Husqvarna Motorcycles – Heritage Motocross Model Year 2023

Media Information

Built upon the proven technical platforms of the 2023 range, the Heritage motocross models are modern, competition-focused, and further enhanced with a Swedish-inspired, vintage-style livery together with black EXCEL rims. The distinctive new look, influenced by the brand's successful racing heritage, undoubtedly creates an exclusive and understated appearance. Finished with a matching blue seat cover, the Heritage models pay homage to the strong Swedish roots of Husqvarna Motorcycles.

Across each of the five models, new premium suspension, frames, swingarms, and bodywork highlight the chassis revisions, further improving overall handling for enhanced on track performance. Expertly assembled with high quality components and the latest innovations, the TC and FC Heritage models continue to set the standard for premium motocross machinery.

Strengthening their positions as the leading 2-strokes on the market for 2023, the TC 125 Heritage and TC 250 Heritage are now equipped with Electronic Fuel Injection (EFI) and E-Start as standard. These significant advancements underline the continued development of these popular machines and set the benchmark within the highly competitive 2-stroke sector.

The 2023 FC 250 Heritage and FC 350 Heritage are powered by new engines designed to be faster, lighter, and enhance overall handling. Continuing to utilise the latest technology and rider aids, these 4-stroke models remain at the pinnacle of motocross machinery alongside the FC 450 Heritage, which features a repositioned engine to improve mass centralisation and a redesigned cylinder head for optimal torque and performance.

2023 Technical Highlights

- New Husqvarna Racing heritage-inspired graphics
- New high-strength EXCEL alloy rims provide excellent durability and a premium finish
- New bodywork with specifically tailored ergonomics for easier movement on the motorcycle
- New hydro-formed chromium molybdenum frame significantly improving anti-squat behaviour
- New topology-optimised die-cast aluminium swingarm providing optimal rigidity and low weight
- New throttle body fuel injection on 2-stroke engines provides class-leading power and rideability
- New 250/350cc DOHC engine providing class-leading torque and peak power
- New Quickshift sensor providing seamless up-shifting on 4-stroke models
- New electric start on 2-stroke models
- High-performance Brembo hydraulic clutch system
- New aluminium-polyamide hybrid subframe construction providing specifically calculated rigidity and advanced durability
- New WP XACT 48 mm front forks with AER technology offer consistent damping and progressive end-of-stroke damping
- New WP XACT rear shock design with CFD-optimised main piston and tool-free adjusters
- New Multifunctional map switch, which also activates the Quickshifter, Traction- and Launch Control
- Premium-quality ProTaper handlebar
- Electric starter powered by a lightweight Li-Ion 2.0 Ah battery

Features and benefits

Frame

The hydro-formed, laser-cut and robot-welded frame is expertly crafted. Constructed with specifically calculated parameters of longitudinal and torsional flex, the frame provides exceptional rider feedback, energy absorption, and straight-line stability. Additionally, the frame features forged mounting brackets for the revised skid plate which is available as a technical accessory.

Together with the repositioned shock mounting, which is no longer connected to the main tube, the anti-squat behaviour of the chassis has been significantly improved. Additionally, the wall thickness of the frame has been optimised to achieve improved reliability and specific rigidity in high stress areas such as the steering head and the shock mount. Parallel frame mounts (same position on left and right sides) improve chassis flex characteristics, while straight line stability remains unrivalled.

Another highlight of the updated frame design is that the footrest mounting positions have been moved inwards, resulting in less susceptibility to catching in deep ruts or when scrubbing jumps. The overall size of the footrests has been increased using state-of-the-art Computational Fluid Dynamics (CFD). Additionally, the one-piece steering head seal allows easier mounting in case of replacement or service and offers improved reliability.

The frame is finished off in a premium white powder coating. The standard frame protectors feature an improved surface for superior protection, durability, and excellent grip in all riding conditions.

- Specifically engineered longitudinal rigidity → exceptional rider feedback, energy absorption and stability
- New shock mounting design → significantly improved anti-squat of chassis
- Varying frame wall thickness for specific rigidity and improved reliability in high-stress areas (e.g., steering head, shock mount)
- Parallel frame mounts (same position on left and right side) for improved flex characteristics
- Footrest mounting position moved inwards for reduced risk of catching in deep ruts or when scrubbing jumps
- Service friendly one-piece steering head seal → easier mounting, improved reliability
- Durable powder coated finish with standard frame protectors

Polyamide-reinforced aluminium subframe

Using 60% polyamide and 40% aluminium, the two-piece subframe has a total weight of just 1.8 kg. With the help of computational dynamics, specific rigidity was engineered into the light and robust subframe to deliver outstanding handling and rider comfort.

The lower subframe spars and frame mounts are made from cast aluminium to guarantee strength and reliability. The upper subframe is made from injection-moulded polyamide, enabling specific flex characteristics and allowing a lightweight construction.

- Polyamide/aluminium hybrid construction
- Lower subframe spars and frame mounts made from cast aluminium→ extremely robust and reliable with no weld joints
- Upper subframe made from injection-moulded polyamide → specific rigidity and flex benefit handling and comfort

Swingarm

The hollow die-cast aluminium swingarm is designed to offer optimal stiffness and reliability at the lowest possible weight. Engineered to ensure precise rigidity, an improved casting process reduces weight by approximately 190 g. In order to optimise and match the chassis flex characteristics, a 22 mm rear axle is fitted.

Additionally, the chain guard and chain slider have been completely redesigned, resulting in improved durability and are less susceptible to catching on external objects. This clever design helps reduce dirt build up around the swingarm and chain guard, especially in extremely muddy conditions.

Chain adjustment markings are easily visible from above to make for simpler adjustment.

- Die-cast swingarm → topology-optimised for optimal rigidity
- Improved casting process for reduced weight → 190 g less than previous generation
- 22 mm rear axle optimised to match chassis flex characteristics
- Redesigned chain guard and chain slider
    - Transitions aligned with swingarm surface, spring-steel mounted for improved durability
    - Overall, less susceptible to catching on external objects

WP XACT front forks with AER technology

The 48 mm split air forks feature a capsulated air spring and pressurised oil chamber for progressive and consistent damping. Oil and air bypasses reduce pressure peaks and, in combination with a midvalve damping system, the fork provides exceptional feedback and rider comfort. A hydrostop improves bottoming resistance through more progressive damping force in the last 40 mm of travel. Additionally, rebound is also reduced leading to the fork being lower on initial acceleration after a hard landing. Redesigned dust seals prevent dirt intrusion into the fork legs.

Settings are easily adjusted via a single air-pressure preload valve, as well as via easy access click adjusters for compression and rebound. Additionally, the air pump needed to adjust the air spring pressure is provided as standard.

- WP XACT front forks → 48 mm air type with split damping function
- Midvalve damping system → exceptional damping and consistent performance
- Capsulated air spring and pressurized oil chamber → progressive and consistent damping
- New hydrostop in fork legs → improved bottoming resistance and reduced rebound
    - More progressive damping in last 40 mm of travel (total 305 mm) → previous generation hydrostop was only effective in final 10 mm of travel
    - Reduced rebound → fork stays lower on initial acceleration after hard landings
- Easy access clicker dials → fast and simple setting changes by hand
- Redesigned dust seals → increased protection against dirt intrusion

CNC-machined triple clamps

Made from high-grade aluminium, the 22 mm offset CNC-machined triple clamps ensure perfect alignment of the fork tubes for increased stability and a smooth action from the WP XACT front forks. The upper triple clamp is stiffer and works in harmony with the front forks to ensure superior handling while the handlebar clamp offers three mounting options for customisable ergonomics.

The handlebar mounts feature a larger clamping area for less handlebar twist in the event of a fall at the same weight as the previous generation. Additionally, they allow for both rubber-damped and fixed mounting of the handlebar to offer customisable handlebar flex.

- Rubber-damped handlebar mounts → less vibration, less precise front-end feel (OE)
- Fixed → increased vibration, more precise front-end feel

The front number plate integrates a triple clamp protector which covers the lower triple clamp and protects it from roost damage.

- CNC-machined aluminium with black anodised surface → finest quality and reliability
- Perfect clamping and alignment → smooth fork action
- Handlebar mounts → increased clamping area for less handlebar twist at the same weight as the previous generation
- Rubber damping on top clamp → reduced vibration, increased comfort
- Adjustable handlebar position → customisable ergonomics

WP XACT rear shock

A new design results in a 15 mm shorter rear shock, which is 100 g lighter compared to the previous generation while the rear wheel travel is 293 mm. The shock is matched to a revised linkage system with revised geometry to deliver the same progression as before but with the greatest possible traction and absorption. Combined with the new frame geometry, it improves the ground clearance of the linkage and is therefore less susceptible to damage when bottoming out.

The Computational Fluid Dynamics (CFD) optimised main piston in the shock improves initial comfort and provides strong hold-up. Differently sized flow holes in the shims allow them to open more easily and reduces the overall stress of the oil flow and pressure on the shims. Reduced weight also means less moving mass, resulting in lower forces on the main piston.

A fully hand-adjustable dual compression control concept allows high and low speed settings to be easily changed by hand. Together with the rebound adjuster, which is hand or tool adjustable, riders are now able to adjust their shock settings without tools or need of the assistance.

In addition to the tool-free setting adjustment possibilities, a preload adjuster has been introduced, which brings increased resistance to dirt intrusion. A two-piece retainer allows for quick spring changes without disassembling the shock.

With its low-friction SKF linkage seals, the WP XACT rear shock provides advanced damping characteristics for unsurpassed traction and energy absorption. A pressure balance inside the shock ensures consistent damping, resulting in superior rider comfort and feel.

- New lightweight, compact rear shock design with 15 mm reduced overall length
    - 2022 → 470 mm / 2023 → 455 mm | rear wheel travel → 293 mm
    - Reduced weight results in less moving mass → 100 g lighter design results in lower forces on bearings
- CFD-optimised main piston increases initial comfort and guarantees strong hold-up
- Improved ground clearance, lower risk of damage in extreme bottoming-out situations
- Dual compression control allows high and low speed settings to be adjusted by hand
- Rebound adjuster allows for setting changes to be made by hand or tool

- Reworked preload adjuster with increased resistance to dirt intrusion
- Low-friction SKF linkage seals → refined rear shock response for advanced damping characteristics
- Pressure balance inside the shock body → consistent damping
- Two-piece retainer allows for quick spring changes without disassembling the shock

Brembo hydraulic clutch

The high-performance Brembo hydraulic clutch system guarantees even wear, near maintenance-free operation, and perfect action in all conditions. This means that play is constantly compensated so that the pressure point and function of the clutch remains identical in cold or hot conditions, as well as over time. The high quality, Italian-made Brembo hydraulic system has been developed from countless hours of race-focused testing to ensure exceptional reliability.

- Brembo hydraulic clutch system → perfect action in all conditions and outstanding reliability

Brakes

The highest level of quality is guaranteed with class-leading Brembo callipers and controls. The 260 mm floating front and 220 mm wave rear discs deliver superior stopping power and instil confidence in all conditions.

- Brembo brake callipers and high-performance discs → superior stopping power with greater control and rider confidence

ProTaper handlebar

The ProTaper handlebar is second to none for function and style. Manufactured to exacting standards, the handlebar features class-leading fatigue resistance at a minimal weight. The handlebar bend is designed to increase comfort by not putting additional pressure on the hands of riders.

- ProTaper handlebar → class-leading function and style
- Husqvarna bend → optimal comfort
- ProTaper bar pad → maximum protection and style

Grips and throttle assembly

The ODI lock-on grip on the left side does not require gluing, while on the right, the vulcanised grip features an innovative integrated throttle mechanism. The assembly has easy free-play adjustment and, by changing a cam, throttle progression can be altered.

- Throttle assembly and ODI grips → easily alter throttle progression; easy grip mounting without glue

Footrests

The footrests, designed using Computational Fluid Dynamics (CFD), offer a bigger surface for boot soles while being less susceptible to catching on deep ruts, take-offs when scrubbing, or trackside markers. The result is better control of the bike in all conditions, which was achieved by a narrower mounting concept integrated in the frame design. This also reduces overall weight.

- Die-cast footrests → reduced weight and less susceptible to dirt build-up
- Footrest mount integrated in frame → narrower profile is less likely to hook on deep ruts

Map select switch, traction, and launch control

Designed for easy and intuitive operation, the map select switch controls many features. It activates traction and launch control, selects between two engine maps (aggressive/smooth), and engages the Quickshift feature on the 4-stroke models. Map 1 is the standard map for linear, predictable power, while Map 2 is an aggressive map for a sharper throttle response and a stronger power delivery.

The Quickshifter can be activated or deactivated via the map select switch. It works by interrupting the ignition momentarily and only functions when upshifting between second and fifth gear. A sensor on the shift drum registers the force from the shift lever, which sends a signal to the ECU to temporarily pause the ignition timing. This ensures smooth gear changes, even with the throttle fully open and without the need to use the clutch.

With the engine at idle, launch control is engaged by pressing the traction control and Quickshift buttons simultaneously. Both symbols will start flashing to indicate that launch control is active. This function limits the amount of power to the rear wheel, improving traction, and preventing loss of control under hard acceleration. Once the rider shifts up a gear, the launch control will deactivate automatically. Additionally, the Quickshift function is deactivated while launch control mode is engaged.

Traction control on 4-stroke models is engaged by a button marked ‘TC’ and functions by analysing throttle input from the rider and the rate at which engine RPM increases. If the RPM increases too quickly, the Engine Management System (EMS) registers a loss of grip and reduces the amount of power to the rear wheel to ensure maximum traction. This is a distinct advantage in wet or muddy conditions.

- Revised handlebar map select switch → alters engine characteristics according to conditions and rider preference
- Quickshift function → smooth and clutch-free upshifting
- Traction control → optimal traction in all conditions
- Launch control → to ensure perfect starts

Start/stop switch

The combined start/stop switch on the right side of handlebar allows for easy, intuitive starting and stopping of the engine.

Engine Management System (EMS)

The Hitachi-Astemo (formerly Keihin) EMS is specifically designed to be smaller, lighter, and faster at processing data. It integrates launch control for perfect starts, selectable engine maps via the traction control switch on the handlebar, as well as the Quickshift function. Combined with the gear sensor, power delivery is tailored for each gear.

A Rollover Sensor (ROS) cuts the ignition in the case of extreme crashes, adding another level of safety to the latest generation of Husqvarna motocross machines. Additionally, an hour meter features an integrated FI status LED and a fuel level indicator.

- Hitachi-Astemo EMS → smaller, lighter, and faster at processing engine data for more efficient engine management
- Rollover Sensor (ROS) → automatically stops the engine in extreme crashes
- Hour meter with integrated FI status LED and fuel level indicator
- Gear sensor → specific engine maps for each gear

Hitachi-Astemo throttle body

The 4-stroke range feature a 44 mm Hitachi-Astemo (formerly Keihin) throttle body with an injector positioned for optimal flow with the throttle cable mounted directly, without a linkage, for optimal engine response.

The 39 mm Hitachi-Astemo throttle body on the 2-stroke models feature dual injectors. These are positioned to ensure the most efficient flow into the combustion chamber, with the throttle cable mounted directly to the throttle body for a more immediate response from the engine. Idle is controlled over the throttle valve (not over a bypass system as on Transfer Port Injection) with a dual injector setup – one low load injector (positioned as on 4-stroke models) and one “top-feed” oriented injector for maximum performance before the throttle valve.

The Hitachi-Astemo throttle bodies provide much better idle control, more stable idle behaviour, and a much-improved fuel/air mixture. The result is more power, more response, and a larger fuel/air mixture operation window in comparison to TPI. Therefore, it is less prone to engine cut-outs or hesitations, and less sensitive to different ambient conditions (e.g. temperature, altitude, humidity).

- 4-stroke throttle body → 44 mm, injector positioned for optimal flow, more immediate throttle response thanks to direct cable mounting
- 2-stroke throttle body → 39 mm with two injectors positioned for optimal flow and more immediate throttle response thanks to direct cable mounting

Exhaust system

Tailored specifically for each model using an innovative 3D design process, the 2-stroke header pipes offer optimal geometry and performance, and ground clearance, meaning they are less susceptible to damage. The 2-stroke mufflers also feature an aluminium mounting bracket and advanced internal construction for excellent noise damping and weight saving.

The 4-stroke exhaust systems are expertly designed to deliver leading performance at the lowest possible weight. The header pipe has been manufactured in two pieces and to be as compact as possible, with section one featuring an integrated flow-design resonance chamber for reduced sound and maximum performance. The position of the join in the header pipe allows for easy disassembly without the need to remove the rear shock. Further innovation allows for a short, compact silencer with no increase to sound levels or restrictions in performance. The silencer is crafted from lightweight aluminium and is stylishly finished with a black coating that highlights its premium quality.

- Compact exhausts → lightweight and engineered for maximum performance
- Header pipe mounted directly onto engine mount for improved serviceability
- Header join position → easy removal of exhaust without removing rear shock

Electric start and Li-Ion battery

Along with the benefit of an easy electric starting system, a Li-Ion 2.0 Ah battery is fitted to the full Husqvarna motocross range. The Li-Ion battery weighs approximately 1 kg less than a conventional lead/acid battery, so the convenience of electric starting is delivered while minimising overall weight.

- Electric starter → easy starting when time is critical
- Li-Ion battery → lightweight, 1 kg lighter than a conventional battery

Integrated cooling system and radiators

The radiators are expertly crafted by WP using high-strength aluminium. Computational Fluid Dynamics (CFD) optimisation was used in the design process to channel air through the radiators efficiently to provide optimal cooling in all conditions. The cooling system integrates into the frame, eliminating the need for additional hoses, where a large centre tube ensures a more consistent flow of coolant. An internal thermostat aids reliability.

Additionally, the radiators are mounted close to the centre of gravity for improved handling agility.

- Integrated cooling → maximum efficiency in minimum space
- Bayonet closure radiator cap
- WP radiators → efficient for optimal cooling
- Large central tube → consistent coolant flow

Fuel tank

A larger 7.2 litre polythene fuel tank uses a reliable threaded filler cap with a one-piece fuel pump featuring an integrated filter. This improves fuel supply and allows the tank to be emptied further at low fuel levels, allowing for extended running times. The external fuel line is specifically positioned to make it less exposed and susceptible to damage.

- Larger 7.2 litre polythene fuel tank → bigger capacity for extended running times
- One-piece fuel pump and filter for improved fuel supply → tank can be emptied further at low fuel levels
- External fuel line routing → less exposed and susceptible to damage

Airbox and tool-less air filter access

Computational Fluid Dynamics (CFD) were used to optimise the airbox design with precisely positioned inlet ducts preventing air deformation and ensuring maximum airflow and filter protection. Replacing or inspecting the air filter is quick and easy, without tools, by removing the left side panel. A Twin Air filter element is fitted to a filter cage designed with a simple fail-proof mounting system for safe and accurate filter installation.

- CFD optimised airbox → improved air flow and maximised filter protection
- Intuitive filter mounting system → safe and accurate protection against dirt
- Tool-less filter access → quick and easy maintenance
- High-flow airbox cover included→ added customisability of the engine response

Wheels

Black anodised EXCEL rims are made from high-strength aluminium and laced to CNC machined hubs using lightweight spokes and silver anodised aluminium nipples. The nipples incorporate an advanced design which reduces the frequency of spoke checks and maintenance.

- Lightweight but strong and reliable construction → minimum unsprung weight

Tyres

Dunlop GEOMAX MX33 motocross tyres featuring the proven 'block-within-a-block' design for more progressive cornering and superior grip are fitted as standard.

- Developed in top-level AMA Supercross and Motocross → enhanced handling, cornering, and steering feel
- High performance on a variety of surfaces including sand, mud, and hard pack
- Increased durability and crack resistance through an innovative rubber compound

Bodywork

The Heritage machines feature a distinctive white, blue and yellow colour scheme inspired by the Swedish legacy of the brand.

An improved rider triangle for better knee contact, especially when riding in the standing position, inspires confidence for riders of all abilities and enables them to perform at their highest level for extended periods of time. Slim ergonomics allow the rider to move freely on the machine which enhances overall handling and agility.

The flat seat profile, combined with a blue high grip seat cover, deliver superior comfort and control in all conditions. A recessed pocket under the seat, just above the airbox, allows riders to grip and lift the machine using their legs for improved control.

- Progressive bodywork → with distinctive graphics inspired by the Swedish heritage of the brand
- Improved rider triangle for better knee contact, especially when riding in the standing position
- Slim ergonomics → offers free movement on the motorcycle
- Recessed grip pockets → enhances grip to control the machine
- Seat → flat seat profile and high-grip seat cover for exceptional comfort and control in all conditions

Technical information by model

FC 250 Heritage

Engine

The re-designed FC 250 Heritage engine is tilted 2° backwards and therefore comes with a repositioned sprocket which is 3 mm lower compared to the previous generation. The total engine height has been reduced by 8 mm to improve mass centralisation and reduce weight by approximately 60 g.

Service markers on the engine (▲) clearly show where to use washers for easier maintenance than on previous models.

All major components and shaft arrangements are carefully designed and positioned to best suit the performance and handling characteristics of the overall package, with the added benefit of this new design improving anti-squat behaviour from the chassis.

The 250cc engine is not only light at 26.11 kg, but also remarkably powerful.

- New generation engine design → light and compact for optimised mass centralisation
    - Engine tilted 2° backwards with repositioned sprocket (3 mm lower)
    - Improved anti-squat chassis behaviour
- Engine height reduced by 8 mm for improved mass centralisation → reduced weight by approximately 60 g
- Low-friction design → reduces overall drag and vibration
- Outstanding high-revving performance engine → remarkably powerful with a 14,000-rpm limit
- Improved serviceability of engine internals with service markers aiding maintenance

Cylinder head

The fully redesigned DOHC cylinder head features finger followers with a Diamond Like Carbon (DLC) coating resulting in minimal friction and optimal performance. These actuate large titanium valves (32.5 mm intake, 27.5 mm exhaust) which at the 14,000-rpm limit, open and close multiple times every second. The intake valves deliver the fuel/air mixture into the carefully designed combustion chamber to ensure efficient and optimal power throughout the rev-range.

The 27.5 mm exhaust valves are a result of the revised bore/stroke ratio and delivers an optimised gas flow. Valve timings have been adapted to the new valve measurements, working in perfect harmony with the redesigned camshaft.

For improved serviceability and maintenance work within the engine, the redesigned camshaft bearing bridge is screwed in and increases stiffness. Additionally, the head gasket comes with a new ‘stopper design’, reducing sealing gap oscillations caused by gas force.

- Fully redesigned cylinder head → improved durability and serviceability
- Finger followers with DLC coating → reduce friction and guarantee optimal performance
- Large titanium valves (32.5 mm intake, 27.5 mm exhaust) → optimised gas flow with revised bore/stroke ratio
- Redesigned camshaft → adapted valve timing to new valve measurements
- Camshaft bearing bridge offers increased stiffness and improved serviceability (screwed in

design)
- Cylinder head gasket with stopper design → reducing sealing gap oscillations caused by gas force

Cylinder and piston

The 81 mm bore cylinder houses a lightweight, forged bridged-box-type piston made by CP which weighs just 150 g. Both the cylinder and piston are professionally engineered from high-strength aluminium resulting in outstanding performance and reliability. The stroke has been adapted to 48.5 mm and the compression ratio has been increased to 14.5:1 for added torque and peak performance.

Thanks to the Computational Fluid Dynamics (CFD) optimised combustion chamber, the inlet port has been reduced in size for improved engine responsiveness.

- 81 mm bore and 48.5 mm stroke (2022 = 78/52.3 mm) → high-revving, quick response
- CFD optimised combustion chamber → smaller inlet port for improved engine responsiveness
- Compression ratio increased to 14.5:1 → greater torque and peak power
- Forged bridged-box-type piston → high performance and reliability

Crankshaft

The crankshaft is designed to offer the best possible performance while being perfectly positioned in the engine cases to centralise oscillating masses for optimal handling. The plain big-end bearing features two force-fitted bearing shells ensuring maximum reliability and durability, guaranteeing long service intervals of 90 hours.

- Plain big-end bearing with force-fitted bearing shells → increased durability and service intervals
- Friction bearing on the counter-balancer shaft → increased durability

Crankcases

The FC 250 Heritage engine is designed with mass centralisation and weight reduction as the main criteria. As a result, the crankcases have been redesigned to house the internal components of the engine in the perfect positions to achieve the ideal centre of gravity at the lowest possible weight. The engine mounting points are now shared across all 4-stroke models.

The casings are manufactured using a high-pressure die-cast production process, resulting in thin wall thickness while retaining exceptional strength and reliability.

- Light and compact crankcases → optimised mass centralisation
- Redesigned engine mounting points shared across all 4-stroke models
- High-pressure die-cast production process → thin walls for reduced weight while maintaining strength

Gearbox

Produced by Pankl Racing Systems, the 5-speed gearbox is designed to be extremely light and durable while featuring a 250cc-specific ratio (24:72). A redesign of the shift shaft reduces the force required for gear changes with a new Quickshift sensor positioned on the shift drum ensuring smooth

and clutchless upshifts, even under heavy load. This function can be activated or deactivated via the QS button on the map select switch, located on the left side of the handlebar.

The shift fork has a low-friction coating for smoother shifting, while the gear lever is designed to prevent dirt build-up and ensure perfect gear selection in all conditions. An advanced gear sensor allows for specific engine maps to engage in each gear for the best possible performance.

- 5-speed gearbox by Pankl Racing Systems → 250cc-optimised transmission ratio (24:72) with exceptional durability and improved shifting
- Redesigned shift shaft → reduced force required for gear changes
- Integrated Quickshift sensor positioned on the shift drum allows clutchless upshifts → seamless shifting function can be activated/deactivated via the map select switch
- Integrated gear sensor → specific engine maps for each gear

DS clutch

The FC 250 Heritage features a Diaphragm Steel (DS) clutch. A unique characteristic of this system is the use of a single diaphragm steel pressure plate instead of traditional coil springs.

The clutch basket has been revised and features the same design as on the FC 450 Heritage but adapted to the new transmission ratio. It is a single-piece CNC-machined steel component that allows the use of thin steel liners and contributes to the compact design of the engine.

- Clutch basket with same design as FC 450 Heritage → adapted for new transmission ratio
- DS clutch → lightweight with consistent action and exceptional durability

FC 350 Heritage

Engine

The redesigned FC 350 Heritage engine is tilted 2° backwards which repositions the sprocket 3 mm lower compared to the previous generation. The total engine height has been reduced by 8 mm to improve mass centralisation.

Added service markers on the engine (▲) clearly show where to use washers, making maintenance and servicing easier than in the past.

All major components and shaft arrangements are carefully designed and placed to best suit the overall performance and handling characteristics of the machine which leads to improved anti-squat behaviour from the whole chassis.

The 350cc engine is not only light at 27.2 kg, but it is also remarkably powerful.

- Redesigned engine→ light and compact for optimised mass centralisation
    - Engine tilted 2° backwards with repositioned sprocket (3 mm lower)
    - Improved anti-squat chassis behaviour
- Engine height reduced by 8 mm → improved mass centralisation
- Low-friction design → reduces overall drag and vibration
- Outstanding high-revving performance engine → powerful with a 13,400-rpm limit
- Added service markers improved serviceability of engine internals

Cylinder head

The fully redesigned DOHC cylinder head features finger followers with a Diamond Like Carbon (DLC) coating resulting in minimal friction and optimal performance. These actuate large titanium valves (36.3 mm intake, 29.1 mm exhaust) which introduce the fuel/air mixture into the combustion chamber to produce efficient and optimal power throughout the rev-range. Valve timings have been revised to work in perfect harmony with the redesigned camshaft.

For improved serviceability and maintenance work within the engine, the redesigned camshaft bearing bridge is screwed in for increased stiffness.

- Fully redesigned cylinder head → improved durability and serviceability
- Finger followers with DLC coating → reduced friction and guaranteed optimal performance
- Large titanium valves (36.3 mm intake, 29.1 mm exhaust) → optimal gas flow
- Optimised camshaft → optimal valve timing and improved durability
- Camshaft bearing bridge increases stiffness and improves serviceability (screwed in design)

Cylinder and piston

The 88 mm bore cylinder houses a forged bridged-box-type piston made by CP. Both the cylinder and piston are professionally engineered from high-strength aluminium resulting in outstanding performance and reliability. The compression ratio has been increased to 14.6:1 for added torque and peak performance.

Optimised valve guides and valve shaft diameters in the Computational Fluid Dynamics (CFD) optimised combustion chamber provide improved engine responsiveness.

- Large 88 mm bore and diameter optimised exhaust valves → high-revving, quick response
- CFD optimised combustion chamber → optimised valve guides and valve shaft diameters improve engine responsiveness
- Compression ratio increased to 14.6:1 → greater torque and peak power
- Forged bridged-box-type piston → high performance and reliability

Crankshaft

The crankshaft is designed to offer the best possible performance all while being placed in the perfect position to centralise oscillating masses for optimal handling. The plain big end bearing features two force-fitted bearing shells ensuring maximum reliability and durability to guarantee long service intervals of 90 hours.

- Plain big end bearing with force-fitted bearing shells → increased durability and service intervals
- Friction bearing on the counter-balancer shaft → increased durability

Crankcases

The FC 350 Heritage engine is designed with mass centralisation and weight minimisation as main criteria. As a result, the crankcases have been redesigned to house the internal components of the engine in the perfect positions to achieve the ideal centre of gravity at the lowest possible weight. The engine mounting points are now shared across all 4-stroke models.

The casings are manufactured using a high-pressure die-cast production process, resulting in thin wall thickness while retaining exceptional strength and reliability.

- Light and compact crankcases → optimised mass centralisation
- Redesigned engine mounting points shared across all 4-stroke models
- High-pressure die-cast production process → thin walls for reduced weight while maintaining strength

Gearbox

Produced by Pankl Racing Systems, the 5-speed gearbox is designed to be extremely light and durable while featuring an optimised transmission ratio (24:72). A redesign of the shift shaft reduces the force required for gear changes with a new Quickshift sensor positioned on the shift drum ensuring smooth and clutchless upshifts, even under heavy load. This function can be activated or deactivated via the QS button on the map select switch, located on the left side of the handlebar.

The shift fork has a low-friction coating for smoother shifting, while the gear lever is designed to prevent dirt build-up and ensure perfect gear selection in all conditions. An advanced gear sensor allows for specific engine maps to engage in each gear for the best possible performance.

- 5-speed gearbox by Pankl Racing Systems → optimised transmission ratio (24:72) with exceptional durability and improved shifting
- Redesigned shift shaft → reduced force required for gear changes
- Integrated Quickshift sensor positioned on the shift drum allows clutchless upshifts → seamless shifting function can be activated/deactivated with map select switch
- Integrated gear sensor → specific engine maps for each gear

DS clutch

The FC 350 Heritage features a Diaphragm Steel (DS) clutch. One exclusive characteristic of this system is the use of a single diaphragm steel pressure plate instead of traditional coil springs.

The clutch basket has been revised and features the same design as on the FC 450 Heritage, adapted to the transmission ratio on the FC 350 Heritage. It is a single-piece CNC-machined steel component that allows the use of thin steel liners and contributes to the compact design of the engine.

- Clutch basket with same design as FC 450 Heritage → adapted for new transmission ratio
- DS clutch → lightweight with consistent action and exceptional durability

FC 450 Heritage

Engine

The SOHC engine is the perfect example of the advanced engineering techniques used by Husqvarna Motorcycles to create a powerful yet controllable engine with an overall weight of just 26.8 kg, equalling a weight reduction of approximately 300 g compared to the previous generation.

Mass centralisation is key to the engine design, enabling chassis engineers to position the engine closer to the centre of gravity for greatly improved handling and manoeuvrability. This was achieved by tilting the engine 2° backwards which positions the sprocket 3 mm lower. Together with the benefits of mass centralisation and reduced weight, the anti-squat behaviour of the chassis was significantly improved.

Attention was paid to the serviceability of the FC 450 Heritage engine. Drain bosses for fluids and added service markers on the engine (▲) clearly show where to use washers, making maintenance and servicing easier than before.

- Engine tilted 2° backwards with repositioned sprocket (3 mm lower) → improved mass centralisation and improved anti-squat behaviour
- Peak performance and minimal weight → strong, controllable power and weighs just 26.8 kg
- Improved serviceability of engine internals → added service markers and drain bosses for liquids

Cylinder head

The redesigned SOHC cylinder head is incredibly compact and lightweight, with a short profile and the camshaft located as close to the centre of gravity as possible. Parallel frame mounts significantly improve handling and agility.

Lightweight valves are actuated via a rocker arm and feature timing specifically designed to deliver precise levels of torque and throttle response. The diameter of the intake valves is 40 mm with the exhaust valves 33 mm. A revised valve cover reduces the number of mounting screws to two with a single oil-spray jet guaranteeing efficient cooling and keeping overall weight to a minimum.

A fine-punched cam chain, low-friction chain guides, and the low-friction Diamond Like Carbon (DLC) rocker arm coating offers optimum efficiency, reliability, and durability. Attention was paid to maintenance tasks with lock positions for the cam chain to improve the serviceability of the valve train.

- Redesigned SOHC cylinder head → more compact design, parallel frame mounts and camshaft closer to centre of gravity
- Lightweight valve cover → only two mounting screws and one oil-spray jet for cooling
- Fine-punched cam chain improves durability
- DLC coating and low-friction chain guides → optimum efficiency, reliability, and durability
- Improved serviceability of valve train → lock positions for cam chain

Cylinder and piston

The lightweight aluminium cylinder is an engineering masterpiece and features a 95 mm bore. The CP bridged-box-type piston features anodised annular grooves, adding durability and longer service intervals while weighing only 327 g. The compression ratio has been increased to 13.1:1 for improved peak performance.

- Lightweight aluminium cylinder → 95 mm bore / 63.4 mm stroke
- Lightweight, high-performance CP forged bridged-box-type piston → reduced oscillating masses
- Increased compression to 13.1:1 → improved peak performance
- Anodised annular groove → added durability and longer service intervals

Crankshaft

The inertia produced by the crankshaft has been carefully calculated to deliver optimal traction and rideability from the powerful 450cc engine. The crankshaft is specifically positioned to harness the rotational mass at the ideal centre of gravity to create a lightweight, agile handling feel. A plain big-end bearing comprising two force-fitted bearing shells ensure maximum reliability and durability, guaranteeing long service intervals of 90 hours.

- Crankshaft position → ideal centre of gravity for improved handling
- Plain big-end bearing and force-fitted bearing shells → increased durability and service intervals

Crankcases

The crankcases are designed to arrange the shafts and engine internals in the ideal positions to offer the best-possible handling. Additionally, the position of the clutch shaft keeps the clutch above the oil level resulting in decreased drag and increased efficiency. A steel oil pump gear and repositioned oil jets increase the overall oil pressure to help prevent overheating and improve durability.

High-pressure die-cast production processes keep overall weight to a minimum, resulting in thin wall thickness while retaining reliability.

- Design → optimised mass centralisation and increased efficiency
- Steel oil pump gear and increased oil pressure → improved durability and resistance to overheating
- High pressure die-cast production process → thin walls for reduced weight while maintaining strength

Gearbox

The redesigned lightweight 5-speed gearbox is produced by Pankl Racing Systems and ensures the highest level of durability and reliability. A weight-optimised shift shaft reduces the operating force required for gear changes, and the gearbox also features a revised transmission ratio (29:72). The new Quickshift sensor is positioned on the shift drum, ensuring smooth and clutchless upshifts. This function can be easily activated or deactivated via the QS marked button on the map select switch, located on the left side on the handlebar.

The gear lever features a design that prevents dirt build-up and keeps the lever tip in its original position, even in the toughest conditions for precise shifting. An advanced gear sensor selects a specific engine map tailored for each gear for maximum performance.

- 5-speed gearbox → revised transmission ratio (29:72) for smooth and precise shifting
- Weight-optimised shift shaft → reduced force required for gear changes
- Integrated Quickshift sensor positioned on the shift drum allows clutchless upshifts → seamless shifting function can be activated/deactivated on the map select switch
- Integrated gear sensor → specific engine maps for each gear

DDS clutch

The FC 450 Heritage features a revised Dampened Diaphragm Steel (DDS) clutch. Exclusive characteristics of this system include a single diaphragm steel pressure plate instead of traditional coil springs and an integrated damping system for better traction and durability. The clutch basket is a single-piece of CNC-machined steel that allows the use of thin steel liners and contributes to the compact design of the engine.

Improvements for 2023 include better clutch cooling from pressure lubrication, reducing clutch fade from high-stress usage, and a redesign to accommodate the 5-speed transmission.

- DDS clutch → lightweight with consistent action and exceptional durability
- Improved clutch cooling from pressure lubrication → reduced clutch fade from high stress
- Redesigned clutch basket → adapted for new 5-speed transmission ratio

TC 125 Heritage

Engine

All the latest innovations have been brought into the TC 125 Heritage 2-stroke platform with many parts of engine rearranged, modified, or developed from the ground up. Delivering impressive power across the rev-range with an overall weight of just 17.9 kg, the engine continues to set the benchmark in the competitive 125cc class. The lightweight engine is designed to produce more torque than any previous 125cc 2–stroke engine without losing its typical high-revving, lightweight 2-stroke character.

The engine is designed to centralize rotating mass for optimal on track performance with the chassis creating a light and agile handling feel. For the first time, a fuel injection system (Hitachi-Astemo EFI, Ø 39 mm throttle body in combination with a Vitesco EMS) and an electronic exhaust control was implemented in the TC 125 Heritage engine, allowing for a more compact engine design and creating a tailored power delivery for each gear and every situation.

A strong focus during the development process was put on the serviceability of the engine. A new oil level indicator, added service markers (▲) clearly showing where to use washers, and a draining channel for removing gearbox oil effectively ensures maintenance and servicing is easier than in the past.

An innovative water pump concept includes a shaft featuring a drive wheel instead of the previous centrifugal regulator and is protected by a die-cast aluminium water pump cover. This design is shared among all 2-stroke engines, making it easy for dealers to supply spare parts in the rare case a replacement is needed.

The durability of the TC 125 Heritage swingarm bolts has been significantly improved by adding a flange bushing. This ensures the swingarm requires less maintenance for extended time between servicing.

The considerable changes to the engine alone make the TC 125 Heritage easier to go faster on for everyone, from beginners through to seasoned professionals.

- Pinnacle of performance → Light, powerful, and compact engine weighs just 17.9 kg
- No more jetting ‘trial and error’ → new era of 2-stroke EFI technology
- Mass centralisation → significant benefits in handling and manoeuvrability
- Improved serviceability of engine internals → added service markers and draining noses for liquids

Cylinder head

The cylinder head features an external water temperature sensor within a radiator hose which displays an accurate running temperature at a glance. A ‘front’ indicator makes it close to impossible to mount the cylinder head the wrong way, which not only helps mechanics but also riders servicing the engine by themselves.

The redesigned combustion chamber inserts follow the same logic. Mixing up inserts from different models will be a matter of the past. All these details significantly improve the overall engine serviceability. Additionally, motocross specific cylinder timing and porting creates a high compression ratio for maximum performance.

- ‘Front’ indicator marking on cylinder head → prevents incorrect installation
- Redesigned cylinder head → impossible to mix-up with insert of other models
- Motocross specific cylinder timing and porting → exceptional motocross performance

Cylinder

The cylinder features a 54 mm bore. Activated by an actuator, the highly innovative electronic exhaust control manages the opening of both the main exhaust and lateral exhaust ports via newly developed kinematics. The ports open simultaneously to deliver maximum power.

A machined finish on the upper contour of the exhaust port ensures accurate port timing for unrivalled performance in every situation.

- Electronical exhaust control → Creates a linear and predictable power delivery
- Machined exhaust port → Outstanding performance and controllability

Crankshaft

The crankshaft is lower in weight, 300 g less than the previous model, to increase the liveliness and response of the engine. The perfect balance of rotating masses has been achieved by balancing the weights of the crankshaft flywheel. With this design, vibrations are kept to an absolute minimum. The lighter crankshaft is also positioned to ensure that the rotational mass created has very little effect on the overall handling of the motorcycle.

- Lightweight crankshaft → responsive engine character
- Combination of crankshaft and rotor → very little vibration

Crankcases

The TC 125 Heritage engine is designed with mass centralisation and weight reduction as the main criteria. As a result, the crankcases have been designed to house the internal components of the engine in the perfect position to achieve the ideal centre of gravity at the lowest possible weight. The casings are manufactured using a high-pressure die cast production process to create a thin wall thickness while retaining exceptional strength and reliability.

Black powder coating provides additional durability for the engine cover while service and oil level markings improve the serviceability of the TC 125 Heritage. Additionally, the engine is connected to the frame with symmetrical engine mounts (left and right side) resulting in an improved flex characteristic.

- Light and compact crankcase, optimised mass centralisation
- Redesigned, symmetrical engine mounts
- Improved serviceability of engine internals with added service markers and draining noses for liquids

Electronic Fuel Injection (EFI)

For the very first time, the TC 125 Heritage features Electronic Fuel Injection (EFI).

Developed in close cooperation with Hitachi-Astemo, the 39 mm throttle body works perfectly with the innovative and state of the art 2-stroke injection system. The Electronic Control Unit (ECU) is manufactured by Vitesco and together with the Hitachi-Astemo throttle body, the precise amount of

air-fuel mixture is always delivered into the engine. This is achieved by the ECU continuously analysing water temperature, air temperature, ambient pressure, pressure within the crankcase, rpm, and the throttle position to calculate the perfect air-fuel mixture for any riding situation.

Additionally, the reed valve case assembly has received an important design update for 2023 with composite flaps on the outside of the reed valve case providing improved sealing on the intake tract. This revision prevents excess fuel build up in extreme up or downhill sections which could lead to overly rich engine settings. High quality Boyesen Inc. carbon membranes are fitted into the reed valve case for optimal engine performance.

A beneficial side effect of introducing electronic fuel injection is the implementation of the innovative electronic exhaust control.

Adding Electronic Fuel Injection (EFI) to the TC 125 allows for the introduction of two completely new engine maps which cater for different track conditions. Map 1 is the leaner hard pack map that delivers linear, predictable power, ideal for practice starts. Map 2 is richer and designed for sand and deep soil tracks to ensure maximum performance and lasting reliability. Riders can choose between the two options and select the suitable map simply by pressing a button on the handlebar-mounted map switch.

- EFI by Hitachi-Astemo (39 mm throttle body) → optimal power delivery and performance in any condition (no more re-jetting)
- Updated reed valve case design → guarantees the correct air-fuel mixture even in the most extreme up or downhill sections

E-Start

An exciting upgrade for the TC 125 Heritage in 2023 is the addition of electric start. The engine is easily started by pressing the new combined start/stop button on the right side of the handlebar. A traditional kickstart is no longer in place and cannot be retrofitted which highlights the reliability of the electric start and saves weight. A high-quality stator and pickup from Mitsuba provides an efficient power supply for the electronics with the lightweight 12,8V 2 Ah Lithium-Ion battery placed under the seat, close to the centre of gravity. To maintain easy starting at all times, a slim but robust cover protects the starter motor from potential damage caused by roost or rocks.

- Electric start → fast starting and improved user friendliness
- High-quality stator and pickup from Mitsuba → Advanced reliability and efficient power supply for electronics

Gearbox

The 6-speed gearbox is manufactured exclusively by Pankl Racing Systems ensuring the highest level of durability and reliability. The gearbox is designed with motocross-specific gearing while the gear lever features an innovative tip design that prevents dirt build-up.

The shifting has been significantly improved by redesigning the shift drum and shift fork. The shift shaft is moved 30 mm backwards to improve overall leverage which ensures smooth and precise shifting. An improved gear lever and a new transmission ventilation design completes the revision to the shifting mechanism.

- 6-speed gearbox → manufactured by Pankl Racing Systems

- Redesigned shift drum and shift fork → improved leverage for smooth and precise shifting
- Improved shifting mechanism → less force on the lever needed to change gear

DS clutch

The TC 125 Heritage features a Diaphragm Steel (DS) clutch. One unique characteristic of this system is the single diaphragm steel pressure plate which is used instead of traditional coil springs. The clutch basket is a single-piece CNC machined steel component that allows the use of thin steel liners and contributes to the compact design of the engine. The clutch slave cylinder is shared among all 2-stroke engines which allows dealers to carry less stock and easily supply a replacement in the rare case it is needed.

- DS clutch → lightweight with consistent action and exceptional durability
- Clutch slave cylinder → Improved serviceability for mechanics

TC 250 Heritage

Engine

All the latest innovations in 2-stroke technology have been applied to the revised TC 250 Heritage engine which combine to deliver impressive on track performance at an overall weight of just 23.9 kg. With many parts of the engine rearranged, modified, or developed from the ground up for 2023, the TC 250 Heritage engine continues to set the benchmark for 250cc 2-stroke machinery.

The lightweight engine is designed to provide more torque than any previous TC 250 Heritage engine without losing its high-revving, lightweight 2-stroke character. Not only producing impressive power, but the engine is also designed to centralise rotating mass for optimal operation within the chassis for a light and agile handling feel.

The fuel injection system (Hitachi-Astemo EFI, Ø 39mm throttle body in combination with Vitesco EMS) and an electronic exhaust control was implemented in the TC 250 Heritage engine, allowing for a more compact engine design and creating a tailored power delivery for each gear and every situation.

Another focus in development was put on the serviceability of the new engine. Draining noses for liquids and added service markers on the engine (▲) clearly show where to use washers, making maintenance and servicing easier than in the past. Additionally, the die-cast aluminium water pump cover is shared among all 2-stroke engines, making it easy for dealers to supply spare parts in the rare case one should be needed.

The considerable changes to the engine alone make the TC 250 Heritage easier to go faster on for everyone, from beginners through to seasoned professionals.

- Pinnacle of performance → powerful engine which weighs just 23.9 kg
- No jetting changes with 'trial and error' → new era of 2-stroke EFI technology
- Mass-centralisation → significant benefits in handling and manoeuvrability
- Improved serviceability of engine internals → added service markers and draining noses for liquids

Cylinder head

The cylinder head features an external water temperature sensor within a radiator hose which displays an accurate running temperature at a glance. A 'front' indicator makes it close to impossible to mount the cylinder head the wrong way, which not only helps mechanics but also riders servicing the engine by themselves.

A redesigned cylinder heads adds to the ease of set-up on the TC 250 Heritage as experimenting with inserts is no longer necessary which significantly improves overall engine serviceability. Additionally, motocross specific cylinder timing and porting creates a high compression ratio for the TC 250 Heritage to ensure maximum performance.

- 'Front' indicator marking on cylinder head → avoids incorrect installation
- Redesigned cylinder heads inserts → impossible to mix-up with insert of other models
- Motocross specific cylinder timing and porting → exceptional motocross performance

Cylinder

The cylinder features a 66.4 mm bore. Activated by an actuator, the highly innovative electronic exhaust control manages the opening of both the main exhaust and lateral exhaust ports via newly developed kinematics. On the TC 250 Heritage, the lateral exhaust ports open first before the main exhaust port opens to deliver controllable power.

A machined finish on the upper contour of the exhaust port ensures accurate port timing for unrivalled performance in every situation.

- Electronical exhaust control → Creates a linear and predictable power delivery
- Machined exhaust port → Outstanding performance and controllability

Crankshaft

The crankshaft is designed with weight reduction in mind to increase the liveliness and response of the engine. The perfect balance of rotating masses is achieved by balancing the weights of the crankshaft flywheel, the rotor, and the counter balancer shaft. With a perfect combination of these components, vibrations are kept to an absolute minimum. Engine internals are also positioned to ensure that the rotational mass created has very little effect on the handling of the motorcycle.

- Lightweight crankshaft → responsive engine character
- Combination of crankshaft, rotor, and counter balancer shaft → minimal vibration

Crankcases

The TC 250 Heritage engine is designed with mass centralisation and weight reduction as the main criteria. As a result, the lightweight engine casings are developed to house the shaft arrangements in the perfect position, centralising oscillating mass and improving rideability. The casings are manufactured using a high-pressure die cast production process, resulting in a thin wall thickness while retaining exceptional reliability.

Black powder coating provides additional durability for the engine cover while service and oil level markings improve the serviceability of the TC 250 Heritage. Additionally, the engine is connected to the frame with symmetrical engine mounts (left and right side) resulting in an improved flex characteristic.

- Light and compact crankcase, optimised mass centralisation
- Redesigned, symmetrical engine mounts
- Improved serviceability of engine internals with added service markers and draining noses for liquids

Counter balancer shaft

The TC 250 Heritage features a laterally mounted counter balancer shaft. This significantly reduces vibration from the engine for a smoother and more comfortable experience with less rider fatigue.

- Counter balancer shaft → significantly reduced vibration

Electronic Fuel Injection (EFI)

For the very first time, the TC 250 Heritage features Electronic Fuel Injection (EFI).

Developed in close cooperation with Hitachi-Astemo, the 39 mm throttle body works perfectly with the innovative and state of the art 2-stroke injection system. The Electronic Control Unit (ECU) is manufactured by Vitesco and together with the Hitachi-Astemo throttle body, the precise amount of air-fuel mixture is always delivered into the engine. This is achieved by the ECU continuously analysing water temperature, air temperature, ambient pressure, pressure within the crankcase, rpm, and the throttle position to calculate the perfect air-fuel mixture for any riding situation.

Additionally, the reed valve case assembly has received an important design update for 2023 with composite flaps on the outside of the reed valve case providing improved sealing on the intake tract. This revision prevents excess fuel build up in extreme up or downhill sections which could lead to overly rich engine settings. High quality Boyesen Inc. carbon membranes are fitted into the reed valve case for optimal engine performance.

A beneficial side effect of introducing electronic fuel injection is the implementation of the innovative electronic exhaust control.

With all these technical revisions it was possible to introduce different engine maps on the TC 250 Heritage. Map 1 is the standard, more mellow map for linear, predictable power, while map 2 is the aggressive map for added throttle response and a sharper, stronger power output. These maps can be selected via the new map select switch on the left side of the handlebar.

- EFI by Hitachi-Astemo (39 mm throttle body) → optimal power delivery and performance in any condition (no more re-jetting)
- Updated reed valve case design → guarantees the correct air-fuel mixture even in the most extreme up or downhill sections

E-Start

An exciting upgrade for the TC 250 Heritage in 2023 is the introduction of electric start. The engine is easily started by pressing the combined start/stop button on the right side of the handlebar. A traditional kickstart is no longer in place and cannot be retrofitted which highlights the reliability of the electric start and saves weight. A high-quality stator and pickup from Mitsuba provides an efficient power supply for the electronics with the lightweight 12,8V 2 Ah Lithium-Ion battery placed under the seat, close to the centre of gravity. To always maintain easy starting, a slim but robust cover protects the starter motor from potential damage caused by roost or rocks.

- Electric start → fast starting and improved user friendliness
- High-quality stator and pickup from Mitsuba → Advanced reliability and efficient power supply for electronics

Gearbox

The TC 250 Heritage features a 5-speed gearbox with motocross specific ratios manufactured exclusively by Pankl Racing Systems. Additionally, precise and easy shifting is guaranteed thanks to the redesigned shift lever which prevents the build-up of dirt, even in the toughest conditions thanks to its no-dirt tip design.

- 5-speed gearbox → precise and easy shifting
- No-dirt gear lever → improved leverage, smoother and precise shifting
- Improved shifting mechanism, friction optimised in every detail → less lever force needed to change gear

Clutch

The TC 250 Heritage features a Damped Diaphragm Steel (DDS) clutch. The exclusive characteristics of this system include a single diaphragm steel pressure plate instead of traditional coil springs and integrates a damping system for better traction and durability. The clutch basket is a single-piece CNC-machined steel component that allows the use of thin steel liners and contributes to the compact design of the engine.

- DDS clutch → light action with integrated damping system, increased traction and reliability
- CNC-machined steel clutch basket → consistent action and exceptional durability

Functional Apparel

Sharing the same distinctive colours and design as the Heritage models, a premium helmet and offroad shirt will be released in conjunction with the new machines. Both products feature the latest technical innovations for assured safety, comfort, and durability. The two new additions to the Origin line also perfectly match the Origin Pants and iTrack Origin Gloves and allow riders to enjoy an ideal apparel and motorcycle set-up.

Moto-10 Spherical Railed Helmet

Headlining the offroad collection and styled in line with the Heritage machines, the white, blue, and yellow Moto-10 Spherical Railed Helmet is an advanced offroad helmet designed with professional racers and sets a new industry standard. Exceptional protection comes from the lightweight carbon shell, MIPS, and Spherical Technology which redirects forces away from the brain during impact. Creating a cool and comfortable helmet, the front features multiple intake vents to channel in maximum airflow with large exhaust vents at the rear expelling warm air. The Moto-10 Spherical Railed Helmet is made exclusively for Husqvarna Motorcycles by leading brand Bell Helmets.

Origin Shirt White

The Origin Shirt is an ultra-lightweight performance offroad shirt with a modern fit and a fade-free, Swedish-inspired design to perfectly match the Heritage models. Its breathable fabric wicks away sweat with mesh panels further aiding cooling, with light padding on the elbows creating a layer of additional protection.

Technical Accessories

Available from your local Husqvarna Motorcycles dealership is a racing-focused selection of high-quality Technical Accessories. Each component on offer is designed to enhance performance, style, or increase the protection of all models in the 2023 Heritage motocross line-up.

Factory Racing Triple Clamp

Customise the handling of the FC and TC Heritage machines with the Factory Racing Triple Clamp. Engineered to deliver 100% fork alignment with no ovalisation for uncompromised suspension performance, the CNC-milled aluminium triple clamp offers two offset options for personalised ergonomics: 20 mm for improved stability at high speed, or 22 mm for faster cornering. Complete with the steering stem and lower bearing already installed, the Factory Racing Triple Clamp is easy to fit and available with either a black or blue anodised finish for a true personalised look.

Akrapovič "Evolution Line"

The Akrapovič "Evolution Line" unlocks further torque and performance from all FC Heritage models with its high-grade titanium construction offering a substantial weight saving. The header pipe is optimally routed from the exhaust manifold for improved power delivery while the silencer creates a rich exhaust note that complies with all current FIM and AMA noise regulations.

Heat Protection

Protect your boots and riding gear from high exhaust temperatures with the Heat Protection kit. Made by leading exhaust brand Akrapovič, its carbon fibre construction is extremely light, strong, and durable.

Factory Wheel Set

Built for the biggest obstacles. Super-strong spokes lace the D.I.D DirtStar rims to the hubs, which are milled from a solid piece of aluminium and then anodised blue for a race team inspired look. Assembled neatly with anodised spoke nipples, weight savings are made in addition to the increased strength and stability in challenging conditions.

Renthal GP Sprocket blue / black

Specifically designed for competing at the highest levels of motocross racing, the lightweight Renthal GP Sprocket is made from high-strength aluminium to ensure maximum power to the rear wheel. Hardwearing and available with a blue or black anodised finish, this sprocket offers the perfect combination of style and performance.

Seat

Complete seat featuring a high-grip and tear-resistant cover with a ribbed section to keep the rider in place under hard acceleration. The flat profile of the Seat retains the same dimensions and height as the standard version for a familiar feel and offers total freedom of movement while riding up on the footrests.

Skid Plate

Light and durable, the Skid Plate adds a valuable layer of effective protection for the engine and frame. Easy to fit using the forged mounting brackets already in place on the new generation frames, the skid place is an essential Technical Accessory for all serious racers.

Factory Racing Brake Disc Guard

State-of-the-art injection moulding technology is used to manufacture the lightweight Factory Racing Brake Disc Guard, which protects the disc from roost and impacts for continued braking performance. The guard incorporates a front wheel spacer with an integrated central adaptor, which allows for fast wheel changes without the need to fully remove the cover.

Rekluse Outer Clutch Cover

As used by Husqvarna Factory Racing for its impact resistance, the Rekluse Outer Clutch Cover is CNC-machined from high-strength aluminium for improved durability and a long-lasting finish at the lowest possible weight.

Factory Racing Frame Protection Set

Slim to maintain the narrow feel of the motorcycle and strong to prevent abrasion on the frame from riding boots, the Factory Racing Frame Protection Set is complete with a grippy outer surface to enhance control. As used by Husqvarna Factory Racing.