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Four fun driveReports inside:
Meanest Mustang of all: 1969 Boss 429
Plymouth's street fighter: 1968 road runner
1949 Willys Wagon • 1928 Graham-Paige
plus our usual unusual features!

Cover: 1969 Boss 429 Mustang photograph by Roy Query

driveReports



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1969 BOSS 429 MUSTANG



Mean As A Junkyard Dog

IT IS early in April 1969. The bone-chilling cold of winter has finally subsided, and as the trees awaken from their seasonal dormancy, signs of new life are also visible in other quarters. Cars that were rarely seen haunting barren, snow-covered winter streets, are now rumbling along Main Street or parked at drive-ins. The streets are alive with the sounds of muffled power, screeching tires and free-revving engines. All the old standbys, cars with monikers like SS-396, GTO, Fairlane GT, Hemi, Z/28, 4-4-2, Mustang GT and Corvette have returned. All but one. Steve's old 1964 427 Galaxie, the one with two four-barrels that used to tear up the Chevelles and Fairlans, is nowhere to be seen. A rumor had been circulating that Steve had finally decided to sell it, but nobody seemed to know for certain.

As you mull over the fate of the infamous Galaxie, you pull into the drive-in to chat with the other guys, but when the conversation turns to Steve and his car, everybody comes up with the same questioning look—they're really not sure what Steve is up to. Then, conversation stops abruptly as the sound of

by Dave Emanuel
photos by Roy Query

spinning tires is heard off in the distance. As all heads turn toward the street, a flash of white streaks by. It looks like a new Mustang, but something isn't quite right—no Mustang ever sounded like that. The mean mechanical growl that accompanied the flash was that of a race engine. A *big* race engine.

Your curiosity piqued, you and a few friends jump into a car and drive off in search of the phantom white streak. You cruise up and down Main Street a few times, looking carefully along each intersecting side street, but nothing even remotely resembles the car that could have been the white flash. Disheartened, you return to the drive-in and as you pull off the street, you spot it. Parked off by itself, with a crowd surrounding it, is a brand new white Mustang. Atop the hood is a rather large air scoop. On the front fender, just behind the wheel well, are the words "Boss 429." And standing by the driver's door, with a broad smile on his face, is Steve. At





Facing page: At first glance it looks like a tricked-out '69 Mustang GT SportsRoof, but those letters and numbers on the front fenders warn the unwary that they could get burned. This page, left: Chtn spoiler, junctional hood scoop are among the Boss 429's distinguishing characteristics. Below: Fat Goodyear polyglas tires help put a good patch of rubber on the ground, but car is quite nose-heavy and vigorous cornering is not recommended.

least one of the rumors was correct, he really did sell the old Galaxie.

Steve knew that his new Mustang was something special. If nothing else, the price on the window sticker told him that. How special was another story. In 1969, few people had an inkling that only 859 Boss 429s would be produced that year. (In 1970 the number dropped to 499 as the Boss 429 option was deleted mid-year.) The car was seen as simply a big brother to the Boss 302, but its origins and purpose were significantly different.

Seeking to increase its share of the highly revered youth market, Ford had been involved in a variety of motorsports. Early on, a 271-hp option, based on the 289-cubic-inch powerplant, had been offered to perk up the Mustang's performance image. But in an era when cubic inches were in vogue, the high-strung 289 with its mechanical lifters and poor low-speed torque appealed only to hard-core performance enthusiasts. The masses wanted a large, smooth running engine with relatively mild valve timing and easy to care for hydraulic tappets.

To that end, Ford added a 335-hp, 390 cubic-inch big block to the option list in 1967. The concept of shoe-horning a large powerplant into the Mustang's engine compartment had already been proved the previous year, when several machines powered by race-prepared 427 engines were campaigned in Factory Experimental drag racing classes. The amount of rework required to make room for the 427 made a regular production big block option unfeasible, but when the Mustang was redesigned for 1967, the engine compartment was purposely configured to allow assembly

line installation of the large "FE" series engines.

The 390 filled the bill nicely, but with the debut of Chevrolet's 396 Camaro option, the 390 Mustang was no longer a front runner. Ford countered by offering a 427 option rated at 390-hp, but it was subsequently deleted and replaced with a 428, rated no doubt with tongue-in-cheek, at 335-hp. When *Hot Rod* magazine tested the 428 Mustang, it discovered that the car would cover the quarter mile in 13.5 seconds and reach a speed of over 106 miles per hour. With that type of performance, a regular production Mustang was finally a force to be reckoned with.

In 1969, a restyled Mustang was given flash to accompany performance. The Mach I option, replete with side stripes and an air scoop sticking through a cut-out in the hood, provided appropriate visual accompaniment to the sound

and feel of the 428. Having grown longer, wider and approximately 150 pounds heavier, the 1969 Mustang couldn't quite match the acceleration of the previous year's model, but it was still capable of sub-14 second quarter mile times.

With the 428 holding its own in drag strip competition, Ford management turned its attention to other types of auto racing. The company answered the challenge issued by Chevrolet's Z/28 with a Trans-Am road racer of its own—the Boss 302 Mustang (see *SIA* #59). Ford sales literature was brutally frank in describing the vehicle stating, "Powered by a five-liter (302 c.i.d.) F.I.A. formula engine aimed at the International Sedan Racing Class and the formula-oriented sportsman driver, the Boss 302 offers many unique features, as well as an array of special options not likely to be seen on any other street machine."



MUSTANG

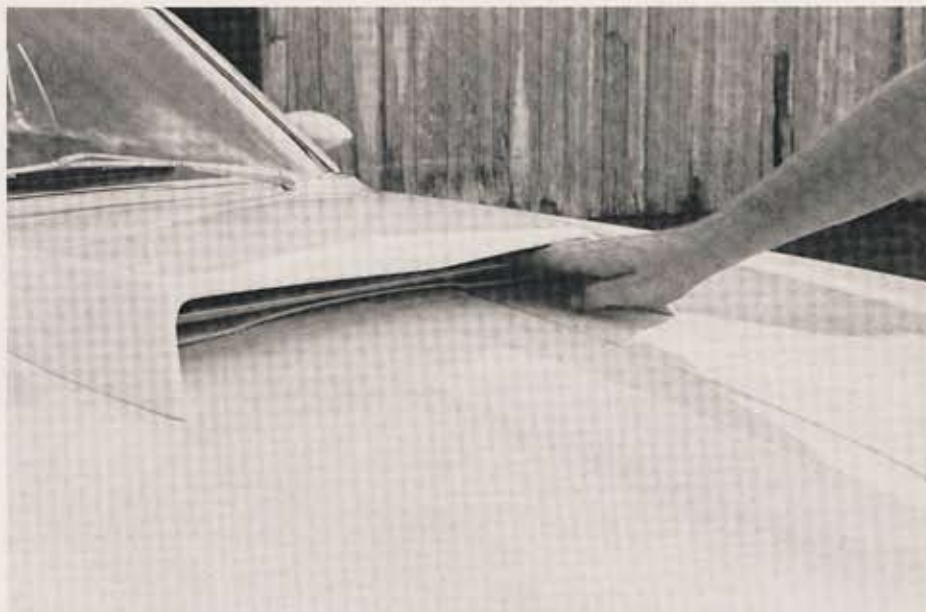
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Following the same philosophy, that of offering a "race it on Sunday, drive it to work on Monday" machine as a means of assuring homologation, Ford listed the Boss 429 as a mid-year option (in addition to, not in place of the 428). The major difference was that the 429/Mustang combination didn't really address the requirements of a particular category of racing as did the Boss 302. It was for Grand National competition that the 429 engine was best suited, but Fairlane rather than Mustang bodies were employed in that type of racing. NASCAR did sanction the powerplant for use in a Fairlane body, based on its being available in a Mustang, so Ford's purpose was served. But that left the Boss 429 as something of a bastard, a contender for the heavyweight championship with no place to fight. Except on the streets.

But it didn't really do well there. Being exceptionally nose heavy and fitted with an engine that produced a prodigious amount of torque, the Boss 429 lacked the type of traction required to win acceleration contests launched from traffic lights. Even when fitted with racing slicks, traction continually proved troublesome, a problem compounded by the engine's Lincoln Tunnel-sized ports which made for lazy rather than crisp throttle response. The less exotic 428 was actually a better street/drag performer.

Much of the problem with the 429 "Blue Crescent" or "Shotgun" engine (the latter sobriquet arising from the valve train configuration) was created by the very equipment that made it such a terror on a high-banked oval—the cylinder heads. Blessed with the largest ports ever used in an automotive application, the heads functioned somewhat like a pair of 20-inch biceps attached to the body of a 98-pound weakling—the potential for awe-inspiring power was there, but it couldn't be harnessed. When applied to anything other than a full-tilt race engine, the heads redefined the word "overkill." Of course, that followed rather naturally; the 429 "Blue Crescent" was a race engine.

Ford's concept with the "Shotgun" powerplant was to bring legitimacy to an engine which would offer the benefits of a hemispherical type combustion chamber and free-flowing intake and exhaust ports. To this end, the "Shotgun" cylinder head was given 2.40-inch and 1.90-inch exhaust valves in conjunction with an intake port diameter of 2.4375 inches. Reports of 429 engines producing in excess of 650-hp when equipped with a single 850 CFM Holley four-barrel carburetor were not uncommon. These vindicated Ford's belief



Above: Design of hood scoop is unique to the Boss 429. Right: Optional on other Mustangs, Magnum 500 wheels were standard on the Boss. Below: Battery was banished to the trunk because the engine bay was already filled with 429 cubic inches of fire and fury.



in the "Shotgun" as a race engine, but in detuning it for passenger car service, something was lost. Rated at 375-hp and 450 lbs./ft. torque, as installed in the Boss 429 Mustang, the detuned version of the engine simply never delivered on its promise.

Driving Impressions

The Boss 429 is a paradox. Mean as a junkyard dog one minute, it is as mild mannered as Clark Kent the next. A very quick car after the engine has made its initial ascent up the rpm scale, at low speeds performance is sluggish. The suspension has all the right ingredients for good handling, but in a corner the car leans as though a wheel had come off and the front end plows like a John Deere tractor. Overall, it's an appealing car, yet it has any number of annoying



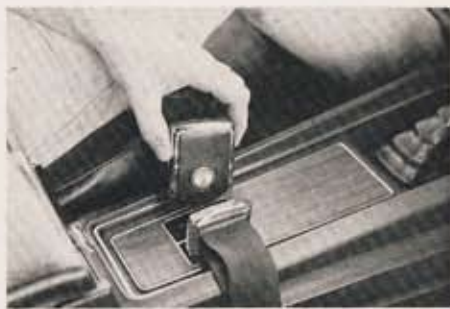
quirks. Would I personally want to own one? Yes. And no.

With its unique valve train noises clearly audible through magnesium rocker arm covers, the Boss 429 works a magic all its own upon the ears. The sound of growling mechanicals up front superimposed on a distinctive exhaust note at the rear are aphrodisiacs to be savored in anticipation of an impending orgy of horsepower. Like a V-12 Ferrari, a Boss 429 has a sound all its own.

But—something happened on the way to the orgy. And if you have great expectations, you're in for a bit of a disappointment. From the driver's seat the large hood scoop dominates the forward view, serving notice that throbbing below is something more than a plebeian powerplant. That thought is reinforced by the placard on the dash which warns, "This vehicle is equipped with a manual choke located immediately below the



Far left: Rear seat head room and leg room are quite cramped. Left: Space Saver spare adds a few more functional inches to already-small trunk. Below: Seat belts were standard, clipped into center console. Bottom: The 429 hemi; the closest thing to a grand national stock car engine that was street legal.



ignition switch. For proper starting use manual choke." Adjacent to the choke knob is the hood scoop fresh air control—further evidence that driving a Boss 429 is serious business.

But in spite of indications to the contrary, the car's overall performance is significantly flawed. Given its cost, the priorities of the era in which it was built and Ford's marketing emphasis at the time—and that a Boss 429 was a specially constructed, almost hand-built vehicle—understanding the rationale behind many of the compromises made in the name of engineering is at best difficult. The engine is the biggest enigma. In seeking to tame the NASCAR fire-breather for passenger car service, compression ratio was lowered from 12.5:1 to 10.5:1, a mild hydraulic lifter cam was fitted, intake valve size was reduced and a Holley four-barrel rated at 735 CFM was utilized.

On paper, it all seems reasonable, but when you put the shift lever in first, release the clutch and caress the gas pedal, you find that the tiger doesn't exactly leap down the road. Much of the problem owes to cam timing which is simply too mild with respect to the colossal ports. The mismatch makes for poor part-throttle response, especially at low speeds. But as rpm builds, the engine begins its Dr. Jekyll to Mr. Hyde transformation. The junkyard dog begins to growl, bare its teeth and finally bite. As Rick Parker, owner of the car pictured here, phrases it, "It's a little sluggish at first, but once you get it above 3000 rpm the engine seems to really take over. When you get it out on the road and start cranking it through the gears, it's like a train; there's no stopping it—it really starts to come alive."

So long as the car is headed straight ahead, exercising the engine is tremendously enjoyable. Turning a corner



Internal Matters

Ford Motor Company began Boss 429 production on January 17, 1969, by installing a detour in the Mustang assembly line. The changes required to accommodate the 429 engine package were so extensive that the cars couldn't be constructed using normal mass production procedures. Instead, vehicles fitted with the 428 Super Cobra Jet engine were pulled from production and altered. Each of the parts to be deleted or added, from the 428 engine to such items as the "Rod-hood air scoop valve," were spelled out on a 35-page change order.

An indication of depth of the special work required to construct a Boss 429 is provided by the cover page of the change order entitled "Vehicle Release Conditions" which includes such items as:

1. This special high performance release package is intended to provide base vehicles for conversion by designated vendors as authorized by Special Vehicles Activity.
2. Vehicles built to these specifications

are intended for interplant shipment only. Certification relative to compliance with F.M.V.S.S. H.E.W regulations on any vehicle incorporating this option must be furnished by Special Vehicles Activity prior to public sale.

3. Customer must be advised that warranty coverage is null and void on these vehicles except as extended by the Special Vehicles Activity.

4. This option released per the direction of Ford Car Product Planning Office product letter 69SF-260 dated 9-19-68.

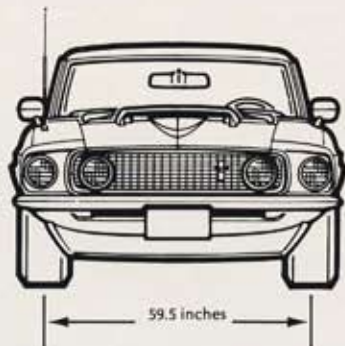
5. Component design, system acceptability and engineering responsibility for vehicles incorporating this option remains with Special Vehicles Activity.

6. The D.S.O. activity has acted as agents only for special vehicles in release of this option to facilitate incorporation into Automotive Assembly Division build schedules.

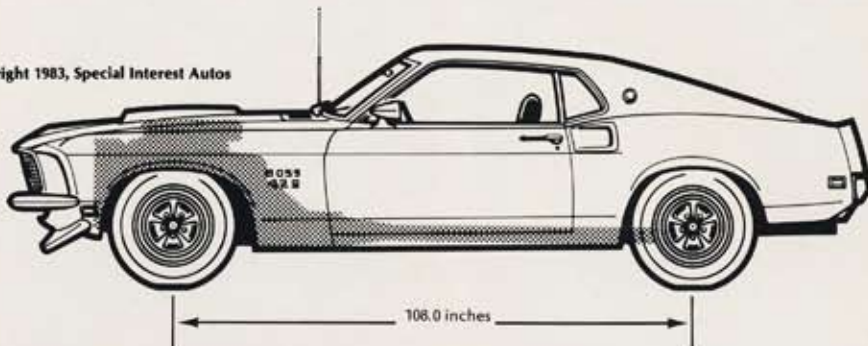
7. Parts coded "X" in new part code column must be procured through Kar Kraft Purchasing activity.

specifications

Illustrations by Russell von Sauers, The Graphic Automobile Studio



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1969 Boss 429 Mustang

Price \$2740. As equipped: \$4294.76
Optional equipment Boss 429 V-8 engine, high capacity engine oil cooler, 65 amp alternator, 85 amp trunk-mounted battery, power steering with oil cooler, 4-speed close ratio gearbox, power front disc brakes, rear drum brakes, Traction-lock rear axle, 3.91 ratio, special high performance suspension, front spoiler, F60-15 fiberglass belted tires, Magnum 500 15 x 7 chrome plated wheels, interior decor group, tachometer, console, high back bucket seats, dual racing mirrors, visibility group, deluxe seat belts.

ENGINE
 Type V-8 ohv
 Bore and stroke 4.36 x 3.59
 Displacement 429 cubic inches
 Horsepower 375 at 5200 rpm
 Torque 450 at 3400 rpm
 Compression ratio 10.5:1
 Induction system Holley 735 CFM 4-bbl on aluminum manifold
 Exhaust system Dual, 2.25-inch diameter
 Electrical system 12 volt battery/coil

TRANSMISSION
 Type 4-speed manual, fully synchronized
 Ratios: 1st 2.32:1
 2nd 1.69:1
 3rd 1.29:1
 4th 1:1

DIFFERENTIAL
 Type Hypoid semi-floating, limited slip
 Ratio 3.91:1

STEERING
 Type Semi reversible, recirculating ball, power assisted
 Ratio 16.0:1
 Turns lock to lock 3.7
 Turning circle 37.6 feet

BRAKES
 Type Hydraulic with vacuum power assist, 11.3-inch diameter ventilated front discs, 10.0-inch diameter rear drums
 Total swept area 282.5 square inches

CHASSIS AND BODY
 Construction Unit steel body welded to reinforced platform chassis
 Body 2-door coupe

SUSPENSION
 Front Independent SLA, coil springs, double-acting tubular shocks, anti-sway bar
 Rear Live axle with semi-elliptic leaf springs, double acting tubular shocks (staggered mounting), anti-sway bar
 Wheels 15-inch x 7-inch chromed steel
 Tires F60 x 15-inch Goodyear Polyglass

WEIGHTS AND MEASURES
 Wheelbase 108.0 inches
 Overall length 187.4 inches
 Overall height 50.4 inches
 Overall width 71.8 inches
 Front tread 59.5 inches
 Rear tread 59.5 inches
 Curb weight 3716 pounds

PERFORMANCE
 Maximum speed 130 plus (with 3.91:1 axle ratio)
 Acceleration, 0-60 7.1 seconds
 Standing start quarter mile 14.1 seconds and 102 mph
 Fuel economy 10-14 mpg. Premium required

A bit sluggish off the mark, the 429 comes into its own at 3000 rpm and then runs like a Concorde at full throttle right past 130 mph.

