

Metamorphosis: The Rebirthing of a Porsche 997 Carrera 2

How Synergy Racing Prepares a Stock 997 for battle in the Grand-Am Cup Series

By Price Cobb

When I was a kid, the word metamorphosis conjured up the unbelievable and beautiful rebirthing of a caterpillar into a butterfly. The magical transformation from the mundane to the elegant. Truly one of life's breathtaking miracles.

So yes, we are talking about a rebirthing here as well, but this is where it goes all awry for me. No doubt that the 997 Carrera is one magnificent and beautiful car; it's just that I'm not sure that this metamorphosis by Synergy Racing takes these 997s from the mundane to the elegant. However, the change gives you one heck of a race car. Let's take a look.

It all starts quite innocuously when Synergy Racing's Kerrigan Smith places an order for a new 997 with Brenton Evans of Richmond's Euroclassics. Because of the intended car's racing future and rules of the Grand-Am Cup series for which the car is being produced, he orders the basest Carrera 2, with the lone addition of the Chronograph package (arguably Porsche's sole remaining bargain), purported to add a bit of timing to the engine and thus a good thing.

In order to get the build done in a timely fashion there is quite a bit of juggling done by Kerrigan and lead project tech Richard Binzer. Once in the shop the car comes apart down to the bare tub (literally, as the only things left inside are a few of the dash items and some of the wiring), which then goes to their fabrication shop for a complete roll cage, four external jack stand holes, jack plates (hard steel areas under the sill on each side of the car for jacking), steering wheel quick-release adaptor and a weight box. This sounds easy, but is one heck of a lot of work. The end result stiffens the chassis and adds, as you might imagine, a great deal to driver safety.

The real heartbreak here is in the sad fact that the car's sumptuous interior will literally be ripped out, as there is no place for it on the track. Yards of leather, a console full of electronic wizardry for the directionally challenged and a sound system that would delight even the pickiest of audiophiles. You get the picture; a gutting of the poor thing. If this is your car, make sure you miss this day at Synergy! Interestingly, there is so much stuff and weight taken out, the car looks like a kid on tiptoes trying to reach something way up in the sky, with its wheels drooping far out of the wheel wells all cambered up and the tires resting only on the edges. Looks real funny; I'm talking Baja buggy here.

While the chassis is in surgery, the team gathers a long list of parts that will either be added to the car or replace existing bits. Some of the items below may seem odd, but part of Synergy's success is in interpreting and following the rules as Grand-Am have written them.

Some of these bits are: Remote-reservoir three-way adjustable Ohlins shocks with new springs; braided brake lines; PFC two-piece front rotors; PFC brake pads at all four corners; OMP seat and rails with a seat-mounted radio and water drink-hose plug-in bracket; a water drink system with push-to-drink button on the steering wheel; a window net; OMP steering wheel and quick-release system; Motorola base radio; center front water radiator (a stock item on the automatic cars but needed in the scorching Arizona heat); some systems switches in the new carbon dash panel (where the old multi-function display was); a racing clutch and flywheel; an AIM dash and data acquisition system; a non-standard shift lever, quadrant, and cables; two-piece lower control arms (for camber gain only...otherwise the stock part is perfectly adequate); removal and replacement of the street-car plush rubber bushes in the suspension components and the addition of Synergy sway bars, mounts and drop links; Synergy muffled exhaust system; tow hooks front and rear; vented, plumbed and discriminated single dry-break fuel fill system, not to mention the low-level fuel sensor with reserve wired into the fuel tank; new 17-inch BBS wheels, modified five-lug quick-change wheel lugs; new racing battery; billet battery hold-down; kill switch; fire bottle and mechanism; a carbon center console; and the wing off the 997 aero kit (it was found that the car has an aero imbalance without it, and putting the aggressive aero kit front nose on only keeps the imbalance). Whew, that was a mouthful!

Along the way, there is a Synergy-designed chassis wiring harness to support the new electrical additions. Items like this last one add greatly to reducing the build time and the overall reliability of the finished product; no loose wires. (So to speak.)

Working with various brand cars over the years, it has become painfully obvious why Porsches are what they are, and this conversion adds more light to the point. The simple fact is that Porsche 911s all come with bits that are race-ready from the factory. We are talking about the suspension components, brakes, gearbox, engine and so on. You name it, the car is near race-ready as delivered. What Synergy does here is to eliminate some of the components that are superfluous to racing while adding to chassis adjustability (shocks, bars, two-piece lower control arm) and the better use of the mandated Hoosier Racing tires for drivability.

There was a bit more than the usual scramble to arrive at a workable set of spring rates, sway bar rates and shock valving, as the 997's suspension is just that much different than the 996's. All that aside, the only real difficulty in racing the 997 successfully was in limiting some of the wonderful electronic safety features Porsche has built into the car for average street drivers. The ABS, the drive-by-wire, the PSM and the PASM along with other little helpers can become overly intrusive in a racing environment for professional drivers like Brent Martini and Patrick Long.

In this case it becomes more appropriate to call PSM "*sPaSM*," as it really slows the car down when you are in the midst of aggressive race driving. Again, let me reiterate that PSM is a marvelous aid for 99.999 percent of street drivers and I wouldn't have the car without it, but in the racing environment it is too much "big brother" for me.

As you can imagine, exorcising some of these electronic demons is a real chore. As the need for these aids are identified by Porsche, created and implemented, their insistence on a true melding of it all into one nice tidy electronic package makes it extremely hard to merely keep the good. This is one of those times when too much is just that...too much. For instance, if you disconnect one of the sensors, the systems will note that, think there is a problem and raise all safety parameters to “help you get home safely.” There are some sensors that, when removed, so disturb the PSM its own behavior becomes downright testy!

Back to the nuts and bolts: Once done in the fab shop, the chassis goes off for matching interior paint to cover up all the added tubes, plates and new welds made inside. This really spruces the 997 back up, if not to its prior leather-clad self.

By this time Kerrigan will have the laundry list of componentry on the shelves or rolling in the shop door as the chassis returns from paint. Once in the door, it will take a solid three work-weeks to assemble the car, put it up on the flat plate for corner weights and alignment, and a test drive. This reassembly is a marvel of choreography to avoid people stepping on or over each other all the time.

The engine is bone-stock. Yep, you heard it right; dead stock, in “as-delivered” condition. The slick transmission is too, but there is a need for a locking differential at some tracks. There are several options here, all of which Synergy can provide. Simply check the right boxes when you order yours!

Just before fire-up, there is a full electrical systems check to verify all that can be as the new racer sits stationary. The initial fire-up after all this surgery can be a trying moment since Porsche builds in an anti-theft mode that has been known to shut the car down (at times this seems random!) until you get the dealer to step in and re-initialize the ECU. There are known work-arounds to this that Porsche talks about, but during development Synergy found that even these aren't always successful. There is a reason why each key is safety-wired into the ignition switch. Again, we could all argue that this is overkill, but be warned...there is nothing as humbling as removing the key (for safety) late Friday night, only to find that Saturday morning of the big race day and the car is stone dead. Oh, did I mention that no dealer will help you resurrect the ECU on a weekend? And how do I know this? Sorry, I don't kiss and tell.

Grand American is doing a bang-up job of trying to keep the cost of racing down with the Grand-Am Cup series. The class is ultra-competitive between the drivers and different automobile brands. There is no arguing that this car is inexpensive to build, because it isn't. But it is very inexpensive to run, which is the long-range goal of both Grand-Am and Synergy Racing.

Porsche is the often the dominant marque on the grid in the Grand-Am Cup's GS class, and the new 997 should soon completely replace the old 996s. If the Synergy 997's performance is any indication of proof-of-concept, there will certainly be more Grand-Am Cup 997s coming out of Synergy Racing. Kerrigan and Richard are about to start the

build of chassis No. 6. When you see a finished Synergy Racing 997 in the paddock, you can't help but notice that the workmanship and assembly are first-rate. This is truly a turn-key race car with at-track support (parts and technical help) supplied by Synergy Racing and partner Euroclassics. Can't beat that, now can you?

Synergy Racing would like to thank their suppliers and the teams who have their cars: CDOC (Charlottesville, VA) for the majority of stuff; RCV (Radio Communications of Virginia) for the Motorola radios; PFC for the brake rotors and pads; DV8 Metalworks; Xpel for the body and headlight lens covers; BBS for the wheels; and, lest we forget, Steve Marcus and Marcus Motorsports and BGB Racing for the team and drivers they've assembled to race their Synergy Racing 997s in 2006.

You can see the Synergy 997s in action at VIRginia International Raceway twice in 2006. The Grand-Am Cup will race in support of the Grand-Am Rolex Sports Car Series over the weekend of April 21-23, and will end its season back at VIR as the headline attraction with its first-ever 12-hour enduro over the weekend of Oct. 6-8.

For more information, contact Synergy Racing at 434-822-8180 or on the Web at www.synergyracing.com , or VIRginia International Raceway at 434-822-7700 or on the Web at www.virclub.com .

(Price Cobb is one of America's most legendary Porsche racing drivers. In 1994 he became the first American to win the coveted worldwide Porsche Cup. In addition, he won the North American Porsche Cup three times, resulting in its retirement. He also took overall top honors at the 1990 24 Hours of Le Mans and 1994 One Lap of America, and scored back-to-back podium finishes at the 1989-90 Rolex 24 At Daytona. He has driven for Porsche, Chevrolet, Mazda, Jaguar, Chrysler and Nissan factory teams in SCCA, IMSA and FIA GTP competition. He currently lives in Danville, VA., with his wife Charissa and daughter Courtney.) Editor.