MMAN1130 – Design and Manufacture

Lesson 5 – Computer-aided Manufacture – Additional Lab Exercises

Please import and use the following tool library titled “MMAN1130 Tool Crib”. A guide on how to import tool cribs can be found on Moodle in the Week 4 CAM folder (General -> Files -> Class Materials -> CAD and CAM Labs -> Week 04). Further, some helpful tips and guidelines for approaching computer-aided manufacture (CAM) can be found in the Moodle document “Tips and Guidelines for Computer-aided Manufacture”.

Core Exercises

1. Download the file titled “Core Exercise 1”. Generate the necessary milling operations and toolpaths for manufacture. Ensure you simulate your CAM operations to avoid tool collisions and other issues.

2. Download the file titled “Core Exercise 2”. Generate the necessary milling operations and toolpaths for manufacture. Ensure you simulate your CAM operations to avoid tool collisions and other issues.

3. Download the file titled “Core Exercise 3”. Generate the necessary milling operations and toolpaths for manufacture. Ensure you simulate your CAM operations to avoid tool collisions and other issues.

Advanced Exercises

1. Download the file titled “Advanced Exercise 1”. This is the 3D model that has been sent to you by a client. There are certain design decisions that make this very difficult, if not impossible, to manufacture. You will need to fix this before manufacturing it.

    a. Make adjustments to the 3D model in Solidworks where appropriate so it is manufacturable. The changes should be minimal so that the model remains as close to the client’s original design as possible.
    b. Generate the necessary milling operations and toolpaths for manufacture. Ensure you simulate your CAM operations to avoid tool collisions and other issues.