The Automatic Alternative

LIDIO IACOBELLI'S '05 GT IS A REAL ALTERNATIVE. IT RUNS 12s WITH SURPRISING EASE AND AN AUTOMATIC TRANSMISSION

Text and Photos by **Dale Amy**

Drag racer at heart, Lidio Iacobelli has always had a thing for automatics, and when the man in charge at Alternative Auto [(586) 463-0010; www.alternativeauto.com] went looking for an '05 GT, the new 5R55S five-speed auto was categorically on his must-have list. Like many quarter-milers, Lidio likes self-shifters for their consistency and reliability, but even he was surprised at how readily his 3,710-pound (with him onboard) GT knocked down the 12-second barrier in the warm spring air of Bradenton, Florida, after an abbreviated list of bolt-ons and some careful tuning.

Not surprisingly, the overall tighter gear spacing of the 5R55S in comparison to its four-speed ancestors is a prime contributor to the new car's alacrity. "At a glance, the 300-horse '05 GT with an automatic is certainly quicker than a 300-horse '04 automatic Mach 1," Lidio says. "It's very obvious and has been noted to be somewhere between three- and five-tenths in the quarter-mile. I have an '04 automatic [Mach 1] that I drove for six months last year with nothing done to it, and it's obvious that it's not the same. The new five-speed auto puts the 300 horses to better use."

▲ *Never mind all those sticky drag radials and slicks—the secret to getting an automatic GT in the 12s is a set of 20-inch SUV rubber. We're joking, we think, but that's what Lidio used, running about 27 psi and getting 1.9-second 60-foot times as a result. Those tasty rims, by the way, are what Enkei calls the LM-1/55.*

Continuing with his comparison, Lidio opined that it's not just the tranny: "In my opinion, the new Three-Valve pulls more midrange than any 4.6 prior to this. I think it has more low and midrange than a Two-Valve, and definitely more than a Four-Valve. Coupled to some great ratios, when the car shifts, it has a great recovery. These are the things that have added up to make the automatic a quick Mustang." In this respect, Lidio feels the '05 needs a whole lot less rear-axle ratio than, say, a Mach 1, which demands at least 4.10s to do its best strip work.

Lidio also loves the way his S197 launches: "The '05 suspension, chassis, and all the things they did—making the wheelbase longer, the gas tank being in front of the axle, and the battery being behind the front struts—it's all paid off. The car squats. In my opinion, the car behaves like a Fox body with the battery in the trunk, the front sway bar removed, and a looser strut. It's unbelievable." This is not just Lidio's seat-of-the-pants imagination—his 60-foot times consistently hovered around the 1.90-second mark, and that was with SUV tires, of all things. His 275/40-20 rear skins are Continental 4x4 SportContacts, offered as optional equipment on the Porsche Cayenne.

All that said, there's obviously no way an '05 auto will threaten the 12-second mark right out of the box. A Michigan winter kept Lidio from running his down the strip in stock form, but we hear of high-13- to mid-14-second times being

Horse Sense: Internally traceable back to the C3 automatic, it'll be interesting to see what the torque handling limits of the 5R55S are and how long it will take the aftermarket to respond with any necessary modifications.

reported. Yet the 12-second shopping list seems affordably short—all Lidio needed were underdrive pulleys, a cold-air kit, intake runner-control delete plates, a slightly looser torque converter, and electronic tuning of both engine and transmission function. He didn't even touch the stock exhaust, and his aesthetic choice of 20-inch rolling stock added a hefty 18 pounds of rotating mass to each corner of the car. Lidio did replace the car's 3.31 gears with a set of 3.55s, but only to partially compensate for the 1.5-inch-taller-than-stock dub rubber. So, what we're saying is there was no effort to optimize or lighten the car for the strip. Lidio simply made his passes in the car's daily driven form, meaning these performance numbers should be repeatable by anyone who cares to follow this simple recipe.

Now for a closer look at the ingredients.

Pulleys

Pulleys may not add horsepower, but they sure free up some from accessory driving duty. There's not much more to be said about this faithful old trick, except don't go too radical on a street car lest you find yourself low on alternator or water-pump output. Lidio

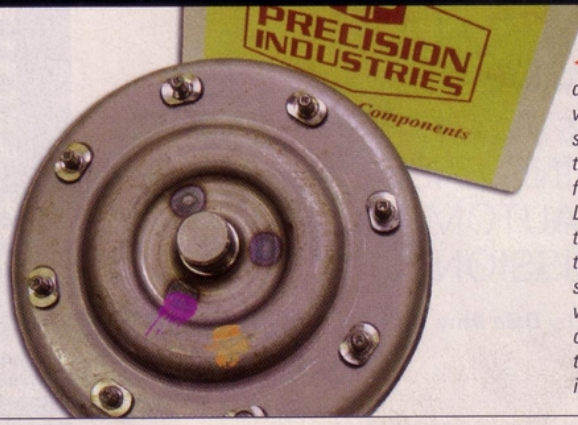
▲ *One of the oldest tricks in the Mustang performance book, Lidio bolted up these SFI-approved March crankshaft and water-pump underdrive pulleys. The crank pulley measures 5 inches in diameter, compared to the stock version's 6¾ inches. A stock water-pump pulley is 5⅞ inches across, while the March replacement measures 6½.*

12-SECOND POWER

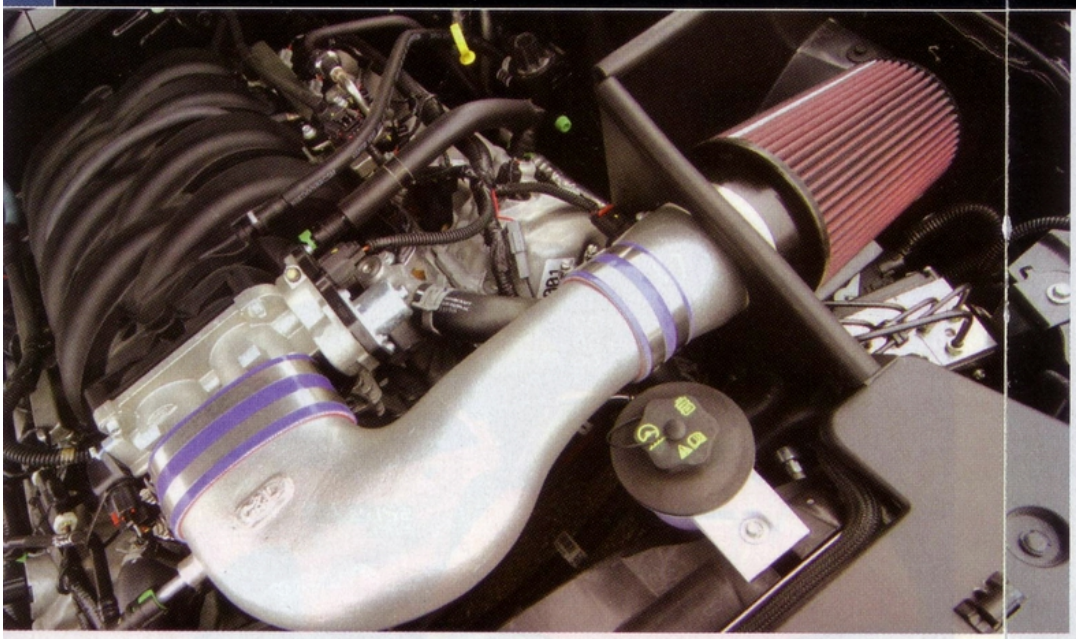
RPM	Baseline POWER	Baseline TORQUE	Lidio's Mods POWER	Lidio's Mods TORQUE	Gain (loss) POWER	Gain (loss) TORQUE
2,500	123.7	259.9	123.5	259.5	(0.2)	(0.4)
2,600	129.1	260.7	127.9	258.4	(1.2)	(2.3)
2,700	135.1	262.9	133.8	260.3	(1.3)	(2.6)
2,800	141.1	264.6	139.7	262.0	(1.4)	(2.6)
2,900	144.3	261.4	144.2	261.1	(0.1)	(0.3)
3,000	148.7	260.3	148.0	259.1	(0.7)	(1.2)
3,100	152.8	258.9	152.7	258.7	(0.1)	(0.2)
3,200	158.2	259.6	158.5	260.1	0.3	0.5
3,300	165.8	263.8	164.9	262.5	(0.9)	(1.3)
3,400	173.7	268.3	173.8	268.4	0.1	0.1
3,500	183.1	274.7	182.8	274.3	(0.3)	(0.4)
3,600	191.5	279.3	190.6	278.1	(0.9)	(1.2)
3,700	196.5	278.9	195.8	277.9	(0.7)	(1.0)
3,800	201.4	278.4	202.6	280.0	1.2	1.6
3,900	207.0	278.7	211.1	284.3	4.1	5.6
4,000	213.7	280.5	220.8	290.0	7.1	9.5
4,100	221.5	283.8	227.3	291.2	5.8	7.4
4,200	228.8	**286.1**	234.5	293.2	5.7	7.1
4,300	234.1	285.9	242.3	**296.0**	8.2	10.1
4,400	237.9	284.0	247.8	295.8	9.9	11.8
4,500	241.0	281.2	251.5	293.5	10.5	12.3
4,600	243.7	278.3	254.8	290.9	11.1	12.6
4,700	246.5	275.5	256.6	286.7	10.1	11.2
4,800	247.1	270.4	260.6	285.1	13.5	14.7
4,900	247.2	264.9	264.1	283.1	16.9	18.2
5,000	247.6	260.1	267.1	280.6	19.5	20.5
5,100	250.2	257.7	269.1	277.1	18.9	19.4
5,200	**251.1**	253.6	272.7	275.5	21.6	21.9
5,300	246.9	244.7	274.2	271.7	27.3	27.0
5,400	245.0	238.3	274.9	267.4	29.9	29.1
5,500	242.3	231.4	276.2	263.8	33.9	32.4
5,600	242.0	226.9	276.5	259.3	34.5	32.4
5,700	241.1	222.2	277.6	255.7	36.5	33.5
5,800	241.0	218.2	**279.2**	252.8	38.4	38.4
5,900	240.8	214.4	278.7	248.1	37.4	36.9
6,000	241.3	211.2	277.1	242.6	38.3	37.0
6,100	238.8	205.6	277.7	239.1	43.0	40.2
6,200	234.7	198.9	276.0	233.8	41.3	34.9
6,300	225.3	187.8	274.4	228.7	**49.1**	**40.9**

Here's what Alternative Auto's Dynojet says about the '05 GT automatic in pure stock form, then with Lidio's listed modifications. Up top, the difference is upwards of 50 hp and 40 lb-ft. Both were Third-gear pulls with the converter locked.

▲ *Lidio used Steeda's Charge-Motion Runner Control eliminators. These 6061-T6 plates go between the intake and heads, replacing the factory setup which has a moveable throttle plate in each passage.*



◀ *At around 11 inches in diameter, the 5R55S converter is over an inch smaller than those used in the AODE/4R70W series of four-speed automatics. Lidio had Precision Industries modify a stock one like this to provide a bit more stall speed. No word yet on whether Precision plans to offer anything similar over the counter, but Lidio imagines they will.*



◀ *The otherwise coal-black underhood view of Lidio's GT is brightened by C&L's TrueFlow cold-air kit, an easily installed setup that shields a healthy conical filter from underhood heat and feeds through a cast-aluminum inlet pipe.*

▲ *Lidio uses Superchips Custom Tuning software and hardware, including the Xcalibrator flash tuner, which can house and apply up to three custom calibrations plus the factory's original version. It took a while to develop his automatic tune mojo, but he now has versions on file for various levels of modification.*

reports no issues with this March combo.

CMRC Deletes

The factory installs these flow-modifying devices—called Charge-Motion Runner Controls—that look like throttle plates stuck in each intake runner—between the intake manifold and cylinder heads, controlling their degree of opening via an actuator overseen by the Spanish Oak processor's software. We've yet to hear the official technical explanation of their function, though we suspect it's a low-rpm, efficiency, and emissions thing. It's clear that taking their obstruction out of the airflow can add some top-end power—Lidio found Steeda's eliminators to be worth 6-8 hp at the wheels. Beware, however—installing them requires processor recalibration to avoid a check-engine light, eliminate driveability issues, and to provide maximum gain.

Induction

Lidio opted for C&L's TrueFlow cold-air kit for two reasons: He heard through the grapevine it was one of the more successful at increasing power and he liked its looks the best. Knowing Lidio's fastidious nature, we're pretty sure the second point was at least as important as the first. He sums it up: "There's some out there that are cheaper, but they don't look as good. To me, this is the most attractive one; some others out there look like household plumbing."

On the power side, together with removing the factory hydrocarbon trap, Lidio tells us the C&L setup gained 16-18 hp at the wheels. Compared to a stock inlet with the trap already removed, he says it's still good for around 12 hp.

Torque Converter

Lidio bought a new stock '05 converter and shipped it to Precision Industries to be "loosened" a bit—he was hoping for about 500 rpm looser than stock. It turned out to stall about 700-800 revs above stock (Lidio reports that it manual-Third foot-brakes to around 3,500 rpm, whereas the factory version tops at about 2,700).

The result? "The car leaps out of the hole," Lidio says, "but feels not as good once it's rolling. From a roll, I think a stock one would keep up or beat me, even though I'm up in the quarter-mile and up at the rear wheels."

Lidio would frankly prefer just a slightly tighter converter for the current power level, but figures this one will be perfect for the Vortech centrifugal he plans to install shortly. "I think with the 3.55s, those tires, that converter, and the not-so-violent hit of a Vortech down low, I believe it will continue to hook well and go somewhere between 11.40 to 11.80 with less power and boost than older cars because of the five-speed's nice ratios. Whether or not it will live in that environment, we don't know."

The Tune

With the authoritarian degree of control exercised by the '05's Spanish Oak processor, calibration is more critical than ever for proper, glitch-free performance, especially on automatics. It took Lidio about three weeks to get a handle on it.

Says Lidio, "The tune is more elaborate and more difficult to do on an automatic '05 because of how extensive the shift controls are now. I basically squeezed as much as I could out of it with 93-octane by, of course, playing with spark, air/fuel, and variable cam timing. Then I moved on to turning off torque reduction at WOT and part-throttle on the trans, then firming up the shifts a little bit at part throttle and a lot at full throttle so it acts, for lack of better words, old school."

He also worked at improving the fly-by-wire's tepid throttle response. Programming continued at the track, too. "[After the bolt-ons] the car started out at 13.40s," Lidio explains, "then I tweaked shift points, leaned on the knock sensors a bit harder with some more spark, then locked the converter at wide-open throttle. That's when e.t.'s started to come down."

We're quickly coming to realize that it would be nearly impossible to overstress the importance of electronic tuning in making the '05 all it can be, and this is particularly true of the automatic, since all shift characteristics, and therefore performance, are entirely under control of processor calibration.

Launch Technique

That's a rather formal heading for what was actually a pretty basic approach. "I just brake-torqued it to about 1,500 to 1,700 rpm," Lidio says. "It's easier to get it to that point with the looser converter. Then, I just mashed it. I didn't give it a super harsh brake torque that would begin to nudge the car or make the chassis get all lifted up in the rear; it was just a light brake torque, then punch it."

Not much need for finesse at this power level—just let those SUV tires do all the work.

What's It All Mean?

Check out our dyno sidebar to see the total effect that Lidio's ministrations had on rear-wheel horsepower and torque. An elapsed time in the 12s is a sure sign that Lidio's power and grip levels were getting along well together, but a trap speed in the 106-mph range is also clear evidence that the 5R55S automatic is pretty efficient at transferring that power to the wheels.

Overall, Lidio was both surprised and impressed at how well the automatic GT performed. Odds are you will be too—just remember that the '05 processor is even more sensitive to mechanical modifications than was the EEC V, so be prepared to re-flash as a matter of course. **5.0**