



BANSHEE vs. 4-TRAX!

Is the reign of Red coming to an end?

In the beginning, bright red Hondas ruled. The ATC250R was the machine to beat. Then in '85, Suzuki released the first high-performance four-wheeler and race tracks began filling up with Suzuki yellow. One year later, Honda introduced its version of the high-performance quad and, even now, Honda still rules cross-country, motocross and stadium racing. Though the TRX250R was discontinued in '89, the aftermarket has kept the FourTrax alive.

Things are changing, though, at least in the Mickey Thompson stadium series. Up to '94, the displacement limit was around 250cc for Hondas. Now, for '95, the rules allow 350cc Banshee motors. When the first MTGP ATV race blasts off this year, 350cc Yamaha Banshees will line up next to the 250cc Hondas—and the Yamahas may eat them alive.

In many forms of closed-course racing, the high-revving Banshee struggles getting traction to the ground, while the more tractable Honda hooks up and leaves the Banshee spinning. However, the Mickeys are usually faster and much less technical than motocross tracks. Here, the Banshee could very well rule.

A STADIUM BANSHEE!

In preparation for the '95 MTGP season, Laeger's has developed a Pro-Trax Banshee chassis specifically for stadium racing. Mark Laeger notes, "We wanted a Yamaha that would handle more like our Honda-style chassis and we incorporated as many of those design concepts as possible. It's sort of like a TRX bottom half and a Banshee top half!"

Though the machine uses a Banshee motor and Banshee plastic, the rolling chassis is closer to Laeger's FourTrax-style offering. Sure, it looks like a Banshee, but it's really something completely different.

The chassis has many unique features, and many of them are up front. The frame is narrower by four inches and the A-arms are wider by four inches per side. This results in two inches per side over stock Banshee width. In addition, the A-arms are raked more rearward than on a stock Banshee. In other words, the front of all four A-arms is higher than the rear. When the suspension compresses, the A-arms move more rearward rather than straight up and down. This complements the natu-

ral tendency of A-arms to get pushed rearward as the quad speeds forward over bumps.

Like most changes, though, this design presents a problem: the front shocks (now leaning more rearward) will not clear the radiator. Laeger's solution of stretching the frame forward by one inch solves that *and* another problem inherent in all stock Banshees: too much weight over the front wheels. With the frame now stretched, both the rider and the heavier Banshee motor are closer to the rear wheels where this weight can be used to advantage for more traction. In order to bring even more weight over the rear wheels, the swingarm has been shortened by 1-1/2 inches.

Though the relative position of the swingarm pivot and countersprocket remains stock, the upright frame member at the swingarm pivot is tilted more rearward. Why? To give more support to the rear CR500 shock, which is tilted more upright. What is the advantage of that? Laeger explains, "On the stocker, the rear shock is tilted more forward. When the suspension compresses, the shock



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Will the screaming 350 Banshee (top) be competitive in the stadiums? Most of the major engine tuners think so. A big-bore 250R would be nice, but MTGP rules allow only a .080" overbore on the 250, or around 260cc—the same as the GNC limit. The Banshee can be bored .040" over, which brings the stock displacement of 347cc up to about 350.

tends to push the frame forward and the front end down. This is another reason why the Banshee feels front heavy. A more vertical shock position eliminates this."

The weight of Laeger's Pro-Trax Banshee is about 25 pounds heavier than his Honda-style Pro-Trax, which is just about the weight difference between the motors. More important, however, is the weight bias front to rear. The Honda-style is about 50% front and 50% rear. A stock Banshee is 53-47. Laeger's Banshee is 50/50—quite an improvement.

ON THE TRACK

All the theory in the world doesn't mean a thing if it doesn't work on the track. Just as race results have born out Laeger's Honda-style chassis designs, the Pro-Trax Banshee looks like it may score another direct hit. The front end does feel lighter and the machine is more nimble.

According to '93 MTGP champ Doug Eichner, "I'll have to get used to rolling on that extra power, but the extra weight doesn't seem like a big factor and the bike jumps well. Compared to stock Banshees, it's much more forgiving if you get out of shape and it doesn't beat you up. The bars feel a little taller than on a Honda, but the seat heights seem similar."

So, if MTGP is allowing up to 350cc, then why not run a Honda motor with a big-bore kit? The rules allow only a slight overbore on either the Honda or Banshee motor. The idea is to get a machine currently in production, the

LAEGER'S 1995 MICKEY THOMPSON PRO-TRAX BANSHEE

RIDER/SPONSORS

Rider	Doug Eichner
Rider weight	165 lb.
Rider height	5'8"
Main sponsor	Laeger's, Duncan Racing/Paul Turner Racing, Oregon Motorsports
Co-sponsors	PEP, MMF, Answer, Braking, Trick, Dico, Olympic Powder Coating, Douglas, Mom & Dad!

MACHINE

Quad	Laeger Pro-Trax
Frame	Laeger Pro-Trax (4130 Chromoly)
MOTOR	
Motor	'95 Banshee
Porting	Paul Turner National midrange and Powerhead (not available for photos)
Piston(s)	PRO-X
Ignition/timing	Stock w/lywheel lightened
Spark plug(s)	Champion N6YC
Reed cage(s)	Duncan Pyramid Reed Valve
Carburetor(s)	(2) 34mm Keihin PJ w/Super Flow mods and DR Master Flow intake manifold/boost bottle system
Airbox/filter/oil	Stock Banshee w/Proflow flange/K&N/Maxima
Pipe(s)/silencer(s)	Paul Turner TRX Midrange/Fat Boy
Fuel	Trick
2-stroke oil/ratio	Maxima 927/32:1

DRIVE SYSTEM

Clutch	Duncan Racing DR-C33 clutch kit w/Hinson Racing Billet-Proof clutch basket
Gearbox/oil	Stock w/Duncan Racing mods/Maxima MTL Race
Chain	RK 520 O-ring
Sprockets	Sprocket Specialists
Gearing f/r	15/41

FRONT END

A-arms	Laeger Pro-Trax (4130 chromoly, +3" per side)
Spindles	Laeger Pro-Trax T-pin (aluminum & 4340 chromoly pins)
Front shocks	PEP remote reservoir, 11" wheel travel
Steering stem	Laeger Pro-Trax (4130 chromoly) w/swivel clevis
Steering stabilizer	PEP

REAR END

Swingarm	Laeger Pro Trax (-1 1/2")
Rear axle/carrier	Dura Blue/Skat Trak
Rear shock	'91 Honda CR500 w/remote reservoir and linkage, 10.25" travel, modified by Laeger, valved by PEP

TIRES/WHEELS/HUBS

Tires f/r	Riken radials grooved by Skat-Trak/Hoosiers
Tire sizes f/r	145x10/18x10-10
Tires-PSI f/r	12/6 to 7
Wheels f/r	Douglas/same w/Champion Bead Locks
Hubs	Stock Honda

BRAKES

Brakes	Stock Honda
Brake rotors	Braking
Brake lines	Fastline (extended)

HANDLEBARS/CONTROLS

Handlebars	Answer Pro-Taper aluminum, CR500 band
Throttle	Motion Pro CR style
Clutch lever	CR500
Cables	Stock Banshee clutch, Motion Pro CR-style throttle
Grips	Scott
Tether kill switch	Pro Design

MISCELLANEOUS

Nerf bars	MMF w/integral Pro-Pag footpegs
Front bumper/grab bar	MMF/stock
Seat	Cascade
Body plastic	'95 Banshee (trimmed)
Footpegs	(see nerfs)

OTHER SPECIAL SETUPS & PRODUCTS

Outerwears Shock Savers shock covers, Duncan Racing quick change clutch cover, Paul Turner Racing exhaust clamps, Cascade magneto cover, Nac's parking brake block off plate, Laeger's carbon fiber intake tract, Laeger's 4130 chromoly rear brake rotor guard.
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LAEGER'S 1995 MICKEY THOMPSON PRO-TRAX 250R

Rider	Doug Eichner
Rider weight	165 lb.
Rider height	5'8"
Main sponsor	Laeger's, Duncan Racing/Paul Turner Racing, Oregon Motorsports
Co-sponsors	PEP, MMF, Answer, Braking, Trick, Dico, Olympic Powder Coating, Douglas, Mom & Dad!

Quad	Laeger Pro-Trax
Frame	Laeger Pro-Trax (4130 chromoly)

MOTOR	
Motor	'88 Honda/Duncan Racing w/'89 barrel
Porting	Paul Turner Hyperdyne cylinder and Powerhead
Piston(s)	PRO-X
Ignition/timing	Stock
Spark plug(s)	Champion N6YC
Reed cage(s)	Duncan Pyramid Reed Valve
Carburetor(s)	36mm Keihin PJ w/Super Flow mods

Airbox/filter/oil	Stock Honda/K&N/Klotz
Pipe(s)/silencer(s)	Paul Turner TRX Midrange Race/Fat Boy

Fuel	Trick
2-stroke oil/ratio	Maxima 927/32:1

DRIVE SYSTEM	
Clutch	Duncan Racing DR-C12 clutch kit w/Hinson Racing Billet-Proof clutch basket
Gearbox/oil	Honda w/Duncan Racing mods/Maxima MTL Race
Chain	RK 520 O-ring
Sprockets	Sprocket Specialists
Gearing f/r	15/39

FRONT END	
A-arms	Laeger Pro-Trax (4130 chromoly, +3" per side)
Spindles	Laeger Pro-Trax T-pin (aluminum & 4340 chromoly pins)
Front shocks	PEP remote reservoir, 11" travel
Steering stem	Laeger Pro-Trax (4130 chromoly) w/swivel clevis
Steering stabilizer	PEP

REAR END	
Swingarm	Laeger Pro Trax -1"
Rear axle/carrier	Dura Blue/Skat Trak
Rear shock	'91 Honda CR500 w/remote reservoir and linkage, 11" travel, modified by Laeger, valved by PEP

TIRES/WHEELS/HUBS	
Tires f/r	Riken radials grooved by Oregon Motorsports/Hoosier
Tire sizes f/r	145x10/18x10-10
Tires-PSI f/r	12/6 to 7
Wheels f/r	Douglas/same w/Champion Bead Locks assembled by Oregon Motorsports
Hubs	Stock Honda

BRAKES	
Brakes	Stock Honda
Brake rotors	Braking
Brake lines	Fastline (extended)

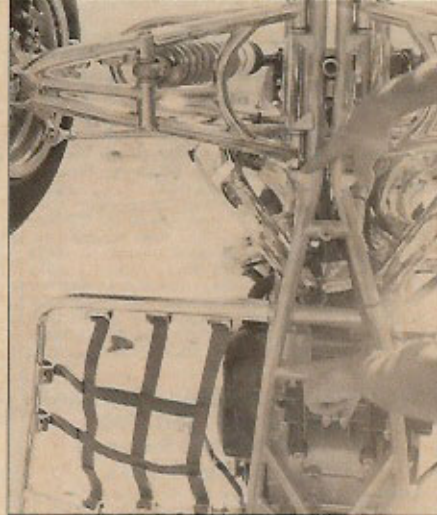
HANDLEBARS/CONTROLS	
Handlebars	Answer Pro-Taper aluminum, CR500 band
Throttle	CR500
Clutch lever	PEP
Cables	Stock Honda
Grips	Scott
Tether kill switch	Pro-Design

MISCELLANEOUS	
Nerf bars	MMF w/integral Pro-Pag footpegs
Front bumper/grab bar	Duncan Racing/MMF
Seat	Cascade
Body plastic	'89 Honda FourTrax 250R w/custom nosepiece (see nerfs)

OTHER SPECIAL SETUPS & PRODUCTS	Outerwears Shock Savers shock covers, Duncan Racing quick change clutch cover, Paul Turner Racing exhaust clamps.
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COMPARATIVE WIDTHS

	Stock frame front-end width at bottom A-arm pivot	Laeger's frame front-end width at bottom A-arm pivot	Laeger's A-arm width (per side) over stock A-arm width	Resulting overall front-end width (per side) over stock
Banshee	7-5/8"	3-5/8"	+4"	+2"
'88-'89 FourTrax 250R	5-5/8"	3-5/8"	+3"	+2"
Suzuki LT250	8-1/4"	3-5/8"	+4-5/16"	+2"



Compare this to a stock Banshee frame and you will see the differences. Indicated here is the area of the Banshee frame that has been stretched forward. The result is a lighter front end and a more even front-to-rear weight bias. Also notice the narrower frame at the bottom A-arm pivots.

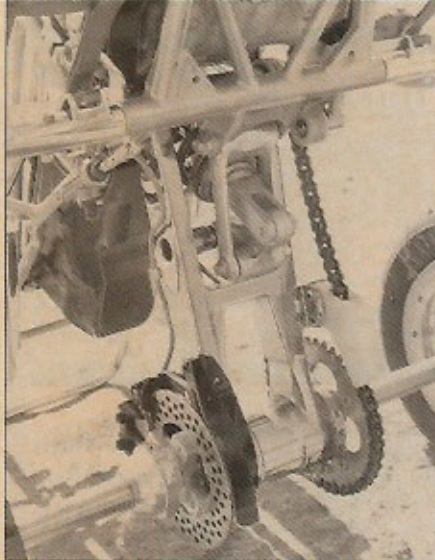
Banshee, into racing and we think it's a great idea. The MTGP, with its high-speed courses, is a perfect showcase for the screaming Banshee. Imagine how cool a swarm of Banshees is going to sound tearing around the LA Coliseum! At any event, a rider will have the option of racing either a Honda or Banshee, but whichever machine he qualifies on will be his machine for the evening.

year ago I would not have thought it was possible, but seeing how well our Banshees have done at the 12 Hours of Pont de Vaux [France], I'm convinced.

"Including the Banshee in the Miceys is good for everyone; the fans will have something new and it's good for the aftermarket. I will probably have two or three riders on Banshees in '95: Doug, Jesse Wozniak and maybe Mark Ehrhardt."

Wayne Hinson (Hinson Racing) is also pleased with the new class, and feels that the '94 Denver track and maybe Vegas and Seattle, would have suited the Banshee. However, Wayne also feels that there may not be enough time for R&D before the season begins to put the '94 MTGP champ, Gary Denton, on a Banshee.

Gary's motor builder, Arlan Lehman (LRD), plans to put #2-ranked Greg Stuart on a Banshee and feels that it will be possible to get enough traction from the high-revving twin-cylinder: "To smooth out the power and get more low-end, we'll run a longer pipe, change the porting and run 28mm carbs. Even de-tuned with less top-end, the Banshee will still make at least ten more horsepower than the Honda."



A CR500 shock (with linkage) has become the hot setup on FourTraxes and it makes sense to run it on the Banshee, too. Notice Laeger's brake rotor guard and the Honda-style axle carrier and chain adjustment.

Which tracks will favor the Banshee and which favor the Honda remain to be seen, but if the '94 tracks were any indication, there will be some close racing this year. Says Eichner, "The faster tracks like Denver would certainly have been Banshee tracks."

Doug's motor builder, Loren Duncan, is even more enthused: "The Banshee would have smoked at least 75% of last year's MTGP tracks. A



The upright frame member indicated here was positioned more vertically to provide a solid anchor for the rear shock, which is positioned more upright. Notice that the stock Banshee airbox has been moved back to clear the shock and Laeger has fabricated slick dual aluminum intakes. The intake tract hoses slide rearward to allow working on the carb. About the only stock Banshee parts left on this race-ready machine are the motor, wiring harness, radiator, gas tank, airbox and plastic. One distinct FourTrax advantage is quick plastic removal: two bolts (in race trim) as opposed to 19 for the Banshee.

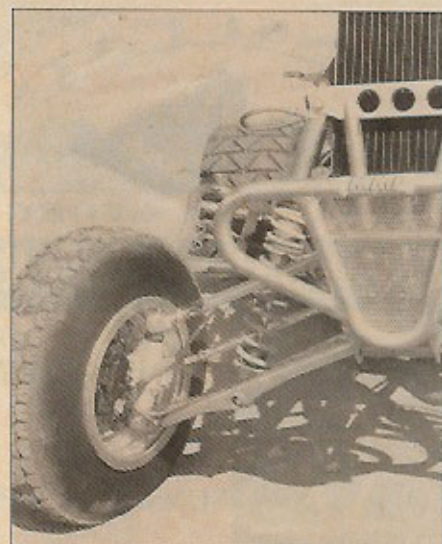
YAMAHA INVOLVEMENT?

It's been many years since the big factories were involved in ATV racing, and with the inclusion of Banshees at the Miceys, that may be changing. According to former MTGP champ and current MTGP race director Jimmy White, there is a good chance that Yamaha will offer contingencies to Banshee riders. The proposed budget for the year is \$13K—\$1000 for a main-event win and \$5000 for the series win. This is certainly a nice shot in the arm for ATV racing—one which Honda has shown no interest in tossing our way.

Racing is full of changes and surprises, and when the MTGP season opens at Anaheim, there will be some wild new sights and new sounds—maybe even a 350cc twin in the winner's circle. □



Which machine will dominate the '95 MTGP series? With a chassis more like a Laeger/Honda and motor mods extracting the maximum torque, the Banshee may pose a real threat to Hondas. However, regardless of the final verdict, everyone agrees that it's a great move to allow a machine that is currently in production to compete in the Miceys.



Long enough A-arms for you? The final width is 2" wider than stock. Though this machine uses stock Honda brakes, the Pro-Trax T-pin spindles can also be designed for Banshee brakes.

