QUEEN'S UNIVERSITY BELFAST | SCHOOL OF MECHANICAL AND AEROSPACE ENGINEERING

Individual Project Meeting Record

Project Title	**Design and manufacture of an aerodynamic undertray for Formula Student**		
Supervisor	**Dr. Rob Watson**	Student	**Dennise Zefanya Tohpati**
Date and time	**MEETING 3 – 9nd OCTOBER 2020**	Location	**MS TEAM [ONLINE]**

Review of actions from previous meeting

- Initial 2D inviscid enclosed CFD analysis of the undertray has been performed and evaluated. This gave a maximum result of the amount of down-force can be produced by the undertray.
- More relevant literatures and technical paper have been reviewed.
- First draft of Project Workplan (Gantt Chart) has been given to be evaluated.

Discussion, decisions, assignments

- Evaluate the inviscid 2D enclosed analyses that have been done. Supervisor give advices regarding the mesh method and the overall setup of ANSYS Fluent.
- Discuss the use of different type of viscous model such as: STT omega, epsilon, inviscid, which could affect the flow separation result on the undertray.
- Discuss the use of quadrilateral or quad/tri mesh and the bias near the boundary wall (e.g. undertray) to produce more accurate results in terms of flow separation and pressure gradient.
- Using the advantage of y+ value to improve the mesh near the boundary wall.
- Quick discussion regarding how a new design can be implemented on current car as problem and design stiffness could restrict the undertray design flexibility.
- Discuss regarding resources which library can get if Queen's University Belfast has no access to the source.

Agreed actions and completion dates

- Further and deeper literature Review and research detailed to the design and aerodynamic analysis.
- Summarise the literature review, to ease the writing process.
- First draft of presentation will be given to be evaluated
- More detailed mesh and precise of the 2D undertray analysis will be performed with variables changes on the inlet, outlet, and the undertray-floor gap.

Date and time of next meeting	EVERY FRIDAY – 9 A.M. – 16th October 2020	Location of next meeting	**MS TEAM [ONLINE]**
Supervisor signature		Student signature	**Dennise Tohpati**