

## Line-up press kit for 10YM CRF450R

### <Introduction>

The CRF450R is a dominating presence in Supercross, motocross, desert, endurance, flat-track and Supermoto where it continues to bring even the toughest competition to its knees. Relentlessly striving for more speed, more control, more reliability, more power and more performance, it combines these with light weight and effortless manoeuvrability. The best balance of front and rear tyres enables great acceleration performance. Its slim and light proportions feature finely-honed aerodynamics for bullet-like aerial projection, and a low centre of gravity for easy control in the air. Inertia feel is minimised for a sensation of expert handling. Torque feeling is maximised everywhere and overall performance is fast, slick and exhilarating. For 2010, to keep its riders out in front, small but effective changes to the engine and suspension systems achieve even better balance and control. The CRF flag is still flying high where it belongs – at the pinnacle of motocross achievement!

### <Colours>

- Extreme Red (with White number plate, side covers and rear fender)

### <Features and Benefits>

#### **New for 2010**

- New ECU programming and new FI settings improve off-on throttle response when exiting corners for easier control.
- New engine auto decompressor system with revised decomp pin shape and optimal decompressor weight spring **rate enables easier kick starting.**
- New front fork oil seal, oil quantity and valving contribute to improved plant feel and follow bumps better.
- Rear damper features redesigned piston and compression adjuster to improve damping character for an easier ride and stronger acceleration over rugged terrain.
- Air filter now has two attachment tabs for secure installation.
- New connecting system for HRC FI setting tool uses only one coupler and eliminates need to remove fuel tank.

#### **-Engine/Drivetrain**

- Advanced 4-stroke 4-valve Unicam engine churns out 41.5kW of power at 8,500rpm and 50.3Nm of torque at 7,000rpm. Power is produced across a broad rpm-band for smooth, easy operation.
- Powerful, liquid-cooled 449.7cc engine pumps out nearly 92.3kW per litre with legendary simplicity and dependability.
- Lightweight, battery-less fuel injection/ignition system delivers optimal power over a wide, high power range as well as kick-start capability.
- Fuel injection indicator integrated with engine stop switch shows pre-race conditions of the fuel injection system.
- Fuel injection system features automatic settings that deliver the same engine character and driveability in differing altitudes.
- High fuel efficiency allows use of compact and lightweight fuel tank.
- Thin-walled crankcase casting reduces wall thickness, keeping weight to a minimum.
- Large-diameter throttle body (50mm) delivers impressive power and performance across the entire range.
- Innovative 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 carburized camshaft directly actuating two 36mm titanium intake valves. The auto decompressor system executes valve-lifting by causing the decomp pin that is built into the camshaft to push the single rocker arm. This contributes to the overall compactness and light weight of the design by integrating decompressor and camshaft weight.
- Lightweight titanium intake valves permit use of smaller valve springs, reduce overall engine height and contribute to mass centralisation.
- Forged slipper piston is lighter than conventional designs, for quick-revving response while maintaining excellent cylinder sealing and high-rpm power.
- Lightweight Ni-SiC cylinder lining ensures cool, quiet operation for extended engine life.
- Auto decompression system makes starting easy in all conditions.

- Plastic fuel pump module attached to bottom face of plastic fuel tank responds directly to fuel pressure and is placed to concentrate mass on motorcycle's centre of gravity.
- Twin-sump lubrication system separates oil supply to crankshaft, piston and valve train from clutch and transmission. This enables a reduction of the oil pump size and the amount of circulating oil. It also prevents clutch and transmission material from contaminating engine oil.
- Exhaust and muffler design achieves low weight, optimal pipe length for the engine and contributes to mass centralisation.
- 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.

### **Chassis/Suspension**

- 5<sup>th</sup> generation twin-spar aluminium frame is lightweight and provides optimal rigidity for better handling.
- Slim frame shape features rounded lower parts for extra ground clearance.
- Revolutionary Ergonomics Design creates open and 'easy' ride position. Flat seat to tank area and small tank cap size allow the rider to move from front to rear easily. Sleek, narrow profile from radiator shroud to air box to side panel gives a smooth ride.
- KYB rear damper and front fork give plush overall feel and better control.
- Relatively long swingarm, low centre of gravity and wide rear tyre enhance acceleration and traction.
- Low mass centralisation gives a highly controlled ride feel and makes jumping and manoeuvring in the air easier.
- Rear frame design incorporates easy under-seat access to air filter.
- Wheels feature HRC Works-type aluminium spoke nipples for low unsprung weight.
- Front and rear wheel axles are engineered for light weight and better rigidity.
- Lightweight, and compliant 48mm inverted fork offers 310mm of suspension stroke, and 16-step rebound and 18-step compression damping adjustability. Front fork outer-tubes receive Kashima coating for low-friction operation.

- Fully adjustable rear damper provides 320mm of wheel travel, 18-step low-speed and 1.5-turn high-speed compression and 20-step rebound damping.
- Large 50mm-cylinder-diameter rear damper cushion provides consistent performance under demanding riding conditions.
- Compact dual-piston front brake caliper and disc are designed for light weight.
- Link-type front brake master cylinder provides strong braking control in combination with a lightweight brake rotor.
- HRC Works-type rear brake system integrates the rear master cylinder and fluid reservoir, eliminating conventional external reservoir and hose.
- Large, Works-style 240mm front and rear disc brake rotors.
- Frame design allows large air intake ducts in the side covers, enabling significant air flow in the mid and upper-rpm ranges.

### **Additional Features**

- HRC settings tool provides an easy-to-use programming system with precise data for setting up the machine to meet all race situations. Ignition timing and fuel mapping settings can be uploaded by connecting the motorcycle to a computer and following simple step-by-step instructions. The system radically simplifies the setup process, making tuning accessible to a wide range of riders.
- Unique lightweight and compact Honda Progressive Steering Damper (HPSD), developed by Team Honda, improves cornering ability and reduces rider fatigue. More aggressive steering characteristics are augmented while straight-line stability is assisted. The damper's progressive damping action smoothly increases with handlebar deflection, while producing very natural steering characteristics and feel.
- Brake pedal and shift lever are made of lightweight aluminium and designed to complement the riding position. Brake pedal features optimised ratio to match integrated rear-brake master cylinder design.
- Adjustable front brake lever for maximum control.
- Quick-adjust clutch perch for easy cable adjustment.
- Wide, cleated stainless steel footpegs are self-cleaning, corrosion-resistant, provide excellent grip and fold for extra ground clearance.

- Rubber-mounted Aluminium Renthal 971 bend handlebar reduces rider fatigue and improves comfort.
- Grip design features tapered cushions and deep pre-cut wire grooves for tighter, slip-free wire grip.
- Handlebar holders provide two different mounting positions to match rider preference.
- Pirelli SCORPION MX Mid Soft 32 tyres provide improved traction and cornering feel.
- Front disc brake cover helps to protect rotor and caliper from damage.
- Removable rear sub-frame allows easy maintenance.
- Washable, two-stage foam air filter for optimal engine protection and easy maintenance.
- Re-packable titanium silencer for maximum performance and minimal noise.
- Comfortable, durable controls and high-quality fasteners.
- Stainless steel clutch cable for long-life operation.
- Textured seat sides for extra grip.
- Slim, aggressively styled plastics allow easy rider movement and feature Honda Racing-inspired colours and graphics.

## Specifications

## CRF450R (ED-type)

### ENGINE

|                   |   |
|-------------------|---|
| Type              | Liquid-cooled 4-stroke 4-valve OHC single |
| Displacement      | 449.7cm <sup>3</sup>                      |
| Bore × Stroke     | 96 × 62.1mm                               |
| Compression Ratio | 12 : 1                                    |
| Max. Power Output | 41.5kW/8,500min <sup>-1</sup> (95/1/EC)   |
| Max. Torque       | 50.3Nm/7,000min <sup>-1</sup> (95/1/EC)   |

### FUEL SYSTEM

|                    |                                  |
|--------------------|----------------------------------|
| Induction          | PGM-FI electronic fuel injection |
| Fuel Tank Capacity | 5.7 litres                       |

### ELECTRICAL SYSTEM

|                 |                                       |
|-----------------|---------------------------------------|
| Ignition System | Full transistor with digital ignition |
| Starter         | Primary kick                          |

### DRIVETRAIN

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

## FRAME

Type Aluminium twin-spar

## CHASSIS

|                  |         |                       |
|------------------|---------|-----------------------|
| Dimensions       | (L×W×H) | 2,191 × 827 × 1,273mm |
| Wheelbase        |         | 1,491mm               |
| Caster           |         | 26° 52'               |
| Trail            |         | 114.2mm               |
| Seat Height      |         | 954mm                 |
| Ground Clearance |         | 332mm                 |
| Kerb Weight*     |         | 106.9kg               |

## SUSPENSION

|            |       |   |
|------------|-------|---|
| Suspension | Front | 48mm inverted leading-axle twin-chamber cartridge-type telescopic fork with 16-step adjustable compression and 18-step rebound damping; 310mm suspension travel |
|            | Rear  | Pro-Link with damper, adjustable low-speed (18-step) & high-speed (1.5-turn) compression and 20-step rebound damping; 320mm axle travel                         |

## WHEELS

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

## BRAKES

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

All specifications are provisional and subject to change without notice.