

WINNING RECIPE

A few years ago we drove with RJ Racing, and the experience from behind the wheel was delightful. The crew was organized, efficient and on top of things.

Since then, they've only gotten better. RJ Racing ran a nearly perfect race in the ninth annual USAF NASA 25 Hours of Thunderhill. The crew, new and old, came together to put the team first in their E3 class and 15th overall. So, what does it take to make a 25-hour race unfold that seamlessly? A yearlong plan of attack:

January: Time to review and assess performance from the past racing season, including crew performance, pit stops, logistical issues, car failure items and car durability issues in preparation for the next 25 Hours. Propose improvements to develop and test during the upcoming season.

Examine the car thoroughly to identify any unusual wear or breakages. Everything, right down to the maintenance checklists, should be developed and/or made more efficient, since this will set the tone for the whole season. Also, winning takes support (read: partners), so make contact early and often to give companies more evaluation and decision-making time.



February: A dependable crew is key to winning, and the offseason is a perfect time to assess personnel needs. Begin the search for mechanics, pit crewmembers, engineers, marketing/sponsorship people, and any other needed team members. Friends, neighbors, spouses and students can all contribute. Compile a roster of potential drivers and make initial contact to gauge their interest and availability. Drivers should be signed as soon as possible for planning and team integration purposes. Begin tackling development projects.

March: By March, the car should hit the track. Whatever sanctioning body you race with, it's important to choose the events you compete in wisely. Determine the races that will make up your season leading into the 25 Hours, and remember that they must justify the cost of participation. A worthwhile event may be determined by the amount of knowledge your team will gain about the car, the degree of exposure your partners will receive, and/or the level of experience your crew and drivers will gather. Simply put, it's important to have clearly defined goals for each race weekend.



April: Getting in as many race weekend/test sessions as possible should be the goal in spring. This will allow for more parts in development to be tested under race conditions. As in any race, things will not always go as planned and, as counterproductive as it sounds, good things can come from the unexpected. Develop a culture of calmness under fire. This helps keep people from panicking under pressure and making further mistakes—or worse, getting injured.

May: Never let the end goal out of sight, and begin searching for 25 Hours drivers in earnest. Organize team-building activities to further strengthen teamwork and camaraderie among your crew.

June: It's six months until the big race, and the second half of the year goes by in a blink. Complete projects as quickly as possible and refrain from putting off tasks until the last few months—that's when your to-do list grows exponentially.

July: Do not neglect the business side of running a race team. Bring on team members to focus on sponsorship and marketing duties. Begin nailing down 25 Hours logistics, including submitting your race registration and planning transport and accommodations for your crew. Develop clear and organized budgets for these events to keep them from becoming overwhelming.

August/September:

Bring new crewmembers on board if they're needed and available. With only three months until the 25 Hours, the car needs to be as close as possible to race-ready. This will allow the focus to shift to training new crewmembers on maintenance, pit stops and procedures. Meanwhile, the new marketing team can concentrate on finalizing partnerships.



October: With a little more than a month until the race, there's only time for one last shakedown. Compete in a final race weekend/test session before the 25, then finalize any development projects you've been working on throughout the season. Complete the final paperwork for the 25, and bring in drivers to do seat fittings and gain familiarity with the car and team.



November: It's crunch time. This is what the entire year's worth of racing has led up to. Complete final preparations to the car, including making modifications for any sound restrictions and replacing/refreshing the battery, radiator and suspension systems. Replace or rebuild all prior and anticipated fail items on the car, including the transmission, clutch, alternator and all brake components. Check and recheck all fasteners—

including the obligatory zip ties and duct tape. Inventory, recheck and further optimize all spares for in-race replacement, and don't forget to review the replacement instructions. Develop tire, pit stop and driver strategy as well as a plan for necessary race maintenance. Finalize



the driver roster if it's not yet complete, and draft crew sleeping schedules and responsibility lists. Depart for Thunderhill with enough time to use two test days before the race. These test days are vital for fine-tuning your car.

December: Test day one is for bedding in brakes, scrubbing tires and finalizing car setup for race day. If required by class rules, weigh the car on official scales and dyno it on the track dyno to verify power. On the second test day, make sure all of your drivers get some time behind the wheel and practice pit stops. After the test day ends, install pre-bedded brake components; replace hubs with fresh, repacked units; change all fluids; and replace any other car-specific wear/fail items. Complete one last check of the safety equipment and vehicle.



SOURCES

Bill Brewster Independent Porsche: billbrewster.net, (949) 366-2009

CDOC Racing supplies: racing consumables, cdoc.com, (800) 915-2362

Drift Innovation: on-board camera, driftinnovation.com, (702) 284-7138

Exedy Racing Clutch: clutch, exedyusa.com, (800) 346-6091

Hoosier Racing Tire: SM6 tires, hoosiertirewest.com, (559) 485-4612

MiataPartsSource.com: spare parts, miatapartssource.com, (702) 505-1110

Mishimoto Radiators: aluminum radiator and silicone hoses, mishimoto.com, (877) 466-4744

Mueller Motorwerks: dry cell battery, muellermotorwerks.com, (855) 669-7224

Porterfield Enterprises: Raybestos endurance race brake pads and Brembo brake rotors, porterfield-brakes.com, (800) 537-6842

Race Engineering: endurance-built transmission, raceengineering.org, (704) 202-5551

RJ Racing: race team, rjracing.net, (949) 305-3552

Stewart Development: custom suspension work, stewartdevelopment.com, (336) 899-0072

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GOOD-WIN-RACING

DAY BREAKERS

The USAF NASA 25 Hours of Thunderhill—North America's
Longest Enduro—Once Again Lights Up Northern California

story and photos by j.g. pasterjak

Although this year did not see an overall lap record fall, you could hardly blame the conditions. Early December at Thunderhill—just an hour or so North of Sacramento in the California high desert—can see anything from ice and snow to dense fog to the near-ideal racing conditions we had for the 2011 running of the USAF NASA 25 Hours of Thunderhill. Here's a look at a few of the highlights, and a couple peeks behind the curtain into what it takes to make an event like this happen on track for competitors and organizers.



The phrase "Bringing a gun to a knife fight" may be a bit cliché, but it certainly is appropriate. Mercer Racing's Porsche 911 GT3 (below) dominated and scored a hat trick with their third straight win. They even turned their fastest race lap of a 1:45.036 on lap 641 of the 691 they completed. 949Racing (left) led an all-Miata/MX-5 sweep of the rest of the doorslammer classes en route to their E2 win.





The CJ Wilson Racing #2 team proved that there's more to success than good looks. Their MX-5 Cup-spec MX-5 may have been a tape salesman's dream, but the damage was all cosmetic. They overcame the adversity for an E1 class win.



Sports racers continue to fight an uphill battle of long-term durability at the 25 Hour. Factory 48 Motorsports (left) won the ESR class but only managed to survive a little over 13 hours with their Radical SR3.



When Honda Civic pilot Chad Gilsinger (left) came into the pits with drivability issues in his brand-new Honda Civic Si (see page 83 for more on these factory race cars), the crew turned the diagnostics over to the best qualified guy they had: Honda engineer Chad Gilsinger. He traded his steering wheel for a laptop and did some troubleshooting.



Hale Motorsports (above) brought out the first independent B-Spec entry to the 25 Hour and scored a top-10 finish in the hotly contested E3 class. No one in E3 could touch RJ Racing, though. Their Miata (below) soldiered through the entire 25 with only minor electrical issues en route to a five-lap class win. See their secret to success on page 134.



The Edge Motorworks BMW 3 Series was a monster, turning the second fastest lap time in the E0 class. In the end, though, the consistent pace of the Atlanta Motorsports Group Mazda MX-5 (bottom) took the checker, and relegated the old-school BMW to second in class.



BEHIND THE SCENES

At the NASA 25 Hours of Thunderhill, Success Comes From Behind-the-Scenes Planning and Prep Work

story and photos by j.g. pasterjak

Watch just about any car race, and things seem to happen on cue. The starter waves the flags, and the cars conveniently pass by and start to race. Someone has an off-course excursion, and the safety crews arrive at a moment's notice. There's no hesitation or confusion, just an oil-slick system of signals and corresponding actions.

In reality, though, those events seem so effortless thanks to the logistics involved. From safety crews to the race teams themselves, it takes an army of people to run the average event.

Make it an event that covers some huge ground, and things get really complicated. Welcome to NASA's 25 Hours of Thunderhill. The ninth annual running of this world-class event took place December 3-4, 2011, at Northern California's Thunderhill Raceway.

The emphasis tends to be placed on the drivers, but this time we went behind the scenes—way behind the scenes—and spent the weekend with the support staff. These are the men and women who get the cars to grid, keep the action running smoothly, and step in should something go wrong.

BETTER SAFE THAN SORRY

In general, the life of a safety crewmember is one of waiting and watching for something to happen. Ideally they have the most boring job at the track, but there is most certainly a catch: When that “something” occurs, they need to launch from rest to action without hesitation.

NASA's chief of safety, Andrew Tencati, is a 16-year vet of the fire service and a 12-year paramedic. He also owns Sierra Fire Rescue, a contract safety service with an emphasis on motorsport. He broke down the basics of each response for us:

“There's no easy way to describe a response, and there is definitely no standard response. We have standard operating guidelines that we use as opposed to hard-and-fast protocols.

“Emergency response is a dynamic environment that requires constant adjustment and modification of tactics as the incident changes; no two incidents are alike. With that said, we use standard procedures and practices to mitigate the hazards and return the track to normal.”

Andrew outlined the four basic phases of any situation: report, response, mitigation and recovery.

“First, obviously, is the reporting phase,” he explains. “Race control gathers information from the flaggers, marshals, etc., and processes it and passes it off to the operations coordinator.” The operations coordinator, he continues, confers with the race director and a decision is made regarding what response type and priority is necessary. Time from incident to action is about 10 to 15 seconds.

While en route, the crews will receive details about the incident. “During this response, units are considering the track location, quickest route of travel, priorities, flagging conditions, and any other factors that may weigh in to the response,” he adds.

“Upon arrival,” Andrew continues, “the units park based on conditions encountered and equipment needs. For most major incidents, like a rollover, the tow truck is lowest priority and would be used to block the scene while the extrication, medical and fire-suppression equipment on the safety trucks would be needed close at hand.”

Once the crew is on the scene, the mitigation phase begins. This is where the actual scope of the incident is assessed and a plan is instantly put in place to correct it.

“While the first priority on the ground is always the driver or passenger, many things happen at once,” Andrew explains. “The initial size-up usually takes less than 10 seconds and is relayed throughout the crews. As one crewmember is assigned to medical evaluation, another will ferry extrication equipment, another will take fire suppression, another begins stabilizing the vehicle, and a game plan is formed.”

If other resources are needed for the incident—an ambulance,

helicopter, sweep truck or more tow trucks—they'll be ordered during this point. “The actual steps to mitigate the incident are numerous and fluid based on each incident,” Andrew explains, “but the tone is dictated by patient safety and needs.”

Once the scene is secure, it's time to start thinking about racing again. “The final step in the process is returning everything to race-ready conditions,” says Andrew. “This includes vehicle recovery and towing, any track

maintenance required like sweeping or oil cleanup, and equipment restoration for the response team.” Of course, any emergency equipment also needs to be removed and readied for the next incident.

Even with such a structured set of procedures in place, racers still find a way to confound safety crews. A few years ago, Andrew's crew faced a



Working the safety crew is largely a waiting game. Crews must be ready at a moment's notice to rush to the scene of an incident. When the call does come in, Andrew Tencati (inset) and the men and women of his safety squad are ready for anything.

situation that even the best teams can't fully prepare for.

"We had a Honda touring car suffer a steering failure just before Turn 1 at Infineon," Tencati explains. "Instead of turning up the hill, the car went straight off the track into the grass, up the hill just before the bridge, launched into and through a chain-link fence, landed on its roof about 20 rows up the grandstands, and rolled over a couple times, landing on its wheels about 15 rows up."

If we had a font available to us made entirely of googly eyed emoticons, here's where we'd just mash the keyboard.

"How do you report something like that as a flagger?" Andrew rhetorically asks. "How do you dispatch a crew to something like that? How do you describe the location? Section 202, row 15, seat F?"

Andrew reports that after some quick back-and-forth discussion, the emergency crew found the car. "But now we were stuck wondering how the heck to get to it, not to mention equipment and stabilization," he continues. "Thankfully I was able to form a quick game plan and relay it to the team with enough clarity that everyone just went to work. We were able to stabilize, treat, extricate, transport for airlift, and get back to racing in under 25 minutes."

Are you sold yet? Ready to trade your flameproof driving gloves for flameproof rescuing gloves? Well, the short answer is that you can do it. The safety team is an all-volunteer organization that offers on-the-job training. Andrew welcomes new charges into his crew.

"I hold regular training sessions and am willing to help teach or refresh at any time," he says. "The biggest asset, in my opinion, is the love of motorsports. If you don't love being at the track, you won't enjoy working safety."



We rode along on one of the simpler calls of the day: One of the CJ Wilson Racing Mazda MX-5s had slid off course and high-centered in a small gully. A push with the front bumper of the truck got him free, and a couple more pushes got him bump-started and on his way. Not all calls are that simple, but you enjoy the ones that are.

SOURCES

Sierra Fire Rescue: sierrafirerescue.com



**Subaru WRX
Top Mount
camber/caster
plate shown.**



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