

2016 NX 200t Compact Luxury Utility Gets a Boost From Turbocharged Gas Engine

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Lexus developed its first turbocharged gas engine, a 2.0-liter four-cylinder, in house. By pairing this new turbocharged engine with an all-new compact luxury utility vehicle, the NX 200t, Lexus injected more fun into the luxury utility vehicle lineup for 2016 model year. Now, the NX is quickly becoming a favorite Lexus model with its smooth handling, bold styling, and surprising attention to detail.

Giving consumers more choices, the NX is also available as a hybrid model, NX 300h. The NX 200t is available in both front-wheel drive and all-wheel drive, with F SPORT available for both.

The F SPORT badge on a Lexus tells you to expect a special driving experience. That's certainly the modus operandi of the NX F SPORT, which looks a bit sinister with its more aggressive grille and front lower bumper. Special wheels, black exterior mirrors and exclusive interior trim and front sport seats round out the package.

The NX 200t carries over into 2016 model year with exterior color changes and additional connectivity. New exterior colors include Autumn Shimmer and Blue Vortex Metallic, and for F SPORT Ultra White. Drivers can also now opt in for additional peace of mind with Lexus Enform products.

Lexus Enform Service Connect (complimentary one-year trial subscription included) allows customers to remotely view information about certain aspects of their Lexus vehicle via the MyLexusandBeyond mobile application for iOS smartphone users or LexusDrivers.com. Information includes maintenance alerts, warning light notifications and a vehicle health report. Lexus Enform Remote is also available for all NX vehicles.

NX 200t: Dynamic Torque Control AWD

The NX 200t with all-weather drive introduces Dynamic Torque Control AWD to help provide maximum traction and cornering control. The system continuously controls torque transfer between the front and rear wheels, using sensors for vehicle speed, steering angle, steering speed, throttle angle and yaw rate.

To conserve fuel, the system uses front-wheel drive during normal cruising. When required, it automatically engages AWD through an electromagnetically controlled coupling in the rear differential housing, directing up to 50 percent of available torque to the rear wheels. When the driver makes too wide of a turn, the Dynamic Torque Control AWD helps bring the vehicle back to the intended drive line.

A pre-loaded front differential (and yaw rate feedback control on AWD versions) helps ensure optimized grip, control and agility. The differential uses a plate spring between the side gear and side gear washer to add pre-load, which limits torque split between the front wheels. Under light loads, and when there is a low speed difference between the left and right wheels during cornering, the pre-loaded differential helps ensure straight-line stability and acceleration performance. At higher speeds, it operates as an open differential.

NX 200t: Turbocharged Engine

For its first-ever turbocharged gasoline engine, Lexus created the engine architecture. The 2.0-liter turbocharged port and direct-injection engine uses an advanced valve control system to switch between Atkinson cycle and Otto cycle operation to optimize performance and fuel efficiency.

To minimize turbo lag, the four-into-two exhaust manifold system pairs cylinders according to their expansion or compression stroke to reduce pumping losses and eliminate exhaust gas interference. This results in improved acceleration response and wide torque band. The turbo engine produces 235 hp at 4800-5,600 rpm with 258 lb.-ft. of torque from 1,650-4,000 rpm and up to 17psi of boost at wide open throttle. A balance shaft enhances smoothness.

The combination of direct fuel injection and additional port fuel injectors, as used on some other Lexus models, ensures ample power and crisp responsiveness at all engine speeds. Combining the cylinder head, exhaust manifold and intercooler with variable wastegate control enhances low speed torque fuel economy. Active wastegate control minimizes pumping losses by reducing backpressure during low engine load. The water-cooled intercooler, mounted directly to the engine, provides strong advantages in acceleration. A dual exhaust system reduces backpressure and noise.

The D-4S fuel injection system provides the optimum mixture to realize the highly efficient rapid combustion.

To keep the engine oil clean, the intake system creates a syphon which draws carbon vapors away from the crankcase allowing for 10,000 miles between oil changes similar to aspirated engines.

Dual Variable Valve Timing with intelligence (VVT-iW) optimizes torque throughout the engine speed range and allows the engine to start in the Otto cycle and then run in the more fuel efficient Atkinson cycle. The late intake valve closing of the Atkinson cycle reduces pumping losses and boosts fuel economy.

Six-Speed Transmission

A sequential six-speed automatic transmission networks with the turbo engine to achieve an ideal level of boost pressure for performance and fuel economy. Torque-demand control logic calculates required engine torque and maximizes it, delivering quick response and exhilarating acceleration feel with good fuel efficiency.

The NX also features G-force Artificial Intelligence (G-AI) system for more spirited driving. G-AI automatically selects the optimum gear and downshift pattern in response to G force.

Engineers benchmarked the current generation Lexus IS to optimize driving dynamics in the NX. The foundation for the vehicle's sublime blend of handling agility and ride comfort is a highly rigid body structure that makes extensive use of hot-stamped high tensile steel along with aluminum.

Construction techniques pioneered in the Lexus IS, particularly body adhesive, laser screw welding and additional spot welds, are used to strengthen panel joints. A high rigidity urethane sealant introduced in the IS model is used for the NX windshield that helps increase resistance to body flex. Aluminum is used on the hood for weight savings.

Suspension: Sport + Luxury

The Lexus NX uses MacPherson strut front suspension with high-rigidity components and low-friction moving parts. A trailing arm double wishbone rear suspension separates the coil springs and dampers to help optimize agility, control and ride comfort while also providing an unusually low floor for an SUV. Specially reinforced suspension components help to minimize the shake and shudder caused by lateral loads that change the tread width of a tire as the wheel reacts to an undulation.

Drive Mode Select

The Drive Mode Select dial on the center console lets the NX driver tailor the vehicle's responses and driving feel to suit driving conditions or just the driver's mood. The system adjusts parameters for multiple systems, including throttle response and the power steering assist curve.

The default setting is Normal. There is also ECO, for even more fuel-efficient driving, and Sport.

Design

From its dramatic spindle grille and L-themed headlights to a body that appears carved from a single chunk of metal, there will be no mistaking the Lexus NX for anything else in its class. It's a look that conveys the functionality and performance of a premium, compact performance vehicle. The crouching, muscular stance, in part a result of providing good ramp-over angles for light trail driving, is accentuated by having the highest point set back toward the rear of the roof.

Exterior

The concept of making a vehicle look as if it was styled from a single piece of metal is a long-held image in the auto industry. The NX design team used the die of the spindle grille as a base over which molten steel was poured to see how the shape would naturally form. The result inspired the NX's angular, integral shape.

The NX's C-pillar is angled and wide to optimize internal storage width. Four golf club bags can be laid longitudinally across the cargo area instead of being wedged diagonally.

A sharply raked tailgate and integrated spoiler are punctuated by Lexus' signature L-shape light clusters featuring seamless LED (light emitting diode) lighting, while the tailgate detailing echoes the spindle grille design.

The eyes may be drawn to the NX, but the wind gets only a glance thanks to a drag co-efficient (Cd) of 0.34, achieved in part with an array of six underbody aero panels and a roof-mounted spoiler drawn from racing technology.

Lexus designed 17-inch and optional 18-inch alloy wheels specifically for the NX.

Lighting

Combining stirring design with pure function, the Lexus NX makes extensive use of low energy consumption LEDs for front and rear lights. Two types of LED headlights are available. The NX 200t uses LEDs for the low beams and halogen bulbs for the high beams.

Available for NX 200t, the same LED light source provides the high beam and the low beam, yielding uniform light distribution with no chromatic variation. A two-color (black and clear) molding method gives the thick-walled lens a crystal glass appearance even when not illuminated.

The high-grade daytime running lamps (DRLs) create the distinctive L-shape light, and the LED turn signals illuminate sequentially. Adaptive LED fog lights are available for NX 200t. When the turn signals are used, two of the fog light bulbs illuminate automatically to enhance illumination in the turn.

For the LED taillights, thick-wall molding technology gives the outer lens the impression of crystal glass. Reflectors provide side illumination, sourced from the rear-facing LEDs, without the need for additional LEDs.

Door Handles

The look and feel of Lexus luxury detail begins before you enter the NX. A single LED elegantly streams a welcoming beam of light along the top of the handle and also to the ground as the driver approaches the vehicle. Simultaneously, the RTI illuminates the interior.

The door handles themselves reflect the kind of luxury detail that has distinguished Lexus since its inception. There is no visible key slot, nor is there a gap between the handle and the cover. (The design allows the key to be

inserted behind the handle if necessary.)

Multifunctional Mirrors

The side mirror location enhances forward and side visibility, and a metal garnish reduces sunlight reflection. The mirrors house LED turn signal lights and visual warning lights for the optional Blind Spot Monitor (BSM) with Rear Cross Traffic Alert (RCTA).

Interior: Sports Car Design, Sport-Utility Function

Stepping into the Lexus NX will feel like stepping into a sports car. The cabin design combines structural elements with luxurious yet functional materials and textures. The center console is the undeniable focal point, framed by bold silver-colored architectural elements and featuring kneepads on both sides. Leather-wrapped metal over high contrast metallic colors provides visual depth. The NX dashboard and console continue the Lexus concept of display and operational zones.

The seats, inspired by sports car design, coddle driver and passenger as you'd expect from a Lexus.

All-season comfort and viewing pleasure are a given in a Lexus luxury utility vehicle (LUV). The NX offers available heated or heated and ventilated front seats. Standard dual-zone automatic climate control offers an available fuel-saving S-Flow mode that detects a front passenger and directs airflow only to the occupied front seat or seats.

Interior Trim: Five Choices

What happens when you infuse premium packaging with Lexus luxury? The captivating results define the NX cabin, which is offered in five variations.

The Base model, along with the Comfort and Premium packages feature perforated Crème, Flaxen or Black NuLuxe inserts with smooth bolsters and Dark Umber trim. It's a modern look that respects the brand's renown for elegance.

The F SPORT package exclusively offers perforated Black or Rioja Red NuLuxe, each accentuated by metallic trim. The F SPORT seats feature black accent strips with perforated NuLuxe inserts and smooth bolsters.

Genuine leather in Crème or Black distinguishes the Luxury package, which also trims the cabin exclusively with Linear Black Shadow Wood. Smooth bolsters accentuate the perforated main part of the seats.

Packaging

The Lexus NX is smartly packaged luxury vehicle that's got plenty of room to carry your passengers and gear – or anything else. For passenger comfort, the couple distance between the front and rear hip points is 37.9 inches, and the high-roof design provides excellent headroom.

Designers carved out maximum space with the design. For example, a luggage area width of 53 inches can accommodate four golf bags stowed sideways, rather than having to lean them against the side. Storage in four compartments beneath the cargo floor provide space for keeping valuables out of sight.

Instead of the more common pull shade-type cargo area cover, the Lexus NX features a folding tonneau board

that eliminates the gaps at each side of the deck trim, leaving a flush surface for an elegant appearance. The removable board can easily be stored under the floor panel.

In the NX, there's a place for everything throughout the cabin, including a large glove box and console box, a console mid-tray, utility box, sunglasses holder, two front and two rear cup holders and front and rear door pockets. The center cup holders are big enough for two large-sized cups and the door pocket bottle holders can each hold a 24-ounce plastic bottle.

Power Liftgate and Folding Rear Seats

Convenience and versatility abound in the Lexus NX, which offers an optional power folding 60:40 split/recline rear seat. You can lower or raise the seats individually using switches on the instrument panel, on the side of each rear seat and within the luggage compartment. The available power liftgate, which includes memory height, likewise can be operated by switches on the instrument panel, door and wireless remote.

Instrument Panel

The NX driver faces a sculptured metal-faced four-dial gauge cluster with three-dimensional speedometer and tachometer that emphasize intricate dial markings. Spin-processed faces for the main gauges and analog clock create the impression of genuine metal. Gauges in the F SPORT feature full-length illuminated needles.

In all models, a 4.2-inch Thin Film Transistor (TFT) LCD in the center of the instrument cluster provides a full-color Multi Information Display (MID). When you change drive modes using the Drive Mode Select switch, illumination in the MID changes color – red for sport mode, for example. The MID can also display phone and audio information.

Switches are grouped for sensible, intuitive use and have a premium tactile feel. Driving-related controls are found on the console, and a panel to the left of the steering wheel contains two rows of switches for other vehicle functions.

Touch Switches and RTI

The NX features touch switches in the headliner for the front dome lights and map light switches. Make light contact with the light switches, and they illuminate. Footwell lighting adds to the luxury ambience.

If you've used a smartphone or tablet, you'll feel immediately familiar with the Remote Touch Interface (RTI), which replaces the previous joystick with a touchpad in the center console. An ergonomic palm rest makes it comfortable to use. The RTI lets the driver access various functions while staying focused on the road. For zero-distraction, the front-seat passenger can also easily operate the RTI.

Lexus Wireless Charging Tray

The NX offers an available Qi wireless charging tray inside the console box. If you've got a compatible smartphone or other device, just placing it in the tray will recharge its battery. That's one less cable to carry and lose.

Premium Audio

Lexus reset expectations for premium mobile audio decades ago, and the NX melds that tradition with the needs of today's digital audio formats.

The standard Display Audio includes HD Radio™, Bluetooth® audio, automatic phone book transfer, a vehicle information display and complimentary traffic and weather data provided via HD Radio. If a favorite song comes on the radio while you're busy with something else, like waiting at a bank drive-through, use the cache radio feature to pause it for up to 15-minutes and then listen later.

The standard Lexus Premium Audio system uses an eight-channel amplifier with a Digital Signal Processor (DSP) to restore high notes lost through compression. It plays through eight speakers, or an upgrade system that adds a center dash mid/high speaker and a subwoofer mounted in the liftgate.

Multimedia

The multimedia system, accessed through a high-resolution seven-inch screen, provides a multitude of capabilities and also offers the Navigation upgrade.

The optional Navigation system can help guide you to your destination more efficiently with up to date and predictive traffic information, including detour preview, ETA calculation and low-fuel coordination with nearby fuel stations. Navigation also includes the subscription-free Lexus Enform App Suite and features 3D map views. The available Navigation also adds a second USB outlet.

Siri® Eyes Free Mode is compatible with the iPhone® 4S and iPhone 5 models forward and puts select Apple's Siri technology at your service. Siri lets you call contacts, select and play music from iTunes®, get turn-by-turn navigation through Siri and Apple maps, and much more.

Lexus Enform Helps Keeps You Connected

Lexus Enform Safety Connect is the foundation for all Lexus Enform products and includes an Emergency Assistance Button (SOS), Roadside Assistance, Automatic Collision Notification, and Stolen Vehicle Notification.

Your smartphone gets a whole lot more capable when you step into the Lexus NX. The available Navigation System comes with Lexus Enform service including Lexus Enform Destination (Destination Assist, eDestination) and Lexus Enform App Suite. Lexus Enform provides access to the subscription-free App Suite. These voice-enabled apps let you search the Internet through Destination Search, make restaurant reservations using OpenTable®, get movie tickets via MovieTickets.com™, listen to Internet radio (including Pandora®, iHeartRadio™ and Slacker), search business reviews on Yelp® and check in on Facebook Places™.

Lexus Enform Remote (subscription required) allows the owner to remotely view and control certain vehicle features using a mobile app for iOS and Android devices. Key features include remote door lock/unlock; remote start/stop for the engine and climate control; vehicle finder, guest driver monitor and more.

Lexus Enform Safety Connect, Lexus Enform Remote, and Lexus Enform Destination Services are subscription based and come with one-year trial subscriptions. Lexus Enform Safety Connect and Lexus Enform Remote are available on all models, while Lexus Enform Destination Services is available on NX models equipped with the optional Navigation system. The Lexus Enform response center operates 24 hours a day, every day.

Safety

Frontal and side collision protection measures include the use of high tensile steel up to 142,000 psi in key areas, including the center-pillar hinge reinforcement, outer rockers and roof crossmembers. In a collision, energy from

a side impact is transmitted to the floor through a structure of cross-members built into the rocker beneath the center B-pillar. The rear impact structure is designed to disperse offset collision energy to the main chassis members on both sides of the vehicle.

A comprehensive roof impact-resistance structure is designed to disperse load when the roof is impacted. The structure includes front pillar reinforcement and high strength steel reinforcements for the center pillar, as well as reinforcement around the seatbelt anchor and front header.

Lexus Whiplash-Injury Lessening front seats are fitted to all models, and the NX has energy-absorbing structures in the pillars and roof headliner. There are impact-absorbing pads in the front and rear door trim adjacent to the occupant's lumbar region.

The Lexus NX models have eight SRS airbags, including a dual stage driver's airbag and knee airbag, dual-stage and dual-chamber front passenger airbag, front side airbags and full-length side curtain airbags, and offer the available Lexus Pre-Collision Safety System (PCS).

Available Lane Departure Alert warns the driver when it determines that the vehicle is about to veer from a visibly-marked traffic lane. A camera mounted to the windshield recognizes lane markings. It sounds a warning and provides a visual representation on the Multi-Information Display screen if the vehicle is veering from its lane. The system works in rain and on roads where the lane is marked on one side only.

Intelligent High Beam uses the same windshield-mounted camera. When the driver turns the high beam on, it will switch to low beam to help prevent distracting other drivers and restore high beam when there are no vehicles ahead. The system can also dim the high beams when it detects bright streetlights. When conditions permit, the high beams will automatically resume.

Pre Collision System (PCS) uses the all-speed Adaptive Cruise Control system's millimeter-wavelength radar sensor to detect vehicles and other obstacles. A buzzer and a light help warn the driver of impending collision. The system can increase the driver's braking effort, and activate Pre-Collision Brake if the driver doesn't apply the brake. The system can also bring the NX to a full stop under certain conditions. Pre-Collision Brake deceleration works from a maximum speed of 32 mph.

NX 200t F SPORT

The NX 200t F SPORT looks like it wants to devour the road, with a grille that's even bolder than on the standard model. The L-mesh black grille integrates with a metallic coated lower bumper molding, and black side mirrors match the grille.

Exclusive wheels, cabin styling and trim and bolstered sports seats add to the F SPORT repertoire in the NX.

How much added sportiness you want in the NX 200t F SPORT ride depends on the wheels you choose. A split-five-spoke 18-inch alloy design combines black paint on the lateral edges with a luminous machine-brushed finish and features 225/60R18 all-season tires. The second design, with a dark metallic finish and high-gloss split-five-spokes, uses lower profile 235/55R18 summer tires.

Body-hugging, quilted NuLuxe seats are exclusive in the F SPORT, which offers an exclusive interior color, Rioja Red. The driver grips a perforated F SPORT steering wheel and brushed metallic gearshift. The unique instrumentation and drilled non-slip aluminum pedals and footrest were inspired by the Lexus LFA supercar. The tachometer red line is even more clearly marked in this model.

The NX 200t F SPORT also features Active Sound Control (ASC) to enhance the auditory experience. The engine note volume resonating through the cabin can be adjusted when the driver turns on ASC.

F SPORT Instrumentation

Watch how the NX 200t F SPORT is performing in real time with the Lexus-first G-Force meter “G-ball” in the Multi Information Display.

In the NX 200t F SPORT, the G-ball moves in response to the vehicle’s lateral and longitudinal forces. The MID displays the peak force in each direction. Display bars indicate the steering angle, throttle opening angle and brake pressure. The MID also provides a turbo-boost display, with the color band changing in the high boost pressure range. There are also analog displays for oil temperature and oil pressure.

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