



T **TOOLING**
TECHNOLOGY
A TOOLING TECH GROUP COMPANY

CASE STUDY

360 YIELD CENTER

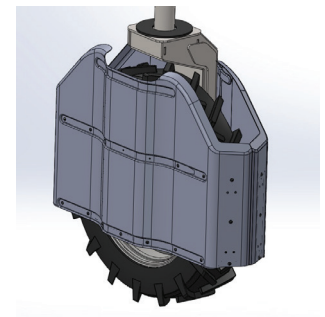
360 YIELD CENTER

CUSTOMER: 360 Yield Center designs and manufactures innovative agricultural products to enhance crop production. They work to answer the industry’s biggest question, “How can we prevent nature and inefficiencies from negatively impacting a farm’s season?”. Their team is focused on capturing more yield by refining the traditional growing cycle through more timely watering, improved nutrient placement, and focused chemical application.



The 360 RAIN delivers bands of water, nutrients, and fungicides directly to the base of plants.

- **Challenge:** The customer wanted to develop a shield for the wheels of its existing 360 RAIN product, an unmanned irrigation machine. Given the product dimensions and production volume, they determined that thermoforming would be the best manufacturing process. However, since this was the company’s first vacuum thermoformed part, their internal staff did not have the design knowledge or forming capability in house to produce these parts. Nor did they have any qualified vendors in their supply chain to help on this project.
- **Solution:** Tooling Tech was able to provide a true “one-stop-shop” experience to 360 Yield Center for the complete product development process. Starting from the initial part and tool design, to the actual tool build, to finding and qualifying an outside forming vendor, communicating timing and logistics with the vendor, and shipment of final parts to the customer — we handled every step.



Newly-designed component to shield the wheels on the 360 RAIN.

- **Description:** When 360 Yield Center presented their idea, our design engineers were able to make suggestions on the part design to make it both functional and manufacturable. Once the design was approved, the tool was built entirely in house, using inventoried materials and our CNC machining centers to produce a robust and economical tool to use for sampling.

We designed the tool with a dual purpose so that it could be used in our foundry process if/when the customer decided to pursue a production, cast aluminum tool. Once the thermoform tool was complete, we supplied the tool to a 3rd party partner for forming and trimming of 24 sample parts, which we delivered to 360 Yield Center.

- **Results:** Since Tooling Tech acted as a total solutions provider on this project, our customer was able to save countless hours, resources, and the effort it would have taken for them to find and qualify both a tool builder and a forming vendor. We provided a single point of contact to execute the whole program, simplifying their supply chain.

Although it was an extra step to build a prototype tool before going to market, this experiment provided valuable insight on the fit and function of the part in the field, which ultimately will lead to a better overall performance.

- **Future Opportunities:** The customer has now turned to Tooling Technology to build the production tool. Additionally, they are talking with us about potential enhancements and partnering on the other 360 Yield Center products. Furthermore, this project can illustrate to other agricultural equipment providers that Tooling Tech can be a trusted partner across the complete product development and manufacturing process.



Samples of the new wheel shield thermoformed part.

COMPANY OVERVIEW

Tooling Technology, originally founded in 1982, specializes in providing thermoform tooling as well as rotational and blow molds for producing plastic components and structures. Equipped with its own aluminum foundry, Tooling Technology handles all phases of the tool build in-house, from design and pattern to fabrication and finishing. Additionally, the company is home to the Segen Quick System for simplifying industrial setups, changeovers, workholding, clamping, fixturing and alignment. In 2018, the company became one of the Tooling Tech Group of companies.

Tooling Tech Group builds custom automated systems for assembly, joining and inspection as well as tooling for a variety of applications including thermoform molding, high compression composite molding, blow molding, rotational molding, die casting, and stamping. Industries served include automotive, appliance, lawn and garden, agricultural, aerospace, marine, and off-road vehicle industries, among others. Through organic growth and acquisitions, the company has become the largest tooling provider in the United States with 650+ employees, 13 modern facilities and over 1 million square feet of manufacturing space across four states.

The depth and breadth of our capabilities is achieved through the combined experience of our company units, with each of these companies being in business for 30+ years, providing both extensive industry experience and financial stability that you can rely upon. Our unique differentiator is the ability to provide all tooling services from design to engineering to simulation to machining to fabrication to try-out all within one company. This single source ability can help to streamline your business operations and simplify your life. We take full responsibility for quality, delivery, and cost management of each project starting at concept through “on time, every time” delivery.



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