



Why mini riders are so stinkin' fast



Some kids have all the luck. In addition to being some of the most talented mini riders in the country, these five guys got to ride DIRT BIKE's fresh, new 80s until they weren't so new any more. Of course, there was a catch! During breaks, the boys had to eat free pizza and talk to a supermodel, who took notes about the bikes.

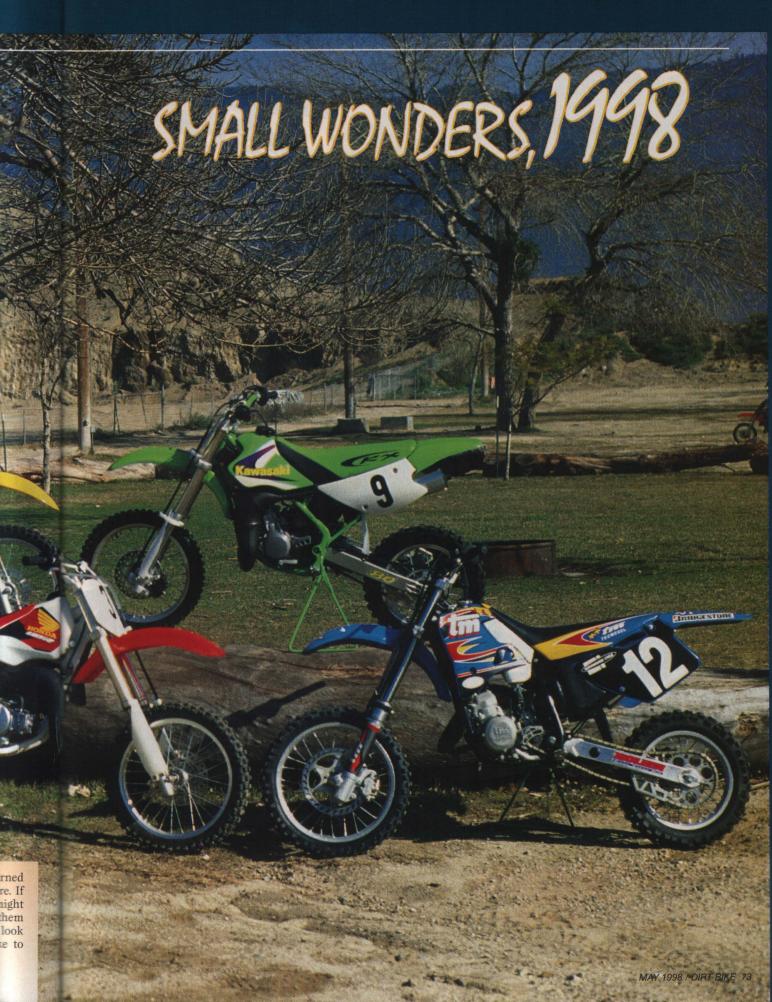




Don't give up. Blame the new 80s. They are insanely fast. These days, they are big enough for some 15-year-olds with ten years of riding experience. If you had bikes like these when you were 15, you could have demoralized older riders, too. You didn't, though. Now,

the best you can do is find the 80 that can help your favorite young rider be as fast as possible. So you can give that youngster a sound, informed opinion on the latest 80s, we got them all, along with mini riders who ranged in skill from first-time racers to some of the

fastest kids in the country and burned more gas and oil than a refinery fire. If you don't like mini riders, you might want to know which 80 will give them the least chance of making you look bad; you can recommend that bike to every potential mini pilot you see.



WHAT'S NEW

Most of the 80s in this shootout got some serious reworking by their respective manufacturers for '98. Here are the things you should remind your kids to mention to racers who don't have new '98s before each moto.

If you get a new Honda, tell the other kids: "This year's CR80 suspension settings provide a plusher, more compliant ride for light riders. The Honda 80 now uses the same front brake master cylinder and lever as the CR125 and 250. There's also a new front brake hose as well as a new brake pedal—hey, what do you guys think of the new downhill start into the 180 first turn? Man, am I ever glad Honda is putting stronger axles in the '98 80s—aren't the landing areas for most of the jumps like concrete out here?"

If you get a new Kawasaki, tell the other kids: "The KX80 has a power-valve this year, and the new two-piece clutch cover sure makes it easy to change the plates. Well, the whole engine is pretty much new. The thing nearly pulled my arms out of their sockets when I was pit racing this morning. Did I dust your dad out when he had the cylinder off your old bike? The KX also has a new fork, swingarm and tougher wheels than last year. Even the pegs and peg mounts are stronger. Hey, did you see that guy with a bike like yours break a peg off in practice? The KX sure is slim this year with its new tank and side panels. Is your bike an '82 or something? It looks weird."

If you get a new Suzuki, tell the other kids: "Man, power-valves make such a difference on 80s, it's amazing your bike doesn't have one. When did they design the engine in your bike, in the '70s or something? My new RM should be easier to move around on with the new radiator shroud, too."

If you get a new TM, tell the other kids: "TM is a little Italian company that builds little batches of works bikes. It gives some of them to big-name riders who win world championships with 'em. Some it sells. Sorry, I can't tell you where I bought this one. Isn't the sand-cast, power-valved engine neat? It's in a state of tune more like a fully modified bike. Yours looks pretty stock. Look at the hydraulic clutch. Does your bike have cool billet parts all over it like mine?"

If you get a new Yamaha, tell the other kids: "YZ80s sure have been stomping the other 80s, like at the World Mini Grand Prix. Yamaha really did a lot to the YZ in '97: new porting, new ignition, new combustion chamber shape, new pipe, even



Honda: A reasonably rideable high-revving rocket.



Kawasaki: A class-leading combination of controllable power and high-rpm wallop.



Suzuki: The 80 that thinks it's a 250. Actually, the power delivery is better than some 250s.

hard-chromed shift forks to make the shifting really smooth. This year the frame has been made even more rigid. Yeah, I heard about the brake improvements on your bike, YZ80s have the same Akebono front master cylinder as the YZ125 and 250. This year the front brake gets a new type of brake pad, too."

WHAT WORKS— & WHAT DOESN'T

Unfortunately, the psych-out power of a bike's clever features doesn't do much if the bike doesn't really perform. When the gate drops, you know. Here are how the engines and handling packages of the hottest 80s stack up:

POWER PECKING ORDER

Kawasaki's new 80 engine nudges the reality of what minis are capable of a little further into the unbelievable zone. When it's dialed in, it's slightly better than everything else out there in every area that counts to fast mini pilots. For the first time in many, many years, the KX80 truly has the ability to pull itself into its power-making zone. It pulls well from moderate engine speeds and never seems to stop making power. Hang on, the thrust builds quickly, and there's a lot of power being made. Adults who ride the thing don't come back saying, "It's fast for an 80." They just say, "It's fast!"

It's not the ultimate engine for every 80 rider. Our beginner rated the KX's engine last, probably because he was riding it under the power on all but the most open parts of the track. The KX engine pulls from down low, but not as well as some of the others. Our intermediate and expert riders were stoked with the KX. Some of these kids have ridden every 80 made in their racing histories and couldn't stop talking about how fast the thing is and how broad the power is. Some even noticed how well it shifts, another characteristic no one expected from a KX80.

Of course, any praise the KX got came after a little tweaking from the in-theknow characters at the K-Tech (Kawasaki Technical Support) van. In showroom-stock condition, the KX gurgles at very low revs and doesn't clean out easily. The KX's obvious jetting problem was solved by trading the stock 58 pilot jet for a 55. The not-so-obvious finishing touch was ditching the weird 10.5 heat range spark plug that comes stock. Replace it with a warmer NGK B9EV, B9ES or the equivalent and the KX becomes the bike it was intended to be. The hotter plug is an old supercross trick that can help any bike run a touch crisper, especially if the track calls for a



In typical TM fashion, the 80 has the largest carb in its class and impressive topend power.



Yamaha: The latest, greatest (by far) version of the engine that has powered YZ80s since '93.

lot of on-and-off-the-throttle riding.

Yamaha apparently didn't want to mess with the greatness that resulted from the motorwork the YZ got in '97, so the YZ80 engine didn't get any engine changes for '98. It would have been the king of 80 power if Kawasaki hadn't upped the ante. After the smoke cleared and the last bit of roost fell back to earth, the YZ had earned a close second to the KX in the engine segment of the shootout.

Yamaha's 80 delivers clean, solid power from mid to top and the power carries through to a shrieking overrev. The YZ doesn't get back on the pipe as easily as the KX if the rider bobbles or upshifts too soon, and the engine does not zing toward redline quite as forcefully as the KX. What you get is an engine that pulls and carburets like the well-developed engine package it is, a

power-valveless engine that gives the KX a run for its money anywhere on any track. It doesn't need any fiddling to rip, either. Stone stock, it screams.

The race for third and fourth place in the engine wars turned out just as close. After surveying our notes, it was clear that the Honda edged the Suzuki for third partly because we had just one beginner tester and one novice. The rest of the panel were intermediates and experts, who were more interested in incredible power than incredibly usable power. In addition to having the same holeshot ability as the KX and YZ, the Honda is also astoundingly ridable. Spoton carburetion and a super-slick gearbox keeps the Honda at or near the sweet spot of its powerband, and the power keeps coming well into the porting tool rpms.

Don't be misled by the RM engine's fourth-place finish. This powervalved

powerplant deserves some kind of award for helping today's kids. Its power is a combination of astounding rideability and eye-opening peak output, though it doesn't pull quite as well as the KX, YZ or CR on top. Every test rider praised the RM's crisp, forceful power and that was with stock jetting. The bike feels as spot on as you could imagine, but it gets even better with a switch from the stock 210 main jet to a 200, and the needle clip should be moved from the stock position, #4, to the third groove. Leave the airscrew at 1.5 turns out. Then it becomes one of the sharpest-running, cleanest-pulling motors in all of dirt biking. Its power becomes more mini-250 than 80, and the gearbox and clutch are dream-like. If Suzuki wrapped this engine in a more up-to-date chassis and just added a bit more top-end pull (a good pipe would do it), like Honda did with its 80 in '96, the Suzuki would be a hard package to beat.

On paper, TM's 80 engine looks like a winner. The power-valve, hydraulic clutch and huge carb read like a recipe for greatness. On the track, the thing doesn't cook as expected. It's fast, but the power is all top-end. It's so hard to ride it's hard to believe it has a power valve. The huge 32mm Mikuni is partly to blame. A smaller carb would probably give the bike some much-needed rideability. As deliv-

SMALL WONDERS, 1998



The CR's predictable handling is the result of a strong frame, fine ergonomics and very good suspension.

ered, the TM is hard to ride and no faster on top than the class leaders. Even the hydraulic clutch was disappointing. The pull is the hardest of any 80. We have ridden 250's with lighter pulls.

HANDLING'S BIG EFFECT ON THE MINI HIERARCHY

Gone are the days when a fast engine made a winning mini. Chassis performance is just as important in the 80 class as any other. Adults have a hard time believing it, but fast kids make full use of strong frames, balanced suspension, great brakes, and correct ergonomics as much as the best adult racers.

At the top of the chassis performance heap, we have the Yamaha. Its suspension drinks up small and large bumps and has the bottoming resistance to withstand the antics of jump-crazy expert mini pilots. It also has the same adjustments as Yamaha's larger YZs, so it's very tunable. We had a wide range of rider weights and skill levels on the YZ and none, from 85 pounds to 150 pounds, had anything but praise for it.

The YZ's crowd-pleasing feel isn't just

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80cc MOTOCROSS SHOOTOUT

A STREET, STRE	HONDA CR80	KAWASAKI KX80	SUZUKI RM80	TM80	YAMAHA YZ80
Engine type					
	cooled 2-stroke	liquid-cooled 2-stroke	valve, liquid-cooled 2-stroke	valve, liquid-cooled 2- stroke	cooled 2-stroke
Displacement	9000	9000			9300
Bore and stroke	47mm v 47 0mm	40mm v 4E 0mm	47 Emm v 46 9mm	46 5mm × 47mm	47mm v 47 8mm
Carburetion					
Fuel tank capacity					
Gearing					
Lighting coil					
Spark arrester					
EPA-legal					
Running weight w/no fuel					
Wheelbase					
Rake/trail					
Ground clearance					
Seat height	32.4" (825mm)	33.1" (840mm)	33.1" (840mm)	33.1" (840mm)	33.6" (854mm)
Tire size and type:					
Front	70/100-17 Dunlop K490	70/100-17 Dunlop D737F	70/100-17 Dunlop K490	70/100-17 Dunlop 752F	70/100-17 Dunlop K490
Rear	90/100-14 Dunlop K695	90/100-14 Dunlop D737	90/100-14 Dunlop K695	90/100-14 Dunlop 752	90/100-14 Dunlop D737
Suspension:					
Front	Showa inverted cartridge,	Kayaba inverted cartridge,	Showa, 10.8" (275mm)	Paioli cartridge, adj	Kayaba inverted cartridge,
	adj. comp./reb.,	adj. comp./reb., 10.8"	travel	comp./reb., 10.8" (275mm)	adj. comp./reb., 10.8"
	10.8" (275mm) travel	(275mm) travel		travel	(275mm) travel
Rear	Showa aluminum	Kayaba aluminum	Showa aluminum	WP aluminum piggyback,	Kayaba aluminum piggy-
	piggyback, adi, preload/	piggyback, adj. preload/	piggyback, adj. preload/	adj. preload/comp./reb., 11"	back, adj.
	comp./reb., 11"	comp./reb., 10.8" (275mm)	comp./reb., 10.9" (277mm)	(280mm) travel	preload/comp./reb., 10.8"
	(280mm) travel	travel	travel		(275mm) travel
Country of origin		Japan	Japan	Italy	Japan
Suggested retail price			\$2929	\$4850	\$3149
Distributor/manufacturer		Kawasaki Motors Corp	American Suzuki	TWS	
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the result of a good fork and shock. The fork, frame and swingarm are very strong and the YZ wears the slimmest, smoothest bodywork in the class. The frame geometry is right on target, too. The bike's cornering is light and effortless, yet it has a planted, stable feel at speed.

Rather than overlook the finishing touches that make a truly effective bike, Yamaha graced the YZ with amazingly powerful, controllable brakes, a nice handlebar shape, great grips, levers and pegs. The thing is by far the coolest-looking mini of the group, too. It's so stylish, some YZ80s might escape the graphic conversion to miniature McGrath replicas.

As we mentioned earlier, Yamaha also put a great engine in the YZ, which

makes it a combination of excellent items, and they all work brilliantly together. We have a winner.

The battle for second-best handling package was brutal, because the two machines fighting for it, the Honda and Kawasaki, are so good. Once we tallied all our testers' ratings we discovered that both bikes' handling were nearly equally well-liked, though not as well as the YZ's.

First of all, the Kawasaki's suspension was ranked slightly ahead of the Honda. Both bikes work well on whoops, square edges and braking chop, but the KX behaves better on jump landings. Both bikes corner well but the Honda is a slightly better carver. On bumpy or rutted fast sections, the two bikes are calm and confidence-inspir-

ing. At the end of the straights, both bikes' incredible brakes are obvious.

The KX's astounding engine launched it, literally, far enough ahead of the CR to lock down its position as second-best bike. The CR gives you a very good engine in a very good chassis. With the KX, you get an excellent engine in a very good chassis, plus some truly impressive details, such as the two-piece clutch cover, the best pegs, Emigmobile styling and the best price in the class.

Most of the 80s in this shootout have chassis that really support their engines, but that's not true for the RM. It's a decent-handling bike for beginner or novice racers, but the chassis just can't withstand and deliver as that of the YZ's, KX's or CR's. All the faster



Kawasaki's new bodywork is slim and flat, but it's not as spacious as the CR or YZ. It suits smaller riders best.



Suzuki needs to bring the RM's chassis up to speed with its engine. The bike's spindly fork and frame are too weak for fast 80 pilots.



Yamaha's 80 has the same balanced, dialed-in feel the bigger YZs have. It's a great bike to go fast on.

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What would happen if you made an 80 from a 125 chassis with shortened suspension and 80 wheels? TM 80 riders know.

riders noted the other bikes' more predictable handling. The RM's stock suspension settings are on the soft side, which is forgivable, but the flexy fork and frame make the bike squirm when riders try to push it-not what you need in a race. Because of its amazingly rideable engine, the RM is the best 80 for a small, light rider just getting into 80 racing. It also makes a fine, fast trail machine for a youngster who's ready for a lot more performance than, say, an XR80 or 100 can deliver. In a ranking of the hottest racing 80s, the Suzuki gets

fourth place.

As for the TM, its chassis is easily as far from the bullseye as its engine. Again, the hardware list is impressive. This bike has a 45mm conventional fork that may be more rigid than the inverted forks on the CR, KX, and YZ. The frame is strong. The swingarm is huge. It should be, these are basically the same parts TM puts on its 125, as well as the engine. The result is a bike that feels like a slow, oversprung 125 with small wheels. It seems as though the fork and shock springs were just shortened 125 parts, making them punishingly stiff. The big-rotor brakes, lifted directly from the 125, are (we never thought we would be saving this) too powerful. Well, maybe not, but they aren't very controllable. In addition to all these oddities, the TM is a good 15 pounds heavier than the other 80s. It's a good thing it makes so much top-end power or it would have been further behind. Until now, we have always been surprised how good TMs have been, but this bike was clearly the fifth-place machine in our five-bike test.





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