

FE 350 Pro

Striking a competitive balance between power and handling, the FE 350 Pro is undoubtedly the most versatile enduro machine on the market. Powered by a new engine, which is positioned inside the new frame to centralise mass, together with new WP XACT suspension, handling and overall performance are much improved for 2024. Complete with a fresh, Swedish-inspired look and assembled with premium components throughout, the FE 350 is capable of competing at the highest level of enduro in standard form.

Engine

The FE 350 engine is tilted 2° backwards and hence has a repositioned sprocket 3 mm lower than on the previous generation. The main benefit of this design is improved anti-squat behaviour of the entire chassis.

Draining noses for liquids and additional service markers on the engine (▲) clearly show where to use washers, making maintenance and service easier than in the past.

All major components and shaft arrangements are carefully designed and placed to best suit the performance and handling characteristics of the overall package. The 350cc engine is not only light at 28.8 kg but also remarkably powerful.

- Light and compact engine design for optimised mass-centralisation
- Outstanding, high-revving performance engine with 11,500 rpm rev-limit
- Low friction design, reducing overall drag and vibrations
- Engine tilted 2° backwards with repositioned sprocket (3 mm lower)
- Exceptional serviceability of engine internals with added service markers and draining noses for liquids
- Maps (1 white, 2 green) differ mainly in partial load range and acceleration functions, which makes for a clearly noticeable difference

Cylinder head

The DOHC cylinder head features finger followers with DLC (Diamond Like Carbon) coating resulting in minimal friction and optimal performance. These actuate large steel valves (36.3 mm intake, 29.1 mm exhaust) which at the 11,500-rpm rev-limit open and close multiple times every second, introducing fuel/air mixture to the carefully designed combustion chamber to deliver efficient and optimal power throughout the rev-range.

The 29.1 mm exhaust valve results from the engine being designed to deliver optimised gas flow. Valve timings work in perfect harmony with the camshaft.

For easy serviceability and maintenance within the engine, the camshaft bearing bridge is screwed in and increases stiffness.

- Cylinder head designed for increased durability and serviceability
- Finger followers with DLC coating, reducing friction and guaranteeing optimal performance
- Large steel valves (36.3 mm intake, 29.1 mm exhaust) for optimised gas flow
- Lightweight valve cover with reduced number of mounting screws (only two)
- Camshaft bearing bridge increasing stiffness and improving serviceability (screwed-in design)

Cylinder and piston

The 88 mm bore cylinder houses a forged bridged-box-type piston made by CP. Both cylinder and piston are professionally engineered from high-strength aluminium, resulting in outstanding performance and reliability. The compression ratio is 13.7:1.

- Large 88 mm bore and diameter-optimised exhaust valves for high-revving and quick response
- Forged bridged-box-type piston guaranteeing high performance and reliability
- CFD-optimised combustion chamber with optimised valve guides and valve shaft diameters for increased engine responsiveness
- Compression ratio of 13.7:1 for increased torque and peak power

Crankshaft

The crankshaft is designed to offer the best possible performance, all while being perfectly positioned to centralise oscillating masses for optimal handling. The plain big-end bearing features two force-fitted shells, ensuring maximum reliability and durability guaranteeing long service intervals of 135 hours (major engine service in normal usage, in competition usage -> 70 hours).

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

Crankcases

The FE 350 engine is designed with mass-centralisation as one of the main criteria. The crankcases have been designed to house the internal components of the engine in the perfect position to achieve the ideal centre of gravity while adding the least possible weight. The casings are manufactured using a high-pressure die-cast production process, resulting in thin wall thickness while retaining exceptional reliability. The Husqvarna crown logo gives the bronze powder-coated enduro-specific and noise-reducing clutch cover a premium and durable look. Additional oil scrapers in the ignition cover round off the package.

- Light and compact crankcases, optimised mass-centralisation
- High-pressure die-cast production process with thin walls for reduced weight, while maintaining strength
- Enduro-specific clutch cover (same look but lower noise compared to FC models)

Gearbox

Produced by Pankl Racing Systems, the 6-speed gearbox is designed to be extremely light and durable, featuring a primary gearing ratio of 24:72.

The shift-shaft is specifically designed to reduce gearchange operating forces. The Quickshift sensor is positioned on the shift drum, allowing clutchless upshifts. The function can be activated/deactivated via the QS button on the Map Select Switch, located on the left side of the handlebar.

The gear lever is designed to prevent dirt build-up and ensures perfect gear selection in all conditions. An advanced gear sensor allows for specific engine maps delivering the best possible performance in each gear.

- 6-speed gearbox by Pankl Racing Systems with enduro-specific primary transmission ratio and exceptional durability and effortless shifting
- Shift-shaft design reduces operating force of gear changes
- Quickshift sensor positioned on the shift drum allows clutchless upshifts, the function can be activated/deactivated via the QS button on the Map Select Switch on the left side of the handlebar
- Integrated gear sensor for specific engine maps for each gear and seamless upshifts

DDS clutch

The FE 350 features a DDS (Dampened Diaphragm Steel) clutch. The unique characteristics of this system include a single diaphragm steel pressure plate instead of traditional coil springs. It 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.

Pressure lubrication provides optimal clutch cooling, reducing fade in high stress usage.

- Lightweight DDS clutch featuring consistent modulation and exceptional durability
- Optimal clutch cooling from pressure lubrication, reducing clutch fade from high stress

Enduro-specific clutch cover for reduced noise output