

2024 Award Winner

ALUMINUM – INNOVATIVE TOOLING

BENDA TOOL & MODEL WORKS

PART: Divot Tool / Bottle Opener
MATERIAL: 383
WEIGHT: 0.1 lbs (45 g)
END MARKET: Sports and Leisure
TOOL MATERIAL: H13 Tool Steel

TOOL PROVIDED BY:

 **MANTLE**

CUSTOMER:

Benda Tool & Model Works / A&B
Die Casting Division



FUNCTION OF PART

Repair golf divots and open beer bottles.

PREVIOUS PROCESS TO PRODUCE PART

Part is new to the die casting process. Chosen to prove the concept of using 3D printed H13 in the die casting industry.

ADVANTAGES GAINED

Research and development project to prove the concept of using 3D printed tooling. Worked with a San Francisco based company (Mantle) that traditionally builds 3D printed tooling for injection molding cavity inserts. Tooling company had no experience with high pressure die casting, but agreed to produce a small set of H13 steel inserts that could be run in exchange for tool life data. The divot tool was chosen for its size and shape and was designed to easily fit into the current working envelope of the supplier's equipment. 3D printing of the tool allows for rapid production of small die cavities. If the tool steel can acceptable withstand the high pressure die casting process more 3D printed tools will be produced in the future.



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