

Customer

Outdoor Power Equipment Manufacturer

Part

Impellor Disks and Blades

Manufacturing Issue

Maintaining the design and consistency across this four-piece assembly for a quality fit.

Customer's Goal

Select a local supplier in Wisconsin to correctly manufacture the specific design of each metal component for this four-piece assembly to achieve a quality and consistent fit during operation.

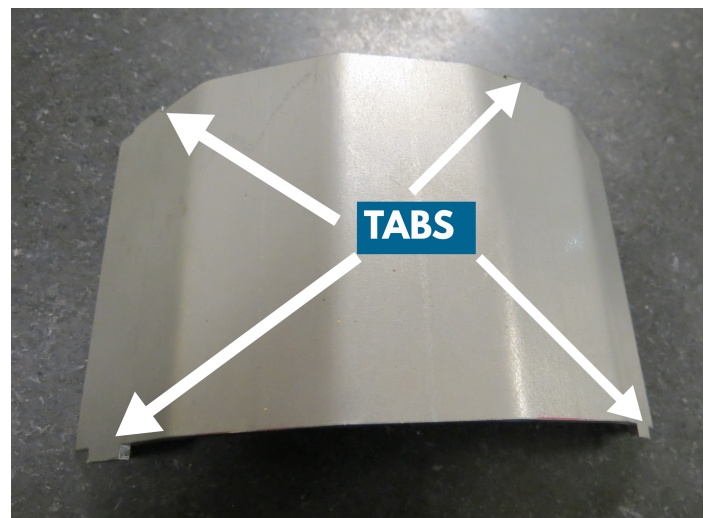
Blade Production

The customer designed the fan blades with four individual bends to better draw in the air during operation and to utilize standardized tooling on the press brake versus more costly customized tooling.

The blades present two key challenges to manufacture as designed.

1. Managing the overbends and underbends that naturally occur in materials during metal forming.
2. The exact placement and size of the four tabs on each blade. These tabs are critical to successfully align with the slots on the disk.

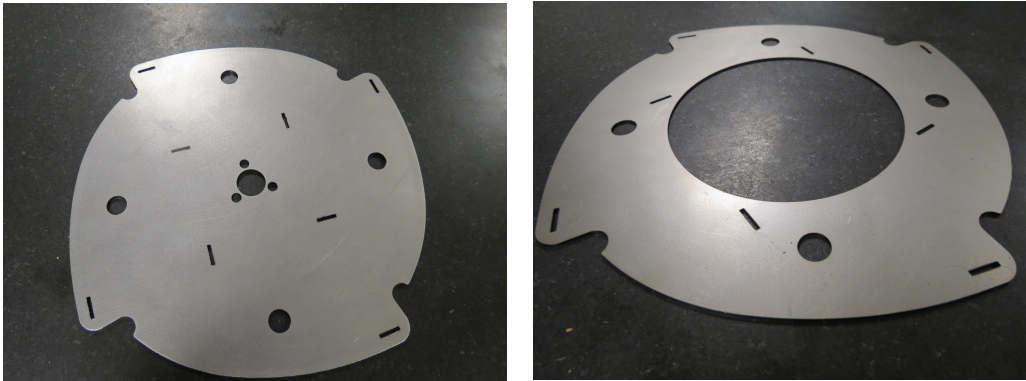
Utilizing the capabilities of the CNC press brake, our Fabrication Technicians successfully apply their material knowledge and manufacturing experience to match the blade's design print.



Disk Production

The most critical feature in laser cutting these disks is the slots. Their placement needs to be exact and within a tight tolerance to ensure correct alignment with the blade's four tabs.

With Ultra's prototyping standards, we were able to establish the correct programming for the fiber laser prior to final production. We also ensure the blades are being laser cut to their design prints with regular quality checks. This includes a set-up check and in-process checks during laser production.



Customer Outcome

Ultra's high-quality, precision metal fabricated parts continue to meet the customer's design needs for complete assembly at their manufacturing facility.

The customer is also utilizing our services to manufacture 14 different metal components for their blade sharpening assembly.