

## 2024 KTM ENDURO RANGE

The KTM Enduro has been challenging limits for over 30 years.

Since its introduction in 1992, the KTM Enduro range has been revolutionizing the offroad playground. With the introduction of KTM's signature linkless PDS design in 1998, along with the hydraulic clutch in 1999, and Transfer Port Injection in 2018, the race to be at the cutting edge has been never-ending.

For 2024, the KTM Enduro line-up has undergone another complete refresh, bringing new technologies and intense R&D input to the dealership floor.

### THE MOST RADICAL ENDURO UPDATE YET

With over three decades of racing experience and more than 126 World Enduro titles in the trophy cabinet, KTM has remained the weapon of choice when it comes to taking on the world's toughest races.

For the 2024 model year, the whole lineup continues to raise the bar in the areas of performance, development, and innovation. These changes have come directly from learnings at the highest level of Enduro competition, with racer input being at the forefront.

### CHASSIS

#### FRAME

The hydro-formed, laser-cut, and robot-welded frame has undergone major updates to improve overall dynamics, anti-squat behavior, and overall stability. Designed and constructed with specifically calculated parameters of longitudinal and torsional flex, the new frame provides exceptional rider feedback, energy absorption, and straight-line stability. This comes from specifically repositioned rotating masses in the frame and the forged steering head connection, together with an all-new shock mount, which is no longer connected to the main frame tube.

Thicker frame walls also contribute to improved reliability and specific rigidity in high-stress areas such as the steering head and the shock mounts, while new parallel frame mounts across the 2024 2-stroke range further improve flex characteristics.

As a result of the new frame geometry, the footrest mounts have moved inwards, making for an overall slimmer profile. This makes the footpegs less susceptible to hooking in deep ruts or narrow tracks. However, the overall size of the footrests has increased – designed with the help of state-of-the-art finite element analysis (FEA) – for dramatically improved comfort and control when standing on the pegs.

The 2024 models will also feature hard-wearing black powder-coating on the frame, along with new frame protectors featuring an improved grip texture, guaranteeing superior protection, durability, and grip along with a new forged one-piece side stand.

## FRAME FEATURES

- Specifically engineered longitudinal rigidity provides exceptional rider feedback, energy absorption, and stability.
- Repositioning of rotating masses in the frame and forged steering head connection.
- Topology-optimized frame wall thickness for specific rigidity and improved reliability in high-stress areas.
- New shock mount, significantly improving anti-squat behavior.
- New parallel frame mounts for improved flex characteristics on 2-stroke models.
- Footrest mounts are moved inwards for less risk of hooking in deep ruts or when scrubbing.
- Durable finish with standard frame protectors, featuring a new KTM-specific texture.
- Forged one-piece side stand gives the KTM Enduro range the ultimate parking stability.

## POLYAMIDE-REINFORCED ALUMINUM SUBFRAME

Weighing in at only 4 lb (1.815 kg), the new 2-piece polyamide-reinforced aluminum subframe provides impressive weight savings. With the help of computational dynamics, carefully calculated rigidity was engineered into the subframe, delivering outstanding handling and feedback. The lower subframe supports and frame mounts are made from cast aluminum, guaranteeing lightness, robustness, and reliability while the upper subframe is made from an injection-molded polyamide, allowing for specific flex characteristics.

This design has also made the subframe remarkably robust, with the subframe more likely to flex and bend back into shape in the event of an accident. All electronic components, including an all-new Offroad Control Unit (OCU), are also fully integrated into the subframe, keeping them safe, dry, and out of the way.

## SWINGARM

A new hollow, die-cast aluminum swingarm is designed to offer optimal stiffness and reliability at the lowest possible weight. The topology has been optimized for rigidity, while an improved casting process reduces weight by approximately 190 g. A new 22 mm rear axle has also been fitted to match the new flex characteristics of the chassis.

A new chain guard and chain sliders have been added, resulting in improved durability and less chance of hooking on boots or external objects, as well as reducing dirt build-up around the swingarm and chain guard.

Chain adjustment markings are now also visible from above to allow for quick and easy chain adjustment.

### **TRIPLE CLAMPS AND HANDLEBARS**

Race-proven, high-grade forged triple clamps feature a “more forgiving” high-flex steering stem which brings more shock absorption and flex to the rider. This revised design and optimized stiffness require a higher tightening torque of the mounting screws, with the upper triple clamp being tightened to 20 Nm, and the lower triple clamp to 15 Nm.

These are paired with new topology-optimized bar mounts that provide increased surface area grip to new, black, tapered NEKEN aluminum handlebars. Featuring the same proprietary KTM bend as found on the latest KTM SX models, the handlebar delivers optimal rider feel and control. A larger, newly designed KTM branded bar pad, featuring the same design patterns as seen on the frame protectors and tank spoilers, provide increased impact resistance and protection.

On the dual-sport KTM EXC-F models, an all-new steering lock system now clamps under the upper triple clamp for a clean look and perfect functionality.

### **SUSPENSION**

#### **WP XACT CLOSED CARTRIDGE FRONT FORK**

An all-new 48 mm WP XACT Closed Cartridge spring fork finds its way into the 2024 KTM Enduro line-up, with a new mid-valve piston concept. This optimizes the oil flow within the cartridge for fast, consistent damping characteristics and avoids any unwanted foaming of fork oil that can lead to an unwanted change in the damping characteristics.

A new hydro stop in the last 68 mm of the stroke also helps to keep maximum compression in reserve when tackling extreme obstacles like steep drop-offs or jumps in special Enduro stages. The fork protection rings have been updated, too, with a new design that provides increased protection against dirt intrusion.

Overall, the total fork length has increased from 928 mm to 940 mm, while the stroke has increased from 292 mm to 300 mm, with new suspension settings taken directly from learnings made in the KTM and WP R&D departments.

The new fork also features easy adjustability, with rebound and compression being adjusted via hand-adjustable clickers on the bottom of the fork leg and on top of the fork top cap. This allows riders to change settings on the fly without the need for any special tool and makes for quick and easy adjustments between laps, or while refueling in the pits.

## ADJUSTABLE WP XPLOR PDS REAR SHOCK

The Progressive Damping System remains an exclusive signature element for KTM and sees an all-new design of the WP XPLOR PDS shock.

More compact, with an overall length decreased to 402.7 mm, compared to 415 mm in the previous generation, the stroke has decreased from 105 mm to 102.7 mm, with a 380 g weight reduction.

It also features a new main piston, designed to optimize oil flow and more consistent damping characteristics. New bearing seals have also been included, which now set the benchmark when it comes to maintenance and service intervals.

The WP XPLOR PDS rear shock now also comes with adjustable hand clickers, allowing riders to change settings on the fly without the need for any tools. Compression is adjusted on top of the shock, with the rebound being adjusted on the bottom.

Preload can also be adjusted for rider weight and preference by opening the securing ring with an Allen wrench and tightening or loosening the rear shock spring accordingly.

## BODYWORK

### ERGONOMICS

The 2024 KTM Enduro range has undergone a complete refresh to improve the rider triangle for better knee contact, especially when standing on the pegs. This, along with added contact surfaces on the bodywork, improves overall handling, agility, and rider confidence.

A new flat seat profile, combined with a new orange high-grip seat cover, provides riders with exceptional control in all weather conditions, while a recessed grip pocket under the seat, just above the airbox, allows for a more secure grip when lifting the bike off paddock stands or in extreme riding terrain. This is also an integral design element that underlines the lightweight character of the 2024 Enduro range.

A newly designed front fender now incorporates mud fins, which provided exceptional results in dispelling and redirecting dirt and mud away from the rider and radiators in wet conditions.

### CTG

Taking their inspirations from the early 1990s, the designers of the 2024 KTM Enduro CTG use purple as a highlight color as a nod to when purple was a predominant hue in the KTM signature styling. However, orange still dominates the overall look and is applied using time-proven in-mold technology for extreme durability.

### TANK

New transparent, polythene (XPE) fuel tank (2.24-gallon/8.5-liter 4-stroke and 2.37-gallon/9-liter 2-stroke) incorporates a threaded filler cap and an integrated fuel pump on the 4-stroke Enduro range, with the fuel pump featuring an external fuel line that is specifically positioned to make it

less exposed to damage.

A new one-piece fuel pump and filter provide an improved fuel supply allowing the tank to be emptied further at the low fuel level.

#### **AIRBOX**

Thanks to precisely positioned inlet ducts aimed at preventing air deformation, the 2024 airbox design ensures maximum airflow and maximum filter protection at all times. As with previous years, the air filter is easily accessed, without tools, by removing the left side panel.

Easy maintenance is guaranteed by the Twin Air filter and filter cage design that features a simple fail-proof mounting system for secure and accurate filter installation.

Special attention has also been paid to sealing the airbox to avoid any water intrusion in the event of extreme river crossings, or downpours, with the inclusion of a splash protector under the airbox to repel any water or dirt splashing up from the rear wheel.

#### **LED HEADLIGHT**

From a technological standpoint, the 2024 KTM Enduro range leaps ahead of the competition with an arsenal of new tech being featured as standard, such as a completely new LED headlight unit.

This has dramatically improved lightning output by up to 300%, making riding in the dark a completely different experience and a significant advantage for any rider competing in special stages, or when returning from the trail in the twilight hours.

The headlight mask itself integrates a triple clamp protector which covers the lower triple clamp and protects it from wear received from roost, while inside the headlight, the LED lighting unit receives a new quick-release system. This has the big advantage of quick repairs in the event of any damage, without the need to replace the entire headlight assembly.

### **ELECTRONIC FEATURES**

#### **BATTERY**

Along with the benefit of an easy electric starting system, a lightweight Li-Ion 2.0 Ah battery is fitted to the 2024 range. The Li-Ion battery weighs approximately 2.2 lb (1 kg) less than a conventional lead battery meaning the convenience of electric starting is delivered while keeping overall weight to a minimum.

**NOTE:** Retrofitting of Kickstarter is no longer possible on any engine capacity.

#### **OFFROAD CONTROL UNIT**

An all-new and totally independent OCU replaces the use of electronic fuses and relays and can be found under the seat. In the event of any electrical component failure, the outputs are deactivated individually, with the error status of each unit indicated by a red or green LED light,



making for quick and easy troubleshooting on the trail, and eliminating the need to carry additional fuses.

#### **ROLL OVER SENSOR**

The inclusion of a Rollover Sensor (ROS) has been carried over from the KTM Motocross range and shuts the engine off in the event of an extreme crash. This adds another level of security to the new generation of KTM Enduro models providing a smaller and more compact unit compared to the previous generations.

#### **MAP SWITCH**

A newly developed, optional Map Select Switch finds its way onto the 2024 KTM XC-W and XCF-W range, as is designed for quick, easy operation.

On the 2-stroke XC-W range, the Map Select Switch allows riders to select between two engine maps, while on the 4-stroke KTM 450 XCF-W, it has multi-functionality, being used to toggle between engine maps, Traction Control, and Quickshifter options.

Map 1 is the standard, more mellow map for linear, predictable power, while map 2 is an aggressive map for added throttle response and a more crispy explosive power output.

#### **TRACTION CONTROL (OPTIONAL, EXCLUSIVE TO 4-STROKE XCF-W)**

Traction control is selected to an on- or off position from the switch and functions by analyzing throttle input from the rider and the rate at which RPM increases in the engine. If the RPM increases too quickly, the EMS registers a loss of grip and reduces the amount of power to the rear wheel ensuring maximum traction. This provides a distinct advantage on low-traction, dusty hardpack surfaces or in wet or muddy conditions and can be fitted as an optional extra.

#### **QUICKSHIFTER (OPTIONAL, EXCLUSIVE TO 4-STROKE XCF-W)**

The new optional Quickshifter function can be activated or deactivated via the new map select switch, allowing for clutchless upshifts, with the throttle fully opened. A sensor on the shift drum notices the force on the shift lever, sends the signal to the ECU, and the ignition timing is interrupted. To prevent unintended shifts and false neutrals, the function is only active from 2nd to 5th gear.

## **2-STROKE**

The 2024 KTM 2-stroke XC-W range consists of the entry-level KTM 150 XC-W, KTM 250 XC-W, and wildly popular KTM 300 XC-W, and brings a new spread of advancements in the 2024 Enduro line-up, with benefits aimed at usability, efficiency, and performance.

#### **THROTTLE BODY INJECTION**

Following on from the successful introduction and learnings of TPI technology in 2018, the 2024 2-stroke KTM Enduro models feature an all-new electronically controlled Throttle Body Injection system.

The KTM logo is displayed in a bold, italicized, black font, centered within a solid orange square.

Together with Keihin, a 39 mm throttle body was developed to withstand the harsh and full throttle demands of competitive motocross. This is done by a specifically tuned ECU from Vitesco works in conjunction with the Keihin throttle body to always deliver the correct air-fuel mixture by constantly analyzing water temperature, air temperature, and ambient pressure, along with the pressure within the crankcase, rpm, and throttle position.

Newly designed injectors also work to provide an optimal burn rate, with improved Sauter mean diameter (SMD), producing a finer spray of fuel for a cleaner ignition and less fuel wastage.

#### REED VALVE

The reed valve case has received an important design update, with newly added plastic flaps on the outside of the reed valve case for better sealing of the entire intake tract. This new design negates over-fueling in extreme up- or downhill sections with no bogging down or running rich.

#### ELECTRIC POWER VALVE

With the introduction of EFI, the power valve is controlled according to the throttle position and engine RPMs. Being auto-calibrating, there's no more hassle with incorrect power valve adjustments, with the EMS calculating the ideal position automatically. This results in linear and predictable power delivery at all throttle inputs, as well as the ability to incorporate different engine maps across the 2-stroke range.

#### EXHAUST

The 2024 KTM XC-W range benefits from a more compact exhaust header design, achieving improved ground clearance, and reducing the risk of any damage from deep ruts, or external objects.

The silencer also benefits from the compact treatment, crafted from lightweight aluminum and stylishly finished off in a premium black coating.

### **4-STROKE**

The 2024 KTM 4-stroke Enduro range lines up with its usual arsenal of hard-hitting weaponry starting with the giant-killing KTM 350 EXC-F, the completely competition-tuned KTM 450 XCF-W, and the explosive KTM 500 EXC-F commanding the assault.

#### ENGINES

Across the 2024 KTM 4-stroke Enduro range, weight savings and mass centralization were on top of the engine design brief sheet.

Chassis engineers positioned the engine closer to the center of gravity for greatly improved handling and maneuverability. This was achieved by tilting the engines 2° backward and repositioning the front sprocket 3 mm lower. Together with the benefits of mass centralization and reduced weight, the anti-squat behavior of the chassis was significantly improved.

The KTM logo is displayed in a bold, italicized, black font, centered within a solid orange square.

## SERVICEABILITY

Another focus was put on the new 2024 KTM 4-stroke Enduro range is serviceability. Draining noses for liquids and adding service markers on the engine (▲) clearly show where to use washers, making maintenance and service easier and more accessible to different levels of riders. Added lock positions for the cam chain also improve the serviceability of the valvetrain.

## EXHAUST

The KTM Enduro 4-stroke exhaust systems are expertly designed to deliver leading performance at the lowest possible weight.

The header pipe is designed and manufactured in two pieces to be as compact as possible, while the routing of the header pipe is extremely close to the engine for maximum mass centralization, and minimal exposure to rocks and tree stumps.

Further innovation allows for a shorter, more compact aluminum silencer without increasing noise levels. This is stylishly finished in a black coating, highlighting its premium quality.

Additionally, the new design of the pipe join position allows the exhaust to be removed without having to remove the rear shock, for easier maintenance.

## IN CONCLUSION

The 2024 KTM Enduro range is the culmination of many years at the top end of Enduro competition, bringing together a dynamic combination of race-bred performance, ergonomics, and technology to challenge any terrain and redefine limits.

For more information, visit [KTM.com](https://www.ktm.com).