



MEDIA INFORMATION

All-New Chevrolet Cruze: Bringing Design Appeal and Quality Focus to Value Segment

- Compact sedan introduces new global design language
- 'Four-door coupé' styling with planted, close-to-the-ground stance
- Upscale fit and finish quality
- High level crash safety ratings expected
- Harmonious, flowing interior with 'dual cockpit' look
- Class-leading rear passenger space
- 1.6/1.8-liter gasoline engines with full variable valve timing
- 2.0-liter turbo diesel offers 5.6 L/100 km over combined cycle
- Suspension developed to suit European tastes

The all-new Chevrolet Cruze sedan raises the bar for design appeal, build quality and running refinement in Europe's compact value segment.

Backed by an anticipated high level EuroNCAP crash safety rating and an all-new powertrain line-up, Cruze also heralds the introduction of a new global design language for the Chevrolet brand.

"Chevrolet has always stood for value and Cruze delivers on that promise like never before," says Wayne Brannon, GM Europe Vice President, Chevrolet. "It redefines value with its design, quality, materials and great style inside and out."

Developed to satisfy European tastes in design and chassis performance, Cruze goes on sale in March and will spearhead the launch of a series of new products that share its design and quality standards. Quite simply, Chevrolet believes the introduction of Cruze has 'moved the goalposts' for products seeking to compete successfully in its segment.

Exterior Design

The multi-national design team, based in Korea with input from colleagues in Germany, the United States and Australia, were tasked with delivering an all-new compact, notchback sedan that will re-energize the Chevrolet brand.

"Our goal was to be revolutionary, not evolutionary," says Taewan Kim, Vice President of the GM DAT Design Center in Korea. Inside and out, the team has developed a new global design language for the Chevrolet brand, introducing fresh visual elements while leveraging the potential to express traditional, Chevy signature design cues in new ways.

An arching roofline, extending from the steeply raked windshield into the slim rear pillars, is the defining exterior feature of Cruze. Combined with a relatively short rear deck, it brings four-door coupé-like looks to this market segment for the first time.

Wider and longer than its predecessor, Cruze has a well-planted, close-to-the-ground stance with its wheels located at the outer edges of the tautly drawn bodywork. A distinctive concave shoulder line flows along the sides of the car into the rear deck lid and is set to become a new signature Chevy design feature. The upscale visual appearance is also reinforced by clean, uncluttered bodywork free from moldings or trim.

The signature dual-port grille carries Chevy's gold bowtie with a new air of self-confidence. It is flanked by distinctive headlamp housings, with 'jewel-effect' detailing, that sweep up, arrow-like, to a point in the front fenders. Neat rear styling includes flush-mounted tail light clusters, each molded with two circular shapes, echoing a traditional Chevy twin light styling motif.

The svelte looks are backed by a competitive 0.31 co-efficient of drag and a build quality with attention to detail typical of products costing far more. A best-in-class fit and finish for panel gaps and shut-lines contribute to the quality, 'hewn from solid' appearance.

"This is a car with a strong, upscale character and a great stance," adds Taewan Kim. "We think it will stand out among its competitors."

Interior Design and Features

Conveying a sporty yet warm ambience, the five-seater cabin is typified by harmonious, flowing lines and the application of grained, soft-touch materials. It is a high quality execution that transcends the compact value segment.

Class-leading features include the flush fit of panels, with exceptionally tight gap tolerances, and generous rear passenger leg, head and shoulder room, despite Cruze's signature sloping roofline.

The core interior design theme is a modern expression of a traditional Chevy styling cue – the signature 'twin cockpit' layout of the Corvette, a motif designed to bring driver and passenger closer to a 'shared' experience. On each side of the main fascia, there is a choice of colored fabric or grained vinyl panels, which are complemented by matching inserts in the seats and door trims.

The center point for the 'dual cockpit' symmetry is a neatly integrated center stack, housing the infotainment and air conditioning displays and controls. It is mounted at a shallow angle and has a flowing, free form which eliminates straight lines and the traditional 'picture framing' of panels.

Three-dimensional math modeling was used in the design of the main instrument cluster. The analogue dials are backlit by LED for clear, crisp illumination in white and ice blue.

Compared to the seats of its predecessor, the main improvements for Cruze are the use of a wire mesh construction to distribute weight more evenly, a firmer foam filling and deeper bolstering for the cushions and seat-backs, front and rear.

The fabric upholstery includes high quality French seam stitching that provides excellent durability and eliminates the possibility of a 'stretched-seam' appearance over time. Leather upholstery, with heated front seats, is an option for the top LT specification.

The range of fore/aft adjustment for the front seats has been extended by approximately 50 mm, giving the longest travel in the value compact segment.

Manually-controlled air conditioning is an option for base and standard with LS variants, while dual-zone automatic climate control is standard with LT specification. A particulate and odor filtration system that cleans the air entering the cabin is standard throughout the range, as is a heated rear screen.

An AM/FM/CD audio system, with RDS digital signaling, an MP3 playback facility and two-color graphic display, is standard for base and LS variants. The LT system adds an in-dash, six-CD auto-changer and a USB socket for an iPod in the center console. A DVD-based Navigation system is offered in all specifications and includes a 7-inch color map display, a segment 'first' for Chevrolet.

Structure and Safety Systems

Cruze's body structure is among the stiffest in its class, with a torsional rigidity 140% greater than that of its predecessor. This tight, strong structure is key to suppressing noise, vibration and harshness (NVH), as well as securing a good crash safety performance and optimal ride and handling properties.

The car has been co-operatively engineered at GM facilities in Germany, the United States, Australia and Korea. "In key areas, such the body structure, suspension, safety and electrical systems, we have drawn on GM 'best practices' around the world," says Peter Mertens, GM Global Vehicle Line Executive for compact cars.

The core structure is a unitary construction fabricated from steel beams, pressings and box sections, with an overall torsional rigidity of 17.66 KNm/degree of deflection. About 65% of the structure is composed of high-strength steels (HSS), approximately 50% more than in its predecessor. About 30% more spot welds are also used throughout the structure.

Efficient load paths provide maximum occupant protection in the event of an impact from virtually any direction. Full-length beams and enhancements to the sills, B-pillars and A-pillars, through the use of high-strength steels and tailored blank processing, all contribute to the vehicle's excellent crashworthiness.

The energy absorbing front and rear crumple zones are designed to deform as efficiently as possible in order to maintain the integrity of the passenger compartment, which is protected by a safety cage reinforced with tubular-section members that frame the door openings and support the roof. The combination of a single-piece side structure and ultra-high strength steel door beams also provides effective side impact protection.

At low speeds up to 4 km/h, the front and rear bumper skins are designed to absorb light impact energy, helping to minimize bodywork damage.

Apart from minimizing noise and vibration, a stiff structure also makes it easier to isolate residual powertrain, road and wind noise for even quieter cabin comfort. Cruze has achieved interior acoustic and wind noise ratings that are both among best-in-class for compact sedans in the value segment.

Three-point seatbelts are fitted for all five seating positions. Driver and passenger front airbags, side curtain roof rail airbags, front seat-mounted side airbags, and a collapsible

pedal assembly are all fitted as standard. Active safety measures include the anti-lock braking (ABS), traction control (TCS) and optional Electronic Stability Control (ESC).

Powertrain

The all-new gasoline and diesel line-up comprises 1.6 and 1.8-liter, all-aluminum, gasoline engines, and a 2.0-liter turbo diesel unit with 16 valves.

Both gasoline engines feature variable valve timing on both the inlet and exhaust sides. The 1.6-liter engine develops 113 hp/83 kW maximum power at 6,400 rpm and peak torque of 153 Nm at 4,200 rpm.

The 1.8-liter version offers even more responsive performance, with 141 hp/104 kW at 6,200 rpm and peak torque of 176 Nm at 3,800 rpm, including 85% from just 2,000 rpm right up to 6,300 rpm. In terms of power output-per-liter, this engine is among the most efficient on the market.

With manual transmissions, these engines deliver zero to 100 km/h acceleration in 12.5 and 10.0 seconds, respectively, and fuel consumption over the combined cycle of 6.7 and 6.8 L/100 km.

The new, 16-valve, 2.0-liter turbo diesel, developing 150 hp/110 kW, adds power with even greater frugality. Impressive fuel economy – 5.6 L/100 km over the combined cycle – offers a potential driving range of over 1,000 km. It is fitted as standard with a maintenance-free exhaust particulate filter.

The common rail, multiple injection design includes variable geometry turbocharging (VGT). With strong torque of 320 Nm from just 2,000 rpm, this engine enables zero to 100 km/h acceleration in 10.0 seconds, and even more impressive in-gear performance, with 80-120 km/h in fifth gear in 12.5 seconds. It will be joined later in the year by a 125 hp/92 kW version.

The 1.6-liter engine is fitted as standard for base and LS variants, while the 1.8-liter is standard for LT and optional for LS. Both are available with a five-speed manual gearbox or a new six-speed automatic transmission, a segment 'first' for Chevrolet.

The 2.0-liter turbo diesel is fitted to LT variants only and the 125 hp/92 kW version will be offered for base and LS. Both these engines are available only with manual transmission.

For all engine applications, a universal front sub-frame, carrying the engine and transmission, is bolted in position via four rubber bushings. This 'isolated' mounting helps reduce the transmission of engine vibration and road noise into the cabin.

Suspension, Brakes, Steering

Cruze's suspension, braking and steering systems have been developed on European roads to meet European driving tastes. Striking a balance between agility and ride comfort, Cruze offers the driver a high degree of 'connectedness' while also delivering a relaxed and refined ride character.

Compared to its predecessor, Cruze benefits from a wider 'footprint' that contributes to more stable handling. The front track is increased to 1,544 mm (up by 64 mm) and the rear track to 1,558 mm (up 78 mm), while the 2,685 mm wheelbase is 85 mm longer. The proportionately greater increases in track enable an inherently better road-holding capability.

Front suspension is by McPherson strut, with side-load compensation to reduce sliding friction. The front sub-frame provides a firm location for the inboard mounting of the lower A-arms. Hydraulic bushings – a feature commonly found on more expensive vehicles – are used to give a higher degree of ride isolation and a more controlled absorption of road input loads.

At the rear, an advanced, compound crank (torsion beam) layout is used. Apart from enabling consistent wheel camber control, this suspension system offers savings in space and weight that are valuable for a compact segment vehicle.

The beam, double-walled and U-shaped in profile, is attached to trailing links through a patented, 'magnetic-arc' welding process. This production technology allows the beam's thickness and attachment angles to be varied according to different engine and vehicle weights, facilitating the fine tuning of roll-rate and roll-steer characteristics.

Disc brakes, ventilated at the front and solid at the rear, are fitted all round.

An all-wheel, anti-lock braking system (ABS), traction control (TCS) and Electronic Brake force Distribution (EBD), which controls front-to-rear braking effort, are fitted as standard (EU + 2 countries).

Electronic Stability Control (ESC), also standard (EU + 2 countries), uses both the ABS and TCS functions to gently counteract over-exuberance or misjudgments by the driver. It is also useful in helping the driver keep control during an emergency avoidance maneuver.

The rack-and-pinion steering is hydraulically power-assisted and fast-acting, with less than three turns of the wheel required lock-to-lock.

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