

IPD 5010

# Candy: Duck

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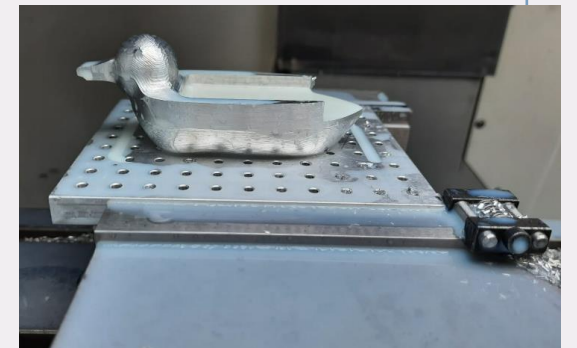
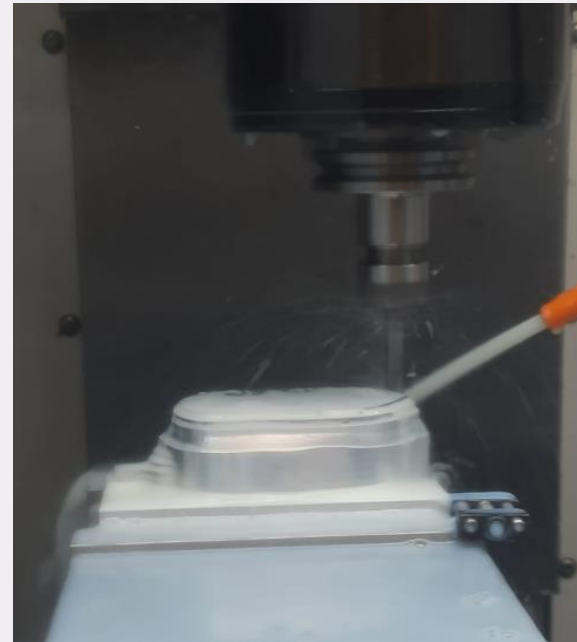
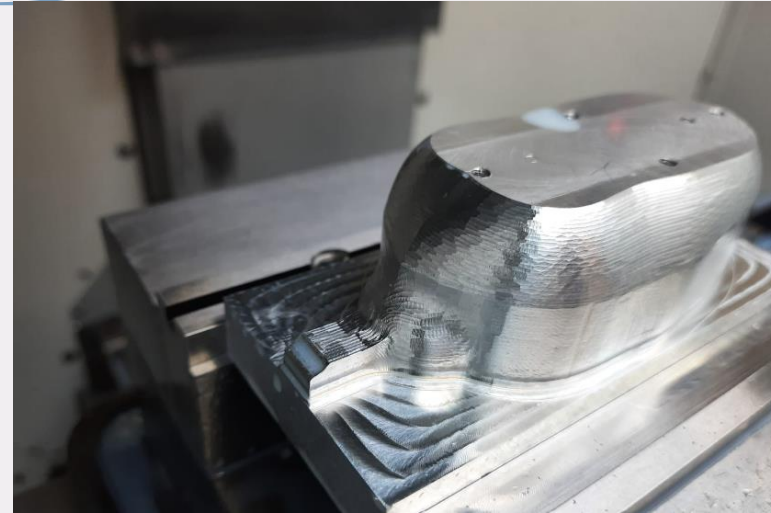
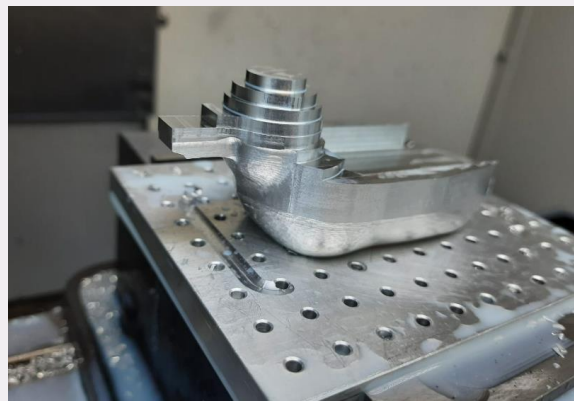
# Challenges

- There was no major issue faced during the stock preparation or CNC machining.
- We were little bit worried about the origin interpretation during the time of Flip in CNC machining, but we crossed checked with the CAM to make sure we have selected the right corner before starting the program.

# Learning

- I got to learn MasterCAM and the parameters to optimize machining time
- It was my first time to learn how to operate a MiniMill
- Selecting right tools are important for good finish of the parts
- Right size of stock is very important for CNC

# Photos



# Photos



Candy after the last operation

# Design Process

- A complex shape that requires less machine time
- Availability of the stock size
- Availability of the tools
- Avoidance of undercuts
- Including fillets and radius wherever necessary to avoid sharp corners
- Use of fixture plate to secure the part
- Part will be anodized as yellow to give it a rubber duck look

# Manufacturing Process

- Selecting stock size such that it requires less time to machine manually to get the actual correct size of stock which can then go for CNC
- Setting up the Mini Mill by selecting the correct tools, feeding the G code, setting the parameters for machining
- Calibrating the Mini Mill tools and setting the origin as the one we selected in the MasterCAM
- Safety first so making sure we have selected right parameters, mounted the tools properly, coolant is on, the CNC doors are closed, stock is secured properly
- During machining, being ready to hit the stop button in case of emergency
- Extra care of selecting the origin while the part flip is done
- Last operation of polishing