

2004 CRF450R PRESS INFORMATION

The future has arrived. The high-flying CRF450R has been making news and dominating podiums at race tracks and dirt courses everywhere. The new revolution in 4-stroke motocross performance is upon us, and the amazing CRF450R has been cutting a new groove with its roost-raising power delivery, light, quick-handling aluminium frame, and supple Works racer suspension systems. Tuned and tweaked for another new racing season at the front of the pack, the CRF450R delivers even stronger output and easier, more responsive control to make it a true champion of the 250cc motocross racing class, and a superlative dirt tracker everywhere.

Colours

- Explosion Red (with White number plate and sidecovers)

Features and Benefits

New Features

- New piston shape for increased compression and improved torque over entire rev range.
- New exhaust system layout allows muffler to be moved forward 50mm for optimum centralisation of mass.
- New Renthal bars as standard equipment (971 Bend).
- New clutch lever with quick adjuster.
- Front fork outer-tubes receive same inner surface honing treatment as Works bikes for low-friction operation. First time on a mass production motocrosser.
- New footpegs better resist mud build-up.
- Improved carburettor settings for sharper throttle response.
- New seat cover with improved gripping bumps.
- New front fender and front number plate for slimmer more aggressive look.
- Overall lighter weight by 1.5kg.
- New magnesium ACG cover reduces weight and heat build-up.

Engine/Drivetrain

- Compact, lightweight engine assembly weighs only 29kg.
- Liquid-cooled four-valve SOHC 449cm³ engine produces more than 120hp per liter while maintaining Honda's legendary dependability and simplicity.
- Powerful engine churns out 41.5kW/9,000rpm and 50.7N-m/7,000rpm. Power is produced across a wide rpm-band for easy-to-control operation.
- Unique Unicam valve train provides both the light weight of a compact single-cam drive and an optimum combustion chamber shape for maximum power at all engine speeds.
- Unicam valve train features a single carburised camshaft directly actuating the two intake valves from above. The camshaft's centre exhaust lobe actuates two 31mm steel exhaust valves via a forked, low-friction, roller rocker arm. A separate cam holder contributes to the compact design, which allows a remarkable 21.5° included valve angle while saving weight over comparable DOHC systems.

- Lightweight 36mm titanium intake valves permit use of smaller valve springs, reducing overall engine height and saving 15.2g per valve compared to conventional steel valve designs.
- Unique, pin-rotation-type auto decompressor realises a compact and lightweight system that provides superb cold-starting and hot-restarting operation.
- High-strength, low-carbon steel crankshaft with carburised main journals for maximum durability at sustained high-rpm operation.
- Forged slipper piston is 130g lighter than conventional designs, and 17g lighter than its predecessor, for quick-revving response while maintaining excellent cylinder sealing and high-rpm power.
- Double-carburised connecting rod utilises big-end needle bearing for maximum high-rpm performance and durability.
- Lightweight NiCaSil cylinder lining ensures cooler and quieter operation for extended engine life.
- Press-fitted spark plug pipe fits between forked exhaust rocker arms, further contributing to compact cylinder head design.
- 40mm FCR-type carburettor features four rollers on the flat slide, resulting in light throttle effort, smooth operation, crisp throttle response and excellent rideability.
- Fully electronic Capacitor Discharge Ignition (CDI) features 8-bit digital CPU for instant data calculation and highly accurate ignition that ensures maximum performance.
- Twin-sump lubrication system separates oil supply to crankshaft, piston and valve train from supply to clutch and transmission. This ensures a steady supply of cool oil to the clutch, eliminates clutch and transmission material contamination of the engine oil, and reduces the amount of circulating oil and the required oil pump size.
- Vertically split crankcases feature built-in oil pump, reducing weight by 145g compared to conventional designs.
- Gear-driven balancer reduces vibration while also driving the water pump.
- Eight-plate clutch provides ample surface area to handle the engine's massive torque, while carefully matched clutch springs provide a light feel at the lever.
- Durable five-speed close-ratio transmission features new hardening process for second and third gears, adding even more durability in demanding conditions.

- Exhaust system uses lightweight titanium exhaust header and repackable aluminium muffler with stainless steel pipe.
- Dual radiators provide significantly more surface area and more effective heat dissipation compared to single-radiator designs.

Chassis/Suspension

- Twin-spar aluminium frame is 3rd-generation design derived from Honda's CR series of champions. Tall swingarm pivot plates and thin frame spars create a narrow overall frame cross-section for superb rider comfort and manoeuvrability.
- Semi-double-cradle design features a single, large-diameter tapered downtube. Two rugged box-section rails attach to the base of the downtube and support the engine. A forged aluminium steering head provides a compact and highly durable mount for the frame spars and engine downtube.
- Aluminium frame design matched to rider ergonomics for optimised handling and control operation.
- CR-type swingarm features dual-axis, double-taper design with large cast aluminium cross-member. End pieces redesigned for almost 30g in unsprung weight savings. CR-spec wheels feature lightweight HRC Works-type aluminium spoke nipples for a 150g reduction in front wheel unsprung weight compared to previous design. Together with revised rear wheel, hub and spoke design, rear wheel unsprung weight was reduced by 450g.
- Front wheel features large-diameter front axle and wide wheel-bearing span for excellent rigidity.
- Optional 20-inch front wheel improves cornering traction and rider comfort. Rear axle diameter of 25mm and large-diameter bearings provide significant rigidity and strength to withstand torturous track conditions.
- Lightweight, 47mm Showa inverted twin-chamber cartridge-type fork with aluminium dampers derived from CR250R, with settings unique to the CRF. Fork offers 315mm of travel and 16-step rebound and compression damping adjustability. Front fork outer-tubes receive same inner surface honing treatment as Works bikes for low-friction operation.

- CR-type Pro-Link single-shock rear suspension system features fully adjustable Showa rear damper and 319mm of wheel travel, separate low-speed (13-step) and high-speed (3.5 turns) compression damping adjusters and 17-step rebound damping. Large 50mm rear damper piston diameter provides consistent performance under demanding riding conditions.
- Large, 240mm front and rear brake discs.
- Compact dual-piston front brake calliper redesigned for over 30g in weight savings. Anodised aluminium brake pistons and lightweight front brake rotor further minimise unsprung weight for improved turning and handling.
- HRC Works-type rear brake system integrates the rear master cylinder and fluid reservoir, eliminating conventional external reservoir and hose.

Additional Features

- Frame design allows larger air-intake ducts in sidecovers, contributing to significantly improved airflow in the mid- and upper-rpm range.
- Rider ergonomics optimised by adapting handlebar, seat and footpeg height at the narrowest cross-section of the frame, for improved comfort and handling feel.
- New seat cover designed with larger grip bumps for improved rider control.
- Seat cushion uses multi-density foam construction that follows shape of fuel tank, providing a smooth transition to increase rider mobility and comfort.
- Brake pedal and shift lever designed to complement the riding position. Brake pedal features optimised ratio to match integrated rear-brake master cylinder design.
- New wide, cleated stainless steel footpegs are self-cleaning, resist corrosion, provide excellent grip and fold for extra ground clearance.
- Cleated rear brake pedal and shift lever made of lightweight aluminium.
- Adjustable front brake lever.
- New Renthal handlebar rubber-mounted to reduce rider fatigue and improve comfort. CR handlebar holders provide three different mounting positions: standard CRF450R holder (CR125R-type) provides +/- 3mm fore or aft position to match rider preference, and optional holder (CR250R-type) provides neutral position.
- Works-type handlebar grips add to rider comfort.
- Chain guide redesigned for weight savings of nearly 20g.

- Front disc brake cover helps protect rotor and calliper from damage.
- Removable rear sub-frame allows easy maintenance.
- Washable, two-stage foam air filter for optimal engine protection and easy maintenance.
- Re-packable silencer for maximum performance and minimal noise.
- Comfortable, durable controls and high-quality fasteners.
- Stainless steel clutch cable for long-life operation.
- Honda Racing-inspired colours and graphics.

Specifications

CRF450R (ED-type)

Engine

Type	Liquid-cooled 4-stroke 4-valve SOHC single
Displacement	449cm ³
Bore x Stroke	96 x 62.1mm
Compression Ratio	12 : 1
Max. Power Output	41.5kW/9,000min ⁻¹ (95/1/EC)
Max. Torque	50.7Nm/7,000min ⁻¹ (95/1/EC)
Carburation	40mm Keihin FCR flat-slide carburettor
Ignition System	Computer-controlled digital capacitor discharge with electronic advance
Starter	Primary kick

Drivetrain

Transmission	5-speed
Primary Reduction	2.739 (63/23)
Gear Ratios	1 1.800 (27/15) 2 1.470 (25/17) 3 1.235 (21/17) 4 1.050 (21/20) 5 0.909 (20/22)
Final Reduction	3.692 (48/13)
Final Drive	#520 roller chain

Chassis

Frame	Semi-double cradle; aluminium twin-spar
Dimensions (LxWxH)	2,186 x 825 x 1,254mm
Wheelbase	1,495mm

Caster	26° 55'
Trail	107.9mm
Seat Height	955mm
Ground Clearance	339mm
Fuel Tank Capacity	7.4 litres
Dry Weight	100.7kg
Kerb Weight	108.2kg

Suspension

Type	Front 47mm Showa inverted leading-axle twin-chamber cartridge-type telescopic fork with 16-step adjustable compression and rebound damping; 315mm axle travel
	Rear Pro-Link with Showa damper, adjustable low-speed (13-step) & high-speed (3.5-turn) compression and 17-step rebound damping; 319mm axle travel

Wheels

Type	Aluminium rim/wire spoke
Rim Size	Front 21 x 1.60
	Rear 19 x 2.15
Tyre Size	Front 80/100–21 51M
	Rear 110/90–19 62M

Brakes

Type	Front 240mm hydraulic disc with dual-piston calliper and sintered metal pads
	Rear 240mm hydraulic disc with single-piston calliper and sintered metal pads

All specifications are provisional and subject to change without notice.