

# SUPER MOTO CROSS





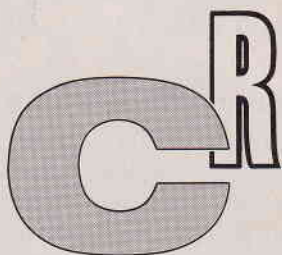
# 500 SHOOTOUT



Even though Rick Johnson won Honda the Open-class title in the '88 Nationals, the bike fared rather poorly in magazine tests and consumer acceptance. It was the first year since 1983 that Honda didn't build the best big-bore machine.

Open-class bikes have never been easy to ride, so Honda excelled when they earned a reputation for building a 500 with a good powerband and "250-like" handling. By 1988, though, the CR500 had outgrown itself. There was more horsepower on tap than any non-National champ needed, and the words "lightweight" and "nimble" stopped popping up in the pits.

The engineers at Honda winced after hearing complaints about the '88 CR500's brutal power delivery. They set out to revamp the '89 version with a whole new powerband and, while they were at it, a few chassis changes directed at bringing the bike back into the realm of ordinary motocrossers.



## DID IT WORK?

The easiest solution was to bolt on a set of Showa USD forks, and that was a move in the right direction. The upside-down forks add a tremendous amount of rigidity to the bike, something that's particularly comforting on an Open-classer. When you're blasting through a rough section or slapping down from a sky shot you don't need flexing forks forcing you off your line.

The major complaint about

upside-down forks, though, is that they seem to catch on ruts and pull the bike astray. If you're heading across ruts, especially at just a slight angle, your arms will pump up just from the stress of not knowing for sure which way you'll end up going.

The forks' damping action is comparable to the best on the market; they're certainly better than the forks on the '88 bike. We should point out that we tested the '89 CR500 with Honda's recently updated damping specs because the mod will be offered free for all CRs with USD forks. Essentially, the bikes now come stock with the updated valving, although it is a royal pain that Honda couldn't get it right in the first place (after three seasons of Rick Johnson testing and racing with USD forks).

By combining the rigidity with



JOE BONELLO

**POWER? Don't even ask. The Honda produces too much power.**

better damping and a touch less rake, the engineers have produced a substantial improvement. Still, despite increased stability, the CR500 turns as well as any Honda ever has.

Although not directly credited to fine handling, the narrower droop tank and low-boy pipe definitely improve the bike's nimbleness and precise response to rider input, adding to the illusion that the bike is lighter than it really is. The 500 quickly wins friends in the ergonomics department, just as the 250 did last year. Once

again, Honda is leading the way in ergonomics.

## IS THE NEWS ALL GOOD?

Despite the fact that Honda drastically shifted the powerband of the CR500 engine, it's still brutally strong.

In '88 the CR had an ultra-boost engine with all the power coming in on top. For '89 the gobs of practically unusable power were transferred to the low end and midrange. Now you have to either lug the engine or pin it to avoid a counterproductive, wheelspinning, turbo-like burst. What the engine *should* have is a linear powerband with power building steadily.

Open-class bikes no longer need a major hit. Rideability, rear wheel hook-up and sensible power are the "in" things. However, several pipes that soften the punch and lengthen the powerband are available from aftermarket companies. They're worth checking into if you've already bought a CR500. Your lap times will certainly improve with more usable power.

While an aftermarket pipe is a consideration, revalving or replacing the shock is mandatory. Although Honda has been heavily praised for their motocross bikes, they've been using garbage for shocks since 1983. They owe the buying public a better product.

## STOP COMPLAINING

While not every item is as glamorous as the engine or suspension, attention to detail contributes a great deal to the overall feel and effectiveness of a bike. When it comes to brakes, Honda has led the way with plenty of power and, more importantly, excellent feel. The '89 brakes are even better than past models; inadvertent rear-wheel lockups have been significantly reduced.

Honda is the king of shifting, too. The gearbox is smooth, precise and nearly bulletproof. Those who are nuts enough to try power shifting on an Open-class bike will find it no problem.

After heavy tinkering with the CR500, the end result is a much improved bike that provides more comfort, tracks straighter and starts a lot easier this year. The CR's only problem is its powerband.

**BLAST OFF.** One blip of the throttle on the CR500 and you're up in the stratosphere!



**SUPER  
MOTO CROSS**





# 500 SHOOTOUT



The KX500 topped our shootout last year in what we considered an upset. For Kawasaki to wrestle the title away from Big Red took an aggressive plan. Kawasaki spent as much time testing and hanging quality parts on their KX500 as they did on their KX125 and KX250.

Kawasaki is serious about the Open class, and their bikes keep showing the results. For '89 the goal was to create the ultimate user-friendly Open-class bike with smooth power, perfect tranny ratios, good handling and excellent suspension.

## SO, WHAT HAPPENED?

Kawasaki cranked! They assembled all the right parts, used them to their fullest advantage and produced the most polished package the Open class has ever seen.

The engine has the powerband of a light dimmer. You want a little more? Then turn the throttle a bit. No surprises, no bursts and no stretched arms. Power-hungry riders might be tempted to regard the lack of hit as a negative, but that's not the case at all. The smooth engine characteristics allow the KX rider to relax more while riding and concentrate on taking good lines, setting up for passes and pushing harder. It's what a 500cc engine should feel like.

The power is hooked up to perfect gear ratios, so every track obstacle is conquerable without clutch slipping or bogging the engine almost to the stalling point.

## WHOOPS!

The rear suspension isn't in line for as much praise, but it's still impressive. The compliance over small braking bumps, ruts and other irregularities is nothing short of amazing and plays a big part in allowing the KX500 to hook up unbelievably well coming out of turns. Our only complaints are lodged with the midstroke. A spike feel and a slight hydraulic lock bother enough

**MODERATION.** Controllable power is the name of the game in the 500 class. The KX500 is a master player.

riders that a fix is sure to be offered by the suspension shops. Our fastest test rider was able to get the shock to overheat and fade after only five laps on a whooped-out test track. That's not good enough.

The brakes have to come under the "Whoops!" department, too, because the front binder just doesn't cut it. Ever since Kawasaki went from a braided steel hydraulic hose to budget plastic, the braking performance has suffered. Kawasaki maintains that the plastic is hard and doesn't bow out under pressure, but in reality the front brake lever comes in all the way to the handlebar after a few hot laps. We'd be willing to pay a couple of bucks more for better performance. The rear brake uses the same material, but since the hose is much shorter it works fine.

Though it's not exactly a major problem, we thought the final gearing was off a little and went up two teeth in the rear, making the KX suitable for a wide range of tracks.



## BACK SLAPPING

Sticking to the conventional-design front suspension was a nail-biter for Kawasaki, but they can start patting each other on the back. The huge 46mm tubes are much more rigid than last year's old 43mm forks, and the big plus is that the damping action is fantastic! The decision not to go with upside-down forks says a lot about Kawasaki. They had the foresight to go with the part they knew would work best rather than with their marketing division's recommendation.

The KX500's ergonomics are nearly identical to the KX250's; both have a slightly wide feel. Kawasaki's objective was to build a bike that was the same width from the gas tank to the back of the seat, making it easier to move around on the bike. They say a super-narrow bike is narrower in its middle section and bows out at both the tank and the back of the seat, so you end up getting trapped in the middle.

They're right, but we'd like to see their equal-width approach applied to



JOE BONNELLO

**JUMP!** The Kawasaki is exceptionally stable. Pin it with confidence.

a package that was still thinner overall. With the best of both worlds, they'd be the undisputed king of ergonomics.

Speaking of ergos, the Kawasaki is the most comfortable Open bike made. The seating position is correct, and the rider doesn't feel cramped. Fortunately, Kawasaki has improved the seat foam a great deal, but they should still take notes from Yamaha. A special bonus for the six-foot-and-over set is found in the reversible handlebar clamps which, when turned around, provide extra room for gangly legs.

The KX500 is an exceptional package. The ergonomics, suspension and engine are all designed to work together. The beauty of this bike is that anyone, from novice to National pro, can win on it.



JOE BONNELLO

**CALM DOWN.** You won't have to pry your fingers off the grips. The KX500's handling is predictable and the power is smooth.




**SUPER  
MOTO CROSS**





# 500 SHOOTOUT

 It's no secret that KTM's bikes have improved immensely over the past three years, but we have to admit we were shocked by the '89 KTM 500MX's performance.

A few twists of the throttle and the KTM's strongest asset is quickly apparent. The engine is flawless. We've been calling for linear powerbands for Open-classes, and the Austrian bike provides a textbook example. Ideal jetting helps the powerband throughout the range and provides perfect throttle response.

Though it seems unimaginable, the KTM doesn't rumble like most big-bore bikes—it sings. Vibration is practically nonexistent which certainly adds to the smooth-as-glass feeling during acceleration.

Any negatives concerning the KTM's engine? No, absolutely not. We can't even nitpick. Even the notchy gearbox that we find annoying on the 250 is acceptable on the 500, but only because the fantastic powerband allows the rider to stay in one gear longer and shifts aren't as critical.

## ENOUGH ALREADY

Next on our list of highlighted items would have to be the rear suspension. On small braking bumps and those small whoops that form coming out of corners, the KTM rules. It's a little humbling compared to the Japanese bikes. Why can't all bikes flatten terrain like this?

The shock's spring rate is correct, so the bike doesn't bottom out excessively, but everything is not completely blissful in rear suspension land. The midstroke doesn't react to bigger braking bumps and medium-sized whoops as well as it should. We played with the easy-to-adjust rebound and compression damping knobs in an attempt to rid the system of this harshness, but the problem lies with the internals, so it will take a little more effort to solve. It's not a horrid

situation, but it would definitely benefit from a trip to the local suspension expert for a revalving.

The front suspension would probably rate rather highly if not for the fact that the fork springs are too soft. Since KTM didn't have stiffer springs, all we could do is try more preload which helped the ride height but didn't do anything to remedy the serious bottoming in big whoops or the tank slappers in bigger braking bumps. The wimpy springs in the front end made the rear feel worse than it is.

We were particularly frustrated by a "rocking horse" motion while coming out of turns and accelerating through the whoops. The bike slaps forward and backward so hard that the rear wheel comes off the ground,

# KTM

slowing acceleration and giving a particularly rough ride, thanks to the extra torque placed on the rear suspension.

## BUT THE ENGINE'S GREAT, RIGHT?

Yes, it is. But there are a few other things about the KTM that bother us. The seat is too tall for most riders, but KTM says lower seats are available.

The rider positioning on the bike is far forward. We're talking *way* far forward. It's a strange sensation. At times you feel as though the front wheel is directly under you. Most of this is a direct result of the soft fork which dives too much, making downhill jumps uncomfortable. This rider positioning, with loads of weight resting on the front wheel, translates into extremely fine turning habits. If you let the front end wash out, you've really pushed it beyond human limits.

The KTM 500MX has some faults that a modern-day motocross bike shouldn't have, but if you're thinking about a European motocrosser, the KTM's strengths might just outweigh its disadvantages.



FRAN KUHN

**WRIST TWISTER.** Riding the KTM 500MX will restore your faith in usable horsepower.



# 500

## SHOOTOUT

### OPENING COMMENTS



Ah, the pull of a 500cc motorcycle. The horsepower, the torque and the sheer acceleration are matched by nothing else in motocross. A lot of riders choose to ride this displacement class strictly for the brute feel. Controlling that much power with your right wrist is pretty impressive.

The majority of riders, though, have other reasons for choosing the class. No one wants to admit he's shying away from a tough race, but the truth is that competition in the 500 class is not as intense as it is in the 125 and 250 classes.

Most 500-class riders are older, more mature and less willing to take chances. They're tired of shifting 85 times a lap, holding the throttle pinned to keep the revs between 10,000 and 12,000 rpm and bouncing off 29 other riders doing the same thing.

Riding a 500 fast is a calculated undertaking, best appreciated by an experienced rider, one who's sworn off double jumps but derives plenty of enjoyment from finding creative lines.

This kind of rider isn't longing for

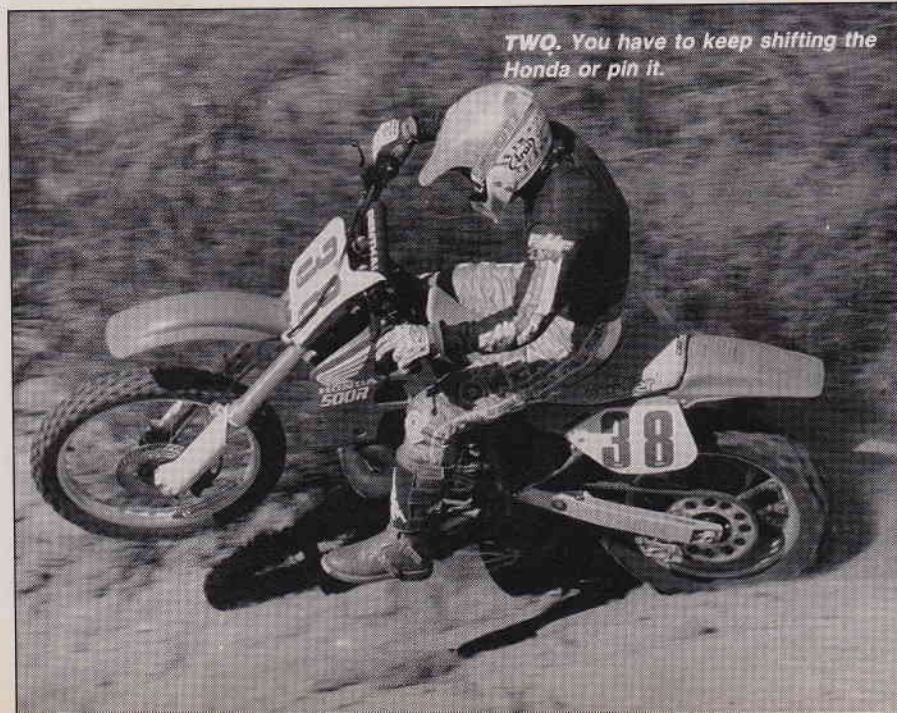
## TRACKING THE STARS

|                            | HONDA | KAWASAKI | KTM  |
|----------------------------|-------|----------|------|
| <b>ENGINE</b>              |       |          |      |
| Power Spread:              |       |          |      |
| Low                        | ★★★   | ★★★½     | ★★★★ |
| Mid                        | ★★★★  | ★★★★     | ★★★★ |
| Top                        | ★★    | ★★★★     | ★★★★ |
| Usability                  | ★★½   | ★★★★     | ★★★★ |
| Carburetion                | ★★★★  | ★★★★     | ★★★★ |
| <b>TRANSMISSION</b>        |       |          |      |
| Internal                   | ★★    | ★★★★     | ★★★★ |
| Final                      | ★★★★  | ★★★      | ★★★★ |
| Clutch                     | ★★★★  | ★★★      | ★★★  |
| Shifting                   | ★★★★  | ★★★★     | ★★★  |
| <b>SUSPENSION</b>          |       |          |      |
| Fork:                      |       |          |      |
| Spring Rate                | ★★★★  | ★★★★     | ★★   |
| Damping                    | ★★★   | ★★★★     | ★★½  |
| Shock:                     |       |          |      |
| Spring Rate                | ★★★★  | ★★★★     | ★★★★ |
| Damping                    | ★★    | ★★★      | ★★½  |
| <b>HANDLING</b>            |       |          |      |
| Cornering                  | ★★★★  | ★★★★     | ★★★★ |
| Stability                  | ★★★   | ★★★★     | ★★★  |
| <b>BRAKES</b>              |       |          |      |
| Front:                     |       |          |      |
| Power                      | ★★★★  | ★★★      | ★★★½ |
| Feel                       | ★★★★  | ★★       | ★★★★ |
| Rear:                      |       |          |      |
| Power                      | ★★★★  | ★★★★     | ★★★★ |
| Feel                       | ★★★★  | ★★★      | ★★★★ |
| <b>ERGONOMICS</b>          |       |          |      |
| Seat                       | ★★★★  | ★★       | ★    |
| Seat/Tank Junction         | ★★★★  | ★★★      | ★★   |
| Bars                       | ★★★★  | ★★★      | ★★   |
| Grips                      | ★★★★  | ★★★      | ★★   |
| Levers                     | ★★★★  | ★★★      | ★    |
| Throttle                   | ★★★★  | ★★★★     | ★★★★ |
| <b>EASE OF MAINTENANCE</b> |       |          |      |
| Airbox/Filter              | ★★★   | ★★★      | ★★★  |
| Clutch                     | ★★    | ★★       | ★★   |
| Shock Access               | ★★★   | ★★★      | ★★★  |

★ = POOR ★★ = FAIR ★★★ = GOOD ★★★★ = EXCELLENT



BOB CARPENTER



*TWO. You have to keep shifting the Honda or pin it.*

JOE BONNELLO

the neck-yanking hit of a 50-horsepower near-factory racer. He's looking for a comfortable, raceable bike that will let him win in the class he's chosen.

After peaking out with nearly unrideable monsters in the Open-class, the smart motorcycle manufacturers have been heading in the direction of controllable power, good suspension and a steady chassis.

We've collected the three leading candidates for the crown of best Open-class bike and raced them, tested them, tinkered with them and lived with them for almost two months before finally putting our thoughts to paper. The results aren't exactly shocking, but then again, we're talking about the smooth, calculated Open-class, remember?





**THREE.** The KTM has the world's best 500cc engine.

## STRICKEN FROM THE RECORD

Where's the Yamaha? Good question. We included the Yamaha in last year's shootout, so its absence might be conspicuous. Regular readers will remember we weren't too kind to the YZ490 as we explained its dead-last position.

*Super/Moto Cross* tests motocross bikes on motocross tracks with motocross riders. The Yamaha YZ490, due to lack of development, has slipped through the cracks and can no longer be considered a serious motocross bike.


The bike has had no more than sticker changes for '89, so it would be vindictive of us to roast the bike one more time. We realize that the Yamaha YZ490 is probably a fine playbike and desert bike, but it just doesn't cut it as a serious motocross racer.

FRAN KUHN



**ONE.** The KX is the most usable Open-classer available.

## THE VERDICT

 If you've read our '89 125 and 250 shootouts, you will recall how difficult it was for us to rate the bikes. This time there were no debates, no impassioned pleas to save a certain brand from the death sentence of last place. The order was obvious.

### SO DO IT

It's pretty clear we fell in love with the Kawasaki KX500, and it wasn't a one-night stand. The KX500's fantastic powerband, excellent suspension, stable chassis and precise cornering move it to the front of the pack in a clean, well-deserved victory.

The KX's winning formula centers on a package with no glaring faults. Sure, some riders will want stiffer fork springs, some pros might want a harder hit, the seat foam still isn't firm enough and the front brake needs attention, but these aren't serious problems. Besides, there will be an extra \$300-400 left burning holes in your pockets compared to what would have been left had you bought a Honda or KTM. And that will help to set up the Kawasaki just fine.

### TRYING HARDER?

The Honda comes in second, mainly because most riders find the engine hard to deal with. We can't even imagine a pro preferring the hard-hitting, low-end power produced by the CR500. Of course, Honda fans

will argue that an aftermarket pipe will spread the power and make the bike sweet. That's true, and we *did* try a couple of pipes that helped, but there's no substitute for a factory-designed wide powerband.

We can't complain about the CR500's front suspension the way we did on the CR250 because Honda fixed the USD Showas for free (if you've already purchased a Honda, get down to your dealer!) and it's a big improvement. However the shock needs surgery. Use it long enough to break everything in, then get it to an expert for a midstroke revalve.

### THIRD, NOT LAST

The KTM 500MX engine stunned everyone with its excellent throttle response and power spread. In the 500 class a rideable bike is critical, but the KTM goes beyond that with a full-on fun engine. The rear end hooks up superbly on relatively smooth tracks, and the combination is stellar.

A fantastic engine, though, can't make up for other flaws in the package. The suspension needs work and the forks are particularly frustrating. KTM has been using the USD design for *years* and should have the spring rates dialed in by now.

However, with the suspension dialed in the bike is very, very impressive. Don't call it *last* in our shootout, just third behind the Kawasaki and Honda.

**SMX**