

# Aquila's social engineering project

The latest car from the popular Danish firm has been designed with input from fans and enthusiasts - and the winning bodywork design will be unveiled at ASI

The name Aquila may not immediately spring to mind when you think of current racecar constructors, but the small Danish firm has continually impressed with its products in recent years. It first came to prominence with its Formula Ford Zetec design which this publication described as 'probably the most innovative Zetec-engined racecar ever built'. It followed that up with a sports racing car, called CR1. This is now regularly seen at the head of the field in a number of open sportscar championships, such as the GT Open series.

Now the company is following up with a brand new sports racing car - the Adamo.

'At the Autosport Show last year we felt that we needed to introduce a new model, so we asked people there what they wanted to see,' explains Paul Hill, head of sales and marketing at Aquila. 'Our main goal was to create the customers' car, an affordable car based on that direct market research.'

'A new trend was spotted by our marketing team, which was the need for a smaller, lighter, less powered sportscar. This trend appeared bigger than we originally thought. Not everyone wants a two-seated all-out high-powered V8 sportscar like the CR1 sports GT. So we sat together and planned the best way to start such project. We discussed finding the right suppliers, the level of performance, the competition, potential customers and we found ourselves coming up with

the same question. What do our customers actually want?'

The survey revealed that 67 per cent voted for the car to use a single seat, 73 per cent voted for an aluminium monocoque, 93 per cent voted for the car to use sectional bodywork like the CR1, and the majority asked for an Inline 4 engine delivering between 200-250hp.

## SAFETY FIRST

'The chassis has been designed around keeping the driver safe while following regulations and guidelines that all modern racecars must use in order to compete,' continues Hill. 'We will use a crash box in the front of the car which has already been successfully tested through computer simulation, a very rigid monocoque alongside FIA grade equipment such as the fire extinguisher and fuel cell.'

'The car itself will use many of the same concepts currently used on the CR1. For instance, sectional bodywork was indicated as one of the most loved aspects in our survey. Other traits we will duplicate on the new car are the mechanic-friendly, universal and non-handed parts, simple design, and low-maintenance features to encompass race budget-friendly ideas. As with the CR1 we will aim to give the car a superior centre of gravity over our competition and gain an advantage on track. We will not be developing any carbon fibre

diveplanes, flooring or splitters. As racing enthusiasts, we admire low budget racing and believe parts that are likely to receive frequent damage should not be expensive to replace. That also means strictly no 10,000rpm motorbike engines!'

The car will use the Hewland FTR transmission which is almost a standard fit in this type of car. Power will come from a Toyota 3ZR-FET, which is a 3ZR-FE with a turbo added for racing use. 'Dampers and brakes are not yet decided. However, due to the nature of our marketing we no longer need to go out and approach companies about their products,' says Hill. 'At the start of the project we were very busy negotiating with suppliers, but more recently we have been receiving frequent emails from companies wanting to be involved in the project. With main components organised, early indications suggest that we will hit our weight target of sub-600kg, which will give us a competitive power-to-weight ratio.'

But while the chassis concept was complete, it still lacked bodywork, a gap that Aquila has solved with a fascinating and innovative initiative. 'While hundreds of ideas for the car's styling have been thrown around the office, one idea from the design team topped them all,'

says Hill. 'The best way to truly make our next product the true customers' car, is to let our fans design the bodywork!'

Aquila held a competition open to anyone willing to sign an NDA. 'We wanted to attract anyone from amateur designers, bored engineers or even skilled enthusiast with a flair for design and styling. Equality was important in the process and so any questions asked by entrants were made public so that all entrants could see the answers to questions asked by their competitors.'

After entrants signed the NDA, they were supplied with a CAD model of the complete car, or on request entrants could get a three-view chassis drawing to scale from.

Once completed designs were received, the Aquila staff judged them based on legality, attractive aesthetics, efficient aerodynamics, low manufacturing costs, low repair and maintenance costs as well as practical use and user friendliness.

Seven designs were shortlisted, and the finalists are: Alexander Hastrup, Anders Lynge, Chris Williamson, Lars Roug, Matthew Storie, Michael Witus Schierup and Niels Peter Kofoed.

The winning design for the new car will be revealed at the Autosport International Show.



Entries for the Adamo styling contest were open to anyone willing to sign an NDA