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NOVEMBER 2004

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- STUNNING KX250F
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- FAST KTM 125
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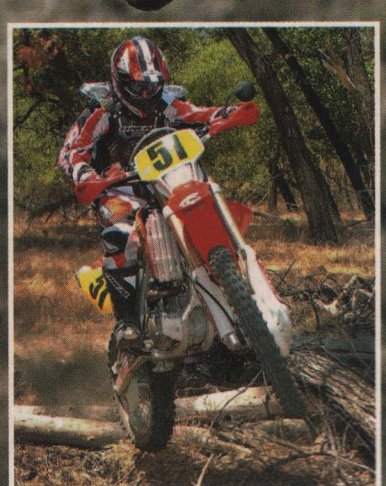

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2005 HONDA CRF450R

The rich get richer and the strong get stronger

By the staff of Dirt Bike

▸ Talk about winning all the marbles. The Honda CRF450R was the best-selling motocrosser of 2004. It won the 250 National Championship. It was the Bike of the Year in these very pages. Honda took the marbles, the bag and the whole glass factory.

The unfair part about life in the motorcycle industry is that when you sell tons of motorcycles, you have the budget to do stuff. So Honda worked on the CRF for 2005—it would have been foolish not to. Not with Yamaha on the prowl. Not with Suzuki and Kawasaki working on new 450s. Not in a time when the motocross world is changing so rapidly. The new CRF is here and it is, in fact very new.

How fast is the CRF? Fast enough. The front has long since moved on to handling.

TYPICAL TEST CONDITIONS & SETUP

- 94 degrees
- 1500 feet altitude
- 168 main, NGGQ #4, 42 pilot
- 1-1/2 turn air screw*
- Fork: 11c, 7r
- Shock 100mm sag, 6 lsc, 1.5 hsc, 6r

*non-stock setting

THE FRAME FACTS

Honda was first into the aluminum frame pool and that taught the company a lot. Strong isn't always best, rigid isn't always good and light doesn't always make right. The two-strokes have been through several frame generations, and now the CRF frame gets its first major re-do. The primary point was to make the bike feel lighter. If it actually lost real pounds along the way, so all the better. The twin beams that connect the steering head to the swingarm are more narrow and the configuration of the whole frame kind of resembles that of the 250 four-stroke. That meant the bike got a new tank and new shrouds. The swingarm also is lighter and so is the rear hub.

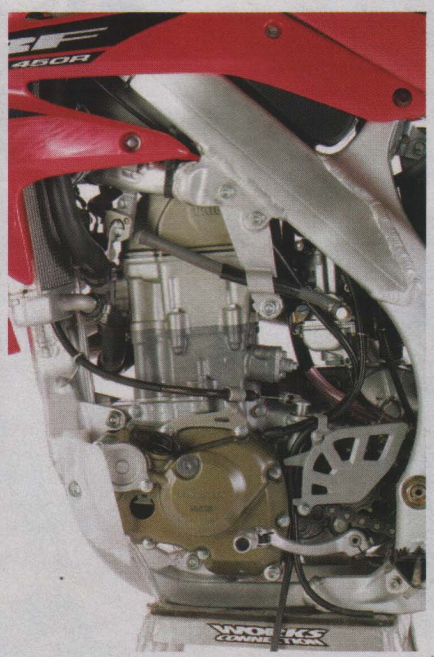
While they were at it, the Honda guys gave the subframe and airbox the 250 treatment. That results in easier breathing for the big 450. The motor itself got very few changes, but it wouldn't be Honda if something weren't different. The shift mechanism was altered, third and fourth gears are different, and the ignition is different. If you aren't real familiar with the Honda motor already, there's nothing quite like it. It uses a single overhead cam that pushes on the intake valves directly, then uses a forked rocker arm

HIGHS

- Wide powerband
- Comparatively little engine braking
- Plush suspension
- Stable
- Excellent overall handling
- Good clutch feel
- Standard Renthal bars
- Five-speed gearbox

LOWS

- Difficult airbox access
- Messy oil changes (do it anyway!)
- Powerful bikes need O-ring chains
- Tall seat height



In case you don't already know, the CRF motor is a little bit of a freak among four-strokes. It has a single overhead cam but only uses one rocker arm, it has separate oil chambers for the gearbox and engine, and it's a five-speed.

2005 HONDA CRF450

to operate the exhaust valves. Honda thinks that it has the best of both worlds; less rotational mass than a DOHC motor and less reciprocating valve-train mass than a conventional SOHC motor. We don't know if that makes any engineering sense, but we love throwing around terms like "reciprocating valve-train mass."

In the suspension department, Honda gave the CRF a light fluff. The most significant change is a reduction in axle offset at the bottom of the fork; about 2mm. This should reduce the fork's tendency to bind and increases trail. Since the steering head angle also is slightly steeper (26.79 degrees versus 26.91) it's obvious that Honda is still fiddling with the steering geometry of the bike, which has been the biggest lightning rod for criticism in the past. Changes to the linkage and rear shock valving were made simply to deal with the new frame.

TRY IT ON

If you ride the 2004 CRF back to back with the 2005 CRF (we did), the difference is obvious. The new bike feels lighter and smaller than the old one. Not only is it narrower in the mid-section, right where your knees grab, but it feels lighter overall. And you need to remember that the CRF already was freakishly light-feeling by big-thumper standards. Its strong point from day one was the fact that it felt pretty nimble for a bike that makes over 50 horsepower.

The new frame is narrower and flexes differently, but no lighter than before.

HONDA CRF450R

Engine type.....Sohc, four-valve four-stroke
Displacement.....449cc
Bore & stroke.....96.0x62.1mm
Carburetion.....Keihin FCR40
Fuel tank capacity.....1.9 gal (5.4l)
Gearing.....13/48
Lighting coil.....No
Spark arrester.....No
EPA legal.....No
Running weight, no fuel.....230 lb.
Wheelbase.....58.7" (1491mm)
Rake/trail.....26.8/4.3"
Ground clearance.....13.4" (340mm)
Seat height.....37.6" (955mm)
Tire size & type:
Front.....80/100-21 Dunlop K742
Rear.....110/90-19 Dunlop K756
Suspension:
Front.....Showa inverted cartridge, adj. reb./comp., 12.4" (315mm) travel
Rear.....Showa aluminum piggyback, adj. prld, hi & lo comp., reb., 12.5" (318mm) travel
Country of origin.....Japan
Suggested retail price.....$6499
Distributor/manufacturer: American Honda Motor Co., Inc. 1919 Torrance Blvd. Torrance, CA 90501; (310) 783-2000

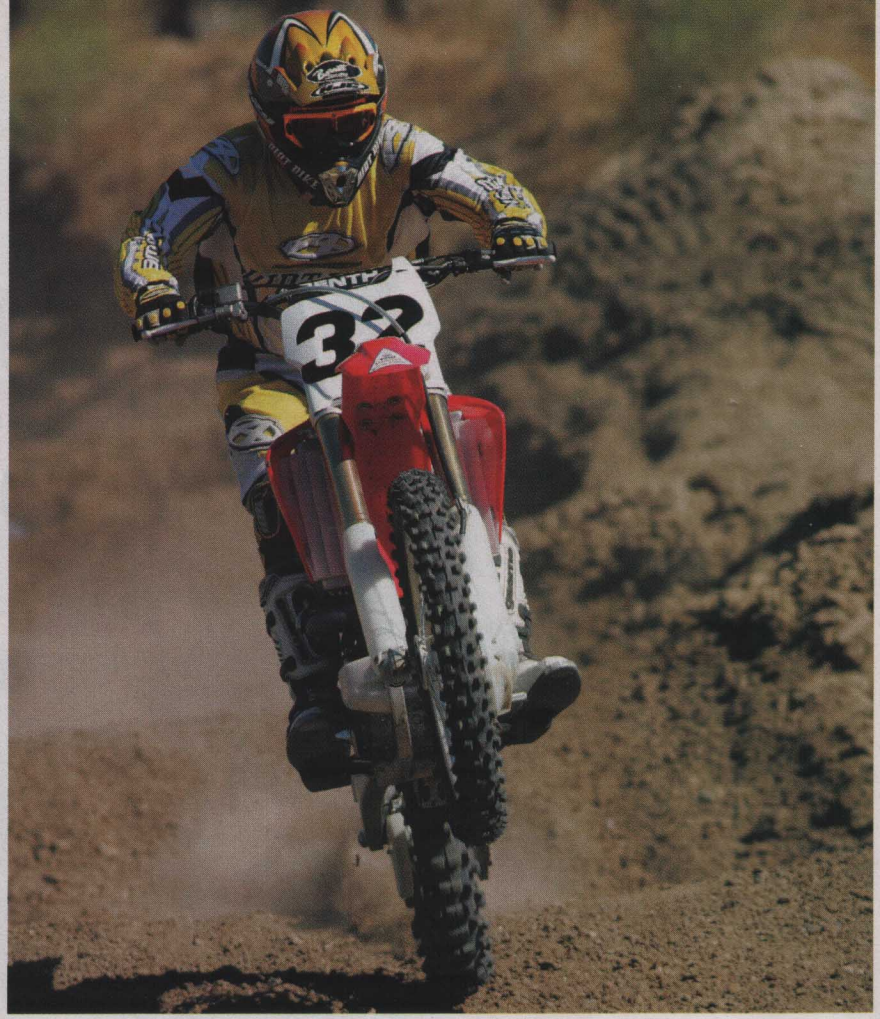
We don't think you should leave your '04 CRF in the nearest dumpster—it really is a difference that you will only notice if you ride the two machines back to back. But the difference is there. The bike retains outrageously good handling. It turns with very little effort, it feels maneuverable in the air, and it doesn't headshake at speed. The only flaw in the CRF's handling package is tiny, but it's been there from the start. Some riders complain that the front end can feel like it's not getting a secure bite, like maybe the front tire has too much pressure. The tire isn't the problem, though. It's just a trait that you'll notice if you're used to the super secure way a Yamaha feels in turns. The new geometry had little effect on the sensation.

Suspension still ranks as one of the CRF's strongest points. Last year Honda gave the bike a nearly works-level Showa fork. It's still awesome. We went through the exercise of fiddling around with the clickers because we like looking like professional test riders. But when you increase the compression damping, it just feels like the same excellent fork with more compression damping. If you have a track with large jumps, you have to click it up at both ends. If you have a track with lots of small square edges, you click it down. Otherwise, set the rear suspension sag to about 100mm and go riding.

POWER IS NICE

At some point, having lots of power is irrelevant. You use the motor to get to the first turn in front, but after that horsepower just becomes a liability on most tracks. The trick is to have horsepower when you want it and not have it when you don't. That's what the CRF does well. The powerband is super wide, so when you really need to get to the next turn in a hurry, you rev the bike out and hold on tight. For the technical parts of the track you shift into a taller gear where the motor is less fearsome. Everything happens more controllably at lower revs.

The Honda's five-speed gearbox is a big part of the bike's overall effectiveness for that reason. It doesn't need five speeds from a purely practical standpoint—you could ride most tracks in one gear. But the gearbox lets you select how hard you want to work. Feeling tangy? Downshift and try to use every last bit of the motor. Feeling a little beat toward the end of the moto? Upshift and turn on the cruise control. The CRF can do both with very little difference in lap times. One reason for this is the relative lack of engine braking. That's what makes it tough to ride most big four-strokes at high rpm; the sudden and violent transition from acceleration to deceleration. The Honda has engine braking, but it's just less than any other four-stroke of its size.



Honda stuck the 450 motor in a new home for 2005. The twin-beam aluminum frame is smaller and more compact, and the bike lost a few pounds.

DON'T MESS WITH TEXAS

Honda is really making it tough on the aftermarket. It's a challenging bike to personalize and improve. The number one replacement item is the exhaust pipe, but that's probably because the stock tail piece is a little ugly. You can get more top end from many pipes, but most of them are louder. The bike has Renthal bars, so you can't even do that for yourself. The best bang for your buck would probably be an O-ring chain and regular oil changes. Honda engineers still cringe when they hear how long CRFs in the real world go between oil changes. If you really want your bike to have cheaper maintenance cost than a two-stroke, all it takes is regular trips to Jiffylube. Remember, the Honda has separate oil chambers for the sump and the gearbox. The sump is the most important one to keep fresh.

A four-stroke also has a greater need for a clean filter, and the CRF is no different. Massive suction power is generated by the big piston and that can pull dirt through the filter much more quickly than the intake of a two-stroke. The CRF makes that task more difficult by having a very small airbox opening. You have to twist the filter all around to get it out. Do it anyway.

Other complaints on the CRF are virtually nonexistent. There's a reason that it's so popular. There's a reason that it's won so many races. There's a reason why it's become virtually ubiquitous in all forms of racing, from Supermoto to supercross.

It's the best. And it's getting better.

Scott Summers proved that the CRF can be used in the woods. It's just a lot of bike for tight stuff.

THE OFF-ROAD FACTOR

East and west were never so different

• Drop a guy from New Jersey at a California off-road race, and he would barely recognize the sport. Out west, CRFs are everywhere. Back east, only the occasional kook (read, Scott Summers) rides one.

It's the same old story: eastern and western riders have very different ideas on what off-road riding and racing are all about. Even play riders have very different pastimes on different sides of the country. Out west, they love hillclimbing. The CRF scores big there. It takes a very big mountain to defeat the mighty Honda. Back east, they have mud. The Honda's not so great there. It can boil over quickly and there's no catch bottle to recycle coolant.

Out west, they have GPs and desert races. Steve Hengeveld and Johnny Campbell have shown that the 450 is excellent in those venues. It starts quickly for a thumper and the five-speed gearbox allows a decent speed range. Only in the very fastest races like Baja does the Honda team switch back to the XR650R. Back east, they have GNCCs and enduros. Summers has had some success in the pro ranks on his CRF, but he generally gets bad starts, because 250 two-strokes dominate the short start chutes. He also detunes his CRF because you just don't need all that power in the tight stuff.

Having said that, the Honda 450 still ranks as one of the most effective 450s in eastern conditions. The Yamaha WR450 is much more clumsy in the woods. The Suzuki DRZ is too heavy and Husky's just aren't around yet. That leaves the KTM 400EXC (and it's nearly identical 450) as the eastern four-strokes to beat. In order to outrun the KTM in its own turf, the Honda will need softer suspension, more flywheel and maybe a little milder state of tune. And electric starting wouldn't hurt. •