



# G-CODE

## Twin-Turbo LT1 'Cane

By **Randall D. Allen**

Photography by **the author**

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Although late-model F-bodies feature outstanding power and great looks, they certainly aren't normally considered heavy hitters in the big money games of competitive street racing. The supposed "beasts" that rule the night are more often than not light early gen musclecars with 500-plus ci and power adders, or thinly disguised race cars trailered to and from the back-alley race tracks of America. Sure, the '96 LT1-equipped Trans Am owned by Omahar Berry of Baton Rouge, Louisiana, features an awesome purple paint scheme with custom graphics, but even after gussying up the body to look the part of a '99-'02 Ram Air TA, it doesn't hide the fact that the competition believes that it has just another LT1 or LS1 small-block between the fenderwells. But wait. The art of deception is one of the key elements for a successful street racer. With a custom license plate that reads "G-Code" and the wistful sound of a small-block spitting out boosted cacophonous melodies, something is amiss here. Ladies and gentleman, Omahar and his purple hurricane are merely alluring sirens, gently enticing in unsuspecting victims, and then proceeding to humiliate them with his F-body before liberating each and every G-note competitors have out of their wallets. Powered by a twin-turbo LT1 that runs 93-octane, this is one 'Bird that idles well and drives very similarly to any mildly modified F-body; that is until a boot is planted to the gunwales and the 'Bird morphs into a 9-second hurricane.

"I purchased the 'Bird from a co-worker in '99 who was moving and decided to sell," Omahar says. "She took pretty good care of the car, but the stock power of the 285-horse rated LT1 left me longing for more power. A small camshaft and a 2800-stall converter were the initial direction with the car, but the Trans Am still wasn't fast enough. After numerous bolt-ons and the installation of a 200-horse nitrous system, I decided to up the ante and build a 408 LT1 stroker motor

and move to a 250-shot of nitrous. After running the combination for several years and being able to click off low 10-second quarter miles and surprise many on the streets, I wanted to see if Thunder Racing/Madman and Co. could take the car to the next level. Since Brian Jeffery, aka "Madman", had extensive knowledge of the LT1 and forced induction prototyping, we sat down and talked over various combinations. Ultimately, in order to have 9-second power running exclusively on 93-octane, a twin-turbo application was chosen. Rather than relying on the aftermarket to produce a kit to fill our build criteria, the design and fabrication of the system was turned over to Madman."

To achieve the power and ET goals it would take a clean sheet approach from both an engine and turbo-charger system to withstand the 15 lbs of boost and 1000 crankshaft horsepower that the combination was slated for. Rather than packaging the turbos directly in front of the engine, Madman devised an ingenious turbo setup. "Since the car would be street raced and be run exclusively on 93-octane, we wanted to hide the turbos under the car and reduce the amount of transient heat that would transfer into the engine bay," Madman states. "Custom ceramic-coated 1.75-inch long-tube headers were fabricated and exhaust gases are routed to twin Limit Engineering GT67 ball bearing turbos located under the corners of the frontend. Capable of supporting up to 24 psi of boost, the turbos were designed to reach full boost by 4500 rpm." After exiting the turbos, the boost is routed through a custom-made six-core intercooler and into an intake bridge that contains two TiAL blow-off valves. Induction is handled by a ported Edelbrock Victor Jr. intake manifold and an aluminum intake elbow from IntakeElbows.com. Fed by Edelbrock fuel rails pushing Speed-Pro 160-lb injectors, fuel flows from a stock sumped fuel tank via a Weldon Racing Pump. A 58mm Arizona Speed and Marine billet Monoblade throttle body that flows 1300 cfm is combined with engine management

handled by a FAST XFI computer that was expertly tuned by Madman and D.J. Loiacau. Stock coil packs send power to Taylor 8mm Spiro-Pro wires and NGK TR-6 spark plugs while 3-inch DynoMax Bullet mufflers expel the superheated exhaust mid-ship. While the turbo and exhaust systems were being fabricated, a fresh GM Performance Parts LT1 block was sourced and sent out to Ronnie Favaron of Baton Rouge for machine work. With a targeted compression ratio of 8:1 and 396 ci, the block was clearanced for the added stroke, machined for splayed four-bolt main caps, and then treated with Hard Block block filler. The block was then zero decked, bored .030 over, and final honed to 4.03 inches. Assembled by Ronnie, the short-block features Oliver 4340 chrome moly alloy billet I-beam connecting rods measuring 6 inches, swinging from a bulletproof 3.875-inch stroke Callies Magnum 4340 steel crankshaft. Custom made Diamond Racing pistons feature 28cc valve reliefs and are wrapped in Speed-Pro plasma moly rings.

With a super-stout bottom end, attention turned to the cylinder heads. A set of AFR 227cc LT4 SBC racing cylinder heads was chosen for its proven abilities to flow massive amounts of air and remain affixed to the block under big boost, courtesy of thick .75-inch head decks. The Competition version 23-degree heads received AFR's CNC race port, and were then milled by .008. Outfitted with AFR stainless valves measuring .208 and 1.60 inches respectively, the heads flow over 300 cfm on the intake. Valvetrain harmonics are controlled by a set of Isky double valvesprings while Thunder Racing 7.3750-inch hardened chromemoly pushrods work in conjunction with a fresh set of Comp "R" series hydraulic roller lifters and 1.60 ratio Jesel Pro Series shaft rockers. Cam Motion created a custom solid roller turbo cam, and it measures a meager 230/244 at .050 duration and .510/.540 lift on a proprietary lobe centerline. A Milodon billet oil pump and 7-quart racing oil pan ensure the lifeblood of the engine stays flowing while a front mounted auxiliary Weldon oil pump scavenges oil from the turbos. With an engine that was capable of such enormous potential, it was paramount that the safety of the car and the suspension were up to the challenge. Because the car would pull so much street duty, creature comforts such as power windows and door locks remained along with the rear seats. After pulling the interior, Wizard Racing fabricated a custom six-point rollcage, and a set of Corbeau Racing seats with five-point harnesses were bolted in. Although still portly at



3,677 lbs without the driver, some weight savings were achieved with the removal of the A/C system, airbags, and front and rear bumper supports. To further lighten the front end, a BMR K-member and upper and lower control arms were sourced, and the power steering rack was converted to a Madman & Co. manual rack. QA1 coilovers and shocks round out the front end. Out back, the 'Bird has received a complete Madman suspension makeover. An Outlaw drag race torque arm and integral transmission crossmember are tied into a set of BMR welded-in subframe connectors. Chromemoly double-adjustable lower control arms and Panhard bar feature aircraft grade rod ends, while stock springs and AFCO adjustable racing shock absorbers provide the dampening adjustability for street or strip duty.

A Moser-based Ford 9-inch rearend previously installed was inspected and required only a fresh fluid fill to be deemed race ready. Equipped with 33-spline axles, a set of 3.70 Pro Street gears and an Auburn posi, the rearend now accepts power from a steel PST driveshaft after the factory LT1 driveshaft broke at the front yoke during testing. A similar fate fell upon the race-built TH350 as the input shaft to the transmission sheared off under the tremendous power of the engine during full boost. Now equipped with a TH400 built by Tranz King, the racing unit features a billet input shaft and drum, Kevlar clutches, and a B&M transbrake and manual valvebody. A PTC 3800-stall torque converter provides the torque multiplication, while a B&M SuperCooler transmission cooler keeps the fluids from boiling over. Because safety is such a concern, a steel TCI flywheel and transmission scatter shield provide extra insurance in case of failure. Although not certified to date for 9-second duty, the TA ran a 9.55 quarter-mile time at a staggering 148.6 mph on only 8 lbs of boost. "Owning a pump gas-friendly car that has this much power is exactly what the goals were," Omahar says. "I just love the power of the custom turbo setup, and I am street driving it every chance that I get. The 'Bird is quite stealthy, and only after racers start crawling under the car will



Omahar Berry liberally applies power to the 'Bird, superheating the R2 compound in the Mickey Thompson ET Street Radials in the burnout box at State Capitol Raceway in Port Allen, LA. After receiving the full-on Madman suspension treatment, the 'Bird would leap into the air off of the starting line, tethered to the ground only by the strength of the welds on the Madman frontend chain limiters.



A Momo Race steering wheel sits atop a Teknicq removable wheel hub, allowing easy access to the cabin that is adorned with a dizzying array of gauges. An Autometer LED shift light is affixed to the steering column while a triple-pod gauge panel holds an Autometer Ultra-Light oil pressure gauge, DynoTune digital fuel pressure gauge, and an Autometer C2 nitrous gauge. A B&M Hammer shifter controls the race-built TH400 transmission, while a switch panel controlling the myriad of electronics resides in the space formerly housing the ashtray.

With a custom-built Wizard Racing six-point rollcage with swing-out side bars, the owner is encased in Corbeau Racing Seats and five-point harnesses during wheels-up launches or high-speed forays into the night.

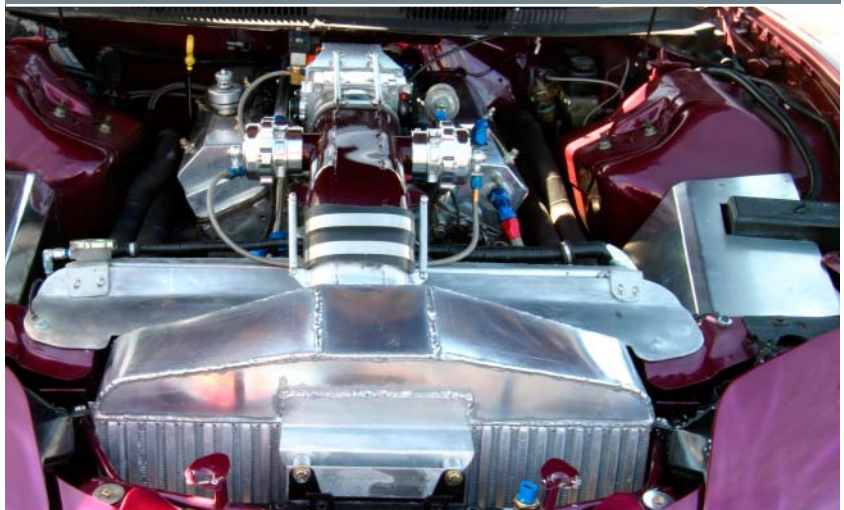


Custom aluminum panels effectively hide the insane turbo packaging under the front corners of the car. Each side features a Limit Engineering GT67 ball bearing turbo and TiAL wastegate. A FAST XFI computer controls the three-bar tune aided by wide-band O2 sensors on each turbo setup. A coolant catch-can is plumbed in under the passenger side while the opposing corner has an oil catch-can.



Laying in wait under the '02 TA Ram Air Hood is 396 ci of LT1-based turbo insanity. Featuring splayed four-bolt main caps, a Callies crank, and Oliver rods, the 8:1 compression motor is a safe haven for a plentitude of atmospheric multipliers.

The '96 TA was converted to 2002 WS6 TA specs, including a GM Ram Air Hood, headlight covers, front bumper cover, and rear taillights. Brian Abston Customs of Baton Rouge, LA, is responsible for the arresting paint and graphics. After block-sanding, the car was primed, and then shot with three coats of PPG basecoat in the same shade of '96 Bright Metallic Purple. Custom Hurricane-inspired graphics were airbrushed onto the hood and front flanks, and then sealed in clearcoat before being buffed out to a lustrous shine.



they fully realize that it is turbocharged and truly an engineering tour de force. Of course it's only after they are thoroughly humiliated that they want to figure out how a little LT1 put that much of a beat-down on them." One of the largest indicators of how stealthy the car is was when GMHTP witnessed a 9-second pass during testing. Other than the crew from Thunder Racing/Madman & Co., the car drew little attention on its first pass. By the time the 'Bird was back in the pits, a crowd descended upon it intent on determining how the TA had posted such impressive numbers. Omahar was perfectly in his element, being self-effusive and allowing many a racer to smack talk him about his little LT1. Even seeing a small glimpse of what the car was capable of couldn't distract a certain Pro Bike wanna-be racer from letting his mouth overload his racing ability. That's all right as Omahar took it all in stride and eventually allowed the gentleman to bait himself into a challenge. Omahar walked off a few nights later with a baseball-sized roll of hundreds lining his front pocket and a million-mile smile. If you ever find yourself down in the Bayou, be wary of just another 'Bird featuring custom paint, as it is a mighty stealthy 'Cane! 🍷

Holeshoot Pentastar billet aluminum wheels measuring 15x10 inches in rear are wrapped in 325/50/15 Mickey Thompson ET Street Radials, while matching front wheels measure 15x4 and carry 26.0/4.5/15 MT ET Street front tires.



Omahar proudly poses beside his purple Hurricane machine.

DATA FILE

1996 PONTIAC TRANS AM

<b>OWNER:</b>	Omahar Berry, Baton Rouge, LA
<b>BLOCK:</b>	LT1
<b>COMPRESSION RATIO:</b>	8.1:1
<b>HEADS:</b>	AFR 227 cc LT4 SBC Racing heads, Isky dual valvesprings
<b>CAM:</b>	Cam Motion, solid roller, 230/244 at .050 duration and .510/.540 lift
<b>PUSHRODS:</b>	Thunder Racing heat treated chrome-moly
<b>ROCKER ARMS:</b>	Jesel Pro-Series, 1.60 ratio
<b>PISTONS:</b>	Diamond Piston, custom, -28cc valve reliefs
<b>RINGS:</b>	Speed-Pro plasma moly
<b>CRANKSHAFT:</b>	Callies Magnum 3.875-inch 4340 steel
<b>RODS:</b>	Oliver I-beam
<b>THROTTLE BODY:</b>	Edelbrock Victor Jr, custom sheet metal elbow and ASM 58mm throttle body
<b>FUEL INJECTORS:</b>	Speed-Pro 160 lb/hr
<b>FUEL PUMP:</b>	Weldon fuel pump, Aeromotive fuel regulator
<b>IGNITION:</b>	MSD coil, MSD 6AL, Taylor 8mm Spiro-Pro wires and NGK TR-6 spark plugs
<b>ENGINE MANAGEMENT:</b>	XFI, tuned by Madman and D.J. Loiacau
<b>POWER ADDER:</b>	Twin Limit Engineering GT67 ball bearing turbos, custom intercooler, twin TIAL blow-off valves
<b>EXHAUST SYSTEM:</b>	Madman 1.75-inch long-tube headers and DynoMax 3-inch Bullet mufflers
<b>TRANSMISSION:</b>	GM Turbo 400, with a B&M transbrake, manual valvebody and SuperCooler transmission cooler.
<b>TORQUE CONVERTER:</b>	PTC 3800-stall torque converter
<b>DRIVESHAFT:</b>	PST 3-inch steel
<b>FRONT SUSPENSION:</b>	BMR K-member and upper and lower control arms QA1 coilover springs and R-series shocks, Madman manual rack, sway bar deleted
<b>REAR SUSPENSION:</b>	Madman & Co. weld-in subframe connectors, double adjustable control arms and Panhard bar, Madman torque arm, stock rear springs with AFCO adjustable shocks and BMR rear sway bar Moser 9-inch Ford with 3.70 gears, 33-spline axles, Auburn Pro-Series posi
<b>REAREND:</b>	Strange Engineering Pro-Race four-piston
<b>BRAKES:</b>	front billet calipers with directional slotted rotors and race pads, stock rear LTI drum brakes Holeshoot Pentastar Aluminum Drag, 15x4
<b>WHEELS:</b>	front and 15x10 rear
<b>FRONT TIRES:</b>	Mickey Thompson ET Front, 26x4.5x15
<b>REAR TIRES:</b>	Mickey Thompson ET Street Radials, 325/50/15
<b>FUEL OCTANE:</b>	93
<b>RACE WEIGHT:</b>	3,677 lbs
<b>BEST ET/MPH:</b>	9.55 at 148.6 mph
<b>BEST 60-FT TIME:</b>	1.24
<b>CURRENT MILEAGE:</b>	128,375
<b>MILES DRIVEN WEEKLY</b>	50