

WOLF IN SHEEP'S CLOTHING

We found that we could launch out of steep creek banks much easier with the broader and more powerful powerband on our Duncan Racing modified Wolverine.

Yamaha's Wolverine was the company's first attempt at making a competitive sport-based four-wheel drive quad. Introduced three years ago, it was an answer to Polaris' immensely popular Scrambler series, which came with sporty motors, long travel suspension, aggressive tires, and (in most cases) did not come with the standard front and rear racks.

The sales success of the Wolverine convinced Yamaha of the soundness of the project. Unlike its lumbering, tank-like predecessors, the Wolverine was lighter, nimbler and could be ridden at higher trail speeds. It had the attributes of a sport quad with the versatility of four wheel drive.

Unfortunately, one of the Wolverine's weak spots was in the engine department. While torquey and smooth, the air-cooled, SOHC, 350cc four-stroke motor lagged behind many of its larger displacement rivals.

UPPING THE PERFORMANCE QUOTIENT

To remedy this performance affliction, Duncan Racing undertook a campaign to perk up the powerband on the Wolverine. They already had plenty of experience at making their "National Kit" engines for the Yamaha Warrior. That machine uses the same basic engine top-end design as the Wolverine, so they already knew the basics of getting more power from this particular motor.



Duncan's high-performance kit for the Wolverine can be purchased as a complete package for \$1350 or you can opt to modify your engine one step at a time.

Duncan Racing Wolverine mods

By the staff of Dirt Wheels

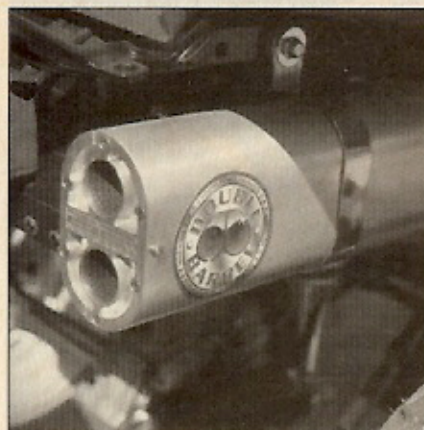
"We've gotten a lot of calls from riders wanting performance kits for their Wolverines," says Duncan Racing's founder Loren Duncan. "We knew we could get more power, so we built a full Wolverine "National" kit for it. It consists of one of our DR Double Barrel exhaust systems, a spark

arrestor kit, head porting and valve job, a higher performance camshaft, heavy-duty valve springs, a piston kit, a Keihin 36mm PE carb kit with twist throttle, our jetting kit, a Pro Flow air cleaner flange, K&N air filter and Outerwear filter and shock covers. The complete cost of the kit is \$1350."

HOW DOES IT ALL WORK?

Loren brought one of his National-kitted Wolverines for us to test and compare to our stocker. We found that it would easily outpull our standard Wolverine from the bottom to the top of the powerband. The most noticeable difference was in how well it

PERFORMANCE 4X4 PRODUCT TEST



◀ *The Double Barrel exhaust system gives the Wolverine about eight to ten percent more horsepower than the stocker.*

Duncan Racing has put their racing experience with the Yamaha Warrior engine (which uses the same basic top-end as the Wolverine) to good use on the Wolverine. ▶



◀ *Pro Design makes this handy Pro Flow air cleaner flange that allows you to use a clamp-on air filter and get rid of the stock airbox lid that is used to hold on the stock filter.*



accelerated from the mid-range on up. It would easily pull the stocker by at least two to three quad lengths throughout the powerband.

The increase in torque and pulling power was evident at all rpms except right off the very bottom end. We came back in and noted this and Duncan told us he could vary the cam timing and/or vary the number of spark arrester dics to adjust the power curve to get more bottom end grunt.

DO YOU NEED IT ALL?

Our next question was, does the average guy need the complete engine package Duncan offers? "To get the maximum effect, a total package is necessary, especially with a four-stroke motor like the Wolverine's," said Duncan. "You can do the steps incrementally, though, and get decent performance improvements. The exhaust system is the first step I would take in the modification sequence. Our Double Barrel exhaust sells for \$399 and comes with a stainless steel header pipe and tailpipe. I would recommend one of our bolt-on spark arrestors (\$59.95) as

well, to make it Forest Service legal.

"The pipe alone will give you about 8 to 10 percent more horsepower than stock. Making the engine breathe better is essential to make more power," added Duncan. "I would definitely recommend adding one of the Pro Design Pro Flow air cleaner flanges as well as a K&N air filter. With the Pro Flow you can opt to run the lid on or off. With the stocker you have to run with the lid because it holds the filter on.

"You will also need to rejet the stock carb and make it richer to compensate for the increased air flow. The stock camshaft tends to flatten off, powerwise, so we install a higher performance billet camshaft (\$153) to broaden out the power curve," said Loren. "We also install heavy duty valve springs (\$50.95) with chromoly retainer tops.

"The next step would be to add the head porting and three-angle valve job. This enhances the engine's flow characteristics throughout the powerband. We increase the engines compression to 10.25:1 (stock is 9:1). The

increased engine compression helps with low-rpm torque.

"Probably the last modification would be to add one of our Keihin 36mm PE carb kits complete with twist throttle (\$229). That will pick up the power throughout the powerband and add to the overall performance increase. We also add a Shockwear filter cover and shock covers (\$45) to help protect the filter from water and debris and keep the shock shafts from exposure to roosts."

OVERALL

Whether you choose to install one or all of Duncan Racing's modifications, they offer a performance guarantee that's hard to beat. They offer a 30 day 100 percent money back guarantee for complete customer satisfaction for performance, quality and reliability of their products. That certainly says something about the confidence they feel in their performance modifications. □

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