

# Project 911S

## Part 19: The good, the bad and the mulligans

By Mitchell Sam Rossi

PHOTOS BY THE AUTHOR

**F**or our Project 911S series, this is the catchall article where I cover the modifications that did not fit neatly under prior topics. It is also the time to point out the mistakes that were made during the course of this long endeavor. Luckily, most of these errors were relatively simple to fix, and of the ones that were not, well, sometimes a plea of ignorance is the smoothest road to absolution.

### The Good

The dashboard layout of the early 911 is a hallmark in simplicity: Five gauges cleanly set across an oval dash plate—from left to right, a combination gauge showing fuel and oil volume followed by oil temperature and oil pressure

glance was all that was needed to know when to grab the next gear and reset the power curve. Of course, to the non-racing observer, this meant the center gauge was somewhat cockeyed.

To retain the look of the original VDO gauges, yet keep the benefit of having the redline at the zenith, the tachometer was sent to North Hollywood Speedometer for customizing. The gauge restoration and design shop modified the tach so the 7000-rpm mark was at the uppermost position, yet the numerals were correctly aligned around the face plate. The blinker arrows and high-beam indicator were also relocated so as to be at their proper posts.

Inside the tachometer, the technicians silicone-dampened the needle mechanism. This

car, and without argument they are a drastic departure from the single oval mirror fitted to the 911 originally. But, as the S is scheduled to campaign in Porsche club cup racing, the ability to see someone nosing inside my rear fender far outweighs the mirrors' lack of aesthetics.

There are other types of competition mirrors that are smaller and have better aerodynamics, such as the clamshell mirrors that lay against the wing windows, but I have to say "been there, done that." Those teeny reflectors are worthless when it comes to quickly scanning the area immediately around the car. "Slamming the door" on your opponent, after all, is meant to be figurative, not literal.

Although the article covering body and paint, (Part 14, 02/02) showed the S fitted with an RS front bumper, it has since been replaced with a larger and more aggressive RSR front spoiler. Although the original 1973 911 RSR was equipped with bulbous front fenders, this particular bumper (from Performance Products) was designed to fit the non-flared, narrow-bodied 911.

The RSR bumper offered several advantages over the RS rendition. First, it is taller, so when the car was lowered, it narrowed the gap between the tarmac and spoiler, sharply reducing the airflow under the chassis. The competition nose is also equipped with brake inlets to plumb cool air to the front rotors.

### The Bad

As anyone who has ever undertaken this sort of project knows, there are no instruction booklets, no blueprints and no how-to manuals explaining the proper technique to build a Porsche race car. Talk to six mechanics on any given day, and you will end up with six different opinions. Ask the same question of the same wrenches the following afternoon, and, guaranteed, you will have a new set of answers. The fact is, there is no consensus because there are far too many variables.

If all the 911 chassis were truly identical, the



unit. Then there's a large-faced tachometer, a speedometer and a clock.

The clock, of course, was one of the first things removed from the S's dash. As mentioned in previous stories, it was replaced with a buxom warning lamp to signal impending doom if the engine oil pressure ever decided to take a leave of absence.

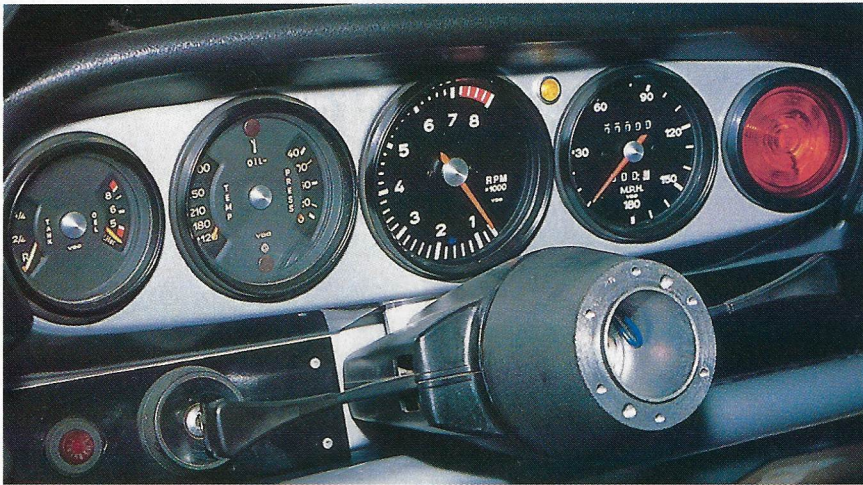
In the car's initial racing career, the tachometer was turned so that the 7200-rpm redline stood at the top. In this pole position, a quick

reduced the tendency for the pointer to bounce about and give errant readings. The tach now displays rpm with steadfast accuracy. The shop also calibrated the speedometer and increased its top-end limit to 180 mph, an optimistic threshold, needless to say, for a slightly modified 2.7-liter motor.

Another worthwhile improvement was the addition of the 993-style side mirrors. Many ardent Porsche enthusiasts would balk at fastening these bulbous appendages to an early

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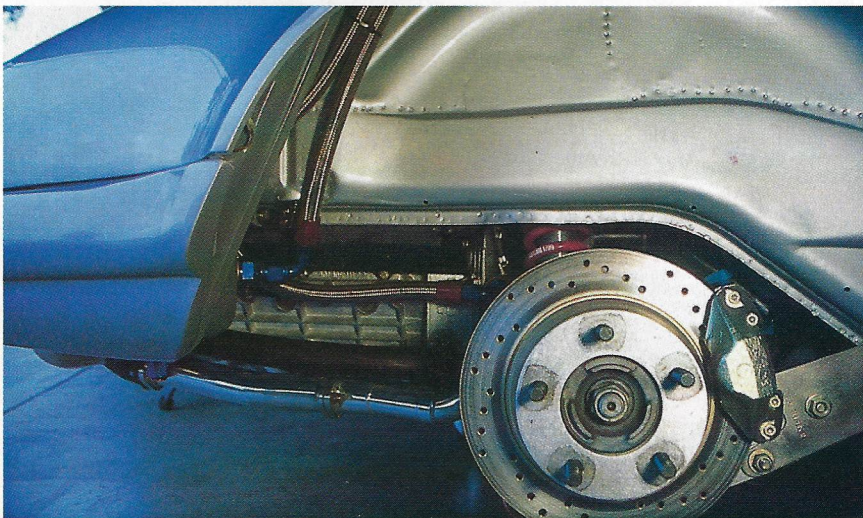
builder's decision to use one manufacturer's component over another would still alter subsequent elements. For example, the design of one spring plate may offer more rear camber than another. This in turn can affect the size of the wheel that fits under the fender.



New upgraded tachometer (center) and speedometer (right) with large oil pressure warning light (far right).



Corrected seat brackets help me fit under the car's inner roof.



Oil lines as they drop down from inside the fender well to the oil tank and engine.

The difference in wheels may force the owner to purchase a certain brand of tire, as not all tire manufacturers offer the same sizes. Suddenly, this car is handicapped by its narrower wheels and tires simply because a particular spring plate was chosen.

Alas, rear wheel width is also a problem for the S, although it does not stem from the ERP spring plates. The ERP components offer unparalleled adjustability. The trouble stems from the RS fenders being grafted on too precisely. This is by no means a mistake but rather my not having the wisdom to plan ahead.

In its earlier form, the S accommodated 9x16-in. Fuchs wheels in the rear and 8x16-in. Fuchs (with a 944 offset) up front. The RS fender flares were attached in the manner of a real 1973 RS, which easily enveloped the 9-in. alloys.

After the completion of Phase II, however, I was hoping to put more rubber to the pavement. Under the new front fender flares, Urs Gretener, of Gretener Carrossier, was able to adjust the suspension so that 8.5x18-in. wheels would fit, even though much of the space under the fender was taken up by the coilover springs. Unfortunately, the largest rollers that could be slipped beneath the rear fenders measure only 9.5x18 in.

Gretener explained that had the suspension and wheels been fitted before the car was painted, the RS fenders might have been "massaged" to fit 10x18 wheels. Needing an additional inch of fender flare was something I had not foreseen, nor, at this point, could I justify damaging the S's pristine silver coat to remedy.

The only other concern with the S is that the engine displacement is too small to match the rest of the car's enhancements. Admittedly, the 2.7 liter has not had an opportunity to prove itself, but with the car carrying large four-piston Brembo brakes and racing slicks, it has been assigned to an even higher classification in the Porsche Owners Club racing series than previously expected. My little 1970 911S, it would seem, will be rubbing door handles with 993 twin turbos and 996 Cup cars.

## The Mulligans

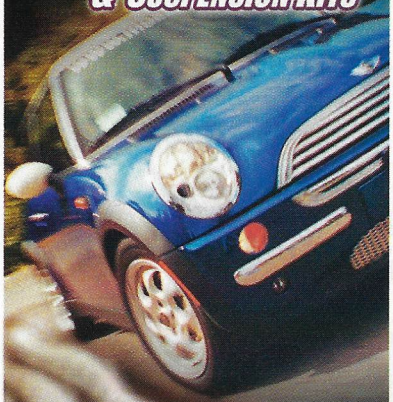
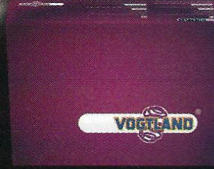
For those who are wise enough not to partake in the game of golf, a mulligan is a shot not tallied against the score, basically a do-over or freebie. Unfortunately, in building a Porsche race car, there is no such thing as a freebie.

The most frustrating miscalculation I made with the S was inside the cockpit. It was suggested early on that I have the later seat mounts installed for the racing shells. To be certain the

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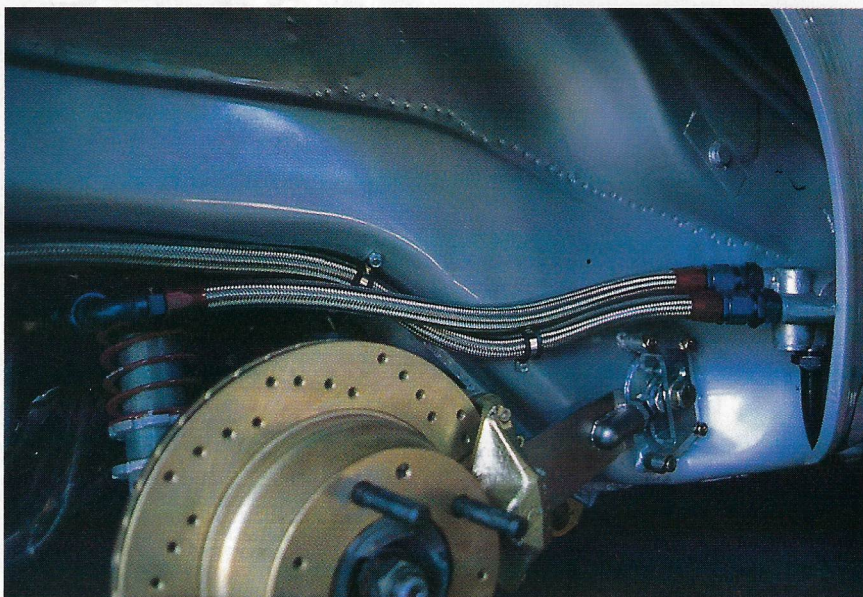
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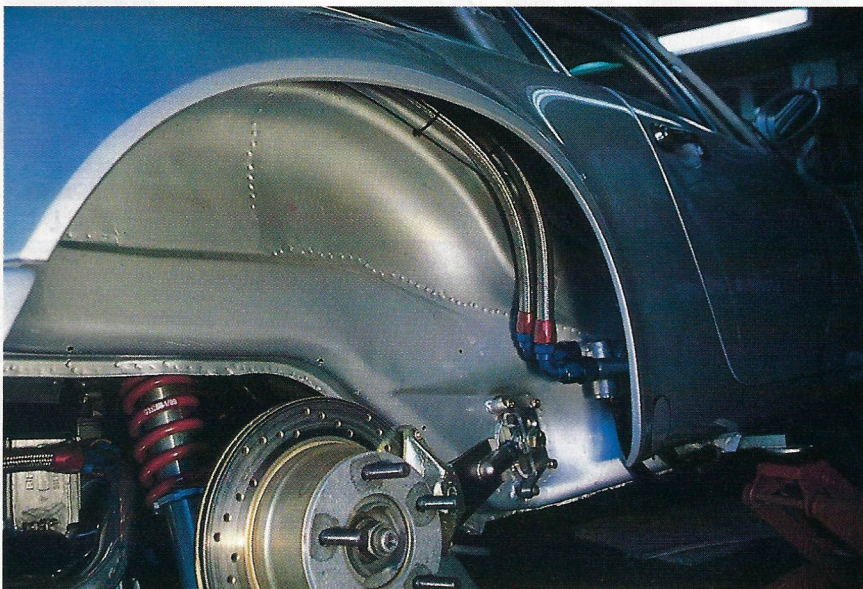
seating position would be correct, I evaluated a friend's 1980 911SC racer by taking it for a few casual laps around the local track. At the time, the SC was in a production class and still retained its stock headliner. Yet, even with my helmet, there was plenty of headroom.

My error was thinking all racing shells were built to the same dimensions. While the SC was equipped with one particular brand of German racing seat, I opted for the Sparco Pro2000 seat. As it turns out, Sparco seat shells are 22.5-in. wide at the base and, when using side brackets, will not fit Porsche's later-style mounts. Instead, the seat's bottom attachment points must be used with a Sparco adapter plate. This plate is made of thick steel bars welded into a box shape and is extremely heavy. After searching for every means possible to remove weight from the S, I was not about to throw it back in. Even if the adapter plates were acceptable, their use elevated the driver's seat so high that my helmet touched the roof's inner skin.

To get the driving position correct, Gretener replaced the later-style mounts with custom brackets that lowered the attachment points by 2 in. This put my seat nearly on the floor pan where, I have since learned, a lot of racers actually mount their Sparco seats.



Before and after: Oil lines as they turn upward and run high inside the fenderwell.



The last major do-over might be considered car specific, as it relates to the oil lines that link the engine to the front oil cooler. In the story discussing this topic, (Part 17, 11-02), the S's original hardlines were bypassed with steel braided hoses because the aftermarket hoses had a larger inside diameter for better flow. Under the right rear fender, these lines were first run directly from the thermostat to the engine and oil tank.

As it turned out, the wide 9.5x18-in. wheels and tires came dangerously close to both lines. A blowout at high speed would surely have damaged them both, making an unfortunate event far worse.

To correct the problem, Gretener installed 90-degree fittings at the thermostat, sending the two lines straight up into the fender well. Looping over the tire, the oil return line then runs down to the oil tank. The sending line, the hose in which the hot oil moves from the engine to the front cooler, weaves its way behind the tank and then returns forward to connect with the engine's hard line. This hard line, too, had to be modified so that the new fitting would not interfere with the suspension.

All in all, I am pleased with the car's low tallying of mistakes and mulligans. It is certainly not as bad as it could have been. Luckily, I am not the type haunted by my miscalculations. One must accept them and move forward. I have. I am already eyeing an RSR body kit with large rear fenders and trying to figure out a way to turn the 2.7-liter motor into a 3.2 liter with high-butterfly injection and twin-plug ignition.

My sickness deepens daily. ☒

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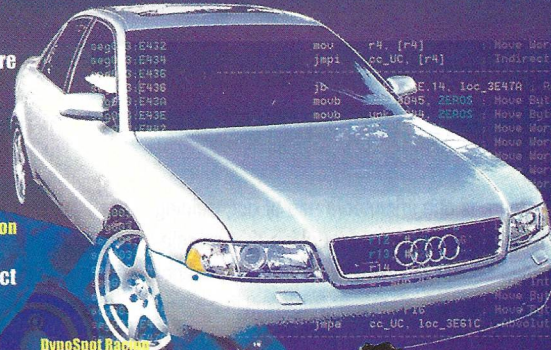
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