



WARNING: Much of the action depicted in this magazine is potentially dangerous. Virtually all of the riders seen in our photos are experienced experts or professionals. Do not attempt to duplicate any stunts that are beyond your own capabilities. Always wear the appropriate safety gear.

ATV PROJECT



Any Banshee is great at rearranging dirt in turns, but especially one with a Duncan Racing International National engine kit installed. It looks as good as it runs.



DUNCAN RACING YAMAHA BANSHEE

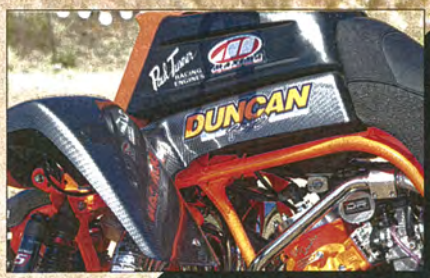
Full fun instead of full race

By the staff of Dirt Wheels Photos by Pat Carrigan

Yamaha's Banshee was a sales hit for close to two decades. Right from the first, the twin-cylinder two-stroke had massive aftermarket support. Its engine was heavily based on a popular street bike, so there

was already a ton of development in making the engine rocket fast. Stock Banshee (good luck finding a stock one) horsepower is in the mid-30s, but just adding pipes and mufflers jumps it to over 50 horses.

DUNCAN BANSHEE



Maier Mfg. makes the carbon fiber finish plastic, and IMS makes the oversize fuel tank. The machine is thirsty, and with suspension like this, the owner will want to keep riding.

While Banshees have been raced successfully in many forms of ATV sport, for the most part they have gravitated to various types of speed contests or sand dunes. Dunes put stress on an engine, but it really isn't that hard on machinery in general, so there are a lot of clean Banshees out there, and there are good reasons for modernizing one.

WHAT WE DON'T SEE

Banshees aren't that common as trail machines, but Tara Frerich wanted a Banshee trail machine enough to have Duncan Racing International (DRI) build her a beauty with off-road trails and play riding in mind. She started with a 2001 Banshee, so it was a later-model example, as 2006 was the final year for sale in the U.S. Production extended until 2012 in some countries.

They say it takes a village to raise a child, and apparently the same is true of raising a Banshee to a whole new level. Duncan Racing worked with a number of trusted companies, including Paul Turner Racing Products. It isn't hard for Duncan to trust Turner. Duncan Racing owns the Paul Turner Racing (PTR) brand, including all two-stroke pipes, Fat Boy 2 silencers, port modifications and billet parts.

It isn't too hard to imagine that a 2001 Banshee might need some engine work. Duncan Racing's National kit for

the Banshee engine is comprehensive, and Tara checked that box. The kit includes Paul Turner midrange pipes, Fat Boy 2 silencers, National midrange porting, PTR Powerhead, Pyramid reed valves, MasterFlow intake manifold, DRI pre-jetted Keihin 34mm PJ carburetors, jet kit, K&N filter, Outerwear pre-filter cover, spark plugs, a T-shirt and technical instructions.

BEFORE THAT STARTS:

You don't throw all those new parts and work at a potentially junk engine. Before the mods start, the engine is completely torn down. All of the original parts are cleaned and inspected. What isn't replaced is refurbished. For engines that get the National kit, the cases and cylinders are powdercoated. A new Yamaha crankshaft is trued and welded. The clutch cover is modified for a quick-change clutch and polished. Inside the clutch cover is a Hinson billet clutch basket with a DRI clutch kit.

To make sure the new parts stay alive, Duncan installs a new billet water-pump impeller and a water-pump drain cover. Before the cases are buttoned up, Duncan performs a shift star mod to allow more reliable shifting, as well as a flywheel mod for smoother running.



Tara Frerich ordered a beauty of a Banshee for off-road use. We wouldn't allow it off the carpet in the living room. ATV pro Josh Row certainly didn't mind getting it dirty.

MORE THAN MOTOR

You may think that a lot of work went into the engine, and you would be right. The cases, transmission, crank and cylinders are used, but the heads, reed valves, carbs, pipes, mufflers and more are replaced. Not much remains of the stock engine! You haven't seen anything until you see the chassis! Though

the frame is a stocker, it is gusseted, reinforced, sand-blasted and powder-coated before reassembly begins. None of the stock suspension parts, shocks, linkage or A-arms return. The pegs, stem, bar clamp and controls are all replaced. That includes the swingarm, carrier and axle! Almost none of the stock plastic remains, and that includes

the fuel tank. No stock wheels, either.

Major builds like this change almost as many parts on a modern race machine. It isn't limited to a vintage machine like the Banshee.

Of course, with a vintage machine, making major changes to the suspension can pay true dividends. Suspension quality and performance

can easily surpass brand-new stock machines by a wide margin. With an older machine, weaknesses have been well-documented, and a popular machine like the Banshee has parts available that eliminate the flaws, or at least let the chassis match the performance of the powerful engine.

KEEPING IN SUSPENSE

Though not part of the Duncan brand, Roll Design and Duncan have a long history together. Unless a customer insists on another product, Duncan enhances suspension with help from Roll Design and (through Roll) specially tuned Elka shocks.

In Tara's Banshee's case, the chang-

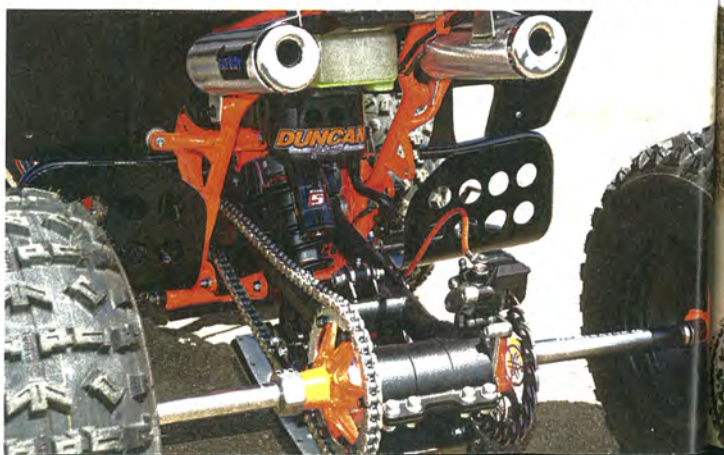
es include a gull-wing A-arm set, tie-rods, Elka Stage 5 long-travel shocks, and Crown steel-braided brake lines and clamps.

When you think of suspension performance, you may not consider a steering damper or a handlebar, but both can make a giant contribution to suspension performance. GPR makes the stabilizer, and Fasst Co. the Flex handlebar that incorporates elastomers to provide its own suspension.



There is a lot of nice detailing happening here. DRI modifies the stock clutch cover to make it a quick-change cover. The Roll pegs are gnarly. Those no-drip DRI silencer clamps are trick.

Lots of new stuff back here. That includes the swingarm, linkage, shock, axle, carrier bearing, brake rotor, wheels, tires and mufflers. This Banshee is built for long-term fun off-road.



SETTING IT APART

Duncan obviously has superb technical and mechanical expertise, but the secret to its stunning project machines is handling the details. Clever use of powdercoating from Powder 1 is found on the frame, engine cases, cylinders, hubs, wheel rings and sprocket hub. The color is mixed with and highlighted

by chrome finishes from Pacific Plating, and some extraordinary polishing is done in-house by long-time DRI polisher Jimmy Brown.

Setting this build off further are a billet-aluminum front bumper and rear grab bar. Ultra-clever machining by JDS Customs created the giant tuning fork emblem over the CBR radiator and

integrated into the rear brake disc rotor. That rotor is a wild and exotic piece.

Combine everything with painstaking attention to detail and you have a machine to be proud of. The lifeblood of the new engine package comes from Maxima, and the engine requires Sunoco 110-octane fuel to stay happy.



This Banshee remains 350cc, and this National kit engine is focused on mid-range, so it should remain pretty easy to ride for a machine with this much power. Easy to kickstart as well.



Roll makes amazing suspension components like these gull-wing A-arms. The CBR radiator aids cooling, and check out that billet Yamaha Tuning Fork emblem over the radiator. Sweet.



DUNCAN BANSHEE PARTS LIST

CBR PERFORMANCE PRODUCTS:

(951) 245-2900,

www.cpr-performance.com

Radiator.....\$499

DUNCAN RACING INTERNATIONAL:

(619) 258-6306,

www.duncanracing.com

Complete engine rebuild....\$695 (+parts)
DR/PTR

National midrange engine kit.....\$2795

Triple-plate pipe chroming.....\$250

Pipe clamps.....\$69

Flywheel mod.....\$105

Super flow carb mods.....\$60 ea.

Shift star mod.....\$50

C33 DR clutch kit.....\$199.95

Billet water pump shaft.....\$79.95

Water pump drain cover.....\$39.95

Adjustable stator cover.....\$99.95

Quick change clutch cover mod.....\$250

Pro Flow air cleaner flange.....\$69

Billet stator cover.....\$350

Billet water pump cover.....\$99.95

Billet dip stick.....\$39.95

Billet shifter.....\$89.95

Block off plates.....\$14.95

Pro top seat cover

(custom for DR by Zip).....\$199

Frame gusseted, reinforced,

sand blasted & powder coated....\$799

Custom heel guards.....\$399

Crown Series steel braided

rear brake line.....\$39.95

Crown Series steel braided

front brake line.....\$119.95

Aluminum swingarm skid plate

w/special mods.....NA

Custom CRF material glide plate

w/special mods.....\$150

Billet radiator grill.....\$115

Custom billet kickstarter, gas cap,

master cylinder covers, key plate....\$350

DWT: 800-race-rim,

www.dwtracing.com

Beadlock wheels 10x5 front, 9x8 rear

4-piece set.....\$799

GPR STABILIZER: (619) 661-0101

www.gprstabilizer.com,

Steering stabilizer.....\$549

FASST CO:

www.fasstco.com, (877) 306-1801

Flexx handlebar.....\$399.95

HINSON RACING:

www.hinsonracing.com, (909) 946-2942

Hinson billet clutch basket

w/cushion kit.....\$285

IMS PRODUCTS: (800) 237-9906,

www.imsproducts.com

4.0-gallon tank.....\$279

JDS CUSTOMS:

www.jdscustoms.com

Custom rear tuning fork

brake rotor.....\$140 ea.

Tuning fork radiator grill.....\$115

MAIER MFG.: (800) 33-MAIER,

www.maier-mfg.com

Front and rear fenders.....\$595

Radiator cover.....\$110

ODI Grips: www.odigrips.com

Custom grips.....\$29.95

PROTECH ATV: (714) 632-1309,

www.protechatv.com

Billet front bumper.....\$200

Billet rear grab bar.....\$190

RICKY STATOR: (760) 787-0094,

www.rickystator.com

Hi-output stator.....\$229

RK CHAIN: (760) 732-3161,

www.rkexcelamerica.com

O-Ring chain.....\$85

ROLL DESIGN: (760) 731-5920,

www.rolldesign.com

Roll Lobo II Desert front

suspension kit.....\$3495

Elka Legacy shock 3pc set.....\$1299

Anti-vibe steering stem.....\$399

Anti-vibe handlebar

clamp assembly.....\$99.95

Chromoly round-housing

swingarm.....\$1295

Remote reservoir mount.....\$99.95

Foot pegs.....\$239

Elka Stage 5 rear shock

piggyback.....\$1295

Elka rear linkage.....\$495

RPM: (928) 771-9363,

www.team-rpm.com

Dominator axle.....\$399

STI POWERSPORTS:

www.stipowersports.com

Tech 4 XC 21x7x10 front tires..\$65.99 ea.

Tech 4 XC 20x11x9 rear tires...\$85.99 ea.

SUNSTAR SPROCKETS:

(937) 704-1462,

www.sunstar-braking.com

15T countershaft sprocket.....\$26.95

Steel 38T rear sprocket.....\$45

WORKS CONNECTION:

www.worksconnection.com,

(530) 642-9488

Perch assembly.....\$149.95



Roll Design and Elka suspension changed and upgraded every part of the Banshee suspension. It is now up to fully modern race suspension standards. It landed nicely.

WHAT SHE SAID

Owner Tara Frerich rides the Banshee most weekends, and this is what she had to say about her new dream quad: "I asked Duncan Racing to completely redo the entire 2001 Yamaha Banshee that I purchased. During the build I received weekly updates and pictures of the progress. It was a completed bike in June 2021. I was expecting something amazing, but when the bike came out the delivery truck, I was completely blown away. It was a perfect showroom restoration, and I didn't want to even drive it to get it dirty! They exceeded all of my expectations. There was not one detail missed. If you want something done right and high-grade, then Duncan

is where you need to go. They make the process so easy; nothing is rushed, and they listen to every request.

"One look at my new Banshee and you know you're ready to ride something special. Just starting it up gets your adrenaline going, and then you hit the gas—wow! It is responsive, quick and exhilarating. The Roll/Elka suspension is very plush; much better than stock. The motor sounds are pure ear candy. I love the Fat Boy sound. I am very grateful and thankful to Duncan Racing for turning my vision into a reality!" We can understand that reluctance to get it dirty, but, like Tara, we wouldn't be able to leave this bike parked for long, either. □