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1998 Ford Mustang Cobra – Roco's Rocket

Ernesto Roco's '98 Mustang Cobra Has Gone From Daily Driver To NASA Championship Hopeful In Eight Hard Years

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Horse Sense: "The Griggs SLA front suspension has just put the strut-based Mustang suspension on the endangered species list," says Ernesto Roco. "I know this because I drove a strut setup successfully for three years."

Ernesto Roco is a computer programmer by profession, but if that suggests a fish-belly pastiness from the cubicle-under-fluorescents life, then we should explain. Ernesto is racing Mustangs as a retirement sport after an intense career racing mountain bikes that took him to the state level. Before that, it was surfing the Hawaiian north shore, some airplane piloting, and he's still involved in the U.S. Gas Championships for RC cars. He's scored a third in the nation so far.

So Ernesto gets around, thanks partially to a stint with the Air Force-that's how he got to Hawaii, Korea, and Japan-but we have mountain biking to thank for his Mustang racing. "I had gotten my masters in information systems, moved back here to California, found a job, and found myself stuck in a cubicle," he says. "I started racing mountain bikes. One of my bike races was at Laguna Seca, the Sea Otter Classic. I was doing my practice runs, and you could see the racetrack with all the cars running by, the Mustangs and Camaros flashing by. I thought, Man, I have one of those cars, I can do that. A couple of weeks later I signed up for HPDE [High Performance Driving Experience, NASA's open-track class that runs on race weekends]."

When Ernesto sustained his third mountain-biking-induced concussion in six months, the medicos told him one more would definitely be one too many, so he eventually dropped the bike racing. The resulting transition from HPDE to American Iron and finally to American Iron Extreme was all too predictable for this competitive personality. After all, he's still stuck in that cubicle 40 hours a week.

And Ernesto's goal? "Now, I'm building up the car for the Nationals at Mid-Ohio." He's out to win NASA's new national championship.

The outrageous Mustang he's using to contest that championship is about as traveled as he is. Ernesto bought the '98 Mustang Cobra new as a daily driver before he discovered NASA's road-racing program. As he moved from the street to HPDE, then to the fender-to-fender action of AI and AIX, the Cobra has gone from dead stock to carbon-fiber speed sled. And the pair has gotten increasingly competent. "At the last three races this year, I dropped the lap record by 3 to 4 seconds," Ernesto reports, and more speed is on the way.

When we pointed the camera at it, Ernesto's car was almost completely developed, but when it rolls out for the few qualifying races he's planning to run this summer, look for less-less weight, less steel, more carbon fiber, a real championship attitude.

Knowing that more races are won in the wheelwells than under hood, Ernesto has learned to go for the simplest, least amount of power that'll do the job. Three grenaded Four-Valve 4.6 engines helped him reach that conclusion; now the power comes from a dependable 331 small-block putting out, oh, 380 rear-wheel horsepower it says in the tech sheet. Built by Ford Performance Solutions, the little stroker has all forged internals, a solid-roller cam, and it wears ported Twisted Wedge heads. The intake is a Parker Funnelweb from Australia wearing a Holley 650. It's the least expensive, most reliable power source the car could have, and it's certainly well short of the AIX standard of around 500 hp at the tires.Of course, that's mainly out the window net this summer, when Ernesto will fit a 360-cube version of an aluminum-blocked 302. Also from Ford Performance Solutions, the main goal of the new engine is reduced weight, although a reasonable power boost is hoped for as well. Ernesto says he'll keep the rpm limit to 7,000 to meet his goal of using only one engine this year. That's a big part of cost containment, as he has to pay for all this from his cubicle earnings.

In case you're wondering if Ernesto might try a modular engine renaissance, his thoughts on the Four-Valve modulars are, "Those things are useless for what we're doing. They're heavy, compared to a pushrod . . . [With the 331 there is] slightly higher torque and horsepower for 160 pounds less. And that's front nose weight. The modular doesn't make sense-there is no reliability and there is a weight penalty. If you're at the track and something breaks, you're screwed. If anything breaks, a header gasket or water pump, you're in for quite a weekend. I have one wire going to the engine now, it's great." A mod-motor fan Ernesto is not.

The engine accessories are the usual racer's polyglot. Ignition comes from an MSD box, a Crane PS2 coil, and Autolite spark plugs, while the exhaust exits via 1 5/8-inch BBK long-tubes and Dr. Gas pipes.

Behind the 331 is a triple-disc McLeod 7 1/4-inch clutch that will change to a double-disc configuration in case NASA pulls a standing start on the AIX field. Behind that is a souped-up Tremec 3550 TKO 600. It's "not a totally dog-ring transmission, but 10 times better than stock," Ernesto says. An aluminum Griggs and soon-to-be-carbon-fiber driveshaft connects to the Griggs Racing 8.8-inch "hybrid" rear axle that has been cambered and fitted with a Torsen T2R limited slip and 3.90 gears. All this is controlled by a Pro-5.0 shifter.

For Ernesto, however, the real horsepower is in the chassis. Sitting on Hoosier 315/35-17 race tires and Forgeline 17x11 wheels at all four corners, the whole thing is pure Griggs Racing chassis stiffening and suspension, along with what Ernesto classifies as another significant performance enhancement-Brakeman brakes.

For the Griggs equipment, Ernesto has run its gear since the earliest street-car days and now has everything the company makes, up to and including the relatively new SLA front suspension. He can't say enough good things about the SLA, reinforcing our impression of the A-arm front end, which, combined with the 315 front tires, produces superb front-end bite and control. "I guarantee the SLA will put one to two seconds on a strut car," Ernesto says. "It just works so much better when you push it really hard."

Besides the SLA, Watt's link, torque arm, K-member, World Challenge control arms, and so on, Ernesto is also running Griggs' custom-valved Koni aluminum race shocks. These are seriously expensive at $1,300 a pair, but they're what the all-out suspension wears these days.

Ernesto is such a suspension fan and, because of Griggs' tutelage, he's become a freelance Southern California chassis-setup specialist to other racers and hard-core street types. "I set up the Griggs or Maximum [Motorsports] suspensions alignments, bumpsteers, set corner weights, squaring axles, and K-members. There are a lot of hokey alignment shops that don't have a clue what they're doing. If you install a Griggs Watt's link and other stuff, you have to put all those things right. Many don't know how to install a Panhard bar."

As Ernesto's chassis tuning has progressed, he says it "doesn't feel like I'm going that fast because the car is so easy to drive." But he is going fast-turning 1:28s at Willow Springs.

Controlling that speed are 13x1.250-inch Brakeman brakes. Ernesto says these brakes are much smaller and lighter than competitive brands-the latest rotors from Brakeman are 4.1 pounds lighter than its old rotors, for example. Yet Ernesto says caliper stiffness is excellent, as are stopping power, pad wear, and brake longevity. The price is competitive.

Finally we reach what probably caught your attention in the first place-the bodywork. Much of the original Cobra's skin has been shed to the racing gods, and when Ernesto is finished prepping for this year's championship fight, little original steel will be left save for the rear quarter-panels. The goals are twofold-one is aerodynamic, the other is an aggressive weight-reduction program. Ernesto would rather not advertise his weight goal, but everyone associated with the car noted it was "seriously light" or "really light." Look for plenty of ballast in strategic places on this car after the carbon-fiber bodywork program is completed.

Some of those carbon parts are already in place, of course, especially at the front where the aerodynamics are aimed at increasing downforce. A Griggs nose and splitter, Tiger Racing front fenders, and dive planes (the swoopy tabs between the headlights and wheelwell) help plant the front end. In back, Ernesto categorizes his rear wing as "ultra wide" for maximum downforce. It isn't, he noted, the fastest car in a straight line, thanks to his high-downforce strategy.

More weight reduction is in the glass. The front and rear windows and windshield are Lexan supplied by Griggs. Coated to resist scratching, they're standard Griggs Racing offerings.

With a bit of luck, all of this will result in a big national trophy to decorate Ernesto's cubicle. Keep an eye on Mid-Ohio race courses this fall to find out.

5.0 Tech Specs

ENGINE AND DRIVETRAIN

Block

Stock 5.0

Displacement

331 ci

Cylinder Heads

Twisted Wedge, CNC-ported

Camshafts

Solid-roller

Intake Manifold

Parker Funnelweb

Throttle Body

Holley 650

Power Adder

None

Exhaust

BBK long-tubes, Dr. Gas X-pipe and tailpipes

Fuel System

Holley fuel pump, Aeromotive fuel lines

Transmission

Tremec 3550 TKO {{{600}}}

Rearend

Griggs Racing 8.8-inch hybrid, Torsen limited slip, 3.{{{90}}} gears

ELECTRONICS

Engine Management

None

Ignition

MSD, Crane

Gauges

Auto Meter

SUSPENSION AND CHASSIS

Front Suspension

K-member

Griggs Racing

A-arms

Griggs Racing SLA

Springs

Griggs Racing

Shocks

Koni coilover

Wheels

Forgeline 17x11-inch

Tires

Hoosier 315/35-17

Brakes

Brakeman F4

Rear Suspension

Springs

Griggs Racing

Shocks

Koni coilover

Control Arms

Griggs Racing World Challenge

Wheels

Forgeline 17x11-inch

Tires

Hoosier 315/35-17

Brakes

Brakeman

Chassis Stiffening

Griggs Racing 'cage, subframe connectors