



Off and Running

Dennis Bainbridge, VP Marketing

Well, it has finally happened! You are receiving your first of many issues of the "traXstar tribune". Our fun little newsletter to keep you up to date with the happenings at traXstar supercars.

This first issue is intended to give you background on the project and it's philosophies as well as an idea of what to expect in further issues.

Like any project of this magnitude, we have and will face many challenges

and successes along the way. We will attempt to keep you up to date with these via the tribune. So I invite you to sit down, strap in and join us for the ride.



Caption describing picture or graphic.

traXstar Launch at Molson Indy Vancouver

As many of you already know, we were very fortunate to be able to officially introduce our car to the public at the prestigious Molson Indy Vancouver. With attendance running somewhere in the neighborhood of 160,000

for the three day event, you can image how busy we were at the display. Our great crew of Warren, Stella, Cora and Brian had to make a number of trips to Staples for more copies of the brochure.

As part of the display we

also had a pair of racing simulators on hand to help raise funds for our host "Science World".

What has followed since then is a lot of correspondence with some very interested enthusiasts waiting for us to go into production.

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Special points of interest:

- Our Philosophy of design
- Testing Progress
- Chassis Layout
- How it all Started

Background

By Dennis Bainbridge

Peter Derviller, the designer of the *traXstar*, has been involved with racing for his entire adult life. Over the years, he came to believe it would be possible to build a very fast and affordable car by creating an innovative super light and compact package. Everyone has to obey the laws of physics but Derviller believed that the laws needed to be applied differently. Starting with models and mock-ups, and then progressing to a full-scale prototype, Derviller produced his first car in 1990. In 1993, he was awarded a US patent for his design.

The core innovation in Derviller's car designs is the location of the engine

amidships alongside the cockpit. The first two concept prototype cars were built to test and demonstrate the advantages of this layout and for experimental investigation of the many engineering and ergonomic issues

arising from it. Technical issues were systematically resolved and the production prototype car was finished earlier this year.



Symmetry of design

Racers Ramble

By Dennis Bainbridge

As we move forward in this exciting project I will use "Racers Ramble" to give you feedback from a racers point of view. It will cover on-track exploits of the both the factory prototype and our customers.

With our first race in the production prototype still to come, there isn't

much to *Ramble* about right now but we'll keep you posted.

Testing report

Peter Derviller, president

For those of you out there that have designed and developed your own chassis before, you already know how important it is to properly test prior to seeing any real racing. This phase can take some time, but it is one of the most critical to a car's overall success. We have been carefully refining the production prototype *TX-1* looking at everything from driver comfort to critical handling issues.

What follows is a brief summary of testing to date and planned for the near future:

August 31st Test Summary

I am very pleased to report that the car has performed well in its initial tests. Although the prototype car is equipped with a slightly tired 1991 vintage stock Yamaha FZR1000 engine, everyone who has commented on our on-track performance agrees that it looks and sounds great. We spent our first few hours of dyno and low-speed track testing making it run cleanly in its new environment, tuning it to run at our 3800 ASL altitude with the custom exhaust system and carbureted with K&N air filters. Even after the most thorough engineering job, cooling is often a problem with new cars so we were pleased to confirm that our air intakes, ducting and ra-

diator designs are effective. The driveline ran flawlessly on the dyno and we lost only 0.7 hp from the engine's performance in the donor bike even though there are three more bearings in the car's drive train and a lot more rubber in contact with the rolling road.

Dyno and initial low speed tests successfully completed, we took the car to our local 2-mile circuit - Race City Speedway - for advanced chassis testing and high-speed runs. It was a perfect day - temps in the 70s, light winds and blue skies stretching away to the Rockies in the west, still snow capped.

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The first hot lap with the engine running safely rich produced 131 mph top speed with good handling and braking and a quiet cockpit with not the slightest hint of buffet.

The only vice was darty steering that we later traced to a front shock that had lost its nitrogen. This also contributed to an off-track excursion on the last lap of the last run of the day that crash-tested the right-rear corner of the car. We proved its reparability by having it ready to run again two days later, albeit with our Player's Blue paint slightly bruised.

Typically, we found there were some

changes to be made: The steering wheel and gearshift position were slightly too cramped so we moved them both 1.5" further forward. The AIM dash was tried in several positions on the steering wheel for hand comfort and good visibility (The analog dash was left in place and that will be an option for future owners).

Different splitter designs were tried to support downforce loads but with sufficient flexibility to absorb kerb scrapes, permit adjustment for clearance at different ride heights and be quickly replaced and easily repairable. Other detail changes included re-locating the electrical system from its

original position in a compartment under the seat to a more accessible location behind the main roll hoop. We also experimented with different ride heights, spring rates, anti-roll bar and droop positions as well as static camber and toe settings.

Some rod-ends were increased in size and bushings were upgraded from aluminum to steel. Our bolt-on bars allowed quick re-alignment after making changes in the field, thus contributing to our objective of producing a user-friendly car requiring a minimum of time to repair and adjust at the track - because your track time is precious.

The Concept

No doubt you would rather gain insight into the inner workings of the minds of Patrick Head or Ross Brawn but designers at that level seldom reveal their technical thoughts to us mere mortals. Could that be because they know how much it would shock their patrons to discover there is still so much to be learned in spite of the excessive extravagance of F1?

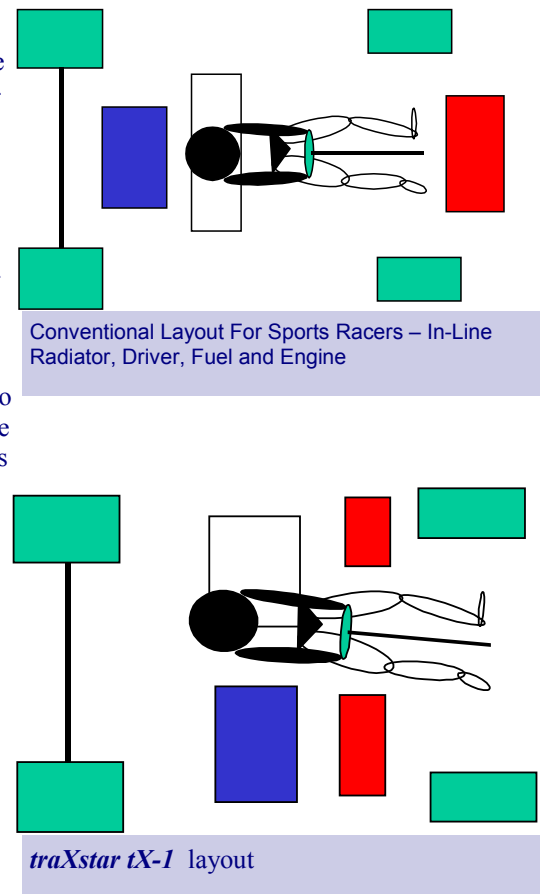
When a designer at the grassroots "club racing" end of the Motorsport spectrum forms a new hypothesis there is flexibility in some classes - such as in SCCA's D Sports Racing - for genuine innovation. This is in complete contrast to the typically restrictive rules at the top levels of Motorsport which channel development toward extreme refinement within a narrow envelope. The *traXstar* is a case in point: it had a sequential gearbox long before the idea reached F1 or CART, the driver was reclined deep inside the safety cage when Ayrton Senna and Nigel Mansell still had their heads and shoulders stuck well out of the cockpit and the *traXstar's* architecture is completely different from any other racecar on the planet - try getting that by F1's moguls.

The *traXstar* is innovative not simply

to be different but to achieve a specific set of economic aesthetic and technical objectives: On the one hand we wanted to create the world's fastest car in its class and on the other, it had to be one of the most affordable cars in the category. To accomplish these inherently contradictory goals obviously required a fresh approach. The laws of physics tell us that to go fast with a finite supply of motive force, the car has to be small and light, but making a car so small that only jockeys can drive it doesn't make commercial sense. In principle, to build an attractive and compact package that American-size drivers can fit into required moving the engine out of the way. That decision made, all that was left to do was to make it work in the real world.

Technology is typically evolutionary and racecars are no exception. Every new car or new television set is built on the technology and design ideas that have passed before. But a new concept like the *traXstar* is traveling a new evolutionary path. We have already come far enough to know that we are on to a good thing so now we are inviting others to join us on our journey of discovery and through their participation contribute to the evolutionary process. In later issues of this newsletter we'll expand on

the design concepts and actual construction of the *traXstar*.



Design Notes

by Peter Derviller

For those of you who might be wondering if our mid-engine layout and offset cockpit produce any negative side-effects or driver distractions, I can assure you that we have fully investigated these issues. Of course, we originally planned to investigate all potential problem areas but our early concerns about heat, noise, vibration or distractions arising from asymmetrical seating proved to be non-issues. The car is simply very comfortable to drive and with its pedal assembly and gearshift quickly adjustable, suits drivers up to 6'4". We designed the frame

around the tub to be roomy even for a very tall pilot. It has a large foot area and no sharp pieces to poke the driver. The low ratio steering requires only light forces. Visibility is excellent although the driver is well down inside the safety structure and out of the slipstream. The car's extremely low polar moment yields instantaneous turn-in.

The **traXstar** is compact for a car that also has a modern reclined driving position. Its wheelbase is only 86.5" but the car is stable in fast corners because of its balance, precise suspension and zero bump-

steer. We are hoping to be able to shoot digital video of the car under hard braking and cornering at the next test session and we'll include that in our information CD-ROM, which will be available before year-end.

We will soon be ready to sign off on the production design but testing will continue as long as our northern weather permits so that we can learn as much as possible about the durability of vital parts. After that we will upgrade to our "built" racing engine and set off in pursuit of a top speed record in the region of 160 mph.

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Be a part of the evolution

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