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2018 Dodge Challenger SRT Demon Powertrain Fact Sheet

June 2, 2017, Auburn Hills, Mich. - Details about the supercharged 6.2-liter HEMI® V-8 and powertrain in the 2018 Dodge Challenger SRT Demon:

Displacement: Supercharged 6.2-liter V-8

Construction: Deep-skirt cast iron block; aluminum alloy heads with hemispherical combustion chamber

Output:

- 840 bhp (626 kW) @ 6,300 rpm; 770 lb.-ft (1,044 N•m) @ 4,500 rpm with Direct Connection Controller and unleaded 100 octane minimum fuel
- 808 bhp (603 kW) @ 6,300 rpm; 717 lb.-ft (972 N•m) @ 4,500 rpm with Premium 91 octane fuel

Production site: Saltillo Engine Plant, Ramos Arizpe, Mexico

- 62 percent new content compared with Hellcat V-8: engine block; crankshaft; pistons; connecting rods; supercharger
- Cylinder heads machined on dedicated Demon/Hellcat CNC machines
- Engine block is deck plate honed to minimize bore distortion
- Every Demon and Hellcat engine is dyno tested for 42 minutes under load up to 5,200 rpm before being shipped to assembly plant in Brampton, Ontario

More air: Largest functional hood scoop opening (45.2 square inches) and triple-inlet air box (903.1 cubic inches). High flow, low restriction inlet system designed to deliver cool air into the supercharger.

Air-flow rate: 1,150 cubic feet per minute

SRT Power Chiller™: Redirects air conditioning refrigerant from cabin to chiller unit; reduces charge air temperature by 18 degrees Fahrenheit

Supercharger:

- Twin screw, 2.7 liters per revolution
- Rotors 1.1 inches longer compared with Hellcat
- Maximum boost pressure 14.5 psi compared with 11.6 psi for Hellcat
- Dual water/air heat exchangers integrated into supercharger housing
- Electric pump flows up to 11.9 gallons per minute

Engine internals:

- Forged alloy steel crankshaft with 90.9-millimeter stroke and revised balancing
- Induction-hardened crank bearing surfaces; individual journal optimized main bearing clearances
- Forged high-strength alloy pistons; 30-micron increased piston to bore clearance
- Powder forged connecting rods; upgraded shank and big end; revised ultra-high tensile fasteners
- Flow doubled on piston cooling oil jets
- Revised design valve springs
- 33 percent increase in oiling for valve springs and rocker tips – lubrication and cooling
- Single-groove collets on valve stems for improved stability
- Fuel injector pressure increased 27 percent

- Oil pan and windage tray optimized for high acceleration – tested up to 1.8 g

Transmission: TorqueFlite 8HP90 eight-speed automatic

- Upgraded automatic transmission torque converter increases torque multiplication 18 percent
- Torque converter stall speed increased 11 percent
- In Drag Mode, transmission minimizes torque cut during gear changes – 400 millisecond shifts

Drivetrain:

- Limited-slip differential
- 230-millimeter ring gear in high strength alloy, heat-treated aluminum differential housing
- 3.09 final drive ratio for maximum acceleration
- 20-percent thicker prop shaft made of high strength, low alloy steel tube; high strength steel stub shafts
- Upgraded halfshafts with 8-ball Cross-Glide inner and outer joints; larger diameter barshafts with 41-spline count; high alloy steel inner and outer stub shafts
- Nitto drag radial tires achieve up to 40 percent more launch force

Fun facts:

- During a quarter-mile run, the Demon V-8 ingests 173 cubic feet of air. That's equivalent to the lung capacity of 816 humans.
- 800 feet into a quarter-mile run, the Demon V-8 would empty all the air in the cabin of the Dodge Challenger SRT Demon – 105 cubic feet
- Demon V-8 cooling system rejects 258 kW of heat at rated power – that would boil 1 quart of water at room temperature in 1.2 seconds. The heat rejected is equal to 250 electric toasters.
- At rated power, high-octane fuel flows at 1.36 gallons per minute. Typical shower head flows at 2 gallons per minute
- On each power stroke, piston and connecting rod is loaded with 11 tons of force – equivalent of 5 2018 Dodge Challenger SRT Demons. This happens more than 50 times a second @ 6,300 rpm.
- Torque Reserve and TransBrake combined generate 317 lb.-ft. of incremental torque, for total launch torque of 534 lb.-ft.
- The driveline sees 11,164 lb.-ft. of ring gear torque at launch. Results in a 1.8 g launch.
- More than 1 ton (2,500 pounds) transferred from front to rear wheels at launch

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For more than 100 years, the Dodge brand has carried on the spirit of brothers John and Horace Dodge. Their influence continues today as Dodge shifts into high gear with muscle cars and SUVs that deliver unrivaled performance in each of the segments where they compete.

Dodge drives forward as a pure performance brand, offering SRT versions of every model across the lineup. For the 2022 model year, Dodge delivers the drag-strip dominating 807-horsepower Dodge Challenger SRT Super Stock, the 797-horsepower Dodge Charger SRT Redeye, the most powerful and fastest mass-produced sedan in the world, and the Dodge Durango SRT 392, America's fastest, most powerful and most capable three-row SUV. Combined, these three muscle cars make Dodge the industry's most powerful brand, offering more horsepower than any other American brand across its entire lineup.

In 2020, Dodge was named the "#1 Brand in Initial Quality," making it the first domestic brand ever to rank No. 1 in the J.D. Power [Initial Quality Study](#) (IQS). In 2021, the Dodge brand ranked No. 1 in the J.D. Power [APEAL Study](#) (mass market), making it the only domestic brand ever to do so two years in a row.

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