Photos by Steve Collison and Francis Butler

MEAN MR. MUSTANG MEETS THE BLACK TURBO BEAST

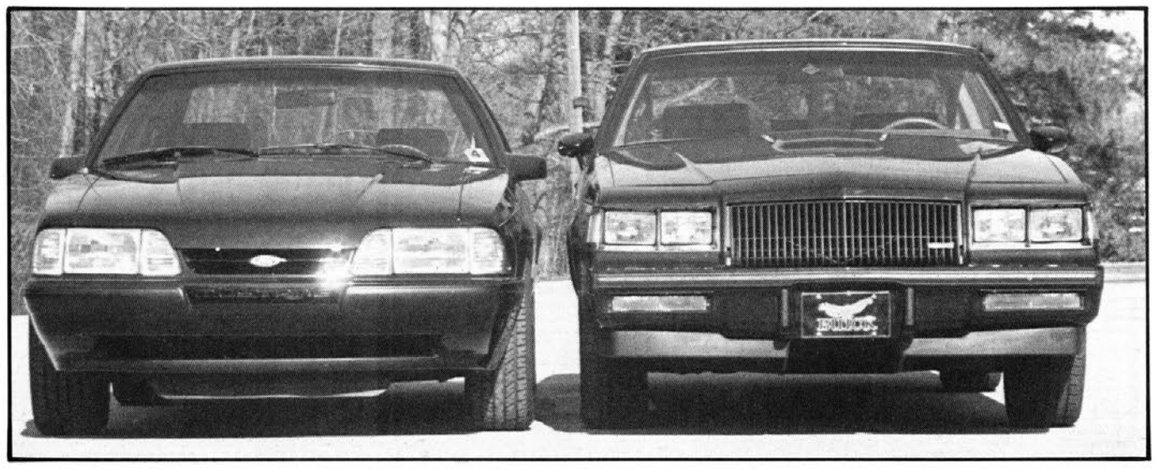
SS&DI pits Bambi vs. Godzilla, only this time there's a happier ending.

By Steve Collison

Regular readers of this publication know that for the past six months *Super Stock Magazine* has been heavily involved in the presentation of Detroit's resurgent "muscle" cars. Thus far we've wrung out Buick's simply awesome turbocharged V6 Grand National plus Chevrolet's 350 and 305 IROC-Z28 Camaros. Conspicuous by its absence, however, has been Ford's highly touted Mustang GT for 1987.

We first drove a new GT during last summer's long lead press preview in Motor City, and were impressed with its authority on the straightaway and surefootedness in the bends. An engineer from Ford's V8 engine group assured us the car had 14.30/98 mph quarter-mile potential, but we reserved judgment until we could perform the deed ourselves. An opportunity to do just that in the company of a Grand National and 350 IROC fell through last fall, and we shared your disappointment. And so for *SS&DI* readers, the 5-liter Mustang's performance remained an unknown quantity. That is until now.

Thanks to our friends at Ford Motor Company, *SS&DI* has acquired the long term use of an '87 Mustang LX for the express purpose of exploiting its performance potential (see companion story). Boy, were we surprised! It's everything we had hoped for — and more! That the Mustang was ordered in black with grey gut is no accident. From the outset we determined that if anything is going to beat the Buick at its own game, this is it, and we wanted Mr. Mustang to look the part.



Side by side is how the 5-liter Mustang compared to Buick's torrid turbo V6, both on track and off. What made the fuel injected 302 so competitive against the Buick's turbo is evident in vehicle weights; the LX is 300 pounds lighter . . . and $5000 cheaper.

Our initial plan was to baseline the little 5-liter (302 cid) fuel injected Ford, then add a gaggle of bolt-on goodies that would hopefully put the Mustang ahead of its protagonist from Flint. As it turned out, that wasn't necessary. With nothing more than two weekends at the track perfecting our driving style, Mean Mr. Mustang delivered 14.0-second time slips with speeds in the 97 mph range. And that, dear friends, was with a 5-speed manual transmission and *2.73* rear gear!

Before taking delivery of the Mustang, we had arranged for an '87 Buick Grand National to test Hypertech's reprogrammed computer chip (see sidebar). With the Ford's impressive baseline performance already in hand, there was no need to prolong the inevitable so we scheduled the drag test to end all Detroit drag tests for 1987 — Mean Mr. Mustang against Buick's Black Turbo Beast — the results of which should decide once and for all which brand has bragging rights to the title of King of the Street. So far the 350 IROC-Z Camaro had come closest with 14.20s to the Grand National's 13.90s. As stated on the cover of our October '86 issue, Can the Mustang Beat the Buick?

The site for this contest was Atco Raceway in southern New Jersey. Transmission Specialties had rented the track for a customer test session and granted our request to join in. It was a hot Spring day and Atco's concrete launching pad was responding well to the numerous assaults of high horsepowered machinery. As it turned out, in our case the track was too good.

Our objectives for the day were to baseline the Ford and the Buick and then run a best of three match race for the overall title. Using two different drivers and lots of runs, we figured we could bring out the best in each car's performance potential. All too soon it became crystal clear that these two machines were evenly matched. After our first series of test runs, the Mustang carded a best of 14.074 at 96.46 mph versus the Grand National's 14.077 at 92.59.

The Buick's lackluster trap speed had us scratching our collective head. Hadn't we clocked 99.44 mph during our Fall test at Central Michigan Dragway? Yes, but that was on a drag strip sprayed its length with traction compound plus a crisp 38° ambient temperature. Then we realized the difference wasn't so much a factor of atmospheric or track conditions as it was power to weight. And therein lies the secret to the Mustang LX's performance edge.

Regardless of body style, the 5-liter Ford for 1987 is rated at 225 hp @ 4000 rpm and 300 ft/lbs torque @ 3200 rpm. The Turbo

SPECIFICATIONS

Vehicle	Ford Mustang LX	Buick Grand National
price, as tested	$12,631.00	$17,359.00
Engine		
type	90° V8	90° V6
bore x stroke	4.00 x 3.00″	3.80 x 3.385″
cid	302	231
compression ratio	9.2:1	8.0:1
bhp @ rpm	225 @ 4400	245 @ 4400
torque @ rpm	300 @ 3000	355 @ 2800
induction	EFI	SFI/Turbo
exhaust	dual/dual	single/dual
General		
Wheelbase	100.5″	108.0″
curb weight	3200	3500
fuel cap. (gals.)	15.4	18.1
trans. (low gear)	5-sp. (3.35)	4-sp. AOD (3.06)
axle ratio	2.73:1	3.42:1
Suspension		
front	mod. strut/coils, gas shocks, sway bar (1.3″ dia.)	a-arm w/coils, gas shocks, sway bar (1.28″ dia.)
rear	4-link w/coils, 4 gas shocks, sway bar (.083″ dia.)	4-link w/coils, 2 gas shocks, sway bar (.76″ dia.)
wheels	15x7″ aluminum	15x7″ aluminum
tires	P225/60VR15 Goodyear Eagle GT	P215/65R15 Goodyear Eagle GT
¼-Mile Performance		
ET/MPH	14.07/96.46	14.07/92.59

V6 Grand National comes in at 245 hp @ 4400 and 355 ft/lbs @ 2800, plus it has 14 psi of turbo boost. But the Mustang LX weighs just over 3200 pounds with a full tank of gas, the Buick an easy 3500 in comparable trim. Our test drivers also contributed to the equation. The Mustang driver weighed 150, the Buick's 260. So now we're talking about relative total vehicle weights of 3350 for Mr. Mustang and 3760 for the Turbo Beast.

That difference becomes most evident in each car's terminal velocity, or trap speed at the end of the quarter-mile. It seems that the extra weight affects trap speed more than elapsed time, which accounts for the Mustang's faster mph. But on the ET end of things they were dead even. When racing each other, the winner was usually the first car to leave the starting line. But we're getting ahead of ourselves.

Another interesting note: Each car would only turn an "ideal" ET about three out of every ten runs. The biggest variable obviously was traction. The Mustang had a tendency to bog off the starting line while the Buick wanted to blaze the tires. Again, in each case the result was a .3 loss in elapsed time. But we consider these numbers to be "real world." If the Mustang bogged and the Buick spun, they'd leave the line together and stay that way until the ¾ mark, where the Mustang's lighter mass would make the difference and it would pull away ever so slightly. Remember, we're not exactly hooking hard and going straight here. These cars have to be finessed off the starting line. If the clutch wasn't released just right, or the rpm was too low, the Mustang would lunge about five feet and then fall on its face. In this mode it ran consistent 14.30s at 96.50. Only when the right mix of engine speed and clutch release was achieved would the car dip down to the 14.0s and pick up a mile an hour.

Due to ungodly torque and instant boost, the Grand National is equally difficult to drive off the starting line. Our most productive driving style was to heat the tires and

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DRAG TEST

Mustang LX	Grand National
1. 14.23/95.48 RL	14.34/92.40*
2. 14.23/95.03*	14.81/91.64
3. 14.34/93.83	14.12/93.36*
4. 14.26/94.73*	14.52/92.30
5. 14.25/95.33 RL	14.35/91.83*
6. 14.27/95.13*	14.74/90.63
7. 14.32/95.33	14.05/92.83*

*Win

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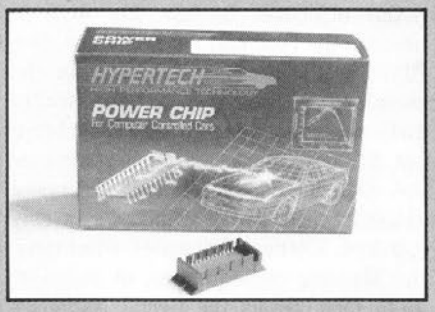
CHIPS

How Hypertech puts the bang back into late-model muscle.

By Steve Collison



Today's computer controlled engine management systems are great for monitoring an engine's operation and making the proper adjustments to ignition curve, air/fuel mixture, and torque converter lockup. But they're hell when it comes to high performance "tunability." That's because the information for these functions is stored in a "data chip," an integrated circuit that plugs into the onboard computer (also called "electronic control module" or "ECM"). These data chips are preprogrammed from the factory, and as such are not susceptible to the standard drag race "hop up."

Since the early '80s, when Detroit first entered the "electronic age," enthusiasts wanting to improve their cars' performance were at the mercy of factory data chip calibrations. But thanks to an innovative company in Memphis, Tennessee — Hypertech — those days are now behind us. Founded by Mark Heffington, formerly of Cam Dynamics, Hypertech offers an alternative to the stock data chip, and the results are downright impressive.

On late-model cars, sensors located in or around the engine measure rpm, vacuum, air temperatures and air pressures. Using this information, the onboard computer scans the data chip for the correct values for spark and fuel, and then adjusts the engine's needs accordingly. It is the data chip that tunes and determines the way the engine performs, and it is this same data chip that Hypertech has redesigned to give cars of the '80s performance from the '60s.

Hypertech currently offers three levels of increased performance for most popular GM cars, which includes Chevy V6 and V8 and Buick's turbo V6. **Stage 1** is recommended for showroom stock vehicles with no modifications. The spark and air/fuel ratio is adjusted for maximum power at wide open throttle and the torque converter lockup is delayed for improved drivability and smoother shifting. The **Stage 2** chip delivers the same functions but is calibrated around a 160° thermostat with the idea that a cooler engine temperature makes for a denser air/fuel mixture and therefore more power. **Stage 3** includes all of the above with the additional function of shutting off the EGR valve and thus improving throttle response by eliminating intake charge dilution. This last stage is recommended for cars running without catalytic converters.

After hearing of simply amazing performance increases from Hypertech's reprogrammed computer chips, *SS&DI* took the bull by the horns and arranged its own test using a bone stock '87 Buick Grand National. Hoping to eliminate any tractive variables, we established a two-run baseline by leaving the line at dead idle with the transmission in Drive. The results were 14.62/92.97 and 14.61/93.36.

Changing to the Hypertech Stage 1 chip took about 15 minutes, once we located the ECM in the Buick's passenger side kick panel. It was a simple matter to remove the cover plate and plug in the new chip, and soon we were off again to the races.

The next series of test runs were made in the same state as before, and we noticed an immediate increase in low end power. The time slips read 14.24/95.33 and 14.14/96.15. That represents a .47-second improvement in elapsed time and an increase of 2.79 miles per hour at the end of the quarter mile. Talk about impressive! And all it took was a screwdriver, 15 minutes' time, and $150. It's obvious to us that, given today's sophisticated engine management systems, there's no better or cheaper way to hop up your late-model musclecar than with a reprogrammed data chip from Hypertech.■

Source
Hypertech
2104 Hillshire Circle
Memphis, TN 38134
901/382-8888

still "mint," and that she'll save it for her own little girl someday. . . . After his fabulous 5.60 earlier this year, which set an unofficial record of sorts for Drag Racing School graduates, Henry Phillips is rebuilding. The "Henry" car will appear next as a Corvette, and we haven't seen the last of this Oklahoman. . . . After a kind of "rocky" start, the West Coast Super Eliminator Association (7.90) put together a decent schedule at Baylands, Sears Point and Sacramento. . . . Dick LaHaie, who now has a lockup clutch, claims that his 5.24/273 and 270 mph runs recently were at ". . . 75 to 80 percent of its potential." He also added that once they find the right combination the car ". . . has the potential of becoming the world's quickest and fastest." No argument here. ■

TECHSIGHT

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shopping and negotiating for prices that are more attractive than Racer Net. But by and large, things have gotten out of hand. There is simply too much emphasis being placed on getting a "deal," and not enough on getting the best value.

You may well disagree with my assessment, but before you make your next major purchase of racing equipment, stop and examine the facts. Are you just looking for a "deal," or are you attempting to get the best possible price on the best equipment? You may be surprised at what you find.■

DRAG TEST

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leave the line with the trans selector in D, not OD. (You're much better off letting the transmission shift automatically in Drive; things happen much too quickly with the Turbo Beast to trust manual gear changes.) We found the best compromise was to launch the car with the yellow boost gauge just peeking out, about 5 psi at 2000 rpm with the brake pedal depressed, then releasing the brake and nailing it. The "whooshmobile" would immediately flash to full boost, the rear tires would chirp in protest, and you'd be gone like a cool breeze. On the flip side, coming out under too much boost transforms the Buick into the "Chi-Town Hustler," only without the fan approval.

Our original three out of five match race turned into a best of seven, so even were the contestants. In the first, the Mustang wasted a 14.23 via the redlight and the Buick scored the win at 14.38. The Ford

evened the score in round 2 with another 14.23 to the Grand National's wheelspinning 14.81. The Buick found the groove in round 3 with a 14.12 as the LX bogged and missed a gear change slowing it to 14.44. In round 4, Mr. Mustang clicked off a 14.26 to drive around a Buick holeshot which subsequently turned into a freewheeling 14.52. The Mustang bulbed again in round 5 despite a 14.25, and the Grand National took the win light in 14.45 seconds. In round 6 the Mustang bounced back with a 14.27 as the Buick slowed to 14.74. The 7th and deciding round was also the Buick's best as it ran Low ET of the day at 14.05 at 92.93 mph to the Ford's 14.32 at 95.33 mph. The final score: Buick Grand National 4, Ford Mustang 3.

Depending on your allegiance the results are inconclusive. Mean Mr. Mustang consistently out-ET'd the Black Turbo Beast under drag race conditions, but tipped the scales in the Beast's favor by losing the decisive rounds to foul starts. There are those who would argue that no guard beams exist on the boulevard, in which case the Mustang LX was the clear-cut winner. And there are those who would cry foul at the excess baggage carried by the Buick GN during our tests (sorry, Richie). But the bottom line is that the Mustang more than held its own against the fastest production machine to come out of Detroit in 15 years. And that in itself is quite an accomplishment. ■

UDRA

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The event also featured several runs by Steve Cotugno's awesome twin-jet engined "Botown Express" dragster in its westernmost appearance yet, and a great battle between Roger Gustin's "Lava Machine" jet-powered Camaro flopper and the all-time Byron Dragway favorite, Wayne Minick in the renowned "Chi-Town Hustler" AA/FC. After suffering problems in the first two rounds as Gustin streaked to solid 6.20s at over 233 mph, the second-generation fuel pilot came out for revenge in the final round. Gustin shocked both Minick and the fans with a .08-second holeshot, however, and blasted to a 6.24/254 to 6.23/221 upset win!

The Super Comp (8.90 index) program featured a tremendous variety of dragsters, altereds, and doorslammers and a decent number of NHRA and IHRA national event "names." The category also presented the only "incident" of the event, however, when Clint Smith, one of the best natural four-speed drivers in the sport and a many-time Byron winner, sent his 8-