress points were addressed so he could achieve the optimum stiffness-to-weight ratio in the design, resulting in a claimed wet weight of just 467 lb.

"A main focus," Audette elaborated, "was on reducing unsprung mass and centralizing the heavier components to the front and bottom of the motorcycle. The center of gravity with the rider on board is

Photo courtesy Handbuilt Motorcycle Show



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Audette's attention to detail is wonderful, from the brake light and turnsignals integrated into the frame to the stylized engine covers. The P-51 Mustang in the background was formerly wrenched on by Audette's father for the Commemorative Air Force.

positioned at the top of the rear cylinder head, giving a weight distribution of 52% front and 48% rear."

The Velos uses fully adjustable Race Tech suspension, with a 43mm inverted fork set at a 26-degree rake with 4.3 inches of trail and a cantilever shock at the rear. The wheelbase is 63.5 inches – this isn't a Euro-style racer with lights but rather an American power-bike brimming with attitude and heaps of grunt.

The twin frame spars are CNC-machined from 6061-T6 aluminum billet, the lower member of which began life as a 185-lb chunk that got whittled down to just 2 lb. All the chassis components – the frame, subframe, and swingarm – are created from billet aluminum, as are the footrests and levers. It's an engineering art form.

Braking is provided via twin front radially mounted Beringer Aerotec 4-piston calipers gripping 12.2-inch Galfer Wave discs, with a twin-pot rear caliper working a 8.7-inch rotor. The 17-inch BST carbon wheels provide functional bling in keeping with the exquisite manufacturing quality of the bike.

### Riding The Arrow

My first surprise was that the ultra-minimalist throne turned out to be more welcoming than it looks. Audette says he modelled it after a 1920s-era tractor seat, which needed to be comfortable enough to spend a full day aboard. Moreover, the well-padded saddle is quite narrow, making the Velos feel tight and manageable, and certainly not as massive as you'd expect for a 2-liter hulk.

The riding stance is fairly upright – just slightly inclined forward when reaching to the flat ProTaper handlebar. Fat and meaty rubber grips absorb any vibration transmitted to them.

"I went through seven handlebars to get this one because your touchpoints are so important," said Audette, whose physical therapist wife assisted in determining the optimum bend and height of the bar.

Thumb the starter button, and the jumbo-sized motor proceeds to live up to its Thunderstroke name via the deep, resonant rolls of thunder emanating from the artistically woven 2-into-1 Toce exhaust.

A benefit of massive torque – the motor's already producing 130 lb-ft of grunt at just 1,700 rpm and holds steady up to the 5,400 rpm redline – is that you rarely need to shift gears once on the move. The Velos thrusts forward off the mark like a jet-propelled tractor, with reams of bottom-end punch and midrange torque that invite power wheelies.

It didn't take me long to realize that holding 4th gear almost anywhere away from a freeway was the hot tip – winding open the throttle exiting a turn at almost any revs accesses the mile-high waves of torque that are present whenever you choose to surf them. And there's plenty enough horsepower too.

The Velos can be an extremely easy or very demanding bike to ride, depending on your disposition and how hard you want to lay down all that torque exiting a turn. Audette's choice of a 180/55 rear tire is a wise one. Unlike many American V-Twin power cruisers fitted





Limited ground clearance on the right side holds the Velos back from being an ideal twisty-road monster.



with fatter rubber, the narrower tire helps make this two-wheeled tractor handle like a half-size 1,200cc Euro streetfighter.

Audette has dialed in the bike's steering geometry perfectly, with the wide handlebar supplying good leverage to flick the Velos from side to side through series of twisty turns, aided by the reduced gyroscopic effect of the BST carbon wheels.

Cranking the bike on its side around left-handers delivered the 37 degrees of lean promised in the brochure, but cornering speed is compromised on the right side by the rear cylinder's header pipe, grinding out at around 20 degrees of lean. Customers can now choose an exhaust that has the pipe tucked in for extra clearance.

The suspension eats up bumps and lumps in the road surface, whether upright or leaned over. The

twin radial Beringer/Galfer front brake setup offered strong power, but the rear brake was pretty ineffectual. Audette has since made changes to rectify the situation.

Above all, it's the irresistible urge of that jumbo motor that's so enticing, pulling seamlessly away from as low as 1,500 rpm as you ride the titanic waves of torque peaking at just 3,150 revs – the 3,000-rpm zone is the bike's happy place. Shifting up at four grand as shown on the hard-to-read digital panel of the stock Indian gauges has you right back in the fat part of that massive torque curve.

The biggest disappointment of my daylong cruise was needing to be brutal with the shifter when trying to select bottom gear, but Audette has apparently since resolved the issue.

"I altered the shift lever's leverage ratio from 1:1 to 6:1, and it is now

smoother than the Indian Chief factory shifter," he reported via email. The same tactic has supposedly resolved the weak-feeling rear brake.

### **Bull's Eye**

After riding it, I'd never guess that this is Audette's first crack at building a motorcycle from the ground up. It handles far better than a bike of this displacement should, it has torque for days, and its proportions and finish details make it look fantastic. The Velos is a streetfighter on steroids that's thrilling to ride.

It may be cliché, but here goes anyway: If ever a motorcycle deserves to be called an equivalent of the legendary Shelby Cobra, it's the Audette Velos, a new machine whose qualities are redolent of a bygone age. This minimalist motorcycle with muscle aplenty is one super-desirable set of wheels. **AR**

Motorcycles and airplanes mix beautifully together. Audette's dad also worked on the Corsair seen here, a warbird that starred in the 2022 movie *Devotion*.

