

We Ride

PRO-X RACING'S
YAMAHA
YZ250F





If you're a diehard reader of *MXA* (and shame on you if you aren't), you already know all there is to know about the latest crop of 2012 motocross bikes. Why? *MXA* takes pride in going over every new model with a fine-tooth comb, dissecting and testing to our hearts' content. Then we go through the whole process again just to make sure that we didn't overlook anything. It gets to the point where our minds are numb from the influx of information. *MXA* testers are constantly walking a fine line between tedium and joy. It's a thankless job, but the valves aren't going to float themselves, nor are the suspension clickers magically going to adjust to the desired settings.

YZ250F



After hearing our numerous cries about the weak YZ250F engine, Pro-X came to our rescue. How so? They overhauled the engine while targeting other problem areas as well.

Take the 2012 Yamaha YZ250F for example. It doesn't take a mind reader to figure out that Yamaha isn't exactly happy with our review of their prized machine. When words such as "outdated," "sheepish" and "boring" appear in a bike test, no one is happy—including *MXA*. For years we've made valiant attempts to prod Yamaha into developing an all-new YZ250F engine. Our numerous requests, and those of some of Yamaha's test engineers, have fallen on deaf ears at the head office.

All of this has led the *MXA* wrecking crew to the Yamaha YZ250F version of Elizabeth Kubler-Ross' five stages of grief.

(1) Denial. At a time when other manufacturers were ramping up their 250 four-stroke engine efforts, Yamaha rested on their laurels. No big deal, since the YZ250F was the dominant 250 four-stroke (and the first bike of its kind) from 2002 to 2005. After that, we dreamed that the YZ250F could weather the four-stroke storm. Still, we yearned for an updated engine with more mid-to-top power.

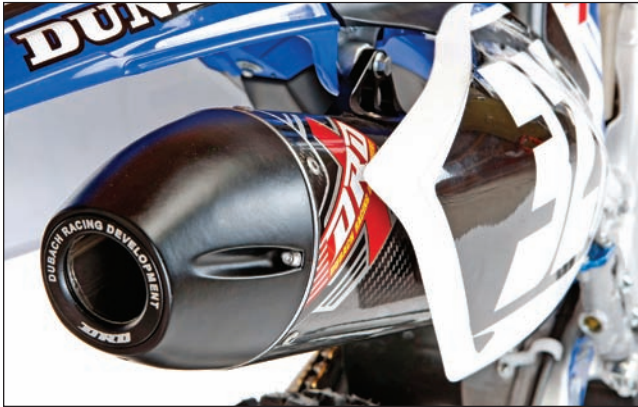
(2) Anger. Preposterous! Knowing full well that Yamaha had a problem on their hands, we started spitting vinegar when the YZ250F would only receive minimal engine updates. Holy moly! The engine had been designed back in 2002; surely Yamaha had some new ideas. At least, we had hoped so.

(3) Bargaining. We started asking ourselves, "What if?" What if Yamaha released a new engine that complemented their improved chassis? What if the engineers realized that a potent powerplant, coupled with their amazing Kayaba SSS suspension, would be the be-all, end-all of 250 four-stroke development?



This isn't your typical YZ250F engine. Pro-X dropped in a new crank, titanium valves, crankshaft and cam chain.

YZ250F



Don't be confused by the carbon fiber muffler. The stainless steel DR.D exhaust looks trick, but it won't break the bank.



We weren't familiar with Precision Concepts. After they made the Kayaba SSS suspension better we became fans.

(4) Depression. After our questions went unanswered—year after year—we went into a deep depression. Why had the world forsaken us, leaving us with a modern chassis and an antique engine?

(5) Acceptance. Yamaha has not been moved by our cries for deliverance; maybe they never will be. We accept that, but we aren't going to let a terrific frame, suspension and handling package just sit there. If Yamaha won't build it, we'll find someone who will.

Enter Pro-X Racing parts. Specializing in aftermarket engine components, the Netherlands-based company knows what makes the Yamaha YZ250F tick. In our darkest hour, they came to our rescue. How so? By building *MXA* a project YZ250F with a different crank, new valves, ported cylinder head and piston kit. We applaud Pro-X for attempting to satisfy our need for YZ250F speed.

SHOP TALK: LOOKING UNDER THE PLASTIC

Knowing that the Yamaha YZ250F engine needed a swift kick in the pants, Pro-X went all out. They dropped in a piston kit, complete crankshaft, titanium intake and exhaust valves, a new cam chain, and gasket kit. At our request, the cylinder bore remained untouched, as we didn't want to have anything to do with a big-bore engine. Why? Cheating might seem enticing, but we wanted to see how Pro-X could maximize the potential of the old gray mare without extra cubic centimeters.

The work was done at L.A. Sleeve, where they used their high-flow, five-angle-radius porting machine to improve airflow through the intake and exhaust ports. Using a CNC machine to port the cylinder head creates consistency in the workmanship and doesn't leave anything to chance. The head porting costs \$500, but it is essential for boosting engine performance.

To coincide with the internal modifications, Pro-X tacked on a DR.D SS/CF (stainless steel/carbon fiber) exhaust system. They chose stainless over titanium to save money, but then they spent the savings on the carbon fiber muffler. The *MXA* wrecking crew is not a proponent of carbon fiber mufflers. They are light and they look cool, but their lifespan is considerably shorter than that of aluminum or titanium canisters.

DR.D also wet-sumped our YZ250F engine. Wet-sumping was a big deal back in the glory days of the YZ400. When you switch to a wet-sump design, the need for the dry-sump oil tank is eliminated, which means less weight because of less oil. One note of caution: once we wet-sumped the engine, we were compelled to add a DR.D hour meter to the package. Less oil means it is critical to pay attention to the oil level and the oil changes.

The Yamaha YZ250F has marginal brakes (as do most Japanese-built bikes when compared to the oversized rotors of the KTM and TM). The YZ-F rear brake does a decent job under duress, but the front brake barely handles the rigors of stopping the 218-pound YZ250F. The YZ-F, CRF, KX-F and RM-Z would all benefit from a larger front-brake rotor. On our project YZ250F, Galfer came to the rescue, and they did so in grand fashion. Not only was our project Pro-X bike equipped with an oversized 260mm Galfer front rotor and standard-size rear rotor, but Galfer also supplied steel-braided brake lines mated to AP brake pads. Additionally, super-high-temp AP brake fluid (\$32.99) was used to prevent testers from boiling the brakes. Very cool (no pun intended).

Aside from a hiccup with the 2011 YZ250F forks, the *MXA* wrecking crew has long enjoyed the Kayaba SSS suspension. It is good. So good that it overshadows every other aspect of the bike. When Pro-X handed the suspension off to Precision Concepts, we were a bit perplexed.



If a genie could grant us one wish, we'd use it on making the Yamaha YZ250F engine more lethal. If you have the money, Pro-X has the genie.

We like the stock stuff, and we were worried that any extraneous fiddling would ruin the speed-sensitive damping characteristics that we love. Once we rode with Precision Concepts' handiwork, we were pleasantly surprised with the results. More on that later.

Works Connection kicked in hoards of accessories, including axle blocks, billet brake covers, engine plugs, a fuel-mixture screw, oil-filler plug, rotating bar clamps, radiator braces, a rubber-mounted skid plate, Elite clutch perch, and their new magnetic Pro Launch holeshoot device. Also on board were A'ME full-waffle grips, in a fetching red, and Dunlop tires. DeCal Works wrapped the package nicely with a full set of customized graphics.

TEST RIDE: THROTTLE-TWISTING GONE WILD

Yamaha may have let us down, but we were pleased that Pro-X stepped up to the plate with a package designed to move the venerable YZ250F engine into this decade. The anticipation of testing a muscle-flexing YZ250F had us chomping at the bit. We would finally come to accept the old Yamaha—albeit with a host of hop-up parts.

Our excitement was rewarded as we railed corners and climbed steep hills with nary an issue. The stock YZ250F engine would have been sputtering and nagging to be shifted up to the next gear once the rpm went beyond the midrange. That wasn't the case with the Pro-X bike. The combination of the engine work and the DR.D exhaust kept the powerplant humming well into the top end. Testers shifted less and twisted the A'ME throttle grip with newfound confidence.

Whereas the stocker would fall off briskly, the Pro-X engine begged to keep going. Simply put, the Pro-X components, L.A. Sleeve porting and DR.D exhaust managed to give the YZ250F engine the facelift it so desperately needed. The bottom-end and midrange power were still plentiful, and the once nondescript top-end surge was

bolstered significantly. We only wish the jetting were a bit more precise, but we blame a sudden SoCal temperature drop and our laziness for the jetting malady.

It's not easy to make excellent suspension work better, but Precision Concepts did just that. How did they do it? First and foremost, they didn't mess too much with a good thing. Instead of swapping spring rates and shimmed the Kayaba units to death, they tweaked the valving for a more progressive feel. The suspension remained high in its stroke, enabling it to be ready for the next big hit. Even MXA's bigger test riders were impressed with how the forks absorbed without bottoming. After testing the Pro-X project bike, we're inclined to try Precision Concepts-tuned suspension on several other brands in the future.

We weren't surprised to discover that the new brakes worked flawlessly. Using an oversized front brake rotor, along with a steel-braided brake line and high-temp brake fluid, eliminated the areas of weakness. Typically, MXA test riders are picky about brake pads, always falling back on the stock pads as their fail-safe. But, surprisingly, they liked the feel of the AP brake pads. The aftermarket pads aren't as grabby as the stock pads, which allowed them to modulate the pressure more precisely.

CONCLUSION: WHAT DO WE REALLY THINK?

We want to apologize to Yamaha's top brass for harassing them so much over the years. The economy is tight, and we understand that with current sales levels, there is not enough budget to build a totally new engine this year. The existing engine design is, however, 10 years old. And for most of those years, Yamaha was flush with YZ250F money. But let's not open old wounds; we have high hopes for the 2013 YZ250F. But until then, we'll keep Pro-X's phone number in our speed dial. For more information, visit www.pro-x.com. □



The engine changes, as well as the DR.D exhaust system, gave the YZ250F engine a kick in the guts. Gone was the low-to-mid power-band. In its place was a plentiful amount of mid-to-top-end shriek. Test riders and Yamaha owners rejoice!