Ford mustang

the most popular american MUSCLE CAR IN THE WORLD
Muscle car

The term muscle car generally describes a rear wheel drive mid-size car with a large, powerful engine (typically, although not universally, a V8 engine) and special trim, intended for maximum torque on the street or in drag racing competition. It is distinguished from sports cars, which were customarily and coincidentally considered smaller, two-seat cars, or GTs, two-seat or 2+2 cars intended for high-speed touring and possibly road racing. High-performance full-size or compact cars are arguably excluded from this category, as are the breed of compact sports coupes inspired by the Ford Mustang, the "pony car". Another factor used in defining classic muscle cars are their age and country of origin. A classic muscle car is usually but not necessarily made in the US or Australia between 1964 and 1975.

An alternate definition is based on power-to-weight ratio, defining a muscle car as an automobile with (for example) fewer than 12 pounds per rated hp. Such definitions are inexact, thanks to a wide variation in curb weight depending on options and to the questionable nature of the Society of Automotive Engineers (SAE) gross hp ratings in use before 1972, which were often deliberately overstated or underrated for various reasons.
First Generation (1965–1973)

Design and Engineering

First conceived by Ford product manager Donald N. Frey and championed by Ford Division general manager Lee Iacocca, the Mustang prototype was a two-seat, mid-engine roadster. This would later be remodeled as a four-seat car penned by David Ash and John Oros in Ford's Lincoln–Mercury Division design studios, which produced the winning design in an intramural design contest called by Iacocca. To cut down the development cost, the Mustang was based heavily on familiar, yet simple components. Much of the chassis, suspension, and drive train components were derived from the Ford Falcon and Ford Fairlane. The car had a unitized platform-type frame, which was taken from the 1964 Falcon, and welcoming box-section side rails, including five welded crossmembers. Although hardtop Mustangs were the majority of the sales, durability problems with the new frame led to the unusual step of engineering the (necessarily less rigid) convertible first, which ensured adequate stiffness. Overall length of the Mustang and Falcon was identical at 181.6 in (4613 mm), although the Mustang's wheelbase at 108 in (2743 mm) was slightly shorter. With an overall width of 68.2 in (1732 mm), it was 2.4 in (61 mm) narrower, yet the wheel track was nearly identical. Shipping weight, about 2570 lb (1170 kg) with the six-cylinder engine, was also similar. A fully equipped V8 model weighed about 3000 lb (1360 kg). Though most of the mechanical parts were taken directly from the Falcon, the Mustang's body shell was completely different; sporting a shorter wheelbase, wider track, lower seating position, and overall height. An industry first, the “torque box” was an innovative structural system that greatly stiffened the Mustang's construction and helped contribute to better handling.
Since it was introduced five months before the normal start of the production year, this first model has become widely known, although incorrectly, as the 1964 1/2 model. A more accurate description is the "early 1965" model, as the car underwent several significant changes at the start of the regular model year. All the early cars, however, were touted as 1965 models. The base, yet well-equipped Mustang hardtop with its 170 cid straight-6 engine and three-speed manual transmission listed for US$2,368. With its "long hood/short deck" styling, it gave the impression of a costly car.

Some minor changes to the Mustang occurred at the start of the normal 1965 model year production, a mere five months after its introduction. These cars are known as "late 65's," as opposed to the "early 65's" built from April through September. First, there was an almost complete change to the engine lineup. The I6 engine made way for a new 200 cid version which produced 120 hp. Production of the 260 cid engine ceased with the end of the 1964 model year, when a new, two-barrel 200 hp 289 cid engine took its place as the base V8. A 225 hp four-barrel was next in line, followed by the unchanged Hi-Po 271 hp 289. The DC electrical generator was replaced by a new AC alternator on all Fords (the quickest way to distinguish a 64 1/2 from a 65 is to see if the alternator light on the dash says "GEN" or "ALT") and the now-famous Mustang GT was introduced. A four-barrel engine was now available with any body style. Additionally, reverse lights were an option added to the car in 1965. The Mustang was originally available as either a hardtop or convertible, but during the car's early design phases a fastback model was strongly considered. The Mustang 2+2 fastback made its inaugural debut with its swept-back rear glass and distinctive ventilation louvers.

The 1966 Mustang debuted with only moderate trim changes and a few new options such as an automatic transmission for the "Hi-Po," a new interior and exterior colors, an AM / eight-track sound system, and one of the first AM/FM monaural radios available in any car.
The 1967 model year would see the first of the Mustang's many major redesigns with the installation of big-block V8 engines in mind. The high-performance 289 option now took a supporting role on the option sheet behind a massive 320 hp (239 kW) 390 cid (6.4 L) engine direct from the Thunderbird, which was equipped with a four-barrel carburetor. Stock 390/4speed equipped Mustangs of the day were recording ¼ mile times of mid 13’s, with trap speeds of over 105 mph. A drag racer for the street took a stand during the middle of the 1968 model year, as the 428 cid (7.0 L) Cobra Jet engine officially rated at 335 hp (250 kW), but in reality producing well in excess of 400 hp. The 1968 Mustang fastback gained pop culture status when it was used to great effect in the crime thriller Bullitt. Lt. Frank Bullitt drove a modified Mustang GT-390 fastback, played by legendary actor Steve McQueen, chasing two hitmen in a Dodge Charger in the film's famous car chase through the streets of San Francisco. An attractive version of the coupe was offered for 1968 only. The California Special Mustang, or GT/CS, was visually based on the Shelby and was sold only in the Western states. Its sister, the High Country Special was sold in Denver. While the GT/CS was only available in coupe form, the High Country Special was available in a fastback and convertible version in '67 and only as a coupe in '68.
The Industry Reacts

In the Mustang's first two years of production, three Ford Motor Company plants in Milpitas, California; Dearborn, Michigan; and Metuchen, New Jersey produced nearly 1.5 million Mustangs. It was a tremendous success that left General Motors utterly unprepared and the Chrysler Corporation only slightly less so. Chrysler had just introduced the Plymouth Barracuda a few weeks before, and though the "Cuda" would grow into one of the most revered muscle cars of all time, it started out at as just a Plymouth Valiant with a hastily grafted fastback rear window. As for GM, they were certain that they had a Mustang fighter in the rear-engine Corvair Monza, but sales figures didn't even come close. The Monza was a fine performer, but it lacked a V8 engine and its reputation had been tarnished by Ralph Nader. It took GM until the 1967 model year to counter with the Chevrolet Camaro and Pontiac Firebird. Even Lincoln-Mercury joined the fray in 1967 with the introduction of an "upmarket Mustang" (and subsequent Motor Trend Car of the Year), the Mercury Cougar. The Cougar name had originally been given to the Mustang during the development phase. In 1968, American Motors (AMC) would introduce the Javelin and later, the 2-seat high-performance AMX. This genre of small, sporty, and often powerful automobiles was unofficially dubbed the "pony car" as a tribute to the car that started it all.
1969–1970 series

1969 saw the introduction of the car's third body style and the Boss 429, a hand-built muscle car intended solely to satisfy the homologating rules of NASCAR. The 1969 model featured a 302 cid V8 rated at 220 hp (164 kW). The coupe was longer than previous models and sported convex rather than concave side "lines". Ford also introduced a luxury Grande model equipped with interior wood paneling, a quartz clock, and a 351 cid Windsor engine.

Only available from 1969 and 1970, the Boss 429 came standard with a Mustang SportsRoof (the new corporate name for the fastback) and the new Mach 1 muscle car version's deluxe interior. It sported none of the garish decals and paint schemes of the day; only a hood scoop and 15 in (380 mm) "Magnum 500" wheels fitted with Goodyear "Polyglas" tires, with a small "BOSS 429" decal on each front fender. Holding a big block with a huge bore and hemispherical combustion chambers, the motor had staggering potential for power. However, the brainchild of this car, the late Larry Shinoda, was disappointed with the finished product. He was quoted as saying that he wanted a 10-second capable car in factory form. For several reasons, the actual production Boss 429 certainly wasn't capable of such times. The rev limiter, a small carburetor (the Boss 302 Mustang had a larger one), restrictive intake manifold, a mild solid lifter cam, and restrictive exhaust corked up the motor and kept it from revving. Furthermore, all of the smog equipment choked it down. The finished product was still strong, rated at 375 horsepower at 5200 rpm, but the powerband was narrow for an engine of this size, a result of the restrictions. Stoplight drag racing was prevalent in the day, and owners of these Mustangs, as well as other cars such as Chrysler's street Hemi, could be surprised by "lesser" cars of the day that produced broader powerbands and more low-rpm torque. 100+ horsepower can easily be added with the right cam/intake/carb/exhaust selection, along with a broader powerband. While power steering was a "mandatory option" on the Boss 429, neither an automatic transmission nor air conditioning was available. The case of the latter, there simply wasn't enough room under the hood.

Also available during that two-year period was another homologating special for the up-and-coming sport of Trans-American sedan racing. The Boss 302 Mustang was Ford's attempt to mix the power of a muscle car with the handling prowess of a sports car. The automotive press gushed over the result, deeming it the car "the GT-350 should have been." Boasting a graphic scheme penned by Ford designer Larry Shinoda, the "Baby Boss" was powered by an engine that was essentially a combination of the new-for-1968 302 cid (5.0 L) V8 and cylinder heads from the yet to be released new-for-1970 351 cid (5.8 L) "Cleveland". This combination meant that the Boss 302 Mustang was good for a conservatively rated 290 hp (216 kW) through its four-speed manual transmission. Ford originally intended to call the car the Trans Am, but Pontiac had beaten them to it; applying the name to a special version of the Firebird. In the ¼ mile, the Boss 302 posted very similar times to the Boss 429, despite the smaller displacement and an incredibly free-breathing induction system. It should be noted that the blocks from these cars are incredibly strong. Ford Racing plans on selling new Boss 302 Mustang blocks in the near future.
The Mustang grew larger and heavier with each passing year, culminating with the 1971–73 models designed under the supervision of Ford's new product design manager, Semon "Bunkie" Knudsen, originally of General Motors. Knudsen's turn at the helm would see the last high-performance big-block Mustang, 1971's 375 hp (280 kW) 429 Super Cobra Jet. Ford originally planned to install a 460 in the Mustang as well. Unfortunately, that very same body style that was designed for the sole purpose of big-block installation versions was limited to a maximum of 351 cid (5.8 L) in 1972 and 1973 due to extremely strict U.S. emission control regulations and low demand for big block muscle cars because of high insurance premiums. Two more high-performance engines were introduced in 1972; the 351 "HO" and the 351 Cobra Jet. Both cars were excellent performers, but nowhere near the level of the Boss cars and original Cobra Jet. Car companies switched from "gross" to "net" power and torque ratings in 1972, which coincided with manufacturers making low-compression motors with different, far more restrictive induction systems. Thus, making it difficult to compare power and torque ratings. Very much a different car than the 1964 models, Ford was deluged with mail from fans of the original car who demanded that the Mustang be returned to the way it had been.
Dubbed "Little Jewel" by Lee Iacocca himself, the Mustang II was a project spearheaded by the Mustang's original creator. Iacocca believed that the Mustang had strayed too far from its original concept. A completely re-designed Mustang was in order for 1974. Like the car that preceded it, the Mustang II had its roots in another compact, the Ford Pinto (though less so than the original car was based on the Falcon). The car sold well, with sales of more than 400,000 units the first year. It is worth noting that four of the five years of the Mustang II are on the top-ten list of most-sold Mustangs. The Mustang II featured innovations such as rack-and-pinion steering and a separate engine sub-frame that greatly decreased noise, vibration, and harshness.

The Arab oil embargo, skyrocketing insurance rates, and United States emissions and safety standards destroyed the straight-line performance of virtually every car of the period. In 1974, Chrysler ended production of the Barracuda and its stable mate, the Dodge Challenger. American Motors also discontinued the Javelin at the end of the 1974 model year. GM nearly discontinued the Camaro and Firebird after 1972.
The 1974 introduction of the Mustang II earned Ford Motor Trend magazine's Car of the Year honors and actually returned the car to more than a semblance of its 1964 predecessor in size, shape, and overall styling. Iacocca insisted that the Mustang II be finished to quality standards unheard of in the American auto industry. Unfortunately, the Mustang II suffered from not only being smaller than the original car, but being heavier as well due to new federal emission and safety regulations. Although the car boasted many superior handling and engineering features, its performance could be described as only "mediocre" — no better than other Ford or Detroit products of the day. The Mustang II was positioned to compete head-on with many foreign sports car imports that were hitting the market at that time. The Toyota Celica and the Datsun 280Z were its main competitors. Thus, the car was downsized to adapt to more fuel efficient standards. Available as a hardtop or three-door hatchback, the new car's base engine was a 2.3 L 140 cid SOHC I4, the first fully metric engine built in the U.S. for installation in an American car. A 2.8 L 171 cid V6 was the sole optional engine. Mustang II packages ranged from the base hardtop, 2+2 hatchback, a "Ghia" luxury group with vinyl roof, and a top of the line V6 Mach 1. The popular V8 option would disappear for the first and only time in 1974 (except in Mexico). Ford was swamped by buyer mail and criticized in the automotive press for it.
1975–1978 series

Since the car was never meant to have a V8, it became a mad scramble to re-engineer the car in order to reinstate the 302 cid (5.0 L) V8 option in time for the 1975 model year, but only with a two-barrel carburetor and 140 "net" horsepower. To make the V8 option fit, changes were made to the front fenders, engine bay, and header panel. Since Ford of Mexico never lost the V8; they assisted in the modifications. Although tepid by today's standards; the car's stock 302 performed quite well by seventies' standards. The Mustang II's 302cid engine became Ford's first officially designated metric V8 Mustang; the 5.0L. Other than the V8, the car underwent minor changes in 1975. The Ghia received "opera" windows within its vinyl top and a "MPG Stallion" option was offered. To help boost sales and excitement, other performance options were added. Ford introduced the Shelby inspired Cobra II in 1976, and King Cobra in 1978. The King Cobra was a limited edition Mustang with around 5,000 units produced. It featured a deep air-dam and a Pontiac Trans-Am style cobra hood decal. The King Cobra was only available with the V8 to help bolster the car's performance image. Through 1977 and 1978, several styling changes and color options were added to the Cobra II. On the momentum of the Mustang II's successful sales, a totally new Mustang hit the streets in 1979.
Third generation (1979–1993)

1979–1982 series

For 1979, an all new Mustang hit the dealerships. Larger and based on the "Fox" platform, the new Mustang deviated from the smaller compact Mustangs of the past. The interior was completely redone and could now comfortably seat four, even with the smaller back seat of a muscle car. The new Mustang also enjoyed a great deal of trunk space and a bigger engine bay for better serviceability. The 2.3 L four-cylinder from the earlier car was continued, but refined, in addition to a new turbocharged version rated at 132 hp. However, the latter was dropped after one year, due to terrible reliability issues. The Mustang II's 2.8 L Cologne V6, made by Ford of Europe, was continued only for a year. The low-revving 302 also returned, rated at 140 hp at 3200 rpm. Mustang was again chosen as pace car for duties in the Indianapolis 500. Ford commemorated the honor with an "Indy 500" pace car edition.

Ford's 3.3 L inline-six replaced the 2.8 L V6 for 1980. The new 4.2 L V8 was the only V8 offered from 1980 to 1981. Basically a de-bored 302, the 4.2 L V8 had restrictive heads, an incredible camshaft, and managed to kick out 120 hp (88 kW), the lowest power ever for a Mustang V8. In 1982, the Mustang was revived with the reintroduction of the Mustang GT; bringing more V8 power from the 302 in (5.0 L) engine via new valves, a more aggressive cam, a larger 2-barrel carburetor, and a better breathing intake and exhaust system, rated at 157 hp. With the 302, it was one of the quickest domestic cars in America.
1983–1986 series

The 3.8 L Essex V6 replaced the 3.3 L I6, as the 3.3 L engine had little demand and was dropped after 1982. Ford added a convertible to the Mustang line in 1983 in response to the 1982 Chrysler convertibles. In 1983, the Mustang GT received a 4-barrel carburetor and a new intake manifold, bringing power to 175 hp. The rare SVO Mustang appeared for 1984, with a far more powerful and refined 2.3 L turbocharged inline-4. It also sported handling and braking abilities that would humble a Mustang GT. However, the steep price tag put off most potential buyers. In 1985, the Mustang GT got the exclusive 5.0 L High Output engine with new E5 cylinder heads, a Holley 4-barrel carburetor, a new and more aggressive roller camshaft (only in models with the manual transmission), a new intake manifold, less restrictive exhaust manifolds, and a pseudo dual exhaust which brought more power to a conservatively rated 210 hp engine. This combination was short-lived however, because in 1986, Ford released the first multiport fuel-injected 5.0 L V8, rated at 225 hp. With high swirl E6 heads, the early 5.0 High Output EFI intake possessed higher compression and dual exhausts. Also, in 1985 was the 5.0 HO EFI engine which used the early CFI fuel injection; this was often equipped with the AOD automatic transmission rather than the C4. It made for a motor with an abundance of throttle response and low rpm torque, in addition to a very broad powerband that would sign off suddenly at just 5000 rpm.
In 1987, the Mustang received its first redesign in eight years; incorporating both interior and exterior changes. The exterior design was reminiscent of the earlier SVO and gave the car more of an "Aero" look, in keeping with Ford's overall styling direction. This particular Mustang represents the longest run on any platform and the popularity of the Mustang remained high due to its low cost and high performance. The "5.0" Mustangs, cars that gave birth to an entire aftermarket performance industry[citation needed], remain extremely popular today. The V6 option was discontinued while the 2.3 L four-cylinder gained fuel injection, leaving only the 2.3 L four cylinder and the 5.0 L V8. Under the newly established Ford SVT division, the Ford Mustang SVT Cobra was offered with the 5.0 L V8 that produced 235 hp (175 kW) and 280 ft·lbf (380 N·m) of torque.

For 1987, the Mustang received E7 heads and a more capable intake manifold. Power ratings jumped to 225 hp and 300 ft·lbf of torque. In 1989, the Mustang's speed density air system was replaced with a mass air system (1988 Mustangs sold in California also had the MAF system). This change slightly reduced factory horsepower, but it made Mustangs much easier to modify. With the mass air system, changes made to the intake, engine, and exhaust system would be recognized and compensated for by the ECU, resulting in a correct air/fuel ratio and optimum power. In 1990, the Mustang celebrated its 25th anniversary with a limited edition of 2,000 special edition cars. Although the anniversary year was technically 1989 1/2, the limited edition was a 1990 model; they all came in jet black. In 1993, Ford switched to cast hypereutectic pistons for all 5.0 L engines and also re-rated the GT at 205 hp and 275 ft·lbf of torque. This estimate was more accurate because the previous power ratings were made before the addition of the mass air flow system, a minor revision in the cam, and other various changes. A new Cobra model was introduced with more subdued styling than the GT. The Cobra used Ford's new GT-40 high performance engine equipment, which was rated at a very conservative 235 hp and 280 ft·lbf of torque, that could send a Mustang through the 1/4 mile in 14.5 seconds at just under 100 mph. A Cobra R model was also produced in 1993 that used the same engine as the regular Cobra. It featured larger brakes, Koni shocks and struts, an engine oil cooler, a power steering cooler, and a factory rear seat delete. Since the Cobra R was more race oriented, creature comforts such as air conditioning and a stereo system were not included.
Proposed replacement

By the mid-1980s, Mustang sales were slumping. Sales were over 100,000 units a year, but were nothing compared to previous numbers. Ford thought that the Mustang had lost its place in the market. They subsequently announced that they would replace the rear-wheel drive Mustang with a Mazda-derived front-wheel drive version. Mustang fans quickly responded and sent Ford hundreds of thousands of angry letters asking them to save the rear-wheel drive Mustang. Ford responded and gave the rear-wheel drive Mustang one more chance and proceeded to rename the front-wheel drive version as the Probe.
In 1994, the Mustang underwent its first major redesign in 15 years. The design, code named "SN-95" by Ford, was based on an updated version of the rear-wheel drive Fox platform known as "Fox-4". It featured dramatically new styling by Patrick Schiavone that incorporated some stylistic elements similar to those on earlier Mustangs.

The base model came with a 3.8 L V6 engine rated at 145 (1994-1995) and 150 (1996-1998) hp (108 kW) while the GT featured the 5.0 L V8, now utilizing the Thunderbird intake manifold, a 60 mm throttle body, and a 215 hp rating. The Cobra model also returned with its GT-40 equipped 5.0 L engine, now rated at 240 hp (179 kW). The Mustang was named Motor Trend magazine's Car of the Year for the third time in 1994. The Mustang Cobra convertible was selected as the pace car in the Indianapolis 500, making it the third time that the Mustang had enjoyed the honor. As the result, 1,000 pace car replicas were built and sold at select dealers.

In 1996, the 5.0 L Windsor engine was replaced by a 215 hp (160 kW), 4.6 L SOHC "Modular" V8 engine with two valves per cylinder. This engine had been introduced in the Lincoln Town Car and was part of Ford's plan to modernize its engine lineup. The Cobra version came with a high-revving 305 hp (227 kW), 32 valve DOHC 4.6 L V8. The Cobra's block, cast by Teksid of Italy, was an aluminum, cross-bolted block. The heads had split intake ports and 4 valves per cylinder. To compensate for the relative lack of low end response associated with these kind of cylinder heads, SVT also put an intake manifold with dual runners on the Cobra. With the short runner secondaries not opening until 3250 rpm, it made these early modular Cobras more responsive at low speeds. The power output of the 3.8 L V6 was upgraded to 145 hp (112 kW).

For 1998, the SOHC 4.6 L V8 power was increased to 225 hp (168 kW) via a more aggressive PCM calibration, a slightly modified fuel system, and larger volume exhaust system through increased exhaust pipe diameter. This was the last year of the "Round Body Mustang" and the only year that the "Sports" packaged was offered. The latter featured unique black stripe (regardless of car color) on the hood, which extended over to the wheel wells, and its famous styling cue, the three vertical strip taillights.
1999–2004 series

A refreshed model came in 1999. Gone were many of the soft lines of the previous model, but the car still rode on the SN-95 platform. The Mustang GT's power increased to 260 hp (194 kW) at 5250 rpm and 302 ft·lbf (409 N·m) of torque at 4000 rpm via the new "Power Improved" (PI) heads, cams, and intake manifold. The new 16-valve SOHC 4.6 L engine exhibited characteristics associated with a performance engine when compared to the performance behavior of earlier 4.6 L engines. Mustangs now featured a returnless type fuel system utilizing a PCM-guided fuel rail pressure sensor to regulate pressure. A popular fuel system upgrade comes via a very unlikely source, the naturally-aspirated 2004 SVT Focus. The SVT Focus uses a 255 lph fuel pump that is a direct replacement for the lower volume 155 lph pumps found in 1999 to 2004 Mustangs.

The Mustang GT was now capable of low 14 second 1/4 mile ETs with 100 mph trap speeds compared to the 1998 GT's mid-14 second ETs and 93-95 mph trap speeds. However, many Mustang fans were disappointed as there was a rumored (and spotted) GT with a 5.4 L SOHC V8 rated at 290 hp that was never brought to market. On the V6 models, split-port induction replaced single-port induction, which increased the base model's power to 190 hp (142 kW). A different intake design in 2001 increased the V6 Mustang's horsepower by 3, making a base model V6 193 hp from 2001 on, but the V8 remained untouched. While the Cobra claimed 320 hp (239 kW), some magazines and owners proved otherwise. 5.0 Mustangs and Super Fords claimed that it actually exceeded the torque rating, but didn't quite match the power rating. Ford responded to complaints by issuing a recall on the 1999 model Cobras, which were given computer, intake, and exhaust improvements, to match the original claim of 320 hp. As a result, Cobra production was halted in 2000 (except the limited Cobra R) while the company was developing new parts for the missing power. The changes were incorporated into the 2001 Cobra, which could achieve 1/4 mile times in the low 14/high 13 second range.
As a "modular" family, the heads on the earlier 4.6 L SOHC motors can be exchanged with "Power Improved" heads as offered via the Ford Parts Catalog. Due to a different combustion chamber and pistons, the compression increased to 10.7:1 and subsequently required premium fuel to inhibit detonation (knocking). The Cobras received similar improvements, as a switch was made from "B" style heads (aka Splitports) as used in the early 32 valve DOHC Modulars to "C" heads (aka Tumbleports). Redline was set at 7000 rpm for the DOHC Cobra. The Cobra also received an independent rear suspension, which was also modular.

This redesign also saw the release of two separate Special Edition Mustangs. In 2001, the Special Edition Bullitt was released to the public. Available as a hardtop only, the Bullitt was a mildly upgraded version of the standard GT. Designed to be a handling-based vehicle as opposed to an all-out bruiser, the car was factory upgraded with a lowered suspension (3/4 inch), subframe connectors from the convertible models, new Tokico shocks, and brakes from the Cobra (13 in front, 11.7 in rear). The car also received an upgraded exhaust, a re-designed intake, and underdrive pulleys. These power upgrades led to a factory rating of 265 hp, a gain of 5 hp over the standard GT. On the exterior, the car received unique Torq-Thrust style wheels, removal of the fog lights and rear deck spoiler, and new trim accents. It was available in 3 colors: Dark Highland Green, True Blue, and Black.

The success of the 2001 Bullitt led to the production of a second special edition, the 2003 to 2004 Mach 1. This Mustang was a new model and not simply an upgraded GT. The Mach 1 was equipped with a unique R-Code 4.6 L DOHC engine based on the DOHC engine available in the 1999 and 2001 Mustang Cobras, with new cylinder heads from the 2003 to 2004 Cobra (see below) and camshafts from the 5.4 L Triton engine. The engine was rated at 305 hp and raised to 310 hp in 2004 (Hot Rod magazine actually dyno-tested a 2003 Mach 1 and found it to produce approximately 325 hp). The interior of the car was given a retro theme with seats made to look like the "comfort-weave" seats available in the 1960s-era Mach 1s. It also featured retro themed gauges and a unique aluminum shifter ball. On the vehicle’s exterior, a Mach 1 package was applied, as well as a functional Shaker scoop, a unique 3-tier hood, decals set on the hood, rocker/door panels, a special chin spoiler, a flat black-rear-spoiler, Magnum-500 style wheels, and a redesigned C-pillar. The car also received the same suspension upgrades as the Bullitt did with the exception of the front and rear stabilizer bars (the Bullit had a larger front, but a smaller rear). The Mach 1 was available in a range of colors including: Azure Blue (a Mach 1 only color), Torch Red, Zinc Yellow (2003 only), Dark Shadow Grey, Black, Oxford White, and two just for 2004 colors, Competition Orange and Screaming Yellow.
In 2003, Ford updated the Fox-based Cobra for the last time. Internally known during its development as the "Terminator," this Cobra featured a 4.6 L V8 similar to the older Cobra. However, it was a radical change with the addition of an Eaton supercharger and an air to water intercooler resulting in 390 horsepower (291 kW) and 390 ft·lbf (394 Nm) of torque. Cast iron engine blocks replaced the aluminum blocks used in Cobras from '96-'01. To cope with increased power, Ford replaced the 5-speed Tremec T-45 transmission with the heavier-duty 6-speed Tremec T-56, which was also found in the Dodge Viper, Chevrolet Corvette, and the now discontinued Camaro Z28. Engineers improved handling by altering suspension geometries and fitting more aggressive tires, achieving 0.90 g on the skidpad. Unlike the 1999 SVT Cobra, these cars produced significantly more power than the official Ford claims. Most stock 2003 to 2004 Cobras were dyno-tested between 410 and 420 hp. From the factory, the 2003 to 2004 Cobras ran 1/4 miles in the mid to upper 12s with trap speeds over 110 mph.
Fifth generation (2005–present)

At the 2004 North American International Auto Show, Ford introduced a completely redesigned Mustang which was codenamed "S-197" and based on an all-new D2C platform for the 2005 model year. Developed under the direction of Chief Engineer Hau Thai-Tang and exterior styling designer Sid Ramnarace, the fifth generation Mustang draws inspiration from Mustangs of the 1960s. It was this redesigned aesthetic that inspired Ford's Senior Vice President of Design, J Mays, to call it "retro-futurism." The 2005 Mustang's unique retro coupe styling complements its muscle car status with an approximate weight to power ratio of 11.5:1. The current Mustangs are manufactured at the AutoAlliance International plant in Flat Rock, Michigan.
The base Mustang, equipped with a 5-speed Tremec T-5 manual transmission, is powered by a cast iron block 210 hp (156 kW) 4.0 L SOHC Ford Cologne V6 engine, replacing the 3.8 L pushrod V6. The Mustang GT features a more rugged Tremec TR-3650 transmission with an aluminum 300 hp (224 kW) 4.6 L 3-valve Modular V8 with variable camshaft timing. 2007's Shelby GT, based on the standard GT model, is modified by Carroll Shelby International to produce 319 hp (238 kW) by means of a Ford Racing air intake, performance tune, and upgraded exhaust system.[8] The 2007 Ford Shelby GT500 is equipped with the Tremec TR-6060 transmission, sporting a durable cast iron block generating 500 hp (328 kW) from a supercharged 5.4 L DOHC 32-valve V8 engine. Electronic limiters cap the V6, GT, and GT500 at approximately 115 mph (185 km/h), 145 mph (230 km/h), and 150 mph (241 km/h), respectively.
The 2005 Mustang GT is capable of performing a quarter-mile test in 13.5 seconds, with acceleration from 0-60 mph in 4.9 seconds. Added to the rear suspension is a three-linked system which controls the vertical and lateral movements of the axle. All model years of the current Mustang retain a live axle rear suspension providing the benefits of reduced cost and weight over a heavier, more expensive and complicated independent rear suspension, at the expense of more efficient handling. The current Mustang GT also comes equipped with a limited slip differential complete with the same carbon-fiber clutch discs used in the 2003 to 2004 SVT Cobra and the 2007 Shelby GT500. The differential is designed for the 31-spline axles and the 8.8" ring gear. The basic V6 model (without the Pony Package), unlike the V8 GT model, lacks a rear anti-sway bar to prevent severe oversteer on hard cornering. The 2007 Mustang V6 and GT chassis, suspension, and body shares many of the same construction designs as the GT500. Thicker sheetmetal support and extra welds can be found on the 2007 chassis. Re-designed strut towers on the 2007 Mustang accommodate the wider 5.4 L 32-valve V8 engine in the GT500. The rear diffuser on the 2007 GT California Special package (GT/CS) is also found on the Shelby GT and GT500.
The Pony Package for the V6 Mustang became available starting in 2006. This option includes upgraded suspension, Bullitt-style wheels, wider tires, a unique grille design with fog lamps, a rear deck spoiler, and unique door striping and emblems. Unlike previous V6-powered Mustangs, the current V6 Mustang has drawn a large aftermarket following. A notable example is Shelby Automobile's Shelby CS6 package for the V6 Mustang, specifically the Paxton supercharger, which increases the power of the V6 up to 350 hp (261 kW).

The Mustang sports additional optional features including: MyColor (a color-configurable instrument cluster available as part of the Interior Upgrade Package), Shaker 500 (500 watts peak output) CD/MP3 6-disc audio system, Shaker 1000 (1,000 watts peak output) CD/MP3 6-disc audio system, and brushed aluminum panels (also part of the Interior Upgrade Package). In 2007, even more options were offered including a DVD-based GPS navigation system made by Pioneer (late availability), power passenger seats, heated seats, revised interior colors, and Sirius satellite radio. The GT Appearance Package made its debut in 2007 as well. This package adds a non-functional hood scoop, bright rolled exhaust tips and an engine cover featuring the pony emblem.
The end