

MY19 790 DUKE

Features and Benefits

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THE SHARPEST STREET WEAPON

KTM

HIGHLIGHTS

- » **NEW** LC8c DOHC Parallel Twin Engine—most compact in class
- » **NEW** Compact PASC Slipper Clutch for increased performance with easy clutch pull
- » **NEW** ChroMo Frame and Aluminum subframe deliver agile, precise handling
- » **NEW** LED Headlight with LED running light provides great illumination and visibility
- » One of the lightest bikes in its segment, approx: 169 kg / 372.6 lb
- » Industry Leading Rider Aids
 - Lean Angle Sensitive:
 - Motorcycle Traction Control
 - Motor Slip Regulation
 - ABS Brakes



The KTM 790 DUKE is devastatingly accurate with the agility and purity you'd expect from a single, combined with the hard-hitting punch of a twin. Boasting the all-new, compact 799cc LC8c parallel twin motor, a first for KTM, nestled into one of the lightest frames around, the new KTM 790 DUKE is the most compact twin in its class. The engine was tuned for torque, giving it fantastic rideable power while maintaining a great top end to match the sporty character of the bike. Power delivery is efficiently controlled by advanced electronics and next-generation rider aids.

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ENGINE

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» The most compact engine in its segment, the LC8c (Liquid Cooled 8 Valve compact) is KTM's first parallel twin. The engine was built for torque, to give the rider usable power from low RPM while still giving that top-end rush. It has 799 cc with a 75 degrees crankpin and a DOHC.



» Engineered to reduce weight and case size, the horizontally split crankcases (a first for KTM) are an aluminum high pressure cast. This allows for reduced wall thickness for weight optimization, and optimized surfaces allowing the engine designers more freedom in their design.



» Designed to be light for fast revving and reduced vibration, the lightweight forged pistons utilize a DLC (Diamond Like Carbon) coated piston pin that allows for a reduced piston weight and thus reduced reciprocating mass. They are connected to the crankshaft by a forged and cracked conrod in plain bearings. The cracked conrod doesn't require locating dowels, further reducing assembly weight.



» Built to be light while robust, the one-piece, forged crankshaft with plain bearings is designed to reduce rotating mass and has a 75° conrod journal position to produce engine character similar to the large V-twin LC8.

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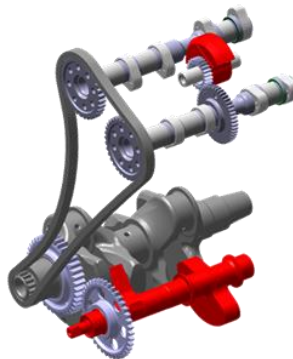
» Offering decreased rotating mass for smooth performance, The cylinder head contains twin chain driven camshafts that open the valves by DLC coated finger followers riding on the cam to reduce the size of the cam lobes, decreasing rotating mass.



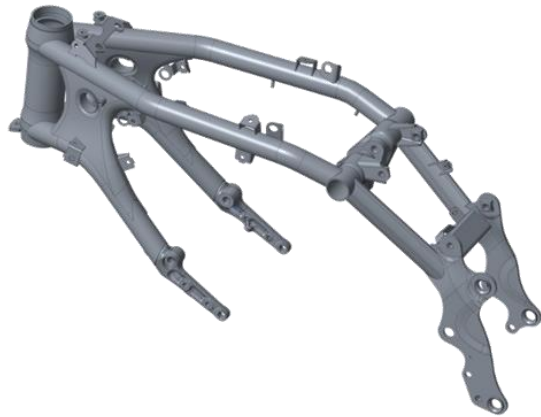
» Nikasil coated aluminum cylinders are an integral part of the sleeveless engine casing. The open deck cylinder construction allows for optimal cooling, due to the coolants ability to make full contact with the surface area of the upper portion of the cylinder, improved production tolerances and reduces the potential for cylinder warpage during production.



» The PASC (Power Assist Slipper Clutch) clutch is similar to the one in the LC8, but more compact and lighter. The clutch is pressure lubricated for improved cooling and reduced friction. Not only does the slipper clutch open when the engine back-torque becomes too high, it also assists when you open up the throttle, reducing the force required to pull the clutch in and allowing the clutch to be operated with as little as one finger.



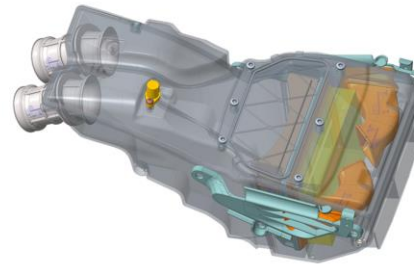
» Vibrations are taken care of by two balancer shafts, one in front of the crankshaft and the other in the cylinder head between the two camshafts. Reducing vibration is key in a design that uses the engine as a stressed member of the frame.



» The frame has been developed with a focus on weight reduction. By using Chromium Molybdenum tubular steel and the engine as load-bearing element in the frame, the amount of material needed for a strong and stiff frame is reduced. The stiffness of the frame has been tuned to make sure that the rider always feels what the bike is doing.



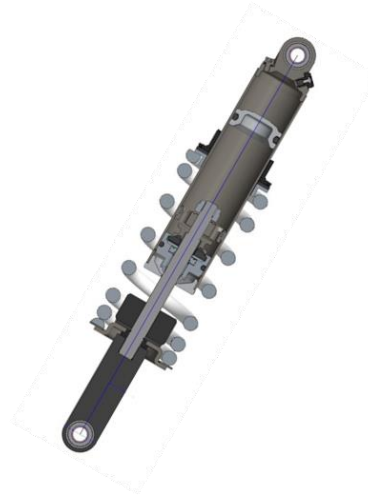
» The subframe is cast aluminum and houses the airbox. No plastic covers, no additional brackets - everything is cast in one single piece to reduce complexity and weight. The triangular shapes in the subframe were inspired by KTM's trellis subframes, as this allows for a strong and simple construction.



» The airbox sits entirely inside the sub-frame, with separate air intakes on both left and right sides, allowing fresh air to enter into the throttle body. This location also provides easy air filter maintenance.



» The 790 Duke is fitted with 43mm open cartridge upside down front forks from WP Suspension. The fork uses split function technology, with compression and rebound damping taking place in separate fork legs, allowing for better tuning of the fork behavior. Fork springs are progressive, ensuring a smooth operation throughout the fork stroke, soft for the initial stroke and harder further down the stroke to prevent bottoming out.



» To complement the high-quality WP forks fitted to the front of the 790, a gas assisted WP Suspension rear shock with progressive spring and preload adjustment was added to the rear. The shock is mounted directly to the swingarm with no linkage, reducing additional parts and weight.



» Because the road ahead is unknown, a WP steering damper is fitted as standard to offer more control in uncontrollable conditions. The steering damper has been setup to feel as natural as possible, giving the rider a secure feeling while keeping the agile riding character of the bike.



» Stopping power is guaranteed by twin 300mm floating disks, 4 piston radially mounted calipers controlled by a radial master cylinder. The brakes have been developed specifically for the 790 DUKE to provide excellent feedback while ensuring sporty deceleration.



» The ride-by-wire system on the 790 DUKE electronically translates the throttle commands of the rider into optimum throttle valve positions for the current riding situation. Choking, jolting and involuntary wheelies are a thing of the past.



» The forged aluminum triple clamp stiffness has been tuned to match the flex of the fork, contributing to the sporty handling and excellent feedback. By cleverly engineering the triple clamps and the handlebar clamps, four different handlebar positions are possible.



» The forged aluminum footrests allow a comfortable riding position, and were developed for maximum ground clearance to allow a high lean angle. Reverse (race) shifting is possible without additional parts by rotating the linkage position.



» A state-of-the-art full color TFT display offers variable configuration and automatically adapts to variations in environmental light. Changing colors in the rev counter are used to indicate when to shift. The rider can select which information is displayed on the screen. For example: trip meter, fuel range, etc. The overall objective was to achieve easy readability; the main information is arranged in a position where the rider can immediately see it.



» The 790 DUKE has a unique LED headlight, following the design direction started by the KTM 1290 SUPER DUKE R. The high performance LED headlight, flanked by two LED strips that function as daytime running (or position) lights, ensures maximum illumination and makes the bike stand out in traffic and in the crowd.



» With the (OPTIONAL) KTM MY RIDE a smartphone can be tethered to the bike via Bluetooth, allowing the rider to accept incoming calls and play music from the media player on their phone. All the information pops up on the bike's display and is managed with the mode switch, keeping your hands where they belong. On the handlebar.

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MOTORCYCLE TRACTION CONTROL

» The MTC lean-angle sensitive traction control system reacts immediately, if the rotational speed of the rear wheel is disproportionate to the riding situation, by reducing the engine output with an extremely smooth intervention at the throttle valves, until the system has reduced slip-page in proportion for the selected ride mode and current lean angle.

MOTOR SLIP REGULATION

» Standard MSR is an engine brake control that works in the opposite direction of the MTC. If, due to shifting down or abrupt throttle-off, the engine drag torque is too high, the ride-by-wire system balances the throttle exactly as much as is needed to ensure controlled deceleration.

CORNERING ABS

» KTM's Cornering ABS system ensures that the potential of the powerful brakes can be used at all times. When the power of the brakes, or the enthusiasm of the rider, overcomes the available grip, the system intervenes to provide maximum stopping power. The ABS can be switched off entirely or placed in the SUPERMOTO ABS mode.

QUICKSHIFTER+

» The 790 DUKE is equipped with a race-derived Quickshifter +. In addition to upshifts, downshifts may now also be performed without the need to pull the clutch lever. Engine speed is adjusted appropriately with shifting.

SUPERMOTO ABS





» Supermoto ABS mode allows the rider to disengage cornering ABS in the rear—a prerequisite for committed Supermoto riding and deliberately executed slides—while maintaining the ABS function in the front.

RIDE MODE TECHNOLOGY

» Ride modes regulate the performance output and the 'character' of the motorcycle according to riders' preference. They include sport, street, rain and track.

RIDE MODES

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RIDE MODE	THROTTLE RESPONSE	TRACTION CONTROL	POWER	ANTI-WHEELIE
 RAIN	SMOOTH	MAXIMUM	REDUCED	ON
 STREET	STANDARD	NORMAL	FULL	ON
 SPORT	DIRECT – ALMOST 1:1	REDUCED	FULL	ON
 TRACK	<ul style="list-style-type: none">• TRACK (QUICK ACTION)• SPORT• STREET	9-LEVEL ADJUSTABLE	FULL	ON or OFF

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TRACK MODE

» Launch control



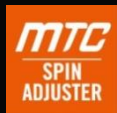
» Anti-Wheelie off



» Throttle response selection



» 9-STAGE MTC spin adjuster



SPORT



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