



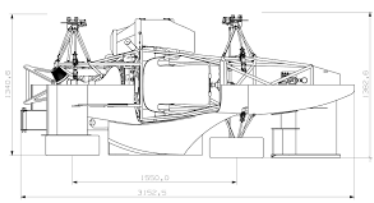
  
**Team HARE Newsletter**

December 2018 Issue

# Inside this issue



Team Member Introduction



Our Design Philosophy



Current Situation



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## At Team HARE, we hope you've had a great Christmas and New Year!

The team celebrated the festivities with a traditional home cooked roast (plus the crucial pigs in blankets... with a twist, by cooking them on the BBQ).

Each member of the team contributed the all-round full stomachs from turkey, to a classic sticky toffee pudding.

The team meal was rounded off with fierce competition on the race simulator. The overall successor being our Technical Director, Ollie Milner.

Now the festive break has come to an end, the team is back in the office working hard!



HARE 19 Christmas Dinner

# In the spotlight

In each instalment of our newsletter we will introduce a department / role.

This month we are introducing our Technical Director, Ollie Milner.

<b>Role Responsibilities:</b>	<ul style="list-style-type: none"> <li>• Push development criteria</li> <li>• Provide technical assistance to all sub teams where required</li> <li>• Manage workshop area</li> <li>• Inspect all CAD designs / drawings and highlight errors or improvements</li> <li>• Build and manage the car master CAD model</li> <li>• Manage car build period, selecting a small team to assist with assembly</li> <li>• Organise testing run plans and inform of setup changes</li> <li>• Provide the team with base setups for test days / events</li> </ul>
Personal Team Ambitions:	To finish in the UK top 10.
<b>Where are you from:</b>	<b>Cambridge, UK.</b>
Interesting fact about yourself:	I am a secret northerner .
<b>What are you most looking forward to this year in Team HARE:</b>	<b>The teams ambitious development and carrying out lots of testing before events!</b>
Short Bio:	I have worked for many motorsport teams in different formulas I enjoy Karting, Hockey, and hope to implement my experience to Team HARE.



Ollie Milner, Technical Director



Team HARE at Silverstone

# Our design philosophy

From day one the team knew exactly what developments the car required to improve on recent years.

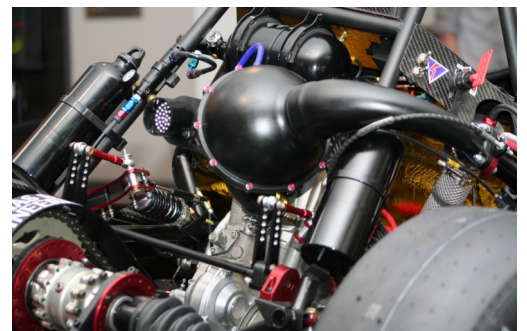
The main improvements that were immediately highlighted, were the reliability and rule conforming issues.

In recent years the car has struggled to complete all dynamic challenges during events, especially the endurance. The team have dedicated a lot of time looking into why these failures occurred, with projects put in place to improve the reliability. The team have set a target to complete all dynamic events to a very high standard.

With the past rule conformance issues, which resulted in teams failing scrutineering and consequently not allowed to compete in dynamic events. The team have set a very high standard for all members to learn the rule book cover to cover. Through each team member fully understanding the rules it allows for a cross functional team, rather than departments being fixed to their own projects. Thus creating a very diverse and efficient team.

The main design changes for the 2018/19 season, is the change from 13 inch wheels to 10 inch wheels. Due to the nature of the dynamic courses being very tight, the change to 10 inch wheels allows an increase in agility by improving cornering grip. This is also partially thanks to our new tyre supplier and after extensive research, our compound selection. This will allow the car to maintain higher velocities around corners and achieve better lap times.

Another large development for the car is the introduction of a new aerodynamics package. Previous packages have been analysed with meaningful changes made, namely the rear wing being optimised, a new floor, new diffuser, new side pods, new front nose and new front wing. Aerodynamic development is made possible by the teams designated aerodynamics department, with lots of research and simulations being complete. The improvement in aerodynamics is showing an increase in downforce and reduction in drag.



HARE 17 Car

# Current situation

The team have set a very detailed project plan for the year, with the design freeze being set early January. This requires all components designed to be accepted and agreed by the Technical Director. For a design to be accepted proof of optimisation, FEA and engineering drawings require submitting. This ensures that components can withstand the required dynamic forces and perform to a set standard.

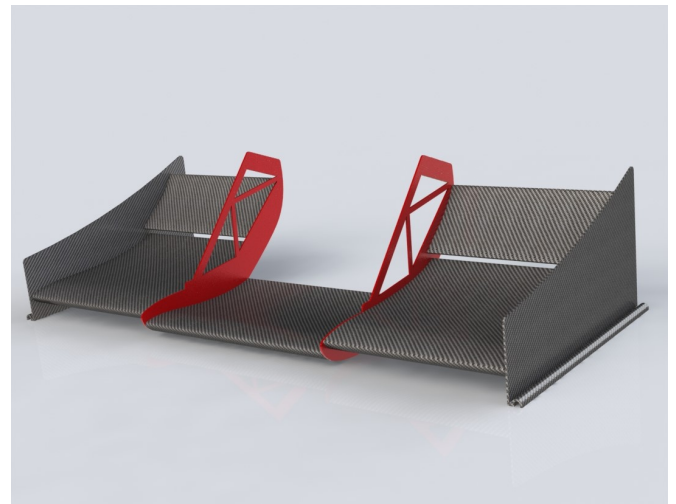
To date, nearly all components have been designed and gone through FEA, with the team all pulling together to meet the set deadline.

The design freeze date has been set to allow manufacturing, assembly and testing before the team arrives at the first event.

Before finalising the chassis design a mock up has been made from PVC tubes. This has allowed the packaging to be assessed and optimised.



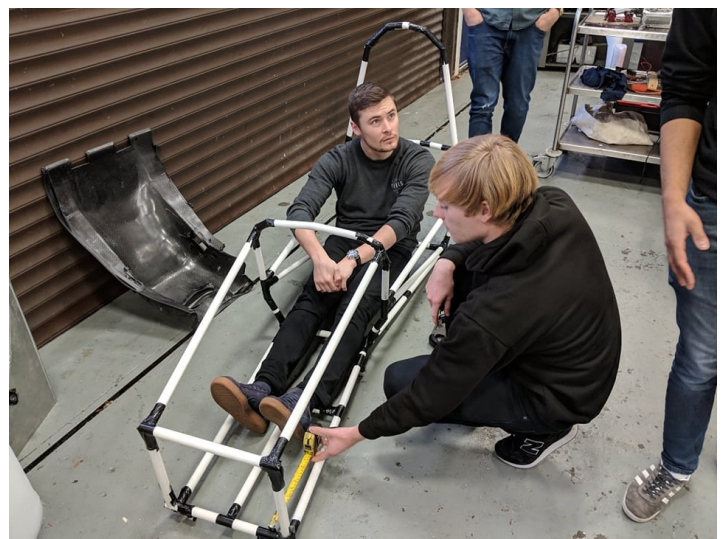
HARE 19 Pedal Box SolidWorks Render



HARE 19 Front Wing SolidWorks Render



HARE 19 Mock up Chassis, compared with HARE 19 Chassis



HARE 19 Mock up Chassis Being Tested for Packaging

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We would like to say a huge thank you and show that we are very grateful for all our sponsors, Team HARE would definitely not be possible without you!

If you want to learn more about us you can visit our team website, social media sites or contact us by email.



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