

2020
SHELBY GT 350®





The current generation Shelby GT350 honors the spirit and purpose of its pioneering 1965 namesake.

2020 SHELBY GT350®: THE SECRET OF HIGH PERFORMANCE

At Ford Performance, we're immensely proud that this generation of the Shelby GT350 is going into its fifth year of production. That says a lot about the car, and about the people like you who have received it so enthusiastically. Way back when we started development, our goal was to produce a car that lived up to its illustrious high-performance heritage. Mission accomplished – but not completed.

Since the car was launched in 2015, Ford Performance engineers have continued working to make refinements and enhancements that can be implemented in the next year's production run. Model year 2020 is no exception, with aero refinements to the rear spoiler, among others.

We're never satisfied that there's nothing more to do. The car we produced in 2015 was the best, but the best can always be better. That's the secret of high performance.





2020 SHELBY GT350® TECHNICAL SPECIFICATIONS

POWERTRAIN

Ford 5.2-liter DOHC all-aluminum V8 engine
-Bore x stroke: 94mm x 93mm
-12:1 compression ratio
-526 hp @ 7,500 rpm (achieved with 93 octane fuel)
-429 lb.-ft. torque @ 4,750 rpm
-Redline: 8,250 rpm
-87mm throttle body
-Flat-plane, forged-steel crankshaft
-Forged-aluminum pistons
-Forged-steel, I-beam connecting rods
-Lightweight polymer oil pan with windage tray
High flow dual exhaust with X-pipe and active-valve mufflers
Lightweight Tremec® 3160 6-speed manual transmission
Dual-mass flywheel
215mm dual-disc clutch
3.73:1 Torsen® limited-slip differential with GT350-specific bias ratios
Engine, transmission and differential oil coolers

SUSPENSION AND STEERING

MagneRide semi-active suspension front and rear
Front suspension: independent MacPherson strut with double ball joints
-194 lb./in. coil springs
-240 lb./in. coil springs
-34 x 5.7mm tubular stabilizer bar
-Aluminum knuckles with performance wheel bearings
-Lightweight tower-to-tower strut brace
Rear suspension: independent multi-link
-914 lb./in. counter-wound coil springs
-22.2 x 3.9mm tubular stabilizer bar
Electric power assist rack-and-pinion steering

FRONT BRAKES

SHW® 394mm rotors with aluminum center "hat" and smooth iron ring with directional cooling vents
Brembo™ 6-piston monobloc calipers, fixed-bridge, radial mount

REAR BRAKES

SHW® 380mm rotors with aluminum center "hat" and vented, smooth iron ring
Brembo™ 4-piston monobloc calipers
Drum-in-hat parking brake

WHEELS & TIRES, GT350

Ebony-Black-painted aluminum wheels, 19 x 10.5 in. front, 19 x 11 in. rear
Specially developed Michelin Pilot Sport Cup 2 tires, 295/35 ZR19 front, 305/35 ZR19 rear

WHEELS & TIRES, GT350R

Lightweight carbon-fiber wheels, 19 x 11 in. front, 19 x 11.5 in. rear
Specially developed Michelin Pilot Sport Cup 2 tires, 305/30 ZR19 front, 315/30 ZR19 rear

SELECTED FEATURES

Standard exterior colors available:
Grabber Lime (new), Iconic Silver (new)
Velocity Blue, Ford Performance Blue, Shadow Black, Magnetic Gray, Kona Blue, Race Red, Oxford White
Aerodynamic treatments: front splitter and grille, underbody shield, diffuser, rear spoiler, air curtains
Aluminum hood with center air extractor
Aluminum front fenders with air extractors
Aluminum front bumper
Selectable drive modes: Normal, Sport, Slippery, Track, Dragstrip
Performance shift Indicator
Driver and steering mode control
Unique instrument panel and gauges
RECARO® cloth seats with Miko® suede inserts, manual adjustment

GT350R CONTENT

Carbon Fiber Rear Wing
Large Front Splitter
Rear Seat Delete
Exhaust Resonator Delete
Red Brake Calipers
Red Accent Stitching
-Center Console
-Door Trim
-Floor Mats
-Seats
-Steering Wheel with Red Center Marker
Unique Chassis Tuning
Wheel Locking Kit
Adjustable Strut Top Mounts – Note: Shipped separately from the vehicle for Dealer installation



PACKAGES AND OPTIONS

SHELBY GT350

Technology Package (new)

- B&O Play™ Audio System by Harmon (12 speakers) Includes CD Player, HD Radio™ and subwoofer in-trunk
- BLIS® with Cross-Traffic Alert
- Mirrors – Heated, Memory, and Cobra Puddle Lamps
- Voice-Activated Touchscreen Navigation System with SiriusXM® Traffic and Travel Link®

Stand-Alone Options

- Painted black roof
- "Over-the-top" vinyl racing stripe
- Exposed Carbon Fiber Instrument Panel
- Leather-trimmed Sport Seats with Seat Back Map Pockets (replaces standard RECARO® cloth/Miko® suede sport seats)
- 4-way adjustable head restraints
- 6-way power driver seat with power lumbar
- 6-way power passenger seat
- Heated and cooled front seats
- Memory recline (driver's side only)
- Twister Orange Tri-Coat (new)
- Rapid Red Metallic Tinted clearcoat (new)

Factory Invoiced Accessories (FIA) – Shipped separately from the vehicle for dealer installation
-Full Vehicle Cover (WeatherShield; Shelby® logo on hood area, Cobra® logo on rear)

Handling Package

SHELBY GT350R

Technology Package (new)

- B&O Play™ Audio System by Harmon (12 speakers)
- Includes CD Player, HD Radio™ and subwoofer in-trunk
- BLIS® with Cross-Traffic Alert
- Mirrors – Heated, Memory, and Cobra Puddle Lamps
- Voice-Activated Touchscreen Navigation System with SiriusXM® Traffic and Travel Link®

Stand-Alone Options

- Painted black roof
- "Over-the-top" racing stripe
- Exposed Carbon Fiber Instrument Panel

Factory Invoiced Accessories (FIA) – Shipped separately from the vehicle for dealer installation
• Full Vehicle Cover (WeatherShield; Shelby® logo on hood area, Cobra® logo on rear)

NOTE: CONTENT SUBJECT TO CHANGE





PERFORMANCE CHOICES: GT350 OR GT350R

The GT350 and GT350R model variants of the 2020 Shelby GT350® are both highly capable performers for lapping days at race tracks, and both are street legal. However, the GT350R is more race-track oriented, with several comfort and convenience features deleted to lighten its weight.

Shelby GT350

This dynamically athletic production Mustang is powered by the most powerful naturally aspirated Ford production engine ever. The engine's flat-plane crankshaft is the first of its kind ever used in a Ford V8-powered car. It gives very quick throttle response, and produces the GT350's exotic and unique exhaust snarl.

The Ford Performance engineers' extensive design and development work on the body created efficient air flow for powertrain and brake cooling. It achieved drag and weight reduction, along with balanced front and rear downforce. Every bit of the bodywork from the windshield forward is unique to this car, as are the rear fascia and diffuser.

The GT350 is meant for owners who want a car with some hard-core racing equipment in it for track days, but also want one that's very streetable for everyday driving. The optional Technology Package offers higher-end equipment for enhanced comfort, safety and convenience.

Shelby GT350R

If you are not too concerned about comfort or convenience for street use; if you want to take your car to a race track to wring out that last tenth of a second of lap time, then the GT350R is for you. Some might even want it as the basis for an all-out, non-streetable race car.

Ford Performance has deleted anything that adds unnecessary, performance-robbing weight, or causes parasitic power losses. Deleted content on the GT350R includes (but is not limited to) rear seats, air conditioning, audio system, floor mats and rear-view camera.

The optional Technology Package offered on the GT350R includes higher-end equipment for enhanced comfort, security, connectivity and convenience.

ENGINE

With 526 horsepower* and 429 foot-pounds of torque on tap, the GT350's 5.2-liter V8 is the most powerful naturally aspirated production engine Ford has ever produced. This very special engine's flat-plane crankshaft was developed exclusively for this car, and it represents the first use of a flat-plane crank in a production Ford V8.

The engine breathes through an intake manifold with charge motion control (CMC) valves that are larger than those in the stock 5.0 V8, and thanks to high-lift camshafts with increased duration, the cylinder heads flow massive amounts of air.

The aluminum block's iron cylinder liners are removed, and plasma transferred wire arc (PTWA) technology is used on the bores. This larger bore diameter results in an over-square configuration – approximately 94 mm bore x 93 mm stroke – which increases low-end torque. PTWA also improves performance and durability, due to lighter weight plus reduced friction and heat transfer. The flat-plane crankshaft gives quick throttle response, and the exhaust's unique, throaty snarl.

The custom, high-flow exhaust system has "dual-mode" rear mufflers with single entries and dual outlets. An actuator valve in the muffler canister can be open or closed, depending on the driver's preference. When it is closed, the car is quiet and civilized; when open, the exhaust is essentially "free-flow" through the muffler, and the exhaust note is loud and guttural.

TRANSMISSION

The Tremec® 3160 6-speed, lightweight manual transmission is connected to the engine with a high-strength, dual-disc clutch. This combination has all the necessary torque capability, along with excellent high-rev shifting capability. This is essentially a bespoke transmission for the GT350, since the people at Ford Performance designed and tooled up a new case and gear set just for this car.

Rear Axle

The torque bias and pre-loads in the Torsen® limited-slip differential are specifically engineered for the GT350. The rear-axle ratio is 3.73:1.

Cooling Systems

The GT350's engine water radiator is upsized from that of the Mustang GT and carries a higher volume of coolant.

All GT350s are equipped with oil-cooling radiators for the engine, transmission, and rear-axle.

The engine oil radiator's design is an elegant solution, located in the front bumper on the driver's side, with ducting to provide optimum air flow.

The transmission-oil radiator is on the other side of the front bumper, and the transmission circuit has its own internal pump.

The differential oil cooler is mounted in the lower rear diffuser, which allows much shorter runs of plumbing. Special ducting directs air through the cooler and out the rear bumper. The cooler also has its own electric pump, with a thermostat.

* Achieved with 93 octane fuel.



CHASSIS SYSTEMS: DYNAMIC REFINEMENT

The Shelby GT350® generates enormous dynamic forces – e.g. the g-loads from cornering, acceleration and braking. So, during this car's development, the chassis systems also were an essential part of the performance equation.

To reach the performance targets, every aspect – every component and system – was analyzed, tested and, if necessary, modified or changed. The new 2015 Mustang platform was a great place to start. It is the strongest yet in the history of the brand, with torsional stiffness increased by 28 percent over the previous model.

Unique Suspension

The GT350's suspension design is unique – engineered to make the car nimble and agile, with quick, precise responsiveness.

New, front-and-rear suspension knuckles (fronts made of aluminum) were designed for stiffness, to provide very precise steering and lighter weight.

The front and rear wheel bearings also were designed specifically for stiffness, to remove any looseness from the steering, and also to give the best possible brake pedal feel and modulation capabilities.

One of the most telling examples of the engineers' attention to detail is the fact that the coils in the independent rear suspension's springs are counter-wound. This ensures that the spring rates are exactly the same on both sides of the car, and the springs work in perfect harmony.

MagneRide®

Electronically controlled MagneRide shock absorbers give the GT350 a semi-active (or adaptive) damping system. This system continuously adapts the shock damping to best suit the road surface and the driving dynamics. It is the first-ever Ford application of MagneRide technology, and it's an extremely desirable performance enhancement.

The shocks have metal shavings in the fluid, so an electric current can magnetically change the fluid's viscosity on the fly. An array of sensors monitors vehicle dynamics such as pitch, dive, yaw and roll, and can respond within 7 milliseconds to an event. A Ford-developed control module sends an electric current through the fluid, which changes its viscosity to best suit the damping requirements.

Powerful Brakes

Matching the powerful flat plane crank engine under the hood the 2020 GT350 has powerful brakes at the corners.

Front rotors are 15.5 inches in diameter and 1.4 inches thick; the rears are 15 inches by one inch. The front rotors have directional vanes in place of standard rotor vents – a very unusual feature for a production car. These vanes direct air flow through and away from the rotor much more efficiently, providing more effective cooling. The front brakes also get high volumes of cooling air through the massive ducts in the front fascia.

Both front and rear rotors are a two-piece design, with an aluminum "hat" in the center that bolts to the wheel hub. The surrounding iron rotor is fastened to the hat with pins, which form not only a high-

strength connection, but also effectively limit conductive heat transfer into the hub and bearing. The lightweight aluminum hat in this design also reduces unsprung weight.

The front brakes have Brembo 6-piston calipers, and the rears have Brembo 4-piston calipers.

The parking brake is an unusual, integrated "drum-in-hat" design that removes the rear calipers from the parking brake function, which in turn eliminates any compromises in the calipers' design. It also improves the parking brake's performance, and the feel of the lever.

Steering

The GT350's electric-power rack-and-pinion system is very precise and responsive.

Steering control arm attachment points are re-engineered to spread the double ball joints farther apart. This moves the steering angle outboard, which increases steering responsiveness.

The tuning pack for the electric power-assisted steering provides selectable mode settings: Normal, Sport, Track and Wet. These were specially calibrated for GT350.

GT350-Exclusive Wheels and Tires

The Shelby GT350's wheels are an Ebony Black-pointed aluminum design – 19 x 10.5 inches in front, and 19 x 11 at the rear. They are shod respectively with 295/35 ZR 19 and 305/35 ZR 19 Michelin Pilot Super Sport tires that are specially developed for the GT350.

The GT350R is equipped with lightweight carbon fiber wheels that provide a 50-lb. total weight savings over the aluminum wheels. The front wheels measure 19 x 11 inches and rears are 19 x 11.5, with ultra-high-performance "30 Series" Michelin Pilot Sport Cup 2 tires – 305/30 ZR 19 front and 315/30 ZR 19 rear – also developed for this specific model.

AERO-BALANCED FOR PERFORMANCE

Aerodynamics is just as important as any other aspect of the Shelby GT350's performance equation. To produce the great performance dynamics, balance and harmony that the engineers aimed to achieve, the car's aerodynamic capabilities were critical.

Here, too, the engineers took a no-compromise approach. Every place where air flows over, under, around or through the car's body was examined, tested and modified to get the great balance – and the cooling optimization – that they wanted.

Managed Air Flow

To reduce drag and front-end lift, the entire front fascia is more sculpted around the front of the car, and the hood is significantly lower, effectively wrapping it around the engine.

Every bit of air that flows through the front fascia is managed. It flows through the radiators for powertrain cooling, and through some unique, high-volume brake duct work for brake cooling.

Front Splitter and Belly Pan

The front splitter and belly pan were designed together as a system for both aerodynamic and structural purposes. Vertical winglets on the outer sides of the splitter help create efficient airflow around the body, and farther back, additional winglets on the front of the rocker panels manage air flow along the lower sides of the body.

The belly pan is made of strong material and provides structural support for the splitter, which has to withstand high aerodynamic loads. The belly pan also helps block air from entering the engine bay and causing front-end lift. It has several mini venturi tunnels that help create downforce and reduce drag, and some of them direct air into the wheel arches to help cool the brakes.

Rear Diffuser and Spoiler

The GT350 diffuser is designed to duct air into the rear axle cooler, and to manage airflow out the rear of the car to manage downforce. The rear spoiler with optional Gurney flap was designed and tuned with experience gained from wind tunnel development of the Ford Performance Mustang road course racing cars resulting in significant rear aerodynamic efficiency.

GT350R Spoiler

The GT350R has a unique carbon fiber rear spoiler. The shape evolved through many hours of race track, proving ground, and wind tunnel testing, as well as CAE* and CFD* development. It is specifically suited for race track use, with an optimized and efficient ratio of downforce to drag.

The spoiler is constructed using carbon-fiber-sandwiching structural foam, with outboard footers made of aluminum. Craftsmanship and manufacturing detail give it the look of a one-piece design.

Due to its high strength-to-weight ratio, the spoiler does not require a center support. Even at high speeds, there is minimal deflection and flutter on the critical surfaces.

