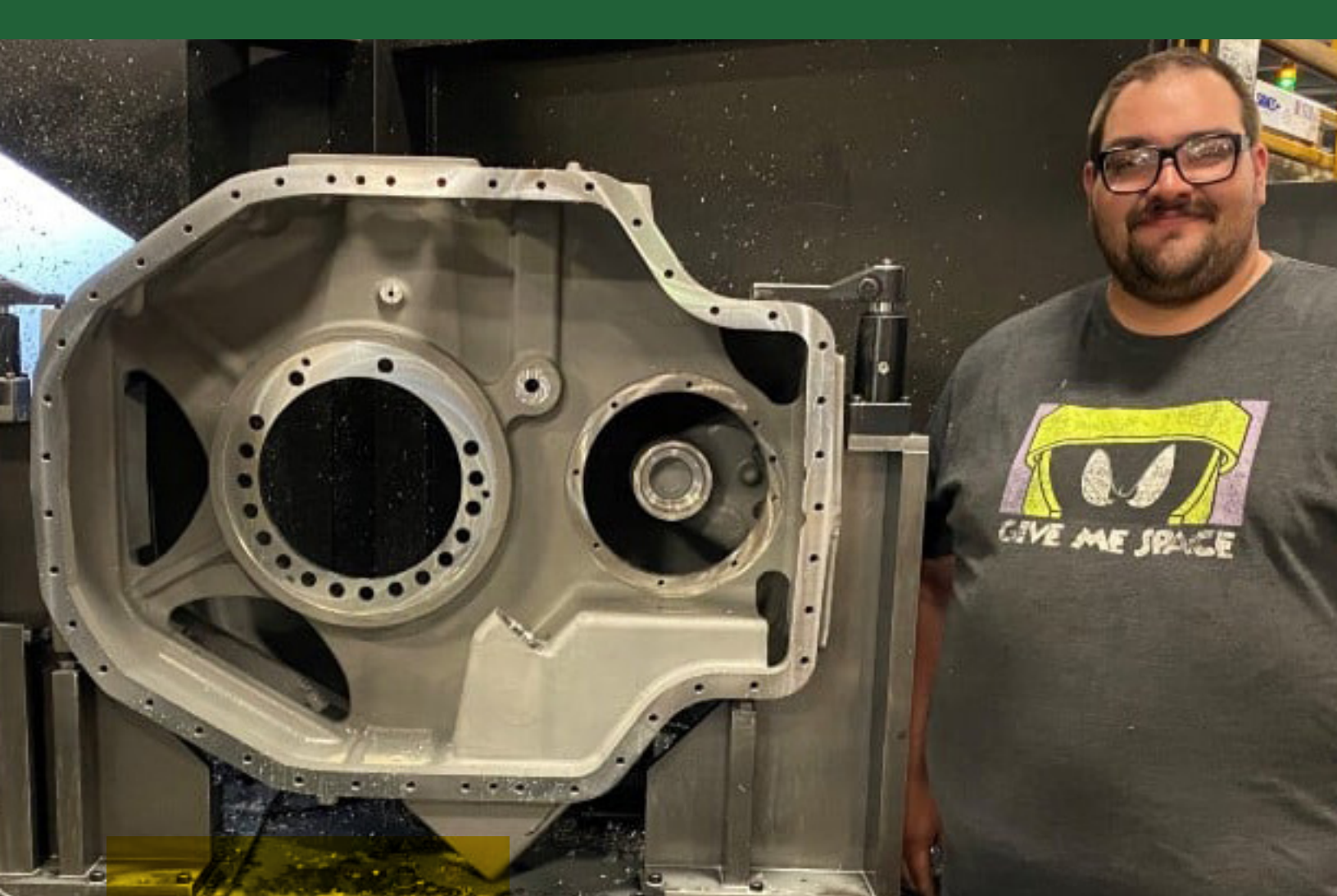


STECKER MACHINE *Case Study*

In a Bind?

4 Projects During Which
Stecker Machine Rescued
Customers in Need

SMC



Challenging projects showcasing Stecker's ability to solve customers' tough problems.

Few things are appreciated more than a much-needed rescue. When your part supply is struggling and making you nervous, a supplier partner that can step up and help is a rare and treasured relationship. While the examples shared in this piece are not complete case studies (ask to see these), they do represent Stecker Machine's capabilities and willingness to dive into difficult situations. Company names have been withheld to maintain customer confidentiality.

TANK PARTS: A RESCUE MISSION FOR A MILITARY VEHICLE

OVERVIEW

You never know when an old quote will transform into your next hot project. One year after submitting a quote for machining work, Stecker received an urgent call from that contact. How urgent? A machine shop in another state had unexpectedly closed their doors, and the customer was understandably panicked.

In order to review the existing fixtures and castings — already loaded onto a semi along with the shop's equipment — Stecker needed to be there on Monday morning (a 7+ hour drive away), and the call came in on Friday afternoon. Talk about a rescue mission!

CHALLENGE

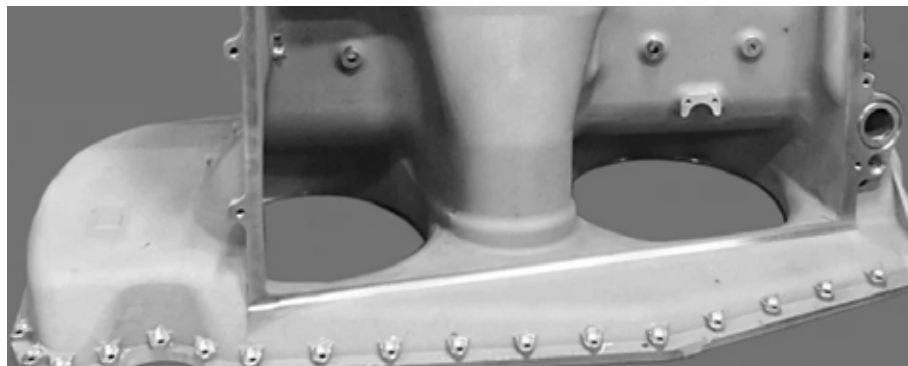
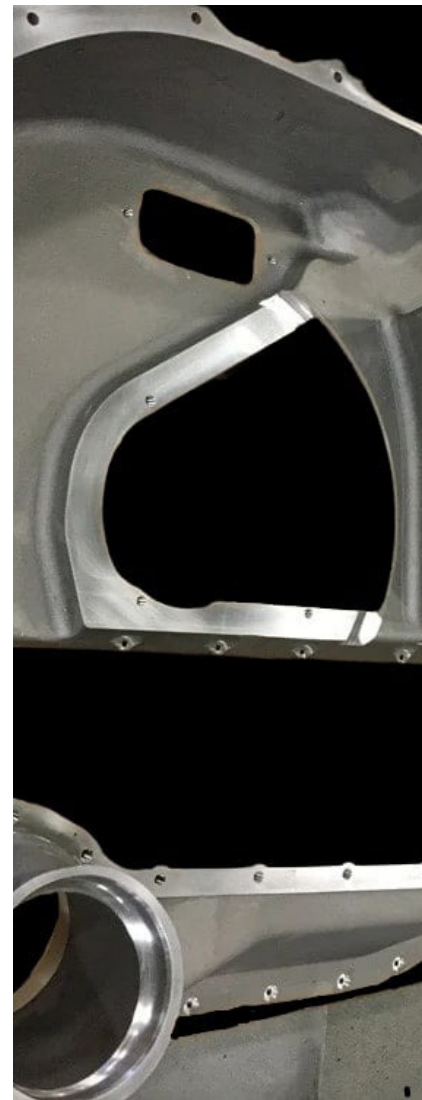
Parts for this high-profile military project were behind schedule, partially because the closed shop experienced quality control issues. The massive machining fixtures needed to be shipped to Stecker immediately to begin the process of determining what parts from the fixtures could be used (about 25%, it turns out) and what parts had to be created from scratch (75%).

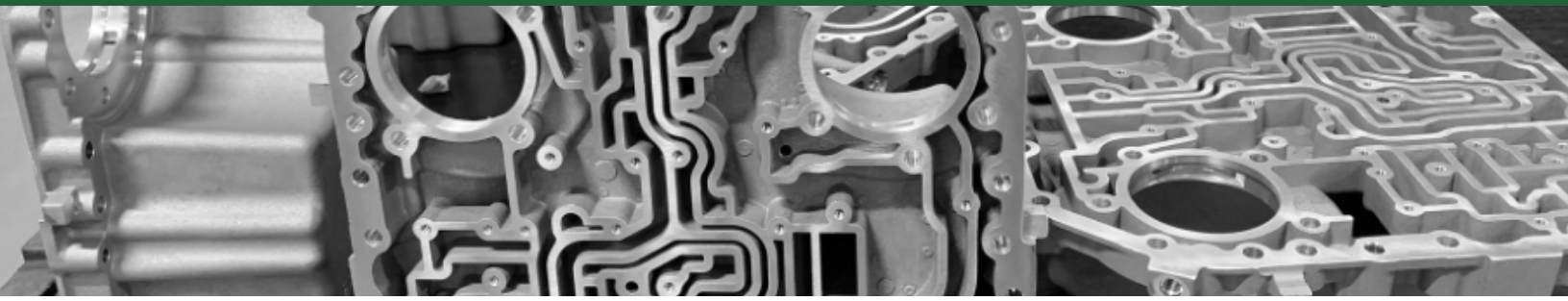
Adding to the challenge? The two part numbers, which mated together, had very tight geometric and dimensional print requirements, required pressure test and sub-assembly operations, and had to meet an extremely tight timeline.

SOLUTION

Stecker utilized their two largest machining centers in order to gain the machine travel needed. Adding to a lengthy cycle time, more than 1 hour was needed to load parts (due to fixtures being manual rather than hydraulic), allowing the operator to monitor and adjust for flex in the castings throughout the machining process, a task requiring a very experienced machinist.

A true team effort — engineering, quality control, machining, shipping — resulted in PPAP approval (a first in the history of the project). Since initial success, one of the parts has undergone significant design changes with Stecker leading the way. Plus, an additional 30 parts were removed from the customer's backlog, with Stecker machining them for full production.





CHANNEL PLATE: ONE SHOP'S STRUGGLE IS ANOTHER SHOP'S OPPORTUNITY

OVERVIEW

Truck transmission components require precise machining. Fail one too many times, and that manufacturer is looking elsewhere. In this case, Stecker was well positioned to pick up work from another shop because of recent, yet small, project successes with that customer.

A project review and quote led to taking over the project, with a critical deadline looming.

CHALLENGE

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They have been instrumental in many key projects we have worked on over the years, helping with redesign for manufacturability and always diving a step deeper to understand the root of an issue to ensure the issue at hand gets resolved.

— **Purchasing Manager,**
Fortune 500 OEM Manufacturer

SOLUTION

Stecker invested in a robotic cell to meet the customer's volumes and achieve the part's tight tolerances. The engineering team at Stecker eliminated the hand lapping step with superior fixturing and tooling in the machining process, resulting in additional cost savings.

Call this "right place at the right time," yet it took Stecker's dedication, attention, and willingness to make investments to ensure there was no costly downtime and no interruptions to the customer line.

The trust built from this project's initial success allowed Stecker to eventually propose a casting material alternative — not a simple change — that saves the global OEM manufacturer roughly \$4 million per year. Needless to say, this customer is a significant part of Stecker's ongoing business.

VENTURI: MEETING TOUGH U.S. EMISSIONS STANDARDS

OVERVIEW

Poor quality. Missed deliveries. Unreliability. This story, once again, is an example of one machine shop failing and another taking that opportunity and running.

A venturi injects a liquid or a gas into another liquid within a vehicle's engine. It's a small, but critical, engine part that needs to perform perfectly. One shop's inability to produce reliable venturis opened the door for Stecker, who suggested a new material to improve manufacturability and keep costs price-competitive.

CHALLENGE

Some materials are more difficult for casting, are tough to machine, and can make welding tricky. While changing a material is never simple, it's often necessary to reduce challenges and headaches.

Transitioning from a known material to aluminum die cast can feel like a complex, risky move. And, it is without proper planning. In this case, a solid PPAP process helped drive the six different part numbers that needed to be pressure-tight, resistant to salt spray (from the diesel engine), and withstand heat.

SOLUTION

Stecker's reputation for engineering and quality was the spark for this OEM to use Stecker to change materials. It required about 6 to 8 months of development to successfully make the change for one engine series, which was followed by another and another and another. In less than 3 years, all engines were up and running with the new aluminum die cast parts.





TRANSMISSION HOUSING:

TOUGH SOLUTIONS FOR HEAVY-DUTY DEMANDS

OVERVIEW

The gas and oil industry is a volatile marketplace, with heavy equipment that needs to be powerful, durable, and operational within industrial applications. A transmission assembly for a Fortune 500 construction equipment manufacturer was underperforming and experiencing a 18-20% fallout rate.

The cost of these failures was magnified exponentially due to the fact that parts were being pressure tested after the transmission was in a fully assembled state rather than at the component level. Although a costly and challenging solution, the customer felt that testing each component 100% was the only path to success, and Stecker was up to the challenge.

CHALLENGE

Two different transmissions — 2300-horsepower for U.S. use, 3000-horsepower for Europe — required two parts each for their housings, ranging in weight from 200-350 pounds each.

A long-standing collaborative partner of Stecker, Wisconsin Aluminum Foundry (WAF), which had initially requested a quote of 20-40 sets per year, now needed a volume of 60 per month, and there was a tight deadline. With machining time estimated to be 4-5 hours per part, this large volume rush project put a strain on Stecker's capacity.

SOLUTION

Stecker was asked to provide turnkey solutions: engineering designs, fixturing, custom and specialty tooling, programming, production coordination, and a system for pressure testing the parts.

The engineering team developed a tank into which the assemblies could be submerged along with a filtering system to keep the water clear (because observation is key in the testing process). This setup also fulfilled the customer's request to test previously made assemblies not machined by Stecker.

For machining, these large parts require full-time use of a 800mm horizontal machine and experienced operators to use it. In the end, the volume needed was reached, quality was improved, and costs were reduced.

Have a challenging project that other shops can't handle?

Discover how Stecker can solve your tough project while showing uncommon commitment to your needs. We're no ordinary CNC machine shop, and we'd like to prove it.

Just complete our [Request A Quote form](#).



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