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FAIL

HOW A PAIR OF PORSCHE 911s TOOK ON THE GRUELING BAJA MEXICAN 1000

STORY BY **RANDY WELLS** PHOTOS BY **RANDY WELLS, ALEX SOLTERO, JEFF ZWART, JEFF GAMROTH & CARL VAN AUSTEN**



“There’s nothing quite like **swapping out a motor at midnight** in a 50-mph dust storm,”



says Jeff Gamroth of Rothsport Racing. “It’s just one of the challenges our team faced over five days of driving two Porsches off-road down the entire Baja peninsula.”

Every year, the National Off Road Racing Association (NORRA) hosts the Mexican 1000, a famous Baja rally that’s known for being one of the toughest in the world. No production-based Porsche had ever finished a Baja desert race, and 2017 was its 50th anniversary. So this year, Rothsport Racing of Oregon fielded two 911s hoping to break through that barrier.

The two cars, based on 1989 C4s, would be built at the same time. One, piloted by Jeff Gamroth and Carl Van Austen, would be painted red in a Bastos-inspired livery and be called Red Sled. The other, named Desert Flyer, would be wrapped in a unique yellow and green design and be driven by Cameron Healy and Jeff Zwart.

If those names sound familiar, they should. Gamroth is well known for building custom Porsches and racing both a Spec 911 and a 993 RSR. Van Austen has worked alongside Gamroth at Rothsport Racing for 20 years and has a similar and storied racing career. He and Gamroth even competed together at the 2002 Baja 1000 in a modified Volkswagen Bug.

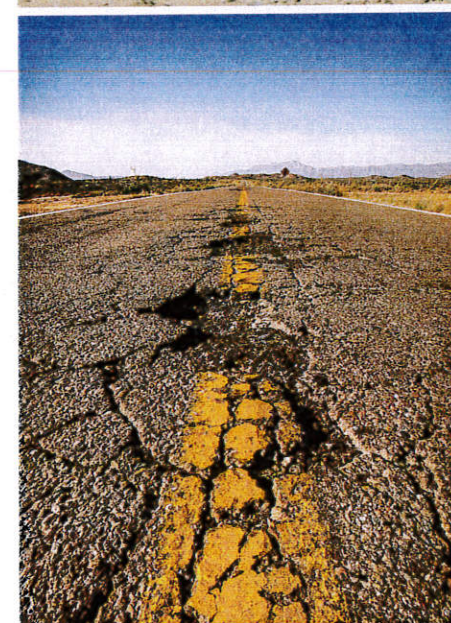
Healy is a fellow Oregon resident and has successfully raced vintage Porsches around the world over the past 25 years. Those events include the Le Mans Classic, 6 Hours of Spa, Goodwood Revival, and numerous Monterey Motorsports Reunions. Zwart, who needs no introduction to *Panorama* readers, is an eight-time Pikes Peak International Hill Climb champion, Baja 1000 class champion, and U.S. Rally Open Class National Champion.

No lack of driving experience here. Yet, each of them would also serve as navigator while their co-pilot took the wheel. Those special skills would need to be learned during the rally. Consequently, the Porsches’ preparation would become critical in the weeks leading up to the race start (see sidebar on page 62).

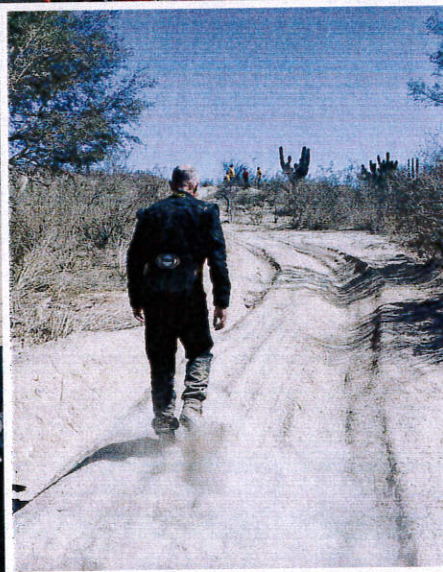
Once the Safari 964s were completed, they were loaded on a transporter and shipped to Carlsbad, California near the Mexican border. The team followed in three trucks that would serve as support vehicles carrying tools, gas, and compressed air. One very special rig was also brought along, a 1974 Austrian-made military truck. The Pinzgauer 712M, powered by a four-cylinder air-cooled gasoline engine, carried many of the spares and was transported to California on top of a flatbed trailer.

From Carlsbad, the 964s were towed across the border to the Port of Ensenada, which was the starting

They say that what happens in Mexico stays in Mexico, but the NORRA Mexican 1000 race is unforgettable. Anything that can happen will happen. Shocks will fail, and oil lines or tie rods will vibrate loose. Even a heavily reinforced 911 chassis can break. That’s how tough Baja is.







point of the race. There, the two cars passed tech inspection and were outfitted with mandatory GPS units so event organizers could track them.

**AS THE START OF THE RACE** approached, locals and tourists gathered en masse to wish the competitors well with a colorful fiesta. The party continued that evening at "Horsepower Ranch," a resort that sits atop a nearby mountain. That reception for the teams was a bon voyage celebration that lasted well into the night. It was common knowledge that not everybody would make it to the finish line in Cabo.

"A Porsche 911, even one prepared for off-road rallying, is not the obvious choice to attack a five-day event that's considered one of the toughest in the world," admits Van Austen. "Around every corner would be a ditch and a chance for your race to go sideways. Getting stuck in the sand and ruts was our biggest worry, due to our moderate ground clearance compared to rigs like the trophy trucks. That said, it promised to be the most fun thing you can do with a 911."

The following day served as a final test day back up on the ranch. Shocks were adjusted to cope with the kind of bumps that were expected, and there was much discussion that evening about what was in store. When Gamroth announced: "If any of you have any worries, please speak up," Zwart answered, "I'm worried about the navigation." Everyone remained silent.

**DAY ONE:** Leaving town on Highway 3, Team Rothsport was filled with anticipation. But by the end of the first special stage (timed section), the 964s were showing shock damage. Desert Flyer even had to have one of its rear units replaced by the team mechanics during a transit stage (speed-limited non-timed section).

Then both cars got stuck in the famous Diablo Valley, a dry lake bed filled with soft silt that's even finer than sand. "It was basically piles of dust and deep ruts, and we just couldn't motor through it, even with the additional ground clearance," says Zwart. "Fortunately, we each had a wad of \$100 bills for the locals to tow us out."

The most rally-seasoned of Rothsport's mechanics, Steve Smith, announced, "That's Baja!" This is true. When fellow competitors couldn't help, locals would bring their big 4x4s and ladders to wrestle the 911s out of the sand. Experiencing this part of Baja is a long way from sipping a margarita at a resort in Cabo San Lucas.

Healy and Zwart teamed up in Desert Flyer. Their journey began in Ensenada and finished 1,200 miles later at the bottom of the Baja peninsula. The 2017 race course was inexorably brutal and nauseatingly bumpy, with super soft sand, jagged rocks, and crazy jumps. Pass the hot sauce.







Still, shocks continued to be an issue. By the time the cars rolled into San Felipe, 200 miles from the start line, the 911s were having trouble staying mid-pack in their class, a category for any car older than 20 years called Vintage Production Sedan.

Most visitors see San Felipe as a quaint village on the Sea of Cortez. Contestants in the Mexican 1000 see it as the end of day one. It's either a chance to rest or the place to begin making repairs. For Team Rothsport, three shocks needed to be fixed, parts were scarce, and it was getting dark.

The Rothsport support mechanics on hand included Gamroth, Van Austen, Smith, Josh Sturm, Spence Gattrell, and Cary Kutter. There also to help out were PNW friends Doug Russell, Mike Cary, Matt Cary, Toby Pond, Dave Gamroth, James Manning, and Dick Thomas. Your faithful reporter chipped in by procuring tacos for the team and photographing the action.

"It turned out that traction was not our problem; it was ride height," reports Zwart. "The team ended up raising the cars more than one inch that evening to improve ground clearance. They also went with less shock damping because of pressure buildup from all the dy-

namic compression that was going on."

Repairs were finished at 3 a.m. after Gamroth befriended a local garage to help with tools and parts. Amazingly, the shop's owner had lived in Oregon and was eager to help. In true MacGyver style, carburetor O-rings were modified to rebuild the damaged shocks.

**DAY TWO:** "We started as the underdog, and day two does not look any different," Gamroth remarked as he rose from his cot next to the 964s after three hours of rest. It looked like this might be part and parcel of the next four days of racing.

Of course, there was always the danger of colliding with an animal, another car, or an unmovable rock. Yet first and foremost was the undeniable roughness of the terrain. It wasn't just gravel. It was the constantly changing moguls, bumps, jumps, and water crossings, intermixed with long, flat-out straights.

As the sun set on day two, Desert Flyer rolled past the last checkpoint, battered and bruised but still running well. Then tragedy struck. Unbeknownst to everyone, Red Sled had lost an oil line. Within 20 seconds it was over. The custom 3.6-liter engine had seized up.

Luckily, they had just passed the checkpoint and could legally be towed into "pit city" without penalty. The other good news was that the team had brought a spare engine. The bad news was that it was an untried unit out of a salvaged Porsche.

Bahia de Los Angeles is normally as placid a locale as you will find in this remote section of Baja. But this day would prove different. The wind had already begun gusting up to 25 mph that afternoon. Then, just as the engine swap was underway, the winds whipped up to 50 mph. The camp that was supposed to be a sleeping oasis under the stars had turned into a dirt parking lot hit by every piece of debris that wasn't strapped down within two miles.

Generator-fed lights burned at Camp Rothsport for a second night in a row. That drew the attention of the other teams. Even competitors in the same class came by to marvel at the sight of a team changing an engine in a dust storm in less than two hours.

Intakes were covered to no avail as the Rothsport plenum was swapped over at midnight. Blowing dust mixed with motor oil as it entered the sump. Exhausted, everyone climbed into bed an hour later to weather a storm with winds that were now gusting to 80 mph. Instead of using the tents brought along for shelter, most of the team was forced to crawl into the support vehicles and try to find a way to sleep. The storm peaked at 3 a.m. with banging noises and a lot of rocking back and forth.

**DAY THREE:** The "bay of angels" looked entirely different the next morning. Tents and portable toilets were knocked over. Litter was strewn everywhere. Dirt had found its way into almost everything. Yet, there was a beautiful sunrise shining over everything and a perfectly calm bay to greet the tired teams.

The previous evening had proved to be a juggernaut, something that demands blind devotion and merciless sacrifice. It was a walk through the valley of death. They were upside down, but Team Rothsport came out the other end with a renewed confidence that they could do anything.

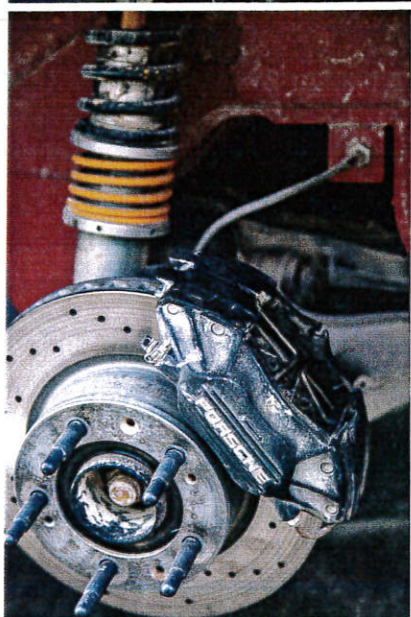
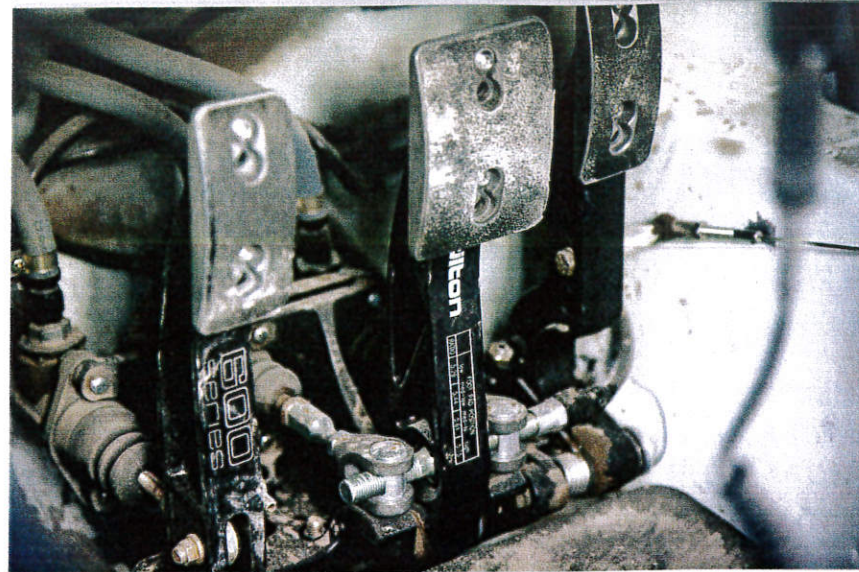
Wiping dust-filled eyes, we were all grateful it was over. "That was probably the hardest day of racing I've had in my life," says Zwart. "That second stage was just huge rocks. They were so big we couldn't avoid them. We had to travel at 2 mph just picking our way crossing rivers and ditches."

Besides the shock and engine failures, navigation

**Gamroth and Van Austen piloted Red Sled, a Bastos-liveried 1989 964. They and their race mechanics repaired shocks in San Felipe and exchanged an engine at the Bahia de Los Angeles. Yes, some sand from the second day's dust storm inevitably made its way into the replacement engine.**







had also been a problem. The GPS device and the radio were both plagued with electrical issues, but those issues were fixed by mechanic Smith, who turned out to be a jack-of-all-trades. He was the first to jump into any breakdown, somehow knowing he could repair it, even if blinded by sand. It's no coincidence that Gamroth calls him "Stevie Wonder."

After a quick alignment, each of the 964s fired up their engines and approached the start line for day three, the longest one with more than 390 miles to cover. Everyone hoped that getting stuck was a thing of the past. But the Rothsport drivers weren't taking any chances. They would drive off the sides of the road onto whatever they could find for traction, including brush and small trees. Trim fell off and body panels were dented when Red Sled was hit by a trophy truck while parked in a silt bed.

For Gamroth, the day held a memorable experience. "The road went to the right, and I went straight because I couldn't see," he says. "I was passing another car in his dust. I flew off a four-foot embankment, flattened a cactus, took the mirror off the driver's door, landed, and kept going. It's a good thing we reinforced the shifter tunnel because it dented up really bad, to where we could hardly engage third gear."

Nobody cared, because the next town would be a most appropriate stop for redemption. Picturesque San Ignacio is an oasis surrounded by palm trees with a centuries-old mission next to the town square. But Van Austen skipped church and did a block-long burnout as he left the central plaza, to the delight of the crowd. He didn't seem bothered that the backup engine was a bit down on power.

In Desert Flyer, Zwart was on fire. On one of the longest special stages, he grabbed the lead in class. But that didn't stop the vibration fest that passed for forward progress when traveling at speeds of more than 100 mph on washboard roads. The tie rod nuts worked loose, and Zwart and Healy found themselves stranded. It took master mechanics Sturm and Gatrell more than an hour to make their way 12 miles up a treacherous road in the chase trucks. Once there, despite working on a rocky trail infested with scorpions, they made the repair quickly. It wasn't long before Desert Flyer passed a bonfire with a crowd cheering them on. They arrived at the final checkpoint with seven minutes to spare.

Meanwhile, the other support trucks headed south through the town of Santa Rosalia handing out race

These "Safari 964s" are upgraded with Tilton pedal assemblies, EXE-TC dampers, and Rothsport Racing-modified, 320-hp, 3.6-liter Porsche air-cooled flat sixes sporting Motec engine management and Rothsport's custom six-throttle induction system and plenum.



stickers. Next came the breathtaking Bahia de Concepcion, followed by saguaros and old copper mines. Rocky detours and military checkpoints were navigated safely. In the beautiful city of Loreto, we could finally enjoy a good dinner. The drivers arrived much later. But on that evening, Loreto felt like one of the nicest places to be.

**DAY FOUR:** After a much-needed shower, the team finished some minor repairs before heading south out of Loreto harbor along a shimmering Sea of Cortez. Everyone took it as a good omen that perhaps the worst was behind us.

For the rest of the race, the Mexican 1000 would continue to snake west, then south, then east. When the Safari 964s headed inland on gravel roads after being gassed up, we traveled south on Highway 1. The breeze felt refreshing now, and the sun seemed to be our friend. But no one was holding their breath.

Smith puts it into perspective: "It was easy to lose hope because there were a lot of naysayers there. A Porsche had never finished the Mexican 1000, so people were betting against us. When they walked over and saw that we had brought a spare motor, and that we're actually changing it, they just didn't get it. It's like they thought it was too much work for this race. We never did."

Zwart chimes in: "As at any Baja event, you just need to be moving forward. Sometimes it's slow and sometimes it's fast, but you always have to keep moving toward the next checkpoint. Both cars have done a great job of that. For a first effort, it's really remarkable."

The port of La Paz would serve as our last evening

together, and a private banquet was arranged. The camaraderie was palpable, and everyone spoke about their experiences during this unforgettable journey. "Someone might say, 'That doesn't look like fun,' but they would be wrong," said Gamroth. "This event is the most fun I have ever had in a car. Period." Still, with only one more race day to go, we were all looking forward to the finish.

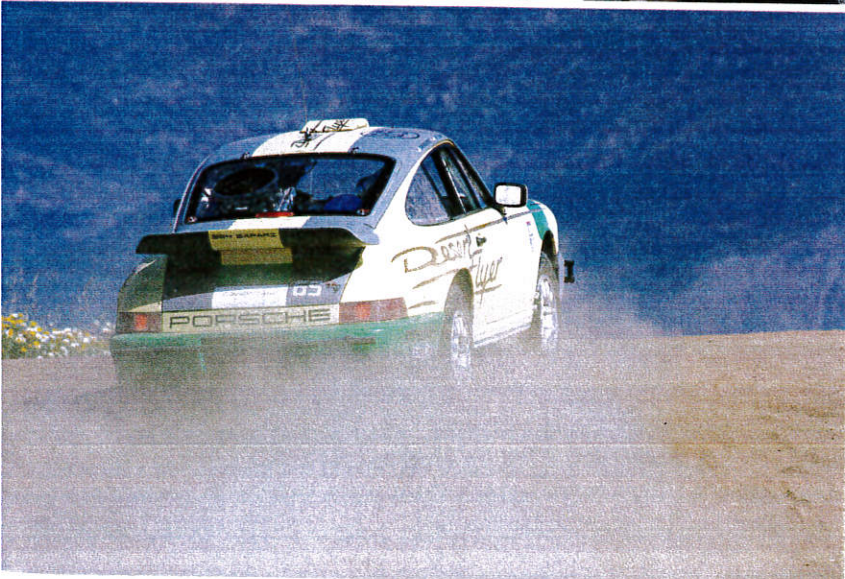
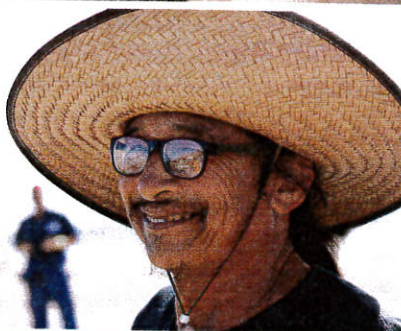
**DAY FIVE:** The final stage would be the shortest, at 153 miles, but it also held its own set of challenges.

Healy had a chance to talk about his time sitting next to Zwart. "This has been a master class in off-road rally driving," he says. "And when I'm at the wheel, he's still imparting more good info through the headphones. There are so many nuances needed when you're balancing speed and safety. Rally craft is about dealing with traffic while navigating your way down a rock-filled path. Your concentration is constant, whether you're the driver or navigator. There's no moment when you can space out."

He continues: "From the perspective of being a navigator, the Mexican 1000 is akin to being put in a steel drum and having people throw you back and forth while others beat on it with a sledgehammer. All while you're trying to read a map."

Zwart adds his thoughts: "By the time you get a 911 way up in the air, you would think it's lost all of its natural handling attributes, but it really hasn't. Especially when you combine it with the surface we're racing on. Still, you're constantly managing what you can get out





of the car while trying to move ahead of the field. At the same time, you're also trying to preserve the car. It's really tough out there."

Thanks to the Porsche 911's strength, Zwart had the confidence to push harder on a particularly fast section on day five. "I think I passed eight cars this morning flat-out in fifth gear!" he exclaims. "It's a fine line between having the best race of your life and the worst, without much in between. While I remember sections from prior years, they never drove the same."

One moment stands out as Zwart's most memorable. "Three miles from the race finish in San Jose del Cabo, we got stuck really bad," he recalls. "Even the rig towing us out of the sand became trapped. So there I was in my driving suit pushing a truck so we could finish the race. They finally got out by driving in reverse. Then he backed over our tow strap, pinning us down. That's when the truck decided not to restart. So here I was, pushing him again for a jump start within sight of the finish line. When we finally got going, I jumped in the car without putting on my seatbelt. On the next big jump, I had some personal airtime in the car."

**THIS EPIC ADVENTURE** could probably best be described as groundbreaking. Literally. 909 miles were traveled on the timed special stages. With 354 miles traveled in the transit zones, more than 1,200 miles were covered in total. Desert Flyer never had a flat. It finished third in class for a Mexican 1000 trophy, the first ever for a Porsche 911 in Baja. Red Sled finished fourth in class, seven minutes behind. It was a remarkable finish for the two Porsches, considering the trials they faced.

The cheers for Porsche at the victory banquet in San Jose del Cabo were perhaps loudest from the competitors who bet against them, only to gain a newfound respect for the competitive marque that is Porsche.

For a maiden effort with production sports cars, Team Rothsport is to be congratulated for mastering the unforgiving hurdles Baja presented. To not only finish but to reach the podium on the semicentennial anniversary of the race is a supreme accomplishment. This is what drives competitors to become better, and to make a better rally 911.

The best part? Rothsport is planning another Porsche effort for next year's race. They're already talking about a 964 with four-wheel drive, more ground clearance, bigger tires, and a win. We can't wait. ●



To see a video of Rothsport's Porsches at the Mexican 1000, go to:  
[PCA.org/news/mexican-1000](http://PCA.org/news/mexican-1000)

Preparation and experience pay huge dividends in the Mexican 1000 rally. Overcoming every obstacle thrown at them, including the relentless pounding that the Porsches' took, enabled the Rothsport Racing team to celebrate the epic adventure at the finish line in San Jose del Cabo.





Zwart and Healy enjoy a trophy finish in Desert Flyer, surrounded by their team and supporters.

## How Did I Get Here?

GETTING STUCK in the sand and silt in Baja is expected. This was my fifth 1,000-mile race in Baja, and getting stuck is par for the course. I have had great runs in the past and have been fortunate to finish every Baja 1000 I've entered. Baja has been good to me. But now here I was, running the NORRA Mexican 1000 event in a production-based 911. This was something different.

Over the past few years I have had the pleasure of driving with Cameron Healy in a few vintage events, and when he gave me a call last fall and asked if I would be interested in driving with him in the Mexican 1000 in a car that Jeff Gamroth of Rothsport Racing was building, it took me about three seconds to say yes.

Then reality set in. Porsche 911s are not natural Baja cars, and the prep would be paramount to us being able to even finish the race.

However, the moment I first sat in the car, the night before we were crossing the Mexican border, I felt as if I had been dropped into a modern GT3 Cup car. The work looked totally factory, with the roll cage and all the rally-spec equipment. What most impressed me was the serviceability that had been built into the car. Jacks, spare tire position, and spare suspension parts hiding in the wheel wells were all pure Gamroth touches.

Baja is a place where the difference between the best race of your life and the worst race of your life is about one inch, and there seriously is not much in between. Upon leaving Ensenada on the first day, I knew immediately that we had a great car. It was robust and tough, and the 3.6-liter engine's power and torque were captivating. It was so fun to drive I just wanted to leave my foot in it.

Then the other side of Baja struck, and I was reminded that there are always more things that can go wrong than right. I was negotiating a small washout and stuffed the nose into a ditch. We were stuck. Moments later, Jeff and Carl showed up in the sister car and yanked us out backwards. So, I made the first note to myself: These 911s don't have the ground clearance of the previous buggies and Toyota FJ I had raced in Baja.

Cameron had never competed in Baja before, but he had the perfect pace during his stints to ensure that we stayed competitive and got the car through the difficult stages that we encountered each day. We decided to alternate driving, which meant that I would navigate while Cameron drove. The whole navigation thing was new to me, and it rapidly became clear that I had to up my skills.

By the third day we had developed a pace that didn't seem too hard on the car, and I briefly took the class lead on a particularly long 170-plus-mile stage. With just 13 miles to go we lost a tie rod; it didn't break, but it backed out due to the hammering we had given it on those crazy rough stages. This is where the Rothsport team proved itself, as out of nowhere, the chase truck and the Pinzgauer rolled in. It didn't take long for them to figure out a fix and we were soon back on the road, losing only a couple of hours in the wee hours of the night.

When things were smooth, we could be as fast as almost anyone out there, but Baja is more than that. Some 270 cars had started the event, and by the end only about 130 were still running. What was amazing was that even though Rothsport was a rookie team in Baja, both cars were running as we neared the finish.

We just fell a little shy on ground clearance. Getting stuck was a daily occurrence, but we usually could get out pretty fast with the help of another competitor or a local pickup. What was amazing was how tough the cars were, which was proven each evening as we arrived at service, to the shock of many seasoned off-road competitors.

At the finish, just a few miles north of Cabo, we made a little history as the first Porsches to ever complete the 1,000-mile race in the 50 years of Baja. In an event where more things can go wrong than right, the Rothsport team proved a lot was right. It was a proud moment to see both cars drive over the finishing podium and know the answer to the question: "How did we get here?" —Jeff Zwart →



# Baja Race Prep

THE FIRST year the Mexican 1000 was run, in 1967, the 911 was just starting its rally career. It wouldn't be until 1969 that the 911 would take part in a desert race through rough rocks and deep sand. Unfortunately, rear suspension failures kept it from winning any of those events until 1986. That's when a 959 won Africa's Paris-Dakar Rally.

Over the ensuing decades, rally Porsche 911s have made huge strides in chassis rigidity, suspension travel, and overall reliability. One of the privateers responsible for these advances is Tuthill Porsche of England.

Francis Tuthill's fortified 911s have won the East African Safari Classic Rally twice, and his shop also prepared body shells for the famous factory Rothman's Porsche 911 SC RS rally effort in 1984. Coincidentally, an example of this rare race car sits in Jeff Gamroth's shop.

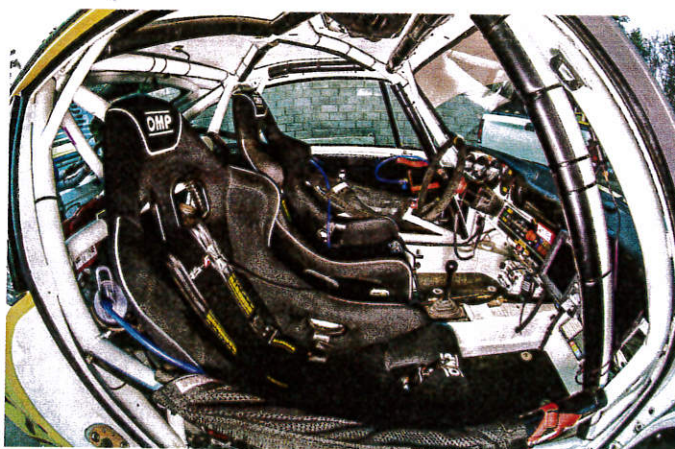
When Gamroth learned about Tuthill's involvement with the SC RS, he jumped at the chance to invite Francis' son, Richard, to be involved in a new project. Gamroth had developed the idea of a "Safari 964," a 1989 911 built to compete in the Mexican 1000. So he flew Richard Tuthill to Portland, Oregon for a day of consultation.

Tuthill's first recommendation was for chassis strengthening in very specific areas, much like the SC RS that was on hand. These reinforcement areas included the shock towers, suspension pick-up points, and the entire tub's underside.

Particular attention was paid to the tunnel that carries the shift linkage. Reinforcing this area would pay dividends during the Mexican 1000. Easily removable aluminum skid plates would cover the engine, transmission, and front suspension. Plexiglas was used instead of glass for the windows. In addition, an



Red Sled takes a well-deserved rest in a secure Loreto hotel parked next to a 1974 Austrian-made military truck, the Pinzgauer 712M.



aftermarket one-piece fiberglass bumper was specified for the rear, but the front bumper, fenders, and doors would remain original.

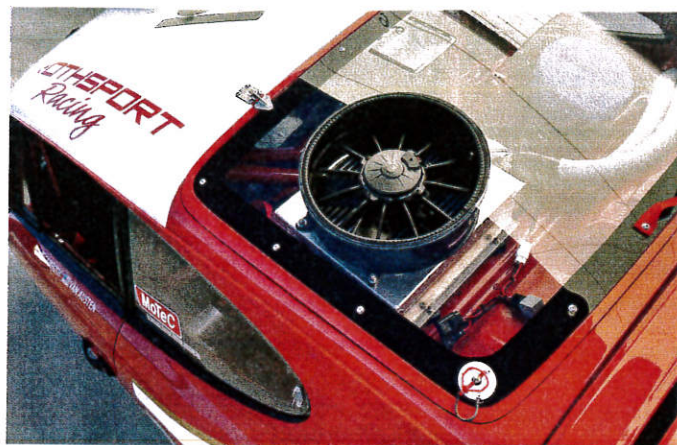
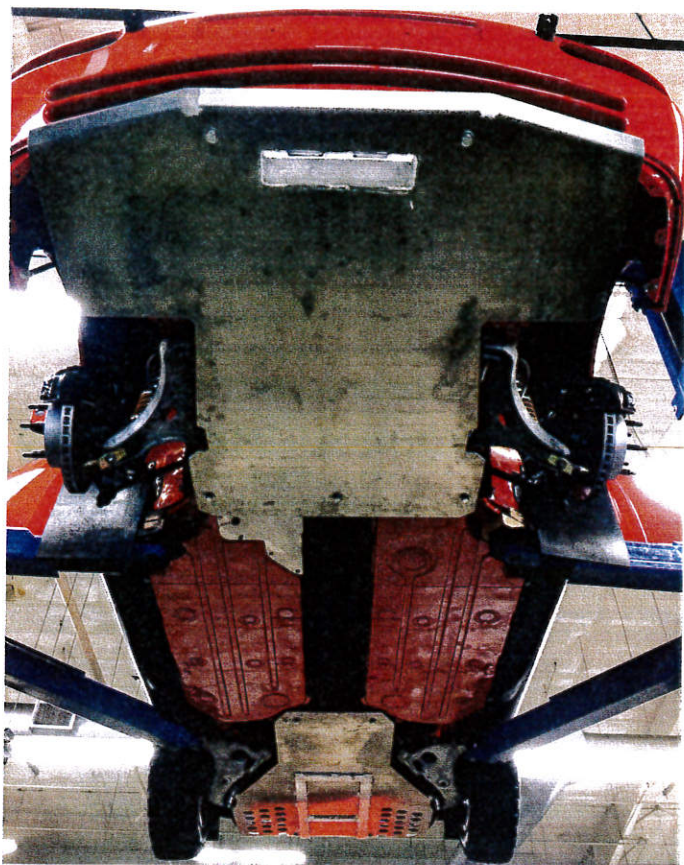
The engines Gamroth chose for the two 911s were specially constructed in his shop: 320-hp, 3.6-liter Porsche flat sixes. Cams and compression ratios were selected to run on any fuel and produce maximum torque. Motec engine management and Rothsport's own six-throttle induction system ensured snappy throttle response. Coupled with Rothsport's custom plenum and exhaust system, they were guaranteed to produce an unmistakable intake noise and exhaust tone. Transmissions had limited-slip differentials and billet side covers, with close-ratio gearing topping out at 130 mph.

Shocks are a key performance element for any rally 911—and especially so for coil-over 964s. To that end, Tuthill advised Gamroth to order special EXE-TC dampers set up for rallying with nine inches of travel. They cost \$3,000 per corner and several spares would be necessary, but Gamroth decided it was a crucial investment if both 964s were to finish. Ten inches of ground clearance was specified for both cars.

A Tilton dash-controlled twin-pedal assembly was also fitted. A spare throttle cable with quick connects ran from engine to pedal, so in the event of a failure, simply clipping on a new one would solve the problem. Another ingenious modification was a rear-window-mounted oil cooler with a fan that would also suck dusty air out of the cockpit. Helmet blowers also pressurized the transmission bell housing to prevent dust from fouling the clutch.

Other upgrades included gusseted FIA roll cages, front and rear bush bars, multiple driving lights, internal and external cut-off switches, revised ignition systems →





A behind-the-scenes look at what it takes to build a truly safari-ready 911. Oregon's Rothsport Racing, which became the first team to finish the Mexican 1000 in not just one but two production-based Porsches on its very first try, is ready to tackle the race again next year.



One controversial decision was for Rothsport Racing to convert both 1989 964 donors from all-wheel drive to rear-wheel drive. "We saved about 300 pounds. So when we added 225 pounds of steel reinforcing, that brought the car's total weight to 3,200 pounds," Gamroth notes. "I personally like the way rear-wheel-drive 911s handle. The ability to pitch and toss the car predictably with weight transfer on loose surfaces is a big advantage. Plus, we wanted custom gears, and the ring and pinions for the C4 transmission would be very expensive to manufacture."

After the work on Gamroth's Safari 964s was completed, they were loaded on the transporter and the team followed in three chase trucks that would serve as support vehicles. The Mexican adventure was about to begin. —RW

el is a 16-inch aluminum cast wheel that weighs 28.6 pounds. Gamroth bought 27 wheels to make sure he had enough spares and then machined a little more than four pounds off each one. BFGoodrich and Luminex were two sponsors Zwart brought to the team. "The BFG All-Terrain T/A KO2 LT215/65 tires are ideal for Baja," says Gamroth. "They are tough and have a reputation for not getting flats."

with backups, special jacks and stands, traction ramps, a long elastic tow strap, a full-size spare tire, fuel cell, fire extinguisher system, safety harnesses, and numerous

emergency spares.

For wheels, Gamroth also went with Tuthill's recommendation. Braid is a brand of off-road wheels made in Spain. Their Fullrace T Dakar mod-