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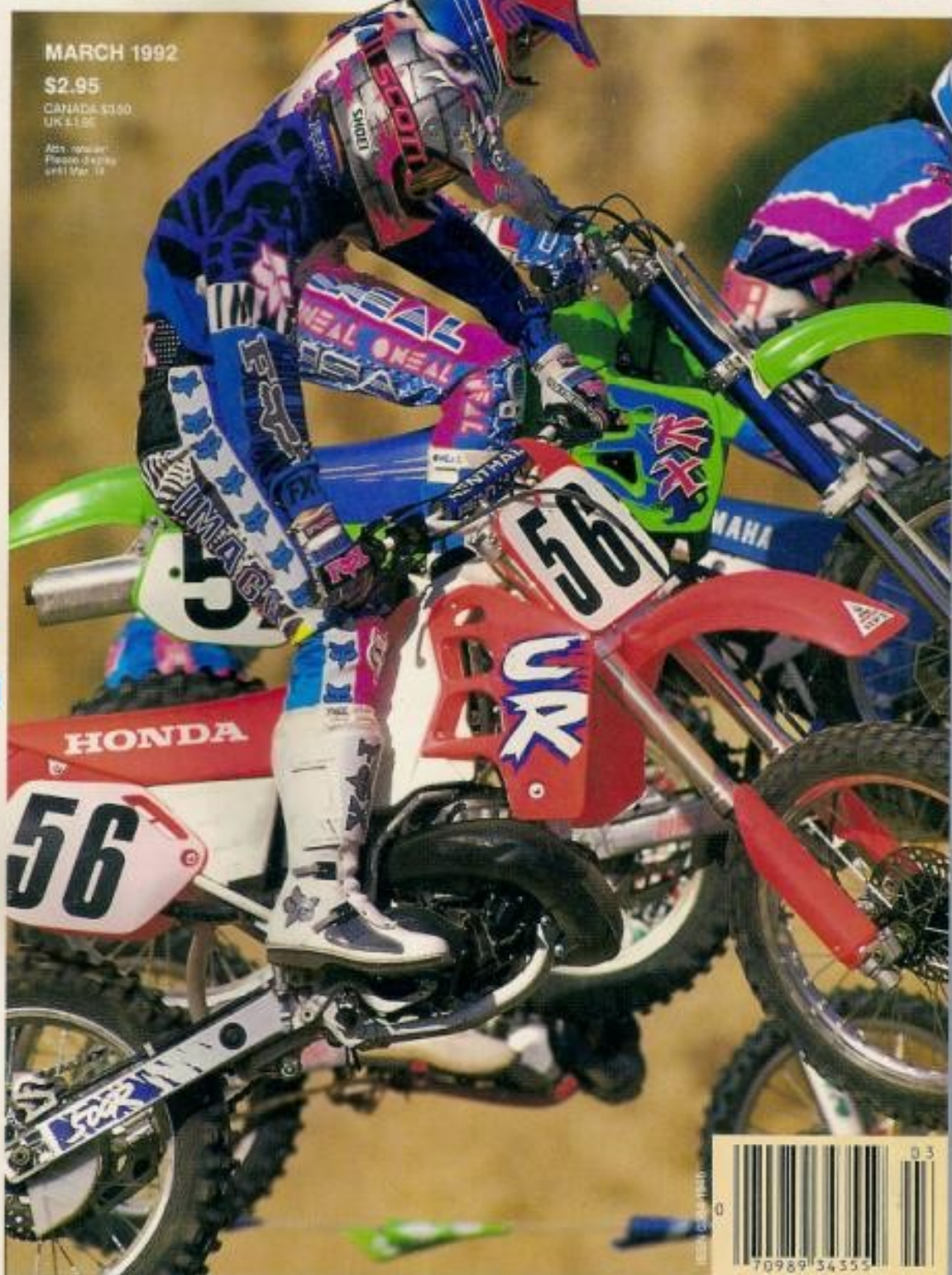
**'92 KX80:
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1992 500cc MOTOCROSS SHOOTOUT

*Honda CR500R vs.
Kawasaki KX500 vs.
KTM 500 SX vs.
Yamaha WR500*

By the knob-shredding DIRT BIKE staff

32 DIRT BIKE / MARCH 1992

Nothing, absolutely nothing, creates more white-knuckle fear than lining up at the gate on a 250 and having a 500 line up at the next gate. No, we take that back. Having a 500 on *each side* is worse. Never mind how they got there. You might be in the Vet class, where all the engine sizes are mixed together, or maybe your club is com-

bining classes. It doesn't matter. The reality is that not only will the 500s beat you over the gate and to the first turn, they'll also spew a dump truck load of track into your face down the next straight. We hate when that happens.

No doubt about it—full-on 500cc motocross bikes are the masters of inertia. They

A QUESTION OF POWER



produce momentum in unlimited amounts, so making a pass is as easy as twisting the loud handle. The massive piston goes through its stroke faster and faster, while the huge crank turns the inertia into tractable forward thrust. The downside of this wonderful acceleration is that motocross tracks have turns and such sprinkled all over them.

That awesome inertia built by the massive crank acts as a gyroscope, fighting any attempts to slow down or even change direction.

This puts more load on the suspension and brakes than smaller bikes and puts more of a premium on ease of riding. It's a fact that 500s tire a rider more than 250s and

125s, because of the weight and flywheel effect, but that burst of holeshot-getting, knobby-shredding power makes it all worthwhile. Therefore, the manufacturers have been striving to keep that rocket-like acceleration and make the missile easy to ride. Which has done the most homework for '92? That's what we're here to learn!

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POWER PLAY

Last year we put the CR, KX and KTM on the Race Tech dyno, and the KTM came out on top, producing a couple of more horses than the KX and CR. However, dynos don't tell you how a bike works on the track. The KTM wouldn't shift, so its power was negated. This year we used the Hanes dyno for seat-of-the-pants impressions. The CR500 may not produce the *most* power, but it delivers the *best* power. It builds steadily from the basement and climbs quickly through the midrange to a face-swallowing top-end. Some test riders felt the KX had more on top, but the Kawasaki builds revs much more slowly than the CR, or even the KTM. Throttle response is quick on the Honda, so a blip of the throttle will have you missing bumps that the KX and WR slam right into. That means a lot as the moto winds down.

Second goes to the much-improved KTM 500 motor. It revs almost as quickly and smoothly as the CR but doesn't feel quite as crisp. KTM, perhaps, smoothed the lower revs out too much, because most riders complained of having to rev the bike more than the others. Kawasaki takes a close third. The top-end is eye-watering, for sure, but it revs like it was built by John Deere. The WR revs like there *is* a tomorrow, but it's in no hurry to get there. All of its power is on top—it's just hard to get there. Combine that with horrid jetting and more pinging than all the sonar used in all of World War II, and you'll quickly realize the WR500 motor isn't much fun. It's fast, but not fun.

LIFE WITH THE MILLS

Honda not only produces the best power, but its motor is the sweetest in every other respect. Gear ratios, shifting and clutch feel are awesome. It's the easiest bike to start and doesn't vibrate obscenely. Kawasaki is second with a light clutch and good ratios, but some riders complained of too-tall overall gearing, notchy shifting and excessive vibration. Others whined about stalling, despite considerably more flywheel effect than the Honda.

Third place in the table-manners competition goes to the KTM, due mostly to a too-low first gear and a clutch that drags on the line. The Katoom starts easily—once you get used to the lever being on the left side—doesn't vibrate annoyingly and has much-improved shifting. We're talking smooth—a first for big KTMs! Nobody liked the WR motor. It starts easily enough but we never really wanted to start it. The motor vibrates and blubbers and pings and shifts poorly—all on the way to the starting line. Clutch engagement feel is nice, but the effort required is excessive. Also, the exhaust note and ringing fins are deafening.

FORK AWARDS

Out of the crate, the CR and WR forks are too soft. Don't leave your local dealership with either of these bikes before having the optional heavier springs (see sidebars for set-up information) installed (some deal-



When push comes to shove, which is the ultimate 500 for motocross and supercross, or is there such an animal?

ers will swap them out with just a slight labor charge). Even with stiffer springs and the ultimate oil level, neither the CR nor the WR can touch the KX fork, right out of the crate. The KX fork is incredible. It stroked so smooth and feathery that our test riders slammed things harder and harder, to the point where spectators cringed in horror. The fork could easily be bottomed by a pro but didn't do anything remotely considered ugly.

Compared to the KX, everything else felt on the harsh side. The stiffened WR500 fork takes second overall; it transmits harshness to the rider on hardpacked braking bumps but feels good everywhere else. Likewise, the modified CR fork transmits braking bumps to the rider, but not nearly as severely as the stock fork. The stock KTM takes a close fourth. It really shines on hardpack and is a huge improvement over past White Power units, but bottoms way too much on big-

ger jumps. On smooth, fast tracks, it's good; on supercross-style tracks stiffer springs and settings are a must.

SHOCK VALUE

No amount of clicker clicking or sag setting could make any of the 500s as plush as the KX500. The KX shock soaks up everything without a whimper, and it doesn't bottom or skip or act up in any way. Balance with the fork is excellent, too. Yamaha's shock comes in second. It doesn't do anything poorly, but it's not as plush on braking bumps as the KX, especially on hardpack. The Honda not only transmits sharp impacts to the rider, it also skips around, especially on hardpack. The KTM takes fourth. Its White Power shock feels great on hardpack but its spring rate is too stiff for riders under 165 pounds, and it has a weird tendency to stand up in the middle of a bermed corner in soft terrain. Slowing the rebound doesn't help.

Overall, the KX is the hands-down suspension king. It's not perfect—some riders complain of it being *too mushy*—but it's

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If it's light, narrow, and more flickable than a Bic lighter, then it must be the Honda CR500.

the best Open-class suspension on the track, from Maine to Hawaii. Second goes to the WR500, after you stiffen the fork a tad. Third overall goes to the Honda. KTM is in the hunt, too, but it's still got a definite imbalanced, Euro feel.

BRAKE TIME

Last year Honda won the braking category easily. This year, Honda improved the CR500's brakes, while the KX and WR are unchanged. Guess who has the best

brakes? If you overshoot a turn on the Honda, maybe your mental throttle return spring is sacked out. The CR's brakes are phenomenal, on any track surface, in both power and feel at the levers. Yamaha has some strong binders on both ends of the WR500, and that's good, because it's one of the heavier 500s on the track. We also liked the Yamaha Accessory shorty brake lever. Kawasaki didn't give the KX500 a floating front disc like the 250 and 125 have, and some riders were less than impressed with the squeaking, weak front brake on the KX. The rear is plenty strong, though. KTM's brakes require more effort to manipulate but get the job done at both ends.

TURNING & TWITCHING

It's no big secret that handling is a compromise between carving agility and straight-line stability, especially on hulkster 500cc two-strokes. Hondas since Day One have cornered great—even when you wanted to go straight. The '92 CR500—you guessed it—headshakes like a hound dog in tick season. It's not as bad this year, but it will still scare you on hardpack. The KTM is the opposite—it will make you feel like a hero on hardpack and like a zero in loam, where it has the disorienting habit of trying to stand up halfway through a rutted or rough turn. We couldn't quite figure out if it was the top-end power and awesome hookup overriding the suspension (remember, inertia is the 500's hand puppet) or just weird feedback from the '60s, when KTMs were called Pentons.

Splitting the CR and KTM, we have the KX500. It holds its line well enough, in rutted sweepers and hairpins alike, and is more stable than the family wagon at speed. Number crunchers did a great job on the KX500 chassis, except they designed the ergonomics for Lurch from *The Addams Family*. We know how Larry Roessler and Wardy ride 500s—they don't put their feet down a whole lot. The KX500 is a big motorcycle



The KX's tractor-like motor is handy for moving berms and such out of harm's way, and the suspension is the ultimate in Open-class ground-control.

and, combined with the slow-revving motor, you slam into a lot of things that the CR and KTM float right over with a blip of the throttle.

The same ugly locomotive feel surrounds the Yamaha like coal smoke. The bike is suspended well enough and turns sharp enough and tracks straight enough (make that *too* straight), but it plows into things a CR rider never notices. The motor revs slowly, making you work more to preload over things. That's only when there's *beaucoup* traction, though—when it's dry and slick, the WR500 is really easy to ride at a competitive pace, much like the KX500.

FEAR FACTOR

Honda headshake was the only fearful complaint the CR received, but most loved everything else so much they said things like, "The fork danced a bit." Sounds like a first date, eh? Nobody seemed scared of the WR500 either, except for the rider who thought the top-end would grenade at any moment, sending shrapnel into his high-dollar knee braces.



The Honda may not have a power valve, but it's the sweetest package on the track. Honda has spent years taming the CR500, and it shows.



Close but no cigar: A horrid clutch and bulky pipe mar an otherwise awesome motor. Riders were thrown off balance by the too-low first gear, as well.



KTM has a surprising, almost-perfect motor and not-so-perfect suspension, but the 500 SX is held back by gearing and clutch woes.

On hardpack, the KTM rider was one with no fears or distractions, but that weird mid-rut boogaloo had many riders looking for a new dance partner in loam or sand. The KX500 didn't draw any complaints—a few tractor jokes, maybe, but nobody had to be duct-taped to the bike, no matter where we were.

BITS & PIECES

- Every tester complained about the low-boy pipe on the KTM burning his leg or at least getting in the way on left-hand turns.
- Some riders complained of their right boot catching on the WR500's gas tank and on the KTM's left side panel.
- The CR, KX and WR have guides for the tranny and carb vent tubes, to keep them

away from the suspension linkage, where solvents could dilute the grease and cause all sorts of expensive ugliness. KTM zip-ties its hoses out of harm's way.

- On a tabletop, a small rock got sucked into the countershaft, causing the WR's chain to derail and deeply gouge the clutch mechanism case. This could have happened to the other bikes, but the fact is that it didn't.

- When the KTM fork bottoms, the tire smacks the front fender, distracting the rider.

- The handlebars on the KX500 are swept back too far and too wide. Suzuki bend bars feel much better.

- Yamaha sells accessory lever grip pads and a shorty brake lever for the WR. Both make life easier.

- If you don't cut the top off your KTM airbox, it draws dirty air into the right-side inlet, where it has a direct shot at the filter/box junction. Grit can and will work its way into your motor.

- The Honda and Kawasaki come with K490 front and K695 rear Dunlops, some of the best all-around MX tires going. The KTM's K572 Dunlops are great on soft terrain but grim on hardpack, and so are the WR's ED Grittys.

- We lost three left-side seat bolts from the WR500. The KTM lost its silencer mounting bolt. That's a slight improvement. Last year the KTM silencer mount kept breaking.

- The CR500's silencer rubs the rear tire sometimes, but we haven't heard of it causing any crashes or failures.

AND THE WINNER IS . . .

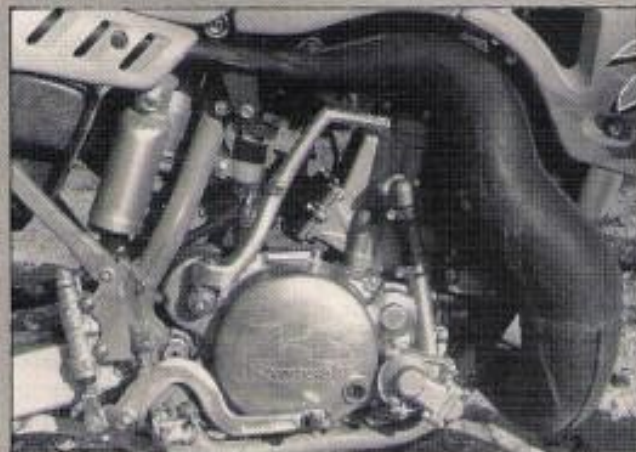
It's twitchy all right, and it has a tendency to slew sideways when traction is bad, but the CR500 is the most responsive, easy-to-ride, even-powered 500 motocrosser. The suspension is bearable with slight modifications—a first on an Open-class Honda—but everything else is so sweet it's hard to do better. Besides, who needs marsh-



Even our pro-level test riders didn't like going for doubles on the Yamaha, because its motor never wanted to run cleanly. Everything else was excellent.

mallow suspension if you float over most of the bumps, anyway? If you race exclusively at hard clay tracks like Carlsbad and DeAnza, the KX might be a better choice, but the CR500R is the king of the 500s everywhere that doesn't look like it just came out of a potter's kiln.

Close behind we have the KX500. It has suspension so good you feel like you're in a mattress commercial, and the motor builds revs like a train in a spaghetti western, so the bike never does anything unpredictable. The KX does everything else well but has a distinct wide-body feel, like a WR500 with love-handles. It's also geared tall enough to



KIPS power valves put the KX500 at the top of the technological heap. When traction is more scarce than eco-entries for the Baja 1000, the Kawasaki motor shines brightest.



Savvy tuners can make the WR500 motor run cleanly and strong enough to stretch your arms but, stock, it's like riding a poorly jetted paint mixer.



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	Honda CR500R	Kawasaki KX500	KTM 500 SX	YAMAHA WR500
Engine type	Fixed-valve, liquid-cooled 2-stroke	Reed- and KIPS-valved two-stroke	Reed-valve 2-stroke	Air-cooled, reed-valve 2-stroke
Displacement	493cc	499cc	497cc	497cc
Bore and stroke	63.0mm x 79.0mm	65.0mm x 86.0mm	64.9mm x 80.00	67.0mm x 82.0mm
Carburetion	38mm Keihin	38mm Keihin	38mm Keihin	38mm Mikuni
Fuel tank capacity	2.4 gal.	2.6 gal.	2.5 gal.	3.4 gal.
Gearing (as tested)	14/51	14/47	14/52	14/50
Lighting coil	No	No	No	Yes
Spark arrester	No	No	Optional	Optional
Running weight w/o fuel	235 lb.	233 lb.	236 lb.	233 lb.
Wheelbase	58.9" (1496mm)	58.7" (1490mm)	58.2" (1480mm)	59.3" (1505mm)
Rake/trail	27°54.7"	27°34.6"	27°54.2"	28.3°5.0"
Ground clearance	13.5" (343mm)	14.6" (370mm)	15.0" (381mm)	14.6" (370mm)
Seat height	33.0" (844mm)	37.4" (950mm)	37.6" (965mm)	35.8" (915mm)
Tire size and type:				
Front	89/100x21 Dunlop K490	89/100x21 Dunlop K490	89/100x21 Dunlop D752F	89/100x21 Bridgestone ED-11
Rear	130/100x18 Dunlop K895	130/100x19 Dunlop K895	100/100x19 Dunlop D752	100/80x18 Bridgestone ED-12
Suspension:				
Front	Shows inverted cartridge, adj. reb./comp., 12.2" (309mm) travel	Kayaba inverted cartridge, adj. reb./comp., 12.2" (310mm) travel	White Power inverted cartridge, adj. reb./comp., 11.8" (300mm) travel	Kayaba inverted cartridge, adj. comp./reb., 12.0" (305mm) travel
Rear	Shows aluminum piggyback, adj. comp./reb., 12.6" (320mm) travel	Kayaba aluminum piggyback, adj. reb./comp., 13.0" (330mm) travel	White Power aluminum piggyback, adj. reb./comp., 13.6" (345mm) travel	Kayaba alum. piggyback, adj. comp./reb., 12.2" (309mm) travel
Country of origin	Japan	Japan	Austria	Japan
Suggested retail price	\$4199	\$4199	\$4525	\$4299
Distributor/manufacturer	American Honda 1919 Torrance Blvd. Torrance, CA 90501-2748 (213) 783-2000	Kawasaki Motor Corp. 9350 Jeronimo Blvd. Irvine, CA 92718 (714) 770-0400	KTM America 1906 Broadway Lorain, OH 44052 (216) 244-2726	Yamaha Motor Corp. 6565 Katella Cypress, CA 90630 (714) 761-7300

REPLACEMENT PARTS COSTS

Piston	\$80.13	\$54.50	\$153.01	\$51.40
Ring(s)	\$29.35	\$20.92	\$ 56.30	\$26.00
Air filter	\$24.84	\$29.80	\$ 24.95	\$19.00
Clutch plate (drive)	\$ 6.57 (8)	\$ 8.70 (8)	\$ 6.97 (10)	\$12.60 (7)
Front sprocket	\$11.90	\$17.68	\$ 21.64	\$16.20
Rear sprocket	\$57.84	\$90.00	\$ 57.75	\$41.30
Front brake pads	\$23.00	\$35.50	NA	\$25.70
Rear brake pads	\$23.00	\$38.10	\$ 22.95	\$41.30

peel your eyebrows right off of your face. By all means, buy a '91 instead, if your dealer still has one. There's no difference, except for stickers and the price.

It gets really tough from here, but we're not about to cop out now. The WR500 barely edges out the Katoom for third. It has better suspension than the Honda and KTM and better brakes than the KX and KTM. The WR also handles better than the KTM but makes more noise than the other three bikes combined. The air-cooled YZ490 mo-

tor should have been laid to rest long ago, but Yamaha keeps deflecting the silver bullet that would end its terminally vibrating, ping-ping, burbling life. We don't know which thought is scarier—whether they have a warehouse full of motors left over from the '80s, or are "new" motors being rolled off of assembly lines as we speak?

KTM has built the exact opposite of the WR500. It has a killer motor in search of a chassis. The KTM headshakes some and tries to spit its pilot into Kansas on occa-

sion, but don't most Open bikes, on a bad day? It has good snap, like the Honda, and hugs hardpack like Dale Earnhardt's Lumina, but it also has the bulkiest pipe and worst-feeling clutch this side of '50s England. If the KTM cost \$326 less than the competition, these things could be overcome eagerly by power-hungry motoheads. At \$326 more than the CR and KX, the Katoom will be the choice of those who want to be different, and out of the KX/CR mainstream. *

HONDA CR500

• Honda made only a handful of changes to the 500 for '92 but the updates make for a different-feeling, different-looking CR500. The big CR got a longer silencer. People at Honda say it boosts power and softens the power delivery. Lighter rims help the suspension work a bit better. A new, more powerful front brake with better feel replaces last year's excellent disc-squeezer. Fluorescent red bodywork and a tiny Honda emblem on the frame backbone forward of the tank distinguish the '92 from previous Hondas and any other sensibly styled machines. New triple clamps grab a new compression- and rebound-adjustable fork with 4mm more travel than the '91 fork. Rake is up one-tenth of a degree from '91 and there's two-tenths of an inch more trail.

We wanted a plusher ride from the new CR fork, which *still* is harsh compared to the KX Kayabas, so we tossed the 0.38-kg springs for stiffer 0.40-kg coils and dropped the oil level to 130mm with the clickers set at 3/12 (comp./reb., out from full clockwise). Set sag at 102mm and turn the shock rebound out one click, to fight packing. •

KAWASAKI KX500

• Technologically, the new KX500 does have one advantage over its competitors—it has a power valve, the magic device that gives good low-end *and* top-end power, if done right. Two #1 AMA National plates prove Kawasaki did it right. The KX hasn't changed much in years, though. It doesn't have the perimeter frame that the other KXs, right down to the KX80, have. It doesn't even have a floating front brake disc like the '92 KX250 and 125. The KX500 doesn't get any changes this year because it isn't a big seller. There are only so many people who can handle, or want to handle, a 500cc two-stroke. Kawasaki's resources aren't unlimited, so most of the research and development every year goes into the 250 and 125. What it does have are new stickers.

We felt the bike was fat off of the bottom, so we went down one size on the pilot and leaned the needle position a notch. Big fast guys will want heavier fork springs, but we left well enough alone, feeling the KX500 was race-ready right out of the crate, making it the least-expensive raceable machine in this shootout. •

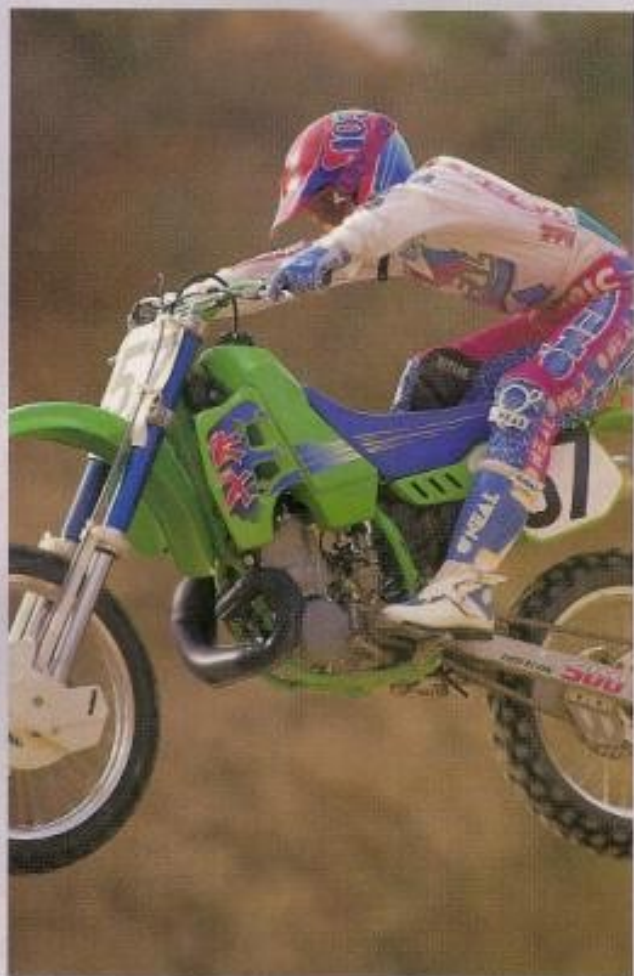
KTM 500SX

• Following KTM's success with Mike Fisher and the '91 250 in AMA Supercross, the Austrians decided to give their whole motocross line the "SX" designation. We don't know that a whole lot of them will ever see the inside of a stadium, but KTM put a lot of effort into the '92 500SX. It got the same swingarm, linkage and rear wheel the 250 uses, plus all of the suspension changes of the smaller Katooms. The White Power fork is larger (57mm upper legs) and has a new sealed cartridge damper system with increased oil capacity. Major changes have been made to the shock, too, to fight harshness and fading. New Dunlop 752s grace both Excel rims.

KTM also massaged the motor in an effort to make it easier to ride—and shift. Thicker reeds, a 37mm Keihin carb and new porting are intended to produce *more* top-end power with more low-end and a smoother midrange. We never were hurting for more power from the big Katoom, but we did rant and rave a lot about the notchy shifting, so KTM addressed that with a totally new shift-drum design.



Jumping the WR500 is much like the KX—it has a neutral chassis, great suspension, girthy midsection and a slow-revving motor.



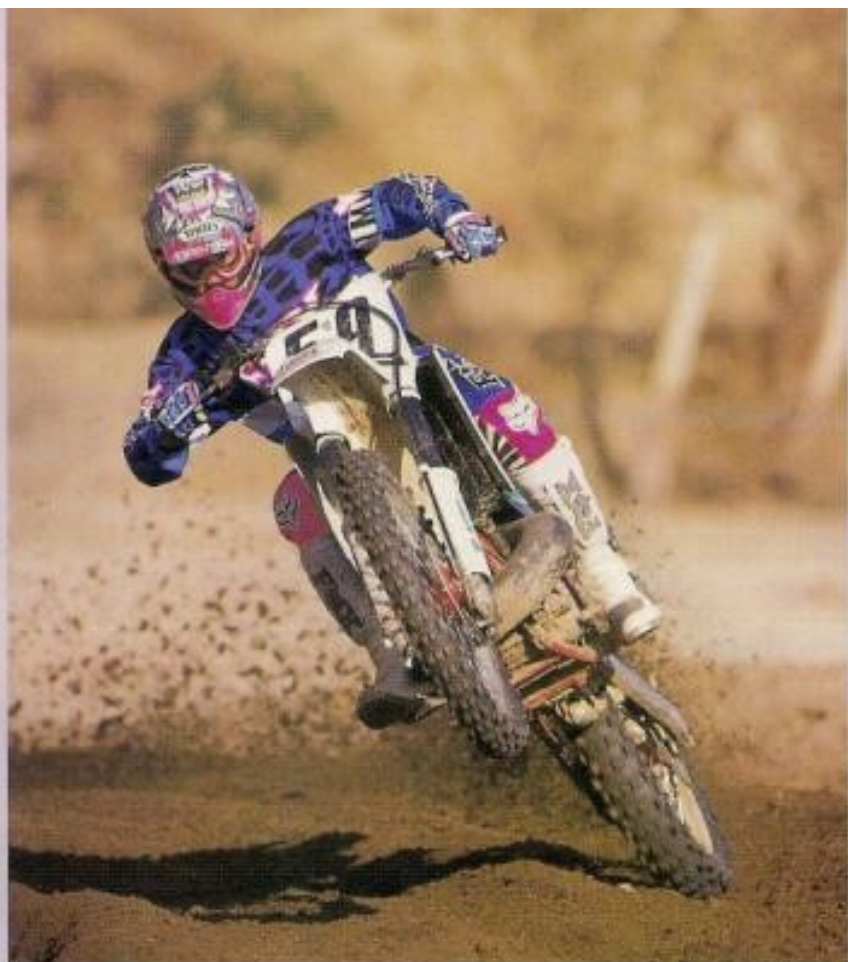
The KX has the sweetest motor and suspension for predictable flight time, but it's also the largest bike of its class, so corrections don't come easily.

KTM technicians cut the top of our air-box, because they have found that the filter stays cleaner when it draws air from under the seat, and throttle response is enhanced a bit. Realizing most 500 riders are hefty sorts, KTM set up the 500 for the 170- to 200-pounders. The standard fork spring is used, but less oil is run (stock is 130mm, ours had 135mm) to fight harshness when the clicker is cranked to the harder positions. KTM recommends that riders under 165 pounds use the softer shock spring, and that everyone lube the clutch cable religiously. •

YAMAHA WR500

• The WR engine is the same as the old YZ490 engine. Its color is changed, the combustion chamber is reshaped, the carb is 2mm smaller and the pipe is different. Yamaha added a lighting coil, just in case you want to bolt on a headlight. Most motocrossers don't. Despite all that, it's really the same motor. If you liked the 490, you'll like the WR. If you didn't, you won't.

The rest of the bike is completely different. The fork is similar to the '90 and '92 YZ250 fork, and the shock and linkage all are 250 stuff. Framewise, the WR must have begun life in its first prototype as a YZ250 frame, but it evolved into its own entity. The fork angle is less steep (28.3° vs. 27.5°) and



Massive motor mods help the KTM 500 considerably. It's a blast in corners, but some riders complained about it trying to stand up in mid-turn.

◀ *Despite having the slowest-steering geometry, the Honda feels the quickest through corners, with the help of a crisp motor and thin chassis.*

there are various gussets and brackets that the 250 doesn't have. The fuel tank is monstrous, holding 3.4 gallons. It has to be big—the WR has a mainjet the size of Arizona's Meteor Crater.

Yamaha markets the WR as a dual-purpose bike—an off-road sled that can be motocrossed occasionally—but it needs a little work to make it moto-ready. The stock jetting is too rich, so go to a 440 main and 35 pilot. Gearing is a tad tall, so Yamaha recommends a one-tooth-smaller countershaft sprocket (a 13). Yamaha set up the suspension for off-road plushness, so the fork is a little soft for motocross cruncher landings. We went to a 0.40-kg spring with the standard oil height (120mm) and went in one click on rebound, to offset the heavier spring. Set sag at 97mm. Also, if you ride on hardpack, the ED Gritty knobs are too tall and tend to roll. We switched to the rear tire for a Bridgestone M22 but used the stock front tire for hardpack. Yamaha also offers a works pipe (\$179.95) that adds top-end and smooths out the midrange burst a bit. We put it on, making the WR easily the most expensive bike in this comparison. □

