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Competition Proven and Track Tuned – New SRT Viper Delivers Outstanding Braking, Ride Quality, Precise Handling and Track Capability

- New spaceframe increases torsional rigidity by 50 percent
- Standard electronic stability control and traction control provide superior street performance with no compromises to track capability
- Standard launch control maximizes straight-line acceleration
- New rear suspension geometry includes revised rear-toe link location for increased stability during high g-force maneuvers
- Wider front track increases grip and response
- Viper GTS model adds driver selectable two-mode suspension system for street or track use
- Available Track Package improves handling and precision further on the road or race track while reducing weight

November 20, 2012, Auburn Hills, Mich. - Starting with a stiffer structure that provides 50 percent more torsional rigidity, the chassis of the new 2013 SRT Viper benefits from a host of engineering refinements designed to enhance both street touring and on-track performance.

True to its racing heritage, the newest Viper is track ready for expert drivers and has deep reserves of capability for a professional racer to indulge. Nearly every chassis system including structure, brakes, suspension, steering, wheels and tires have been re-engineered, redesigned and refined to increase overall performance and shed weight while keeping a near perfect 50/50 weight distribution for the 2013 SRT Viper.

Dimensionally, the wheelbase is 98.8 inches (2,509 millimeters) while overall length is 175.7 inches (4,463 mm). Width of the 2013 SRT Viper is 76.4 inches (1,941 mm). For 2013, more than 100 pounds has been removed with numerous chassis refinements including an all-new spaceframe that benefits from the latest in high-strength steels, carbon fiber and aluminum body panels, lighter wheels and reductions in overall engine weight.

Structure

Combining the best attributes of high-strength steel, magnesium, aluminum and carbon fiber, the structure of the SRT Viper benefits from many lessons learned at the track. Included is a 100 percent boxed frame for enhanced strength and stiffness. Lightweight and easy to repair, the re-engineered frame has become a far better platform that greatly improves performance to achieve status as a world-class sports car.

“The design and engineering development for the SRT Viper extends far beyond the normal cycles of most sports cars,” said Russ Ruedisueli, Vehicle Line Executive – SRT Viper. “All SRT production vehicles, including the new Viper, must pass the rigorous torture of a 24-hour endurance test that simulates racing conditions.”

Advanced high-strength, structural-steel members are used strategically throughout the new re-engineered frame of the 2013 SRT Viper. To help reduce overall weight, areas of the frame have been refined to take advantage of new materials to reduce thickness in some areas, reshape components for structural rigidity in others and the extensive use of alloys including aluminum, magnesium and composites provide the necessary strength throughout the entire chassis with particular attention to the mounting points for the lightweight front-and rear-suspension systems.

While much of the technology applied to the spaceframe construction is hidden under the carbon fiber and aluminum body panels, a new addition to the structure is visible by simply lifting the hood.

Using lessons learned from the racetrack, a new structural x-brace ties the four corners of the engine compartment together and contributes to the 50-percent increase in torsional rigidity and stiffness. Borrowed directly from Viper GTS-R and Competition Coupe race models, the aluminum brace helps bring more enhanced steering response and uniform stiffness across the entire vehicle.

A new aluminum impact beam at the front of the 2013 SRT Viper also contributes to overall mass savings and improved weight distribution, while providing excellent crashworthiness characteristics.

To provide the near optimal weight distribution, the SRT Viper continues with its mid-front engine layout that has the engine set back fully behind the centerline of the front wheels. The engine also is offset slightly to the right, which contributes to more area in the driver foot well for ideal placement of the throttle, brake and clutch pedals. More importantly, the offset helps cross-car weight distribution with the driver, increasing track performance.

Another example of combining advanced engineering with lightweight materials and thousands of hours of track testing is found in the front cross section. Exceptional front cowl strength is achieved with a cast-magnesium and machined front-dash structure that stretches across the full width of the vehicle.

Throughout the vehicle, structural integrity is greatly improved with a particular focus on suspension pickup points that allowed SRT dynamic engineers to better tune the damper. Improvements in strength were achieved while reducing mass of the Viper, on average, by more than 100 pounds. Taking advantage of the latest advancements in materials engineering, SRT body engineers were able to achieve the provocative body shapes and effectively reduce mass with the use of lightweight materials including composites and super-formed aluminum. The roof, hood and hatch are constructed of high strength carbon fiber while the entire door structure and panels are lightweight aluminum.

Front and rear suspension

With a front track widened from 61.7 inches to 62.4 inches for 2013, the fully independent front suspension features cast-aluminum unequal-length upper and lower A arms that help reduce unsprung mass and enhance handling and dynamic wheel control. For 2013, the suspension has been thoroughly retuned with new Bilstein aluminum-body shocks, spring rates and hollow front- and rear-stabilizer bars.

The rear suspension includes cast-aluminum, unequal-length, upper and lower A arms, toe-control links and coil springs. Rear track is 61 inches (1,550 mm).

On SRT Viper GTS models, gas-charged, monotube Bilstein Damptronic Select, aluminum-bodied shock absorbers equipped with large 46 mm pistons are new for 2013. The new two-mode shocks feature both street and track settings. Shock damping is driver selectable through a two-position switch located on the console within easy reach for the driver. Valving in track mode is optimized for track use to extract maximum grip from the tires.

In street mode, the shocks are designed to provide a compliant ride on the various types of pavement and road conditions, while still providing damping levels appropriate for the extreme capabilities of the SRT Viper GTS.

Spring rates on the Viper model's passive-shock package have decreased 5 percent, while spring rates on the Viper GTS model's Damptronic Package have increased 5 percent for a 10 percent difference between the two packages.

Both front- and rear-stabilizer bars are hollow for weight savings and are 27 mm in diameter. The rear suspension has been re-engineered with the relocation of the rear-suspension toe-link from behind the rear-axle centerline to the front of the rear axle. Additionally, the inner pivot of the link uses a tuned bushing to manage rear-toe compliance with respect to lateral load.

Brakes

Stopping performance for 2013 SRT Viper models is engineered to provide shorter stopping distances, better modulation, balanced brake performance without fading under extreme conditions and durability.

Four-piston Brembo brakes with fixed-aluminum calipers are used up front and at the rear. Vented rotors with a diameter of 355 mm by 32 mm are used at all four corners. Pistons are 44 mm/40 mm, opposed, and brake calipers are forged and weight optimized by fully machining all surfaces. The calipers are among the stiffest available with distortion from heat nearly eliminated even under the most demanding braking conditions.

Total swept area of the brake system is 603 square inches spread over all four corners.

The SRT Viper also features a new master cylinder and power-brake booster for 2013.

Braking performance for the 2013 SRT Viper is 106 feet from 60-0 mph.

Traction control and electronic multistage stability control

For the first time, the SRT Viper models will include both electronic stability control (ESC) and traction control systems.

The Viper GTS model features a four-mode ESC system that includes speed sensors located at each wheel along with yaw, lateral g-force and steering-wheel angle sensors. The system is tuned to be fully track capable in all modes, including "Full On." Two graduated levels of stability and traction control are available in addition to "Full Off." This allows the driver to progressively reduce the amount of assist, as driver experience, skills and confidence are gained.

With the system in Full On, drivers receive the maximum benefits of both the traction control system and stability control without unnecessary intrusion and the full cornering capability of the vehicle is realized. Sport mode allows more longitudinal and lateral slip before the traction control and stability control system are engaged.

For competition, the Track mode has no traction control, while the higher limits of Sport mode stability control are maintained. In Full Off mode, both the traction control and stability control are disabled with the anti-lock braking system (ABS) remaining active. A steering-wheel mounted button enables the driver to select the optimal mode depending on road conditions or preference. A telltale graphic in the instrument cluster advises the driver which setting is activated in the ESC system.

Launch control

To help maximize straight-line performance in track conditions, all SRT Viper models will include launch control as standard equipment.

Operational in any ESC mode, the system is engaged by a button on the steering wheel. When the vehicle is at a complete stop, the driver engages the system and then quickly applies full throttle. Launch control holds the engine at optimal launch rpm and waits for the driver to release the clutch. Launch control then uses engine throttle only to achieve controlled wheel slip for maximum acceleration through first gear.

Wheels and tires

Wheel sizes and tire footprint are increased for the 2013 SRT Viper versus the previous generation models.

Wheel sizes are 18 inches by 10.5 inches up front and 19 inches by 13 inches in the rear. The new wheels also provide a substantial weight savings of more than 16 pounds and help reduce unsprung mass for better performance.

The five-spoke, forged-aluminum "Rattler" wheel design on the 2013 Viper model is available with fully polished (standard), fully painted Hyper Black or fully painted Matte Black finishes.

The Viper GTS has a split six-spoke forged-aluminum "Venom" wheel design with three available finishes including polished face with graphite-painted pockets (standard), fully painted Hyper Black or fully painted Matte Black.

Specially formulated, Pirelli P-Zero, Z-rated performance compound tires are new for the SRT Viper. Up front, tires measure P295/30ZR18 and rear tires are P355/30ZR19. Final tuning of the new tires has demonstrated improved lap times and higher skid pad grip with the new tires. The new tires provide improved cool and wet weather performance

and are tuned to give the driver better road feel.

Even more track performance capability

While every SRT Viper leaves the factory floor ready to take on any on-road or on-track duties, the available Track Package further enhances its abilities by elevating at-limit performance to a higher level. Slotted two-piece lightweight rotors from StopTech replace the original equipment, while ultra-lightweight multi-spoke Sidewinder II wheels wrapped in high-performance Pirelli P Zero Corsa tires further reduce unsprung weight at all four corners. Selecting the Track Package reduces 57 pounds from the vehicle's curb weight.

Steering

Demanding drivers will notice a dramatically improved and communicative steering feel with a new steering gear for the hydraulic rack-and-pinion system. The system offers increased on-center precision, as well as refined effort gradient as cornering loads increase. Steering ratio is 16.7:1 with 2.4 turns required lock-to-lock.

Combined with a foundation that starts with a new, stiffer frame that provides 50 percent more torsional rigidity, new shock absorbers, sway bars, Pirelli tires, steering gear and stability control, the all-new 2013 SRT Viper delivers precise road manners and exceptional track performance by inspiring new levels of confidence behind the wheel for non-professional drivers, while increasing Viper's extreme capabilities for owners who take their car to the racetrack.

About SRT

The Chrysler Group's Street and Racing Technology (SRT) brand uses a successful product development formula featuring five proven hallmarks: awe-inspiring powertrains; outstanding ride, handling and capability; benchmark braking; aggressive and functional exteriors and race-inspired and high-performance interiors to remain true to its performance roots.

The SRT lineup in the 2013 model year features five vehicles that are world-class performance contenders and bring the latest in safety technologies and creature comforts. The Chrysler 300 SRT8, Dodge Challenger SRT8 392, Dodge Charger SRT8 and Jeep Grand Cherokee SRT8 are joined by the SRT flagship Viper and Viper GTS models, which are making their highly anticipated return to the high-performance sports car market.

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