



LEEDS  
GRYPHON  
RACING



6 December 2023

## MONTHLY ROUNDUP

### IC TEAM PRINCIPAL George Ganiford

The priority for us is getting the car completed as quickly as possible, with a rolling chassis target of before the Christmas break. At the moment, progress has been incredible – our chassis is welded, engagement has been brilliant and we're beginning work on getting the car fully rolling. All in all, things are going well! We have hit a slight hiccup and are having to switch from our 2013 KTM 500 engine to our 2017 KTM 500 engine due to reliability issues uncovered at our dyno test, though work has already begun on accommodating this switch and things are looking hopeful.

### AERODYNAMICS Giacomo Volpato

The aerodynamics team is working on a variety of tasks at the moment. We have a team dedicated to researching and developing our first wings package, planning where wings will be mounted and how, running flow simulations to validate the arrangements of our wing elements, and developing suitable internal support structures for testing. We are also looking to produce a new fibreglass seat this year, correcting as many issues as possible from the previous model, such as adding a more robust and reliable mounting system for consistent placement into the chassis. Other projects include changing the bodywork and mounting method, combining the nose cone and bonnet, validating sidepods through flow simulations, and changing our floor from aluminium to carbon fibre. We have quite a few goals this year, but with the engagement we have received over these first weeks, we think we can achieve a lot of things on this list.

### MPM

#### Sponsor Highlight

MPM have been an integral part of LGR. They provide the manufacturing space to allow us to build our bodywork and offer advice and training to our team members. With over 40 years of experience, they have a very skilled team that is behind various services such as product development, CAD and pattern making. Like LGR, MPM believe in teamwork and value collaboration. We as a team always aim to be the best and MPM's vision align with our, to be the Number 1 company of choice for the manufacture and supply of composite and fibreglass tooling as they enhance supply chains around the world.



# GOALS FOR THE 23/24 SEASON

GEORGE GANIFORD  
IC Team Principal

The goal for IC this year is Top 5 UK team at FSUK in July 2024, an ambitious but fully achievable target. The main target for this is a functioning car by the end of the Easter holidays to allow for plenty of time for testing and ensure full reliability to complete all dynamic events and score some healthy points. The ethos this year is that 'reliability is king', and as a result, we're restricting changes as much as possible – I have full confidence in the potential our package has, so this year is all about ensuring it can showcase this potential in all events.

MATEUSZ GORA  
Vehicle Dynamics Team Lead

Thinking back at some of the reliability problems we've faced in previous years, we want to support the other sub-teams as much as possible by providing a dependable chassis they can work with early on, giving them lots of time for testing. This will give them the time to really work on perfecting their changes and components while we develop bolt on upgrades such as the suspension and IA. We think this will be a big advantage this year and the longer development cycle allows us to focus on reliability and testing.



## AIMS FOR TEAM DEVELOPMENT

MATTHEW STREETS  
IC Powertrain Team Lead

I'm hoping members of the team get the chance to develop simulation skills – primarily focusing on the exhaust. This skill hasn't been used by anyone in the team for several years and will be a bit of a venture into the unknown, but I'm hoping the team members tasked with that will be able to pick it up quickly. This will help us to validate our exhaust design before the design event at competition and give us confidence in passing the noise test swiftly.

MATEUSZ GORA  
Vehicle Dynamics Team Lead

As a sub-team leader, the number of tasks I've started to oversee this year far exceeds the amount of work I could do on my own, and delegation of tasks is a key part of making the team work efficiently. By trusting my team's skill and knowledge the productivity of the team can be greatly increased and that is something we need to take advantage of.

GIACOMO VOLPATO  
Aerodynamics Team Lead

Formula Student is a great opportunity to work in a team and apply all the theoretical knowledge you gain throughout the engineering course to a real project. One of the things I value most about the Formula Student team is the number of things I learn from other team leaders, members, technicians, and technical directors. I would like to continue to do so, as well as try to apply myself to new challenges such as looking at developing CFD simulations.



## GET TO KNOW THE TEAM

GIACOMO VOLPATO

Aerodynamics Team Lead

We are the only team that makes components out of carbon fibre. When I first arrived at Leeds, I had never worked with the material, so being able to build that experience through the Formula Student team is something I'm grateful for. It's frequently mentioned in the automotive industry, with people typically commenting on its advantageous strength to weight ratio and aesthetics, so having access to the material and to knowledge on how to use it in manufacturing is valuable. We always manufacture our bodywork in carbon fibre, but last year we were able to test manufacturing carbon fibre aerofoils as well, which is an experience we hope to be able to pass on to new members this year.

MATEUSZ GORA

Vehicle Dynamics Team Lead

Vehicle dynamics is quite often associated with a lot of workshop work, and that's true, we do a lot! But we also have plenty of opportunities for people with skills in software, analysis, and mathematics to shine! The design of our suspension systems is based on careful calculations and dynamic simulation, and that even gets as detailed as our shock absorber setup. Another where these skills can apply is chassis validation and design, there's lots of simulation work done behind the scenes to make sure our chassis is safe and will make for a good handling car! And that doesn't even include things like FEA (Finite Element Analysis) simulations of wheel assemblies and test jigs that master's and third year students are working on!

## TEAM PROGRESS SO FAR

GEORGE GANIFORD

IC Team Principal

So far, I think IC is on-track for the best year it's had since I joined the team two years ago – obviously slightly biased of me to say! There's a good feeling amongst me and my management team that we'll have the car in a great state by Easter. As a result, though, for me at least, juggling that with studies and socials may become a bit interesting, but I have every confidence that it'll be fully worth it come July.

MATEUSZ GORA

Vehicle Dynamics Team Lead

The dedication to coming into the workshop has been really impressive so far! It's been amazing to see how many people get their hands dirty and learn how everything comes together in the real world. We're on track to set an LGR record time for the chassis to be built which is a great start to the year! I've also been very impressed by the work done by first year and second year students looking at how fast they've picked up new skills and knowledge. On the other hand, the knowledge of master's and third year students has also been invaluable, and we need both to create a strong team with a successful future.



F24 WELDED CHASSIS



## EV: OUR SUSTAINABLE VISION

ALEXANDRE MONK  
EV Team Principal

This year we're expanding our focus towards sustainability. Sustainability is engineering's new direction which, for us, is a new EV. We will work on two cars which will require a bigger workspace, allowing us to work on brand new concepts, learn new skills and place better in the competition.

Motivated by significant environmental and performance benefits, Leeds Gryphon Racing (LGR) is developing their first electric car, with the aim of competing at the 2025 Formula Student competition. Designs are already largely complete with testing underway, ensuring high reliability and enabling more time to review & guarantee Formula Student rules compliance.

As part of this project, LGR has developed some exciting and unique components such as an in-house custom inverter design, unique temperature monitoring approach, and a battery container tailored to extensive simulations and physical tests of the thermal performance of our selected cells, in order to combat the most common issues seen in other teams, and ensuring we achieve a high score in the design event at competition - which we have already demonstrated with our electric concept vehicle achieving the 5th highest score in the design event at FSUK previously, out of 44 teams.

## ALUMNI HIGHLIGHT

### BIIFTUU ABA-GODU

She started with an industrial placement at the BMW Group HPPC as a design engineer. After graduation she stayed at McLaren Automotive for a year and is now a Graduate design engineer for Mercedes-AMG PETRONAS F1 Team.



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