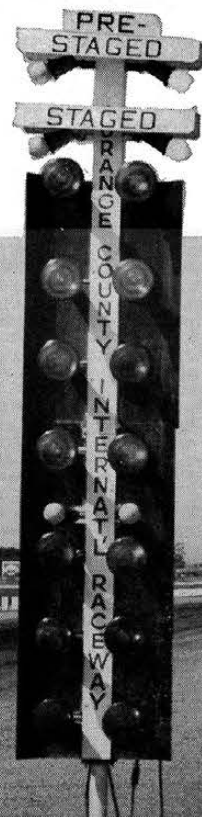


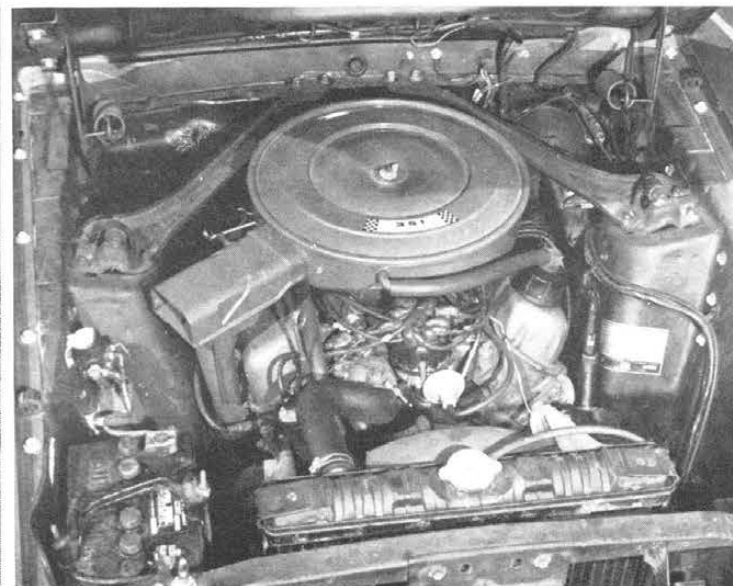
MACH ONE UP FOR FORD

by Steve Kelly



The speed of sound loaned its description to Ford, but keeping up with word-of-mouth endorsements of the Mach I is strictly for hot rodders

photography: Eric Rickman



If experience is a key factor in getting a job done right, then Ford's lead in pony-car building seems to make sense. They've been at it longer and the product shows it. The '69 Mustang is the best one they've ever produced, and very nearly the best in the entire pony-car field. They could have it all if they had engines with intestinal fortitude to match Chevy's or Pontiac's or the MoPar's small-block. But they're working at it, and maybe this year's Z/28 Camaro sales figure will scare some of the high-performance planners in Dearborn off their center consoles.

The mid-sized 351 engine is an evolutionary result of the first small-block Ford, brought in at 221 cubic inches in 1962. The 351 gets its direct lineage from the 289-302, but block height is 1.27 inches greater to accommodate the increased stroke. The heads are refined to give better breathing, but that doesn't show up until good exhaust manifolds are fitted. Valves are bigger than in the 302 (1.840-inch-diameter intake; 1.540-inch exhaust), and the entire head assembly can be bolted to the earlier small-block Fords. The crank is cast iron, and the bottom end webbing and journal sizes have been increased. The intake manifold is cast iron too, and it's almost flat more like no-rise than low-rise. Carburetion is by way of either a 2-bbl (for regular fuel engines) or an Autolite 4-bbl for the 290-horsepower version, as in our Mach I. The higher-horsepower engine needs premium fuel, has 10.6:1 compression, and gets 385 lbs.-ft. of torque when twisted to 3200 rpm. The horsepower reading is at 4800 rpm, and the engine in stock form is good for 6000 rpm. Ford offers a higher-performance cam and kit, but so does every good cam grinder. Speed merchants can also fit you up with a better intake and exhaust system, but watch your warranty. Without severe alterations to the engine, the cast nodular crank will do the work asked of it without complaint. A comprehensive rundown on power-adding, low-cost improvements to the 351 can be found in the January '69 HRM, page 40.

The stock form concerns us here. We admit that quarter-mile times in the 15-second region are less than spectacular, but they're surprisingly good for this test machine. It arrived with

a 3.25:1 rear axle, tall E70-14 tires, and an automatic transmission. Hardly the setup for axle-bending acceleration, but we tried. The automatic is the preferred way to equip a Ford, since the usual four-speed linkage is pretty bad. Right off the street and weighing 3600 pounds, the Mach I took 15.46 seconds to eat up the Orange County asphalt. Without the air cleaner, the timing bumped up to 10-11 degrees BTC on the crank damper, and the hood scoop block removed, we lowered the time to 15.13 and upped the speed to 93.07 mph. Removing the scoop obstruction is simple. It's a piece of heavy rubber clipped against the mesh opening. Unsnap it from the clips and you're there. The hole is already in the hood. Our next pass was good for the best time of the day at 15.05 seconds, but the speed was down to 90.72 mph. We'd taken the power-steering drive belt off for this run, and the rpm climb was quicker, achieving 6000 right at the center timing light. We let off before getting to the last speed light, not caring to know this stocker's absolute rev limit.

The automatic should be shifted manually and a 200-300 rpm anticipation is required. Move the lever at 5500, and the car shifts at 5800. The shifts are precise; they're just late.

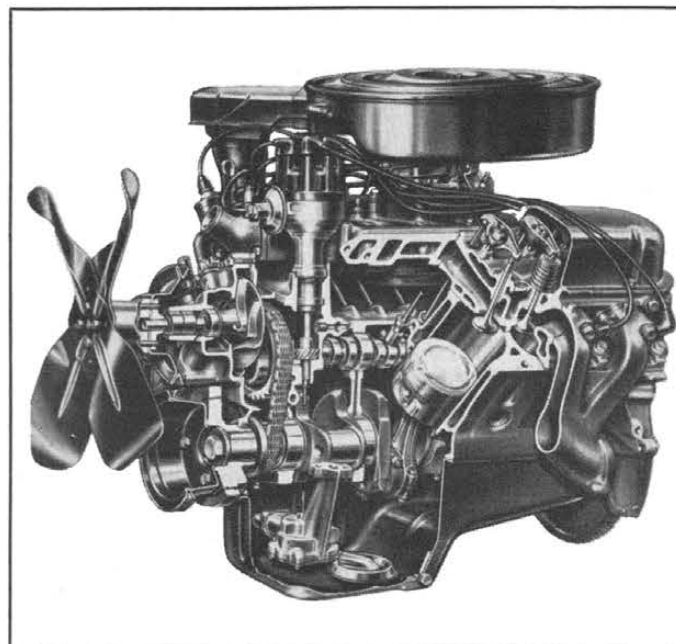
The hydraulic cam and lifters hung on clear up to the six-grand point, and afterward there was no trouble with their sticking or with rockers that needed tightening.

Driving the quarter requires only that you don't ask for too much acceleration right off the line. Stall speed is fairly low—around 1100 rpm at the very most—and it has to be driven off the line easily. The low-gear multiplication and street tires will develop a bonfire if the pedal gets too close to the carpet before the car is moving right. Once that's over, patience is an important virtue to have while you're waiting for the finish line to flash by.

Handling is worthy of good comment on Mach I's. The total package includes suspension pieces to bolster corner-turning, in addition to the tack-on items bolstering the car's looks. Heavy-purpose springs, Gabriel shocks, oversize front stabilizer, and wide-pattern tires provide good road holding, yet save your kidneys from needing medication after tar-strip counting.

ABOVE — Small-block 351 is a cozy fit in Mustang, but not at all bad for nut, bolt, and spark plug access. Air cleaner top is removed for fresh air hood scoop use, but bottom pan stays on carb. BELOW — Cut-away shows new head design and rather tall engine.

ABOVE RIGHT — The car isn't a feather-weight, but then this one had lots of options. Hood tie-downs are Mach I hardware. So is reflective side-stripping and flat-black hood. Orange County International Raceway was scene of weigh-in and test runs.



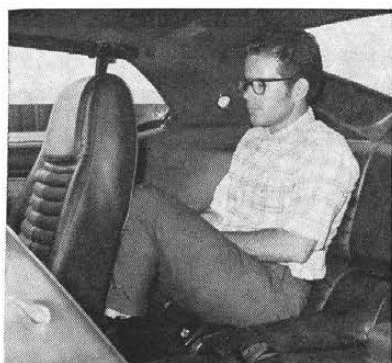
The car oversteers, especially with power assist—a trait the Mustang shares with most American cars, and one we're supposed to think is natural, although it's not. The washout is even worse on 390 and 428 big-block Mustangs. The weight difference between the Cobra Jet 428 and the 351 is 254 pounds, and the 390 tips in at 121 pounds more than the 351—makes the front end act like a magnet, the rear end like a roller skate. Lotsa fun!

Braking is naturally good with the front disc/rear drum power action, but the assist is too great. At low speeds, it seems almost as if a servo action takes over the braking. You can't merely slow down; once your foot barely contacts the pedal, the car is bound to stop, unless you lift. That's easier to live with than a system that doesn't stop at all, so this doesn't go into the complaint column.

Street-driving mileage is hard to believe. Nothing less than 14.6, no matter how we drove the fastback. We don't generally go in for putting an egg on the gas pedal either; we prefer to drive like normal people. Combined with the 20-gallon tank, one load of fuel will last about 300 miles. Neat. This type of performance could sell more cars than a price cut, and we're not about to see that happen.

Interiors are upgraded on the latest Ford pony-car. The Mach I dash contains all necessary instruments save one: a tach. But then, speed shops sell them, and if Ford guys don't want to put them in—and charge for them as part of the package—then someone else is always standing by. The Mach interior has a pair of bucket seats with high backrests, like those in VW's, which act as head restraints. They're both comfortable and functional. The poor guy in the back seat takes a bad one though; it's nearly impossible to see forward from the rear seat, but then it's even harder to get into the back seat. It's usually full before the passenger is all the way in, and if the front seats are even in the car, there's no rear seat leg room. The back seat can be ordered with a fold-down mechanism and a trap door that opens to the trunk. That is by all means the best

(Continued on following page)



LEFT Inset fender scoop is a dummy so far, most road racers have filled it in for better air flow and cooled brakes from underneath.

RIGHT Padded rear shelf is not a seat.

MACH ONE UP

thing to do with this area: Make it into something worthwhile. It's not for passengers.

Front seat leg room was obviously designed with an eight-foot-tall man in mind, setting the Mustang apart from other little cars. The head room is for six-footers, and that too is a welcome scene. Gauges are placed directly ahead of the driver, in a wood-paneled "fascia" (I've been reading European literature), and the covelike cutout is duplicated on the passenger side, where a clock reposes (also making it easy to build Mustangs in England and Australia right-hand drive, you know). The clock is a 24-hour type; in other words, it has a double set of numbers. It's certainly not a rally timepiece, but one could be fitted there if a fella wanted to work that hard. The glove compartment has been enlarged to take both a pair of gloves and the owners manual, the warranty book, and all that necessary paperwork. A center console (high-performance type) can be paid for extra, and it has a place for two of the four front seat belts to rest, plus a padded center armrest, with a little cubicle beneath for other paperwork, matchbooks, or whatever. Driving position is excellent; even without the tilt mechanism in the steering there's adequate leg room, and the wheel isn't sticking up to block road-viewing.

Our test fastback was equipped with a rim-blow steering wheel, seen first on big Oldsmobiles in '68. The principle is the same here: A rib running the circumference of the inside of the steering wheel is pressed (quite often accidentally) by fingers connected to the driver's hands, which in turn causes internal strips to come together and establish a contact (formal, we hope), which then conducts a closed-circuit impulse to a pair of horns, meant to scare the daylight out of someone outside the car or the driver if he honks them accidentally.

If better finishing isn't applied to the window cranks in Mustangs, there's going to be a run on power side windows. The crank in this car (and in a rental we had the other day) tried desperately to chew the skin off one finger and a thumb, reminiscent of a dog we once had. The knob is plastic, but the metal right against it was/is full of burrs. The door releases are quite different and quite good. They're buried in the foam-rubber armrests and are squeezed to open the door no burrs on them, either.

Rear quarter windows have been added to fastback Mustangs, and they open out slightly making them great vents. They also aid side vision from the driver's seat, although it's still something like driving a panel truck. Mirrors on each side, racing type, are installed on Mach I models, as is the hood scoop with turn-indicator indicator lights in the back of it; chrome-plated custom wheels figure in on all this, too. Trim decoration has reflective tape running along the side and across the spoiled rear deck, a pop-open gas cap (for Oklahoma credit card carriers), and dual hood-locking pins (weren't hood ornaments outlawed?). The 351 2-bbl V8 is the standard engine with the Mach I, which can be had only in fastback body style. Fifty-five pounds of sound deadener is added to the body as a special treat. We can't think of another pony-car we've driven that was as quiet as this one. Ford is getting their money's worth from that 55-pound ballast.

We really can't think of driving a more comfortable pony-car, quietness notwithstanding. Realizing it's only a two-place car probably puts us last on that list plenty of Ford employees must know that by now. It's just on the verge of becoming a super-car. Parts now being produced will change this, though seeing them on assembly-line-built cars remains an improbability. That old Z/28 sales figure might do some good, though. But Chevy guys ought to take a few minutes to look at the Mach I. It's a nice car at any speed. ■■

VEHICLE

Ford Mustang Mach I fastback

PRICE

Base \$3122.00
As Tested \$3656.00

ENGINE

Type OHV V8
Cylinders 8
Bore & Stroke 4.00 x 3.75 in.
Displacement 351 cu. in.
Compression ratio 10.7:1
Horsepower 290 @ 4800 rpm
Torque 385 lbs.-ft. @ 3200 rpm
Valves: Intake 1.840-in. dia.
Exhaust 1.540-in. dia.
Camshaft:
Lift 418-in., intake; 448-in., exhaust
Duration 256° intake, 270° exhaust
Overlap 33°
Tappets Hydraulic
Carburetion Single Autolite 4-bbl
Exhaust System Dual. Two two-passage reverse-flow, one single-passage reverse-flow. 2.25-in.-dia. headpipe, 2.00-in.-dia. tailpipe

TRANSMISSION

Type Automatic, Select-Shift. Three-speed; torque converter with planetary gears. Floor lever
Ratios: 1st 2.46:1
2nd 1.46:1
3rd 1.00:1

DIFFERENTIAL

Type Conventional straddle-mounted, semi-floating pinion
Ring gear diameter 9 in.
Final drive ratio 3.25:1

BRAKES

Type Optional front disc/rear drum with power assist. Single-piston "floating" caliper
Dimensions: Front disc 11.3 in.
Rear drum 10.0 in.
Total effective area 40.6 sq. in.
Percent brake effectiveness, front 63%

SUSPENSION

Front Independent, A-type upper arm, single lower arm with drag strut. Coil spring and shock mounted over upper arm. 320 lb.-per-in. spring rate
Rear Hotchkiss drive design; semi-elliptic rear leaf springs, 53-in. long, 2.5-in. wide, 115-lb. spring rate
Shocks 1 3/16-in. dia. piston, direct-acting Gabriel tube type (staggered fore/aft of rear end housing, 4-speed models only)
Stabilizer Front only. SAE 1090 steel, link type, .85-in. dia.
Tires E70-14 bias-belted, Polyglas
Wheel rim width 6.0 in.
Steering:
Type Recirculating ball and nut, Ford. Linkage power assist
Gear ratio 16.0:1
Overall ratio 20.32:1
Wheel diameter 16.0 in.
Turns lock to lock 3.74
Turning dia., curb to curb 37.6 ft.

PERFORMANCE

Standing start quarter-mile (best) 15.05 sec., 93.07 mph

FUEL CONSUMPTION

Best reading 14.96 mpg
Poorest 14.60 mpg
Average 14.77 mpg
Recommended fuel Premium

DIMENSIONS

Wheelbase 108.0 in.
Front track 58.5 in.
Rear track 58.5 in.
Overall height 50.3 in.
Overall width 73.9 in.
Overall length 187.4 in.
Shipping weight 3109 lbs., approx.
Test weight 3650 lbs.
Body/frame construction Unitized
Fuel tank capacity 20 gal.