



everything is important and

PORSCHE

CALIFORNIA
69 POR

© 2015 Stance & Speed and Singer Vehicle Design

Published by



www.stanceandspeed.com
St. Paul, Minnesota, USA

All rights reserved. With the exception of quoting brief passages for the purposes of review, no part of this publication may be reproduced without prior written permission from the publisher.

The information in this book is true and complete to the best of our knowledge. All recommendations are made without any guarantee on the part of the author or publisher, who also disclaim any liability incurred in connection with the use of this data or specific details.

We acknowledge that certain words, such as model names and designations mentioned herein are the property of the trademark holder. We use them for purposes of identification only.

Singer Vehicle Design's restoration, tuning, modification, and/or customization services are provided solely by Singer. Singer is not sponsored, approved, endorsed by, nor in any way associated or affiliated with Porsche Cars North America or Dr. Ing. h.c.F. Porsche, AG (www.porsche.com).

First Edition Published November 2015
ISBN 13: 978-0-9891149-4-3
Library of Congress Control Number: 2015949162

Printed in China
Cover: Designed by Guy Allen, photo by Drew Phillips
Endpapers: Antonio Alvendia
Pages 3 and 5: Drew Phillips
Title Page: Peter Vincent
Contents: G.F. Williams
Foreword: Drew Phillips
Last Page: Holly Martin





ONE MORE THAN 10
SINGER AND THE PORSCHE 911

Michael Harley
& Rob Dickinson



Contents

Foreword Chad McQueen	17	Richard Meaden: Forsaking All Others	126
Preface Rob Dickinson	21	Spotlight 8: Suspension	128
Chapter 1: Viva Rostyles	24	Spotlight 9: Electrical Harness.	136
Chapter 2: Fuchs and Ducktails.	30	Marino Franchitti: A Whole Different Level.	140
Chapter 3: Down Among the Details	32	Spotlight 10: Headlights and Taillights	148
Chapter 4: The Dream Client	42	Spotlight 11: Wheels, Tires and Brakes.	158
Chapter 5: Enter Maz.	50	Jeff Zwart: My Definition of Balance.	168
Chapter 6: For a Few Dollars More	52	Spotlight 12: Oil and Fuel Caps / Fuel Cell.	174
Chapter 7: Rock Stars	56	Spotlight 13: Mirrors	178
Epilogue: The Future	64	Tiff Needell: A Project of Deep Love	182
Matt Stone: What is the Ultimate Porsche 911	74	Spotlight 14: Interior Design and Features.	190
Spotlight 1: It's a Collaboration	78	Spotlight 15: Dashboard and Instruments	200
Spotlight 2: Customer Car Preparation	82	Chris Harris: For the Right Reasons.	208
Spotlight 3: Carbon Fiber	89	Spotlight 16: Test Drive and Shakedown	214
Spotlight 4: Bodywork and Paint	94	Spotlight 17: Bespoke Development	222
Pete Stout: The Charm's the Thing	100	Jay Leno: No Compromise	238
Spotlight 5: Engine Work.	110	The Machines	256
Spotlight 6: Transmission.	114	Cast and Crew	260
Tom Ford: Slow Cooked	116	Contributors	266
Spotlight 7: Exhaust	123	Acknowledgments	268



Drew Phillips

Foreword

I've grown up around Porsches. My dad owned and raced many of them, so they've always held a special place in my heart and soul. Dad's first new car was a Porsche, and he won his first SCCA race at the wheel of his '58 Speedster 1600 Super. And I'll never forget the summer of 1970, which I spent on the set of *Le Mans*, the circuit-turned-film set swarming with screaming 917s and many other great cars. It was there that my dad put me on his lap as we drove in Solar Productions' iconic No. 20 Gulf-liveried 917 shorttail, and the torque of that flat 12, plus the sound, were riveting. During that brief, memorable ride, I had placed my hands inside of his on the steering wheel, and he took his hands away and I actually steered the car for a few seconds. Talk about a mind-bending experience.

Over time, it's been my privilege to drive and race many great Porsches: that same 917; the 908 in which dad and Peter Revson finished second at Sebring in 1970; 910s; RSRs new and old; a GT1 Evo; and so many others that all stand out in my mind as the Greatness of Weissach and Stuttgart. And of course, great 911s. I'm lucky enough to own two of my dad's original street Porsches, plus my own hot rod S/T-style 911 canyon scalpel. I first saw one of Rob Dickinson's optimized, fortified, reimagined, and utterly reborn Porsche 911s at the Quail Motorsport Gathering in Carmel Valley, California, and was blown away with what Singer Vehicle Design had accomplished. The concept and design are second to none, and very brave; designing and building new composite bodywork for a car as iconic as a 911 is huge. The look and the stance are perfect—not quite retro, not purely modern, but an artful blending of all that the great Porsche 911s, race and street, have ever had to offer; it's an absolute stunner.

Singer's craftsmanship and attention to detail rival museum-quality art at its highest levels—painstakingly beautiful. These bespoke creations cost a lot of dough, but everywhere you look, you can see the care taken with your investment.

You can see, feel, and hear those dollars, craftsmanship, and artistry again when you fire up that

high-tech, naturally aspirated flat six. The sound comes right off the racetrack, and the car is just so much fun to drive. So powerful, yet not over the top, and every driver input is just right—it's a bit of a cross between the 2.8 RSR of the early 1970s and the recent 997 GT3 RS, among history's best 911s.

Special cars are the ones that stick with you, that you revisit over and over again in your head. For me, the Porsche 911 reimagined by Singer is absolutely one of those cars. It's a timeless interpretation and execution of the best that a Porsche 911 can be. Job well done to Rob and the guys.

Chad McQueen



Chad McQueen is the only son of actor, producer, martial artist, and racing driver Steve McQueen and his first wife, Neile Adams McQueen. Chad followed in his famous father's footsteps in acting and film production, as well as in his considerable love and appreciation for cars, motorcycles, and motorsports. Like his father, Chad developed a taste and talent for off-road racing, often competing in the Baja 1000. In 2004, he won an SCCA National championship, qualifying him for that year's SCCA Runoffs. Chad then took up professional-level road racing in the Grand-American Road Racing series, alternately competing in the Grand Touring and Daytona Prototype categories. Chad McQueen remains an ardent automotive and racing enthusiast and is active in the management of his father's considerable film and personal legacy.

Rock Stars

> **We had accomplished** so much by late 2011—displaying our first reimagined G Series car during the Pebble Beach activities in Monterey and following it up with a reimagined 964-based car at the Los Angeles Auto Show. But stern tests awaited as international rock stars from the world of automotive journalism would be driving the cars.

All of us were confident that the restored 964 was a far better car than the G Series Pete Stout had driven for *Excellence*. The day after its L.A. Auto Show debut, we handed the keys to the silver car—bound for Mexico—over to Tom Ford, from *Top Gear Magazine*. Of course, as we had been working continuously to prepare the car for its world debut, it had literally just been screwed together and there were some things that still weren't working. The electrically operated power seats wouldn't even move into position, for example. It was not shaken down, but it was beautifully executed. So we took a chance.

Tom had written a very nice piece about the Orange Car a year or so earlier. He hadn't driven it, of course, but he seemed to be a believer in what we were doing. He understood our mission, he liked our style, and he got along very well with myself and Maz—thankfully, because he got off the plane and walked straight into a shop full of scrambling workers. He was there to drive a car, but we were still finishing it! Tom, a real trooper, smiled and rolled with it.

We took a nice drive through the canyons, and he liked it. It wasn't perfect—and he said so in his story—but he liked it. A lot. His review, published in January of 2012, ended brilliantly: "Singer has expanded the vocabulary of this Porsche while retaining the basic, satisfying, recognisable grammar. It is one of the best things I've driven in a very long time." Then he rather cheekily added,

"The upshot? A very simple conclusion. The most exciting car ever built by Porsche... isn't."

After the *Top Gear* drive, the silver car's restoration was completed and it was delivered to its owner in Mexico, who has used it enthusiastically on road and track. The next car to complete the process was a beautiful machine belonging to a customer in New York, finished in a wonderful color called Stone Grey. And the next heavyweight automotive publication to make the trip to California was the UK's *Evo* magazine. This publication's tagline is "The Thrill of Driving," and the journalist was Dickie Meaden, a very talented driver and a man who owned a Porsche 964 RS. I hoped it could be the perfect next building block.

With Dickie we got more than just a story, though. He came and hung out with us at Sears Point for several days, helping to set the car up and dial in the driving characteristics that we wanted. It was massively important for us. Dickie loved the car and wrote a hugely complimentary review, signing off with the following words: "When the time finally comes to leave this heartbreakingly wonderful machine behind, I feel something akin to grief." By the end of the session at the racetrack, he was just drifting the car around with one hand—a great guy.

"When the time comes to leave this wonderful machine behind, I feel something akin to grief"

—Richard Meaden in *Evo* magazine

The car, New York, looked sensational in the photos for the *Evo* piece, shot up in the mountain roads above San Francisco, lit by the sunset. But the car's work wasn't done yet.

Word was getting out about our reimagining of the 911, and the *Top Gear* television program, in the UK, asked if we wanted to appear on the show. Thanks to the fabulous generosity of its owner, New York was called up for service again. *Top Gear* was a whole new level of risk, as they were not going to cover any of our expenses. We would have to ship a car all the way to Great Britain and bear all of the costs. *Top Gear* was the most watched car show on the planet. Nobody could guarantee that the review would be positive. But we knew that they wanted to feature it on the show because they liked the car. There was no way *Top Gear* was going to rip us to shreds unless Jeremy Clarkson got hold of it and shot it. He has form in that area with 911s...

There was a bit of a debate around the office, weighing the pros and cons. It was one hell of an opportunity, and we were hardly flush with orders, so we said yes. I saw this as an opportunity we had worked hard for. We had gotten ourselves noticed, and now we had to sustain the momentum. Each of these reviews was

a building block of affirmation, confirming that what we had done was good. Glenn and Matt understood that we could not say no, so we did it.

New York was buffed and loaded into an airplane for its trip overseas. Our budget was \$30,000. Then we discovered that the date for filming the show was different from the date they filmed the car's hot lap on a track. Three weeks different. We spent \$70,000 taking the car to England.

In the end, the final cut was a great little piece with James May. Off camera, he said, "Rob, it's a pervert's 911, isn't it?" On camera, it was "a love letter to the 911." He said all of the best things that he could say about the car, including the quote at the start of this book. While they didn't show the actual timed lap, for which we had stayed in the UK an additional three weeks just to film, the car went spectacularly, recording a time equalling that of the Lexus LFA, with the Stig proclaiming it, "bloody brilliant." Despite our stress and anxiety about how much money had been spent, we climbed back onto the plane pretty happy.

When Maz and I caught our breath, the next test we saw looming was Chris Harris and his *Drive* series. With the salute from *Top Gear* and the fantastic piece from *Evo*, we thought we had the confidence to give our work to someone with his reputation. We were both big fans and hoped he would do a *Drive* video both on public roads and on a track.

Chris was known for being crazily talented behind the wheel, knowledgeable about sports cars, and very entertaining on camera. The *Drive* videos were recognized for their meticulous cinematography and editing. Viewers liked everything about them, and their program was gaining momentum. It became very clear that our primary mission was to make our work good enough for Chris Harris to say nice things about—it was literally as blunt and as focused as that. We figured if Chris said good things about it, everyone else was going to say good things about it.

At this point, we had taken another couple of deposits and had already started work on a car belonging to a French owner. François had generously agreed to allow one media person, just one, to drive his car. And for him, it had to be Chris Harris. So a date was put on the calendar, and for once it didn't require us to scramble and rush to complete a car. We had time to finesse the car

and properly test the car. In the end, we were reasonably happy with the car we gave Chris, although it was still not perfect. Even then, we were still tweaking it.

In the process of putting this book together, I've realized that I often categorize things as "not perfect." This is not in any way to denigrate the work that many people have put in, at very strange times of the day and night to get these cars where they need to be, the way they need to be. I guess there's a view of perfection that sees diminishing returns as you get past 95 percent of the way to a goal. I just don't work like that. Those last few percentage points are where you make your name. Usain Bolt can run 100 meters in 9.58 seconds, which everyone agrees is very brisk. But that doesn't mean that he doesn't want to go faster, that minute adjustments to form and technique don't count. That's exactly where they do count.

Anyway, Chris Harris and Neil Carey, his partner in crime and cameraman, came to our shop and we gave them a full tour. When that was done, he drove the car in our local mountains and then at Chuckwalla Valley Raceway, near Palm Springs, in the Southern California desert. Chris came along and really changed everything because he got in the car, drove it, and loved it—more important, we loved him and he loved us. We genuinely had a great time with Chris, and he saw us as the real deal in the sense that this was coming from the right place. Chris loves his Porsches and he could see that we are infatuated with them too, I think.

Most of Chris' videos were eight or nine minutes long, but this time they allowed Maz and myself time to yak. His cameraman pointed the lens at me and I just went off. It was real, heartfelt, and passionate. The final film, with Chris sliding this fabulous-looking car around the racetrack in slow motion, was amazing. I couldn't have imagined it to turn out any better than it did. To date, far



Carbon Fiber

The prepared 964 monocoque, in black primer, along with its cleaned and primed doors, is transported to Aria Group in Irvine, about 50 miles south of Singer HQ. Aria is a major engineering, design, and prototyping company, renowned internationally in the automotive sector, not least for its realization of impressive concept cars. The team at Aria puts the monocoque through several different steps that will eventually result in a chassis with a painted, carbon fiber body shell.

At the factory, Porsche used steel for all of the 964 exterior body panels with the exception of the front and rear bumper fascias. The material is readily available, low cost, easy to shape, and simple to repair. Unfortunately, it is heavy.

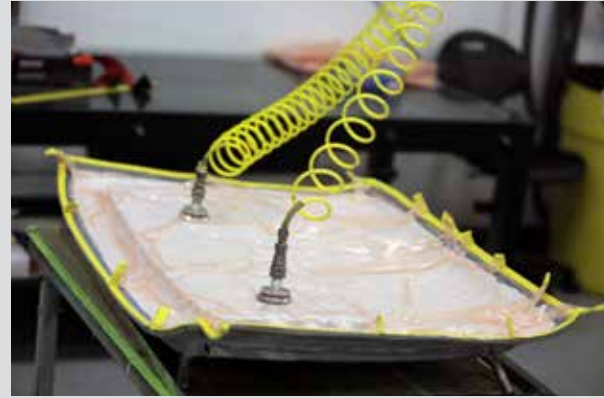
All cars reimagined by Singer feature body panels made from carbon fiber. The front and rear fenders, roof section, front and rear bumpers, front and rear deck lids, and rear spoiler are all rendered in the material. Carbon fiber is essentially made up of very thin strands of carbon twisted together and woven into a fabric. In its natural state, carbon fiber is very flexible. To make the material stay in place (e.g., to hold the shape of a body panel), sheets of dry carbon fiber fabric are impregnated with a durable two-part liquid resin. This “pre-preg” carbon fiber is then laid into molds and vacuum bagged before the resin chemically cures into a hardened state. Final curing takes place in an oven where the vacuum encourages the carbon fiber to conform precisely to the contours of the molds while eliminating air bubbles. This last process is critical for the strength and blemish-free appearance of the finished panels.

Carbon fiber, a composite material, is incredibly strong for its weight, allowing greater strength than steel or aluminum to be achieved while reducing weight dramatically. Panels made from carbon fiber don’t corrode and they may be shaped to conform to nearly any surface, which is one reason why the material is used by major racing teams. But carbon fiber is expensive, working with it is labor intensive, and high levels of skill are required to deliver a part that is perfect.

Singer’s carbon fiber body panels are all made in-house at Aria, using tooling generated by them from Singer’s designs. Once the parts are cured and removed from the molds, the next step is a dry-fit. Here the unpainted carbon fiber panels are trimmed to size, cleaned, and matched to the chassis—literally held in place with clips—to check on their orientation and to ensure the panel gaps are all within specification. The standard steel doors are retained for safety and side-impact reasons and their positioning drives the dry-fit process. After Aria is satisfied with its work, Rob and his Singer colleagues Steve Ritchie and Jason Frahm are called to visit the company. On site, the three do a physical inspection of the carbon fiber and sign off on the overall dry fit of the lightweight, gray body panels.

“Lots of people come to Aria with crazy ideas... and we say, ‘eh, thank you very much... and politely show them the door,’” says Clive Hawkins, president and CEO of Aria. “But I liked Rob, and I liked Porsches, and I liked the idea. The project did take much longer than expected because of Rob’s attention to detail, but that turned out to be a big factor in Singer’s eventual success. Doing it properly took time and required big investments.”





Photos: Antonio Alventia

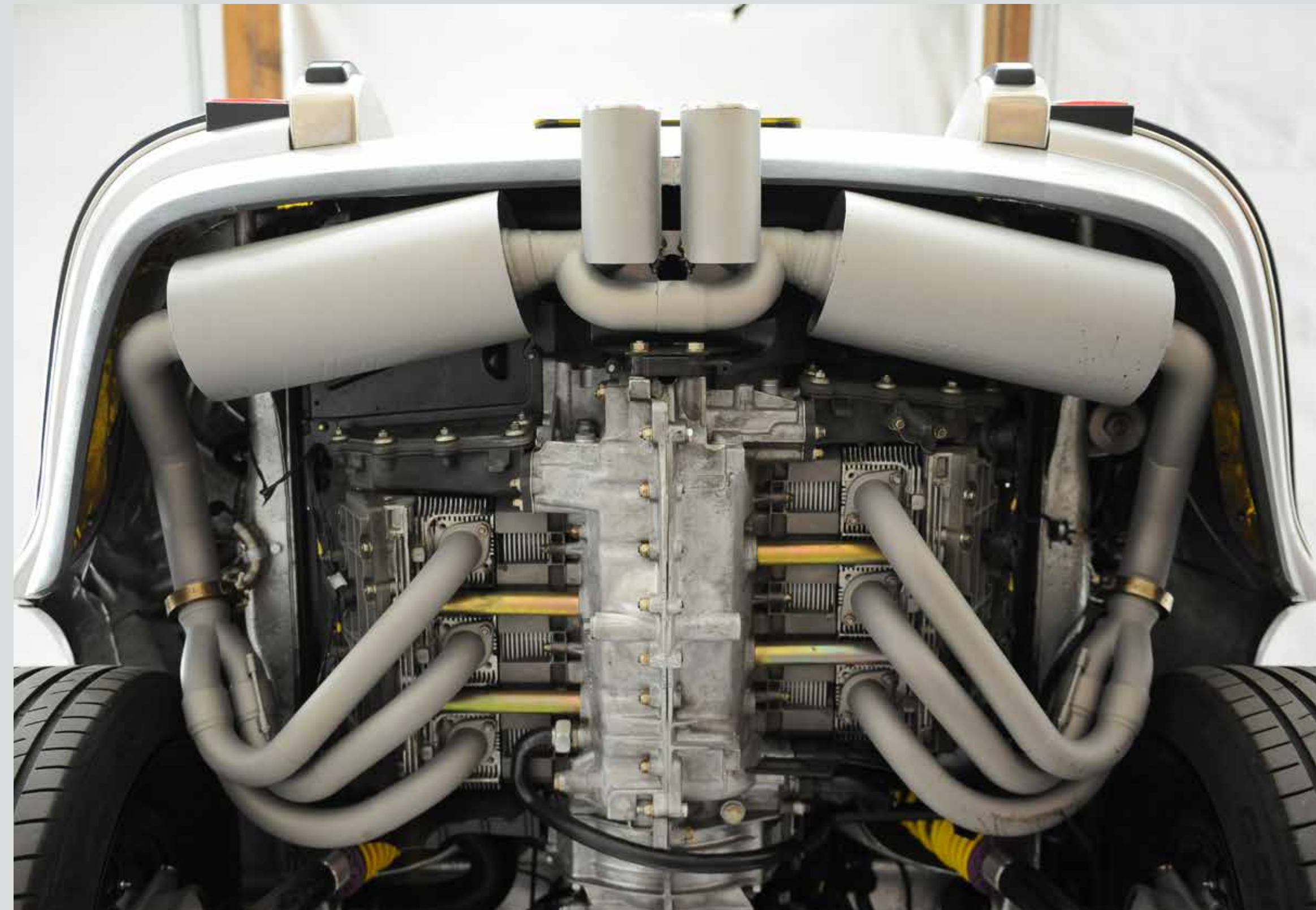
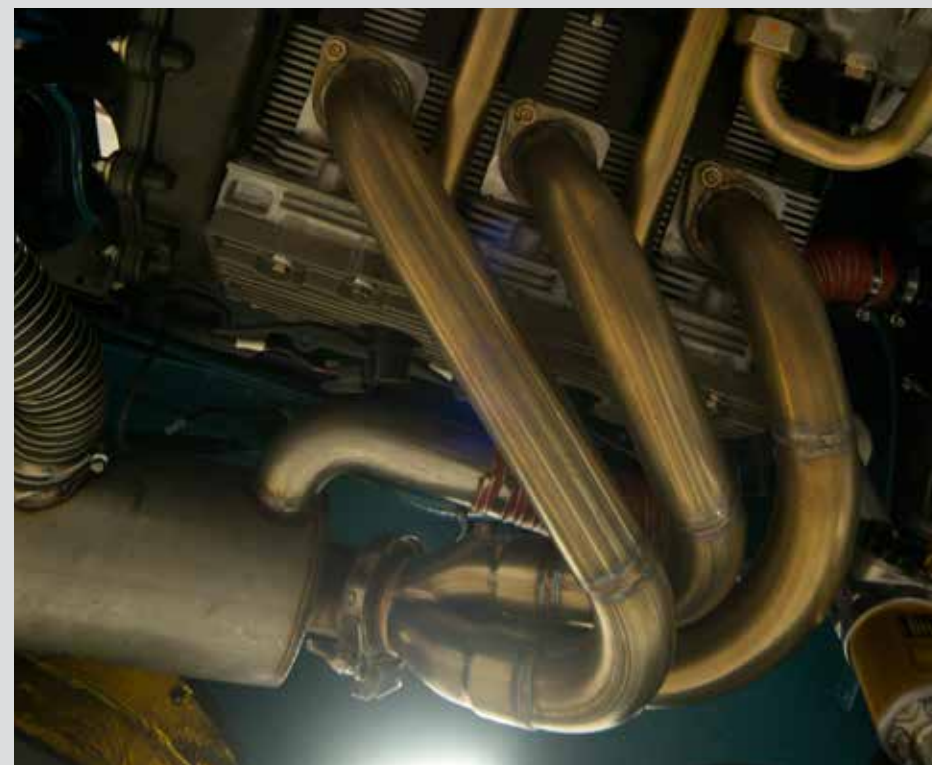
Exhaust

A very special Porsche 911 deserves a bespoke exhaust system, so Singer works with Jack Burns, of Burns Stainless, and CPR Fab, run by Chris Parker, both located in Costa Mesa.

Working together, and heavily inspired by the GT3's exhaust system, the team developed and optimized a bespoke emissions-legal exhaust and muffler system.

As they lack warm liquid coolant, air-cooled 911 models warm the cabin by circulating air around the hot exhaust headers within heat exchangers. The design is effective when combined with electric blowers, but it limits header design—which impedes performance. Determined to optimize the exhaust outlets and allow the engine to breathe without restriction, Singer has opted to warm the cabin using air circulated in boxes around the hot catalytic converters.

The exhaust system is modular, with three basic parts: header, catalyst / heating section, and muffler. Fabricated by hand from high-grade stainless steel, the exhaust system is ceramic coated to improve corrosion resistance and provide maximum heat insulation to the surrounding components. The exhaust tips are handmade, by Jack Burns, from high-grade stainless-steel pipes that are ceramic coated. As a final touch, the tips are finely polished to a bright finish.



Photos: Peter Vincent and Drew Phillips



Photo: Holly Martin



Drew Phillips



Evan Klein



Drew Phillips



Photos: Drew Phillips



Photos: Holly Martin



Photos: Drew Phillips



Photos: Drew Phillips



Drew Phillips

Jay Leno

No Compromise

Almost all the cars you can buy now represent some kind of compromise, whether it's safety versus performance, economy versus price, or whatever. But there are still a few obsessive people building really great cars. Enzo Ferrari was one of those people; Horacio Pagani is one. Ron Dennis at McLaren is another. These are people who focus on one particular aspect of a car—its performance and handling. Rob Dickinson of Singer Vehicle Design is one of those guys.

You could say he's obsessive.

But, if you're a serious fan of anything, you admire the people who do things obsessively. You know, there are people who can tell you, when you're drinking a glass of wine, if it came from this vineyard on the left side of the hill, on a Thursday, on a sunny day. Okay, for most people, they don't really care. They just want to have a glass of wine. But there are those few connoisseurs who really enjoy that. That's who Rob Dickinson restores vehicles for. His reimagined Porsches aren't vehicles for the masses.

It's like the difference between a regular orange and something grown organically. You can get orange juice from concentrate or you can make fresh-squeezed orange juice. This is über-fresh-squeezed orange juice. It's as good as it's ever going to get. That's the fun part, knowing you've got something very special—the best version of the Porsche 911 that can ever be.

With a Porsche 911 reimagined by Singer, there is simply no compromise involved. People see it, and they're astounded. You can look at a Camaro, a Mustang, or some other car, and say, "Ah, if it just had this, it would be better, or if it just had that." But, with a 911 restored by Singer, you're getting the absolute best they can make, and cost be damned, basically. Imagine if you could build something, with cost no object, you'd get the best version you can get. It's not something the average person can even think about doing economically. But for those people who can afford it, or who want to do this to a 911, that's what this car is.

Of course, you can personalize it. Not just paint and upholstery—if you want particular brakes or a certain engine specification, you can have your input

on that as well. And you can take that to extremes. In some new cars you can have my favorite ridiculous option, fitted luggage. I don't know anybody who goes anywhere with fitted luggage. There's nothing funnier to me than when I see a vintage Mercedes-Benz 300SL pulling into a meet with fitted luggage packed up to the top of the rear window. And, of course it's always empty.

Guys, here's a rule: your spouse is not going to travel that way. She's not going to put her stuff in your stupid, fitted luggage. It's not going to work. Don't even order it. Then again, there are people who have to get it, with the monogram and the whole thing. That's the fun part. You know, Singer and McLaren and all these guys, they are the equivalent of Figoni and Falaschi or LeBaron, the companies that built the great custom coachwork cars in the 1930s. You can get a 911 redesigned by Singer exactly the way you want it.

Of course, it's pretty expensive.

I haven't driven many mid-'90s Porches. So, I don't have a lot of comparisons. When I first drove this car, I was very impressed with it. You could push it pretty hard, and it made all the classic 911 noises. You know, the metallic ringing through the fan fins and all

that. I was very impressed with how it sounded and drove. It feels as though it was cast from a solid billet.

I'm starting to see Singer-restored 911's at the events I go to in California. They were at The Quail and at Pebble Beach. Their reputation precedes them. Singer is actually located right around the corner from my garage. For some reason, I just assumed they were across the street from AMG in some sort of ultra-modern, all-glass factory in Germany. But they're not. They are headquartered in a warehouse right near me. They're just Porsche enthusiasts who, like W. O. Bentley or Fred and Augie Duesenberg, will never get rich off of this. They do it for the love of the 911.

I have a friend who fixes up used cars and sells them. He'll go broke because he repairs them way better than they need to be to sell. Consequently, he never gets quite the price he wants for them, because they're really good. His saving grace is that hopefully his reputation, one day, will precede him, and people will know to pay a little bit more to get a car from him. That's what's happening here.

People ask, "Where do you think Singer Vehicle Design will go from here?" They're already doing the ultimate air-cooled Porsche 911. But that's a mistake, asking where do they go from here. They're assuming this is some sort of viable business model. I'm not so sure. Maybe they just really like 911s. That's the part where the passion really doesn't easily translate; you can't explain this phenomenon rationally to some people.

It always makes me laugh. We hunt for a terrorist. We put a \$10 million bounty on his head and we don't find him. So we increase it to \$50 million. You know, this guy lives with a bunch of goats in a cave. \$50 million! What's he gonna do with it? We're always wondering, "How do you make money?" But that's not the question here. What if, like Singer, it's simply your passion and you really like doing it?

You know, whether you're a monk, painstakingly illustrating the book of hours by hand, or maybe one of these guys like George Daniels who builds hand-tooled watches—one a year—and spends twelve hours a day, seven days a week making this watch. Does he ever get real money for it? No. I've seen a Duesenberg J that a guy did, a working, running model. It's about 1/12 scale. It takes like ten years, maybe twelve years to make it. Do you make money on that? No. It costs as much as a real Duesenberg.

Sometimes, business models and money or whatnot are just not the motivating factor. It's about the passion that you have. You want to see something that you created out there being enjoyed.

Singer makes a big point, as they probably legally have to, that they are not a subsidiary of Porsche, and they are not affiliated with Porsche.

I remember when Rolls-Royce called George Brough, who built the legendary Brough Superior motorcycles, and told him to stop using the slogan "The Rolls-Royce of Motorcycles" about his machines. He pulled that little stunt where the people from Rolls-Royce came to the Brough factory and saw everyone carefully assembling bikes

wearing white gloves. They were so impressed, they said, "Go ahead and use the slogan." Well, legally, nobody could do that kind of thing anymore.

I think Porsche obviously winks, nods, and looks the other way.

I've been asked if the Singer-reimagined 911 is my kind of car. Would I like one of these?

Stated simply, I like it very much. I think they're wonderful. I mean, obviously, the one you're looking at with the half a million-dollar price tag, it's got the hand-tooled leather, and that luggage, and all that. But I don't need all of the creature comforts. I just like the driving part of it.

Anyone who's ever built a motor, or put a car together, realizes you don't get rich doing this. You go, "Wow! this is really expensive!" Yeah, how much is a motor: \$150,000, \$200,000 just to build that motor? I don't know. I built a jet car here at the garage [laughs]. It was probably a million bucks by the time it was done. It's nowhere near as sophisticated. Nobody appreciates anybody else's work. That's sort of the problem. Everybody thinks, "Oh, my friend is a mechanic, he could put . . ." Noooooo, you're dealing with artists here. You're dealing with people who are taking it to the next level.

This is the difference between going to your kids' recital, then going to a Yo-Yo Ma concert. It's the difference between this and your average guy on the street putting this stuff together. All of the components are ridiculously expensive. I mean, try to buy metal; see how much metal costs. It's like, oh, my God. I mean if you were to go to have a crankshaft made, it would cost you, what, \$15,000 to \$20,000, something like that? And you haven't even done connecting rods and pistons and everything else.

We live in an era where technology is cheap and labor is expensive. In the old days it used to be just the opposite. When you look at a 356 Porsche four-cam Carrera 2, a guy could spend eight hours with a pair of tweezers putting in roller bearings one tiny ball at a time. Now you've got to pay that guy's health and welfare benefits and his retirement package. Nobody can afford to do that anymore.

So, you go with a plain-bearing crank and whatever the cheapest way to do it is. This Singer effort is the opposite of the cheapest way to do it. This is the most expensive way to do it. But, if you're someone who appreciates that effort, you understand. This is a car that will hold its value for a long time. I think that in the short time that Singer's been out, the company seems to have established a very good reputation.

Will Singer's reimagined 911s be collectors' items in the long run? That's easy. They're collectors' items now.

Jay Leno was speaking to Ken Gross

Following a trail-blazing career in stand-up comedy, Jay Leno hosted NBC's The Tonight Show for more than two decades. But to car and motorcycle enthusiasts, Jay is better known for his expansive Big Dog Garage and his website, www.jaylenosgarage.com.



Photo: Walker Dalton



Drew Phillips