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This column originally appeared on TheRaceSite.com

Through The Esses - Talking With David Cooper of Crawford Race Cars

1/24/2005 - **Talking With David Cooper Of Crawford Race Cars © Andrew S. Hartwell**

David Cooper is the man at Crawford Race Cars who services the customers that race a Crawford DP03 Daytona Prototype in the Grand Am Rolex Series. Max and Jan Crawford sell the cars and David Cooper works directly with the customer in the paddock on race weekends, to be sure they have all their bits in order for a successful race event. Cooper also oversees part of the Crawford Composites shop operations, specifically the fabrication of new parts that go into the race cars.

We visited the Crawford shops recently (photos here) and spent some time touring the facility with Cooper as our guide. We learned quite a bit about the activities that tie into race car manufacturing and the areas of customer service that come along with the sale of a competitive race car.

"I go to all the races. I visit every team at every race. We also have an engineering team that travels to the races to provide customer support. If our customers have any questions they have direct contact with the manufacturer right at the track. We share information and help them try to get the best out of their cars.

"As General Manager of Corporate Race Cars my main objective is to make sure the customers of Crawford race cars are happy. I can tell you that, at the end of the race weekend there is only one happy garage! So unless you win the race, there can be minefields you walk into with situations that aren't the drivers fault or the team's fault but are our fault. But even when it isn't our fault we remember that expression 'the customer is always right!'

"Back in the shop, I concentrate on the fabrication aspects of manufacturing. That is what my background is in."

Cooper has an extensive amount of experience in racing, going all the way back to Team McLaren in Formula One during the 1980s. We asked him to tell us about his previous experiences and how he came to be a part of the Crawford organization.

"1982 was my first year in Motorsports when I worked with McLaren in Formula 1. When I was younger, Jim Clark was the first driver I ever really became aware of when he appeared on a TV program. Like most young people I was in awe of this farmer from Scotland who could drive a race car so well. In my time I have been fortunate to even drive one of his cars around Monaco once, and at Laguna Seca as well.

"I came over to the US in the late 90s for the start up of the company called G-Force (chassis manufacturer of open wheel cars raced in the Indy Racing League). We set up manufacturing operations in Golden, Colorado. When I first got here the composite experience in America was very lacking. The only place that existed really was here with Max and Jan in this shop. One of the first issues I had to face at G-Force was getting a proper glue. The ones we used overseas were not permitted for use over here because of federal regulations. We needed glue that was approved for use in the United States. Max and Jan helped me out by sorting me out with equivalent glues that I could use at G-Force.

"Off an on since then we stayed in touch. After 2001 I went back to England and then came back here again with Falcon Cars. They were here in North Carolina too. After a while Max told me they were thinking of producing Grand AM cars and he asked me to join him.

"There are other jobs out there that pay a lot of money but they may only last for a season or so if you are lucky. But the Crawford's are clever enough and wise enough to keep the business strong. I would rather be here earning a bit less and working for years at what I like to do. I support their business plan, even when I don't know what it is! I fully support them in what they want to do because you don't stay around this long without knowing what you are doing.

"And Max and Jan have been very careful about who they employ and get involved with. They treat people like family and they hire people who have good experience. You can have a factory full of 200 people with a total of 200 years experience, or you can have a factory with 50 people and still have 200 years of experience. They are really clever about that. "

For many of the new teams coming into the DP class this season, the chassis of choice has been the Crawford. With demand high, the expectations of the people building the cars and the people buying them are also working at an elevated state. Everyone, it seems, wants to race in the Daytona Prototype class and all it seems to take to get started is the ability to write a check.

But there is a lot more going down then ink on a contract. Cooper told us how all the bits come together once a customer has signed on the bottom line for a new Crawford DP03.

"Once we get a deposit we start assembly. We order in all the parts we don't manufacture, like the engine and the gearbox. Until we receive the order, we don't know what motor is going into the vehicle. We need to have the right motor plate to mate the engine to the chassis. Most of our customers run Pontiac engines and we have the motor plates for them in stock. The motor plates vary in that they have different bolt patterns for each engine. We are presently making up a Ford motor plate for a new customer and will probably make a few more to have in stock and ready for another customer that might want a Ford engine."

"We basically start with our honeycomb panels and tubeless steel frame. We bond and rivet that together to form the base chassis and then we start bolting on the additional parts like the fuel cells and the engine and the gear box and suspension and so on. "

Because the Crawford's have been in the race car parts and service business for so long, they know how to be ready for what their customers might throw at them. After all, who ever heard of a racer who wanted to wait for anything?

"At this stage, building a car can take us between three weeks and a month depending on factors such as parts availability. If we have everything we need - all the pieces - you are probably talking about three weeks in man hours. If we had to make all the bits from scratch, you are probably talking about three months.

"If we didn't already have the molds and such we would have to make them up first. Fortunately we have the composite side of the business in pretty good order. We have all the composite bits needed to make

one car ready to go. Looking around the shop here you can see we have a nose there, a greenhouse over there and a tail over there all ready to go on a new car. In the storage area we have all the other smaller composite parts ready to go."

When the Crawford's sell a race car, they sell a car the same way General Motors and BMW and Ford and all other car manufacturers do - in ready to run condition. The new owners come to the dealership - or in the case of a race-ready sportscar, the track - and pick up their fully assembled machine. This approach has worked well for the Crawford organization.

"As part of the business plan we decided that we would not make cars like most builders in the UK where the car is delivered as parts in a box. Customers have to unpack the box and then they have a pile of parts that have to be assembled into a vehicle. If you buy the car we will go as far as race prepping the car for you. We will take it to Kershaw, our local race track, and we will run the car to make sure everything is fine. We have the customer there with us and we encourage them to take delivery of the car then and there. If, during the tests, we find something is wrong we have time to address the problem. Once the car is 100% then the customer takes delivery of the vehicle. We have had it happen several times that the customer takes delivery on Thursday and goes racing with it that weekend."

Of course, new hands on new steering wheels can lead to errant actions that can bring owner and manufacturer back together again.

"Cars do come back to the shop. We carry spares with us at all races. We bring practically everything but a spare chassis with us. There are some parts we don't carry with us because if they break, you are in serious trouble that can't be fixed at the track. We carry most of the parts needed for a car. We can't carry one spare of every part enough for every single customer because we would need several trailers!

"When the Spirit of Daytona car crashed at Daytona earlier in the season, they didn't have all the spares they needed but we were able to fit them out get them back into the race. Unfortunately they crashed the car at the next Daytona date and we had to help them rebuild that time as well.

"We do carry a third Crawford car in the trailer with us. We can race it or we can pull parts off of it if need be for the other two cars. Personally, I don't think you need to carry a spare car in road racing. I think the kind of racing we do doesn't warrant a spare car but it does warrant having spare parts on hand."

Cooper attempted to give our engineering-ignorant brains a brief overview of what goes on in a composite shop. And we can say - with the slightest degree of certainty - that we understood him.

"We use carbon fiber throughout the car. It is made up of layers and layers to give it more rigidity. Carbon by nature is a rigid material but you can make it more rigid by adding the cross-sectional layers. If you think of a normal door in your household, it is about an inch and a half thick. Doors are made in a similar manner in that you have an outer skin which is normally thin plywood. Then you have the volume inside which is a cardboard honeycomb. When they are bonded together you have a nice, stiff door that is very light. If it were all wood it would be much heavier. The principle is the same for our composite parts.

"And all the composite bits are put into an autoclave unit that we pressurize to help consolidate the laminates, essentially squeezing it together to make it more rigid."

Besides building the prototypes and spare parts for them, Crawford Composites supplies special order and custom composite parts for customers who don't have a Crawford DP03 in their garage.

"We have a contract with Grand Am to manufacture all the rear wings and the side pods for all the Daytona Prototypes. Anyone who buys any other of the six available Daytona Prototype chassis will get a car with our wing and side pods in it. Composite manufacturing is a distinctive process. In America I would say what we do here at Crawford is pretty unique. Elan in Atlanta would probably be considered a

competitor but I would like to think Crawford is the primary place for race teams to go for their composite items."

It was the business of becoming a supplier of specialized parts for auto racing that prompted Max and Jan Crawford to set up operations in North Carolina in the first place. Cooper told us that the company plans to continue to stay in the field for a very long time and to seek out new opportunities for growing the business.

"Our industry has grown up out of Motorsports. Being in North Carolina the main focus is on NASCAR. A lot of the composite components we make are for NASCAR teams. We also do one-off projects for special customers. As a growing company we want to be involved in as many areas as possible. Right now we are working on a special project for a major manufacturer of street cars. We can't say more about it now but it could lead to a nice bit of business for us."

Initially, Cooper was, like many others involved in auto racing, a combination of unaware or uninterested in the new form of road racing announced by the France family several years back. But like just about everyone else, he has become witness to the phenomenon the Rolex Series Daytona Prototype class has become.

"When I was running with IRL last year, I first saw the Daytona Prototypes at Homestead. They were running as a support race and I didn't really pay them much attention. This year, the first time we went back to Homestead I would have to say that, while the IRL has grown in stature and has high profile manufacturers and customers, our paddock was just as big if not bigger. And that is just after one year. I believe that at Daytona this year we will have over 30 prototypes. It has taken off big time.

"Whatever the business plan that Jim France and the Grand Am people have in place has obviously struck the right cord in getting the whole thing going. I think it could be as big as NASCAR because the races are very exciting. I think Grand Am has done a good job in getting it to be a level playing field. I haven't really looked at audience numbers and the like but I would have to say that looking at it from the inside out it is definitely moving in the right direction.

"Comparing the start of this season with the end of it, there were definitely more fans on line for the driver autographs and more people about in the paddock. I haven't been counting but I know that it is definitely getting more and more popular. And if we have 30 prototypes at Daytona, you got to figure more than 100 drivers will be on hand!"

And at last count, many of those hands will be gripping a steering wheel that connects to a Crawford chassis. And David Cooper will be on site and ready to help his customers steer clear of trouble. Or at least try to help them get back on the track in time to see the checkered flag wave over their heads.