



FORD **PERFORMANCE**

2017 **SHELBY GT 350**





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#### A VERY SPECIAL MUSTANG

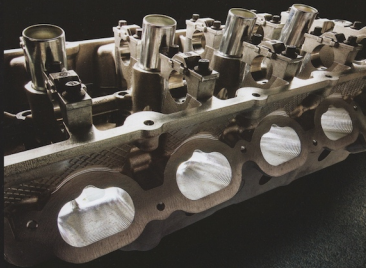
This world-class performance vehicle was created with a far different kind of performance compared with the 2014 Shelby GT500. That car was all about ultra-high power output and straight-line speed ... just like the original 1967 Shelby GT500.

Carroll Shelby created his original 1965 GT350 to achieve ultra-quick lap times on road courses – exactly what the men and women at Ford Performance did with this new GT350. It is the most dynamically athletic production Mustang yet.

The Ford engineers took an innovative, no-compromise approach. They evaluated the performance and function of every system, component and shape, then designed and optimized all the parts to work in balanced harmony, and to reduce weight wherever possible. They also pushed the envelope with cutting-edge materials and technologies. The result: Driving a Shelby GT350 is the most balanced, nimble and exhilarating experience ever found in a production Mustang.

#### GT350 or GT350R

The 2017 Shelby GT350 is available in two model variants – the GT350, and the GT350R. Both are highly capable race track performers, for owners who like to go out for lapping days at race tracks. The GT350R is more race-track oriented, with its lighter weight and higher-performance tires. Each model has its own set of option packages, for those who want to add more comfort and convenience amenities for everyday street driving.



"This is essentially an all-new powertrain that's unique to GT350, and it takes full advantage of the new Mustang platform's outstanding chassis dynamics. Make no mistake, the engine is an American interpretation of a V8 with flat-plane crankshaft, and it produces a distinctive, throaty howl from its four exhaust tips."

JAMAL HAMEEDI, Chief Engineer,  
Ford Global Performance Vehicles.

## POWERTRAIN

### Engine

The GT350's 5.2-liter V8 is the most powerful naturally aspirated production engine Ford has ever produced: 526 horsepower\* and 429 foot-pounds of torque. This special engine incorporates a flat-plane crankshaft developed exclusively for this car and represents the first time a production Ford V8 will use this technology.

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

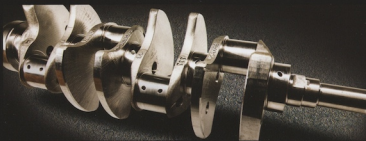
\* Achieved with 93 octane fuel.

The aluminum block's iron cylinder liners are removed, and plasma transferred wire arc (PTWA) technology 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 – a great sound that's unlike any other Mustang, or any other car, in fact.

### 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 tool'd 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 to carry a higher volume of coolant.

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

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, on a thermostat.

"This Shelby GT350 is the pinnacle of performance Mustangs today. It lays the groundwork for a story that will play out for years to come on the track and the street."

DAVE PERICAK, director, Ford Performance

## CHASSIS SYSTEMS

### Basics: High Torsional Stiffness

The GT350's refined and carefully tuned chassis systems help deliver the most balanced, nimble and exhilarating production Mustang yet. Their foundation is the new 2015 Mustang platform – the strongest yet in the history of the brand, with torsional stiffness increased by 28 percent over the previous model.

### Suspension

The unique suspension design has new, lighter and stiffer knuckles front and rear (aluminum on the front), and new wheel bearings all around. They are designed specifically for lateral stiffness for very precise steering, and also to enhance brake modulation capabilities. Springs and stabilizer bars also are designed and tuned specifically for the GT350. Due to spring compression characteristics imparted by the independent rear suspension, coils in the left and right rear springs are wound in opposite directions to ensure that the spring rates are exactly the same on both sides.



#### MagneRide

All GT350s have MagneRide dampers front and rear – the first-ever Ford application of this electronically controlled, semi-active suspension. Damping properties can be changed continuously, on the fly. The hydraulic fluid contains tiny metal particles that conduct an electric current, and adjustments in the current will magnetically change the fluid's viscosity almost instantaneously. Sensors monitor ride height, pitch, dive, and many more characteristics. A Ford-developed control module responds to an event within seven milliseconds, altering damping at individual corners to suit performance requirements.

#### Brakes

The GT350's brakes were designed and developed in-house by the Ford Performance team and are the biggest and most powerful ever installed on a production Mustang.

Front rotors are 15.5 inches in diameter and 1.4 inches thick. They are cross-drilled, and have directional vanes in place of standard rotor vanes – a very unusual feature for a production car. These vanes direct air flow through and away from the rotor much more efficiently, for more effective cooling. The rotors also are made of two pieces, with an aluminum "hat" in the center that bolts to the wheel hub, surrounded by the iron rotor. This design reduces unsprung weight, and also reduces heat transfer into the hub and bearing.



"Everything is purely functional-driven design, with the goal of improving the GT350's overall performance. We optimized the car's aero shape, then fine-tuned what was left to optimize downforce and cooling airflow. Every piece of bodywork from the windshield forward is unique to this GT350.

*CHRIS SVENSSON, Ford design director, The Americas.*

#### AERODYNAMICS AND DESIGN

The entire front of the GT350 – hood, fenders, fascia, splitter and belly pan – is specially designed to reduce drag and front-end lift. The fascia is more closely sculpted around the front of the car, and the hood is significantly lower; effectively it wraps over the engine.

All air that flows through the front fascia is managed. It flows through the powertrain coolers, and through the GT350's unique brake ducts to provide a large volume of cooling air.

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 rockers manage air flow along the lower sides of the body.

The belly pan 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. The wheel arch liners themselves are specially designed to manage airflow from the front of the car.

The GT350's aluminum front fenders are wider than the Mustang GT's to accommodate larger wheels and tires, and designed to optimize aero performance. Functional vents behind the wheels exhaust hot air that's trapped in the wheel well.

An air extractor in the aluminum hood vents hot air from around the engine, and also exhausts trapped air that creates lift and drag.

At the rear, the GT350's unique diffuser is designed to channel air into the rear axle cooler, and to manage airflow out the rear of the car to control downforce.

From the beginning, the design and development process used a coordinated approach, with the aim of harmonizing front and rear downforce to create an extremely well-balanced car.

**Shelby GT350**

This is the most nimble, dynamically athletic production Mustang yet, powered by the most powerful naturally

aspirated Ford production engine ever. The engine's flat-plane crankshaft – the first ever in a Ford V8-powered car – provides very quick throttle response, and produces the GT350's exotic exhaust snarl that's unlike anything ever heard from a Mustang.

Ford Performance engineers did extensive design and development work on the body. Their aim was efficient air flow for powertrain and brake cooling, reduced drag, reduced weight, and 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.

This car is meant for owners who want some hard-core race car in it for track days, but also want a very streetable car for everyday driving. The option packages offer higher-end equipment for comfort and convenience.

**Options****Electronics Package**

- 9-speaker audio system
- SiriusXM® radio
- SYNC® 3 – enhanced voice recognition communications and entertainment system. Includes 8" LCD touchscreen with AppLink™, 911 Assist®, and 2 smart-charging USB ports
- Dual-zone automatic temperature control
- Soft door rollover
- Turn signal mirrors
- Universal garage door opener
- Voice-activated touchscreen navigation system with SiriusXM Traffic and Travel Link®

**Convenience Package**

- Includes all Electronics Package content, plus:
- 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 seat
  - Memory recline (driver's side only)

**Stand-Alone Options**

- Painted black roof
- "Over-the-top" racing stripe
- Ruby Red Metallic Tinted Clearcoat paint
- Triple Yellow tri-coat paint

**Shelby GT350R**

If you are not concerned about creature comforts or convenience for street use; if you want to take your car to the track and try to wring out that last tenth of a second of lap time, 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.

Adding the R-Electronics Package makes the ultimate GT350 for non-racetrack use, or more comfortable track use. It's a car for serious lapping on a race track, in reasonable comfort, and also for street driving with the a good range of comfort and convenience features.

**Deleted content**

- Rear seats
- Air conditioning
- Audio system
- Auxiliary gauges
- Rear-view camera
- Floor mats
- Tire inflator and sealant kit
- SYNC® and USB port
- Auxiliary audio jack

**Options****R-Electronics Package**

- 9-speaker audio system
- AM/FM stereo, single-CD player
- SiriusXM® radio
- SYNC® 3 – enhanced voice recognition communications and entertainment system. Includes 8" LCD touchscreen with AppLink™, 911 Assist®, and 2 smart-charging USB ports
- Dual-zone automatic temperature control
- Rear view camera
- Soft door rollover
- Turn signal mirrors
- Universal garage door opener
- Auxiliary gauges
- Floor mats
- Tire inflator and sealant kit

**Stand-Alone Options**

- Painted black roof
- "Over-the-top" racing stripe
- Ruby Red Metallic Tinted Clearcoat paint
- Triple Yellow tri-coat paint

**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
- 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**

- MagnaRide 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 cross-drilled iron ring with directional cooling vents
- Brembo™ 6-piston monobloc calipers, fixed-bridge, radial mount

**Rear Brakes**

- SHW® 381 x 25.4mm rotors with aluminum center "hat" and vented, cross-drilled 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 Super Sport 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**

- 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, Weather, Track, Dragstrip
- Performance shift indicator
- Driver and steering mode control
- Unique instrument panel and gauges
- Recaro® cloth seats with Miko suede inserts, manual adjustment
- Carbon-fiber rear wing (GT350R)
- Rear seat delete (GT350R)

NOTE: CONTENT SUBJECT TO CHANGE

