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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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The next-generation Dodge Charger electrifies a legend, with the Charger retaining its title as the world's quickest and most powerful muscle car led by the all-new, all-electric 2024 Dodge Charger Daytona Scat Pack. The all-new Dodge Charger will also offer performance choices via multi-energy powertrain options including the 550-horsepower Dodge Charger SIXPACK H.O., powered by the 3.0L Twin Turbo Hurricane High Output engine.

Dodge also keeps its foot on the gas as a pure performance brand with the 710-horsepower Dodge Durango SRT Hellcat, the most powerful SUV ever, and best-in-class standard performance in the compact utility vehicle segment with the Dodge Hornet.

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