

Min Project on ANSYS ICEMCFD

Geometry creation for 2D missile geometry



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This mini project /assignment deals with the geometry creation for 2D missile geometry. This mini project tests your understanding of various geometry creation options available in ANSYS ICEMCFD. After completing this mini project you will be comfortable in geometry creation/repair operations for simple geometries.

1 Prerequisites

The main pre-requisite for this assignment is basic understanding of geometry creation available in ANSYS ICEMCFD. Before taking this assignment, please make sure that you have gone through necessary lessons. The functionalities you need to use to complete this test are well explained in lessons “Geometry creation in ANSYS ICEMCFD”.

2 Problem Definition

Missile geometry given in this problem is typical missile geometry used in aerospace industry. The objective of this assignment is to create the missile geometry in 2D using ANSYS ICEMCFD. The geometry is to be generated to carry out external flow CFD simulation. All geometry dimensions are given in Figure 1. As shown in the Figure 2, a CFD domain needs to be created around the missile geometry for external flow simulation. You need to decide what extent of CFD domain should be considering the external flow requirements.

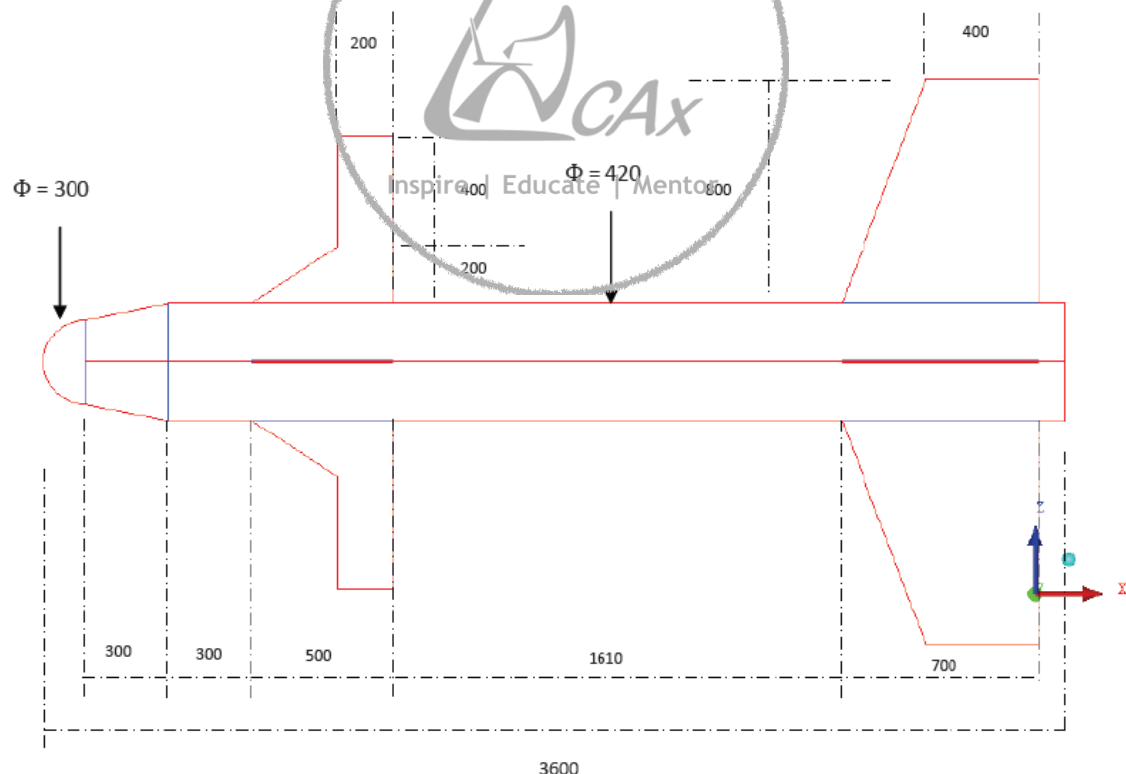


Figure 1: Geometry details (Note: All dimensions are in mm.)



Figure 2: External domain

Once the missile and external domain geometry is created, you need to create following parts to assign boundary conditions:

- Inlet
- Outlet
- Tunnel walls
- Missile walls

3 Download Input Files

This mini project does not require any input file. Use geometry dimensions given above to create the geometry. You can download the PDF copy with details of this mini project from link below. Its compressed zip files, so download and unzip the file to get PDF copy.

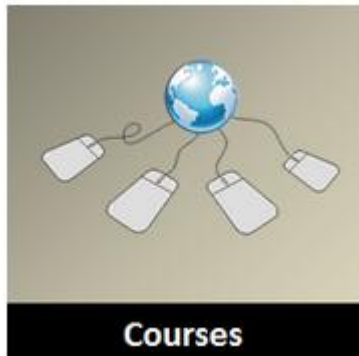
1. PDF instructions for this mini project

You can also download PDF instruction file from “Shared Files” section on lesson page.

4 Results and Discussion

If you have any specific query about the mini project or want to share the results of this project, please post them on [course discussion forum](https://www.LearnCAx.com/discussion).

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