

**250 SHOOTOUT** HONDA XR250 vs. YAMAHA WR250F vs. TTR250 vs. YZ125  
vs. SUZUKI DRZ250 vs. KAWASAKI KDX220 vs. KTM 200EXC

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## DB'S GUIDE TO THE NATIONALS:

### ANOTHER CROWN FOR CARMICHAEL?

YZ125 ENDURO



## PRO PROJECTS



ULTIMATE WR250F

### YAMAHA'S SECRET NEW 4-STROKE: 16,000 RPM 125CC SCREAMER



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*Which trail leads to the best  
lightweight two-stroke?*

**F**orget about racing. This is about fun. This is about pointing your front wheel down a hill that has no bottom. This is about making trails where no one has ever laid tracks before. This is about light trail bikes—real lightweights. No cams, no batteries, no four-strokes.

Here's the choice: you can make your own, starting with a motocross bike. You can make your own, starting with a Kawasaki KDX200 or 220. Or you can buy a KTM 200 EXC, which is the only ready-made bike for what we have in mind. Which route is best? Glad you asked.

# HOME GROWN VS. STORE BOUGHT





Want a lightweight two-stroke? So how much work are you willing to do? You can make your own, starting with a Kawasaki KDX or a 125 MX bike, or you can let KTM do all the work beforehand.



# HOME GROWN VS STORE BOUGHT



## OPTION ONE: YAMAHA YZ125 ENDURO

We admit it. We abuse motorcycles. Some bikes are passed around like bar-room bimbos. The Yamaha YZ125 is like that. It was used for motocross, then converted into an off-road 125. Two different test riders raced it in the Tecate hare-scrambles (back-to-back races with no rest). Then Pete Murray raced it in the Laughlin U.S. Hare-Scrambles.

The YZ is a perfect bike for a trail conversion. The suspension is just a little light for a 180-pound rider in motocross, but perfect for hard off-road use. No modification required. The fly in the ointment is the powerband. Prior to 2001, the YZ had more low end than any 125 available. Then Yamaha put a bigger carb on the bike, which made it a little faster on top, but took away bottom end. Interesting note; on the dyno, the 2000 and 2001 models look like they have about the same amount of low-end power. In real life, though, the 2001 doesn't pull as well at half or quarter throttle. When you fall off the powerband, it's hard to climb back on board.

We asked around for easy solutions. Buying a 2000 carb was suggested, but it's expensive and no one was quite sure it would work with the new ignition mapping. Instead we decided to play with pipe and reed tuning. Noleen specializes in arenacross bikes, which are all about low end. So we started off with a Noleen pipe, and then stacked four extra exhaust gaskets between the pipe and cylinder.

Virtually all reed block makers claim to increase low end. In the past, we have noticed that some reeds are better on top and some are better on the bottom. It's a function of how stiff the petals are; stiff is good for peak power, less stiff is better for low-rpm torque. Carbon Tech is the only reed maker that's right up front with that fact—they make high, low and medium tension reed petals. The low-tension petals are exactly what the bike needs, but the guys at Carbon Tech are right up front with another fact: low-tension reeds wear out faster, especially in the Yamaha's particular block design. Okay, we can live with that.

Fuel range is problem with 125 motocross bikes. It's hard to get much of a good trail ride when you are tied to the truck with a 1.8 gallon leash. Cycra makes a 2.9 gallon tank that sells for \$180. E-line makes an assortment of carbon fiber guards for the express purpose of converting MX bikes to trail bikes, and we needed Acerbis Rally Guards to protect the hands. Just for looks, we installed a Steahly lighting kit, which uses the slight amount of current that goes to the Power Jet carb for a dim headlight. The project needed new rubber (the other machines were new at the outset of the test) but we didn't want



**YZ125 FACTS**  
Original price: \$4999  
Price as tested: \$5492  
Weight as tested: 215 pounds



*Okay, you aren't going night riding with this headlight—unless you eat a lot of carrots first. The Steahly lighting kit is a simple, cheap way to make your number-plate glow.*

*The list of modifications to make your 125 MX bike into an off-road machine can go on for volumes. We went the simple route with just a big tank, handguards, a headlight and a few subtle motor mods aimed at more low-end power.*

**HOME GROWN VS. STORE BOUGHT**

### YZ125 MODIFICATIONS

Cycra 2.9-gal. fuel tank.....	\$180
Noleen Pipe .....	\$190
Carbon tech reeds .....	\$42
Acerbis Rally Pro Guards .....	\$80
Holeshot front tire .....	\$49
Holeshot rear tire.....	\$62
Steahly lighting kit .....	\$90

to blow the budget, so we got a set of Shinko Holeshot 525 and 524 intermediate tires—that's the company formerly known as Yokohama. For you wise guys with calculators, we didn't include the cost of the tires in the project total.

### KEEP IT SCREAMING

What's it like to ride a 125 on trails? You adjust to it quickly. The intensity level is just a little higher than normal. You don't lug the bike in a tall gear because then you won't be ready to wheelie over that unexpected log or pull that instant uphill section. All 125s are meant to be screamers, so get used to it. Our tuning tricks made the YZ much snappier off the bottom—maybe even better than a 2000 YZ. But the bike is still a 125 and needs to be treated that way. In terms of sheer horsepower, the YZ is fine. It's more than a match for 200s and 220s, at least on top. So as long as you know a hill is coming, no problem. When you're caught by surprise, though, this is the scenario: you have your weight too far back when you start up the hill. The front wheel gets light and you suddenly can't steer. You find yourself with a choice; throttle back or hit a big bush. So far, the same scenario

holds true on any bike. But on a 125, when you roll off, you're all done. You have to turn around and take another try at the hill while your friends on the 200s sit at the top and laugh.

On the other side of the coin, the YZ is the king of going downhill. It seems like you virtually can't find a hill too steep. There's no bike make that can go down a steep slope faster and scare you less. The lack of weight has a lot to do with it, but good brakes and a firm suspension setup contribute.

More on the suspension: we left the stock MX suspension on our bike. Like we said, for big guys, the set-up was great, especially for western trails. For little guys back east, though, it's a different story. From past experience, we know that Factory Connection does a good job converting MX bikes to woods bikes. Obviously, we're happy with our YZ125 enduro conversion. That's why it gets ridden so often. But you never quite get around the fact that the bike was made for something else. It reminds you on every steep hill.

## OPTION TWO: KAWASAKI KDX220 HOP UP

To be honest, we still don't know why there are two KDX models. The 220 and the 200 are identical, aside from bore and carb size. Oddly enough, the 220 has a smaller carb and is a little slower on top. Jeff Fredette is planet Earth's leading expert on KDXs, though, and he prefers the 220, just because it has more hop-up potential.

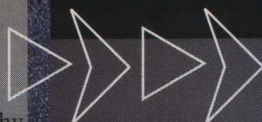
The KDX has almost 10-year-old technology. Back in 1992, it was based on the KX125. Of course, the KX has moved on since then, while the KDX has stood still in time. That's why almost everyone modifies the little Kawie in some way or another. Some riders make it shorter, some make it faster, some port the living guts out of the cylinder and some make them virtual motocross bikes. We think the best route is to find a happy medium.

You can leave the cylinder alone if you do a few, simple, smart modifications. The 220's top end and the 200's carburetor make a good match. You don't have to actually buy a whole carb, though. Terry Varner will bore out the stock 220 carb to 36mm for \$90. Then you have to change the main jet to a 150 and, most important of all, install a new pipe. The stocker is a double-wall, super quiet job that weighs at least a gazillion pounds. Same goes for the stock silencer—it's obvious that Kawasaki wants it to be replaced. The stocker is super restrictive and cheaply made. An FMF silencer and Fatty pipe are lighter and make a huge difference in the horsepower department without making the bike too loud.

In the suspension department, the bike isn't 10 years old. It's much more dated than that. Remember the conventional cartridge fork that everyone loved on the 1989 KX125? We don't, but we've seen cave drawings that depict very happy stick figures hunting bison on well-suspended KXs. The KDX's fork is basically the same as that last KX conventional fork with super soft springs with perhaps a corner cut here or there to save cost. But suspension really has come a long way since then. We decided to use a suspension company that's been around since those cave drawings were made. Race Tech installed Gold Valves with 0.42 kg/mm springs. The KDX rear shock is a cheap knock-off of a KX shock, and it got a Gold Valve and a 5.00 spring.

### A FAST KDX? COME ON

On the trail, it's surprising how fast an unported 220 is. The 200 would take a lot of porting and head modification to get to the same place that just a carb and pipe put the 220. Of course, the 220 isn't legal for racing with clubs like District 37 that still have a 200 class. But



## KAWASAKI KDX220 FACTS

Original price: \$4399  
Price as tested: \$5349  
KDX200 price: \$3999  
Weight as tested: 230 lb



A KDX 220 is actually a little slower than a KDX200, stock. The 220 has much greater hop-up potential, but if you care about class distinction, it puts you in the 250 class.

**HOME GROWN VS STORE BOUGHT**

### MODIFICATIONS

Varner Carb Bore .....	\$90
Race Tech fork rebuild....	\$85
Fork Gold Valve .....	\$135
0.42 kg springs.....	\$80
Shock rebuild .....	\$85
Shock gold valve.....	\$135
FMF Fatty Pipe.....	\$200
FMF SA silencer.....	\$140

*The most productive modification on the KDX is to get rid of the stock pipe and replace it with virtually anything. The second most productive change is to bore the carb.*

frankly, no one cares. Peer pressure alone will keep anyone from protesting a KDX, no matter what size the engine is.

Still, like we said earlier, this type of bike isn't about racing. It's a about having fun. The KDX is a small king in that department. It pulls super well from the bottom. We mean the absolute bottom, where most bikes don't make enough power to idle smoothly. On top it begins to flatten out much earlier than a 125 or the KTM, so don't go looking for any enormous sand hills. In the handling department, the KDX feels a little old school—kind of long and slow steering. That's how bikes were 10 years ago. It works well on tight trails, though. The KDX goes where you point it, not where roots and rocks point it.

You have to decide where you are going to ride it before you have the suspension set up. The KDX can work well on slow, tight trails or it can work well in big, killer whoops. It won't do both well. Our Race Tech setup was awesome in the tight stuff. We figure you should go with your strengths.

The bike's biggest handicaps are all the things that Kawasaki did to get the



*The stock KDX silencer was meant to be replaced right from the start. Just changing the exhaust components on the KDX shaves off five pounds, and noise still isn't offensive.*

retail price down to \$4399. It's heavy, even after an honest five pounds of exhaust system was trimmed. The seat foam is so soft you bottom out on the frame rails. The shifter is flexy and the handguards fold up and hit your knuckles. A particularly frustrating point is that it overheats when it's ridden hard in first gear for some time. Still, even after almost \$1000 of mods, the KDX is more affordable than the \$5698 KTM.

### OPTION THREE: STOCK KTM 200EXC

At the KTM factory, the engineers all laughed when the silly American importers asked for a 200. There was no racing class in Europe for a 200, they said, so you might as well buy a 250.

The skeptical engineers built the 200 anyway. Since then, it has taken turns as KTM's best selling model, along with the perennial 300. And even those designers who originally opposed the 200 now admit that it's a great bike. On top of that, Shane Watts proved that it is competitive against 250s in the Spanish ISDE.

KTM was designing a new 125 at the time, anyway. So instead of building a 200 as an afterthought, the new motor was built as a platform for two different engine sizes right from the start. The bore and stroke are both larger on the 200, and there are different ignition mappings, exhaust pipes and carbs for the two machines. In fact, there are more differences between a KTM 200 and 125 than between a 1992 KDX200 and KX125.

None of the KTM's differences are cost-oriented, though. The KTM 200 is every bit as much a race machine as the 125 motocrosser. It starts off with aluminum bars, a hydraulic clutch and top notch stuff like rims, sprockets and the sort. It has basically the same WP suspension components (just with softer valving) as the motocross models. KTM is in its fourth year with the no-linkage PDS system and still struggling to make it work as well as conventional rear suspension designs. The shock's secondary piston originally was designed to make the damping curve progressive to imitate a linkage's rising rate. Now it operates primarily as an anti-bottoming system. Consider it an evolutionary process.

#### BAD NEWS FIRST

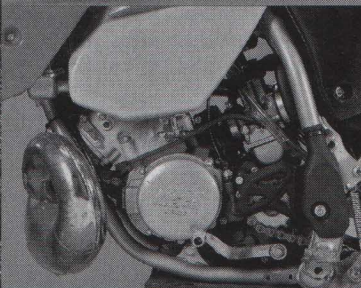
This year the rear suspension does work better than ever. It actually goes straight in big whoops without crashing through the travel or bottoming harshly. Still, though, the rear end doesn't generate many rave reviews for its overall performance. In fact, it's the most consistent area of complaint on the 200. At very low speeds, it doesn't feel that connected with the earth. It's as if you are riding on ball bearings even when the traction is good. The fork, on the other hand, is great. WP has come a long way from the days of the first upside-down forks. Now the front end is comparable with the best from KYB or Showa.

Suspension aside, the KTM gets its highest scores in the handling department. The 200 is one of those bikes that makes you feel like you can do anything.



#### KTM 200EXC FACTS

Price .....\$5698  
Weight .....220 lb.  
Modifications .....none



*How do they get so much bottom-end power out of a measly 200? Easy; KTM gives away top-end revs. Not that you miss them.*

You don't just go down hills, you race down them. It's a match for our YZ125 enduro conversion in the weight department, but it's even slimmer and the riding position is more spread out and comfortable. On the other hand, it's *not* a 125. You don't have to worry about falling off the powerband. The 200 has loads of torque—maybe not quite as much as the KDX, but certainly more than you expect from such a tiny motor. On top, the KTM flattens out early, but it's done a lot of good work by then and deserves a good shift.

More high points to the hydraulic clutch. It has an odd feel that some riders don't like at first. But they get used to it. And as soon as the trail gets tough, they learn to love it. The clutch play and engagement is always the same. Uphill, downhill, hot, cold, whatever. It's always there when you need it.

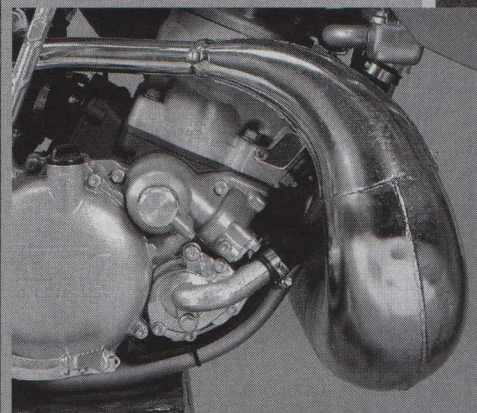
We felt a little odd about modifying the blue blazes out of the Yamaha and KDX without touching the KTM, but the simple fact is that we don't know what to do to it. Okay, maybe it could use a little rear suspension work, but that depends greatly on where you plan on riding it. We also hear that the muf-

*What were the modifications we made to the KTM? Exactly nothing. It starts off the most expensive for a reason.*

## HOME GROWN VS STORE BOUGHT

#### SOURCES

Varner Motorsports: .....(909) 608-2103  
Race Tech: .....(909) 279-6655  
FMF:.....(310) 631-4FMF  
Shinko:.....(909) 608-0082  
Carbon Tech: ....(800) 776-4089  
Steahly: .....(800) 800-2363



*If you really want to make some changes to the KTM, you can start with a pipe. A Pro Circuit pipe with a 250SX muffler is the hot setup. We'll just keep the stock pipe until we put a dent in it. It's only a matter of days.*

fler off a 250SX brings the engine to life on top, and that the Pro Circuit pipe works well. But those are optional modifications—even Shane Watts doesn't do anything to his bike. If there was ever an out-of-the-box dirt bike, the KTM 200EXC is it.





*We wish we could take credit for making the KTM into an awesome mid-leweight trail bike with our ingenious modifications. Unfortunately, it started out that way.*

# HOME GROWN STORE BOUGHT

## WAR OF THE SMALL BORES

So which direction do you go for a lightweight two-stroke? Let's take it piece by piece:

**MOTORS:** The YZ125 is the fastest of the bunch, but not by much. The bigger bikes surrender a little bit on top for a lot on the bottom. When the YZ falls off the pipe, which it does often, the others leave it for dead. The KDX has the most down low, but it might be so low that it's not practical. Consider the KTM the winner in the motor department. On top it can hang with the YZ and on bottom, where you spend most of your time, it has as much as a 250 motocrosser.

**SUSPENSION:** When suspension is right, it's right. The YZ125 is good on a motocross track and it's good off road. Even on slow, tight trails, the fork and shock pick up small rocks and bumps. The Race Tech modifications on the dated KDX brought it into this century (or at least the tail end of the last one) but it's still not up to demanding stuff like big whoops or jumps. The KTM is good and bad. The fork is great for virtually all off-road work, but the shock is more limited. In stock form, it's good at medium speed, but not great for slow stuff or really hard hits.



*Oddly enough, the YZ's stock suspension is great off-road. When a fork and shock work this well, they work well everywhere.*



*Okay, at 230 pounds, the KDX is a little heavy to be called a light-weight. But it feels light, and that's all that really matters.*



*If you want to feel like superman on a trail bike, either add superpowers or take away weight and horsepower. The result is pretty much the same.*

**HANDLING:** Talk about serious fun. This is the strong point of all three machines. Both the KTM and the YZ turn the rider into superman. You can leap tall bushes in a single bound, and so forth. The KTM holds a slight edge because of its smooth power—sorry, you just can't take that out of the overall handling picture. The YZ hits harder and that makes it harder to control in the big picture. The KDX handles great on certain types of twisty trails, but its slow steering and weight hold it back elsewhere.

**DETAILS:** The KTM is the most expensive bike for a reason. It already has everything—good chain, clutch and on and on. The bike was made with off-road racing in mind, but that doesn't disqualify it as a play bike. It just means you'll have to fiddle with it less.

**FUN FACTOR:** Consider the KTM the big winner. It already had a head start because the other two needed so much modification. And while personalizing your bike and building it to your own spec can be fun, it's still not as good as riding. And the KTM comes ready to ride. □