

CASE STUDY: FIRSTAR PRECISION

FIRSTAR'S CUSTOM SOLUTION FOR SMALL-DIAMETER PLANET GEARS



PROBLEM

Improve lead time
and reduce inventory
for custom low-
volume components

SOLUTION

Firstar innovation
with existing
capability

OUTCOME

- 80% reduction in lead time
- No more bulk orders, reducing inventory
- Cost increase avoidance
- Operational stability

OVERVIEW

A manufacturing company specializing in industrial assembly tools faced a pressing challenge. Their current supplier of small-diameter, lower-volume planet gears had begun extending lead times significantly. Additionally, the supplier had implemented successive price increases, forcing the company to absorb higher costs or over-order to maintain inventory levels. This situation created operational inefficiencies, strained cash flow, and introduced risks of holding excess inventory in a fluctuating market. The customer needed a reliable supplier that could deliver quality gears on a tighter schedule without compromising affordability.

ENTER FIRSTAR

As a 100% employee-owned machine shop, Firstar takes pride in delivering innovative solutions tailored to customer needs. Recognizing the importance of both quality and agility in manufacturing, Firstar stepped up to address the customer's challenges. The Firstar team conducted a comprehensive review of the customer's requirements, analyzing the size, tolerance specifications, and usage rates of the planet gears. It became clear that meeting the customer's needs required a customized approach that leveraged Firstar's existing capabilities.

THE SOLUTION

The Firstar engineering team devised a plan to adapt one of their existing CNC machines for precision gear cutting. The challenge was that this machine wasn't originally designed for the intricate work required for these planet gears. To overcome this limitation, the team developed a custom tool holder for a specialized gear cutter.

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This innovative tool holder allowed Firststar to perform precise gear cutting on their existing equipment, eliminating the need for costly new machinery or outsourcing. This approach ensured:

- **Shorter Lead Times:** By manufacturing the gears in-house, Firststar reduced lead times from several months to just a few weeks.
- **Cost Efficiency:** Leveraging existing machinery and creating the custom tool holder significantly reduced overhead, enabling competitive pricing.
- **Quality Assurance:** Keeping production under Firststar’s roof assured strict quality control standards were maintained at every stage.

THE OUTCOME

The impact of Firststar’s solution was immediate and substantial:

- **Reduced Lead Times:** The customer experienced an 80% reduction in lead times, allowing for faster project completion and enhanced
- **Lower Inventory Levels:** With shorter lead times, the customer no longer needed to place large bulk orders to mitigate delays.
- **Cost Savings:** By partnering with Firststar, the customer avoided significant price increases even in a low-volume production scenario.

Beyond the tangible benefits, the customer appreciated Firststar’s partnership-driven approach. The ability to adapt quickly and provide a custom, scalable solution demonstrated Firststar’s commitment to innovation and customer satisfaction.

CONCLUSION

This case exemplifies how Firststar’s employee-owners rise to challenges with ingenuity and teamwork. By developing a custom tool holder and optimizing existing resources, Firststar not only resolved the customer’s immediate issues but also positioned them for long-term operational efficiency. This success story highlights the value of choosing a partner that prioritizes innovation and collaboration.

