

Our Holeshot Banshee slides through corners and is ready to rip its way out with blazing speed.



Holeshot Banshee!

Details

Who: Duncan Racing,
(619) 258-6306

What: "Find" our Yamaha Banshee

Why: Turn this Banshee into a
holeshot stealing, corner
sliding, MXer.

How Much: \$2,004

Duncan Racing Puts Together A Fast Team Of Parts

By Glenn Hansen

OUR YAMAHA BANSHEE WAS UNDERGOING A SERIOUS IDENTITY CRISIS. It had been through a number of aftermarket parts, some it liked, some it didn't. It also has a complete makeover recently, and it was feeling better because of it. But what it needed most were engine mods that worked, and it needed them fast. Or is that, it needed to go fast? Yeah, that last one. That's it.

We didn't want to do just another Banshee modification article. And besides, our Yamaha has some special needs. You see, it's ported, big time.

Its first project was performed by quad-performance newbie Rossier Engineering of



we chose the unfinished pipes, though most people prefer the chrome version.

Wisconsin. Rossier's ace two-stroke specialists (years building super fast Sea-Doo race boats) took our Banshee for a while and turned the cylinder into Swiss cheese. Don't get me wrong, that was fine because they also made it super fast (see February 1999 issue).

It gets difficult trying to match someone's porting to someone else's pipes, carbs, and intake specs. We took all the performance parts off of that Rossier-modified Banshee and returned them. It was a fun ride, but far too much top end for the small motocross tracks we ride most often. We needed big low-end power. We wanted a Banshee that ripped off the starting line and out of corners.

We called Duncan Racing's Loren Duncan, builder of the motocross Banshees ridden by Open-class champ Travis Spader. We knew Duncan could tell us what we needed. And if we sounded kinda sorry and pathetic (not hard to do), he'd even build the parts in a hurry and rush them off to us.

Performance Parts Team

Duncan wasn't so quick to simply send us parts. He had understandable concern about the cylinder work that had been done. He wasn't familiar with Rossier's work, and normally liked to look at the cylinders and verify the porting specs. We didn't have time to mail the cylinder to California, so we got the porting specs from Rossier and passed them on to Duncan. With this info, he was ready to prescribe the right medicine for our ride needs. All we had to work with was a pair of ported Banshee cylinders, and a slightly modified airbox. The stock head was milled to raise compression, though we still ran high-octane pump gas.

Duncan recommended Paul Turner midrange pipes with Duncan Fat Boy silencers. On the intake side, he said we could use the stock airbox, but would need a new K&N filter, and a Pro Design intake flange. From there, the air would mix with the fuel in Keihin PJ34mm carburetors. It would enter the cylinders through the unique Pyramid reed valves and reeds, with the added benefit of a Master Flow intake manifold system.

We also added a Motion Pro twist throttle (easily the most controversial product installed on this machine among our test riders), and new Tag Metal handlebars. Graphics and seat work was provided by One Industries.

Finally, and a very important addition to this recreational MXer, are the ITP Holeshot tires and aluminum wheels. We went with the 18-inch rear holeshots, a must size for any MX track riding.

I know what you're thinking. How can we turn this Banshee into an MX machine and still run the stock chassis and suspension?, you ask. Well, we can't really, but we can only do so much in one project. You have to give us room for further modifications.

Read, Then Wrench

The next best thing to having Loren Duncan personally build your engine (we didn't) is to have him write your instruction guide (we did). Of course, we didn't read the instructions right away, and were suitably embarrassed when we called Duncan wondering why our Banshee wouldn't idle correctly. He asked is we'd followed the instructions exactly. We said, No. And we went right back to the tool box and the installation project.

The installation is actually very easy, you simply need to make sure that you follow the provided guidelines for carburetor setup. Once we had the proper jets installed, and had set the mix and idle screws to precisely the right spot, we got closer to a tuned Banshee.

One very important aspect of Banshee tuning, and the key to getting ours to idle properly, is in synchronizing those twin carburetors. The Keihins connected to the Motion Pro twist throttle made this a little easier than stock. It's also easiest to do this with the airbox removed, but it can be done with the box in place. If the carbs aren't opening and closing exactly in synch, the engine won't run correctly. If you're really good, you can hear the carbs open and close together (with the engine off, of course).

To get the aftermarket carburetors to fit in the chassis, you'll need to slightly bend the clutch cable connection to the case. You need the extra clearance for the Keihin's deeper float bowl.

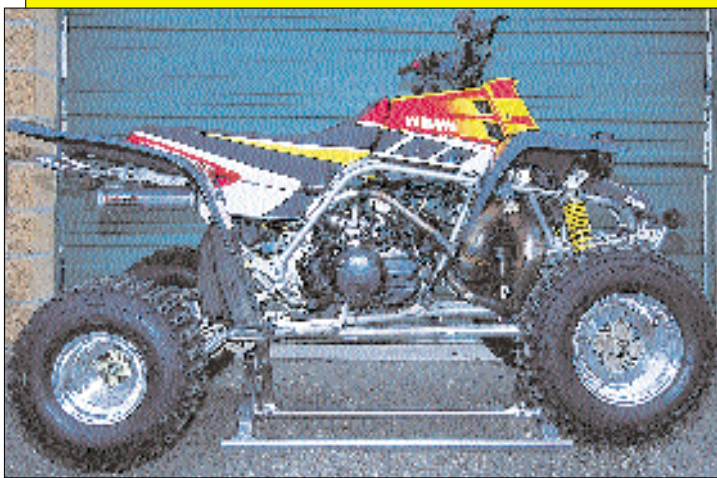
The only other real modifying you need to do for this installation is at the airbox. The rubber ducts that connect the box to the new carbs need to be cut down in length to fit. Nothing that a sharp knife or good set of clippers can't handle.

Every other aspect of this installation was simple, and clearly laid out in Duncan's instructions. The pipes and mufflers fit perfectly, and that doesn't always happen with aftermarket components. All the mounting hardware and brackets matched like they came from the factory. The boost bottle and the reeds were also easy to install, even twice since I mounted them incorrectly before reading the instructions.

No chassis or suspension mods, yet, but we did feel the need to get rid of the stock tires and wheels. It's not that the stockers are that bad, they're just not durable or solid enough to stand up to MX



The Master Flow intake manifold and Pyramid reed valves really boost throttle response.



track riding. And there is so much better equipment available from the aftermarket.

We chose ITP's smallest Holeshots on the ITP aluminum wheels. We went with the 18-inch rear tires and the 19-inch fronts. And what a difference rubber can make.

We could have changed sprocket sizes to make the most of our engine power and tire choices, but we didn't. We found the machine to have plenty of MX riding oomph. And we can easily change back to the stock tires for woods riding, without have to worry about sprocket sizes.

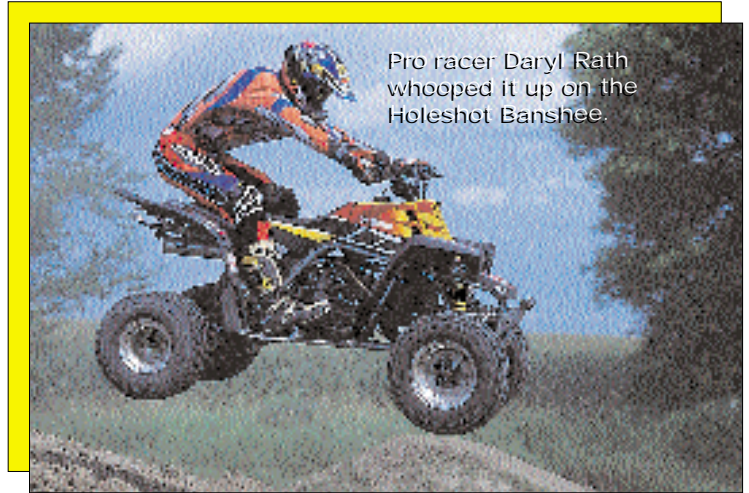
The other improvements we made to this Banshee we highlighted in our last issue. The quad was looking tired, so we stripped it clean of its old stickers and graphics. We shined up the plastic with Plastic Renew, and we installed a new graphics kit and seat cover from One Industries. The stickers and seat cover are holding up very well to all of our riding time abuse.

The Real Test

While we can tell you how much we enjoy these mods (and we will), and how our Banshee really burns up an MX track (and it does), we'll let the numbers speak for themselves first.

We used our Stalker Acceleration Testing System radar gun and software to measure the machine's newfound power. Compared to the stock Banshee (though this Banshee hasn't been stock for several months), this Duncan-prepped ride is a rocket.

Check out these numbers (gleaned from our new Stalker radar gun and software system). In stock form a Banshee still feels very quick — posting a 0 to 30 MPH time of about 3.6 seconds. Top speed for a stocker is about 72 MPH. Our Duncan prepped Banshee didn't gain anything on top, but we were looking for low- and mid-range boosts, and we went to smaller rear tires.



Pro racer Daryl Rath whooped it up on the Holeshoot Banshee.

The 0 to 30 MPH times on our Duncan Banshee averaged 2.13 seconds. The machine got to 60 in 5.85 seconds. She didn't have a lot more after that. But on a motocross track, you'll seldom, if ever, find a straight run that lasts six seconds.

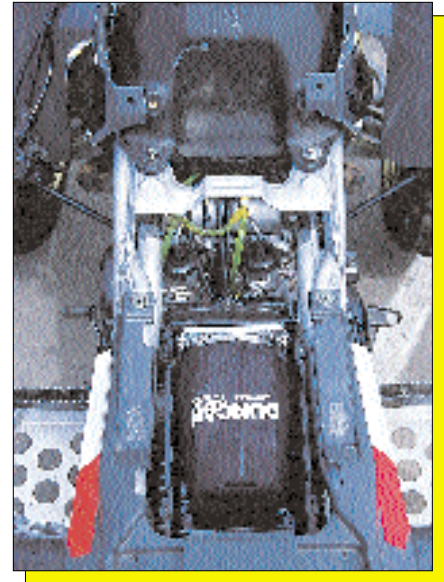
Where's all that low-end coming from? The intake mods certainly have a lot to do with it. The uniquely-shaped Pyramid reed valves — with reeds angling up the outside of

the cage — give this machine much-improved throttle response.

These “extra” reeds allow the fuel-air mix to enter the cylinder much more quickly at the first twist of the throttle, yet they also keep the mix flowing powerfully at high RPM.

Duncan builds the intake with a larger opening to the boost bottle mounted above to take more advantage of that component.

The bottle alone is certainly not a big power producer, Duncan admits. But the engine needs some sort of “equalizer” he says, and his design seems to work well. It's the combination of the reeds, the reed cage and



The filter and intake kit work well with the pipes.

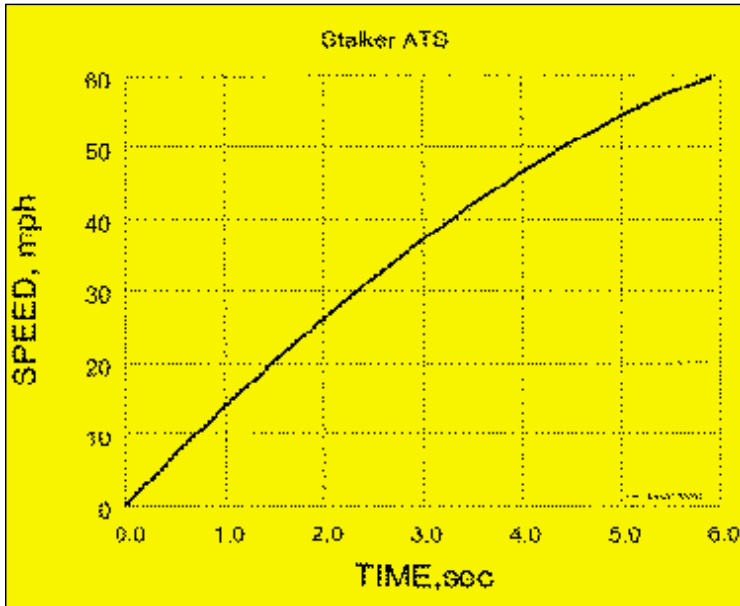


The Banshee's exterior was assisted by One Industries and Tag Metals.

Sources:

Duncan Racing	(619) 258-6306
Motion Pro	(650) 329-0427
ITP	(909) 923-7753
Tag Metals	(619) 531-1170
One Industries	(619) 239-1160
PC Racing	(909) 698-4962

	Peak Speed	0-30 MPH	0-60 MPH
Trial	MPH	sec	sec
Duncan Racing	59.8	2.13	5.85



boost bottle that helps give this Banshee such strong low-end power.

Just a split-second later, you can feel the Paul Turner midrange pipes get into their rhythm, and the middle of the power curve is seriously strong.

While we definitely enjoy our new radar gun, we were eager to stow it and the laptop and the camera back in their proper cases and ride.

It will certainly be fun to make this machine a little wider, and to give it new suspension. But for the weekend rider and novice racer, it really doesn't need it. The smaller Holeshots lower the Banshee enough to give it a racier feel. But the biggest bonus of these treads is felt going through corners. These 18-inchers slide through corners seriously fast, all the time letting you control the straight-line traction. You can stop the skid where you want, then twist the throttle and power your way out. Just be ready to move your weight forward, or the engine power will have you on your back. ■

Prices:

Paul Turner Pipes and Fat Boy Silencer	\$459
Pyramid Reeds	\$199
Boost bottle & manifold	\$229
Carb kit (w/throttle)	\$379
Air Filter & Flange	\$69
Outerwears	\$14
One Industries Graphics	\$139
Tag Metal Bars	\$80
ITP tires and Wheels	\$436
Total	\$2,004