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To get more speed out of the YFZ, Duncan installed a 460cc National kit plus several other mods, gaining an additional 10 hp. Behind the YFZ are Duncan's three other primary entries at PDV 2004.

Fried French

Testing The Limitations Of The 450R, Banshee and YFZ At Pont de Vaux

By Bill "WBG0" Lanphier

At first glance, they look pretty much like MX quads with headlights. But, they're far from that. Imagine trying to set up an ATV for a TT track that turns ugly and develops massive braking bumps, holes, mud and blinding dust. Or, imagine prepping for an MX track with ridiculously long straightaways and speeds close to 90 MPH. Now, imagine that the race will last 12 hours and will be staged in a little town where most people don't understand much English.

Now you're beginning to see how tough it is setting up a quad for the 12 Hours of Pont de Vaux, the annual torture test in France. Duncan Racing and its European distributor, ATV World, are masters at doing that and, at this year's annual event, their Banshee prevailed over 119 other quads from around the world.

Winning at PDV is nothing new for Duncan Racing — the team has taken first overall several times. Duncan's primary lineup at the 2004 event included not only the winning Banshee, but two Yamaha YFZs and a Honda 450R. We spoke with team leader Loren Duncan to learn how these three types of quads compare at PDV.



The deep holes that develop at PDV make for an awful ride on a stock Banshee. The winning quad this year used only the motor and plastic from the Banshee. The entire rolling chassis is a Laeger's Pro-Trax and the ride is infinitely better. That's John Mitchell at the controls.

ATV Sport: Let's talk about reliability.

Duncan: After years of racing at PDV, the Banshee is excellent. It's hard to beat that. Yamaha's YFZ is not designed as an endurance machine, but we were happy with the improvements we made since 2003.

ATV Sport: As a newcomer to PDV, how did Honda's 450R do?

Duncan: Very good. With six months of testing, we already knew some things we needed to correct before the race.

ATV Sport: Such as?

Duncan: The suspension is the main thing. We needed to give it more stability and better handling in the bumps. For 20 minutes it would be okay, but for 12 hours it's critical. A different swingarm and lighter A-arms also made a difference.



Loren Duncan calls the Yamaha YFZ the "Ferrari" of quads. It's not designed for endurance racing but, with modifications, it's very competitive. Americans Tavis Cain and Chad Lohr piloted the machine.



Honda's 450R made its debut at Pont de Vaux this year and two machines finished in the top 10. With more speed and a year of development, this reliable quad should post even more impressive finishes.

ATV Sport: How about the 450R motor?

Duncan: It still needs additional power to win PDV, but we'll have kits ready for 2005 that will add 10 HP and still be reliable.

ATV Sport: How did the Honda hold up?

Duncan: We ran out of gas once costing us a few laps and the exhaust stud broke at the cylinder and that cost us a lap. Other than lacking power, those were the only other things.

ATV Sport: How about the Banshee and YFZ motors?

Duncan: Doug Eichner and John Mitchell, on the Banshee, felt they had the fastest bike at PDV. It rained quite a bit before the race and



American Doug Eichner (left) teamed up with John Mitchell of Scotland and rode this Duncan/ATV World Banshee to victory.

the track eventually got really tacky, which helps the Banshee. In 2003 we felt the YFZ might never be fast enough. But now, with a year of development, we've gained 10 HP. Plus, it hooks up better in dry, slick conditions than the Banshee.

ATV Sport: Compare the handling of the three quads after they've been set up for PDV.

Duncan: Because it's designed for MX, the YFZ handles more like a Ferrari than a Cadillac. The Banshee, with the Laeger's Pro-Trax chassis handles well. And the Elka shocks helped immensely. The problem with the Banshee is that it takes a very strong rider to handle it for 12 hours. The Honda, on the other hand, is very easy to ride. It's probably the most comfortable bike in the race. Second is the YFZ, because it has less power than the Banshee and is more controllable.

ATV Sport: Is chassis setup the most crucial thing on the Banshee?

Duncan: Yes, it just wouldn't be competitive with the stock shocks, A-arms and suspension setup. Most needed on the YFZ are electrical mods and engine upgrades. For example, we modify the generator, and installed an oversize battery in a stainless box. The Honda only needs more power.

DUNCAN/ATV WORLD 12-HOUR RACERS

	TRX450R	BANSHEE	YFZ450
RIDERS/SPONSORS			
Riders/country	Paul Rowlands, Andy Ladzjins, Cale Downing/UK, USA, USA	Doug Eichner, John Mitchell/USA, GB	Tavis Cain, Chad Lehr/USA
Main sponsor	ATV World/Duncan Racing	ATV World/Duncan Racing/Yamaha	ATV World/Duncan Racing/Yamaha
Team co-sponsors:	Douglas Wheel, Goldspeed, Laeger's, Elka Suspension, Team Axles, AC Racing, Vortex, Roll Design, IMS, Paul Turner	Maxima, Zip, Motion Pro, GYTR, Powermadd, Cycle Country, Par Homes, Ricky Stator, Works Connection, Braking	Racing Engines, Hinson, Pro Design, Dunlopod,
Chief mechanic and prep:	Martin Fletcher (ATV World)	Martin Fletcher (ATV World)	Martin Fletcher (ATV World)
MACHINE			
Quad	2005 Honda TRX450R	2005 Yamaha Banshee	2005 Yamaha YFZ450
Quad weight	380 pounds	370 pounds	368 pounds
Frame/modifications	Stock with ATV World gusset kit	Laeger's Pro Trax	Stock with ATV World 19-point gusset kit & subframe brackets
MOTOR			
Motor type	450R	Banshee with DR/PTR National kit	YFZ with DR 460cc National kit
Additional cooling	None	None	ATV World custom oil tank cooling ports
Displacement	Stock(450cc)	Stock(347)	460cc
Porting	DR	PTR National PDV Special	DR
Head & mods	Stock with DR porting	PTR/DR Powerhead	DR
Piston	Stock	Pro X/DR	DR/JE
Valves, cams	Stock	N/A	Oversized valves and DR billet X12 cams
Ignition	Vortex	Vortex with DR adjustable timing plate	Vortex
Carburetor	Stock w/DR jet kit	34mm PJ with DR Superflow mods, Masterflow intake manifold, PTR Pyramid reed valves.	DR oval-bored
Airbox/filter	Pro Flow kit/K&N	Anderson ATV Alloy/K&N	ATV World alloy/K&N
Exhaust	DR Fatboy 4 stainless exhaust	PTR with Fatboy 2 silencers	DR Fatboy 4 Complete Stainless System
Fuel	VP C12	VP C12	VP C12
Engine oil	Maxima Premium 4 10w40	Maxima 927 32	Maxima Premium 4 10w40
DRIVE SYSTEM			
Clutch	Hinson/DR	Hinson/DR	Hinson/DR
Transmission/oil	Stock/Maxima	OEM 1-4, RD350LC 5-6/Maxima MTL Endurance	Stock/Maxima
Chain/lube	D.I.D. X-Ring/Maxima	D.I.D. 530 X-Ring/Maxima	D.I.D. X-Ring/Maxima
Sprockets f/r	Case hardened custom ATV World	ATV World custom 530 case hardened	ATV World custom
Gearing f/r	16/37	17/39	16/36
FRONT END			
A-arms	Laeger's Pro Trax	Laeger's Pro Trax	Roll Design Chromoly Lobo II
Spindles	Laeger's T Pin	Laeger's T Pin	Stock
Front end overall width (in.)	49	49	50
Front shocks	Elka	Elka ZPS	Elka
Steering stem/steering stabilizer	Laeger's/ATV World	Laeger's/ATV World	Roll Design/GPR
REAR END			
Swingarm	Laeger's/Elka +1 1/4"	Laeger's 18 3/4"	Roll Design chromoly
Rear axle/axle carrier	Team 2+2/Team taper roller	Team 2+2 LT 500/Team taper roller bearings	Team 2+2/Team taper roller
Rear shock	Elka	Elka	Elka (shock and linkage)
Rear overall width (in.)	49	49	50
TIRES/WHEELS/HUBS			
Tires	Goldspeed MX	Goldspeed MX yellow compound	Goldspeed MX
Tire sizes f, r	20 x 6-10, 18 x 10-8	20 x 6-10, 18 x 10-8	20 x 6-10, 18 x 10-8
Tire pressure	8 PSI	8 PSI	8 PSI
Wheels & beadlocks	Douglas Ultimate Billet	Douglas Ultimate Billet	Douglas Ultimate Billet
Rear hubs	Team billet	Team billet	Team billet
Front hubs	Stock	DR billet	DR billet
BRAKES			
Brake calipers f/r	Stock	Honda 250R/Yamaha FJ1200 street bike custom modified	Honda 250R
Pads	Dunlopod sport compound	Dunlopod sport compound	Dunlopod sport compound
Rotors	Braking	Braking 220/216	Braking 10mm oversize
Brake lines	DR Crown Series	DR Crown Series	DR Crown Series
Brake fluid	Maxima 550	Maxima 550	Maxima 550
HANDLEBARS/CONTROLS			
Handlebars	Renthall QuadRacer bend	Renthall QuadRacer bend	TAG CR-Hi
Throttle	Motion Pro Vortex	Motion Pro Vortex	Thumb
Clutch lever	Works Connection	Works Connection	Works Connection
Cables	Motion Pro Terminator	Motion Pro Terminator	Motion Pro Terminator
Grips	Spider	Spider	Spider
Teether kill switch	Pro Design	Pro Design	Pro Design
DETAILS			
Nerf bars/front bumper/grab bar	AC Pro Peg/DR/AC	AC Pro Peg/DR/AC	AC Pro Peg/DR/AC
Skid plates	AC	AC	AC
Fuel tank	IMS dry break	IMS 5.6 gal with dry break	IMS 4 gal with dry break
Lights	Ricky Stator	Ricky Stator headlights and Williams 135W F1 brake light	Ricky Stator headlights and Williams 135W F1 brake light
Seat cover	Zip high foam and custom seat cover	Zip custom	Zip high foam and custom seat cover
Body	Stock custom trimmed with painted carbon hood	Stock custom trimmed	Stock custom trimmed and painted
Foot pegs	AC Pro peg	AC/2" back, 1" down	IMS
Polished	Cam cover and all alloy components	DR billet stator cover, water pump cover and clutch cover	All alloy components
Chromed	A-arms, steering stem, swingarm, motor mounts	Exhausts, front & rear bumpers, subframe, steering stem, A-arms, swingarm	Upper A-arms, steering stem, front & rear bumpers, motor mounts, rear subframe stays
Powder coated	Frame candy-red flake	Frame candy-red flake	Frame and subframe



Reliability on the Banshee is insured by a beefier tranny (see spec sheet), an oversize chain and rear braking power borrowed from a Yamaha street bike.



A gusset kit and additional sub-frame brackets from ATV World increased the durability of the YFZ for the 12 hours of pounding it would get. Check out the nice candy-apple red paint job!



The team took no chances with the brake lights (required by PDV) and installed these ambitious, not to mention pricey, multi-LED units. Chief mechanic Martin Fletcher laughed, "They're as bright as the headlights!"

ATV Sport: How about the lighting setup? None of the stock setups would cut it at PDV, right?

Duncan: That's correct. The stock Banshee lighting is very weak. The YFZ and Honda are just fair.

ATV Sport: After your mods, what is the best thing about each quad?

Duncan: The Honda is pretty reliable. It's obvious that the design engineers put a lot of thought into that. The YFZ is a fast-

accelerating, 21st-century race ATV. The Banshee motor, when properly modified, is very powerful and reliable.

ATV Sport: What changes do you have in store for next year?

Duncan: The Banshee is dialed in and it will be very similar. The YFZ will have better lights and, as will the Honda, more power. Getting ready for that race is a huge task. I don't think people in the racing community have any idea how difficult it is

to consistently compete successfully at Pont de Vaux.

ATV Sport: How do you think the three machines will compare next year at PDV?

Duncan: It depends on the riders, of course. But we expect to finish 1, 2, 3. Otherwise, we wouldn't race! **ATVS**

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