THE BEETLE BATTLES FOR PEACE

Simon Stiel reports on a Formula Vee project that illustrates how motor racing can reconcile Israelis and Palestinians

IF THE downturn had not cast a large shadow over the New Year already, there was the bloodshed in Gaza. Yet this is the year where Israeli Aric Lapter and Palestinian Rasheed Nashashibi, united by their love of racing, hope to demonstrate that Israelis and Palestinians have a future. Not of hate and war, but of co-operation.

Their team is called Racing 4 Peace and they aim to compete in the British Formula Vee Championship in the first car built in Israel. Like Formula Ford, Formula Vee in Britain celebrated 40 years in 2007 and is renowned for being a low-cost and entertaining form of racing.

Born on March 31 1976, Lapter's idea for a single-seater was spawned after he gained his racing licence at the Henry Morrogh Formula Ford school near Magione, Italy in 1998. "I think it started there and when I studied mechanical engineering at Tel Aviv University, I offered the advisers of the school to create a Formula Student car," he says, "but they thought it impossible. They told me, 'You can't design and build an entire car, you can only study one aspect of it.' However, I wanted something that I could race so I thought about something like Formula Ford. I was looking for a steering rack for a single-seater on the internet and came across GAC, which builds Formula Vees in the UK.

"What I told them was that I initially wanted to do some sort of reverse engineering on the chassis and study it for my graduation project, which would be the design on a CAD program and torsional stiffness improvement using Finite Element Analysis programs," says Lapter. "That was the idea. Then I phoned them and told them that if all went well I might want to build it after graduation."

According to Lapter, GAC's response was pretty ambivalent: "Maybe they didn't believe that I would really go and build one," he says, but after graduating he set to work with some university friends to build a car in the backyard at his house in Tel Aviv. He describes the car as "semi-reverse engineered and semi-kit."

Parts were imported from GAC but it was no small feat getting them since despite the legalisation of motor racing by the Sports

FAR LEFT & BELOW In the absence of circuits in Israel, testing has been done at the Arad airstrip in the Negev desert

LEFT Lapter hopes the publicity generated by the project will help fund the team's racing

Drivers Bill in the Knesset in 2005, several tight regulations remain. These include licensing a vehicle, applying for a racing driver licence, importing parts and negotiating plenty of red tape at the Ministry of Health and Ministry of Sport.

He was taught how to build the car by Alan Woodward, one of GAC's founders, in their "amazing collaboration". Lapter also showed him his drawings on the computer which were then improved. "I've received many emails from students all over the world contacting me at least once a week because they ask me if I'm willing to give them CAD drawings of the car," says Lapter. However, he refers them to GAC since they are Woodward's property.

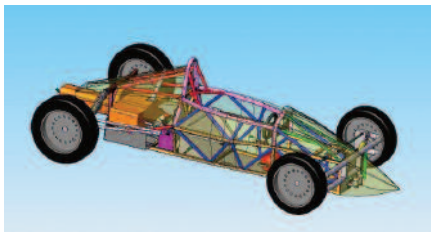
Several systems have been used for the drawings. Catia V5 was used for some drawings and surfacing, Solidworks 2004 for the 3D design and ANSYS V7 for the Finite Element Analysis. The end result has been similar to what Mike Pilbeam achieved with the MP98 Virage (Race Tech 94, August 2008). Torsional stiffness has been increased by 213% and chassis weight decreased by 10%. ▸

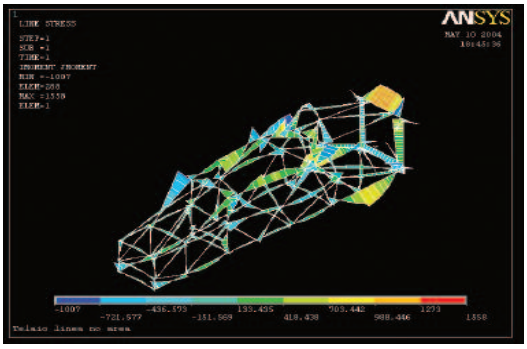
The tubing is of varying thickness in the three sections of the car with the thinner ones being CDS – Cold Drawn Seamless – steel and the thicker ones ERW – Electric Resistance Welded. As shown in the diagram the various thicknesses of the tubes are represented by different colours. As required by the 750 Motor Club regulations, the roll-hoop and its brace tubes are CDS while at the rear of the chassis and the diagonal connected to the trailing arm rear suspension, the red represents CDS. Surrounding the driver the diagonals in blue are ERW, as is the green near the nosecone. The pink tubing, which forms the cockpit sides, is large round tubing and the gold light brown represents a square section.

Whilst GAC has used laser cut sheet metal parts and rockers, the old suspension is still used on Lapter's car. The dampers remain outboard as an "economical choice".

The engine is mounted in the following fashion: "You mount the gear to the new frame with four bolts. Imagine a square but with four diagonals. So we attached four bolts to each lower diagonal; this holds the gear, the gearcase. The engine is then mounted to the gear which has a special attachment with one bolt that holds the front part of the engine – and that's it," says Lapter. "The engine and gearbox need to be rotated 180 degrees and then the axle needs to be transversed otherwise you'll have four-speed running backwards because the VW engine is rear engine/rear drive and you're making it mid-engine/rear-drive."

LEFT TO RIGHT The car in CAD; ANSYS V7 was used for Finite Element Analysis; Lapter, flanked by Emil Winbrand and Alex Horovitz from Tel Aviv University, poses with the donor Beetle





MODIFICATIONS

The original oil cooler has been removed due to it interfering with the chassis. "The cooling vent, which is very big in the middle, was also changed because it was interfering," says Lapter. According to his estimation, the engine has 98 horsepower.

The fibreglass bodywork came from GAC and was welded in single points. Lapter says: "In several places we had to break the weld and adjust the frame a little bit before the final welding. We waited with TIG welding until the last minute because I had all points welding."

The car was originally launched with a few teething problems in March 2006, the year that Lapter met Nashashibi.

> "The project brings together two things Israel doesn't have: peace and racing"

"I was racing and wearing my racing suit which had a Palestinian flag," says Nashashibi, "and I noticed he was wearing a similar T-shirt. He approached me and said that he had an idea about racing which is how it all started."

Born on August 25 1984, Nashashibi has been karting since an early age and while studying computer science at Kingston University in the UK he joined the karting club. He achieved excellent results in the British University Karting Championship, finishing fifth in the drivers' tables in 2005 and fourth the following year. When he returned, he represented Palestine in the Thunder Arabia Formula Ford series in Bahrain and sought to introduce karting to a wider audience by establishing Pal Racing.

"I had a Subaru STI I wanted to race so gathered some of my friends and started doing some races around this empty land strip in the desert," says Nashashibi.

In spite of the difficulties posed by the unresolved conflict with Israel, Palestine is following the trend in the Middle East with its newfound love affair of motor racing. "There's actually a Palestine Motorsport Federation," says Nashashibi. "Surprisingly, it has FIA approval and even joined the FIA before Israel did and can issue licences."

After gaining his race licence by passing the ARDS test at Silverstone in 2007, Nashashibi found himself testing Lapter's car. "I was really impressed that someone had done the whole thing according to the British regulations," he says. In the absence of circuits in Israel, the testing has been done at the Arad airstrip in the Negev desert.

Sponsorship has been a problem due to the current economic downturn. The target was US$100,000 to cover the cost of transporting the car to the UK. So far just $2,000 has been raised, which has hampered further development of the car. Consequently, the Racing 4 Peace team is considering using the money raised to hold a further test at Silverstone or another race track. Another option is to race for two weekends in one of GAC's cars.

"We are still optimistic," says Lapter, "and hope to find sponsors." Achieving that would be helped by the documentary film about the project currently being made by Israeli director Omer Reiss. "The BBC may be sponsoring the film and it will make things easier to find sponsors. They might even sponsor us for two weekends of racing," says Lapter.

"The project of Racing 4 Peace is the idea of bringing together two things Israel doesn't have – peace and racing." In the current circumstances, as a solution to the Israel-Palestine conflict appears far away, he and Nashashibi could not be needed more. RT