

# THE SPEED DEMONS

Ron Main and George Poteet Return to the Salt in Pursuit of 4-0-0.

By Christopher Campbell

Photography: Randy Lorentzen and Dirk Lutman



> The Demon's belly has scant inches of clearance, so once the pneumatic jacks get the chassis up off the salt, a special set of outriggers is slid into mounts on the chassis to safely maneuver it around.

Speed Demon is the name of this streamliner, but it's just as accurate a moniker for the two gear-heads who brought it to life. At 65 and 60, respectively, Ron Main and George Poteet have the drive and determination most guys half their age lack, and that's why they're ready to ask four little pistons to each provide 100 mph at Bonneville.

"We're really just a couple of overgrown delinquents," Ron says with a smile. "I used to joy-ride in cars, but I always gave 'em back. I was actually on probation till I turned 21." George didn't fess up to any such youthful shenanigans, but he's got a fun-loving nature, so we wouldn't put it past him.

It's quickly obvious when chatting with both racers that there's salt in their blood. Despite running a very busy steel and rebar business in Chatsworth, California, there's not much time when Ron doesn't have cars or racing on his mind. "I've got a carcaine habit," Ron explains. But he claims it was our own ol' Dad, Gray Baskerville, who really set the hook in him for building a streamliner.

"Gray came up to me once when I was at Bonneville with my '32 and said, 'You've got one of the wildest flatheads ever created and you put it in this piece of shit roadster!'" Of course, it was just good-natured ribbing from Gray, but it stuck with Ron. It wasn't long before he was looking around for help to build something a little more serious.

His first effort, a little record breaker known as FlatFire, started as an old Bob Meyer dragster chassis reincarnated as a lakester designed to run 200 mph under the expert guidance of A.J. Smith at Aerosmith Consulting & Engineering. The record Ron was shooting for on FlatFire's maiden voyage was easily broken on its first two runs, along with a couple of flatheads. Par for the course, Ron says. As the quest for



speed climbed higher, a set of rear fenders was grafted on and the front wheels were moved inside the body in tandem, morphing the lakester into a streamliner. In that trim, Ron claimed the record and hit his goal of a 300-mph flathead with a 302.674-mph record that still stands.

George, a hot rodder extraordinaire and owner of several HOT ROD feature cars, says he's been fascinated with the sacred Salt as long as he's been fascinated with cars. Life, family, and business delayed his arrival, but George finally made it to B'ville about 15 years back, ready to see it for himself. Like so many rodders who've made the pilgrimage, that great white expanse made a lasting impact, and it didn't take much before George decided he wanted to see what the other end of that long, black line in the salt looked like—at speed, of course. He came back with a flathead-powered Deuce roadster, went 120 that first year, and continued to progress from there.

A few years later, Ron and George happened to end up next to one another in line at Bonneville. Ron was there with FlatFire, while George was running his trusty roadster. They began talking and Ron began to sell George on the idea of losing the roadster and getting in a 'liner. It quickly became obvious the two were cut from the same cloth, so they formed a partnership. That venture saw FlatFire become EcoFire with a turbocharged GM Ecotec four-banger that eventually blasted George well past 300 mph, netting a record of 325.934 in F/Blown Fuel Streamliner. At a private meet, the duo also managed to set an FIA record of 326.117. The FlatFire/EcoFire car was retired, and the incredible vanishing man Steve Fossett was the last to drive it.

But they weren't finished by a long shot. Ron and George knew they'd reached the upper limits of the FlatFire/EcoFire design, so Ron tapped A.J. again to design a new body—one

> Think of it as a ground-scraping fighter jet sans wings. Steve Watt and Maxwell Industries get the credit for taking it from a pile of parts to a work of high-speed art.



> The Liberty air-shifted trans keeps gear changes smooth, fast, and effortless.

**"It's the hottest thing on wheels since Raquel Welch in *Kansas City Bomber*."**—Ron Main

capable of a stable 400-plus mph. The task was surprisingly easy, since the original fighter jet-inspired FlatFire/EcoFire nose and forward section was so effective that A.J. was able to reuse the design and focus his attention on cleaning up the airflow at the rear of the car. After a reported two full days at his dining room table dedicated to reviewing numbers, geometries, dimensions, and making detailed sketches, A.J. completed the plans for the new body.

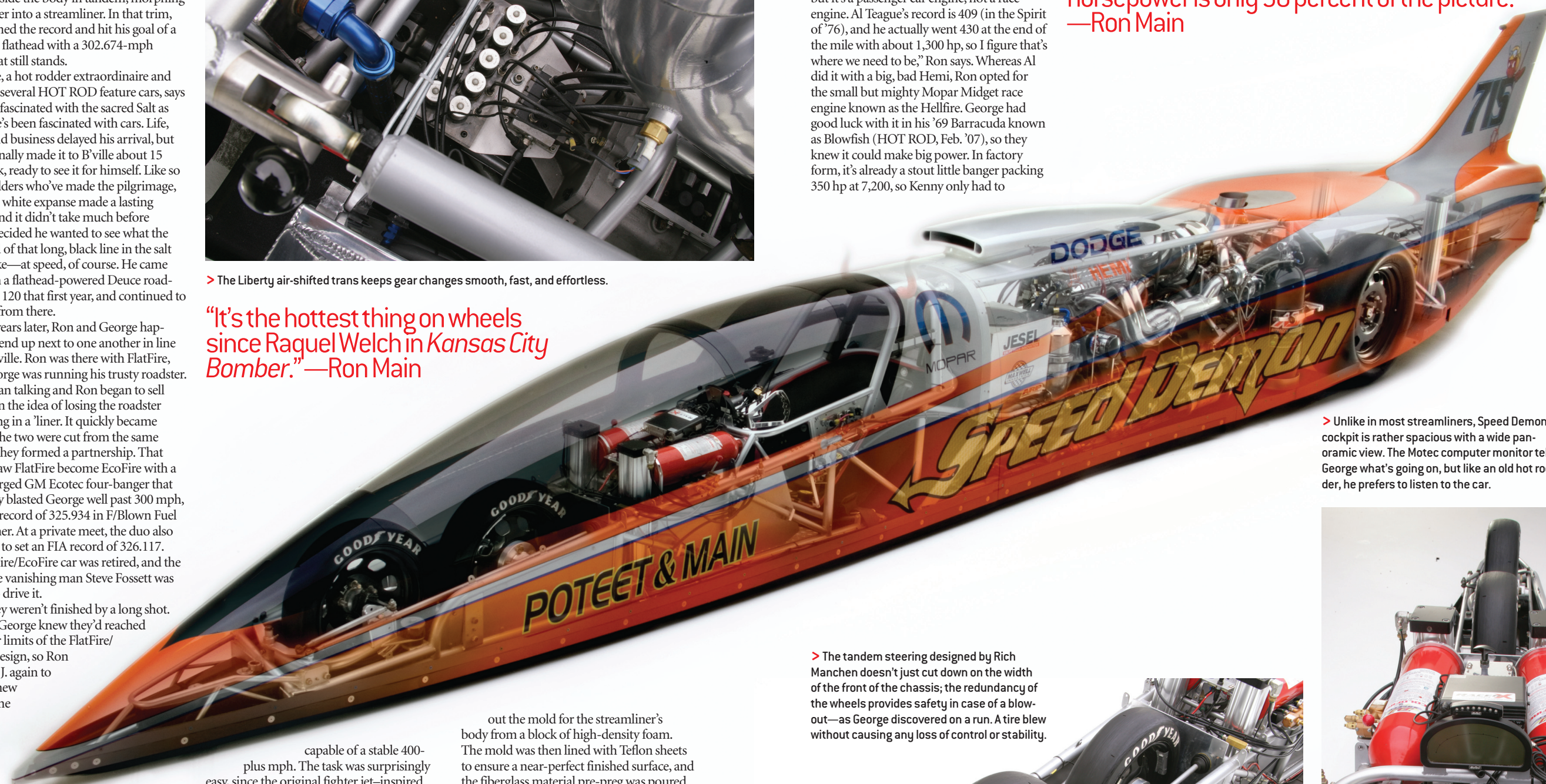
From there, A.J.'s work went to Nemesis Air Racing, where the design was transferred into CAD drawings that were used to whittle

out the mold for the streamliner's body from a block of high-density foam. The mold was then lined with Teflon sheets to ensure a near-perfect finished surface, and the fiberglass material pre-preg was poured in. It's not quite as simple as it sounds, and this type of precision process takes some time, so George and Ron had to bench race and dream for a couple of months. Not easy for anxious racers. "I'm old; I don't have time to wait," Ron quips.

Next came the powerplant. The Ecotec had served them well, but after discussing the goal with Kenny Duttweiler at Duttweiler Performance, they decided that dedicated race architecture was required to ensure six-

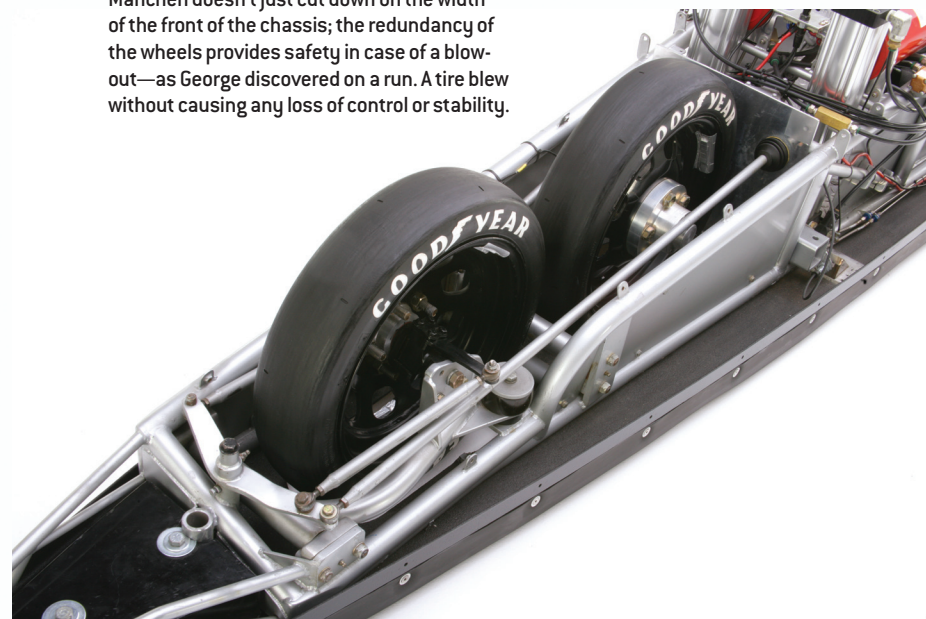
mile reliability at the horsepower levels they needed. "The Ecotec is a great engine, but it's a passenger car engine, not a race engine. Al Teague's record is 409 (in the Spirit of '76), and he actually went 430 at the end of the mile with about 1,300 hp, so I figure that's where we need to be," Ron says. Whereas Al did it with a big, bad Hemi, Ron opted for the small but mighty Mopar Midget race engine known as the Hellfire. George had good luck with it in his '69 Barracuda known as Blowfish (HOT ROD, Feb. '07), so they knew it could make big power. In factory form, it's already a stout little banger packing 350 hp at 7,200, so Kenny only had to

**"To go fast, everything has to be in concert; horsepower is only 50 percent of the picture."**  
—Ron Main



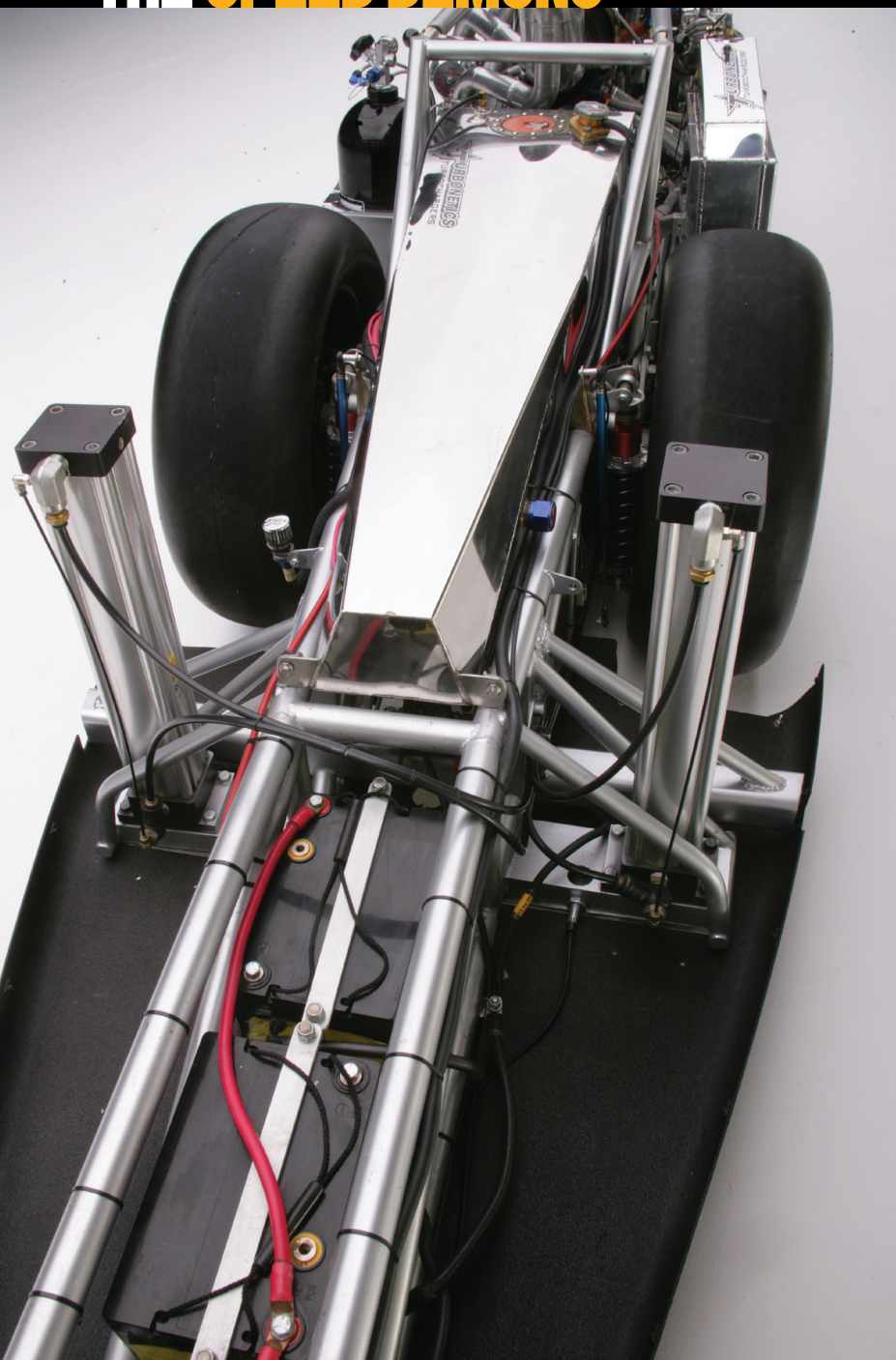
> Unlike in most streamliners, Speed Demon's cockpit is rather spacious with a wide panoramic view. The Motec computer monitor tells George what's going on, but like an old hot rodder, he prefers to listen to the car.

> The tandem steering designed by Rich Manchen doesn't just cut down on the width of the front of the chassis; the redundancy of the wheels provides safety in case of a blow-out—as George discovered on a run. A tire blew without causing any loss of control or stability.





# THE SPEED DEMONS



> Speed Demon is far too low for conventional jacks or traditional trailer loading, so a lightweight pneumatic jacking system from Controlled Motion Solutions was installed to lift the entire car off the ground when necessary. Note the scars on the rear tires; salt is very abrasive, so tire slippage is monitored closely with wheel-speed sensors to balance between optimum slippage (about 7 percent) and minimum wear.

**“Based on our previous performance, I calculate that 1,320 hp will put us over 400 mph—providing that all works and the gods are smiling.”**  
—A.J. Smith, aerodynamicist for Speed Demon

add another 1,000 hp. Piece of cake.

For most regular Joes, the timeline from bench racing conception to sketches to body construction to chassis and engine development takes a good couple of years. Ron and George made it happen in six months and had it ready in time to snatch the SEMA award for Excellence in Automotive Design and the Hot Wheels Speed award at the '07 SEMA show—not to mention ready to clock 353.414 mph with only 30 peak psi at Speed Week '07. That was just a shakedown run for this team; Kenny is currently prepping a 50-psi tune that should bring 400 into reach.

So what's it like in a perfectly engineered streamliner as it literally skims across the surface of the Salt? Like an 85-second Sunday drive with no drama whatsoever, according to George. “The car drives so well that I can really pay attention to what it's doing when I'm out there. There are sensors for everything, but my goal is to be able to tell the crew what the car did before they can download the info from the computers.”

So if all goes according to plan, all three speed demons will be on the Salt again this year attempting to make history with the world's fastest four-cylinder, and George will be adding the 400-mph club to his current 200- and 300-mph memberships. So what's next? Are there plans for the future with more engine? Will they maybe add in the other half of that Hemi to make 2,600 hp? George just laughs and tells us, “I dunno where it goes from there, but 400 is the goal for now.”

> The big Wilwood discs in the rear help, but the real stopping power comes from dual chutes from D.J. Safety.





## Quick Inspection: Speed Demon Streamliner

George Poteet and Ron Main • Chatsworth, CA/Memphis, TN

### POWERTRAIN

**Engine:** Nicknamed the Hellfire Lil' Hemi, the mighty four-cylinder begins with an 8.40-inch-deck-height Mopar A4 aluminum Midget race block. From there, Kenny Duttweiler of Duttweiler Performance in Ventura, California, threw in a Scat billet crank, Oliver rods, and forged CP Pistons to bring it up to 9.5:1 compression and 179 angry cubic inches. Up top are Mopar's W9RP wedge head with 2.18 intake and 1.60 exhaust valves, specially prepped Jesel 1.8-ratio rockers, and porting by Chapman, but a P5 or P9 Hemi head combo is in the works as well. The 82mm Turbonetics turbo blows through a custom air-to-water Spearco intercooler then into a 105mm Wilson throttle body and custom Hogan intake. Maxwell Industries handled the plumbing. A Motec sequential speed density system reads the data and fires four MSD Pro Power coils to ignite the fuel squirted by eight 250 lb/hr injectors from Mike Moran.

**Power:** At a relatively conservative 30-psi max in 2007, the engine was good for 1,181 hp at 8,100 rpm and 760 lb-ft at 7,100 rpm. This year with a revised head and 50-psi max, Duttweiler expects to see north of 1,300 hp.

**Transmission:** To couple the power to the air-shifted Liberty five-speed, Fidanza created a special combination using a flywheel cut from 2024 T3 aluminum with a 1045 steel friction plate and its standard twin-disc performance clutch mated to two sintered iron discs.

**Rearend:** The one-of-three Ferguson billet rearend looks as if it was built to be in a high-end street rod, but it's a custom-crafted piece just for Speed Demon. Inside are 4340 billet steel cogs. One of its brothers currently resides in the rear of Terry Nish's Royal Purple No. 998 streamliner.

### CHASSIS

**Frame:** The well-laid-out and surprisingly user-friendly chassis is the work of Rich Manchen, as is the masterful tandem steering setup.

**Suspension:** There's really no suspension to speak of in the front, but the rear uses Eibach 750 lb/sq-in coilovers on Penske 7500-series shocks. Sway bars are 1.125-inch custom-bent by Schroeder.

**Brakes:** In the rear, Wilwood NASCAR six-piston calipers clamp down on rotors coated with Wilwood's new Black Electro Coat to prevent salt corrosion, but the real stopping power comes from two 12-foot parachutes from D.J. Safety in Los Angeles.

**Wheels:** The wheels are custom-welded steel LSR wheels by Taylor Made Wheels. The fronts measure 15x4½, while the rears are 18x6.

**Tires:** The front tires are 21x5-15 Goodyears only rated for 300 mph. The rears, which do all the work and take most of the abuse, are 30x9-18 Mickey Thompson LSR tires rated to 530 mph.

**> Below:** It takes a devoted team of volunteers to support a car like this. George and Ron treat 'em well, though. "Everybody gets three hots and a cot, but that's it," Ron says with a grin. The team, in no particular order, is made up of crewchief Russell Russ, John Aitken, Steve Burke, Danny Burrow, Kenny Duttweiler, Paul Green, Ed Horton, Mark McCaw, Jim Miller, Gary Robison, A.J. Smith, Gary Thomas, and Steve Watt.



**> Above:** Anything powered by Hellfire should sport a nice set of horns.



**> Above:** Speed Demon has a servocontrolled tail rudder that can be clocked to any degree to add stability, depending on wind conditions.

### STYLE

**Body:** Speed Demon's slippery fighter-jet design was courtesy of aerodynamicist A.J. Smith of Aeromith Consulting & Engineering. He also designed the original FlatFire (in both lakester and streamliner tim) as well as the later EcoFire iteration. Nemesis Air Racing in Mojave, California, is responsible for creating the CAD drawings, and THX (yes, the same guys) cut the body with its five-axis gantry router at the company's secret compound in Moorpark, California.

**Paint:** That trademark candy orange seen on the FlatFire/EcoFire 'liner and Speed Demon is House of Kolor Tangelo Pearl with Sunset Orange Pearl combined with a silver fade. Abstract Fiberglass in Reseda, California, laid the paint just 24 hours before the Demon was loaded in a trailer for Bonneville.

**Interior:** George prides himself on being able to feel what's going on during a run, but a Motec system wired by GP Motorsports Racing Wiring and Electronics Programming monitors and data-logs everything for later review. The extensive 'cage work is from D.J. Safety. In Ron's words, the upholstery is "hard and black" and the killer sound system is "courtesy of Duttweiler." **HRM**



**CAN THEY DO IT?**  
LOG ON TO  
**SPEEDDEMON.US**  
TO FOLLOW ALONG.