

STRONGER, FASTER, SMOOTHER, BETTER

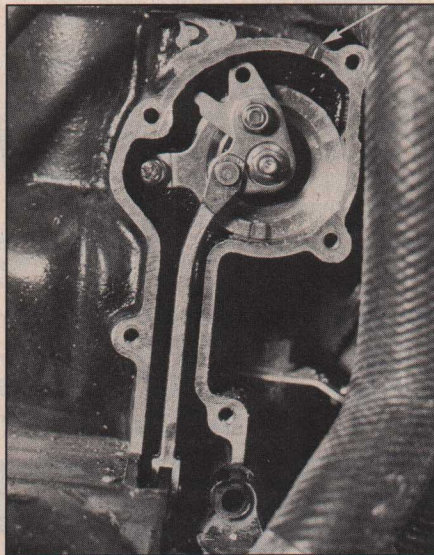
CREATIVE WRENCHING ON THE YAMAHA YZ250K

Quick tricks to keep your YZ out front & in one piece

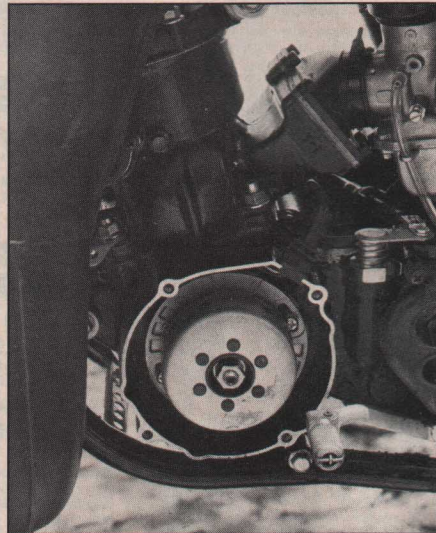
By Paul Clipper, with considerable help from Yamaha U.S.A.



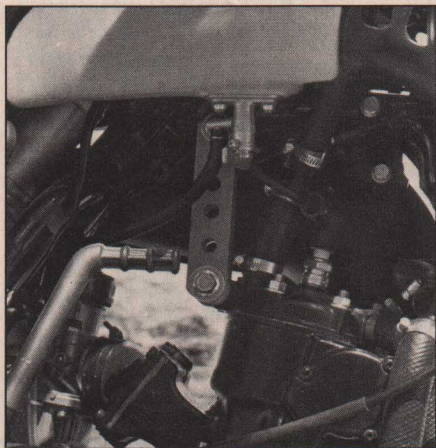
Even with a modified bike, handling will suffer from the stock tires. We used a new Metzeler on the front and cured all our handling woes.



To find the wide-open position of the Power Valve, rev the bike and scribe a mark. It should be in roughly the same position as our mark, shown here at one o'clock off vertical.



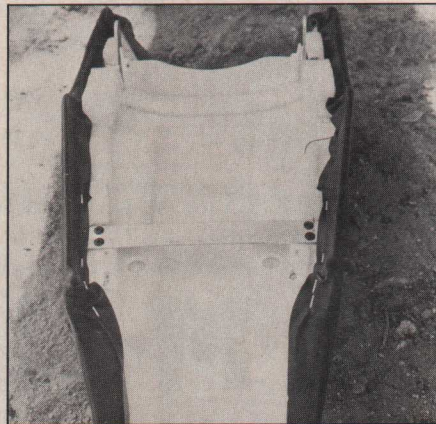
The YZ60 ignition takes up much less room in the case half and does wonders for the power curve. The ignition advance is much smoother with the mini ignition, removing the abrupt hook from the powerband of the 250.



The new head stay looks trick and keeps the vibration down without cracking. If your old one cracked the gusset on the frame tube, carefully weld it up.



We found the best rear suspension action with an Ohlins shock installed. The Ohlins is 15mm longer, so you have to drop the forks to compensate for it.



To keep the seat from popping off once it gets a little worn, you should add an aluminum brace like this one to the base. Make sure it doesn't touch anything vital.

The Yamaha YZ250K is not a bad bike. When we tested it earlier in the year, we complained about a lot of nit-picky things. Things like grim shifting, rims made of putty, an odd-shaped seat—little gremlins that were probably immediately fixed by people who bought the YZ looking for a fast MXer.

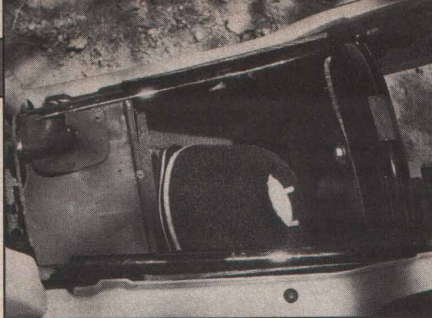
Because, by golly, it was fast! But a half a year has gone by since then, and what would you say if we told you that we now

know how to make the YZ faster and much more rideable? The Competition Support department over at Yamaha USA has not been resting on its laurels, and we recently pumped their brains for the latest hot setups. At the same time, we were handed a bunch of notes on minor frame fix-its, and even wrote down a few of our own.

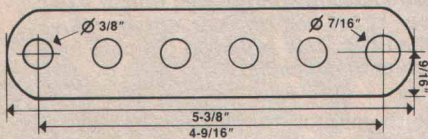
Interested? Well, polish up your 12mm wrench and read on. Pull up a milk crate ...take yer shoes off....

MORE HORSEPOWER!

Heating up the YZ only takes a little bit of careful porting. First, you should raise the compression ratio by milling .4mm off the mating surface of the cylinder head. The actual port openings are changed as follows: Raise the top of the exhaust port to 32mm below the top edge of the cylinder, and grind the bottom edge of the intake port 2mm lower than stock. Try to maintain the original port shape while



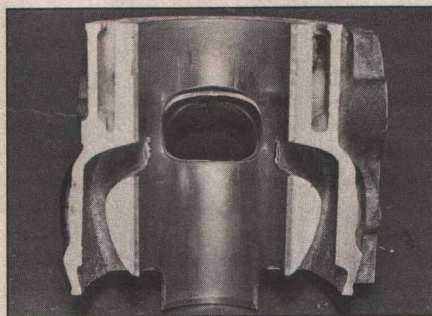
Cut holes in the front of the airbox to improve breathing, and saw off the airbox cover, leaving the front splash guard in place.



Use this template to construct the two halves of the head stay. The material is 3/16-inch aluminum plate. Use a drill press to cut the holes—you want them perfectly straight.



Don't let the stock looks fool you. To unveil the trickness, you have to look deep inside.



Matching up the Power Valve is the trickiest part of porting the YZ. If you follow the instructions carefully, the amount of matching required should be obvious. We hacked our cylinder in half to give you a better view.



Use the new axle plates on the swingarm and the new-style chain guide does a faultless job. Loctite those two bolts on the front swingarm guard.

grinding away.

Now comes the complicated part. To extract the maximum potential from a YPVS cylinder, you have to match the Power Valve to the edges of the exhaust port.

To do this, you first have to find the "wide-open" position of the valve. Remove the linkage cover and start the bike, and while blipping the throttle, watch the stroke of the linkage. Rev it up far enough to hold it in its maximum position, and then scribe a mark so you can realign it after you pull the cylinder off. (Take a look at the photos so you have a better idea of what we're talking about.)

Remove the cylinder, realign the marks, and then make a metal plate to hold the Power Valve in this position. Now, look through the exhaust port and check out the mismatch. The object is to match the top of the valve with the top of the exhaust port, and the inside of the port with the back of the valve. If you follow the instructions carefully, the amount of grinding necessary will be obvious.

Naturally, if you don't possess a good selection of porting tools and bits, you should take the cylinder to your local mad porter to have the work done. Either way, measure everything carefully and you shouldn't have any trouble.

The airbox also needs to be opened up to take advantage of all this grinding, and Yamaha suggests that a half dozen one-inch holes should be cut into it. The best location for these holes is in the front of the box, and you should finish up the job by pop-riveting some fine-mesh screen or gluing some coarse foam over them. In wet conditions, apply duct tape liberally. Also, cut away the airbox top as we did in the photos.

Change the main jet to a 270, and fine-tune the needle accordingly. A 50-tooth rear sprocket will finish up the job nicely.

If you want to go the ultimate trick route on the YZ engine, take out your checkbook and pick up a YZ60 magneto assembly and CDI unit. The parts numbers are 5X1-85500-20-00 and 4V0-85540-20-00, respectively. The timing should be set with a dial indicator to 1.3mm BTDC.

We had a chance to ride a YZ with this entire package installed, and the improvement over a stocker is awesome. There is no longer a hitch in the upper mid-range of the powerband, and it feels like a four- or five-horsepower improvement across the board. Because the power is so smooth, the bike is much easier to ride, so we wouldn't hesitate to recommend these mods to Experts and Novices alike.

SIZZLING SUSPENSION

We have found that the best overall suspension settings are thus: Rear shock—total preloaded spring length 292mm, compression damping number 8, rebound damping number 5. Forks—ten-weight oil, 170mm from the top of the tubes with the forks compressed, no air. Both ends should

be fitted with the optional heavier springs. In this configuration, the suspension will work well for riders between 160 and 180 pounds.

If you don't like the stock rear shock and would like to go for something better, we at *Dirt Bike* would recommend the Ohlins replacement shock for the Mono. (Our test unit was supplied by S.W. Simons, Inc., 2625 Miller Ave., Mountain View, CA 94040, which is the U.S. distributor). The Ohlins is plusher over the chatter bumps and surprisingly firm in the crushers. It is also 15mm longer than the stock shock, so you are advised to lower the forks in the triple clamps until the top of the cap is flush with the top clamp. This relieves the "stink-bug effect" and allows the front tire to bite properly.

FLUID SEPARATION

If you ever change the oil on your YZ and a quart of chocolate-milk substance pours out, the chances are you have a coolant leak past the impeller shaft. Yamaha has a cure for this in the form of a plastic bushing, part number 90380-10138. To install it, you need to drill out the impeller shaft hole in the crankcase cover with a new 17/32 drill bit chucked into a *drill press*. The hole must be accurate, or you'll have to replace the side cover.

You'll have to enlarge the oil slot in the crankcase cover to match the slot in the new bushing and then press the bushing in from the outside. Yamaha also suggests that you replace the impeller seal at the same time. If this whole operation seems confusing, see your Yamaha dealer, who should have the whole scoop on the operation.

LESS BREAKAGE

Some Expert racers who ride like animals have experienced the YZ250 steering head parting company with the frame. The fix for this is to weld a piece of strap across the steering head, much as it is done at the factory for the YZ490. Take a look at the 490 frame for the details on how it's done.

To keep the right-side panel from cracking, trim the back plastic ribs with a razor blade. The ribs seem to make the panel too rigid, and rather than flexing, they just crack.

Carefully align the rear chain guide, using washers as necessary, to keep from suffering derailed chains. The best cure for this is a new Yamaha chain guide, part number 23X-2219-10. It is made for the 250, is much beefier, and does a better job of pointing the chain in the right direction. While you're at it, Loctite the two 6mm bolts on the swingarm chain guard. If you don't, you'll lose them.

Keep from losing your seat, too. Check your rear seat brackets. If they are only 1mm thick, go to the Yamaha dealer and buy a set of 3mm-thick brackets, part number 23X-24738-00. The thick ones won't crack as easily. While you're at it, pop-rivet a piece of aluminum channel across the width of the seat base as we did

When you're talking Mean . . . You're talking Hannah!!!



BOB HANNAH

I don't know if my cornering technique is different than other riders or not, I've never really paid attention to what other riders do when they're in a corner. To tell the truth, I'm either inside 'em, movin' 'em out, or outside 'em trying to pressure a mistake. I do know that I rely a lot on sliding my foot through corners and for sliding, there's only one way to go . . . That's Hi-Point.

The new Pro sole has a slight lift in the toe area and another in the heel. The main sole is slightly rounded. What that means is, regardless of how I put my foot down, there's minimal friction

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and resistance, yet I still get all the support I ever did. The new latches on the Hi-Points are another feature that means a lot to me. I'm able to snug the boot to my leg, enough pressure to do the job, yet remain comfortable.

Boots mean a lot to every rider on the track, regardless of riding style. But, if you ride like me, mean in the corners, then your choice of boots is even more critical.

Available in Red, Blue or Black at your Hi-Point Racing Products dealer

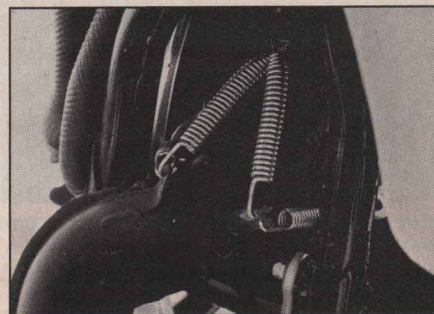


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CREATIVE YZ250



We installed spring stays from a 490 on our YZ250 and ran four springs rather than two. This will keep the pipe from vibration cracking.

in the photos, taking care that said channel doesn't come in contact with the shock hose. This will keep the seat base from flexing once the seat softens up, and will avoid the possibility of the front of the seat jumping off the front hook.

The compression damping knob on the rear shock is too big. It sticks out so far that it is possible that the seat base can hit it and change the setting. Take it off and down to a machine shop, and have them cut it into a conical shape. Problem solved.

You've probably already cracked the head stay on your 250. The stock setup is too rigid and should be replaced with a two-bolt head stay. Look at the pictures and scan the pages for a drawing of a super-trick head stay that will solve all your problems. You'll need to drill out the hole in the frame to 5/16 inch, and get these new bolts and nut from your Yamaha dealer: part numbers 95811-08060, 90185-08113, 95811-10060. Use the old washers and lower nut.

If you have a very early YZ250, the rear axle was backed up with a couple of beefy washers. Replace them with the new-style axle plates to keep from crushing the inside of the swingarm (part numbers 90209-21243-00, 90209-18244-00).

The *Dirt Bike* trick pipe-saving system: Mount a pair of exhaust pipe spring stays from an '81 YZ490 on the two front cylinder studs, and run *four* springs to the pipe rather than two. This helps cut vibration. You can also run a bead of high-temperature silicone gasket goo around the base of the mount to cut the buzz even further.

SLASHING UP THE TRACK

If you go through the entire list here and keep in touch with your dealer for the latest changes, you will have the equivalent of a Yamaha factory support bike under you at the track. The power will be manageable yet awesome; the suspension will be excellent, and the rest of the bike will hold up under the pounding much better than a stocker. The Yamaha Competition Support department does an incredible job of testing and refining the YZs, and you can thank them for most of the recommendations herein.

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