A yellow sign warns of twisting roads for the next 17 miles, and secretly promises that those miles will be a delightful trampoline of switchbacks, bowled curves, rippled pavement, dips, and rises. Just the conditions required to fully exercise the athletic skills and balance of the 1999 SVT Mustang Cobra.

Braking to enter the first hairpin hints at the myriad improvements made to the SVT Mustang Cobra. The new 13.0-inch Brembo\textsuperscript{®} front brake rotors deliver excellent stopping power, and the pedal is more responsive to modulation. The revised steering system has a more precise and linear feel. And there is a taut, controlled feel to the suspension. Hit mid-corner bumps and the SVT Mustang Cobra remains remarkably poised. Press firmly into the throttle while exiting the corner and the SVT Mustang Cobra not only generates strong acceleration, but also the unmistakable twin-cam symphony of induction sound and quickly climbing revs, with a baritone exhaust providing the background.

For the past six years, the Ford Special Vehicle Team and its partners at Team Mustang have methodically followed the engineer's credo of continuous improvement, carefully evolving the Mustang into a world-class driver's car. First came an advanced braking system, then a high-revving, double overhead cam V8. And this year marks the arrival of the final major engineering element needed for the SVT Mustang Cobra to complete its metamorphosis: an elegantly designed independent rear suspension system.

Accompanied by increases in horsepower and torque, the addition of all-speed traction control, refinements to the steering, brake, and front suspension systems, new forged aluminum-alloy wheels, and revised bodywork, the adoption of IRS completes the transformation of the SVT Mustang Cobra from pony car to driver's car.

The Ford Special Vehicle Team engineers and builds performance vehicles designed to deliver years of driving pleasure and value for the automotive enthusiast.
Independent rear suspension was an inevitable and long-desired step in the evolution of the SVT Mustang Cobra. The resulting improvements in steering, ride, and handling performance are nothing short of spectacular.

**Independent Rear Suspension**
The IRS system—unique to the SVT Cobra in the Mustang model line—is carried by a tubular steel subframe that fits neatly under the existing Mustang platform, replacing the traditional solid axle. The system consists of steel upper control arms and aluminum lower control arms, with aluminum spindles. Fixed tie rods are placed behind the center of each wheel to control toe characteristics during cornering, acceleration, and braking. Other design details include a 26mm tubular stabilizer bar, linear-rate coil springs, and a robust limited-slip differential housed inside an aluminum-alloy case.

The benefits are significant. The system widens the rear track by 1.2 inches, reduces unsprung weight by 125 pounds, allows for a 0.25-inch lower ride height, greatly reduces the potential for suspension bottoming, and lessens the suspension’s sensitivity to road surface imperfections. Excellent body and wheel control under hard deceleration help keep the rear end of the car planted when braking.

More than ever before, the SVT Cobra handles mid-corner bumps and surface irregularities with confidence. Also, the body leans less during cornering, and also reacts and recovers much more quickly in transitions between corners.

**Traction Control**
A sophisticated all-speed traction control system developed specifically for the Mustang works in concert with the new rear suspension. The traction control system shares many of the electronic and mechanical elements of the ABS system and communicates with the engine control computer. When either of the rear pair of sensors detects rear-wheel spin, the system selects one or all of three possible electronic strategies. The engine computer can limit torque by retarding ignition timing, modulating air/fuel ratio, and cutting off cylinders in conjunction with brake applications. The engine controls work at all speeds, and brake application can occur at one or both driven wheels at speeds up to 62 mph.

The traction control system communicates with the engine control module every 64 milliseconds, which means the drive wheels are effectively searching for optimum traction several times a second. On dry pavement during a full-power launch, the traction control system allows the drive wheels to spin as long as the car is accelerating forward. The system can be switched off at the driver’s discretion.

**Front Suspension**
The SVT Cobra front suspension—a modified MacPherson-type design, with linear-rate coil springs on the lower control arms, MacPherson struts, and a 28mm tubular stabilizer bar—has been refined to reduce the turning circle by 2.9 feet. Hydraulically assisted rack-and-pinion steering gives a communicative, precise feel. The steering boost curve and the T-bar mechanism that helps control it have been refined to enhance feedback, yet deliver better on-center feel. Ride height has been lowered by 0.25-inch.

With the arrival of independent rear suspension, traction control, and revisions to the front suspension, the SVT Cobra has the sophisticated chassis needed to place it among the world's great driver's cars.
A tubular steel subframe carries the IRS system.

The limited-slip 3.27:1 differential is housed inside an aluminum case.

The upper control arm is steel.

25mm tubular stabilizer bar.

Gas-charged digressive-velved shock absorber.

470 lb/in linear-rate coil springs.

The lower control arm is aluminum-alloy.

Aluminum-alloy spindle.

Fixed tie rods are placed behind the center of each wheel. They control toe characteristics during cornering.

The rear rotors measure 11.65 in. and are clamped by single-piston calipers.
To produce more horsepower while maintaining torque in the SVT Cobra V8, Ford powertrain engineers focused their development efforts on two areas: improving combustion with the adoption of coil-on-plug ignition, and implementing a new induction strategy called tumble port.

**Air Intake and Tumble Port**
The SVT Cobra V8 begins the process of making horsepower with a specially designed conical air cleaner that sits just ahead of an 80mm mass-air flow sensor. The air then moves further downstream to the twin 57mm bores of the throttle body. The butterfly valves in the bores open simultaneously, not in stages, giving the engine exceptional throttle response by quickly yet progressively delivering large volumes of air to the cast alloy plenum.

At the heart of this evolution of the SVT Cobra V8 is a new induction strategy: tumble port. Gone are the secondary port throttles of previous four-valve SVT Cobra V8s. Instead, 1999 brings a simpler design that places siamesed intake runners above each pair of intake valves. The runners and the ports cast within the head cause the fuel-air charge to “tumble” as it enters the combustion chamber, as opposed to the “swirl” created in 1996-98 SVT Cobra V8 heads. The tumble port method promotes combustion by making the charge more volatile and thus more powerful.

**Electronics, Exhaust, Engine Cooling**
The Ford EEC-V engine computer system monitors engine functions—including airflow, rpm, crankshaft position, camshaft position—and can make millions of adjustments per second to deliver the spark and fuel-air mixture at just the optimum time to maximize power. And now each cylinder is fired by a distributorless coil-on-plug ignition system, which brings a greater measure of ignition precision and simplicity.

The SVT Cobra high-silicon, molybdenum-iron exhaust manifolds feed spent gases into a stainless steel dual exhaust designed to maximize exhaust flow. A crossover pipe balances the pressure pulses through the low-restriction mufflers and 2.25-inch exhaust pipes. The system is accented by twin 3.0-inch polished exhaust tips that integrate with the rear valance panel.

Consistent oil temperatures in this high-performance engine are achieved with a water-to-oil cooler mounted between the left side of the block and the oil filter. Water returning from the radiator to the engine block first runs through the cooler, reducing oil temperatures significantly, allowing higher sustained revs, and extending potential engine life. The engine coolant system is designed to maintain normal-range temperatures even under high-performance conditions.

**Transmission and Differential**
The SVT Cobra V8 delivers power to the rugged five-speed Tremec® T45 transmission. First and second gears have large double-cone synchros to smooth engagement and increase durability, while reverse gear is removed from the geartrain when forward gears are engaged, reducing noise and wear. The T45 makes extensive use of needle and roller bearings, which helps to ensure smooth and quiet operation.

New for 1999 is a larger, 11.0-inch clutch plate, which is operated through a revised system that requires less effort and delivers shorter pedal travel. Power is delivered to the rear wheels through a limited-slip differential and a 3.27:1 axle ratio.

**Power, Torque, Performance**
The SVT Cobra V8 is free reving from idle to its 6,800-rpm redline (fuel shut-off occurs at 7,000). It produces 320 horsepower at 6,000 rpm, and 317 lb/ft of torque at 4,750 rpm. The SVT Cobra V8 develops 69.4 horsepower per liter, or 1.14 horsepower per cubic inch.

The 1999 SVT Cobra accelerates from a standstill to 60 mph in 5.4 seconds. The quarter-mile is covered in 13.8 seconds with a terminal speed of 102 mph. In closed-course testing, the SVT Mustang Cobra achieved a top speed of 150 mph.
Right: The SVT Cobra V8 produces 320 horsepower at 6,000 rpm, 317 lb/ft of torque at 4,750 rpm, and is redlined at 6,800.
ENGINE ARCHITECTURE

Since 1996 the SVT Mustang Cobra has featured the kind of free-revving and powerful engine that a driver's car must have: a potent 90-degree V8 with four valves per cylinder, chain-driven double overhead cams, aluminum-alloy block and heads, sinter-forged connecting rods, and a forged crankshaft. The SVT Cobra V8 is a quintessential performance powerplant.

For 1999, SVT and Team Mustang introduce the first major evolutionary step for this engine, providing improvements in horsepower, torque, durability, and driveability.

The Block and Crankshaft
The lightweight aluminum-alloy SVT Cobra block, cast in Carmagnola, Italy, has a “deep skirt,” which means that the bottom edge of the block extends well below the crankshaft’s centerline. This design provides excellent crankshaft support, great rigidity, and a large mating surface for the transmission. For 1999, the “windows” above the main bearings are now cast solid, giving the block even greater bottom-end rigidity. For long-term durability, iron cylinder liners are used.

The forged steel SVT Cobra crankshaft is manufactured in America by Krupp Gerlach Company. Counterweights, placed opposite every throw of the crankshaft, contribute to the engine’s exceptionally smooth revving characteristics from idle to redline. The SVT Cobra crankshaft mates to the flywheel with eight bolts. A windage tray mounted beneath the crankshaft wipes excess oil away from the crankshaft and directs it to the deep oil sump to ensure a continuous supply, even during aggressive cornering maneuvers.

Bearings, Pistons, and Rods
The main bearing caps that carry the forged crankshaft are secured to the block with six high-tensile bolts, spreading loads over a broad area of the block. On each side of the bearing cap, two bolts reach upward into the block in conventional fashion, and one bolt runs horizontally into the cap through the block's skirt.

Above and right: The SVT Cobra cylinder heads are a classic double overhead cam, four-valve design. Opposite, top: The forged steel Cobra crankshaft has counterweights placed opposite every throw of the crankshaft. These contribute to the engine's exceptionally smooth revving characteristics from idle to redline. Opposite, bottom: The main bearing caps that carry the forged crankshaft are secured to the lightweight aluminum-alloy Cobra block with six high-tensile bolts, spreading loads over a broad area of the block.
To handle the considerable torque of the SVT Cobra V8, the sinter-forged alloy connecting rods have more robust big ends than those in any other Ford 4.6-liter passenger-car engine. Made from powdered metal that is compacted into the rough shape of a connecting rod and then “hot-struck” in a forge, these rods have remarkable strength due to the millions of bonds created on the molecular level during the forging process.

After forging, the rod big ends are mechanically fracture-split to create the bearing cap. Because of the irregular, interlocking surfaces along the fracture line, the bearing cap and rod can only be reassembled one way, ensuring an exact fit and making the entire bearing cap assembly especially strong. To cope with the rise in both power and torque, improved aluminum-alloy upper main, upper thrust, and rod bearings are employed.

The shallow-skirt alloy pistons provide a compression ratio of 9.85:1, and feature full floating pins, which further reduce friction.

Double Overhead Cams

The SVT Cobra cylinder heads follow classic double overhead cam design. The exhaust cam for each bank is driven by its own random-link silent chain. A secondary roller chain loops from the exhaust camshaft to the intake cam. All four cam chains have hydraulic tensioners to maintain optimum tension and quiet operation.

For 1999, the specially designed cams feature greater duration and overlap for increased horsepower. The cams run in line-bored journals and are secured from above with aluminum girdles. The cam lobes act upon roller-finger followers which incorporate hydraulic valve-lash adjusters. Beehive-shaped valve springs control valve movement.

The architecture of the SVT Cobra V8 allows for the ample power and torque a world class driver’s car must have. The 4.6-liter four-valve Cobra V8 is the most technically advanced powerplant ever found in a Mustang, and it delivers the smooth, high-revving power expected of a double overhead cam four-valve V8.
“Underneath the new Cobra, you’ll find something that’s never been seen in the Mustang’s 30-plus-year history: independent rear suspension. It’s big news.”

—Motor Trend

Power output: 320 hp @ 6,000 rpm
Torque: 317 lb-ft @ 4,750 rpm
0-60 mph: 5.4 seconds
Quarter mile: 13.8 seconds @ 102 mph
Top speed: 150 mph
Skidpad: 0.90g
Braking, 60-0 mph: 127 ft.
The technical advances and significant changes to the SVT suspension and chassis reach well beyond the adoption of independent rear suspension and all-speed traction control.

A significant element in the makeup of any driver's car is an exceptional braking system. Brakes on the SVT Cobra are improved for 1999. At the front, the now-familiar PBR® calipers have been given larger pistons for improved pedal feel. They now clamp down on 13.0-inch Brembo® rotors that have proven both durable and resistant to fade. The Brembo® rotors feature a pillar design that rapidly dissipates the heat caused by hard braking. The rear 11.65-inch rotors and single-piston calipers remain unchanged.

The SVT Cobra four-wheel vented discs are controlled by a four-sensor anti-lock brake system. This system generates short stopping distances (60-0 mph in 127 feet) with superb stability and limited pedal kickback.

The 1999 SVT Cobra features a new five-spoke forged aluminum-alloy wheel. These 17 x 8 inch wheels wear the proven 245/45-17 BFGoodrich® Comp T/A ZR tires which evolved from those first used by SVT on the 1995 SVT Mustang Cobra R race car.

**SVT Cobra Bodywork**

For 1999, all Mustang models, including the SVT Cobra, feature new “edge design” bodywork that echoes the pyramid themes seen in recent Ford show cars, including the GT90 concept car.

The SVT Cobra is distinguished from other Mustang models by a number of special visual elements. At the front, these include a hood unique to the SVT Cobra, and a fascia incorporating SVT signature round driving lights.

At the rear, an optional spoiler, tri-color taillamps, and polished 3.0-inch exhaust tips set the SVT Cobra apart. Both the hood and rear deck are constructed of lightweight composite materials.
Above: "Edge design" bodywork is new for 1999. The SVT Cobra is visually distinguished from other Mustang models by a unique hood, and a front fascia with round driving lights.
Standard SVT Cobra equipment includes SVT white-faced instruments with black numbers; at night, the numbers turn blue for better visibility. Other amenities include: a tilt steering wheel; a MACH 460® AM/FM stereo cassette with CD player; dual electric remote control mirrors, power side windows, power door locks, and a power deck lid release; speed control; and remote keyless illuminated entry.

SecuriLock™
To protect the 1999 SVT Cobra, Ford includes a standard passive anti-theft system, SecuriLock™. Each SVT Cobra key carries a radio transponder that contains a unique code selected from a potential of 72 million billion combinations. An antenna located in the steering column "interrogates" the key, then transmits the code to a control module, where the signal is processed. If the key's code matches, a signal is sent to the EEC-V system to "enable" the engine. If the key code does not match or if no encoded key is detected, the EEC-V system will not allow the engine to run. The SecuriLock™ system proved its effectiveness in 1996, as the theft rate for 1996 Mustang GT and SVT Cobra models dropped by 60.4 percent compared to rates for 1995 Mustang GT and SVT Cobra models. These dramatically lowered theft rates were improved upon in 1997 and 1998.*

SVT Cobra Convertible, and Color Schemes
For those who love open-air motoring, two significant improvements are found in all 1999 Mustang Convertibles, including the SVT Cobra. First, frame rails reach from the front bulkhead to the rear of the vehicle to reduce mid-body shake. And second, the power top now cycles up and down 20 percent more quickly than before.

For 1999, the SVT Cobra Coupe and Convertible are available in four exterior colors: Rio Red Tinted Clearcoat, Black Clearcoat, Crystal White Clearcoat, and Electric Green Clearcoat Metallic. The SVT Cobra comes standard with leather trim. Available interior colors are Dark Charcoal or Medium Parchment.
At the heart of the SVT philosophy is a deep commitment to skillful and enthusiastic driving. Everyone at the core of the Special Vehicle Team—engineers, designers, product planners, and marketers—is an enthusiast, someone who loves to drive cars quickly and well. You'll find this same attitude among SVT specialists at SVT certified Ford dealers.

Extracting the greatest possible pleasure from high-performance cars like the SVT Cobra and its siblings, the SVT F-150 Lightning and SVT Contour, requires exemplary car-control skills. To encourage the development of these skills, SVT offers new SVT owners a discount at The Bob Bondurant School of High-Performance Driving. It's the desire of everyone at SVT and at SVT certified Ford dealerships that new SVT owners take advantage of this opportunity to hone their skills and knowledge of car control, not only because it can help make them better and safer drivers, but also because such training can enhance the driving experience.

During 1999, the new SVT Mustang Cobra will appear as a student car at the Bondurant School, where the SVT Contour and 1997 and 1998 Cobra models are already working.

In creating its vehicles, SVT draws heavily on the talents and knowledge of driving enthusiasts at Ford and its suppliers who work in the key disciplines of design, product development, manufacturing, and marketing. The SVT Mustang Cobra is created through a unique relationship between SVT and Team Mustang.

"Experience the car on the bumps and undulations of real-world pavement to truly appreciate the difference." —Motor Trend
ENGINE
CONFIGURATION
Longitudinally mounted, 90-degree V8, cast aluminum block and heads, iron cylinder liners, fully counterweighted forged crankshaft

Bore x Stroke 90.2 x 90.9mm
Displacement 4,601cc/280 cid
Compression ratio 9.85:1
Horsepower 320 hp @ 6,000 rpm
Torque 317 lb-ft @ 4,750 rpm
Redline 6,800 rpm (fuel shut-off occurs at 7,000 rpm)

VALVETRAIN
Double overhead camshafts, chain drive to exhaust cams, secondary chains from exhaust to intake cams, roller-finger followers with hydraulic lash adjustment, oem-issued Beehive-shaped valve springs, four valves per cylinder

Intake valves 2 per cylinder, 37mm head diameter
Exhaust valves 2 per cylinder, 30mm head diameter
Ignition system Distributorless coil-on-plug
Fuel system Sequential electronic fuel injection
Intake manifold Cast aluminum, tuned equal-length runners
Throttle body 57mm twin bore
Mass-air sensor 80mm diameter
Exhaust manifolds Cast iron
Exhaust system Dual, stainless steel, 2.25-inch diameter, 3.0-inch exhaust tips

DRIVETRAIN
Transmission Tremec T45 5-speed manual, integral clutch housing
Rear axle 8.8 in. ring gear with limited-slip differential, aluminum case
Clutch 11.0 in., single-plate
Gear Ratio
1st 3.37 45 mph (72 kph)
2nd 1.99 77 (124)
3rd 1.33 115 (185)
4th 1.00 150 (241)
5th 0.67
Reverse 3.22
Final drive 3.27

ALLSPEED TRACTION CONTROL
Accomplished through engine ignition timing, cylinder cut-off, brake application. Linked to ABS module and engine ECU module. Driver-controlled on/off switch

SUSPENSION
FRONT
Modified gas-charged MacPherson strut, with separate 500 lb/in spring on lower arm, 26mm tubular stabilizer bar

REAR
Multi-link independent, steel upper control arm, aluminum lower control arm, fixed toe-control tie rod, aluminum spindle, gas-charged tubular shock absorber, 470 lb/in coil spring, 26mm tubular stabilizer bar

STEERING
Type Rack and pinion, power assist
Gear ratio 15.0:1
Turns, lock to lock 2.5
Turning diameter 37.9 ft.

BRAKES
FRONT 13.0 in. (330mm) vented Brembo discs, PBR twin-piston calipers
REAR 11.65 in. (296mm) vented discs, single-piston calipers
ABS Four-sensor system. Linked to traction control

WHEELS AND TIRES
WHEELS 17 x 8 in., five-spoke, forged aluminum-alloy, painted surface, exposed lugs
TIRES BF Goodrich Comp T/A ZR, 245/45ZR-17

COBRA INCLUDES
- Supplemental restraint system: driver and passenger airbags. Articulated front sports seats (standard six-way power for driver) with leather seating surfaces and power lumbar support. Always wear your safety belt, and secure children in the rear seat
- Independent rear suspension (IRS)
- Anti-lock brake system (ABS)
- All-speed traction control
- Securlock passive anti-theft system
- Tilt steering wheel
- MACH 460 electronic AM/FM stereo cassette and CD player
- Power Equipment Group: Dual electric remote control mirrors, power side windows, power door locks, power deck lid release
- Remote keyless illuminated entry

COLOR AND TRIM
EXTERIOR
Ultra White Clearcoat, Ebony Clearcoat, Rio Red Tinted Clearcoat, Electric Green Clearcoat, Metallic

INTERIOR
Dark Charcoal, Medium Parchment

DIMENSIONS, CAPACITIES
Wheelbase 101.3 in./2,573mm
Length 183.5 in./4,661mm
Height 53.2 in. (53.5 in.)/

Width 73.1 in./1,857mm
Track, f/r 59.9 in./59.9 in./1,521mm/1,521mm

Head room, f/r 38.1 in./35.5 in./
968mm/903mm
Leg room, f/r 41.8 in./29.9 in./1,062mm/759mm

Curb weight 3,340 lbs. (3,560 lbs.)/1,557 kg (1,617 kg)
Fuel capacity 15.7 gal./59.4 liters
Weight dist., f/r 55.5%/44.5%

PERFORMANCE
0-60 mph 5.4 seconds
0-100 kph 5.6 seconds
Quarter mile 13.8 seconds @ 107 mph
Top speed 150 mph
Braking, 60-0 mph 127 ft.
100 foot skidpad 0.90g

Numbers in parentheses relate to the SVT Mustang Cobra Convertible.

All performance numbers were generated under closed-course conditions on a test track.

All photographs were produced under closed-road/closed-course conditions with a professional driver.
Ownership Experience
We've gone to great lengths to make the experience of driving a new SVT Mustang Cobra enjoyable. We've done the same for the experience of ownership, too.

We stand behind your car with our 3-year/36,000-mile New Vehicle Limited Warranty. And we look after your security with our Roadside Assistance Program. Expect nothing less from a "customer-driven" company.

Roadside Assistance Program
Every new Ford includes the assurance of an emergency Roadside Assistance Program provided by Ford Auto Club, Inc. during the 3-year/36,000-mile New Vehicle Limited Warranty period.

Help is just a toll-free phone call away, 24 hours a day, anywhere in the 50 United States, should you need any towing assistance, fuel delivery, tire change, a jump start, or even help when you’re locked out of your car.

Ask your Ford Dealer for complete details on the Ford Roadside Assistance Program and also for a copy of the New Vehicle Limited Warranty.

Bumper-To-Bumper Coverage
The 3-year/36,000-mile bumper-to-bumper coverage of the Ford New Vehicle Limited Warranty covers all vehicle parts (except tires, and certain other items as described in the Vehicle Warranty Guide) against defects in factory-supplied materials or workmanship. For complete information, see your dealer.

Ford Credit
Ford Credit is a full service company that makes a wide variety of financing and leasing programs available to qualified buyers through the Ford Dealer of your choice. Through Ford Credit’s financing or Red Carpet leasing, arrangements suited to your special needs can be made quickly and conveniently right at the dealership.

Ask your Ford Dealer for the facts on any of Ford Credit’s financing or lease plans.

Extended Service Plans
Optional Ford Extended Service Plans can cover major components on new Ford cars and light trucks for longer than the vehicle’s basic warranty. Your dealer has full details.

Dealer-Installed Accessories
The enjoyment of owning a new car begins before you take delivery, when you’re selecting colors and features.

Along with the items listed elsewhere in the catalog, there are Ford brand accessories available at your dealer. They meet or exceed our strict specifications, and they are custom designed and manufactured to complement the style and quality of your Ford built vehicle.

Following publication of this catalog, certain changes in standard equipment, options, prices, and the like, or product delays, may have occurred which would not be included in these pages. Your Ford Dealer is your best source for up-to-date information. Ford Division reserves the right to change product specifications at any time without incurring obligations.


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